



# Rule Book

## Master Manual



# MASTER MODULE MANUAL

## GERM8000/master/module

RSSB has produced this manual to provide end-users with access to the content of GE/RT8000 (The Rule Book) that is relevant to all roles as defined in the Rule Book Matrix published by RSSB.

The manual is intended to be read electronically and on a device of your choice. To facilitate navigation, the manual includes bookmarks and the contents page includes links enabling you to find the information you require quickly. The content can also be searched using keywords or phrases, for example, Single Line Working. It is not intended for printing.

If you require individual copies of the modules or handbooks contained within this manual, then these can be downloaded from Railway Group Standards or ordered in hardcopy from Willsons Printers: Newark.

Any party wishing to apply for a deviation or to propose a change should apply referencing the individual handbook(s) and/or module(s) and not this manual. The manual will be updated and re-issued as individual handbooks and modules are revised.

Any party wishing to access the impact assessments or briefing notes associated with the individual modules and handbooks can do so by referring to the specific module or handbook on Railway Group Standards.

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***Inforce dates are set out in the individual modules within this manual.***

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# GERT8000-AC Rule Book



## AC electrified lines

## Issue 5






## Module AC

September 2018  
Comes into force 01 December 2018



## Conventions used in the Rule Book

	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	
A white i in a blue box indicates that there is information provided at the bottom of the page.	
A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.	

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You will need this module if you carry out the duties of a:

- train driver
- guard
- shunter
- designated person (DP)
- signaller
- crossing keeper
- person in charge of sidings

in AC electrified areas.

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# 1

## Definitions

### Bi-mode train

A train that can either provide its own tractive power, or take this from the electrification system on an ac electrified line.

### Dual-voltage train

A train that can operate on more than one electrification system.

### Electric train

A train that takes its tractive power from the electrification system on an ac electrified line. A bi-mode train that is operating in electric mode will normally be treated as an electric train.

### Emergency switch-off

An emergency switch-off is carried out by the electrical control operator (ECO) when it is essential to switch off the electrical supply immediately, when someone is in danger from live overhead line equipment (OLE).

The ECO will switch off the electrical supply to all lines:

- between neutral sections, or
- between a neutral section and the end of an electrified line.

In certain locations, equipment is provided to shorten the area of the emergency switch-off.



### **Overhead line permit**

A permit (known as form C) that is signed and issued by the nominated person (NP) and given to a designated person (DP), who is to carry out work on or near to the OLE.

This permit states exactly what fixed infrastructure electrical equipment is isolated and earthed and on which, or near to which it is safe for the specified work to begin.

If an overhead line permit has been issued, it does not mean train movements have been stopped.

### **Self-powered train**

A train that provides its own tractive power.

### **Sequential tripping**

Sequential tripping is when consecutive electrical sections along a route trip. This is normally caused by a fault on a moving train.

# 2 Competence

*The people responsible: all concerned*

**all  
concerned**

You must not go on or near the line in an area with OLE unless your regular competence assessment also contains the track-safety rules that relate to lines electrified by the AC overhead system as shown in this module.

Table A of the *Sectional Appendix* shows which lines are electrified by the AC overhead system.

If new OLE is being installed, or an electrified area is being extended, the instructions in this module will not apply until the equipment has been declared live.

You will be told about this in an energisation warning notice.

If you are not sure whether the OLE is live, you must treat it as live and dangerous to life.

# 3

## Dangers of the system

*The people responsible: all concerned, driver*

### 3.1 Treating the OLE as being live

OLE, pantographs and all roof-mounted electrical equipment on trains are extremely dangerous. It may be fatal if you touch or go near any of them, or if you allow anything to touch or go near them.

You must treat all parts shown in diagram AC.1 (except for the mast or structures) as being live at all times unless they have been made safe as shown in the instructions in this section.

If you have been told that the ECO has given an assurance that the electricity has been switched off, you must still treat any OLE equipment as dangerous and not touch any of those parts.

You do not have to treat the OLE as being live and dangerous to life if either:

- An overhead line permit has been issued to the DP.
- The OLE has been isolated and earthed and an assurance has been received as shown in local isolation instructions.

### 3.2 Objects on or near to the OLE

You must treat broken or displaced wires and anything attached to, or near to, the OLE as live and dangerous to life.

You must not remove or approach anything attached to, or near to, the live OLE.

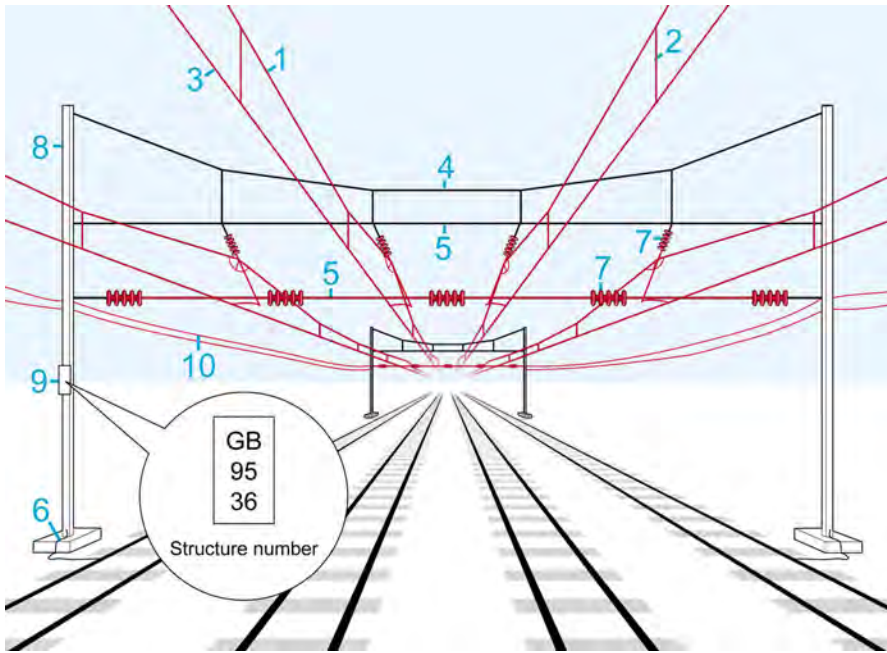
You must not try to remove or approach an object hanging from, in contact with or close to the OLE, unless you have been specially trained and authorised to do so.

all  
concerned

all  
concerned

# AC electrified lines

all concerned



**Diagram AC.1**

## Typical OLE construction

- |   |                  |    |                        |
|---|------------------|----|------------------------|
| 1 | Catenary wire    | 6  | Structure bond         |
| 2 | Dropper          | 7  | Insulators             |
| 3 | Contact wire     | 8  | Mast or structure      |
| 4 | Headspan wire    | 9  | Structure number plate |
| 5 | Cross span wires | 10 | Along-track conductors |

If you see anything in the OLE that could cause damage if it comes into contact with the pantographs on your train, you must immediately lower the pantographs.

driver

You must stop the train as soon as possible and report the incident to the signaller.

When you have told the signaller, you will not have to tell the ECO, as the signaller will do this.

### 3.3 Reporting objects and defects to the ECO

You must immediately make sure the following are reported to the ECO.

all  
concerned

- Objects that have been thrown onto, are hanging from, or are otherwise touching the OLE.
- Damage to the OLE.
- OLE that is smoking, excessively flashing or fusing.
- Broken or displaced along-track conductors.
- Broken or displaced wires connected to the OLE.
- Damaged or loose automatic power control (APC) track inductors.
- A broken or parted rail.
- A broken or defective bond, in which case you must tell the ECO the colour of the bond.

You must not touch the rails if they are broken or parted, neither must you touch a broken or defective bond if it is marked red, nor any equipment connected to the bond.

If the damage or defect will affect the safe operation of trains, you must first report this to the signaller.

### 3.4 Reporting defects to the signaller

all  
concerned

You must make sure that a damaged, loose or malfunctioning APCO balise, or a missing sign associated with power changeover locations, is reported to the signaller.

signaller

If the damage or defect will affect the safe operation of bi-mode trains, you must make sure that all drivers of bi-mode trains are told about this before they pass over the balise.

# 4 Personal safety

*The people responsible: all concerned*

## 4.1 When not working on traction units or other vehicles

You must make sure, you and anything you are carrying are no nearer than 2.75 metres (9 feet) from live OLE.

all  
concerned

## 4.2 When working on traction units or other vehicles

You must never go above the cant rail or climb above the floor level of the driving cab, or climb on the roof or open upper deck of a vehicle, or on the steps giving access to the roof of any vehicle unless one of the following applies.

all  
concerned

- You are on a line where there is no OLE above or adjacent to the vehicle..
- The OLE has been isolated and earthed as shown in Network Rail instructions and the DP has been issued with an overhead line permit.
- The specific conditions in local instructions have been met.
- Local isolation is allowed and you are sure an isolation has been taken.

**all  
concerned**

You must only carry out the following activities at authorised locations and for which local instructions have been issued.

- Cleaning the outside of carriages by hand.
- Cleaning vehicle ends, traction cab windows and destination indicators.
- Loading or unloading open rail wagons by hand.
- Loading or unloading single-deck car-carrying vehicles.

Hosepipes must not be used for cleaning purposes. Each brush or other appliance used for cleaning must have an electrification warning sign.

### **4.3 Using long items**

**all  
concerned**

You must take extreme care when using or carrying long items. You must make sure they do not come within 2.75 metres (9 feet) of the OLE.

You must carry long items horizontally and, if necessary, get other people to help you.

If you are using a brake stick or shunting pole, you must make sure you do not allow it to get near to the OLE.

When using ladders near OLE, you must only use ladders that are made of wood or other safety-approved non-conducting material.

You must not use ladders that are reinforced with metal attachments running along the sides.



# 5 Communicating with the ECO

*The people responsible: all concerned*

## 5.1 Directly or by another person

You can contact the ECO, or you can ask another person, such as the signaller, to contact the ECO on your behalf.

all  
concerned

If another person asks you to contact the ECO, you must make sure that you get the necessary information from that person before speaking to the ECO. You must also get any other information that the ECO asks for.

## 5.2 Identifying yourself and the location

When contacting the ECO, you must state:

- your name, job title and employer
- the line or lines concerned
- the location (for example, the nearest bridge, station, signal, block marker or other structure)
- the number on the nearest OLE structure or identifying plate (this will tell the ECO exactly where you are)
- the telephone number or radio call number (whichever you are using) so that the ECO can contact you, if necessary.

all  
concerned

If the ECO gives you a message identification number, you must state it each time you speak to the ECO.

# 6

## Emergency switch-off

*The people responsible: all concerned, driver, guard, PICEE, signaller,*

**Note:** An emergency switch-off of the OLE does not mean that train running has been stopped.

### 6.1 Immediate actions

#### 6.1.1 Types of incident

all  
concerned

You must immediately contact the ECO (or arrange for this to be done) if you become aware of:

- a derailment
- a lineside fire
- a fire on a vehicle or train
- a person in contact with or in danger of coming into contact with the OLE
- an incident or other emergency requiring, or likely to require, the electricity supply to be switched off.

If you receive a message from another person about an emergency, you must pass on all this information to the ECO.

### 6.1.2 Reporting the emergency

When you contact the ECO, you must first say, 'This is an emergency call'.

all  
concerned

You must tell the ECO:

- the reason why you want the electricity to be switched off
- whether any person is in danger from live OLE
- whether the emergency services are waiting to give assistance.

If you are not at the site, you must relay information from the ECO to the site and from the site to the ECO.

### 6.1.3 Additional instructions for train crew

If it is necessary to protect an obstruction on a line other than the one your train is travelling on as shown in section 43 of module TW1 *Preparation and movement of trains*, you must do this before asking for the electricity to be switched off.

driver,  
guard

### 6.1.4 Additional instructions for signallers

If you become aware of an emergency, you must carry out the appropriate train signalling regulations before asking for the electricity to be switched off.

signaller

## 6.2 Further actions

all  
concerned

You must stay in contact with the ECO or, if you have reported the incident through another person, stay in contact with that person until you have been assured that:

- the electricity has been switched off and the OLE has been made safe to be approached but not touched, or
- other arrangements have been made.

If the ECO agrees to the emergency switch-off, the ECO will decide who will be regarded as the person in charge of electrical emergency (PICEE).

If you are a person passing on this information on behalf of someone else, you must stay in contact with the ECO until an assurance has been given that one of these arrangements has been put in place.

## 6.3 Managing the emergency switch-off

PICEE

If you are appointed by the ECO as the PICEE, the ECO will tell you the limits of the emergency switch-off.

You must identify yourself to anyone arriving on site.

If the emergency services arrive on site, you must tell the officer in charge from each emergency service about the presence of the OLE and which parts have been switched off.

The ECO will tell you before shortening the area of the emergency switch-off. You must tell everyone at the site about the new limits.

If passengers are to get out of a train which is not at a platform, you must make sure that all passengers are kept clear of the OLE.

If you hand over the responsibility of the emergency switch-off to someone else, you must tell the ECO immediately. You must give the name, job title and employer of the person taking over from you.

PICEE

When you take over the responsibility of the emergency switch-off, you must immediately confirm the arrangements with the ECO.

As soon as the emergency is over and the affected section can be switched on, you must warn everyone involved that the electricity is about to be switched on and make sure they are clear of the OLE.

You must then tell the ECO that the emergency is over and wait for further instructions.

If the emergency will go on for a long time or it will be necessary to issue an overhead line permit, the nominated person (NP) will contact you when arriving on site.

You and the NP must both contact the ECO so that responsibility for the emergency switch-off can be transferred from you to the NP.

# 7

## Rescuing a person from the OLE

*The people responsible: all concerned*

**all  
concerned**

You must make sure the electricity is switched off before you approach a person who:

- is above the live OLE, or
- is within 2.75 metres (9 feet) of the live OLE.

# 8 Isolation of the OLE

*The people responsible: all concerned*

**Note:** An isolation of the OLE does not mean that train running has been stopped.

When a section or sub-section of OLE has been isolated, you must continue to treat it as being live until:

- an overhead line permit has been issued, or
- where local isolation instructions allow this, the OLE has been isolated and earthed and an assurance received as shown in the local instructions.

all  
concerned

# 9

## Overhead line permits

*The person responsible: DP*

### 9.1 Issuing an overhead line permit

DP

When the NP has made sure that the OLE has been isolated and earthed, the NP will hand you an overhead line permit.

You must understand:

- the working limits on the overhead line permit
- where live equipment is adjacent to, or crosses over, earthed equipment, which equipment is live and which is earthed
- the issue of the overhead line permit does not mean that train movements are stopped on the lines concerned.

You must sign the overhead line permit to show that you understand the conditions. You must then make sure that each person you are responsible for fully understands the conditions shown above before you allow work to start.

### 9.2 During the work

DP

You must keep the overhead line permit until:

- work is completed and you and those you are responsible for are clear of the line, or
- you are relieved by another DP, in which case you must hand the overhead line permit to that person and both sign it.

You must tell the new DP about the conditions shown in section 9.1 of this module.

If you are the new DP, you must tell the NP (either directly or through the ECO) that you have taken over the duties of the DP.



You must immediately tell the NP if you have lost your overhead line permit. The NP will arrange to issue you with another overhead line permit, endorsed 'Duplicate'.

DP

### 9.3 Changes of personnel within the work group

If other personnel for whom you are responsible come on duty, you must make sure that each person coming onto the site of work after the overhead line permit has been issued, fully understands the conditions shown below before allowing them to start work.

DP

- The working limits on the overhead line permit.
- Where live equipment is adjacent to, or crosses over, earthed equipment, which equipment is live and which is earthed.
- Whether trains are continuing to run on the lines concerned and, if so, the arrangements that have been made for the protection of staff.

### 9.4 When the work is suspended or completed

When the work is suspended or completed, you must make sure all personnel and materials are removed from, and are no closer than 2.75 metres (9 feet) from, the OLE.

DP

You must then:

- instruct each person for whom you are responsible to treat the OLE as live and dangerous to life
- complete the overhead line permit
- give the overhead line permit to the NP who will countersign it.

If you have lost your OLE permit, you must tell the NP. You must carry out a visual inspection with the NP to make sure that all personnel and materials are clear of the OLE.

# 10

## Blocking sidings to electric trains if local isolation is not allowed

*The person responsible: person in charge of sidings*

### 10.1 Blocking sidings to electric trains

person in  
charge of  
sidings

When an isolation is needed in the sidings, you must consult Operations Control or the signal box supervisor or signaller as shown in the local instructions.

You must then arrange with the ECO for the isolation to take place.

Operations Control, the signal box supervisor or the signaller will contact you and tell you:

- the numbered message received from the ECO
- the electrical sections or sub-sections to be blocked as shown in the isolation instructions
- the agreed time of the isolation.

You must record the message in Part 1 of Form AS.

You must make sure all personnel working in the sidings are told about the limits of electric train movements.

You must make sure that either:

- reminder appliances are placed on or adjacent to levers of hand points that control access to the sidings to be isolated
- hand points controlling access to the sidings to be isolated are clipped and padlocked for other routes that are not affected by the isolation
- the protection arrangements shown in isolation instructions are applied.

If the points are controlled from a shunting frame or panel, you must place reminder appliances on the appropriate levers and make a suitable entry in the authorised document.

person in  
charge of  
sidings

You must complete Part 2 of Form AS and attach it to the authorised document.

You must then tell Operations Control or the signal box supervisor or signaller as shown in the local instructions, when you have done this.

## **10.2 When the isolation is no longer needed**

When the isolation is no longer needed and all personnel working in the sidings have been told that normal working will be resumed, you must arrange with the ECO to cancel the isolation.

person in  
charge of  
sidings

Operations Control, the signal box supervisor or signaller as shown in the local instructions will contact you to complete Part 3 of Form AS.

You may then remove the protection applied to the sidings.

If the points are worked from a shunting frame or panel, you must remove any reminder appliances and make a suitable entry in the authorised document.

# 11

## Electric trains moving to or from non-electrified lines or lines blocked to electric trains

*The people responsible: driver, signaller*

### 11.1 Towards an isolated section

signaller

You may authorise the movement of an electric train or a bi-mode train operating in electric mode if it becomes necessary to:

- go beyond the signal or block marker protecting an isolated section or sub-section towards the limiting point as shown in isolation instructions
- make an unsignalled movement towards the limiting point as shown in isolation instructions.

However, you must be sure that the approach to the isolated section is protected by a possession limit board (PLB) and three detonators, 20 metres (approximately 20 yards) apart at the limiting point.

### 11.2 To and from non-electrified lines

driver

You must make sure that all pantographs are lowered before moving an electric train or a bi-mode train operating in electric mode to or from a non-electrified line or through a non-electrified crossover.

### 11.3 A line blocked to electric trains

If a portion of line is blocked to electric trains, and it is necessary for an electric train or a bi-mode train operating in electric mode to be assisted to, through or from that section of line, or a bi-mode train is to operate using its own tractive power, you must:

- lower all pantographs
- tell the driver of the assisting train when this has been done
- keep all pantographs in the lowered position throughout the movement
- keep the APCO equipment on a bi-mode train isolated throughout the movement
- disregard all lineside signs associated with a traction changeover
- not resume ac electric traction mode until you have arrived at or passed either the location the signaller has told you about or the locations indicated by signage.

Lineside signs will be provided if the location is designated as a permanent changeover location, or if a temporary changeover location is not at an easily identifiable location.

driver

## 11.4 Wrong-direction movements by a bi-mode train

### driver

If it is necessary for a bi-mode train to make a wrong direction movement past a location where traction changeover is necessary, you must keep the APCO equipment isolated throughout the movement.

If the train begins the movement in electric mode, you must lower all pantographs before reaching the end of the OLE.

If the train begins the movement using its own tractive power, you must not raise any pantographs until you are sure that all pantographs are beyond the start of the OLE.

You must carry out the same instructions if the train reaches another traction changeover point before the wrong-direction movement is completed.

# 12

## Driver's instructions following a loss of line light, ADD operation, tripping or damage to the OLE

*The person responsible: driver*

### 12.1 When an electric or bi-mode train operating in electric mode must be stopped as soon as possible

If any of the circumstances shown in 12.1 a), b) or c) of this module apply, you must:

- operate the pantograph down button
- stop the train as soon as possible
- report the incident to the signaller.

#### a) Damage to the OLE

If you become aware of:

- something in the OLE that could cause damage if it comes into contact with the pantograph on your train
- any damage to or anything irregular with the OLE
- any unusual movement of the OLE
- any unusual noises from the OLE.

#### b) ADD operation

If the automatic dropping device (ADD) on your train has operated.

driver

driver

### **c) The line light goes out**

If the line light goes out and you have made one attempt to reset, which was not successful, and either of the following applies.

- The only pantograph in use is not on one of the first three vehicles.
- There is more than one pantograph in use on the train.

## **12.2 When the train can coast to a stand**

driver

If the line light goes out you can, if possible, coast to a suitable location to report the incident to the signaller.

You may do this if:

- there is only one pantograph in use and it is on one of the first three vehicles
- the ADD is available but has not operated
- there is no unusual movement of, or noises from, the OLE
- you have made one attempt to reset, which was not successful.

## **12.3 When the train can continue normally**

driver

If the line light goes out, you can continue normally if:

- the ADD is available but has not operated
- there is no unusual movement of, or noises from, the OLE
- you can reset at the first attempt, or the line light is restored
- you can regain power



## 12.4 Sequential tripping

If you have been told by the signaller that your train has caused sequential tripping, you must visually examine all the pantographs on your train and the OLE for signs of damage.

driver

You must not attempt to leave the cab to inspect any damage unless the signaller has told you that the OLE has been made safe to approach, but not touch.

If there is evidence that something other than a pantograph has been in contact with the OLE or a pantograph is damaged, you must tell the signaller.

## 12.5 Tripping

If you are told by the signaller that your train has caused tripping, you must visually examine your train to see if anything has been in contact with the OLE, and also the OLE for signs of damage.

driver.

You must not attempt to leave the cab to carry out the visual examination unless the signaller has told you that the OLE is safe to approach, but not touch.

If there is evidence that something has been in contact with the OLE or the OLE is damaged, you must tell the signaller.

## 12.6 Telling the signaller about problems or incidents with the OLE

driver

In all cases when you have stopped the train, you must tell the signaller:

- what has happened
- where the incident happened
- the location where the train has stopped
- the nearest overhead line structure number, if possible
- the extent of any damage to the OLE
- if there is any damage to a pantograph
- whether the primary means of support of the OLE is by headspan or not.

Except in an emergency, you must not attempt to leave the cab to inspect any damage or gather information unless the signaller has told you that the OLE has been made safe to approach, but not touch.

## 12.7 Examining the train or OLE

driver

If you have stopped your train because the line light has gone out, the ADD has operated, or you have observed damage to the OLE, you must visually examine the OLE and all the pantographs and tell the signaller whether there appears to be any damage to any of them.

Except in an emergency, you must not attempt to leave the cab to inspect any damage unless the signaller has told you that the OLE has been made safe to approach, but not touch.

If you have stopped your train as a result of the line light going out or the ADD operating, but at any stage you find a fault on the train other than damage to a pantograph, you must tell the signaller so that normal working can be resumed.

If your train is a bi-mode train operating in electric mode and after examining the train you can continue using the train's own tractive power, you must tell the signaller. If the signaller authorises you to proceed, you can change to self-powered mode and continue the journey.

If your train is a bi-mode train operating on its own tractive power, after examining the train you can continue your journey, if it is safe to do so.

driver

## 12.8 Providing electric train supply when the train cannot proceed

If the train cannot proceed because of damage to the pantograph but the damage is not severe, the pantograph may be raised to supply electrical power. This is so that equipment such as train heating and lighting will be available while waiting for an assisting train.

Immediately after raising the pantograph, you must check that it is correctly in contact with the OLE and that there is no arcing.

No movement of the train is allowed with the pantograph raised. You must make sure the pantograph is lowered before the assisting train is attached.

driver

## 12.9 Isolating the ADD

If it becomes necessary to isolate the ADD, you must:

- isolate the ADD as shown in the instructions for the type of traction concerned and your company instructions
- tell the signaller
- carry out the instructions you are given.

driver

driver

When the train is to proceed with the affected pantograph raised, you must not exceed 100 mph (160 km/h) until the pantograph has been examined and the ADD reset. You may be instructed not to exceed a speed lower than 100 mph (160 km/h) for some or all of the journey.

Where possible, you may be told to use another serviceable pantograph, or if the train is a bi-mode train, to continue using the train's own tractive power.

# 13

## Signaller's instructions following a report of a defect or tripping of the OLE

*The person responsible: signaller*

### 13.1 If tripping has taken place

If the ECO tells you that sequential tripping or tripping has taken place, you must:

- stop the train involved (or arrange for this to be done if the train is no longer in your area of control)
- arrange with the ECO to make it safe for a driver to leave the cab and to approach the OLE, but not touch it.

When the ECO confirms that it is safe for the driver to approach the OLE, but not touch it, you must tell the driver to examine the train for evidence of contact with the OLE or damage to a pantograph.

If there is evidence that something other than a pantograph has been in contact with the OLE or a pantograph is damaged, you must tell the driver to:

- visually examine the OLE immediately behind the train
- tell you if there appears to be any damage.

You must tell the ECO the outcome of the driver's examination and carry out the instructions you are given.

signaller

## 13.2 If a loss of line light, ADD operation or suspected damage to the OLE is reported

### signaller

If you receive a report of a loss of line light, ADD operation, or possible damage to the OLE, you must:

- protect any line that may be affected, as shown in the train signalling regulations
- find out whether there is damage to the OLE or to a pantograph on a train
- come to a clear understanding with the ECO about the lines on which the OLE is to be examined and the type of examination that is to take place (see section 14 of this module)
- report the incident to Operations Control.

If it is necessary for any driver to leave a cab to inspect for damage, you must arrange with the ECO to make it safe for the driver to do so and to approach the OLE, but not touch it.

You must not tell a driver to leave the cab until the ECO has told you that it is safe to approach the OLE, but not touch it.

If the driver tells you that the ADD has operated and has been isolated, you must pass on this information to Operations Control

## 13.3 If a driver reports a fault on the train

### signaller

If tripping has taken place or a driver reports a loss of line light or ADD operation, but at any stage confirms there is a fault on the train, you may resume normal working.

This does not apply if the driver reports there is damage to a pantograph.

## 13.4 Resuming normal working

If tripping has taken place or a driver stops to report a loss of line light, you can resume normal working if the ECO tells you that no further action is needed.

signaller

However, if the ECO tells you that examination of the OLE is needed, you must:

- protect the affected lines as shown in the train signalling regulations
- come to a clear understanding with the ECO about the lines on which the OLE is to be examined and whether examination will be carried out by train or on foot
- arrange for the OLE to be examined as shown in section 14 of this module.

## 13.5 Bi-mode trains

If the train is a bi-mode train and the driver tells you there appears to be no damage to the train, and it is possible to regain traction using the train's own tractive power, you may authorise the movement if it is safe to do so. You must tell the ECO before the movement begins.

signaller

You must authorise the driver to proceed forward using the train's own tractive power and signal the train normally.

You must tell Operations Control.

If the train is to return to electric mode, you must agree with the driver a suitable and recognisable location to do so.

# 14 Instructions for examining the OLE

*The people responsible: driver, responsible person, signaller*

## 14.1 When the OLE must be examined

signaller

The OLE must be examined following:

- a tripping of the OLE when the ECO asks you to arrange examination of the OLE - the OLE must be examined between the locations the ECO gives you
- a sequential tripping of the OLE - each affected electrical section must be examined up to the location where the train came to a stand
- a driver reporting an ADD operation - the OLE must be examined from the location where the ADD operated to the location where the train came to a stand
- a report of damage to the OLE involving a train - the OLE must be examined from the location of the reported damage to the location where the train came to a stand
- a report of damage to the OLE with no train involved – the OLE must be examined at the location of the reported damage.

## 14.2 Examining the OLE using a train

### 14.2.1 How the OLE is to be examined

signaller

The OLE can be examined from a train on the affected line or an adjacent line.

If it is examined from an adjacent line and no defect is found, you must tell the driver of the next electric train over the affected line to proceed at caution and not to exceed 20 mph (30 km/h).

If the main type of support is not headspan, only the affected line needs to be examined.



Where the main type of support is by headspan, the OLE must be examined on all lines following:

- a sequential tripping of the OLE
- tripping of electrical sections on more than one line
- a driver reporting an ADD operation
- damage to the OLE being reported.

signaller

If a train on an adjacent line is used for this, you must also ask the driver to establish whether it is safe for trains over the affected line to pass, if the trains are able to operate using the train's own tractive power, or to coast under the OLE with pantographs lowered.

If you are asked to examine the OLE, you must:

- be accompanied by a competent person during darkness, poor visibility or where there is a tunnel in the affected section
- proceed at caution and not exceed 20 mph (30 km/h) and look out for any damage or other problem with the OLE.

driver

The signaller may also ask you to establish whether it is safe for trains over the affected line to proceed using the train's own tractive power or coast under the OLE with pantographs lowered.

In this case, you must check that:

- any obstruction is not more than 150 mm (6 inches) below the contact wire
- not more than two consecutive droppers have come off
- the object or defect is more than three OLE structures away from a tunnel or overbridge
- no other defect is obvious.

### **14.2.2 If a train can operate using its own tractive power or coast with pantographs lowered**

If you are sure that all of these apply, you must tell the signaller that you believe it is safe for a train over the affected line to proceed using its own tractive power or coast under the OLE.

signaller

If the driver considers that a train can coast or proceed using its own tractive power through the affected area, you must get an assurance from the driver that:

- any obstruction is not more than 150 mm (6 inches) below the contact wire
- not more than two consecutive droppers have come off
- the object or defect is more than three OLE structures away from a tunnel or overbridge
- no other defect is obvious.

You must get a clear description from the driver of the exact location name or description that can be used so a driver, who is to coast under the defective OLE, can recognise it.

You must then deal with following trains, that are to pass over the affected line, as shown in section 15.4 of this module.

### **14.2.3 If after the examination trains cannot pass**

If after the examination it is found that trains cannot pass through the affected area, you must arrange for the OLE to be examined by OLE personnel.

### **14.2.4 If no object or defect is found**

If after the examination it is reported there is no obvious damage to the OLE, you may allow normal working to resume on all lines with the exception of the following.

- If the examination was carried out from a train on an adjacent line, you must tell the driver of the next electric train on the affected line to proceed at caution and not exceed 20 mph (30 km/h).
- If the examination was as a result of an ADD operation or reported damage to the OLE, you must stop each train on the affected line and instruct the driver to proceed at caution and not to exceed 20 mph (30 km/h).

You must continue to do this until the OLE has been examined by OLE personnel, as shown in section 14.4 of this module.

### 14.3 Responsible person arriving on site

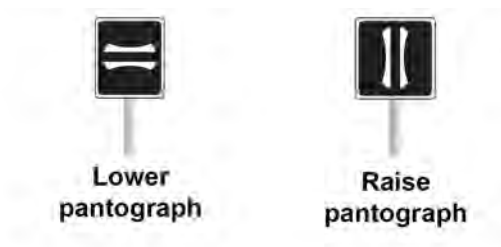
When you arrive on site, you must establish whether the object or defect to the OLE is such that trains, including trains with pantographs lowered, can run or continue to run safely through the affected area.

responsible person

If trains can run or continue to run but electric trains must coast with the pantographs lowered, you must decide whether the driver can easily identify the location. You must take account of the weather conditions and any other factor that may make this difficult.

If you believe it will be difficult for the driver of each train to easily identify the exact location, you must make sure that the following boards are erected.

#### 20 mph (30 km/h) pantograph signs



### 14.4 OLE personnel examining the OLE

When the OLE is to be examined by OLE personnel, you must not resume normal working until the examination has been completed and this person tells you it is safe to do so.

signaller

# 15

## Moving trains after an OLE incident

*The people responsible: driver, signaller*

### 15.1 When a pantograph has been damaged and there is no other pantograph available

driver

If, after you have lowered the pantograph, it cannot be used because of damage, the train may be assisted forward at reduced speed to the first location where the pantograph can be dealt with.

You must give the signaller an assurance that the damaged pantograph is clear of any possible contact with the OLE.

However, you must not move the train until a competent person has carried out the necessary repairs if:

- the clearance between the damaged pantograph and the OLE cannot be assured, or
- the damaged pantograph is foul of the loading gauge.

### 15.2 When a pantograph has been damaged but another is available or the train is a bi-mode train

driver

If the train has an undamaged pantograph, or is a bi-mode train that is able to move forward using its own tractive power, you may allow the train to proceed after any damaged pantograph has been dealt with as shown in section 15.1 of this module.

### **15.3 When a damaged pantograph cannot be dealt with or there is evidence that the train has contacted the OLE**

If the damaged pantograph cannot be dealt with as shown in section 15.1 or any part of the train or its load has been in contact with the OLE, you must only allow the train to move if one of the following applies.

- The OLE has been switched off and you have received authority from a member of OLE personnel for the train to be moved to a location away from the OLE for the defect or damage to be repaired.
- You have been told that the defect has been repaired or made safe for the train to move.
- The train must be moved in an emergency.

driver,  
signaller

### **15.4 Allowing trains to coast at 20 mph (30 km/h) with pantographs lowered**

Following an examination of the OLE, if you receive an assurance that it is safe to do so, you may allow all trains, including electric trains with pantographs lowered, to pass under objects or defect to the OLE as shown in section 14.2.2.

signaller

You must identify a signal that can be maintained at danger or a block marker at which the route can be closed, which is a sufficient distance from the affected area that will allow a train to reach 20 mph (30 km/h) before arriving at the affected area.

Trains already beyond this signal or block marker must be dealt with individually. You must ask the driver of any electric train if they can reach enough speed to coast with pantographs lowered through the affected area.

## signaller

You must stop each train at this signal or block marker and explain to the driver:

- there is a problem with the OLE
- the location name and description of the affected area
- if the affected area will be identified by 20 mph (30 km/h) coasting signs.

You must then instruct the driver:

- to lower pantographs if fitted, in enough time to make sure that the train coasts through the affected area at not more than 20 mph (30 km/h) with the pantographs lowered
- that the pantographs, if fitted, must not be raised until the driver is sure all pantographs on the train are clear of the affected area
- to obey all signals or indications on the driver machine interface (DMI).

When the driver has confirmed that all instructions have been understood, you may clear the signal or issue a Movement Authority (MA).

You must make sure that the route is clear through the affected area so that the driver will not encounter any signal at danger or an end of authority.

## driver

Following an examination of the OLE, the signaller may allow all trains, including electric trains with pantographs lowered, to pass under objects or defect to the OLE.

The signaller will tell you:

- there is a problem with the OLE
- the location name and description of the affected area
- if the affected area will be identified by 20 mph (30 km/h) coasting signs.

driver

The signaller will then instruct you:

- to lower pantographs, if fitted, in enough time to make sure that the train coasts through the affected area at no more than 20 mph (30 km/h) with the pantographs lowered
- that the pantographs, if fitted, must not be raised until you are sure all pantographs on the train are clear of the affected area
- to obey all signals or indications on the DMI.

When the signaller is sure that you have understood all the instructions, the signaller will clear the signal or issue an MA for you to proceed.

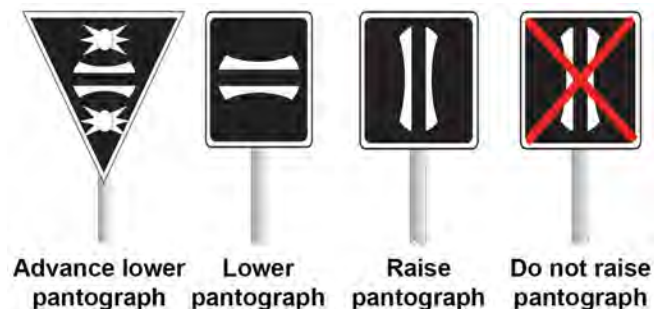
You must make sure that all pantographs, if fitted, are lowered before coasting through the affected area.

You can raise the pantographs when you are sure all the pantographs have passed the affected area.

You may then proceed normally.

## 15.5 Allowing trains to coast at up to permissible speed with pantographs lowered

### High-speed coasting signs



## Conditions for using high-speed coasting

### signaller

When there is planned engineering work, damage to the OLE or a failure of the power supply preventing the normal passage of electric trains, but the line is otherwise suitable for trains to pass, you may allow electric trains to coast through the affected area, as long as the following conditions are met.

- You have been given authority to use high-speed coasting by the competent person appointed by Operations Control to oversee this procedure.
- You will be able to make sure the line is clear throughout the affected area before allowing each coasting movement to start.
- The electric train is not planned to stop within the affected area.
- There are no high wind conditions.
- There is no poor visibility.

## Allowing trains to coast

When you have been told that all the high-speed coasting signs are in position and you know the locations of the 'lower pantograph' and 'raise pantograph' signs, you may allow trains to proceed towards the affected section as long as you have told the driver of each electric train:

- high-speed coasting of electric trains is taking place between the two locations concerned
- the location of the 'lower pantograph' sign
- the location of the 'raise pantograph' sign.

You may continue to do this until the damaged or isolated section is again in order and you have been told the high-speed coasting signs have been removed.



## Driver's actions

When the signaller has told you that electric trains are to coast and you are aware of the location of the 'lower pantograph' sign and the 'raise pantograph' sign, you may proceed normally towards the 'lower pantograph' sign.

driver

An 'advance lower pantograph' sign will be positioned approximately 400 metres (440 yards) on the approach to the 'lower pantograph' sign. You must lower all pantographs before reaching the 'lower pantograph' sign.

You may lower pantographs at any speed.

You must not then raise the pantograph until you are sure all pantographs on the train have passed beyond the raise pantograph sign.

You may raise pantographs at any speed up to 80 mph (130 km/h) or at a higher speed if authorised by your company instructions.

A 'do not raise pantograph' sign will be placed at the end of the safe pantograph raising area. If, for whatever reason, you have not raised the pantograph by the time you pass the 'do not raise pantograph' sign, you must reduce the speed of your train to 20 mph (30 km/h) before attempting to raise the pantograph.

## High-speed pantograph lowering and raising signs missing or defective

You must tell the signaller immediately after passing through the affected area, if necessary stopping the train specially, if you see any of the high-speed pantograph lowering and raising signs are missing or any light is out on the 'advance lower pantograph' sign.

You must report the defect to Operations Control.

signaller

Until the defect has been put right, you must warn drivers of all electric trains that are to approach the affected section.

## 15.6 Bi-mode trains

driver,  
signaller

You can carry out the instructions in sections 15.4 and 15.5 for a bi-mode train operating in electric mode.

You can agree that the bi-mode train will operate in a self-powered mode instead of coasting.

driver

In either case you must:

- lower all the pantographs on the train
- keep the APCO equipment on the train isolated throughout the affected area until you reach the location where you are allowed to raise the pantograph.

# 16

## Preventing damage or danger from on-train equipment overheating

*The person responsible: driver*

If you become aware of any serious defect or the electrical equipment overheating, you must immediately lower all pantographs and stop the train.

If lowering the pantograph cures the fault, you must:

- isolate the defective equipment, or
- if this is not possible and the train has more than one traction unit, isolate the pantograph on the defective unit and raise any servicable pantograph on the rest of the train
- isolate the APCO equipment on the train if provided.

If you cannot lower the defective pantograph and there is still a fault, you must tell the ECO or arrange for this to be done so that the electricity can be switched off on the appropriate section of OLE.

driver

# 17

## Electric trains driven off the contact wire

*The person responsible: driver*

### driver

If an electric train has been driven off the contact wire with any pantograph raised, you must arrange for the incident to be reported to the ECO.

You must not move the train back under the OLE until a competent person has examined all the pantographs and, if necessary, all affected ones have been secured in a safe position.

# 18

## Defective automatic power control (APC) track inductor or APCO balise

*The people responsible: driver, signaller*

### 18.1 APC inductor: Signaller's actions

If you see, or are told about, a loose, defective or broken APC track inductor, you must immediately report it to the fault control.

signaller

If the defective APC track inductor is on the approach side of a neutral section, you must stop each affected train and tell the driver to shut off power when passing through the neutral section.

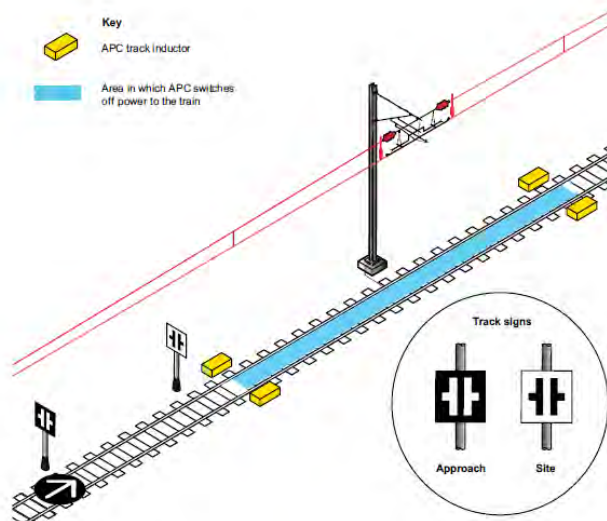


Diagram AC.2 Arrangement of signs and APC track inductors for a typical neutral section

## 18.2 APC inductor: Driver's actions

driver

When you have been told about a defective APC track inductor, you must shut off power immediately before entering the neutral section.

## 18.3 Defective APCO balise

signaller

If you see, or are told about, a loose, defective or broken APCO balise, you must immediately report it to the fault control.

If the defective APCO balise is on the approach to an electric to self-powered changeover location, you must stop each affected train and tell the driver to manually change to self-powered mode at the pantograph lower sign.

driver

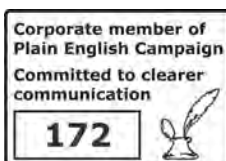
When you have been told about a defective APCO balise, you must make sure that you change to self-powered mode at the pantograph lower sign.





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**GE/RT8000/DC**  
**Rule Book**

**Module DC**



# DC electrified lines

Issue 4

September 2015

**Comes into force 05 December 2015**



Conventions used in the Rule Book	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	driver
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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For information regarding the Rule Book, contact:

[enquirydesk@rssb.co.uk](mailto:enquirydesk@rssb.co.uk)

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You will need this module if you carry out the duties of a:

- train driver
- guard
- shunter
- designated person (DP)
- signaller
- crossing keeper

in DC electrified areas.

**Note:** This module does not apply in the Merseyrail area or between Drayton Park and Moorgate. Network Rail publishes local instructions separately for these.

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- 12.3 Taking a possession around a train
- 12.4 Train entering a possession

# 1

## Definitions

### **Emergency switch-off**

An emergency switch-off is carried out by the electrical control operator (ECO) when it is essential to switch off the electrical supply immediately, when someone is in danger from live conductor rail equipment (CRE).

The ECO will switch off the electrical supply to:

- the electrical section affected
- the abutting electrical section either side.

### **Conductor rail permit**

A permit that is signed and issued by the authorised person (AP) or engineering supervisor and given to a designated person (DP), who is to carry out work on or near to the CRE.

This permit states exactly what electrical equipment is isolated and on which, or near to which, it is safe for the specified work to begin.

If a conductor rail permit has been issued, it does not mean train movements have stopped.

# 2 Competence

*The people responsible: **all concerned***

You must not go on or near the line in an area with CRE unless your regular competence assessment also contains the track-safety rules that relate to lines electrified by the DC system as shown in this module.

**all  
concerned**

Table A of the *Sectional Appendix* shows which lines are electrified by the DC system.

If new CRE is being installed, or an electrified area is being extended, the instructions in this module will not apply until the equipment has been declared live.

You will be told about this in an energisation warning notice.

If you are not sure whether the CRE is live, you must treat it as live and dangerous to life.

# 3

## Dangers of the system

*The people responsible: **all concerned***

### 3.1 Treating the CRE as being live

**all  
concerned**

CRE, shoe gear and under-floor mounted electrical equipment on trains are extremely dangerous. It may be fatal if you touch or go near any of them, or if you allow anything to touch or go near them.

Live CRE is dangerous to life. You must treat CRE as being live at all times unless one of the following applies.

- A conductor rail permit has been issued to the DP.
- The CRE has been isolated and an assurance has been received as shown in local isolation instructions.
- The ECO has given an assurance that the CRE has been switched off in an emergency.

You must not:

- touch or step on CRE
- step on guard boarding
- allow clothing, tools, equipment or any object you are carrying to touch CRE unless they are intended for this purpose
- step between the conductor rail and the adjacent running rail
- touch broken or displaced CRE
- touch the collector shoes on any train, whether or not the collector shoes are touching the conductor rail
- step into flood water which may be in contact with the CRE
- direct a jet of water or any other liquid onto the CRE.



You must treat cables running alongside and crossing under lines as being live. You must not interfere with these cables or their protective covers.

**all  
concerned**

Traction return current passing through the running rail is not normally dangerous to life. However, you must not touch the running rail at the same time as touching any metalwork nearby that is not directly connected to the running rails.

You must not touch broken running rails or bridge the gap between them.

### **3.2 Reporting damage, defects, snow fall and flood water**

You must immediately make sure the following are reported to the ECO:

**all  
concerned**

- damage to cables, cable routes or connected equipment
- flashovers or electrical explosions seen or heard in any electrical equipment
- any leakage of oil from a cable or cable oil tank
- damage to a conductor rail
- burning, smoking or excessive flashing of conductor rails or cables connected to them
- a broken or parted rail or broken conductor rail
- a broken or defective bond
- a broken or defective insulator
- equipment or debris in contact with the conductor rail and running rail.

If the damage or defect will affect the safe operation of trains, you must first report this to the signaller.

**all  
concerned**

If you become aware that the line is flooded above sleeper level, you must report this to the ECO in the quickest way possible. You must state the depth and extent of the flooding.

You must also report to the ECO any change to the extent of the flooding.

You must report either of the following to operations control:

- heavy snowfalls, or
- ice forming on the conductor rail surface which may cause difficulty operating electric trains.

# 4 Personal safety

*The people responsible: all concerned, driver, guard*

## 4.1 Precautions that must be taken

You must always take care when working close to the CRE. You must also take special care if you or anything you are using or carrying will be nearer than 300 mm (1 foot) to the CRE.

all  
concerned

If you are applying a track-circuit operating clip, or a track-circuit operating device (T-COD), you must always apply it to the running rail furthest from the conductor rail first and then to the running rail nearest to the conductor rail.

When removing a track-circuit operating clip or a T-COD, you must remove it from the rail nearest to the conductor rail first and then from the rail furthest from the conductor rail.

If you have to place detonators, you must attach them to the running rail which is furthest from the conductor rail.

If the emergency services need to go on or near the line, the person in charge at the site must tell the officer in charge from each emergency service about the presence of the conductor rail and which parts have been switched off.

If you are to manually operate or secure points and the conductor rail is not gapped or protected by guard boarding next to the motor or blade to be secured, you must place a conductor rail shield over the conductor rail before starting work.

## 4.2 Moving materials or equipment

You should avoid carrying materials or equipment over the conductor rail. If you need to carry an object over a conductor rail, you must make sure that it does not come into contact with a live conductor rail.

all  
concerned

You must not drag objects across, or drop them on, a conductor rail.

### 4.3 Attending to vehicles

**all  
concerned**

If possible, you must work on the side away from the conductor rail when performing tasks such as:

- operating handbrakes
- coupling vehicles
- uncoupling vehicles
- passing beneath the buffer level of coupled vehicles
- going underneath vehicles.

If it is not possible to do this on the side away from the conductor rail, other than when operating handbrakes, you must first place a conductor rail shield cover over the conductor rail.

If a conductor rail shield is not available, or cannot be fitted, arrangements must be made for the electricity to be switched off.

You may examine a vehicle without first getting the electricity switched off as long as you do not touch the conductor rail or overhead trolley wires, or any electrical equipment connected to them.

However, if severe arcing has taken place, you must get the electricity switched off before carrying out the examination.

### 4.4 Conducting train crew over DC lines

**driver,  
guard**

If you are conducting another person over a route with DC electrified lines, you must tell that person about the presence and danger of the conductor rails.

# 5

## Communicating with the ECO

*The people responsible: all concerned*

### 5.1 Directly or by another person

You can contact the ECO, or you can ask another person, such as the signaller, to contact the ECO on your behalf.

all  
concerned

If another person asks you to contact the ECO, you must make sure that you get the necessary information from that person before speaking to the ECO. You must also get any other information that the ECO asks for.

### 5.2 Identifying yourself and the location

When contacting the ECO, you must state:

- your name, job title and employer
- the line or lines concerned
- the location (for example, the nearest bridge, station, signal, block marker or other structure)
- the telephone number or radio call number (whichever you are using) so that the ECO can contact you if necessary.

all  
concerned

If the ECO gives you a message identification number, you must state it each time you speak to the ECO.

# 6

## Emergency switch-off

*The people responsible: **all concerned, driver, guard, signaller, PICEE***

**Note:** An emergency switch-off of the CRE does not mean that train running has been stopped.

### 6.1 Immediate actions

#### 6.1.1 Types of incident

**all  
concerned**

You must immediately contact the ECO (or arrange for this to be done) if you become aware of:

- a derailment
- a lineside fire
- a fire on a vehicle or train
- a person in contact with or in danger of coming into contact with the CRE
- an incident or other emergency requiring, or likely to require, the electricity supply to be switched off
- an emergency evacuation of passengers from a train.

If you receive a message from another person about an emergency, you must pass on this information to the ECO.

### 6.1.2 Reporting the emergency

When you contact the ECO, you must first say **'This is an emergency call'**.

all  
concerned

You must tell the ECO:

- the reason why you want the electricity to be switched off
- whether any person is in danger from live CRE
- whether short-circuiting bars have been applied
- whether the emergency services are waiting to give assistance.

If you are not at the site, you must relay information from the ECO to the site and from the site to the ECO.

### 6.1.3 Additional instructions for train crew

If it is necessary to protect an obstruction on a line other than the one your train is travelling on as shown in section 43 of module TW1 *Preparation and movement of trains*, you must do this before asking for the electricity to be switched off.

driver,  
guard

### 6.1.4 Additional instructions for signallers

If you become aware of an emergency, you must carry out the appropriate train signalling regulations before asking for the electricity to be switched off.

signaller

### 6.1.5 If you cannot contact the ECO

If you cannot contact the ECO direct or through another person, a competent person may apply an approved short-circuiting bar to the section of conductor rail concerned as shown in section 6.3 of this module.

all  
concerned

## 6.2 Further actions

**all  
concerned**

You must stay in contact with the ECO, or if you have reported the incident through another person, stay in contact with that person until you have been assured that:

- the electricity has been switched off, or
- other arrangements have been made.

If the ECO agrees to the emergency switch-off, the ECO will decide who will be regarded as the person in charge of electrical emergency (PICEE).

If you are the person passing on this information on behalf of someone else, you must stay in contact with the ECO until an assurance has been given that one of these arrangements has been put in place.

## 6.3 Using a short-circuiting bar

**all  
concerned**

If it is not possible to use other ways to get the electricity switched off in an emergency, you may apply a short-circuiting bar but only if you are competent to do so and one of the following applies:

- a person is in danger through contact with the CRE
- passengers are alighting from a train which has been stopped by failure or accident
- a short circuit on a train cannot be isolated and there is severe arcing
- it is shown in a train operating company's instructions to train crew.

You must not use a short-circuiting bar where there is a guard board between the conductor rail and the adjacent running rail or a yellow plastic shroud is fitted to the underside of the conductor rail.



Before you use a short-circuiting bar, you must make sure there is no conductor-rail section gap between where you apply it and the section of conductor rail you need to be switched off.

**all  
concerned**

You must consider any other portions of conductor rail to be live until the ECO gives an assurance they have been switched off.

Once you have applied the short-circuiting bar, you must leave it in position until it is no longer needed.

You must tell the ECO as soon as you have used a short-circuiting bar and give the exact location where it was applied.

You must get permission from the ECO before you remove a short-circuiting bar and then tell the ECO when you have removed it.

## 6.4 Detraining passengers

If it is necessary to evacuate passengers from a train as shown in module M1 *Dealing with a train accident or train evacuation*, the electricity must be switched off as shown below.

**all  
concerned**

### a) Emergency evacuation

In an emergency the electricity should be switched off, as shown in section 6.1 of this module, on any line where passengers may walk.

### b) Controlled evacuation

Before a controlled evacuation takes place, a temporary isolation must be taken on any line where passengers may walk.

## 6.5 When the line stays open

### signaller

When a line has been blocked to DC electric trains but is open for other trains, you must either:

- make sure any approaching train is not fitted with collector shoes
- get an assurance from the driver that the collector shoes are raised and are secured in this position.

If a train has stopped within the area of the emergency switch-off, before allowing it to proceed you must:

- make sure the train is not fitted with collector shoes, or
- get an assurance from the driver that the collector shoes are raised and are secured in this position.

## 6.6 Managing the emergency switch-off

### PICEE

If you are appointed by the ECO as the PICEE, the ECO will tell you the limits of the emergency switch-off.

You must identify yourself to anyone arriving on site.

If the emergency services are called to site, you must tell the officer in charge from each emergency service about the presence of the CRE and which parts have been switched off.

The ECO will tell you before shortening the area of the emergency switch-off. You must tell everyone at the site about the new limits.

If passengers are to get out of a train which is not at a platform, you must make sure that all passengers are kept clear of the CRE.

If you hand over the responsibility of the emergency switch-off to someone else, you must tell the ECO immediately. You must give the name, job title and employer of the person taking over from you.

**PICEE**

If you take over the responsibility of the emergency switch-off, you must immediately confirm the arrangements with the ECO.

As soon as the emergency is over and the affected section can be re-energised, you must:

- warn everyone involved that the electricity is about to be switched on
- make sure everyone is clear of the CRE
- remove any short-circuiting bars or other materials used during the emergency switch-off and place them clear of the CRE.

You must then tell the ECO that the emergency is over and wait for further instructions.

If the emergency will go on for a long time or it is necessary for work to be carried out on or close to CRE, a planned or temporary isolation must be taken as shown in Network Rail company instructions.

When the planned or temporary isolation has been taken, the ECO will tell you that you are no longer required to carry out any further duties as the PICEE.

# 7

## Rescuing a person from the CRE

*The people responsible: **all concerned***

### **all concerned**

If it is necessary to rescue a person from live CRE, you must make sure that everyone is kept clear of the CRE until you, or another person in direct contact with the ECO, has been told that the electricity has been switched off as shown in section 6 of this module.

If it is not possible to get the electricity switched off immediately, you can try to rescue a person from live CRE as long as:

- you cover your hands with something which is dry and will not conduct electricity
- you stand on dry non-conducting material
- you do not use any metal objects.

If you cannot do this, you must only try to move the person using dry insulating material.

# 8

## Types of isolation

*The people responsible: all concerned, DP*

**Note:** Isolation of the traction current does not mean that train running has been stopped.

### 8.1 Planned isolation

You must not allow work that requires an isolation to start until you have received a conductor rail permit (CRP).

DP

You must explain the limits of the isolation and any hazards or conditions specified on the CRP to anyone you are responsible for, before allowing them to start work.

You must keep the CRP until your group has finished working. You must then immediately return it to the person who issued it.

You must immediately tell the AP if you have lost your CRP. The AP will arrange to issue you with another CRP, endorsed 'Duplicate'.

If another DP is to take over from you before the work is completed, you must explain the limits of the isolation to the new DP. You must then give your CRP to the new DP.

If you are the new DP, you must make sure that you understand the limits of the isolation before taking the CRP.

If when your work is complete, you find that you have lost your CRP, you must tell the AP. You must carry out a visual inspection with the AP to make sure that all personnel and materials are clear of the CRE.

## 8.2 Temporary isolation

**all  
concerned**

These isolations must be granted as shown in Network Rail instructions and only to a person who has been trained in those instructions.

## 8.3 Local isolation

**all  
concerned**

A local isolation can only be taken where a local isolation instruction has been issued.

# 9

## Protecting isolated sidings where there is no local instruction

*The person responsible: **signaller***

The person in charge of a siding possession (PICOS) must arrange for points to be placed and kept in position to prevent trains entering the area to be isolated. The points must be protected against movement by:

- the signaller or operator using reminder appliances if worked from a signal box, ground frame or shunt panel
- securing them if they are hand points.

You must place and keep any points leading to the siding to be isolated in a position to prevent trains entering the siding. You must use appropriate reminder appliances.

You must then make an entry in the Train Register.

**signaller**

# 10

## Track isolating switches and hook switches

*The people responsible: **all concerned***

### **all concerned**

You may only operate a track isolating switch or hook switch if you are competent to do so and have the authority of the ECO.

The ECO will give instructions to the person operating track isolating switches or hook switches on whether they are to be opened or closed and the order in which they are to be operated.

You must immediately tell the ECO when you have operated any switches.

You must replace the white sleeve to a normally open hook switch when restoring it to its normal position to prevent it from being operated accidentally.

You must keep a track isolating switch enclosed and locked to stop unauthorised interference. You must fit a caution notice to a normally open track isolating switch to prevent it being operated accidentally.



# 11

## Short circuits

*The people responsible: **all concerned, driver, signaller***

### 11.1 Finding out the cause of a short circuit

The ECO will tell you if it is not possible to restore the electricity supply following a short circuit. You must then agree what arrangements are to be made to find out what has caused the short circuit.

**signaller**

This must include arrangements to examine any train in the electrical section. Unless you are sure that the fault is with a train, you must also make arrangements for the section of line to be examined.

### 11.2 Examining the conductor rail

You must treat the conductor rail as being live at all times when it is being examined as the ECO may continue to try to restore the electricity supply.

**all concerned**

If you see an object that is causing or is likely to be causing the short circuit, you must not try to remove it until the ECO tells you it is safe to do so.

You must not enter a tunnel until you have told the ECO that you are about to do so. You must tell the ECO immediately you have left the tunnel. When you are in the tunnel, the ECO will not try to restore the electricity supply.

### **11.3 When the cause of the short circuit has been removed**

- signaller** You must tell the driver of each train to proceed at caution over the location of the short circuit, until you have been told by a competent person that it is safe for normal working to be resumed.
- driver** You must proceed at caution over any portion of line where the signaller tells you that there has been a short circuit.

# 12

## Moving electric trains between live and isolated sections

*The people responsible: driver, person authorising the movement, signaller*

### 12.1 Moving an electric train towards an isolated section

You must be sure that the approach to the isolated section is protected by a possession limit board (PLB) and three detonators, 20 metres (approximately 20 yards) apart before you allow an electric train, including a train hauled by a dual-powered locomotive on electric power, to:

- pass the signal or block marker protecting an isolated section
- make an unsignalled movement towards an isolated section.

These movements must be driven from the leading cab. The movement must not be propelled.

signaller

driver

### 12.2 Electric train entering or leaving an isolated section

Before authorising the movement of a train that has collector shoes to enter or leave an isolated section, you must get confirmation from the driver that all collector shoes are secured in the raised position clear of the conductor rail.

Before you move a train that has collector shoes to or from an isolated section, you must make sure all collector shoes are secured in the raised position clear of any conductor rail.

person  
authorising  
the  
movement

driver

## 12.3 Taking a possession around a train

### signaller

If a possession is to be taken around a train that has collector shoes, you must not grant the possession until you have told the driver to secure the collector shoes in the raised position and the driver has told you that this has been done.

## 12.4 Train entering a possession

### signaller

Before authorising a movement to proceed towards the detonator protection, or the points at an intermediate point leading to a possession in which the electricity has been isolated, you must get confirmation from the driver that all collector shoes are raised and are secured clear of any conductor rail.

If you do not know if the train has collector shoes, you must ask the driver.

### driver

When the signaller tells you to do so, you must visually check that all collector shoes are secured in the raised position. You must then tell the signaller that you have done this.

You must keep the collector shoes in the raised position while you are in the possession.







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**GE/RT8000/G1**  
**Rule Book**

# General safety responsibilities and personal track safety for non-track workers

Issue 6

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You will need this module if you carry out the duties of:

- a train driver
- a guard
- a shunter
- a designated person (DP)
- a signaller
- a crossing keeper
- platform staff.

<b>Conventions used in the Rule Book</b>	<b>Example</b>
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	<b>driver</b>
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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## 1

## General instructions

*The people responsible: **all concerned***

### 1.1 Rules, regulations and instructions

**all  
concerned**

Rules, regulations and instructions apply to the task being carried out and to those carrying out the task, no matter what grade or job title they have.

Unless you are being instructed by a competent person, you must be competent to correctly apply the rules, regulations and instructions to the tasks you are authorised to carry out.

Safety must always be your first concern. If there is no rule that allows or prevents you doing something you believe must be done, you must do it in the safest way you know taking into account your training and experience.

### 1.2 Getting on and off rail vehicles

**all  
concerned**

You must not:

- get off a moving rail vehicle unless it is designed for continuous slow-speed movement such as the high-output ballast cleaner
- get on a moving rail vehicle unless it is absolutely necessary, and then only if you can do so safely
- ride on the steps of a locomotive or vehicle
- ride on a hand trolley or any other vehicle not designed for this purpose.

### 1.3 Mechanical and electrical plant or other equipment

**all  
concerned**

You must not operate mechanical or electrical plant or any other equipment unless you have been trained and are authorised to do so. If necessary, you must also hold a certificate of competency in operating the plant or equipment.

## 1.4 Travelling in driving cabs

You must only travel in the driving cab of a train if it is in connection with your duties and you have authority to do so.

all  
concerned

When travelling in the driving cab, you must not distract the driver.

## 1.5 User-worked level crossings, other gates and lineside fences

### a) User-worked level crossings

You must lower or close barriers or gates at user-worked level crossings and report to the signaller or Operations Control if you see any barriers or gates that have been left open or not lowered properly.

all  
concerned

### b) Other gates and lineside fences

You must keep closed any other gates giving access to the railway and if you can, lock them to prevent people from trespassing and causing vandalism.

If you come across a damaged fence, you must secure it if you can, and report any defects to the signaller or Operations Control.

## 1.6 Reporting lineside fires

You must immediately report a lineside fire to the signaller or Operations Control.

all  
concerned

## 1.7 Reporting trespassers

You must report anyone you believe to be trespassing to the signaller or Operations Control.

all  
concerned

## 1.8 Defective rail vehicles

**all  
concerned**

You must not remove or obscure a NOT TO GO or other repair label on a defective rail vehicle unless you are authorised to do so.

## 1.9 Overhead power lines, which belong to an electricity company, collapsing

**all  
concerned**

If an overhead electric power line belonging to an electricity company falls onto or near the railway line, all affected lines must be protected. If necessary, you must carry out the instructions shown in section 3 of this module.

You must not go closer than 5 metres (approximately 5 yards) to the fallen power line or anything in contact with it, until it has been confirmed by the electricity company that it is safe to do so.

## 1.10 Detonators

**all  
concerned**

If you have placed detonators on the line and you expect a train to pass over them, you must:

- stand at least 30 metres (approximately 30 yards) away from the detonators
- tell anyone else standing close by to also keep this distance away
- as the train passes over them, turn away.

If you have placed detonators on the line and you do not expect a train to pass over them, you can stay at the detonators if the rules require this.



# 2

## Danger to trains

*The people responsible: **all concerned***

Whenever you can, you must check a moving train for anything that looks unsafe such as:

**all  
concerned**

- a door not closed properly
- an insecure load
- a vehicle on fire
- a hot axle box
- the headlight not lit
- the tail lamp missing or not lit
- the driver sounding the train in distress warning (which is a continuous series of long blasts on the high/loud tone of the horn)
- the driver or guard displaying a red handsignal
- the hazard warning indicator (flashing headlights).

If you become aware of any of these hazards or warnings or other dangers, you must immediately tell the signaller, or if this is not possible, the person in charge.

# 3

## Stopping a train in an emergency

*The people responsible: **all concerned***

### all concerned

The following hazards might put approaching trains in danger.

- A track defect.
- A flood.
- An obstruction.
- A fire.
- Any light which is out at an emergency indicator.
- A cow, bull or other large animal within the boundary fence (even if it is not an immediate danger to trains).
- Any other animals on or near the line.

If you become aware of any of these hazards or other dangers, you must immediately tell the signaller. If this is not possible, you must tell the person in charge (who must tell the signaller).

As well as reporting the hazard, you must take any other necessary action, such as:

- stopping trains
- calling the emergency services.

If you have to stop a train in an emergency, you must show a hand danger signal clearly to the driver using one of the following methods.

### **During daylight**

You must show a red flag. If you do not have a red flag, raise both arms above your head. If you are riding on a vehicle, raise one arm held out horizontally.

### **During darkness or in poor visibility**

You must show a red light to the driver or wave a light violently.

# 4 Accidents

*The people responsible: **all concerned***

## 4.1 Reporting an accident

You must report an accident as quickly as possible to the signaller or Operations Control.

**all  
concerned**

When reporting an accident, you must first say '**This is an emergency call**'. This is important, as you will get the immediate attention of the person you are speaking to. You must then state:

- your name
- your job title
- your employer
- where you are speaking from
- your telephone or radio call number.

You must give the exact location and details of the accident including which lines:

- are definitely blocked, and
- those lines you think could be blocked.

You must also say which emergency services are needed.

You must report all accidents, including near misses, to your supervisor or manager.

A rail incident officer (if appointed) will take charge at a scene of an accident.

## 4.2 Calling the emergency services

**all  
concerned**

You must make sure you know how to call the emergency services from your usual place of work. From most railway locations you should call 999.

You must use a fixed railway telephone if one is available (this helps the emergency services to locate where you are calling from).

If no fixed railway telephone is available, you may use a mobile or non-railway telephone.

In all cases, when calling the emergency services, you must:

- give the exact location of the accident
- give details of the accident.

## 4.3 Preserving evidence at a serious accident

**all  
concerned**

Accident investigators will need to examine the site for evidence of the cause of the accident. You must not interfere with, disturb or remove any evidence of the possible cause of the accident except to help the injured or to prevent further injury or damage. This applies to equipment such as:

- driving controls
- signalling equipment
- rolling stock
- lineside equipment.

## 4.4 Reporting a dangerous goods incident

If there are dangerous goods on a train, you must tell the signaller, Operations Control or the local manager **'This is a rail dangerous goods emergency'** and give the following information (as well as the information set out in section 4.1).

all  
concerned

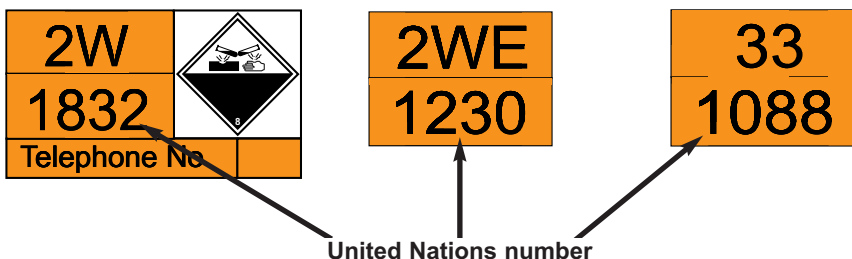
United Nations number - this is displayed on the hazard warning panel on the side of a vehicle (or container).

A hazard warning panel will look like one of these:

Large hazard warning panel

Small hazard warning panel

European hazard warning panel



You must:

- keep well clear
- keep the wind behind you as you face any affected vehicles or packages
- avoid low-lying places where gas may gather
- keep unauthorised people well clear
- try to put out any fire, without putting yourself or anyone else at risk
- keep naked lights and lamps well clear
- not smoke, use matches or pocket lighters
- not use a mobile phone near any vehicle carrying flammable loads.

# General safety responsibilities and personal track safety for non-track workers

**all concerned**

You can tell if there are dangerous goods in a vehicle or in a package because it will carry a hazard warning label like one of these.



# 5

## Communications procedure

*The people responsible: all concerned, driver, signaller*

### 5.1 Communicating clearly

You must make sure you properly understand the meaning of all messages whether they are communicated by phone, radio or face-to-face.

all  
concerned

You must:

- make sure you are talking to the right person
- give your exact location, if you are using a phone or a radio
- give your name and that of your employer
- state what task you are carrying out
- if necessary, let the person know how you can be contacted
- use the phonetic alphabet to make sure names and locations that are difficult to pronounce are fully understood, and
- never use the words 'not clear' to describe a line that is obstructed, always use '**line blocked**'.

You must say numbers one at a time. You should say 8107 as 'eight, one, zero, seven'. There are exceptions to this such as when giving the time or when referring to a rule book module or handbook.

If you are receiving a message, make sure you fully understand it. You must repeat the message back so that the other person knows you correctly understand it.

**all  
concerned**

To help make sure your message is fully understood when using a telephone or radio:

- speak with the mouthpiece close to your mouth and speak directly into the mouthpiece
- talk slightly slower than normal using a natural rhythm
- use your normal level of volume when speaking
- avoid using hesitation sounds for example 'um' and 'er'
- use clear sentences, and
- get the person to repeat your message back to you.

## 5.2 Using communications equipment

**all  
concerned**

You must not use communications equipment if it may cause a distraction or affect safety.

If you are on or near the line, make sure you are in a position of safety before using mobile communications equipment.

Unless it is an emergency, you must not use the group call, general call or conference-call facility for passing instructions to do with:

- passing signals at danger
- passing an end of authority (EoA) without a movement authority (MA)
- protecting trains
- wrong-direction movements
- unsignalled movements.



## 5.3 Lead responsibility

During any conversation, one person must always take lead responsibility. The person who must take lead responsibility depends on the task being carried out. Examples are shown below.

all  
concerned

<b>Lead responsibility</b>	<b>When communicating with</b>
Electrical control operator (ECO)	anyone
Signaller	anyone except the ECO
PICOP (person in charge of the possession)	anyone except the ECO or signaller
Route-setting agent	points operator
Shunter	driver
Pilotman	driver
Handsignaller	driver
Person conducting assisting train	driver of assisting train
Conductor driver	driver of train or machine being conducted
Designated person (DP)	members of the work group

If it is not clear who has lead responsibility, or if two people carrying out the same task are communicating with each other, the person who starts the conversation must always take lead responsibility.

## 5.4 Using phrases

all  
concerned

### a) Phrases to use when using a radio or telephone

Phrase	Meaning
<b>This is an emergency call</b>	This message provides information which needs immediate action to prevent death, serious injury or damage.
<b>Repeat back</b>	Repeat all of the message back to me.
<b>Correction</b>	I have made a mistake and will now correct the word or phrase just said.

### b) Other phrases to use when using a radio and only one person can be heard at a time

Phrase	Meaning
<b>Over</b>	I have finished my message and am expecting a reply.
<b>Out</b>	I have finished my message no reply is expected.

## 5.5 Using the phonetic alphabet

You must use the phonetic alphabet:

- to identify letters of the alphabet
- to spell words and place names that are difficult to say, or may be misunderstood
- if there is interference on the radio or phone
- when quoting the identity of signals or points
- when quoting train descriptions.

all  
concerned

**This is the phonetic alphabet.**

<b>A</b> - alpha	<b>N</b> - november
<b>B</b> - bravo	<b>O</b> - oscar
<b>C</b> - charlie	<b>P</b> - papa
<b>D</b> - delta	<b>Q</b> - quebec
<b>E</b> - echo	<b>R</b> - romeo
<b>F</b> - foxtrot	<b>S</b> - sierra
<b>G</b> - golf	<b>T</b> - tango
<b>H</b> - hotel	<b>U</b> - uniform
<b>I</b> - india	<b>V</b> - victor
<b>J</b> - juliet	<b>W</b> - whisky
<b>K</b> - kilo	<b>X</b> - x-ray
<b>L</b> - lima	<b>Y</b> - yankee
<b>M</b> - mike	<b>Z</b> - zulu

## 5.6 Signaller instructing a driver

### signaller

You must give all instructions to a driver in one of the following ways:

- direct (face to face)
- direct (via telephone or radio)
- through the guard, shunter, pilotman, handsignaller
- through any other person who is competent in the relevant rules.

### driver

You will receive all instructions from a signaller in one of the following ways:

- direct (face to face)
- direct (via telephone or radio)
- through the guard, shunter, pilotman, handsignaller
- through any other person who is competent in the relevant rules.

# 6

## Trackside definitions

*The people responsible: all concerned*

### Operational railway

The term operational railway includes the area called on the lineside and the area called on or near the line.

all  
concerned

### The lineside

You are on the lineside (shown green in diagram G1.1) if:

- you are between the railway boundary fence and the area called on or near the line, and
- you can be seen by the driver of an approaching train.

You are not on the lineside if you are on a station platform.

### On or near the line

You are on or near the line (shown orange in diagram G1.1) if you are:

- within 3 metres (10 feet) of a line and there is no permanent fence or structure between you and the line
- on the line itself.

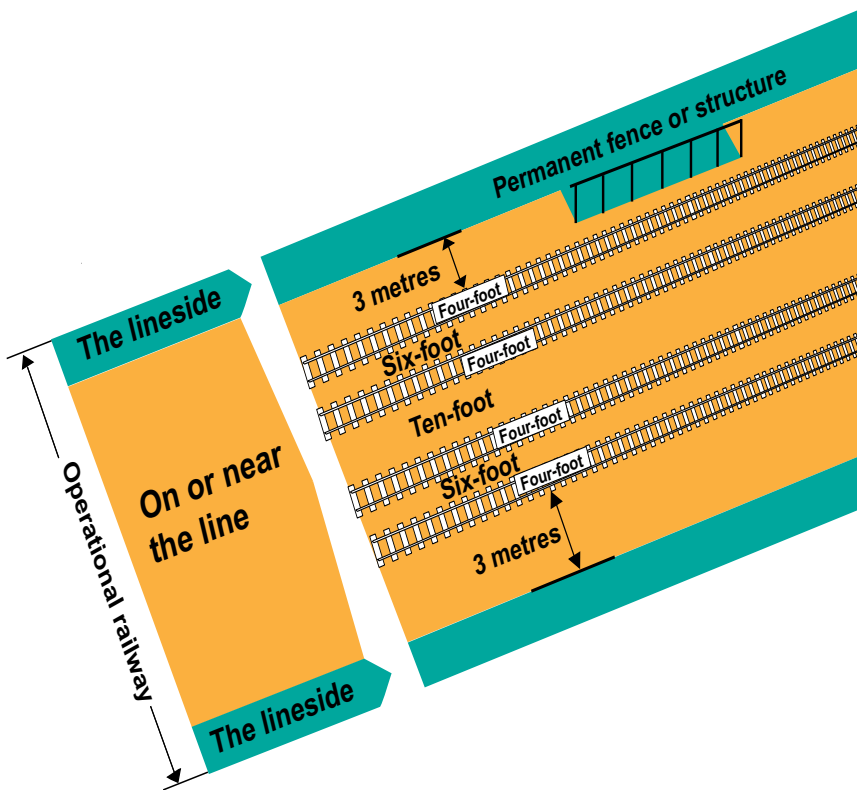
You are not on or near the line if you are on a station platform unless you are carrying out engineering or technical work within 1.25 metres (4 feet) of the platform edge.

You are not on or near the line if you are crossing the line at a level crossing.

### A position of safety

If the maximum speed is 100 mph (160 km/h) or less, you are in a position of safety if you are at least 1.25 metres (4 feet) from the nearest line on which a train can approach.

If the maximum speed is over 100 mph (160 km/h), the distance increases to 2 metres (6 feet 6 inches).



**Diagram G1.1**

# 7

## Going on the operational railway

*The people responsible: **all concerned***

### 7.1 General

You do not need to carry a certificate showing that you are competent in the track-safety rules shown in this module as long as your regular assessment contains track-safety rules.

**all  
concerned**

You must wear clean high-visibility clothing of an approved type in the correct way whenever you are on the operational railway.

You may carry small items with you. Any items you do carry with you must not affect your ability to walk safely or to see or hear and acknowledge approaching trains.

Make sure you have a suitable hand lamp with you during poor visibility, darkness, or if you are to enter a tunnel.

### 7.2 Local knowledge

Before you go on or near the line, you must know about all of the following for each line:

**all  
concerned**

- the maximum speed
- the direction from which trains normally approach
- the location of any area where you must not go while trains are running
- any location with limited clearances.

### 7.3 While walking

#### all concerned

You must use authorised walking routes if they are provided.

If you have to cross the line, you must not step on rails or sleepers or between movable parts of points.

If you have to use a mobile phone, first move to a position of safety and then stand still until you have finished using the phone.

Do not wear anything that makes you less able to see or hear approaching trains.

Do not allow yourself to be distracted by anyone or anything.

Keep a good lookout for approaching trains.

Make sure you look up at least every 5 seconds so that you can reach a position of safety and be in it no less than 10 seconds before an approaching train arrives.

#### **When a train approaches**

When a train approaches you must immediately move to a position of safety or, if already in a position of safety, stay there.

If the driver sounds the warning horn, raise one arm above your head to show you have heard the warning.

You must stay in your position of safety until the train has passed clear or you are certain you will not be put in danger by that train or any other train.



# 8 Limited clearances and related warning signs

*The people responsible: all concerned*

## 8.1 Limited clearance signs

### Limited clearance warning sign



There is no position of safety on this side of the railway for the length of the structure. You must not enter or stand at that location when a train is approaching.

all  
concerned

### No refuges warning sign



There is no position of safety on this side of the railway for the length of the structure. However, there are positions of safety, or refuges, on the opposite side of the railway line.

### Prohibition sign



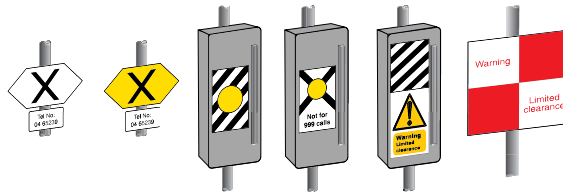
You must not pass beyond this sign while trains are running unless you are carrying out emergency protection. This is because you would not be able to reach a position of safety or refuge safely. If you are carrying out emergency protection, you must take extreme care.

## 8.2 Limited clearance at telephones

**all  
concerned**

Some telephones are positioned where there is limited clearance between the telephone and the adjacent lines. You may use these telephones only in an emergency and then only if no other form of communication is available.

**One or more of the following signs identifies these telephones.**



**Note:** A driver of a train at a signal with any of the signs shown above is allowed to use the signal post telephone under specific arrangements.



# Notes



# Fundamental operational principles

## Core operational aim

The core aim of the fundamental operational principles is to enable the safe and timely delivery of people and goods to their destination.

## Fundamental operational principles

- 1 The method of signalling must maintain a space interval between trains that is safe.
- 2 Before a train is allowed to start or continue moving, it must have an authority to move that clearly indicates the limit of that authority.
- 3 Trains proceeding over any portion of line must not be obstructed in a way that threatens their safety.
- 4 Trains must be prevented from proceeding onto a portion of line if it is known or suspected that it would not be safe for them to pass.
- 5 Trains must not be allowed to begin or continue their journeys until it is clear that it is safe for them to do so.
- 6 Trains must only be allowed to operate over any portion of line as long as the rolling stock is compatible with the infrastructure on that portion of line.
- 7 Trains must not continue to operate after they have been found to be unsafe in any respect, until measures have been taken to allow them to continue safely.
- 8 People must be kept a safe distance from moving trains.
- 9 The workforce must be protected from the particular hazards associated with electrified railways.



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# GERT8000-M1 Rule Book



## Dealing with a train accident or train evacuation

### Issue 5

## Module M1



September 2018  
Comes into force 01 December 2018



## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

Green text in the margin indicates who is responsible for carrying out the rule.

A white i in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



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You will need this module if you carry out the duties of a:

- driver
- guard
- signaller.

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# 1

## Definitions

### Signal protection

This means placing or keeping signals at danger, and closing routes or keeping routes closed.

### Train Accident

For the purposes of this module, the term train accident includes:

- a derailment
- a collision involving trains or rail vehicles
- a collision with an obstruction
- a collision with a road vehicle
- a collision with a person
- a fire on a train which might put other trains passing the location in danger
- a fire on a train which might mean that passengers are evacuated onto running lines
- an accidental train division which has caused another line to be obstructed.

# 2 What to do after a train accident

*The people responsible: driver, guard, signaller*

## 2.1 Driver's actions

You must immediately switch on the hazard warning indication where provided.

driver

If you cannot do this, you must display a red light forward.

You must then check:

- if any other lines are obstructed (if in doubt, treat them as obstructed), and decide the quickest way to stop any approaching trains
- the exact location of your train.

You must tell the signaller about the accident in the quickest way possible and whether the electric traction current needs to be switched off.

When the signaller tells you that signal protection has been provided, you must place a track-circuit operating clip on:

- every other line that is obstructed, and
- the line on which the your train is standing if the whole train has been derailed.

You must carry out emergency protection if:

- the signaller cannot provide signal protection, or
- you have not been able to contact the signaller.

If you need help in carrying out emergency protection, you must reach a clear understanding with the guard or any other competent person as to which lines that person will protect.

## Dealing with a train accident or train evacuation

### driver

If you are carrying out emergency protection alone, you must first protect other lines, then protect the line on which your train had been travelling, if necessary. You must decide which direction to protect first.

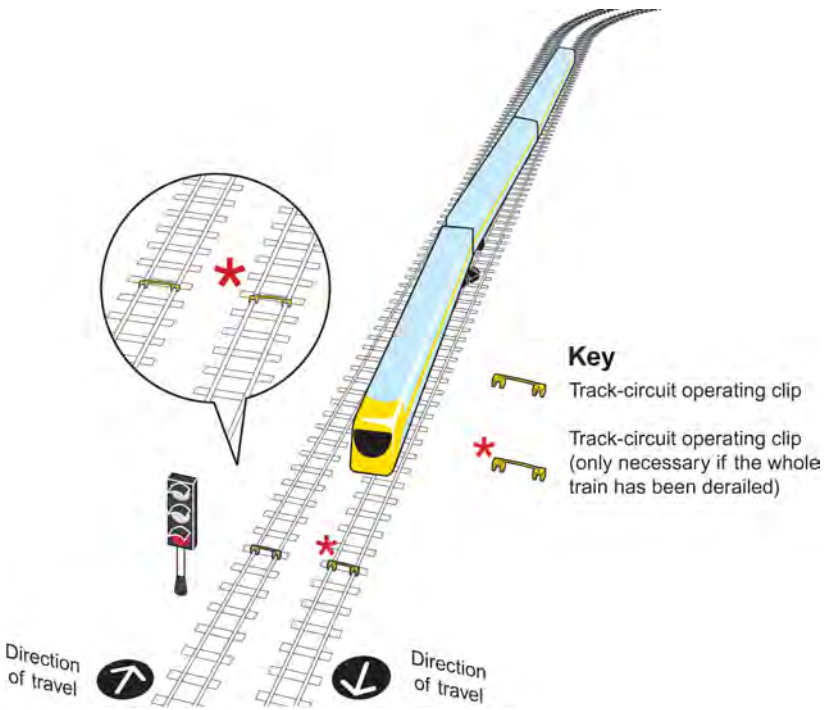


Diagram M1.1



## 2.2 Guard's actions

You must check:

- if any other lines are obstructed (if in doubt, treat them as obstructed), and decide the quickest way to stop any approaching trains
- place a track-circuit operating clip on any lines that are obstructed.

You must then contact the driver.

You must agree with the driver whether you need to:

- help with carrying out emergency protection, or
- stay with the train.

You must carry out the instructions shown for the driver in this module if you:

- cannot contact the driver, or
- find that the driver is unavailable.

If the driver needs help in carrying out emergency protection, you must:

- provide the help personally, or
- arrange for any other competent person to help.

If you provide the help yourself, you must reach a clear understanding with the driver as to which lines you will protect.

guard

## 2.3 Signaller's actions

### signaller

If you are alerted to a train accident, you must:

- immediately protect each obstructed line or arrange for this to be done
- take any other action needed to prevent trains approaching the accident as shown in the appropriate Train Signalling Regulations
- make an emergency broadcast to trains in the area concerned, or arrange for this to be done
- if possible, tell the person involved that you have provided protection
- arrange for the emergency services to be called if they are needed.

# 3

## Emergency protection

*The person responsible: driver*

### 3.1 Providing emergency protection

You must:

- place a track-circuit operating clip on every line that is obstructed
- show a hand danger signal to any train that is approaching the obstruction
- protect with detonators as described in sections 3.2 to 3.8.

If the whole train is derailed, you must also place a track-circuit operating clip on the line on which your train was travelling before you carry out emergency protection on other affected lines. You must also carry out emergency protection on the line on which your train was travelling if emergency special working or temporary block working is in operation.

When you have completed emergency protection, you must:

- continue as far as necessary, if you still need to contact the signaller, or
- return to your train.

driver

## Dealing with a train accident or train evacuation

### 3.2 Protecting a double-track line

driver

You must place three detonators 20 metres (approximately 20 yards) apart on the other obstructed line 2 kilometres (1¼ miles) from the obstruction.

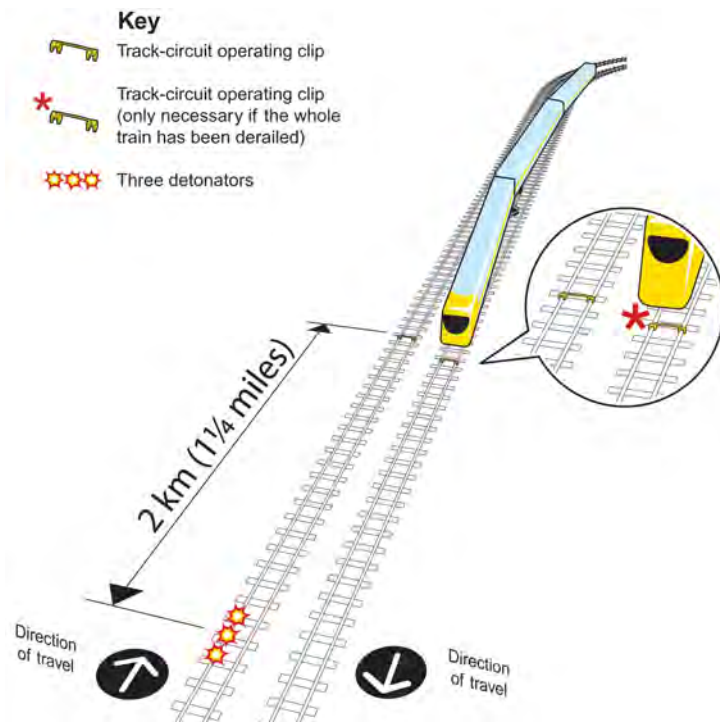


Diagram M1.2

### 3.3 Protecting a multi-track line

You must place three detonators 20 metres (approximately 20 yards) apart on every other line that is obstructed, 2 kilometres (1¼ miles) from the obstruction.

driver

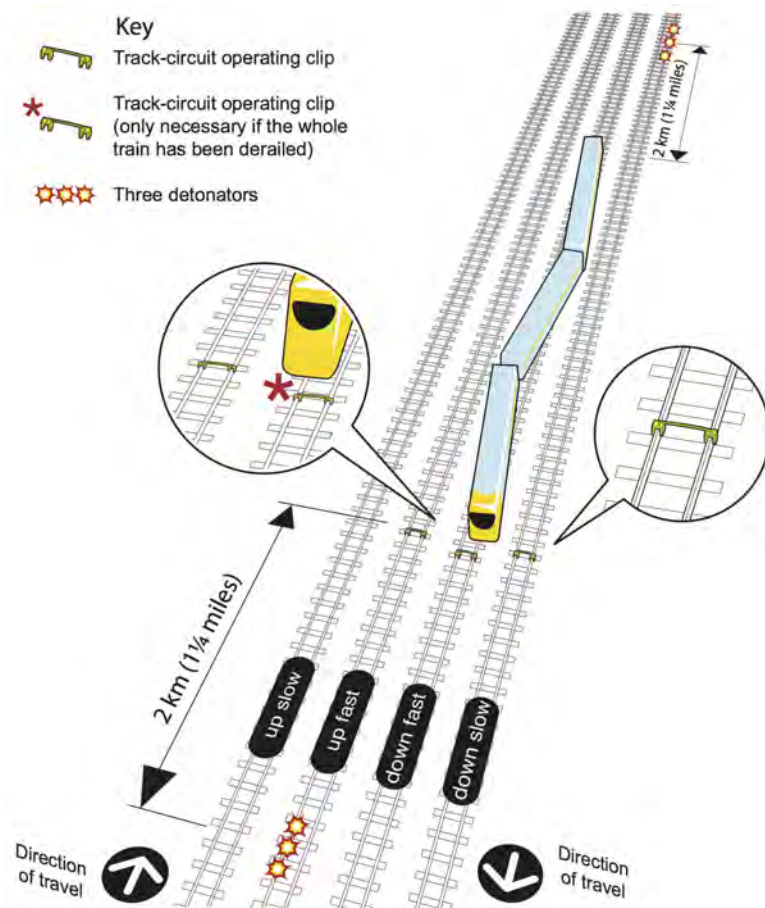


Diagram M1.3

## Dealing with a train accident or train evacuation

### 3.4 If a train approaches

driver

If a train approaches before you reach the full protection distance of 2 kilometres (1¼ miles), you must place three detonators immediately and show a hand danger signal to the approaching train.

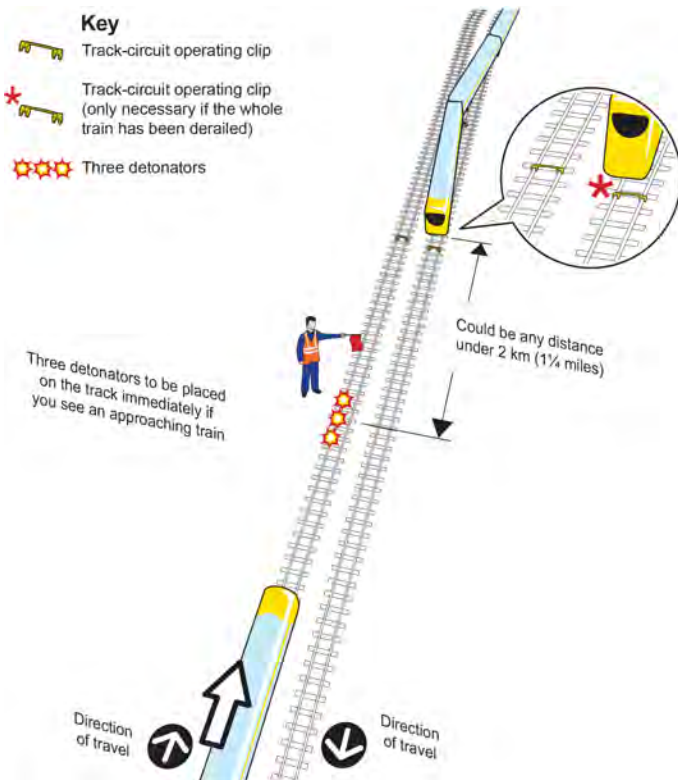


Diagram M1.4

### 3.5 Reaching a telephone or signal box

If you have not been able to contact the signaller and you reach a telephone linked to a signal box, or reach a signal box, within the full protection distance, you must:

driver

- first place three detonators on the line at the telephone or at the signal box
- speak to the signaller.

You do not need to continue to the full protection distance if the signaller confirms that signal protection is being provided.

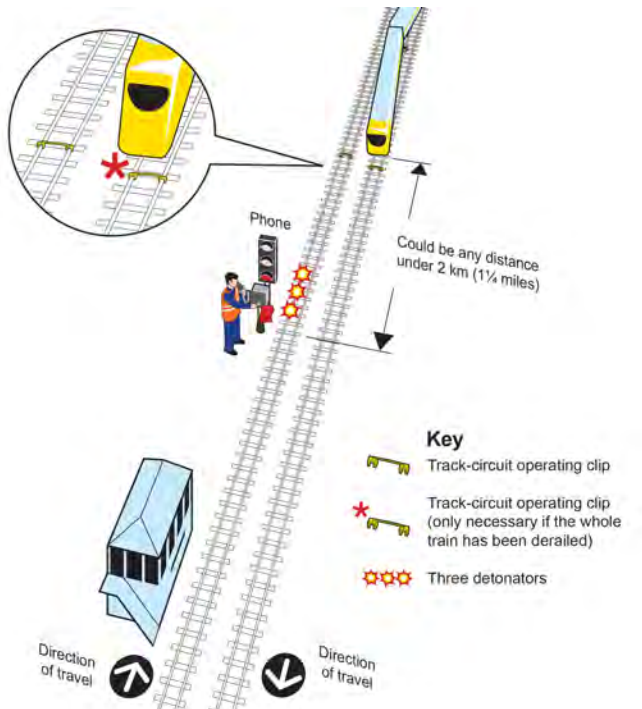


Diagram M1.5

## Dealing with a train accident or train evacuation

### 3.6 Reaching a tunnel entrance

driver

If you reach a tunnel entrance before reaching the full protection distance, you must place three detonators at the tunnel entrance.

If the full protection distance is inside the tunnel, you must continue through the tunnel to the far end and place three detonators there.

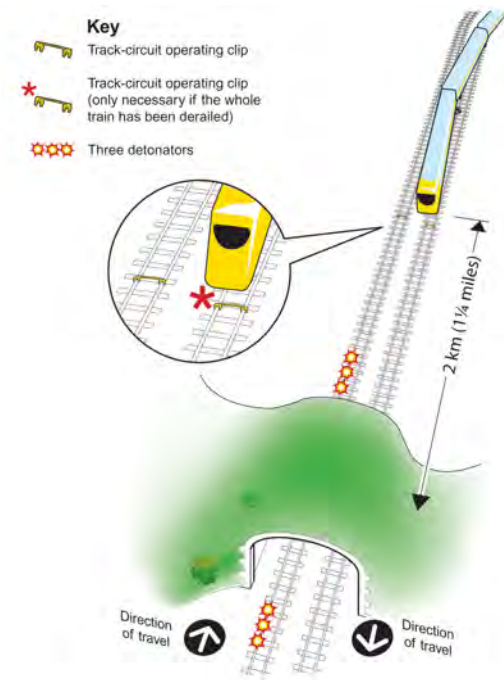


Diagram M1.6



### 3.7 Reaching a diverging junction

If you reach a diverging junction before reaching the full protection distance, you must:

driver

- place three detonators before you reach the junction, and then
- decide the order in which you protect each line.

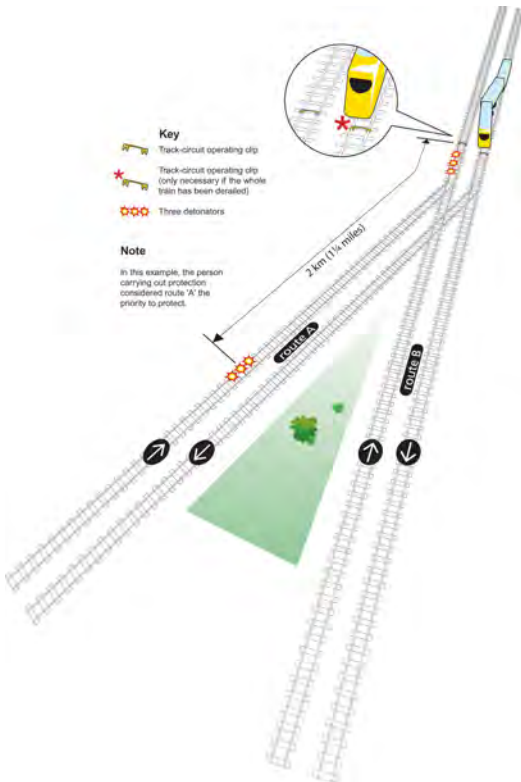


Diagram M1.7

## Dealing with a train accident or train evacuation

### 3.8 Protecting your own line

driver

If emergency special working or temporary block working is in operation, after you have protected any other lines, you must then protect the line on which your train is standing.

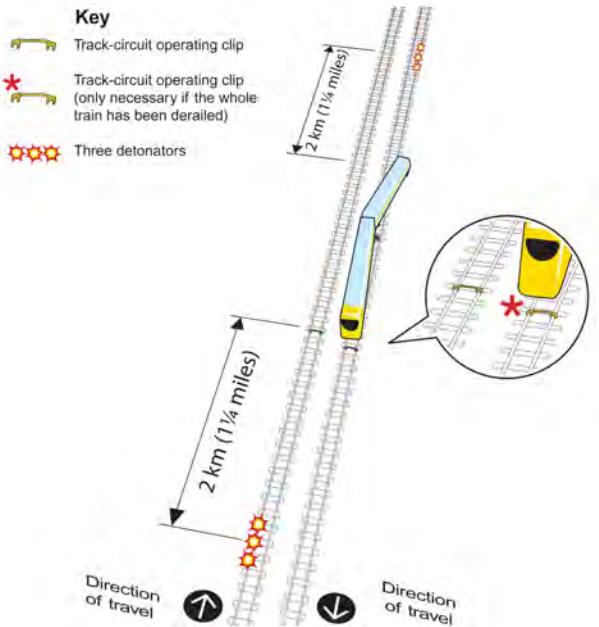


Diagram M1.8

# 4

## Fire on a train

*The people responsible: driver, guard*

### 4.1 Stopping the train

You must try to put out any fire on the train. However, if it will not be possible to put the fire out within a few seconds, you must make sure the train is stopped immediately.

driver,  
guard

Where possible you must not stop the train or allow it to remain:

- in a tunnel
- on a viaduct, or
- at any other unsuitable place.

If you stop the train, you must immediately:

guard

- tell the driver the reason
- if it is necessary, tell the driver to arrange for the emergency services to attend.

### 4.2 Safety of passengers

You must:

- tell passengers to move, if possible, to vehicles which are not affected by the fire
- if passengers have to leave the train, carry out an evacuation.

guard (or  
driver of a  
DO train)

### 4.3 Separating burning vehicles

If there is a risk of the fire spreading you must, if it can be done, separate the burning vehicles from the rest of the train.

driver

## Dealing with a train accident or train evacuation

### 4.4 If the train cannot proceed

**driver**

If the fire is out but the train cannot proceed, you must:

- tell the signaller
- carry out any necessary protection.

**guard (or  
driver of a  
DO train)**

If any passengers are left on the train and they are safe, you must if it is necessary, carry out a controlled evacuation when this can be done.

If any passengers have left the train, you must make sure they are in a safe position and not at risk from electrified lines or trains continuing to run on any other lines.

You must make sure they stay in a safe position until arrangements can be made to escort them from the site.

### 4.5 If the train can proceed

**driver**

If the fire is out and the train can proceed safely, you must tell the signaller as soon as possible.

# 5

## Accidental train division

*The people responsible: driver, guard*

### 5.1 Passenger train - safety of passengers

You must:

- find out whether anybody might have fallen from the train
- secure gangway end doors, if you can do this
- make sure passengers are in a safe position on the train.

guard (or  
driver of a  
DO train)

### 5.2 Securing the divided train

#### a) Driver's actions

You must make sure both portions of the train are secure and all the vehicles are accounted for.

driver

You must tell the guard (if provided) about the situation.

You must then check the couplings where the train has divided to see if:

- they might have damaged the track or lineside equipment (if so, tell the signaller)
- there is any damage to them which prevents recoupling the portions.

#### b) Guard's actions

If you are travelling in the rear portion, you must secure it if possible.

guard

You must then find out from the driver what action is to be taken with the train.

### 5.3 If the two portions can be recoupled

driver

If the two portions can be recoupled, you must get the personal authority of the signaller for the movement.

When the two portions have been recoupled, you must tell the signaller the train is again complete, stopping specially if necessary.

On a train on which ERTMS is in operation, you must get the signaller's authority to proceed.

### 5.4 If the two portions cannot be recoupled

driver

You must place three detonators 300 metres (approximately 300 yards) away from both ends of the rear portion.

You must then tell the signaller:

- that the rear portion is to be left in the section
- the exact location of the rear portion.

If you have not been able to tell the signaller, you must not go beyond the next stop signal or block marker until you have told the signaller.

You must not leave a single-line section until you have told the signaller.

You must put a tail lamp on the rear of the front portion if it is on a track circuit block or ERTMS line. If you are not on a track circuit block or ERTMS line, you must only do this when the front portion reaches:

- the next signal box, or
- a track circuit block or ERTMS line.

# 6

## Evacuating a train

*The people responsible: driver, guard, signaller*

### 6.1 Preconditions

You must carry out an evacuation of a train only if it is absolutely necessary.

driver,  
guard

### 6.2 Guard's immediate actions

You must tell the driver that an evacuation is necessary.

guard

### 6.3 Controlled evacuation

You must tell the signaller that the train is to be evacuated and ask the signaller to provide signal protection on all lines that may be affected. If necessary, you must also ask for the electric traction current to be switched off.

driver

When the signaller tells you all signal protection has been completed, you must tell the guard.

### 6.4 Emergency evacuation

You must tell the signaller that an emergency evacuation is taking place or is necessary and ask the signaller to provide immediate signal protection on all lines that may be affected. If necessary, you must also ask for the electric traction current to be switched off.

driver

If you cannot contact the signaller, or the signaller cannot provide signal protection, you must carry out emergency protection.

## Dealing with a train accident or train evacuation

### 6.5 Passenger safety

guard (or  
driver of a  
DO train)

You must decide the best way to evacuate the train safely, taking into account:

- how the passengers will be moved from the site
- the need for passengers to cross the least number of lines, if possible, to reach a safe position.

You must warn passengers to stay in a safe position until they can be escorted from the line.

### 6.6 Uncontrolled evacuation

driver

You must tell the signaller that an uncontrolled evacuation is taking place and ask the signaller to provide immediate signal protection on all lines that may be affected. If necessary, you must also ask for the electric traction current to be switched off.

If you cannot contact the signaller, or the signaller cannot provide signal protection, you must carry out emergency protection.

driver,  
guard

You must try and prevent passengers making an uncontrolled evacuation and warn passengers, who have evacuated, about any risks.

### 6.7 Signaller's actions

signaller

When told about the evacuation of a train, you must:

- block all lines that may be affected
- tell the driver when you have provided protection.





## Notes





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# GERT8000-M2 Rule Book



## Train stopped by train failure

### Issue 6






Module M2

September 2018  
Comes into force 01 December 2018



## Conventions used in the Rule Book

	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
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**Comes into force 01 December 2018**

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You will need this module if you carry out the duties of a:

- driver
- signaller.

## Section

# 1

## **If the train fails**

- 1.1 Telling the signaller
- 1.2 Agreeing the arrangements
- 1.3 Making sure the failed train is safe
- 1.4 Telling the guard
- 1.5 Providing assistance protection

# 2

## **Protecting the failed train with emergency protection**

- 2.1 When to place emergency protection
- 2.2 Providing emergency protection

# 3

## **Providing assistance**

- 3.1 Waiting for the assisting train to arrive
- 3.2 Signaller allowing the assisting train to enter the section
- 3.3 Assisting train moving towards the failed train
- 3.4 Driver of the failed train conducting the assisting train
- 3.5 Coupling to the failed train
- 3.6 When the failed train is being assisted
- 3.7 On a single line worked by token



# 1

## If the train fails

*The people responsible: driver, signaller*

### 1.1 Telling the signaller

If your train is stopped by failure, you must immediately tell the signaller about the circumstances and whether you need an assisting train.

driver

### 1.2 Agreeing the arrangements

If an assisting train is needed, you must both agree:

- the exact location of the failed train
- that the failed train will not be moved
- the type of assisting train needed, and
- the direction from which it is needed.

driver,  
signaller

### 1.3 Making sure the failed train is safe

After you have asked for assistance, you must not move your train until:

- the assisting train arrives, or
- you have agreed alternative arrangements with the signaller and anyone else concerned.

driver

You must make sure that:

- if assistance will be coming from the rear, a red light is displayed at the rear of your failed train
- if assistance will be coming from the front, a white light is displayed at the front of your failed train.

If you are on a single line and are in possession of the token, you must keep the token until the assisting train arrives.

## Train stopped by train failure

### 1.4 Telling the guard

driver

Before you leave the failed train to carry out protection, you must tell the guard (if provided):

- that you are leaving the train to carry out protection
- the direction from which assistance will be provided, if known.

### 1.5 Providing assistance protection

driver

You do not need to provide assistance protection where permissive working is in operation.

#### Standard arrangement

You must place three detonators 20 metres (approximately 20 yards) apart on the line on which your failed train is standing 300 metres (approximately 300 yards) from your train in the direction from which the assistance will approach.

#### Protection involving a stop signal or block marker

You must place the protection at the stop signal or block marker in the direction from which the assisting train will approach, if:

- the signal or block marker is less than 300 metres (approximately 300 yards) from where your failed train is standing, and
- the signaller can confirm that this stop signal or block marker is protecting your failed train.

#### Change of direction for assistance

If you are carrying out assistance protection and the signaller tells you that the assisting train will be coming from the opposite direction, you must:

- pick up any detonators that you had placed on the line
- carry out assistance protection in the other direction.

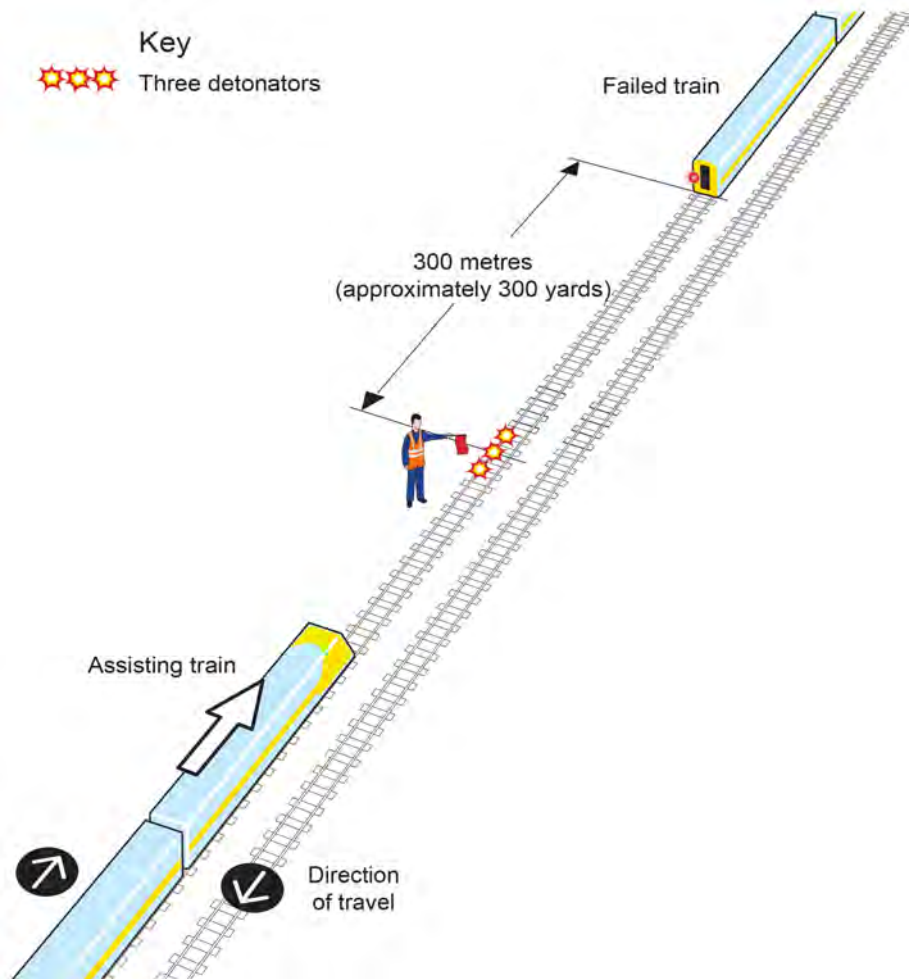
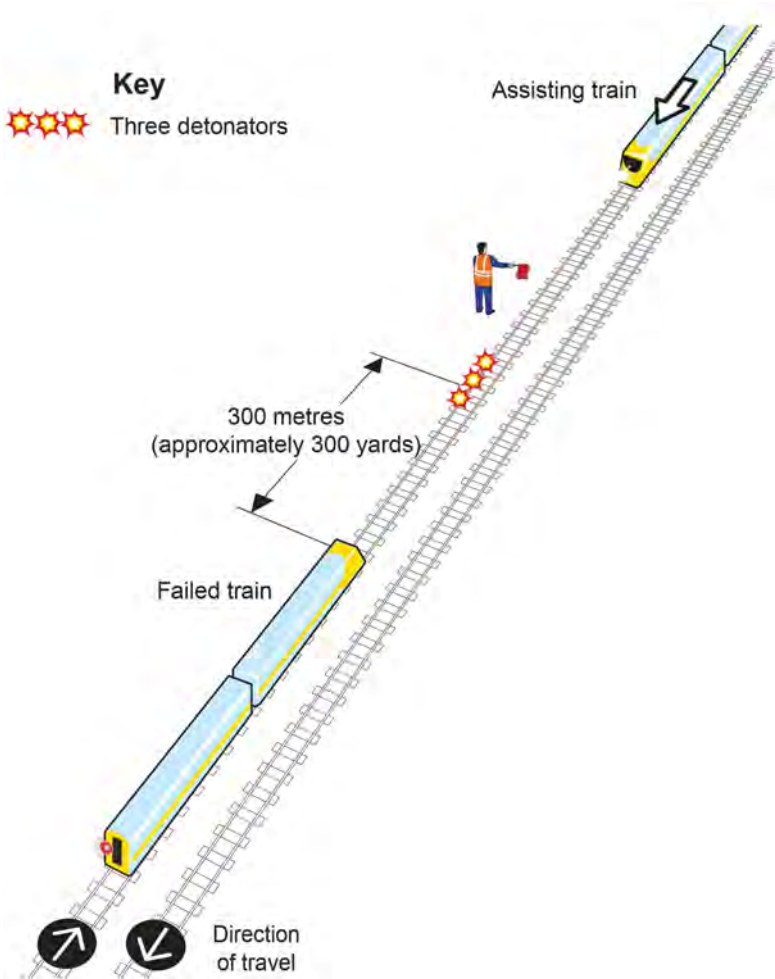


Diagram M2.1

Protection when assistance comes from the rear

# Train stopped by train failure

driver



**Diagram M2.2**

**Protection when assistance comes from the front**

# 2

## Protecting the failed train with emergency protection

*The person responsible: driver*

### 2.1 When to place emergency protection

If your train has failed and you cannot contact the signaller immediately, you only need to carry out emergency protection when your train has failed within:

- an emergency special working section, or
- a temporary block working section.

driver

### 2.2 Providing emergency protection

After placing standard assistance protection in rear of your train, you must continue until:

- you have reached the full protection distance of 2 kilometres (approximately 1¼ miles), where you must place three detonators on the line 20 metres (approximately 20 yards) apart, or
- you can communicate with the signaller.

driver

If a train approaches before you reach the full protection distance, you must immediately place three detonators on the line and show a hand danger signal to the driver.

If you reach a telephone linked to a signal box, or reach a signal box, within the full protection distance, you must:

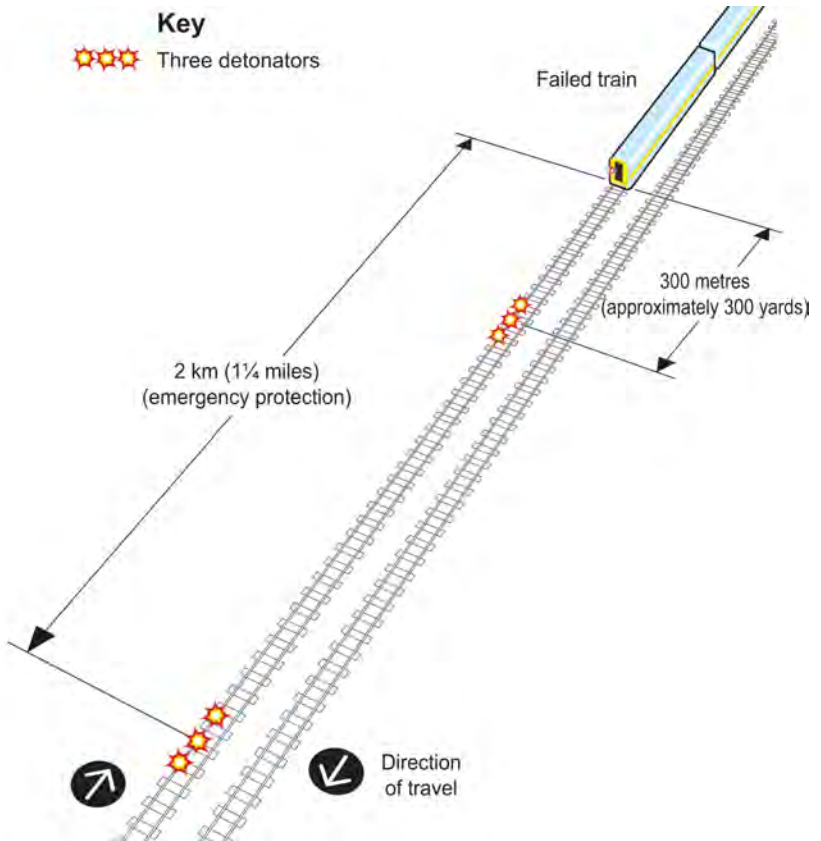
- first place three detonators on the line at the telephone or at the signal box
- speak to the signaller.

If you reach a tunnel entrance before reaching the full protection distance, you must place three detonators at the tunnel entrance.

# Train stopped by train failure

driver

If the full protection distance then falls inside the tunnel, you must continue through the tunnel to the far end and place three detonators there.



**Diagram M2.3**

**Emergency protection**

# 3

## Providing assistance

*The people responsible: driver, signaller*

### 3.1 Waiting for the assisting train to arrive

#### a) Staying at the assistance protection point

You must stay at the assistance protection point and wait for the assisting train to arrive, except if:

driver

- you still need to speak to the signaller, in which case you must continue as far as necessary
- you have placed the assistance protection detonators within a tunnel, in which case you must continue through the tunnel to the far end and wait there
- you have to carry out emergency protection.

#### b) Displaying a hand danger signal

You must display a hand danger signal to the driver of the assisting train when it approaches.

### 3.2 Signaller allowing the assisting train to enter the section

You must make sure that the driver of the failed train is:

signaller

- conducting the assisting train, or
- waiting at the protection point to meet the assisting train, or
- proceeding immediately to the protection point.

## Train stopped by train failure

### signaller

If the driver is not at the protection point ready to meet the assisting train, you must:

- ask the driver of the failed train how long it will take to get to the protection point
- wait a suitable time before authorising the driver of the assisting train to enter the section.

You must tell the driver of the assisting train:

- the exact location of the failed train
- how the failed train is protected
- the point from which the assisting train will be met
- where the failed train must be taken to.

If necessary, you must instruct the driver to pass at danger the signal protecting the obstructed line or pass an end of authority (EoA) without a movement authority (MA).

### 3.3 Assisting train moving towards the failed train

### driver (assisting train)

During the movement towards the failed train, you must proceed at caution and keep a look out for, and stop to pick up, the driver of the failed train.

You can speak to the driver of the failed train using the train radio, to get or give any necessary information, at any time before or during the movement.

You must only enter a tunnel if:

- you have already picked up the driver of the failed train, or
- you know that the driver of the failed train is not in the tunnel and that the tunnel is clear.

You must stop immediately on exploding detonators.



If you have not already picked up the driver of the failed train, or the driver is not waiting at the assistance protecting point, you must:

- stay at that location
- wait for the driver of the failed train to arrive.

driver  
(assisting  
train)

After you have been told the exact location of the failed train, you must proceed at caution towards the train.

### 3.4 Driver of the failed train conducting the assisting train

You must get in the driving cab of the assisting train and tell the driver the exact location of the failed train.

driver

### 3.5 Coupling to the failed train

If you are the driver of the assisting train, you must make sure that:

- your train is coupled to the failed train
- the automatic brake, if compatible, is connected.

driver  
(assisting  
train)

### 3.6 When the failed train is being assisted

If you are the driver of the train that is assisting at the rear of the failed train, you must:

- temporarily isolate the TPWS before the movement starts
- reinstate the TPWS when the movement is finished.

driver  
(assisting  
train)

If you are the driver of an assisting train on which ERTMS is in operation, you must:

- before the movement starts, make sure that ERTMS is in the correct mode
- when the movement is finished, not make any further movement until you have the correct authority to do so.

## Train stopped by train failure

### driver

You can use the train radio to speak to the other driver at any time during the journey about how the movement is to be started, stopped and controlled.

### **3.7 On a single line worked by token**

### driver

If you are the driver at the leading end of the movement, you must keep the token until both trains are clear of the section.





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**GE/RT8000/M3**  
**Rule Book**

**Module M3**

# Managing incidents, floods and snow

Issue 2

September 2015

**Comes into force 5 December 2015**



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You will need this module if you carry out the duties of:

- driver
- signaller.

You will also need this module if you are likely to be involved in, or reporting a serious accident.

Conventions used in the Rule Book	Example
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Green text in the margin indicates who is responsible for carrying out the rule.	driver
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## Section

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## **Preserving evidence after a serious accident**

- 1.1 Carrying out emergency action
- 1.2 Leaving evidence undisturbed
- 1.3 Entering a driving cab
- 1.4 Locking cab doors
- 1.5 Signalling equipment

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- 2.1 Derailments
- 2.2 Collisions or heavy impacts with other vehicles or buffer stops
- 2.3 Trains colliding with obstructions on the line

# 3

## **Bodies on the line**

- 3.1 Signaller's actions
- 3.2 Dealing with trains

# 4

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- 4.1 Reporting procedure
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# 5

## **Snow**

- 5.1 Reporting procedure
- 5.2 Train running

# 6

## **Independent snow ploughs**

- 6.1 Working on adjacent lines
- 6.2 Operating on electrified lines



# 1 Preserving evidence after a serious accident

*The people responsible: anyone involved, signaller*

## 1.1 Carrying out emergency action

As a priority over preserving and recording evidence, if it is your responsibility you must:

anyone  
involved

- secure the train
- protect the line
- get the electric traction current switched off
- call the emergency services
- make sure the public and other personnel are safe.

## 1.2 Leaving evidence undisturbed

You must not disturb or interfere with evidence of the cause of a serious accident, unless told by:

anyone  
involved

- a rail incident officer (RIO)
- a police incident officer
- a rail accident investigation branch (RAIB) investigator
- any other senior investigator.

You must immediately make a note of evidence that might be lost by the passage of time, such as wheel-tyre and brake-block temperatures, and brake-gauge readings.

## 1.3 Entering a driving cab

### a) Reasons

anyone  
involved

You must only enter a driving cab if you have to:

- secure the train
- carry out rescue operations
- use the cab radio to call the emergency services or speak to the signaller
- get equipment to carry out protection of the line or extinguish a fire
- make a note of short-life evidence.

If you enter a driving cab for any of these reasons, you must be careful not to disturb unnecessarily equipment, handles, buttons or switches, including ERTMS controls, displays and indications.

### b) Noting information

After you have carried out any of the actions shown above, you must:

- make a detailed note of the original position or location of equipment and gauges
- before you leave the scene, give this information to an investigating officer such as, the RIO, police incident officer, RAIB investigator or other senior investigator.

## 1.4 Locking cab doors

You must arrange to prevent unauthorised entry to the cab from which the train was being driven and if possible:

anyone  
involved

- lock the doors to that cab
- make sure other driving cab doors are locked.

## 1.5 Signalling equipment

### a) Equipment not to be moved

You must not move, even for testing purposes, signalling equipment directly associated with the accident until you are authorised to do so.

anyone  
involved

This does not apply to equipment that must be used to protect the accident.

### b) Noting information

You must:

- make a detailed note of the position the relevant signalling equipment was in at the time of the accident
- record any subsequent changes to the position of the signalling equipment concerned.

signaller

# 2

## Derailments, collisions or heavy impacts

*The people responsible: driver, signaller*

### 2.1 Derailments

**driver,  
signaller**

If any vehicle has been derailed, you must not allow it, or any part of the train, to enter or continue in service until it has been examined by a rolling stock technician.

However, if the derailment was at slow speed, vehicles that were not derailed or coupled next to a derailed vehicle can be examined at the first suitable location.

### 2.2 Collisions or heavy impacts with other vehicles or buffer stops

**driver,  
signaller**

If any vehicle has suffered a collision or heavy impact, you must not allow it, or any part of the train, to enter or continue in service until it has been examined by a rolling stock technician.

### 2.3 Trains colliding with obstructions on the line

#### a) Checking the train

**driver**

Following a collision with an obstruction on the line, you must bring your train to a stand and not move until you have checked for any damage that:

- might have been caused by the collision, and
- might affect its safe movement.

## **b) Detaching and moving a vehicle**

If any part of a vehicle has become loose and cannot be secured, or might make contact with the track or lineside structures, you must arrange for the vehicle to be cleared from the running line at the first suitable location.

**driver**

Before moving the vehicle you must:

- get the signaller's permission
- get authority from a rolling stock technician if you are not sure the movement can be made safely
- if possible move passengers from the vehicle.

During the movement you must not exceed 10 mph (15 km/h) or 5 mph (10 km/h) over points and crossings.

Before you give permission for the vehicle to be moved, you must make sure trains are stopped on any adjacent lines that might be affected.

**signaller**

# 3

## Bodies on the line

*The person responsible: signaller*

### 3.1 Signaller's actions

#### signaller

If you are told about a body that is on or near the line, you must:

- find out the location of the body in relation to running lines
- if necessary arrange for an emergency switch-off of the electric traction current
- tell Operations Control about the circumstances.

### 3.2 Dealing with trains

#### signaller

You must arrange for trains to be stopped on all lines until you have found out where the body is.

You may allow trains to proceed if:

- you have been told that the body is clear of the line
- the body cannot be struck by a passing train
- the body parts are not recognisable.

You may allow a train to pass recognisable body parts if they are in a position where they cannot be seen by passengers on passing trains (for example when the remains are very close to the line but not foul of it).

You must tell each driver about the circumstances and get the driver's agreement to the movement.

# 4 Floods

The people responsible: **driver, signaller**

## 4.1 Reporting procedure

You must report to the signaller, stopping your train specially to do so if necessary, if you see any flood water that might affect the passage of trains. You must tell the signaller if you believe the flood water:

**driver**

- is up to the bottom of the rail head
- is up to the top of the rail head
- is above the top of the rail head
- is moving and likely to dislodge the ballast
- has dislodged the ballast.

You must arrange for Operations Control to be told if vehicles are stabled in or pass through flood water above the bottom of the axle box.

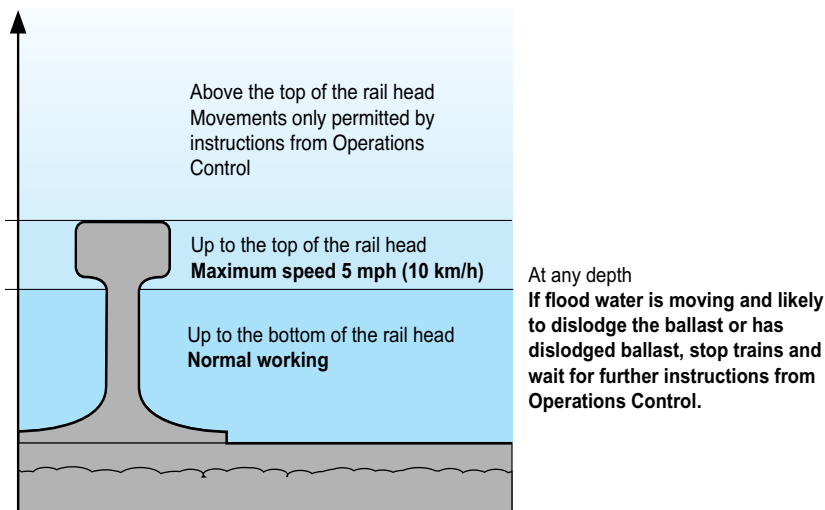


Diagram M3.1

## 4.2 Train running

### signaller

When you receive a report of flood water, you must tell Operations Control immediately.

You must find out if the flood water:

- is up to the bottom of the rail head
- is up to the top of the rail head
- is above the top of the rail head
- is moving and likely to dislodge the ballast
- has dislodged the ballast.

As long as the flood water is not moving and likely to dislodge the ballast or the ballast has not been dislodged, you may allow trains to:

- continue normally if the water is up to the bottom of the rail head
- run at a maximum speed of 5 mph (10 km/h) if the water is no deeper than the top of the rail head.

If the water is deeper than the top of the rail head, you must:

- suspend the normal running of trains
- tell Operations Control and wait for further instructions.



# 5 Snow

*The people responsible: driver, signaller*

## 5.1 Reporting procedure

You must report to the signaller, stopping your train specially to do so if necessary, if you see any build up of snow that might affect the passage of trains. You must tell the signaller if you believe the snow is deeper than 200 mm (8 inches) above the top of the rail head.

driver

## 5.2 Train running

Normal running can take place unless you are told that snow is deeper than 200 mm (8 inches) above the top of the rail head.

signaller

If you are told that snow is deeper than 200 mm (8 inches) above the top of the rail head, you must:

- suspend the normal running of trains
- tell Operations Control and wait for further instructions.

# 6

## Independent snow ploughs

*The person responsible: **signaller***

### 6.1 Working on adjacent lines

#### **signaller**

You must make sure that adjacent lines are clear of trains when ploughing is in progress.

You do not need to carry out this instruction when ploughs are set to push snow to the cess side only, as long as the person in charge of the ploughing has made sure that:

- there is no danger to trains on the other line, and
- you have been told about this arrangement.

### 6.2 Operating on electrified lines

#### **signaller**

Before ploughing starts on an electrified line, you must:

- tell the electrical control operator
- arrange for the electricity to be switched off on a line which has a conductor rail
- arrange for the electricity to be switched off on a line which has overhead line equipment, if the depth of snow is more than 900 mm (3 feet).



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# GERT8000-OTM Rule Book



## Working of on-track machines (OTM)

### Issue 8



Module OTM

September 2017  
Comes into force 02 December 2017



## Conventions used in the Rule Book

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### Example



driver



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You will need this module if you carry out the duties of:

- a driver of an on-track machine
- an operator of an on-track machine
- a signaller.

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## **Working outside a possession**

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- 4.2 Telling the signaller
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## **Working within a possession**

- 5.1 Maintaining clearance from other lines
- 5.2 Driving position



# 1

## When these instructions apply

*The people responsible: driver, operator, signaller*

The instructions in this module apply to on-track machines (OTM) when under their own power. They are additional to all other instructions applying to train working shown in other modules.

**driver,  
operator,  
signaller**

These instructions also apply to OTM that is hauled into a possession by an engineering train, such as:

- track-relaying machines
- ballast cleaners
- rail-delivery trains
- rail cranes.

# 2 Entering service

*The person responsible: driver*

## 2.1 Before starting a journey

driver

Before you start a journey on a running line, you must tell the signaller:

- the type of OTM
- its maximum speed
- whether it can be relied upon to operate track circuits.

## 2.2 Carrying out a running brake test

driver

You must test that the automatic brake is working effectively by carrying out a running brake test as shown in your train operating company instructions.

# 3

## OTM that cannot be relied upon to operate track circuits

*The people responsible: driver, signaller*

### 3.1 Signalling the OTM

You must use the following special reporting numbers if the OTM cannot be relied upon to operate track circuits:

driver,  
signaller

Reporting number	Maximum speed
6Z09	50 mph (80 km/h) or above
7Z09	40 (65 km/h) or 45 mph (70 km/h)
8Z09	35 mph (55 km/h) or less

### 3.2 Reporting to the signaller

If you are stopped at any stop signal when outside a possession, you must always tell the signaller immediately even though you may be able to see why the signal is at danger.

driver

You must tell the signaller when the OTM has passed clear of any location that the signaller has specified.

### 3.3 Passing over level crossings

Except for AHBC level crossings fitted with treadles, before passing over any automatic level crossing or a barrow or foot crossing with white light indications, you must:

driver

- approach the crossing at caution
- only pass over the crossing if it is safe to do so
- sound the horn until the OTM is on the crossing.

# 4 Working outside a possession

*The people responsible: driver, signaller*

## 4.1 Conditions for working outside a possession

driver,  
signaller

This section does not apply to authorised types of OTM, such as track-recording vehicles, rail-grinding trains, rail-head treatment trains and mobile maintenance trains.

You can only allow other types of OTM to work outside a possession if all of the following apply.

- The OTM is a type that is allowed to work outside a possession.
- The work is a type that can be done outside a possession.
- The line is not a track circuit block line, an ERTMS line or an absolute block line where there is an intermediate block home signal.
- The work will not require wrong-direction movements (except as shown in 4.3).
- The work is not on the overhead line equipment.

## 4.2 Telling the signaller

driver

You must treat the OTM as a train requiring to stop in section as shown in section 40 of module TW1 *Preparation and movement of trains*.

You must tell the signaller the OTM will be working outside a possession.

signaller

If the driver of an OTM tells you that it will be working outside a possession, you must deal with this as a train requiring to stop in section.

### 4.3 Wrong-direction movements

An OTM that is allowed to work outside a possession on any type of line can make an unsignalled wrong-direction movement when necessary to return towards, or up to the start of, its site of work.

If the rail grinding causes a lineside fire, you can make an unsignalled wrong-direction movement to return to put out the fire, as long as the signaller has authorised this.

When any OTM is making a wrong-direction movement, you can drive from a driving cab that is not the leading one, as long as there is a competent person riding in the leading driving cab.

This competent person must keep a good look out and sound the horn as a warning to anyone on or near the line.

driver,  
signaller

driver

# 5 Working within a possession

*The people responsible: driver, operator*

## 5.1 Maintaining clearance from other lines

driver,  
operator

You must make sure that the OTM, including any load, can work without fouling any other line on which a movement can take place.

If this is not possible the following will apply.

- If the line affected is a running line within a possession, you must make sure the affected portion of line is within a work site and the engineering supervisor (ES) or the safe work leader (SWL) for that work site has given you permission to foul that line.
- If the line affected is a running line not under possession, you must make sure that a controller of site safety (COSS) or SWL has arranged a blockage of the affected portion of line.
- If the line affected is a siding, you must make sure that the affected portion is under possession, and the person in charge of the siding possession (PICOS) has given you permission to foul that siding.

## 5.2 Driving position

driver,  
operator

You can drive from another driving cab when an OTM is working within a work site as long as this forms part of the safe system of work shown in the method statement.

You must make sure that there is a competent person riding in the leading cab or controlling the movement from the ground.





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**GE/RT8000/P1**  
**Rule Book**

# Single line working

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You will need this module if you  
carry out the duties of a:

- driver
- pilotman
- signaller.

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- 12.3 Getting permission from the pilotman

## 13 Change of pilotman or signaller

- 13.1 Change of pilotman
- 13.2 Change of signaller

## 14 Withdrawing single line working

- 14.1 Pilotman's authority
- 14.2 When the last train is clear of the single line
- 14.3 Resuming normal working
- 14.4 First train through the section

# 1

## Principle

When one line of a double line becomes blocked, single line working by pilotman allows trains to travel over the other line in either direction.



# 2

## Setting up single line working

*The people responsible: pilotman, signaller*

### 2.1 Appointment and identification of pilotman

You will be appointed by the Network Rail area operations manager to take charge of the arrangements for single line working.

pilotman

You must wear on your left arm a red armband with PILOTMAN in white letters.

### 2.2 Agreeing the arrangements

#### 2.2.1 Before single line working can be introduced

Before single line working can be introduced, you must reach a clear understanding with each other and any other signaller involved about the arrangements which will apply.

pilotman,  
signaller

You must agree with each other the time when the Pilotman's Single Line Working Form (RT3191) will be completed.

#### 2.2.2 Information for the pilotman

You must remind the pilotman about any of the following and agree what arrangements will be applied, if they will be affected by the single line working:

signaller

- controlled level crossings which are protected by signals
- automatic level crossings
- barrow or foot crossings with white light indications
- unworked points
- intermediate signal boxes which are closed and at what time they will open.

**signaller**

You must tell the pilotman about any temporary or emergency speed restrictions that affect the single line or any train returning to the proper line.

You must also tell the pilotman if the obstructed line is:

- protected by a line blockage as shown in module TS1 *General signalling regulations*, regulation 13.2, or
- under possession as shown in module T3 *Possession of a running line for engineering work*, or
- occupied by a failed train which has been protected as shown in module M2 *Train stopped by train failure*.

**2.2.3 Dealing with points**

You must make sure that points worked by or released from your signal box are secured for the safety of facing movements if they are not fitted with a facing point lock.

You may ask the pilotman to have these points secured if they are remote from your signal box.

**2.3 Pilotman's form****pilotman**

At the agreed time, and only if the line to be used for single line working is clear, you must complete and sign a pilotman's single line working form.

You must then dictate your form to:

- the signaller controlling each crossover between which single line working is to apply
- the signaller at any intermediate signal box which is open.

You must enter the name of each signaller on your pilotman's form.

## 2.4 Signaller's form

You must complete a Signaller's Single Line Working Form (RT3192) when the pilotman dictates the details to you.

signaller

You must make a suitable entry in the Train Register.

# 3

## After the forms have been dictated

*The people responsible: pilotman, signaller*

### 3.1 Adjusting the protection for the obstructed line

#### pilotman

If trains are to draw forward or set back at either end of the single line, you must make sure there is enough room between the crossover and any protection placed to protect the obstructed line.

If necessary, you must arrange for the position of the protection to be adjusted.

You must make sure that the position of any protection does not allow an electric train to reach a section which is isolated.

### 3.2 Arranging additional protection for the obstructed line

#### pilotman

You must also arrange for a possession limit board, or a red flag during daylight, or red light during darkness, to be placed in the four-foot of the obstructed line:

- at the exit end of a line under emergency protection
- on the approach to the obstruction where it is in the same signal section as the crossover and is protected only by the signal.

### 3.3 When the obstructed line is protected by a line blockage

#### pilotman

When the obstructed line is protected under a line blockage as shown in module TS1 *General signalling regulations*, regulation 13.2, you must not introduce single line working if the line blockage protection is in the same signal section as the crossover at either end.

This does not apply if the line blockage is beyond the facing crossover that will be used for single line working.

pilotman

## 3.4 Controlling right-direction movements

You must arrange for signals on the unobstructed line to be worked normally, wherever possible.

signaller

## 3.5 Controlling wrong-direction movements

### 3.5.1 Signaller controlling wrong-direction movements

You must control trains in the wrong direction by giving instructions to the pilotman and to handsignalers, if appointed. You must make sure these individuals clearly understand what to tell drivers and to work only to your instructions.

signaller

You must tell the handsignaller if the instructions for the train movement have already been given to the driver.

### 3.5.2 Arranging handsignalers

You must arrange for handsignalers to be positioned to control wrong-direction movements over the single line (see the table on page 12 and diagrams P1.1 and P1.2 on pages 13 and 14).

pilotman

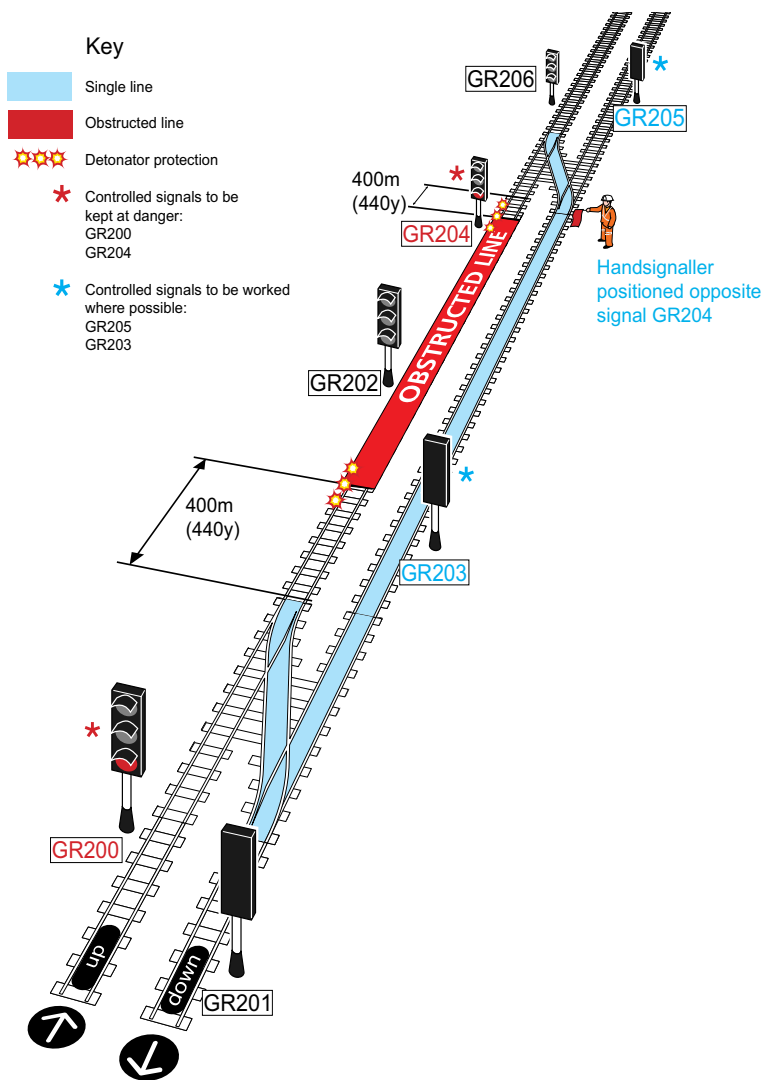
### 3.5.3 When a handsignaller is not required

You do not need to position a handsignaller to control wrong-direction movements back to the proper line if:

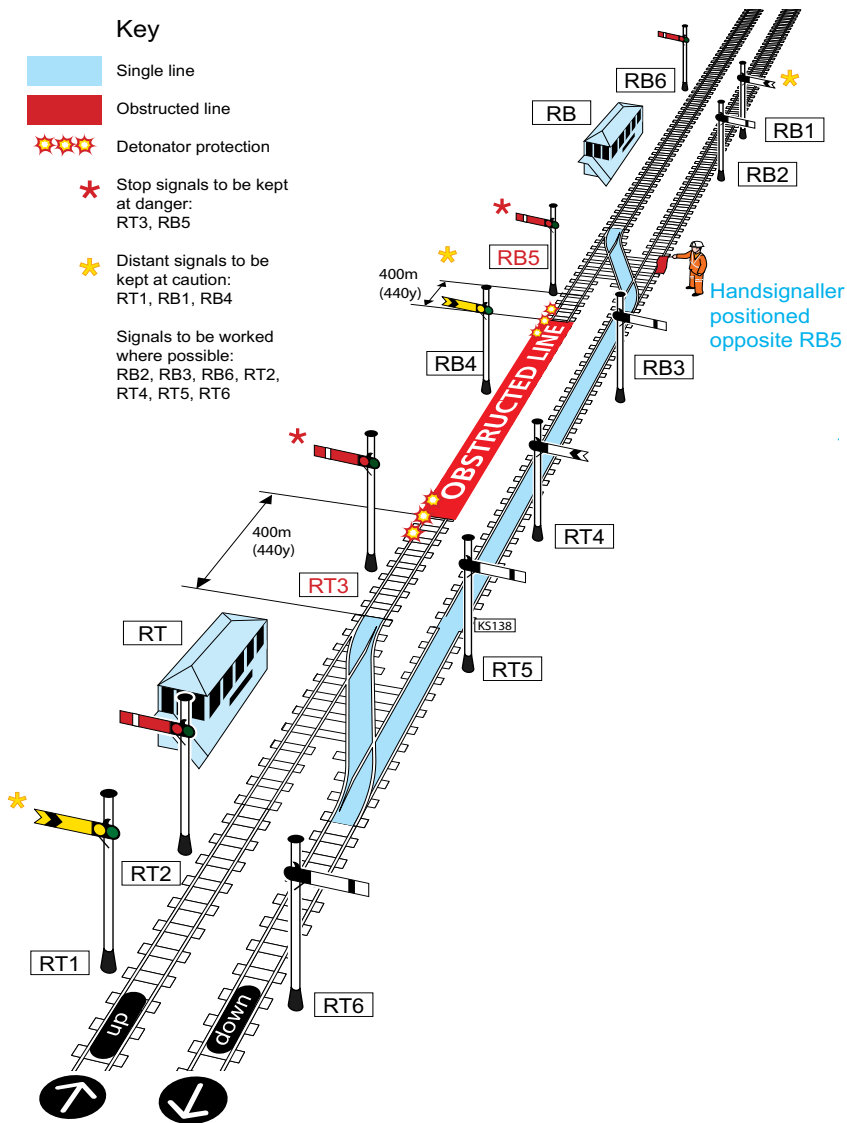
- a main aspect signal which applies to trains leaving the single line is provided at the crossover, or
- you travel with every train over the single line in the wrong direction.

You do not need to position a handsignaller at an intermediate signal box that is open, if you have agreed with the signaller that the handsignal will be displayed from the signal box.

Location		Handsignal for driver to proceed
<b>Signals</b>	On a track circuit block line - opposite the signal protecting the crossover where trains return to the proper line. (See diagram P1.1 on page 13.)	Yellow (Only if a handsignaller is provided.)
	On an absolute block line - opposite the home signal which is worked from the same signal box that controls the crossover where trains return to the proper line. (See diagram P1.2 on page 14.)	Yellow (Only if a handsignaller is provided.)
	Opposite any other signal where trains might have to stop.	Yellow
<b>Level crossing</b>	At an AHBC under local control.	Green
	At a CCTV, OD or RC level crossing where an attendant is appointed.	Green
	At any manned level crossing protected by signals.	Green
	At any controlled level crossing protected by signals where the handsignal is shown opposite the signal protecting the level crossing.	Yellow
	<p><b>Note:</b> No handsignal will be given at:</p> <ul style="list-style-type: none"> <li>• a CCTV, OD or RC level crossing where an attendant is <b>not</b> appointed</li> <li>• any manned level crossing protected by signals where the normal position of the barriers or gates is across the road.</li> </ul>	
<b>Signal box</b>	At an intermediate signal box unless it is closed.	Yellow
<b>Points</b>	At unworked points when approaching in the facing direction.	Green (Placed on the ground next to the points.)



**Example of typical possession with single line working arrangements - track circuit block line**  
**Diagram P1.1**



**Example of typical possession of single line working arrangements - absolute block line**  
**Diagram P1.2**



### 3.5.4 During poor visibility

Unless a main aspect signal is provided, you must always position a handsignaller to control wrong-direction movements back to the proper line during poor visibility.

pilotman

### 3.5.5 Shunting signals and position-light signals

If possible, you must work these signals normally to control wrong-direction movements.

signaller

You must find out if any of these signals will not be able to be worked for movements over the single line.

pilotman

## 3.6 Dividing the single line

### a) In a track circuit block area

You may divide the single line into two sections for wrong-direction movements as long as:

pilotman

- this arrangement is authorised in the *Signal Box Special Instructions*
- this arrangement is authorised by the Network Rail area operations manager
- an intermediate handsignaller is appointed as shown in the *Signal Box Special Instructions*.

### b) In an absolute block area

You may divide the single line for wrong-direction movements at each intermediate signal box that is open.

## 3.7 Securing points

### 3.7.1 Unworked points on the single line

pilotman

You must make sure that these points:

- are secured and padlocked for the safety of movements over them
- have a green flag or green light placed alongside them which is clearly visible to the drivers of all wrong-direction movements.

### 3.7.2 Points worked from a closed intermediate signal box

If any points worked from an intermediate signal box which is closed are facing to movements, you must make sure they are secured and padlocked for the safety of trains travelling over the single line in the wrong direction.

### 3.7.3 Remote points

You must arrange to secure any points which become facing, that are remote from the signal box.

You must arrange to secure and padlock any power-operated points on the single line over which movements are to be authorised at a greater speed than 15 mph (25 km/h), as shown in section 6.2.

### 3.7.4 Checking points secured by anyone else

If anyone else has secured points, you must personally check that they have been properly secured before the first train passes over them in the facing direction.

You may do this while accompanying the first train over the single line. If you do, you must tell the driver to stop the train before each set of points.

## 3.8 Telling personnel affected

### 3.8.1 Person in charge of any station

You must arrange to tell the person in charge of any station where the platform working will be affected that you are introducing single line working.

pilotman

### 3.8.2 Personnel working on or near the line used for single line working

You must tell anyone working on or near the line which is being used for single line working that single line working is in operation and which line is being used. You must do this:

- while accompanying the first train over the single line, or
- if you are not accompanying that train, by instructing the driver to stop and tell them.

You do not need to do this if the single line working is published in the *Weekly Operating Notice* and the details have not changed.

### 3.8.3 Crossing keepers

You must make sure that crossing keepers are told about the arrangements for the single line working and for the working of block indicators, where provided. If necessary, you may do this while accompanying the first train.

# 4

## Completing the arrangements

*The people responsible: **signaller, pilotman***

### 4.1 Signaller confirming the arrangements

#### signaller

You must tell the pilotman when you have made all your arrangements.

When the pilotman tells you that single line working can start, you must make a suitable entry in the Train Register.

### 4.2 Pilotman allowing single line working to start

#### pilotman

You must make sure all arrangements have been made before you allow single line working to start.

You must tell each signaller:

- when you have made all your arrangements
- the precise location of each handsignaller
- that single line working can start.

# 5 Authority for movements

*The people responsible: **pilotman, signaller***

## 5.1 Pilotman's authority

You must:

**pilotman**

- be present and personally authorise movements which will enter or foul the single line (except as shown in section 5.2)
- before authorising the movement, get permission from the signaller who controls the entrance to the single line
- get the signaller's permission before authorising a driver to pass any signal at danger.

## 5.2 Signaller's authority

You may authorise a movement to pass to and from an unaffected route at a junction at the end of the single line. In this case:

**signaller**

- you may work signals normally
- you do not need to tell the driver that single line working applies.

You may authorise a train to pass through a trailing crossover which is on the approach to the obstruction.

You may authorise an assisting train to enter or foul the single line without the pilotman being present, as long as you have the pilotman's permission.

If you are the signaller at an intermediate signal box, you must not allow a train to enter or foul the single line unless the pilotman is present.

# 6

## Pilotman instructing drivers

*The person responsible: pilotman*

### 6.1 Authorising movements in either direction

#### pilotman

Before authorising a movement to enter the single line in either direction, you must tell the driver:

- over which line the single line working applies, and
- between which crossovers.

If there is more than one crossover at either end of the section, you must make sure the driver clearly understands which crossover is being used for single line working.

You must instruct the driver to pass over any AHBC that is under local control only if authorised by a green handsignal shown at the crossing.

### 6.2 Additional instructions for wrong-direction movements

#### pilotman

Before authorising a movement over the single line in the wrong direction, you must also tell the driver about any of the following that apply.

#### a) Signalling arrangements

You must tell the driver:

- the location of any intermediate handsignaller
- if a main aspect signal will be used to control movements back to the proper line
- the location of any handsignaller placed to control movements back to the proper line.

## pilotman

If there is no main aspect signal or handsignaller to control movements back to the proper line, you must accompany the train and instruct the driver to stop the train and contact the signaller:

- on a TCB line, opposite the signal which applies to the obstructed line protecting the crossover where trains return to the proper line
- on an absolute block line, opposite the home signal worked from the signal box controlling that crossover.

### **b) Level crossing arrangements**

#### **CCTV, OD or RC level crossing at which no attendant has been appointed**

You must instruct the driver to:

- approach the crossing at caution
- pass over the crossing only if it is safe to do so.

#### **Manned level crossing**

You must instruct the driver to pass over any manned level crossing only if either of the following conditions apply.

- Crossing protected by signals - pass over only when authorised by a handsignal shown at the crossing.
- Crossing where the normal position of the barriers or gates is across the road - pass over when the driver is sure that the crossing is closed to road traffic.

#### **Level crossing with red and green warning lights**

Unless wrong-direction controls are provided, you must instruct the driver to:

- stop short of the level crossing
- sound the horn
- pass over the crossing only if it is safe to do so.

**pilotman****Barrow or foot crossing with white-light indications**

Unless wrong-direction controls are provided, you must instruct the driver to approach at caution and not pass over the crossing unless it is safe to do so.

**c) Points and crossings arrangements**

You must tell the driver of each train to approach at caution all points, switch diamonds and swing-nose crossings and to check, if possible, they are in the correct position and not to exceed 15 mph (25 km/h) over them if:

- the points are mechanically operated
- the points are unworked
- power-operated points have not been secured and padlocked.

**Where power-operated points have been secured and padlocked**

You must tell the driver of the first train to approach at caution all points, switch diamonds and swing-nose crossings and check, if possible, they are in the correct position and not to exceed 15 mph (25 km/h) over them.

You must tell the driver of each subsequent train about the location of any points, switch diamonds or swing-nose crossings over which speed must be reduced below 50 mph (80 km/h) (including the crossovers leading to and from the single line) and what speed is to apply.

**d) Other information**

You must remind the driver about any temporary speed restrictions.

You must tell the driver about:

- emergency speed restrictions
- intermediate signal boxes which are closed.



### 6.3 Driver's single line working ticket

After you have given the driver all the necessary instructions, you must give the driver a completed Driver's Single Line Working Ticket (RT3193).

pilotman

You do not need to do this if the train is to enter the single line to:

- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

### 6.4 Train worked by more than one locomotive at the front

If the train is worked by more than one locomotive at the front, you must:

pilotman

- give the necessary instructions to each driver
- show the driver's ticket to each driver
- give the ticket to the driver of the leading locomotive.

# 7

## Pilotman's duties during single line working

*The person responsible: pilotman*

### 7.1 Travelling with the driver

#### pilotman

Unless there is another train to follow, you must ride with the driver in the leading cab.

When you arrive at the other end of the single line, you must:

- collect the cancelled driver's ticket
- immediately tell the signaller that you have arrived.

### 7.2 Opening an intermediate signal box

#### pilotman

Before allowing an intermediate signal box to open, you must dictate a single line working form to the signaller.

### 7.3 Moving secured power-operated points

#### pilotman

If the signaller tells you that it is necessary to move power-operated points that have been secured and padlocked to permit movements at greater than 15 mph (25 km/h), you must arrange to release them.

When the points have again been secured, you must treat the next train to proceed in the wrong direction as the first train, as shown in section 6.2 c).

# 8

## Signaller's duties during single line working

*The person responsible: signaller*

### 8.1 Clearing the controlling signal for right-direction movements

Before you clear the signal controlling the entrance to the single line for right-direction movements, you must make sure the pilotman has given the driver the necessary instructions.

signaller

### 8.2 Speed restrictions

You must tell the pilotman about any temporary or emergency speed restrictions that are introduced during single line working that will:

signaller

- apply on the single line
- affect any train returning to the proper line.

### 8.3 Moving secured power-operated points

If it becomes necessary to move power-operated points which have been secured and padlocked to permit movements at greater than 15 mph (25 km/h), you must tell the pilotman.

signaller

# 9

## Driver's duties during single line working

*The person responsible: driver*

### 9.1 Before entering the single line

**driver**

Before entering the single line, you must make sure that you:

- can properly identify the pilotman who will wear the PILOTMAN armband
- clearly understand all the instructions the pilotman has given you
- have the personal authority of the pilotman to enter the single line.

You must also make sure the pilotman has given you a Driver's Single Line Working Ticket (RT3193). However, you do not need this ticket if your train is to enter the single line to:

- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

If the train is being worked by more than one locomotive at the front, the pilotman will show the driver's ticket to each driver and then give the ticket to the driver in the leading cab.

### 9.2 Obeying handsignals

**driver**

When instructed by the pilotman, you must make sure you clearly understand at which locations your train will be controlled by a handsignal (see table on page 12).

You must stop at each of these locations unless a proceed handsignal is shown.

## 9.3 Right-direction movements

You must obey each signal when travelling over the single line in the right direction.

driver

You do not need to travel at any reduced speed, other than at locations where you must proceed at caution or as described in section 9.5.

## 9.4 Wrong-direction movements

### 9.4.1 Controlling movements

Your train movement in the wrong direction will be controlled by handsignals, except where it is possible for shunting or position light signals to be worked. A handsignaller will not be provided if there is a main aspect signal to return the train to the proper line at the end of the single line.

driver

### 9.4.2 Train speed

You must not exceed 50 mph (80 km/h), or the permissible speed if lower.

### 9.4.3 Signals on the obstructed line

You must disregard fixed signals on the obstructed line, except:

- on a TCB line, the signal protecting the crossover where trains return to the proper line
- on an absolute block line, the home signal worked from the signal box controlling that crossover.

### 9.4.4 Level crossings

When approaching any level crossing, not fitted with wrong-direction controls, you must carry out the pilotman's instructions (see section 6.2 b).

### 9.4.5 Returning to the proper line

#### driver

If there is no main aspect signal or handsignaller to control wrong-direction movements returning to the proper line, the pilotman will accompany you and will instruct you to stop the train:

- on a TCB line, opposite the signal which applies to the obstructed line protecting the crossover where trains return to the proper line
- on an absolute block line, opposite the home signal worked from the signal box controlling that crossover.

If the crossover where trains return to the proper line is facing to movements, you must:

- get the signaller's permission for your train to proceed over the crossover, or
- if a signal is provided for the movement, proceed when the signal is cleared.

If the crossover is trailing to movements, you must ask the signaller for instructions about drawing forward and then setting back over the crossover to return to the proper line.

## 9.5 First train over the single line

### a) When accompanied by the pilotman

#### driver

If you are the driver of the first train over the single line, you must stop, if instructed to do so, to allow the pilotman to:

- tell anyone who is working on or near the line used for the single line working that single line working has been introduced
- tell any crossing keeper about the single line working arrangements
- check that points are properly secured.

### **b) When not accompanied by the pilotman**

If you are the driver of the first train over the single line you must, if instructed by the pilotman before you entered the single line, stop and tell anyone who is working on or near the line used for single line working:

driver

- that single line working has been introduced, and
- the line over which it applies.

## **9.6 Disposing of the driver's single line working ticket**

### **a) When accompanied by the pilotman**

On reaching the end of the single line you must:

driver

- cancel your ticket by writing 'CANCELLED' across it
- give the ticket to the pilotman.

### **b) When not accompanied by the pilotman**

You do not need to stop at the end of the single line to give up the ticket unless specially instructed to do so. However, you must:

- as soon as possible, cancel the ticket by writing 'CANCELLED' across it
- hand in the ticket as shown in your company's instructions.

# 10

## Working of trains to and from the point of obstruction

*The person responsible: pilotman*

### 10.1 Method

#### pilotman

When both lines of a double line are blocked and trains are required to work to and from the point of obstruction, you must introduce single line working arrangements over one line only.

You must make sure the single line working forms and tickets are amended to reflect this method of working.

If there is another signaller involved on the other side of the obstruction, you must tell that signaller when arrangements for working trains to and from the point of obstruction have been introduced and withdrawn.

This arrangement can be introduced on both sides of the obstruction, but separate pilotmen will need to be appointed for each side.

### 10.2 Protection arrangements

#### pilotman

You must make sure one of the following is provided at the place where trains will have to stop on the approach to the obstruction.

- A signal kept at danger.
- Emergency protection as described in module M1 *Dealing with a train accident or train evacuation* or handbook 2 *Instructions for track workers who use emergency protection equipment*.
- Possession protection as described in module T3 *Possession of a running line for engineering work*.

If the emergency protection or possession protection has already been placed, you must, if necessary, arrange for that protection to be moved to a more suitable location.



### 10.3 Travelling with the driver

For each train to travel over the single line, you must:

- issue a driver's ticket to the driver
- accompany the driver.

pilotman

## 11

## Single line working on track circuit block lines where more than one running line is available

*The people responsible: pilotman, signaller*

**Note:** the locations, signal numbers and point numbers given in this section refer to the example of typical arrangements shown in diagram P1.3 on page 33.

### 11.1 Method

#### pilotman

You may introduce single line working over one of the unobstructed lines if all the following apply.

- There are more than two running lines.
- All lines in one direction are blocked.
- Two or more lines in the opposite direction remain open.

You must arrange for:

- trains running in the normal direction to travel over an unobstructed line that is not being used for single line working
- trains that cannot run in the normal direction, because of the blockage, to travel over the single line under single line working arrangements as set out in this module.

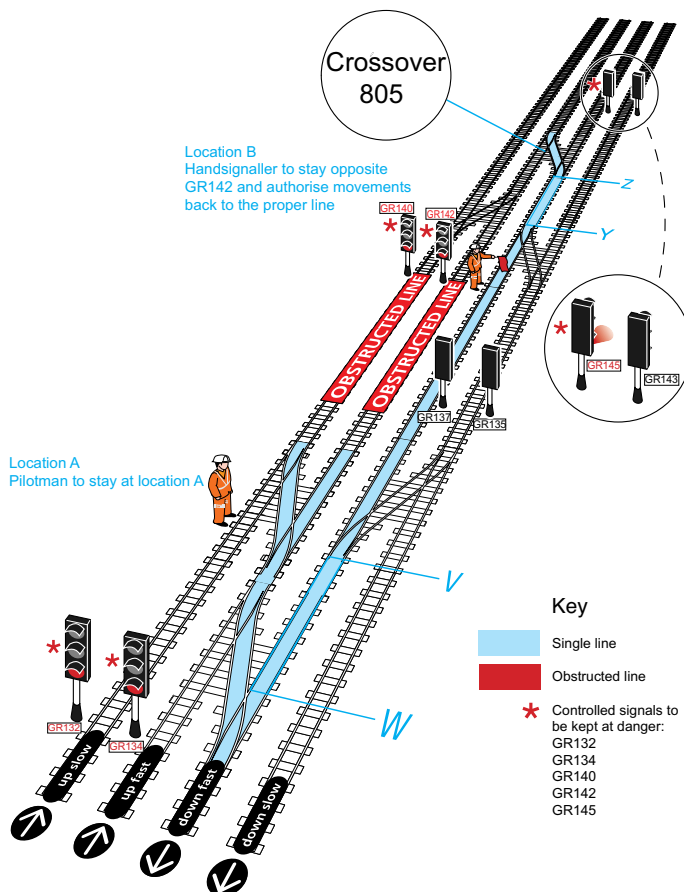
You must arrange for single line working forms and tickets to be amended to reflect the method of working.

### 11.2 Wrong-direction movements

#### pilotman

You must arrange for trains arriving at location A on the up fast or up slow line, to proceed under your authority over the down fast line under single line working arrangements, as far as crossover 805 at location B where they must return to the proper line.

- Up trains** Must pass over the down fast line under single line working on the authority of the pilotman at location A.
- Down trains** Must pass normally over the down slow line.



**Example of typical single line working arrangements on TCB lines where more than one running line is available**

**Diagram P1.3**

### 11.3 Where conflicting movements can be avoided

#### signaller

Whenever possible, to avoid trains travelling in the right direction conflicting with trains travelling in the wrong direction, you must:

- divert trains travelling in the right direction to another line before they reach the single line working
- allow these trains to continue on that line beyond the single line working.

You must not give permission to the pilotman to authorise an up train to leave location A, unless:

- the crossover is set, and where necessary, secured in the correct position
- the line is clear up to the overlap of the next signal beyond crossover 805 at location B.

### 11.4 Where conflicting movements cannot be avoided

#### pilotman, signaller

Where conflicting movements cannot be avoided, the following arrangements must be applied.

#### a) Positioning a handsignaller

#### pilotman

You must position a handsignaller opposite GR142 signal at location B.

#### b) Giving permission for up trains to leave location A

#### signaller

You must not give permission to the pilotman to authorise an up train to leave location A unless:

- the line is clear to a point 183 metres (200 yards) beyond the handsignaller located opposite GR142
- you have not authorised any conflicting movement within this distance.

### **c) Giving permission for up trains to pass GR142 at location B**

You may give permission for the handsignaller located opposite signal GR142 to authorise an up train to return to the proper line as long as:

signaller

- the crossover is set, and where necessary, secured in the correct position
- the line is clear up to the overlap of the next signal beyond crossover 805
- you have not authorised any conflicting movement.

### **d) Authorising the movement of down trains at location B**

You do not need to be present at location B to authorise movements of trains between Z and Y.

pilotman

You do not need permission from the pilotman before you authorise a down train to pass signal GR145 at danger to proceed between Z and Y to cross to the down slow line.

signaller

### **e) Authorising down trains at location A**

You do not need permission from the pilotman before you authorise a down train to cross from the down slow line to the down fast line between V and W.

## **11.5 Telling the driver**

If the single line working arrangements have not been published in the *Weekly Operating Notice*, you must tell the driver of each train travelling in the normal direction that trains on the adjoining line may be running in the opposite direction.

signaller

# 12

## Dealing with a failed train

*The people responsible: pilotman, signaller*

### 12.1 If the pilotman is on the failed train

#### pilotman

You must tell the signaller about the circumstances, giving the location of the failed train.

If assistance is required, you must arrange with the signaller for this to be provided. If the driver asks you to do so, you may carry out the appropriate protection as shown in module M2 *Train stopped by train failure*.

You must get the signaller's permission before making any movement if the train is to return to the same end of the single line from which it entered.

### 12.2 If the pilotman is not on the failed train

#### pilotman

You must travel with the assisting train if:

- the assistance is to come from the rear, and
- the failed train is to be withdrawn to the rear.

### 12.3 Getting permission from the pilotman

#### signaller

You must get permission from the pilotman before authorising an assisting train to proceed onto the single line.

# 13

## Change of pilotman or signaller

*The people responsible: **pilotman, signaller***

### 13.1 Change of pilotman

When you are relieved, you must:

- make sure the new pilotman understands the arrangements for single line working
- tell each signaller the name of the new pilotman.

Once you have been relieved, you must not ride in the driving cab of any train over the single line.

If you are the new pilotman, you must sign the pilotman's form.

You must record the name of the new pilotman and the time on your signaller's form.

**pilotman**

**signaller**

### 13.2 Change of signaller

When you are relieved, you must make sure the new signaller understands the arrangements for single line working, and signs the signaller's form in your presence.

If you are the new signaller, you must tell the pilotman your name as soon as possible.

You must record the new signaller's name and the time on your pilotman's form.

**signaller**

**pilotman**

# 14

## Withdrawing single line working

*The people responsible: driver, pilotman, signaller*

### 14.1 Pilotman's authority

#### pilotman

Only you can authorise the withdrawal of single line working.

You can authorise single line working to be withdrawn before the obstructed line is clear if:

- the arrangements have been published, or
- you have agreement from Operations Control.

You must tell each signaller immediately when single line working is to be withdrawn.

### 14.2 When the last train is clear of the single line

#### pilotman

You must withdraw the arrangements for single line working that apply as follows:

#### a) Protection and signalling

You must arrange for any:

- handsignallers to be withdrawn
- secured points to be released
- green flags or green lights to be removed
- red flags or red lights provided under section 3.2 of this module to be removed.

#### b) Station working

You must arrange to tell the person in charge at any station where the platform working was affected:

- that single line working has been withdrawn
- whether the obstructed line is open or is to stay blocked.



### **c) Level crossings**

You must arrange to tell any crossing keeper affected:

- that single line working has been withdrawn
- whether the obstructed line is open or is to stay blocked.

If the crossing keeper cannot be told, you must arrange for the driver of the first train through the section to be instructed to stop at the crossing and tell the crossing keeper.

**pilotman**

### **d) Personnel working on or near the line used for single line working**

You must arrange for the driver of the first train that is to proceed after single line working is withdrawn, to stop and tell anyone who is working on or near the line which is being used for single line working:

- that single line working has been withdrawn
- whether the obstructed line is open or is to stay blocked.

You do not need to do this if the single line working is published in the weekly operating notice and the details, including the time single line working is withdrawn, have not changed.

### **e) Obstructed line**

You must tell the individual working alone (IWA), controller of site safety (COSS) or safe work leader (SWL), as appropriate, that single line working has been withdrawn, if work on the obstructed line is to continue:

- under line blockage as shown in module TS1 *General signalling regulations* regulation 13.2, Handbook 8 *IWA, COSS or PC blocking a line* or Handbook 21 *Safe work leader (SWL) blocking a line*, or
- under possession as shown in module T3 *Possession of a running line for engineering work*.

### 14.3 Resuming normal working

#### pilotman

When the single line working arrangements have been withdrawn, you must:

- tell each signaller involved to cancel their form
- confirm with each signaller that they have done this
- cancel your pilotman's form.

#### signaller

You can allow normal working to resume when you have cancelled your signaller's form and told the pilotman.

Where single line working had been introduced on both sides of an obstruction, you must not resume normal working until you have been told by the pilotmen on both sides of the obstruction that single line working is withdrawn.

You must make a suitable entry in the Train Register.

#### pilotman, signaller

You must forward your cancelled single line working forms and driver's tickets as shown in company instructions.

### 14.4 First train through the section

#### driver

If you are the driver of the first train through the section, if instructed by the signaller to do so, you must stop to tell anyone working on or near the line that was used for single line working:

- that single line working has been withdrawn
- whether the obstructed line is open or is to stay blocked.

If instructed, you must also stop and tell any crossing keeper.



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**GE/RT8000/P2**  
**Rule Book**

# Working single and bi-directional lines by pilotman

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You will need this module if you  
carry out the duties of a:

- driver
- pilotman
- signaller.

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## 1

## When working by pilotman must be introduced

### 1.1 Circumstances

Except as shown in section 1.2, working by pilotman must be introduced when any of the following applies.

- a) **The token has been lost.**
- b) **Trains have to work to and from the point of obstruction.**
- c) **The signal controlling the entrance to a single or bi-directional line cannot be cleared or a movement authority (MA) cannot be received by a train for any of the following reasons.**
  1. The signal or signalling equipment has failed or has been disconnected.
  2. A track circuit has failed.
  3. Level-crossing equipment has failed.
  4. The token instrument has failed.

### 1.2 Exceptions

#### 1.2.1 Modified working

Working by pilotman is not needed in any of the circumstances listed in sections 1.1 a) and 1.1 c) if modified working arrangements are authorised.

#### 1.2.2 Other exceptions

The exception to section 1.1 b) is as follows.

Working by pilotman is not needed on one side of the obstruction on a line worked with a token if a token is available and trains can be worked under the instructions for a single line with a train staff.

The exceptions to section 1.1 c) are as follows.

### **1. The signal or signalling equipment has failed or has been disconnected**

Working by pilotman is not needed on:

- lines where a token is provided and the driver has the token
- track circuit block lines or ERTMS lines if all the track circuits relating to the affected portion of single line are clear.

### **2. A track circuit or signalling equipment has failed**

Working by pilotman is not needed:

- on lines where a token is provided and the driver has the token
- on bi-directional lines if trains are allowed to proceed in one direction only
- on track circuit block or ERTMS lines if authorised in the *Sectional Appendix*.

### **3. Level-crossing equipment has failed**

Working by pilotman is not needed:

- on lines where a token is provided and the driver has the token
- on track circuit block or ERTMS lines if authorised in the *Sectional Appendix*
- on track circuit block or ERTMS lines if all track circuits relating to the affected portion of single line are clear.

### **4. The token instrument has failed**

Working by pilotman is not needed on a line worked with a token if a token is available and trains can be worked under the instructions for a single line with a train staff.

# 2

## Setting up working by pilotman

*The people responsible: pilotman, signaller*

### 2.1 Appointment and identification of the pilotman

#### pilotman

You will be appointed by the Network Rail area operations manager.

You must wear on your left arm a red armband with PILOTMAN in white letters.

### 2.2 Agreeing the arrangements

#### pilotman, signaller

Before introducing working by pilotman, you must reach a clear understanding with each other and any other signaller concerned about:

- the arrangements which will apply
- the time when the Pilotman's Form for Working Single and Bi-directional Lines by Pilotman (RT3154 or RT3154 ERTMS) will be completed
- which signals will need to be passed at danger
- which signals must be obeyed
- which ends of authority (EoA) will need to be passed without an MA
- the EOAs at which an MA must be received
- any instructions about level crossings
- any other relevant instructions.

## 2.3 Completing the pilotman's and signaller's forms

### a) Pilotman's form

At the agreed time, and only when the line is clear, you must:

- complete and sign your pilotman's form
- dictate it to each signaller who controls an entrance to the single-line section
- enter the name of each signaller on your form.

pilotman

### b) Signaller's form

You must complete your Signaller's Form for Working of Single and Bi-directional Lines by Pilotman (RT3155 or RT3155 ERTMS), as dictated by the pilotman.

signaller

## 2.4 Where there is no communication between signal boxes

Where another signal box is involved and there is no means of communicating with it, you must tell the pilotman.

signaller

You must go to each signal box to dictate the pilotman's form. You must not use a train for this purpose.

pilotman

After the forms for working by pilotman have been dictated at one end of the single-line section, normal working must not resume until these forms have been cancelled by the pilotman. This applies even if the equipment has been repaired or found to be in working order.

pilotman,  
signaller

## 2.5 Putting the token out of use

### pilotman

Where the line is worked with a token, you must get an assurance from the signallers at both ends of the section that the token has been restored to the token instrument.

You must get the token from the signaller if it is needed to operate a ground frame.

If the token is at the signal box at the other end of the section, you must get an assurance from the signaller at that end that the token has been secured in a safe place. You must get the token as soon as you arrive.

If you have the token, you must keep it with you until one of the following applies:

- you are relieved by another pilotman
- the signalling technician needs it
- normal working is resumed.

## 2.6 Working of ground frames

### a) Ground frames released by the token

### pilotman

You must get the token from the signaller if it is needed to operate a ground frame.

If a token is not available, the signaller will arrange for the signalling technician to attend to release it. You must show the signalling technician your pilotman's form.

You must keep the token until normal working is to be resumed or the signalling technician needs it.

### **b) Other ground frames**

If a ground frame needs to be released, the signaller will arrange for the signalling technician to unlock it.

**pilotman**

You must be present at the ground frame when it is unlocked and stay at the ground frame until the signalling technician has locked it.

## **2.7 Completing the arrangements**

You must make sure all of the requirements of this section have been completed before authorising the first train to travel over the single-line section.

**pilotman**

You must make a suitable entry in the Train Register.

**signaller**

You may then start working by pilotman.

**pilotman,  
signaller**

# 3

## During working by pilotman

*The people responsible: driver, pilotman, signaller*

### 3.1 Authority for movements

#### a) Pilotman's authority

**pilotman**

You must:

- be present and personally authorise movements which will enter or foul the single-line section (except as shown in section 3.1 b)
- before authorising the movement, get permission from the signaller who controls the entrance to the single-line section
- get the signaller's permission before authorising a driver to pass any signal at danger or any EoA without an MA.

#### b) Signaller's authority

**signaller**

As long as you have the permission of the pilotman, you may authorise a movement of an assisting train to enter an occupied single-line section without the pilotman being present.

### 3.2 Pilotman instructing drivers

**pilotman**

When the signaller has given permission for the train to enter the single-line section, you must:

- tell the driver why working by pilotman has been introduced
- give the driver any necessary instructions
- give the driver a completed Driver's Ticket for Working of Single and Bi-directional lines by Pilotman (RT3156 or RT3156 ERTMS)
- instruct the driver to pass at danger the signal controlling the entrance to the single-line section, or to pass an EoA at the entrance to the single-line section without an MA.



You do not need to complete a driver's ticket if the train is to enter a one-train working line, or is to enter the single-line section to:

pilotman

- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

### 3.3 Entering the single-line section

#### a) Before entering the single-line section

Before entering the single-line section, you must make sure:

driver

- you can properly identify the pilotman who will wear the PILOTMAN armband
- you clearly understand all the instructions the pilotman has given to you
- you have the personal authority of the pilotman to enter the single-line section
- the pilotman has given you a Driver's Ticket for Working Single and Bi-directional Lines by Pilotman (RT3156 or RT3156 ERTMS), except as shown in section 3.3 b).

#### b) Entering the single-line section without a driver's ticket

You do not need a driver's ticket if your train is to enter a one-train working line, or is to enter the single-line section to:

- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

The signaller will authorise you to enter the occupied single-line section if the pilotman is not present.

### 3.4 Train worked by more than one locomotive at the front

#### pilotman

If the train is worked by more than one locomotive at the front, you must:

- give the necessary instructions to each driver
- show the driver's ticket to each driver
- give the driver's ticket to the driver of the leading locomotive.

### 3.5 Pilotman travelling with the driver

#### pilotman

You must ride with the driver in the leading cab, unless you are to travel on a following train.

If you need the train to stop at the end of the single-line section, you must instruct the driver to do so.

You must accompany every train:

- during a complete block failure if there is no communication between signal boxes
- on a one-train working line
- where you are told that the signaller cannot make sure that the single-line section is clear after the passage of each train.

### 3.6 Travelling over the single line

#### driver

You must carry out the instructions shown on your driver's ticket.

You may travel at the permissible speed except when the driver's ticket states otherwise.

The arrangements for working by pilotman must continue to apply until the train reaches the end of the pilotman working section even if you receive an MA during the movement.

### 3.7 Arriving at the other end of the single line

When you reach the other end of the single-line section, you must cancel your driver's ticket by writing 'CANCELLED' across it and then hand it to the pilotman.

driver

If the pilotman is not with you, you do not have to stop unless the pilotman has instructed you to do so. If you have been instructed to stop, you must tell the signaller that your train has arrived complete with tail lamp.

If you do not have to stop, you must cancel your driver's ticket at the first opportunity, and hand it in as shown in your company instructions.

You must collect the cancelled driver's ticket from the driver and immediately tell the signaller that you have arrived.

pilotman

On a one-train working line where it is not normally necessary to ask the signaller's permission to start the return journey, you do not need to tell the signaller that you have arrived.

### 3.8 Recording in the Train Register

You must record the time that the train enters and leaves the single-line section in the Train Register, even if you do not normally record these times.

signaller

## 3.9 Change of pilotman or signaller

### a) Change of pilotman

#### pilotman

When you are relieved, you must:

- make sure the new pilotman understands the arrangements for working by pilotman
- tell each signaller the name of the new pilotman
- not ride in the driving cab of any train over the single-line section.

If you are the new pilotman, you must sign the pilotman's form.

#### signaller

You must record the name of the new pilotman and the time on your signaller's form.

### b) Change of signaller

When you are relieved, you must make sure the new signaller understands the arrangements for working by pilotman and signs the signaller's form in your presence.

If you are the new signaller, you must tell the pilotman your name as soon as possible.

#### pilotman

You must record the new signaller's name and the time on your pilotman's form.

# 4

## Working by pilotman to and from the point of obstruction

*The person responsible: pilotman*

If you are required to introduce working by pilotman to and from the point of obstruction, you must do so between the obstruction and the nearest appropriate:

- signal box, or
- junction, or
- other place.

You must make sure one of the following is provided at the place where trains will have to stop on the approach to the obstruction.

- A signal kept at danger.
- An EoA at which the signaller has closed the route.
- Emergency protection as described in module M1 *Dealing with a train accident or train evacuation* or in handbook 2 *Instructions for track workers who use emergency protection equipment*.
- Possession protection as described in module T3 *Possession of a running line for engineering work* or module T3 ERTMS *Possession of an ERTMS running line for engineering work where line side signals are not provided*.

If the emergency protection or possession protection has already been placed, you must, if necessary, arrange for that protection to be moved to a more suitable location so that trains can reach the place where they are required to stop.

You must tell the signaller controlling the entrance to the single-line section on the other side of the obstruction when working by pilotman has been introduced and withdrawn.

pilotman

## **pilotman**

You must not complete a driver's ticket.

You must accompany every train over the single-line section.

These arrangements may be introduced on both sides of the obstruction, but separate pilotmen will need to be appointed on each side.

# 5

## Dealing with a failed train

*The people responsible: pilotman, signaller*

### 5.1 If the pilotman is on the failed train

You must tell the signaller about the circumstances, giving the location of the failed train.

pilotman

If assistance is required, you must arrange with the signaller for this to be provided. If the driver asks you to do so, you may carry out the appropriate protection as shown in module M2 *Train stopped by train failure*.

You must get the signaller's permission before making any movement if the train is to return to the same end of the single-line section from which it entered.

### 5.2 If the pilotman is not on the failed train

You must travel with the assisting train if:

- the assistance is to come from the rear, and
- the failed train is to be withdrawn to the rear.

pilotman

### 5.3 Getting permission from the pilotman

You must get permission from the pilotman before authorising an assisting train to proceed into the occupied single-line section.

signaller

# 6

## Withdrawing working by pilotman

*The people responsible: pilotman, signaller*

### 6.1 Pilotman's actions

#### pilotman

Only you can authorise the withdrawal of working by pilotman.

When the last train is clear of the single-line section, you must tell each signaller that working by pilotman has been withdrawn and then:

- cancel your pilotman's form
- instruct each signaller to cancel their signaller's form
- get an assurance from each signaller that this has been done.

If you have a token, you must hand it to the signalling technician who will take it away or restore it to the token instrument.

You must hand in the cancelled pilotman's form and any driver's tickets as shown in company instructions.

### 6.2 Signaller's actions

#### signaller

When instructed to do so by the pilotman, you must cancel your signaller's form, and tell the pilotman when this has been done.

You must make a suitable entry in the Train Register.

Where working by pilotman had been introduced on both sides of an obstruction, you must not resume normal working until you have been told by the pilotmen on either side of the obstruction that working by pilotman is withdrawn.

You must hand in the cancelled signaller's form as shown in company instructions.



# 7

## Modified working arrangements

*The people responsible: driver, signaller*

### 7.1 Where modified working can be used

Modified working arrangements may be used to allow a train to pass through a single-line section without introducing working by pilotman.

signaller

You may only use modified working arrangements where it is authorised in the *Sectional Appendix* and *Signal Box Special Instructions*.

An authority to use modified working arrangements applies to one train movement only.

### 7.2 Before introducing modified working

Where it is authorised, you may only use modified working arrangements if all the following conditions are met.

signaller

- Direct communication is available with any other signaller concerned and you both reach a clear understanding of what is to happen.
- You have made sure the single-line section is clear.
- The responsible person as shown in the *Signal Box Special Instructions* has personally given you and any other signaller concerned authority to use the modified working arrangement for that train.

You must record the name of the responsible person and the time authority is received in the Train Register.

### 7.3 If more than one signaller is involved

#### signaller

The responsible person will speak to any other signaller involved before speaking to you again to authorise modified working.

After you receive the authority from the responsible person, you must get permission from any other signaller involved for the train to pass through the single-line section.

If you are the other signaller involved, you may give permission for the train to approach as long as:

- the responsible person has told you that the modified working arrangement has been authorised for this train, and
- the line is clear as shown in the relevant train signalling regulations.

You must pass messages by telephone as follows.

'From \_\_\_\_\_ signal box to \_\_\_\_\_ signal box:

Is line clear for train \_\_\_\_\_ to pass through the single-line section from \_\_\_\_\_ to \_\_\_\_\_ under modified working arrangements?'

'From \_\_\_\_\_ signal box to \_\_\_\_\_ signal box:

Line **is** clear for train \_\_\_\_\_ to pass through the single-line section from \_\_\_\_\_ to \_\_\_\_\_ under modified working arrangements.'

## 7.4 Signaller instructing the driver

When you have the authority of the responsible person and where necessary, the permission of another signaller, for a train to enter the single-line section, you must:

signaller

- tell the driver what is happening
- dictate or give to the driver a completed Modified Working Arrangements Driver's Ticket (RT3177)
- instruct the driver to stop at the end of the single-line section, if necessary
- instruct the driver to pass at danger the signal controlling the entrance to the single-line section, or to pass the EoA at the entrance to the single-line section without an MA.

## 7.5 Completing a driver's ticket

You must complete a driver's ticket, if necessary, at the signaller's dictation.

driver

If the train is worked by more than one locomotive at the front, you must show the completed driver's ticket to each other driver.

You must not enter the single-line section until you have a completed modified working arrangements driver's ticket.

You do not need a driver's ticket if your train is to enter the single-line section to:

- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

## 7.6 When the train enters the single line

### signaller

You must record in the Train Register the time the train enters the single-line section, even if you do not normally record these times.

If there is more than one signaller involved, you must tell the other signaller when the train enters the section. Where block bells are provided, you must send **train entering section**.

## 7.7 Travelling over the single line

### driver

You must carry out the instructions on your driver's ticket .

You must not exceed 50 mph (80 km/h), or the permissible speed if lower.

## 7.8 Train failure on the single line

### signaller

You must get the permission of the responsible person before allowing an assisting train to enter an occupied single-line section.

You must not dictate or give a driver's ticket to the driver of the assisting train.

## 7.9 Arriving at the other end of the single line

### driver

When the train arrives at the other end of the single-line section, you must stop if the signaller has instructed you to do so. You must cancel your driver's ticket by writing 'CANCELLED' across it. You must then tell the signaller that the train has arrived complete with tail lamp.

If you do not have to stop, you must cancel your driver's ticket at the first opportunity.

You must hand in the ticket as shown in company instructions.

driver

On a one-train working line where it is not normally necessary to ask the signaller's permission to start the return journey, you do not need to tell the signaller that your train has arrived.

You must record in the Train Register the time the train leaves the single-line section, even if you do not normally record these times.

signaller

If there is more than one signaller involved, you must tell the other signaller when the train leaves the section. If block bells are provided, you must send **train out of section**.

## 7.10 When another train is to pass

You must get another authority from the responsible person each time a train is to pass through the single-line section under modified working arrangements.

signaller

## 7.11 Intermediate signal boxes or sidings

You must not:

signaller

- allow an intermediate signal box to switch in until the train carrying a modified working arrangements ticket has arrived at the other end of the single-line section, complete with tail lamp
- give permission for an intermediate siding to be used.

## 7.12 Changing to working by pilotman

You must get authority from the responsible person to change from modified working arrangements to working by pilotman.

signaller

## Notes



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# Proceed-on-Sight Authority (PoSA)

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These instructions are additional to all other Rule Book modules. They apply only where PoSA signals are provided.

You will need this module if your duties require you to identify and understand the meaning of PoSA signals.

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# 10

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**10.1** Before local control is taken

**10.2** After local control is taken

# 11

## **Using PoSA controls where a level crossing worked by a crossing keeper is in the route**

# 1 Definitions

*The people responsible: all concerned*

In this module the term 'all concerned' means anyone who needs to understand what signals look like and their meaning.

## **Proceed-on-Sight Authority**

A Proceed-on-Sight Authority (PoSA) is a signal aspect that can be associated with a stop signal. When it displays two flashing white lights at 45° this means:

- the signal itself, or the signalling equipment, has failed
- the points are in the correct position for the train
- the driver is authorised to proceed at caution
- the driver must obey other signals or indications on the driver machine interface (DMI).

## **Normal aspect of a PoSA signal associated with a main aspect**



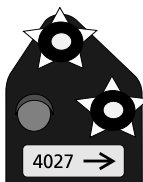
The normal aspect of a PoSA signal associated with a main aspect is unlit. This means obey the aspect that is displayed at that signal.

**Proceed aspect of a PoSA signal associated with a main aspect**



The proceed aspect of a PoSA signal is two flashing white lights at 45°.

**Independent position-light signals**



A PoSA aspect may also be given at an independent position-light signal.

**ERTMS movement authority at a PoSA**

If a PoSA aspect is displayed to a train on which ERTMS is in operation, an on sight (OS) mode will normally be shown on the DMI. This has the same meaning as a PoSA aspect displayed to a train on which ERTMS is not in operation.



# 2

## Observing and obeying PoSA signals

*The people responsible: driver (or person controlling train movement)*

### 2.1 Train stopped or nearly stopped at a signal at danger

If you have stopped or nearly stopped at a signal at danger and the PoSA is displayed, you may proceed past the signal even though the main aspect is at danger or is unlit.

driver

The signaller may need to give you instructions before clearing a PoSA signal. You must carry out these instructions.

On a train on which ERTMS is in operation, you must acknowledge the change to OS before proceeding.

### 2.2 If you see anything wrong at the PoSA signal

You must tell the signaller immediately, stopping the train specially if necessary, if you see any of the following failures or irregularities at a PoSA signal.

driver

- Only one white light is showing.
- When it is illuminated, it is not flashing.
- A route indicator is not displayed when one should be.
- On a train on which ERTMS is in operation, a PoSA aspect is displayed without an OS movement authority (MA) being shown on the DMI.
- On a train on which ERTMS is in operation, an OS MA being shown on the DMI without a PoSA aspect being displayed.

**driver**

You must complete a Reporting a signal/AWS//TPWS/ERTMS/ATP/ TVM Failure or Irregularity form (RT3185) at the first convenient opportunity without causing delay and send or hand it to the person shown in your company's instructions before leaving duty.

## 2.3 During the movement

**driver**

You must proceed at caution throughout the section to the next stop signal (or buffer stops if there is no stop signal ahead) unless full supervision (FS) mode is received before the next stop signal.

## 2.4 If there is a level crossing in the section

**driver**

You must not pass over any controlled level crossing until you are sure it is safe to do so.

You must check it is safe before passing over any of the following level crossings that the signaller has told you will not operate normally for the movement.

- An automatic level crossing.
- A barrow or foot crossing with white light indications.
- A crossing equipped with miniature warning lights.

## 2.5 Using the driver's reminder appliance (DRA)

You must set the driver's reminder appliance (DRA) when stopping, or stopped at a station platform after having passed a PoSA aspect.

driver

You must only reset the DRA when:

- there is a platform starting signal and it shows a proceed aspect
- there is a platform starting signal and you have been given permission to pass it at danger
- you have authority to start the train where there is no platform starting signal.

## 2.6 AWS indications

On lines signalled in both directions, due to the nature of the signalling failure, the AWS equipment may not be suppressed for movements in the opposite direction to your train and you may receive a warning indication. You must cancel and disregard this AWS indication.

driver

## 2.7 On arrival at the next signal

After passing through the affected section, when you arrive at the next signal, you must obey the aspect displayed.

driver

If no main aspect is shown at this signal but a PoSA aspect is displayed, you may obey the PoSA aspect.

# 3

## Conditions of use for the PoSA

*The person responsible: **signaller***

### signaller

You may only operate a PoSA control if it is specifically authorised in this module.

You must only operate a PoSA control if the previous train has passed clear of the affected section.

Before operating the control to set a PoSA route you must:

- make sure the barriers or gates at any controlled level crossing within the route are closed to road traffic, unless the movement is to be made with the barriers raised, as shown in sections 9.1 or 10.1
- come to a clear understanding with any other signaller involved about what is to be done
- except where shown in this module, tell the driver what is happening and to wait for the PoSA to be displayed and, for a train on which ERTMS is in operation, an OS MA to be received.

# 4

## Use of the PoSA during repair, renewal, or maintenance work on signalling equipment

*The people responsible: **signaller, signalling technician***

Before starting work on any signalling equipment as shown in module TS11 *Failure of, or work on, signalling equipment - signallers' regulations* or handbook 19 *Work on signalling equipment - duties of the signalling technician*, you must both agree which PoSA routes can be used during the work.

**signaller,  
signalling  
technician**

You must both record the details on the Signal Engineering Work form (RT3187) of any PoSA routes that you have agreed can be operated during the work.

## 5

## Failure of signalling equipment where a PoSA control is provided

*The person responsible: signaller*

### 5.1 Train approaching a defective main aspect signal

signaller

You may operate a PoSA control to allow a train to approach a signal with a defective main aspect.

You must make sure that the line is clear:

- up to and including the overlap of the stop signal next ahead of the defective signal, or
- up to and including the overlap of the second stop signal ahead of a defective distant signal, or
- to the buffer stops on a dead-end line.

You must tell the driver what is happening and that the signal or signals ahead are defective, unless you are sure the defective signal is:

- showing a red aspect, or
- showing the correct aspect.

## 5.2 Passing a defective or disconnected stop signal or EoA when an FS MA cannot be issued

### a) Trains on which ERTMS is not operating

You may operate a PoSA control to authorise a train to pass a defective or disconnected stop signal when the main aspect is held at danger.

You must make sure the line is clear:

- up to and including the overlap of the next stop signal, or
- to the buffer stops on a dead-end line.

You do not need to tell the driver what is happening.

### b) Trains on which ERTMS is operating

You may operate a PoSA control to allow a train on which ERTMS is in operation to pass an EoA when you cannot issue an FS MA.

You must make sure the line is clear:

- up to and including the overlap of the next EoA which is at a stop signal, or
- to the buffer stops on a dead-end line.

You do not need to tell the driver what is happening.

signaller

## 5.3 Authorising a train to pass a signal not displaying a main aspect

You may operate a PoSA control to allow a train on which ERTMS is not in operation to pass a signal that is defective and unable to show a main aspect.

You must make sure the line ahead is clear under the same conditions as it would be for the main aspect to be cleared.

You must have told the driver what is happening.

signaller

## 5.4 Failure of track circuits

### signaller

You may operate a PoSA control to allow a train to examine the line in a section that is affected by a track circuit that has failed to clear or shows occupied for some other reason.

You must carry out the instructions shown in regulation 20 of module TS1 *General signalling regulations* and tell the driver what is happening.

If the line is reported clear, you may operate a PoSA control without telling the driver what is happening, to allow following trains to proceed through the affected section as long as one of the following applies.

- You can make sure the portion of line is clear after the passage of each train.
- A competent person has been appointed to report that the train has passed complete with tail lamp.
- You have seen the previous train occupy and clear the track circuit ahead of the signal or block marker beyond the affected portion of line.
- If the affected track circuit is beyond the last stop signal, or block marker in your area of control, you have introduced working as shown in regulation 3.5 of module TS2 *Track circuit block regulations* or TS10 *ERTMS level 2 train signalling regulations*.

## 5.5 When a TPWS failure at the signal ahead prevents a signal from showing a proceed aspect

### signaller

You may operate a PoSA control to allow a train to approach a signal ahead where the TPWS equipment has failed and is preventing the main aspect of the signal fitted with a PoSA from showing a proceed aspect.

You must make sure the line ahead is clear under the same conditions as it would be for the main aspect to be cleared.

You must tell the driver what is happening and that the TPWS equipment at the signal ahead has failed.



# 6

## Platform starting signals provided with PoSA signals - starting trains

*The people responsible: driver, guard, person dispatching train*

Where a platform starting signal is provided with a PoSA signal which is showing a proceed aspect, the train may be dispatched as shown in module SS1 *Station duties and train dispatch*.

Where an 'OFF' indicator is provided, this will also show 'off' when a PoSA signal has been cleared.

driver,  
guard,  
person  
dispatching  
train

# 7

## Working of signals provided with PoSA routes

*The person responsible: **signaller***

### **signaller**

You may only operate a PoSA control when the train has stopped or nearly stopped at the signal or block marker.

If the failure of signalling equipment is affecting two or more successive signals or block markers provided with PoSA controls, you do not need to stop or nearly stop the train again at each affected signal or block marker.

# 8

## Reminder appliances used with PoSA signals

*The person responsible: **signaller***

You must place a reminder appliance on a PoSA control as soon as the PoSA signal has been returned to danger after a train has passed it.

**signaller**

You may remove the reminder appliance when you are sure that the train has passed beyond the affected section, and where necessary, you have given the driver of the next train any instructions required.

## 9

## Using PoSA controls where a closed circuit television (CCTV) or remote control (RC) level crossing is in the route

*The person responsible: **signaller***

### 9.1 Before local control is taken

**signaller**

You may operate a PoSA control where there is a defective CCTV or RC crossing in the route and an attendant has not yet arrived to take local control if:

- you cannot get a satisfactory view or picture of the crossing
- the barriers have failed in the lowered position and the red road-traffic signals are not working
- the barriers have failed in the raised position and the red road-lights indicator is lit.

You must tell the driver what is happening and not to proceed over the crossing unless they are sure it is safe to do so.

If the barriers have failed in the raised position and the red road signals are not working, you must not operate a PoSA control or authorise any train to pass over the crossing until an attendant has taken local control.

### 9.2 After local control is taken

**signaller**

Before you operate a PoSA control, you must get an assurance from the attendant that the barriers are lowered and that the crossing is clear.

You do not need to tell the driver what is happening.

# 10

## Using PoSA controls where an obstacle detection (OD) level crossing is in the route

*The person responsible: signaller*

### 10.1 Before local control is taken

You may operate a PoSA control if there is a defective OD crossing in the route and an attendant has not yet arrived to take local control if:

- you have received an OD failed alarm
- the barriers have failed in the lowered position and the red road-traffic signals are not working
- the barriers have failed in the raised position and the red road-lights indicator is lit.

You must tell the driver what is happening and not to proceed over the crossing unless they are sure it is safe to do so.

If the barriers have failed in the raised position and the red road signals are not working, you must not operate a PoSA control or authorise any train to pass over the crossing until an attendant has taken local control.

### 10.2 After local control is taken

When the crossing is being operated by the local-control unit (LCU), before you operate a PoSA control, you must get an assurance from the attendant that the barriers are lowered and that the crossing is clear.

You do not need to tell the driver what is happening.

signaller

signaller

## 11

## Using PoSA controls where a level crossing worked by a crossing keeper is in the route

*The person responsible: signaller*

### Failure of equipment

#### signaller

Before you operate a PoSA control where there is a level crossing worked by a crossing keeper in the route, you must get the crossing keeper's confirmation that the crossing is closed to road traffic and that the crossing is clear.

You do not need to tell the driver what is happening.



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**GE/RT8000/S4**  
**Rule Book**

# Trains or shunting movements detained on running lines

Issue 5

September 2015

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You will need this module if you carry out the duties of a:

- driver
- shunter
- signaller.

Conventions used in the Rule Book	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	driver
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

## Section

**1****Contacting the signaller - standard arrangements**

- 1.1 When to contact the signaller
- 1.2 How to contact the signaller
- 1.3 When speaking to the signaller
- 1.4 When speaking to the driver
- 1.5 Driver being conducted

**2****Contacting the signaller - non standard arrangements**

- 2.1 Number displayed on telephone sign
- 2.2 White diamond sign with a telephone number displayed
- 2.3 During poor visibility
- 2.4 Trains conveying sensitive traffic

**3****Limited clearance at signal post telephones**

- 3.1 Limited clearance warning sign
- 3.2 Yellow or white diamond with the letter X, or yellow roundel on the telephone cabinet

**4****Shunting movement detained on a running line**

# 1

## Contacting the signaller - standard arrangements

*The people responsible: driver, signaller*

### 1.1 When to contact the signaller

When your train is detained on a running line at a signal at danger, or without a movement authority (MA), you must contact the signaller as soon as possible.

driver

However, you may wait for up to two minutes before contacting the signaller if you can see an obvious reason for the signal being at danger, or not having an MA such as:

- the section ahead being occupied by a train
- a conflicting movement being made.

If the signaller has told you to wait for the signal to clear, or for an MA, you must contact the signaller again every five minutes unless the signaller has given you other instructions.

### 1.2 How to contact the signaller

You must contact the signaller by using the train radio.

driver

If it is not possible to use the train radio and a signal post telephone is provided, you must use it to contact the signaller, unless limited clearance at the telephone prevents this. If a signal post telephone is not provided, or the signal post telephone has failed, you must contact the signaller by mobile phone, if available.

If you still cannot contact the signaller, you must either:

- use the telephone at another signal
- use a lineside telephone
- go to the signal box.

### 1.3 When speaking to the signaller

#### driver

You must first make sure:

- you are speaking to the correct signaller
- the signaller clearly understands at which signal or block marker your train is standing and on which line.

If you are detained without an MA and you are not at a signal or block marker, you must reach a clear understanding with the signaller of the location of your train and the line on which it is standing.

You must tell the signaller your train reporting number.

### 1.4 When speaking to the driver

#### signaller

If the train is required to wait at the signal, or block marker, you must:

- tell the driver the reason for the delay
- instruct the driver to 'wait for the signal', or 'wait for an MA'.

### 1.5 Driver being conducted

#### driver

If you do not have the required route knowledge and are accompanied by a conductor driver, the conductor driver must contact the signaller. The conductor driver must pass on to you any instructions given by the signaller.

# 2

## Contacting the signaller - non standard arrangements

The people responsible: *driver, signaller*

### 2.1 Number displayed on telephone sign

If there is a number on the telephone sign associated with the signal, or a waiting time is shown in the *Sectional Appendix* for signals in a specified area, instead of contacting the signaller as soon as possible, you must do so within the number of minutes shown.

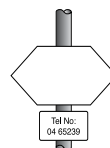


driver

### 2.2 White diamond sign with a telephone number displayed

If a white diamond sign has a telephone number displayed and you cannot contact the signaller by any means from the driving cab, you must only leave your cab to use another telephone:

- in an emergency, or
- if the driver of a train on another line, or a competent person has told you that the signaller has blocked the adjacent line and it is safe to get down from your cab to use another telephone.



driver

If the driver cannot contact you and you are not able to clear the signal or issue an MA, you must instruct the driver of a train which is to pass on another line to:

- stop opposite the driving cab of the detained train
- relay your message to the driver of the detained train.

signaller

**signaller**

If no train is available for the driver to relay your message, you must arrange for trains on the adjacent line to be stopped and then for a competent person to tell the driver of the detained train that:

- the (named) line is blocked
- it is safe to get down from the cab to use another telephone.

You must not resume normal working on the adjacent line until you are sure that the train has proceeded from the signal at which it was detained.

### **2.3 During poor visibility**

**driver**

On other than TCB or ERTMS lines, if the signal does not have a white diamond sign and visibility is less than 180 metres (approximately 200 yards), you must contact the signaller immediately.

If the signal has a white diamond sign and you have to use another telephone or go to the signal box, you must do so within 10 minutes.

### **2.4 Trains conveying sensitive traffic**

**driver**

If your train is a block train of dangerous goods or a mail or postal train, you must contact the signaller immediately. You should only use a signal post telephone to do this if you have been unable to contact the signaller by the train radio or mobile telephone.

**signaller**

If you cannot identify the reason for the signal being at danger or an MA not being received, and the train is a block train of dangerous goods or a mail or postal train, you must treat this as suspicious and call the police immediately.



# 3 Limited clearance at signal post telephones

The people responsible: **driver, signaller**

## 3.1 Limited clearance warning sign

Where there is a limited clearance warning sign at the signal but no white or yellow diamond sign with the letter 'X' shown, you may use the telephone because:

- it is in a position of safety in relation to the adjacent running line
- protection is provided by the presence of your train.

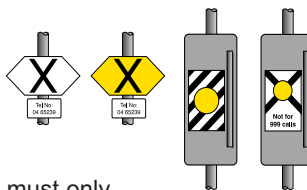


driver

## 3.2 Yellow or white diamond with the letter X, or yellow roundel on the telephone cabinet

You must not normally leave your cab to use a signal post telephone where there is a:

- yellow or white diamond sign with the letter 'X' at the signal
- yellow roundel on the telephone cabinet.



driver

If one of these signs are displayed you must only leave your cab to use the telephone:

- in an emergency, or
- if the driver of a train on another line, or a competent person has told you that the signaller has blocked the line adjacent to the telephone, and it is safe to get down from your cab to use the telephone.

**signaller**

If the driver cannot contact you and you are not able to clear the signal or issue an MA, you must instruct the driver of a train which is to pass on another line to:

- stop opposite the driving cab of the detained train
- relay your message to the driver of the detained train.

If no train is available for the driver to relay your message, you must arrange for trains on the line adjacent to the telephone to be stopped and then for a competent person to tell the driver of the detained train that:

- the (named) line is blocked
- it is safe to get down from the cab to use the telephone.

You must not resume normal working on the line adjacent to the telephone until you are sure that the train has proceeded from the signal at which it was detained.

# 4 Shunting movement detained on a running line

*The people responsible: driver, shunter*

If your shunting movement has been detained an unusually long time, you must remind the signaller in the quickest way possible. This may mean that you have to go to the signal box or send the shunter to do this.

**driver**

You must go to the signal box to remind the signaller if your shunting movement has been detained on a running line for an unusually long time and the driver instructs you to do so.

**shunter**









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# GERT8000-S5 Rule Book



## Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)

### Issue 8



Module S5

September 2018  
Comes into force 01 December 2018



## Conventions used in the Rule Book

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### Example



driver



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You will need this module if you carry out the duties of a:

- driver
- guard
- shunter
- signaller.

You will also need this module if you carry out the duties of a competent person for emergency special working or temporary block working.

## Section

- 1** **When a signal can be passed at danger or an EoA passed without an MA**
  - 1.1 Signaller's authority
  - 1.2 Driver getting authority
  - 1.3 Authorising a driver to pass two or more consecutive signals at danger on a TCB line
  
- 2** **Signaller's precautions before authorising the movement**
  - 2.1 Making sure the line is safe
  - 2.2 Setting the route correctly on a panel or workstation
  - 2.3 Setting the route correctly where there is a lever frame
  - 2.4 If the interlocking is out of order
  
- 3** **Authorising the movement**
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  - 3.3 Passing a signal at danger or an EoA without an MA for shunting purposes
  - 3.4 Dealing with TPWS
  - 3.5 Before passing an EoA without an MA
  
- 4** **During the movement**
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  - 4.2 Train speed
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- 4.4 Next stop signal ahead
- 4.5 Signaller protecting the movement

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- 5.1 Authorising emergency special working
- 5.2 Arranging emergency special working
- 5.3 Before allowing a train to enter the emergency special working section
- 5.4 Authorising a train to enter the emergency special working section
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- 5.6 During the movement
- 5.7 When the train arrives at the exit signal
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- 6.2 Arranging temporary block working
- 6.3 Before allowing a train to enter the temporary block section
- 6.4 Authorising a train to enter the temporary block section
- 6.5 At the entrance signal
- 6.6 During the movement
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- 7.1 If the driver cannot contact the signaller

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- 7.3 During the movement
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- 8.2 Before starting
- 8.3 During the movement
- 8.4 At the next stop signal
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### **Driver passing a signal at danger or an EoA without authority**

- 9.1 Passing a signal at danger or an EoA without authority
- 9.2 Seeing a SPAD indicator illuminated
- 9.3 Signaller's actions

# 1

## When a signal can be passed at danger or an EoA passed without an MA

*The people responsible: driver, signaller*

### 1.1 Signaller's authority

You may authorise a signal to be passed at danger or an end of authority (EoA) to be passed without a movement authority (MA) only in the following circumstances.

- 1 The signal is defective or disconnected.
- 2 ERTMS equipment is defective or disconnected and is preventing an MA from being issued.
- 3 The signal cannot be cleared or an MA cannot be sent because signalling or level crossing equipment has failed.
- 4 For shunting purposes, a main aspect or stop signal is to be passed at danger when there is no associated position-light or semaphore shunting signal, or an EoA passed when it is not possible to issue an MA.
- 5 The signal cannot be cleared because a train or movement which has reversed is then required to start from beyond that signal.
- 6 An electric train is to pass the signal or EoA protecting an isolated section and proceed towards the limiting point.
- 7 A train has been accepted using restricted acceptance because the line is clear only up to the home signal of the next signal box and the section signal cannot be cleared.
- 8 In an emergency, and then only when authorised by the signal box supervisor or Operations Control, on a TCB or ERTMS line a signal or EoA is to be passed, so that a train carrying passengers can enter an occupied section to use a station platform.

signaller

**signaller**

- 9** An engineering train is to:
  - move towards a possession, or
  - leave a line under possession at an intermediate point.
- 10** A train is to pass the signal or EoA protecting engineering work under the requirements of module TS1 *General Signalling Regulations*, regulation 13.2 to gain access to:
  - a station where the train is required to start back
  - a line under single line working
  - a siding.
- 11** The line is to be examined to check that it is clear.
- 12** A train is to proceed at caution through an absolute block section from the signal box in rear when a failed train has been removed.
- 13** A train is to enter the section after:
  - a train or vehicle that has proceeded without authority has been removed, or
  - the front portion of a divided train has passed through the section.
- 14** A train is to enter the section to:
  - assist a failed train
  - evacuate passengers from a failed train
  - remove a portion of a divided train
  - remove a train or vehicles that have proceeded without authority.
- 15** Single line working applies.
- 16** Working by pilotman or modified working applies.



## 1.2 Driver getting authority

You can only pass a signal at danger or an EoA without an MA in any of the circumstances described in section 1.1 of this module.

driver

Before passing a signal at danger or an EoA without an MA, you must get the personal authority of:

- the signaller, or
- the shunter acting on the signaller's instructions when making a shunting movement, or
- the pilotman or handsignaller acting on the signaller's instructions, or
- another competent person where authorised in the rules.

You must clearly understand what is required and how far the movement can go.

## 1.3 Authorising a driver to pass two or more consecutive signals at danger on a TCB line

If there is a failure or disconnection of signalling equipment on a TCB line other than a single line and it is necessary to authorise the driver to pass, at danger, two or more consecutive main running signals under the same authority, emergency special working or temporary block working must be introduced.

signaller

# 2

## Signaller's precautions before authorising the movement

*The person responsible: signaller*

### 2.1 Making sure the line is safe

signaller

You must make sure:

- the portion of line concerned is clear and safe for the movement as required by the train signalling regulations
- the barriers or gates at any controlled level crossings are closed to road traffic
- all points are in the required position and are locked by facing point locks, where provided
- any ground frame release giving access to the route is 'normal' unless it is to be operated for the movement.

### 2.2 Setting the route correctly on a panel or workstation

#### a) Operating individual point controls

signaller

You must:

- operate the points to the position shown on the route card
- check that you have the correct 'normal' or 'reverse' indications
- ask a competent person, if present, to check the route setting.

### **b) Calling the route**

After you have set the route, you must call the route, if you can.

signaller

However, you must not call the route if you need to keep the entrance signal at danger or the route closed for any reason unless the signalling technician has:

- disconnected the signal
- disconnected the means of issuing MAs or told you the signalling equipment is unable to issue an MA.

You must also not call the route if there is a track circuit failure in the route concerned.

### **c) When it is not possible to call the route**

Before you authorise the movement, you must stop any train on an adjacent or opposite line that could be fouled by the movement if the route is set incorrectly.

When one train has passed safely over the affected route, you may allow trains to run without restriction on other lines.

However, you must not do this if you have changed the position of any points in the route.

## 2.3 Setting the route correctly where there is a lever frame

### signaller

You must check that you have the correct 'normal' or 'reverse' indications, where provided.

If mechanical point detection is provided, you must arrange for the points to be secured if a movement is to be made over them in the facing direction. You do not need to do this where there is a facing point lock and you have checked that it is properly engaged.

If you can, you must operate the signal lever concerned if the signal to be passed at danger:

- is defective
- is disconnected
- cannot be cleared because signalling equipment has failed.

If you cannot operate the lever or the signal is to be passed at danger for any other reason, you must:

- reverse all levers that usually release the signal lever concerned
- normalise all levers that usually lock the signal lever concerned.

## 2.4 If the interlocking is out of order

### signaller

If the interlocking is out of order, you must make sure:

- the facing points on any other line are set to avoid conflicting movements normally prevented by the interlocking
- the signals for these conflicting movements are at danger
- routes for any conflicting movements are closed.

# 3 Authorising the movement

*The people responsible: driver, shunter, signaller*

## 3.1 Instructions from the signaller

signaller

You must tell the driver:

- why the signal needs to be passed at danger or the EoA passed without an MA
- how far the movement can proceed.

On an ERTMS line where lineside signals are not provided, you must also tell the driver:

- the location and speed of any permissible speed lower than the ceiling speed
- the location and speed of any temporary or emergency restriction lower than the ceiling speed.

You must instruct the driver to proceed at caution.

Unless the train is to enter the section as an assisting train or to examine the line, you do not have to instruct the driver to proceed at caution when:

- the train is to enter an absolute block section during a failure of a block instrument
- single line working, working by pilotman, emergency special working or temporary block working is in operation.

You must tell the driver to pass any SPAD indicator which may be illuminated by the movement.

**signaller**

You must instruct the driver to approach at caution and check it is safe before passing over any:

- controlled level crossing
- automatic level crossing that will not operate normally for the movement
- barrow or foot crossing with white-light indications that will not operate normally for the movement.

### **3.2 Instructions through a pilotman or handsignaller**

**signaller**

You must make sure that the pilotman or handsignaller clearly understands:

- what the driver must be told
- to work only to your instructions.

You must tell the handsignaller if the instructions have already been given to the driver.

**driver**

You may accept a yellow handsignal shown at a signal as authority to pass a signal at danger only if one of the following applies.

- You have stopped your train at the signal and the handsignaller has given you the necessary instructions.
- The signaller or pilotman has already told you about the circumstances and has instructed you to obey the handsignal shown at the signal. In this case you do not need to stop your train if a yellow handsignal is shown at the signal.

Unless you have been instructed to pass the signal at danger, you must stop at it.

### 3.3 Passing a signal at danger or an EoA without an MA for shunting purposes

If you need to pass a signal at danger or an EoA without an MA for shunting purposes, you must get the authority of the signaller.

If you get authority to pass a signal at danger or an EoA without an MA from the signaller, you must tell the driver.

When you have completed the shunting, you must not proceed on the journey until the signal is cleared or you receive an MA, unless the signaller gives authority.

driver,  
shunter

shunter

driver

### 3.4 Dealing with TPWS

You must operate the TPWS temporary isolation switch when you are authorised to enter:

- a section of line where emergency special working is in operation
- a section of line where temporary block working is in operation
- a single-line section when working by pilotman or modified working is in operation, and you have to pass more than one signal at danger
- a line which is under possession as described in module T3 *Possession of a running line for engineering work.*

Before leaving that section of line, you must re-instate the TPWS.

You must operate the TPWS train-stop override button when you are authorised to pass a signal at danger in all other circumstances.

driver

### 3.5 Before passing an EoA without an MA

You must press 'override' when you are authorised to pass an EoA without an MA.

driver

# 4

## During the movement

*The people responsible: driver, signaller*

### 4.1 Points and crossings

**driver**

If possible, you must make sure that any points, switch diamonds or swing-nose crossings are in the correct position for your train.

You must not pass over these points or crossings at more than 15 mph (25 km/h).

You may pass over points or crossings at up to 50 mph (80 km/h) if you have been given permission to do so:

- during emergency special working
- during temporary block working
- when making wrong-direction movements during single line working.

### 4.2 Train speed

#### a) Proceeding at caution

**driver**

Except as shown in sections 4.2 b) and 4.2 c), you must proceed at caution, even if the line appears to be clear.



### **b) Proceeding at up to 50 mph (80 km/h)**

You may travel at a speed not exceeding 50 mph (80 km/h), other than locations where you are told to proceed at caution, in any of the following circumstances.

- During single line working when travelling in the wrong direction.
- During modified working on single lines.
- During emergency special working.
- During temporary block working.
- During a failure of a block instrument on an absolute block line.

driver

### **c) Proceeding at up to permissible speed**

You may proceed at up to permissible speed, other than at locations where you are told to proceed at caution, in any of the following circumstances.

- During single line working when travelling in the right direction.
- On single lines where a token is provided and you have the token.
- During working by pilotman on single or bi-directional lines.

## **4.3 Level crossings**

You must approach at caution and check it is safe before passing over any:

- controlled level crossing
- automatic level crossing that the signaller has told you will not operate normally for the movement
- barrow or foot crossing with white-light indications that the signaller has told you will not operate normally for the movement.

driver

#### 4.4 Next stop signal ahead

**driver**

If you can see that the next stop signal ahead is displaying a proceed aspect, you must not assume the line ahead is clear for your train.

#### 4.5 Signaller protecting the movement

**signaller**

You must not work any signalling control that has been operated to protect the movement.

Until you are sure that the movement has passed clear of any points in the route involved, or the track circuit controlling these points, you must not allow any points that have been secured to be released.

# 5

## Emergency special working

*The people responsible: competent person, driver, signaller*

### 5.1 Authorising emergency special working

Emergency special working must be authorised and a competent person appointed to take charge of the arrangements.

### 5.2 Arranging emergency special working

You must arrange for emergency special working to apply between:

- a signal kept at danger on the approach to the affected area, and
- a signal, that can be replaced to danger from the signal box, at a suitable location beyond the affected area.

This suitable location must be a place easily identifiable by a driver, such as a station, level crossing, tunnel or junction.

An 'end of emergency special working' sign must be provided at the signal at the suitable location as soon as possible.

Emergency special working may be introduced before this sign is provided.



competent  
person

**competent person**

You must arrange for all points in the affected area for which you do not have the correct 'normal' or 'reverse' indication to be secured in the correct position by clip, scotch and padlock, or by other authorised means.

You must tell the signaller when this has been done.

Before you authorise emergency special working to start, you must agree with the signaller that the emergency special working section to be used is clear.

**signaller**

You must arrange for the signal at the entrance to the emergency special working section to be kept at danger.

If the entrance signal is to be placed to danger by operating a signal post replacement switch, you must arrange for this to be done.

You must make sure the affected area is protected by placing or keeping signals at danger. If another signaller controls a signal leading to the affected area, you must get that signaller to place or keep the signal at danger.

Before you allow any train movement to pass over points in the emergency special working section, you must stop any train on a line which could be fouled by the movement if the points have not been set correctly.

When one train has passed safely over the points concerned, you may allow other trains to pass those points on the same and other lines affected.

During the time emergency special working is in operation, you must not allow any points within the emergency special working section to be moved.

### 5.3 Before allowing a train to enter the emergency special working section

Before allowing a train to enter the emergency special working section, you must make sure that:

- the route has been set throughout the emergency special working section, using the route card if one is provided
- points within the emergency special working section for which you do not have the correct normal or reverse indication have been secured
- points within the emergency special working section that are working normally have been operated to the correct position using individual point controls and that you have the correct 'normal' or 'reverse' indication
- the line is clear up to and including the overlap of the signal at the exit from the emergency special working section
- the exit signal is at danger.

Before the 'end of emergency special working' sign is provided, and at all times where the exit signal protects a junction, you must also make sure that:

- the portion of line up to and including the overlap of the stop signal beyond the exit signal is clear and safe for the movement as required by the train signalling regulations
- all points within this portion of line are set for the approaching train to pass safely.

### 5.4 Authorising a train to enter the emergency special working section

When a train is to enter the emergency special working section, you must tell the driver that emergency special working has been introduced and the exit signal at the identifiable location to which the train must proceed. You must also tell the driver if the 'end of emergency special working' sign has been provided.

signaller

signaller

**signaller**

You must then dictate an Emergency Special Working Ticket (NR3190) to the driver.

If the train is the first to enter the emergency special working section, you must tell the driver to:

- approach all points, switch diamonds and swing-nose crossings at caution
- check, if possible, that they are in the correct position
- not pass over any of these points or crossings at more than 15 mph (25 km/h).

When you are sure the driver is aware of what is required, you must tell the driver to pass at danger the signal at the entrance to the emergency special working section.

You must record in the Train Register:

- the line affected
- the train reporting number
- the time you give permission to pass the entrance signal at danger.

You must not dictate an emergency special working ticket to the driver if a train is to enter the section as an assisting train.

## **5.5 At the entrance signal**

**driver**

When your train is to enter an emergency special working section, the signaller will tell you that emergency special working has been introduced and where the exit signal, to which your train may proceed, is located. The signaller will also tell you if the 'end of emergency special working' sign has been provided.

You must then complete an Emergency Special Working Ticket (NR3190) at the signaller's dictation.

If the train is being worked by more than one locomotive at the front, the driver in the leading cab must complete the emergency special working ticket and show it to every other driver. The driver in the leading cab must then retain the emergency special working ticket during the movement.

You must not complete an emergency special working ticket if your train is to enter the section to:

- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

When the signaller is sure that you are aware of what is required, you will be given authority to pass at danger the signal at the entrance to the emergency special working section.

You must tell the guard (if provided) that emergency special working is in operation.

You must operate the TPWS temporary isolation switch before entering the emergency special working section.

## 5.6 During the movement

You must carry out the instructions shown on your emergency special working ticket.

If you are told that your train is the first to enter the emergency special working section, you must:

- approach all points, switch diamonds and swing-nose crossings at caution
- check if possible that they are in the correct position
- not pass over any of these points or crossings at more than 15 mph (25 km/h).

You must not exceed 50 mph (80 km/h).

driver

driver

driver

You must proceed at caution if you have entered the emergency special working section to:

- examine the line
- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

### 5.7 When the train arrives at the exit signal

driver

When your train arrives at the exit signal, you must:

- stop
- immediately reinstate TPWS
- report to the signaller that your train has arrived complete
- cancel the emergency special working ticket by writing the word 'CANCELLED' across it
- obey the signaller's instructions for resuming normal working.

You must dispose of the emergency special working ticket as shown in your company's instructions.

signaller

When the driver of the train reports that it has arrived at the exit signal from the emergency special working section, you must confirm the train reporting number and tell the driver that the train will now be signalled forward normally.

As long as you are sure that the correct train has arrived at the exit signal, you may clear this signal for the train to proceed.

After you have observed the train occupy and clear the overlap of the exit signal or, where required, the overlap of the stop signal beyond the exit signal, you must record in the Train Register the time that the train has passed clear of the emergency special working section.



## 5.8 Ending emergency special working

You must not end emergency special working until the last train authorised to enter the emergency special working section is clear of the section.

Until you are told that the 'end of emergency special working' sign has been removed, you must stop and advise the driver of each train that is to approach it.

signaller

# 6

## Temporary block working

*The people responsible: competent person, driver, signaller*

### 6.1 Authorising temporary block working

Temporary block working must be authorised and a competent person appointed to take charge of the arrangements.

### 6.2 Arranging temporary block working

competent  
person

You must arrange for temporary block working to apply between:

- a signal kept at danger on the approach to the affected area
- a signal beyond the affected area that can be replaced to danger from the signal box.

You may divide the line over which temporary block working is to take place into two or more sections. In this case, the signals dividing the sections must be at locations easily identifiable by drivers.

Where it is necessary to move points within the area affected by the failure or disconnection, you must make sure that two temporary block working sections are established, the first ending at a stop signal on the approach to those points and the second starting at a stop signal beyond those points.

You must arrange for:

- all points within the temporary block section to be secured by clip, scotch and padlock, or by other authorised means
- a handsignaller to be positioned at the entrance and exit signals of the temporary block section.

competent  
person

You must tell the signaller when these arrangements have been made.

Before you authorise temporary block working to start, you must agree with the signaller that the temporary block section to be used is clear.

You must arrange for the signal at the entrance to the temporary block section to be kept at danger.

signaller

If the entrance signal is to be placed to danger by operating a signal post replacement switch, you must arrange for this to be done.

### **6.3 Before allowing a train to enter the temporary block section**

Before allowing a train to enter the temporary block section, you must be sure that:

signaller

- the route has been set and secured throughout the temporary block working section
- the temporary block working ticket carried by the driver of the previous train has been received by the handsignaller at the end of the section
- the line is clear up to and including 200 metres (220 yards) beyond the exit signal.

## 6.4 Authorising a train to enter the temporary block section

### signaller

You must tell the handsignaller at the entrance to the section to:

- fill in a Temporary Block Working Ticket (RT3184)
- read back the train reporting number entered on the ticket
- give the necessary instructions to the driver
- hand the ticket to the driver
- give the driver the authority for the train to enter the temporary block section.

If the train is the first to enter the temporary block section, you must arrange for the driver to be told to:

- approach all points, switch diamonds and swing-nose crossings at caution
- check, if possible, that they are in the correct position
- not pass over any of these points or crossings at more than 15 mph (25 km/h).

You must record the time that you instruct the handsignaller to issue the ticket to the driver.

You must not allow a temporary block working ticket to be issued if a train is to enter the section as an assisting train.

## 6.5 At the entrance signal

Before entering the temporary block working section you must have been given a Temporary Block Working Ticket (RT3184) which is valid for your train.

driver

If the train is being worked by more than one locomotive at the front, the handsignaller will show the ticket to each driver and then give the ticket to the driver in the leading cab.

You will not be given a temporary block working ticket if your train is to enter the section to:

- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

You must tell the guard (if provided) that temporary block working is in operation.

You must not move your train until the handsignaller shows a yellow handsignal.

You must operate the TPWS temporary isolation switch before entering the section.

## 6.6 During the movement

### driver

You must carry out the instructions shown on your temporary block working ticket.

If you are told that your train is the first to enter the temporary block section, you must:

- approach all points, switch diamonds and swing-nose crossings at caution
- check if possible that they are in the correct position
- not pass over any of these points or crossings at more than 15 mph (25 km/h).

You must not exceed 50 mph (80 km/h).

You must proceed at caution if you have to:

- examine the line
- assist a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove a train or vehicles that have proceeded without authority.

## 6.7 When the train arrives at the exit signal

When your train arrives at the exit signal, you must:

driver

- hand the temporary block working ticket to the handsignaller
- reinstate the TPWS.

You must not move your train, even if the signal clears, unless the handsignaller has given you permission to do so.

If you are required to pass this signal at danger, the handsignaller will authorise you to do this and show a yellow handsignal.

As long as you are sure the handsignaller is in possession of the correct temporary block working ticket, you may clear the exit signal for the train to proceed.

signaller

Where the exit signal is also the entrance signal to another temporary block working section, you must keep this signal at danger.

You must record the time that the handsignaller tells you the train complete with tail lamp has passed 200 metres (220 yards) beyond the exit signal.

# 7

## Passing an intermediate block home signal at danger

*The person responsible: driver*

### 7.1 If the driver cannot contact the signaller

**driver**

If you cannot contact the signaller by any means, you may pass an intermediate block home signal at danger on your own authority.

### 7.2 Before starting

**driver**

You must operate the TPWS train stop override button.

### 7.3 During the movement

**driver**

You must proceed at caution, even if the line appears to be clear.

You must not exceed 10 mph (15 km/h) through any tunnel.

You must pass over any automatic level crossing only if you are sure it is safe to do so.

### 7.4 At the next stop signal

**driver**

You must stop at the next stop signal and contact the signaller even if the signal is displaying a proceed aspect.

If the signal is displaying a proceed aspect and you are not able to contact the signaller by any means, you may proceed at caution towards the next stop signal or signal box.

If the signal is at danger, you must contact the signaller in the quickest possible way before proceeding.



# 8

## Passing a signal at danger controlled from a signal box that is closed

*The person responsible: driver*

### 8.1 Preconditions

You may only pass a controlled signal at danger on your own authority if you have confirmed that the controlling signal box is closed.

driver

### 8.2 Before starting

You must make sure that any points, switch diamonds or swing-nose crossings worked from the signal box that is closed are set correctly for the movement.

driver

You must operate the TPWS train stop override button.

### 8.3 During the movement

You must proceed at caution, even if the line appears to be clear.

driver

You must not pass over any points, switch diamonds or swing-nose crossings at more than 15 mph (25 km/h).

You must not exceed 10 mph (15 km/h) through any tunnel.

You must pass over any automatic level crossing only if you are sure it is safe to do so.

### **8.4 At the next stop signal**

**driver**

You must repeat the requirements of sections 8.2 and 8.3 of this module at any other controlled signal at danger that is operated from the same signal box.

### **8.5 At the next signal box**

**driver**

When you reach the next signal box, you must contact the signaller there at the first opportunity.

# 9

## Driver passing a signal at danger or an EoA without authority

*The people responsible: driver (or person controlling the movement), signaller*

### 9.1 Passing a signal at danger or an EoA without authority

If you pass a signal at danger or an EoA without authority, you must:

- stop the train immediately
- tell the signaller that the signal has been passed at danger or the EoA has been passed without authority.

You must answer the questions the signaller asks you.

You must not proceed until the signaller gives permission.

driver (or  
person  
controlling  
the  
movement)

driver

### 9.2 Seeing a SPAD indicator illuminated

If you see a SPAD indicator illuminated, you must:

- stop the train immediately
- contact the signaller.

You must carry out this instruction even if the SPAD indicator applies to a signal on another line.

driver (or  
person  
controlling  
the  
movement)

### 9.3 Signaller's actions

#### signaller

When a train has stopped after any of the following, the driver should contact you immediately.

- A signal has been passed at danger.
- A train has been subject to an ERTMS trip.
- A train has passed an EoA without authority.
- Any other unauthorised movement has taken place.

You must make sure the driver is aware of the circumstances.

If a train is subject to an ERTMS trip, you do not need to carry out the rest of this instruction if either of the following applies:

- you and the driver are sure the trip was not caused by the train exceeding its movement authority
- the tripping was caused by a failure of the trackside equipment.

■ You must get the driver's answers to the questions on form NR3189.

You may allow the train to be moved to a more convenient location to complete the form as long as:

- the driver is prepared to make the movement
- a more suitable location has been agreed with Operations Control.

You must:

- • complete the rest of the form
- report the incident and send the form electronically, or dictate it, to Operations Control.

You must not allow the train involved to proceed until authorised by Operations Control. If the driver reports that the SPAD resulted from exceptional railhead conditions, you must also carry out the instructions in section 28 of module TW1 *Preparation and movement of trains*.

If you have any doubt about the correct working of any signal involved in a SPAD, you must treat it as defective and tell Operations Control.

signaller

You must also tell Operations Control about, and treat as defective, any points that may have been 'run through' during the incident, whether or not damage is obvious.

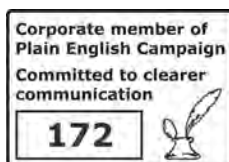
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# GERT8000-S7 Rule Book



## Observing and obeying signalling indications Train warning systems Reporting signalling failures and irregularities Issue 3






## Module S7

September 2017  
Comes into force 02 December 2017



## Conventions used in the Rule Book

	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	
A white i in a blue box indicates that there is information provided at the bottom of the page.	
A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.	

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**For information regarding the Rule Book, contact:  
[enquirydesk@rssb.co.uk](mailto:enquirydesk@rssb.co.uk)**

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**Rail Safety and Standards Board Limited**

You will need this module if you carry out the duties of a:

- driver
- person controlling train movements
- shunter
- signaller.

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# 1 General duties

*The person responsible: driver (or person controlling train movements)*

## 1.1 Obeying signals, the ERTMS driver machine interface (DMI) and block markers

### a) Trains on which ERTMS is operating

driver

You must obey the indications on the driver machine interface (DMI), except when it is necessary as shown in the rules to travel at a lower speed than that indicated.

On lines with lineside signals if you have received an MA that extends beyond a signal at danger, you must stop the train as quickly as possible and immediately tell the signaller.

You must observe ERTMS cab signalling boards.

### b) Trains on which ERTMS is not operating

driver (or person controlling train movements)

You must obey each signal which applies to the movement of your train.

## 1.2 Train signalled towards a wrong route

If a train has been signalled towards a wrong route, you must:

- stop the train as soon as it is possible to do so safely
- tell the signaller.

driver (or person controlling train movements)

### 1.3 Signals that control the exit from sidings

#### driver

If the signal applies to more than one siding and there are other trains standing in these sidings, you must not move forward and foul any of these sidings when the signal clears, until the person in charge of movements gives you permission to do so.

### 1.4 Entering an ERTMS area from a siding

#### driver

While waiting for an MA or other authority at the exit from sidings, if possible, you must not allow the front of the train to stand foul of any other siding. This applies unless the person in charge of movements gives you permission to do so.

### 1.5 Signal not showing or not showing correctly

#### driver (or person controlling train movements)

If a signal is not showing or not showing correctly, you must treat:

- a stop signal as being at danger
- a distant signal as being at caution
- a position-light signal, subsidiary signal or shunting signal as being at normal.

You must do this if any of the following applies.

- No signal is shown when there should be one.
- The aspect of a colour light signal is not clear or obvious.
- There is no light at all.
- A white light is showing instead of a red, yellow or green.
- A semaphore signal is not showing correctly.
- One light is showing at a position-light signal or subsidiary signal when there should be two.



## 1.6 Train stopped or nearly stopped at a signal at danger

If you have stopped or nearly stopped at either of the following types of signal at danger and that signal changes to a proceed aspect or indication, you must be prepared to stop at the next stop signal worked by the same signalbox.

driver

- A colour light signal that cannot display a yellow aspect.
- A semaphore signal.

This does not apply to the signal controlling the entrance to an intermediate block section.

## 2

**Starting a train after stopping**

*The person responsible: driver (or person controlling train movements)*

**2.1 Train stopped on the approach to a signal or end of authority (EoA)**

**driver (or person controlling train movements)**

If you have to stop the train on the approach to a signal that is showing 'proceed', you must make sure the signal still shows 'proceed' before you re-start the train.

If you have to stop a train on which ERTMS is in operation before the end of the movement authority (MA), you must make sure you still have a valid MA to proceed before you re-start the train.

If the train cannot continue, you must tell the signaller immediately.

**2.2 Train stopped before the whole train has passed a signal that is showing 'proceed'**

**driver (or person controlling train movements)**

If you have stopped the train before the whole train has passed a signal that is showing 'proceed', you may act on the aspect or indication that was being displayed when you passed the signal. This applies unless you are instructed that the train is not to proceed.

# 3

## Movements made on the authority of a position-light, subsidiary or shunting signal

*The person responsible: driver (or person controlling train movements)*

### 3.1 Passenger train at a position-light or semaphore shunting signal

Unless authority is published or you are instructed to do so by the signaller or another person acting on the signaller's instructions, you must not proceed with a passenger train on the authority of:

driver

- a semaphore shunting signal
- a position-light signal.

However, you may proceed with a passenger train on the authority of a position-light or semaphore subsidiary signal if you are entering a permissive platform line.

### 3.2 Route indication not shown

If a position-light or subsidiary signal is cleared but the normal route indication is not shown, you must:

- make sure the movement is made at caution
- be prepared to stop before you reach any obstruction.

driver (or person controlling train movements)



# 4

## When a train or shunting movement is required to reverse

*The person responsible: driver (or person controlling train movements)*

### 4.1 Authority for the movement to be made

#### a) Trains on which ERTMS is NOT operating

When a train or shunting movement is required to reverse, you must only allow the movement to take place when one of the following applies.

- The signal controlling the movement is cleared.
- The signaller gives you permission to move towards a signal which will control the further movement of the train.
- The leading end of the train is standing beyond the signal controlling the movement and the signal cannot be cleared, and the movement is to proceed in accordance with section 4.2 b).
- There is no signal for the movement and the signaller gives you permission to make a wrong-direction movement.

**driver (or  
person  
controlling  
train  
movements)**

#### b) Trains on which ERTMS is operating

When a train or shunting movement is required to reverse, you must only allow the movement to take place when one of the following applies.

- An MA is received.
- There is no signalled route for the movement and the signaller gives you permission to make a wrong-direction movement.



# 5 Automatic warning system (AWS)

*The people responsible: driver, signaller*

## 5.1 Cancelling an AWS warning indication

You must immediately cancel each warning indication and:

- obey the signal aspect or indication, or
- control the speed of the train to no more than the speed shown on the warning board, emergency indicator or other indicator.

If you do not immediately cancel the AWS warning indication, the brakes will be automatically applied. In this case you must:

- make sure the train comes to a stand
- tell the signaller what has happened.

If you are both sure that it was not TPWS on track equipment that caused the brake application, the train can proceed normally.

driver

driver,  
signaller

## 5.2 AWS warning when a semaphore distant signal shows clear

You must treat a semaphore distant signal as being at caution if you receive an AWS warning indication when the signal is showing a clear indication.

You do not need to treat the signal as being at caution if:

- the signal changes to a clear indication after the train has passed over the AWS magnet
- a warning board or emergency indicator is positioned at the signal.

driver





# 6 Train protection and warning system (TPWS)

*The person responsible: driver, signaller*

## 6.1 TPWS operation other than approaching buffer stops

If an automatic brake application is initiated as a result of the operation of TPWS, you must:

driver

- acknowledge the TPWS brake demand
- make sure the train comes to a stand
- tell the signaller what has happened
- carry out the instructions you are given by the signaller
- not make any further movement of the train until instructed.

If you and the signaller are sure that TPWS on track equipment did not cause the brake application, the train can proceed normally.

## 6.2 TPWS operation when approaching buffer stops

If an automatic brake application is initiated as a result of the operation of TPWS when approaching buffer stops, you must:

driver

- acknowledge the TPWS brake demand
- after the train has come to a stand, move forward to the normal stopping point if it is safe to do so
- tell the signaller what has happened
- carry out the instructions you are given by the signaller.

### 6.3 Temporary isolation of TPWS train equipment

driver

You must only isolate TPWS equipment when:

- you are authorised in the rules
- you are specifically authorised due to a TPWS fault.

### 6.4 TPWS train stop override

driver

You must only use the TPWS train stop override when authorised in the rules.

### 6.5 TPWS operation other than a SPAD

signaller

When a train is stopped by the TPWS, the driver will contact you.

If you and the driver are sure the TPWS was not activated by on track equipment, the train may be allowed to proceed normally.

If TPWS was activated by on track equipment, you must:

- get the driver's answers to the questions on form Activation of TPWS (RT3188)
- complete the rest of the form
- report the incident and send the form electronically, or dictate it, to Operations Control.

You may allow the train to proceed to a more convenient place so that you can get the driver's answers to the questions.

You may allow the train involved to continue its journey when all the necessary information has been obtained and the driver is fit to continue.

If you have any doubt about the correct working of any TPWS on track equipment involved in a TPWS activation, you must treat it as defective and tell Operations Control.

# 7

## Reporting signalling failures and irregularities

*The people responsible: driver, shunter, signaller*

### 7.1 Signalling equipment

You must tell the signaller immediately, stopping the train specially if necessary, if you become aware of a signalling failure or irregularity on any line. This may include:

driver

- the failure in the working of a signal
- an irregularity in the working of a signal
- an irregular aspect sequence
- a missing block marker or no signal shown when there should be one
- the aspect of a colour light signal not being distinct or obvious
- a semaphore signal not showing correctly
- a white light showing instead of a red, yellow or green
- a failure or irregularity in the working of the on-board ERTMS equipment
- an MA beyond a signal at danger
- a signal showing a proceed aspect indication but no MA received
- a signal or associated indicator difficult to see because of sunlight, streetlights or reflections
- a signal difficult to see because of trees, foliage or other obstructions.

However, you must tell the signaller at the first opportunity without causing delay if you see any failures or irregularities of the following signals which apply to another line.

- A position-light signal.
- A subsidiary signal.
- A shunting signal.

driver

You do not need to stop the train specially to do this.

If you become aware of an error message on your ERTMS DMI which has not caused a brake application, you do not have to tell the signaller immediately but must do so at the first convenient opportunity.

## 7.2 Boards and indicators

driver

You must tell the signaller at the first opportunity if any of the following is missing, difficult to see, or unlit when it should be lit.

- A limit of shunt signal or indicator.
- A shunt entry board.
- A 'start of cab signalling' board.
- An 'end of cab signalling' board.
- A stop board.
- Any other lineside board or sign.

You do not need to stop the train specially to do this.

signaller

You must tell Operations Control. If possible you must tell the driver about the defective limit of shunt signal or indicator, or stop board before allowing a movement towards it.

## 7.3 Signals difficult to see because of sunlight, streetlights or reflections

signaller

If a driver reports that a signal is difficult to see because of sunlight, streetlights or reflections, you must:

- tell Operations Control
- tell the driver of the next approaching train what has happened
- instruct that driver to report the state of the signal
- signal the train normally.

If the driver you have instructed to check the signal reports to you that the signal is not difficult to see, you may signal the following trains normally.

signaller

However, if that driver reports that the signal is difficult to see because of sunlight, streetlights or reflections, you must treat the signal as defective.

## **7.4 Signals, lineside boards or signs becoming difficult to see because of trees, foliage or other obstructions**

If a signal, lineside board or sign is becoming difficult to see because of trees, foliage or other obstructions, you must tell the signaller at the first convenient opportunity. You do not need to stop the train specially to do this.

driver

You must tell Operations Control but you do not need to treat the signal, board or sign as being defective.

signaller

## **7.5 Shunting movements**

If you become aware of signalling failures or irregularities when you are shunting, you must immediately tell the driver. You do not need to tell the signaller.

shunter

## **7.6 ERTMS failures or irregularities**

If a driver reports an ERTMS failure or irregularity, you must:

signaller

- tell Operations Control
- tell the driver of the next train on which ERTMS is in operation what has happened
- instruct that driver to report whether the expected ERTMS indications are received
- signal the train normally.

**signaller**

If the driver reports back that the ERTMS signalling is working normally, you may signal following trains normally.

If the driver reports that the expected ERTMS indications were not received, you must treat the signalling equipment concerned as defective.

## 7.7 Reporting a signal/AWS/ERTMS/TPWS failure or irregularity

### a) Completing form RT3185

**driver,  
signaller**

When a signal, AWS, ERTMS or TPWS failure or irregularity is reported, you must both complete form RT3185 with all the required details.

Completed RT3185 forms must be handed in as shown in your company instructions.

### b) Reporting to Operations Control

**signaller**

You must tell Operations Control and make a suitable entry in the Train Register.

### c) Exceptions

**signaller**

You do not need to complete form RT3185 if:

- the fault is clearly a right-side failure, or
- you can explain the failure or irregularity to be a right-side failure and you are fully aware of the circumstances of the failure.

You must still tell Operations Control and make a suitable entry in the Train Register.

You do not need to immediately complete form RT3185 if the signaller:

driver

- can tell you the fault or irregularity is clearly a right-side failure, or
- can explain why it is a right-side failure and can confirm the circumstances of the failure.

You must then complete RT3185 at the first convenient opportunity.

#### **d) Reporting AWS faults**

You must immediately tell the signaller, stopping the train specially if necessary, if:

driver

- you receive an AWS clear indication when a warning indication should have been received (fault code 5)
- you do not receive any AWS indication when a warning indication should have been received (fault code 7).

Other AWS faults where the failure is to give a clear indication must be reported to the signaller at the first convenient opportunity.

# 8 | ERTMS failures or irregularities

*The people responsible: driver, signaller*

## 8.1 If the train fails to transition when entering an ERTMS area

### a) On a line where lineside signals are not provided

driver

If the train fails to transition automatically after the train has passed the 'start of cab signalling' board, you must:

- make sure the train comes to a stand
- tell the signaller.

driver,  
signaller

You must then carry out the instructions shown in module TW5 *Preparation and movement of trains Defective or isolated vehicles and on-train equipment*.

driver

### b) On a line where lineside signals are provided

If the train fails to transition automatically after the train has passed the 'start of cab signalling' board, you must check that the train is operating at a ERTMS level compatible with lineside signals and continue to obey signals.

You must tell the signaller at the first convenient opportunity that the train did not transition unless you had been advised of a reason why the train might not transition.

If the train is not operating at a ERTMS level compatible with lineside signals, you must:

- make sure the train comes to a stand
- tell the signaller.

driver,  
signaller

You must then carry out the instructions shown in module TW5 *Preparation and movement of trains Defective or isolated vehicles and on-train equipment*.



## 8.2 If the train fails to transition when leaving an ERTMS area

If the train fails to transition, you must:

- make sure the train comes to a stand
- tell the signaller.

You must then carry out the instructions shown in module TW5 *Preparation and movement of trains Defective or isolated vehicles and on-train equipment*.

driver

driver,  
signaller

## 8.3 Train receiving a trip

If the train is tripped and has been brought to a stand, you must:

- acknowledge the trip
- not move the train
- tell the signaller what has happened
- carry out the instruction you are given by the signaller.

You must establish the reason for the trip and carry out the appropriate rules and or instructions before authorising the train to proceed.

driver

signaller

## 8.4 Resuming normal working

If, following a failure of ERTMS, it is again possible to return to normal working, you must inform the driver.

signaller

## Notes





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**GE/RT8000/SP**  
**Rule Book**

Module SP

# Speeds

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You will need this module if you carry out the duties of a:

- driver
- signaller
- train preparer.

Conventions used in the Rule Book	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	driver
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

## Section

# 1

## Definitions

# 2

## Permissible speeds

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**2.2** Locomotives running light or hauling trains

# 3

## Temporary speed restriction (TSR)

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**3.2** Normal arrangements with lineside equipment

**3.3** Arrangements on ERTMS lines

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## **4**      **Emergency speed restriction (ESR)**

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- 4.2**    Driver's actions
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## **5**      **Defective or missing ESR or TSR equipment**

- 5.1**    Speed restriction boards or indicators missing or incorrect
- 5.2**    Speed restriction boards or indicators that are, or are becoming, difficult to see
- 5.3**    Defective or missing emergency indicator

## **6**      **Blanket speed restrictions**

## 1

## Definitions

### Blanket speed restriction

A speed restriction which applies to an area rather than a geographical location.

### Differential speeds

If there is a differential permissible speed, or a differential temporary or emergency speed restriction, the higher speed applies to passenger, parcels and postal trains (loaded or empty) and light locomotives. The lower speed applies to all other trains.

### Emergency speed restriction

A speed restriction on an ERTMS line without lineside signals which has been imposed without ERTMS supervision.

A speed restriction on an ERTMS line with lineside signals which:

- has been imposed without ERTMS supervision
- has not been published in the *Weekly Operating Notice*
- has been published, but the times, speed or limits are different from those published
- has been imposed again after being withdrawn early
- has been shown in an amendment to the *Weekly Operating Notice*.

On any other line a speed restriction which:

- has not been published in the *Weekly Operating Notice*
- has been published, but the times, speed or limits are different from those published
- has been imposed again after being withdrawn early
- has been shown in an amendment to the *Weekly Operating Notice*.

### **Enhanced permissible speeds**

These speeds apply to class 221 and class 390 trains in tilting mode. Where differential signs are provided, the bottom figure shows the higher speed and applies to class 390 trains in tilting mode. The top figure applies to class 221 trains in tilting mode.

### **Permissible speed**

The speed which is published in Table A of the *Sectional Appendix*.

### **Temporary speed restriction**

A speed restriction on an ERTMS line without lineside signals which has been imposed by means of ERTMS supervision.

A speed restriction on an ERTMS line with lineside signals which has been imposed by means of ERTMS supervision and the details of which have been published in the *Weekly Operating Notice*.

On any other line a speed restriction, the details of which have been published in the *Weekly Operating Notice*.

# 2

## Permissible speeds

*The people responsible: driver, train preparer*

### 2.1 Permissible speeds and enhanced permissible speeds

#### driver

You must:

- control the speed of your train to no more than the permissible speeds, or any enhanced permissible speed that applies to your train, on all sections of the line
- make sure the whole of your train has passed clear of a section of line with a lower speed before increasing your speed.

Where there are differential permissible speeds, you must control the speed of your train to no more than the speed that applies to that train.

Where permissible speeds are shown with letters, they apply only to the trains shown by the letters. You can allow your train to travel at no more than that speed, providing it is a train of the type to which the permissible speed applies.

This is what the letters mean.

<b>HST</b>	High speed trains
<b>MU</b>	Multiple-unit trains
<b>DMU</b>	Diesel multiple-unit trains
<b>EMU</b>	Electric multiple-unit trains
<b>SP</b>	Sprinter multiple-unit trains
<b>CS</b>	Class 67 locomotives

The classes of train that can travel at these speeds are shown in the *Sectional Appendix*.

## 2.2 Locomotives running light or hauling trains

You must make sure that locomotive-hauled trains in the formation shown, or locomotives running light, do not exceed the speeds shown in the table below where the permissible speed is more than 60 mph (95 km/h).

Train formation	Permissible speed	
	90 mph (145 km/h) or above	85 mph (135 km/h) or less
Any number of locomotives running light, or  one or two locomotives with one, two or three coaching stock vehicles, or  three or more locomotives and any number of coaching stock vehicles.	75 mph (120 km/h)	60 mph (95 km/h)

You must make sure that locomotive-hauled trains conveying any mark 1 or mark 2 coaching vehicles, postal or parcels vehicles, or mark 3 sleeper coaching stock vehicles do not exceed the speeds shown in the table below where the permissible speed is more than 75 mph (120 km/h).

Train formation	Permissible speed		
	100 mph (160 km/h) or above	90 or 95 mph (145 or 155 km/h)	80 or 85 mph (130 or 135 km/h)
A locomotive with four, five or six vehicles, or  two locomotives and from four to 10 vehicles.	90 mph (145 km/h)	80 mph (130 km/h)	75 mph (120 km/h)

You do not need to apply any of the restrictions in this section to some classes of locomotives, if shown in your train operating company instructions.

driver,  
train  
preparer

# 3

## Temporary speed restriction (TSR)

*The person responsible: driver*

### 3.1 Driving over a TSR

**driver**

When driving over a TSR, you must:

- control the speed of your train to no more than the speed shown on the warning board or the speed shown on the DMI
- make sure the whole of your train has passed clear of a section of line with a lower speed before increasing your speed.

Where there are differential speeds shown on the warning board you must control the speed of your train to no more than the speed that applies to that train.

### 3.2 Normal arrangements with lineside equipment

The following equipment is used in connection with a TSR.

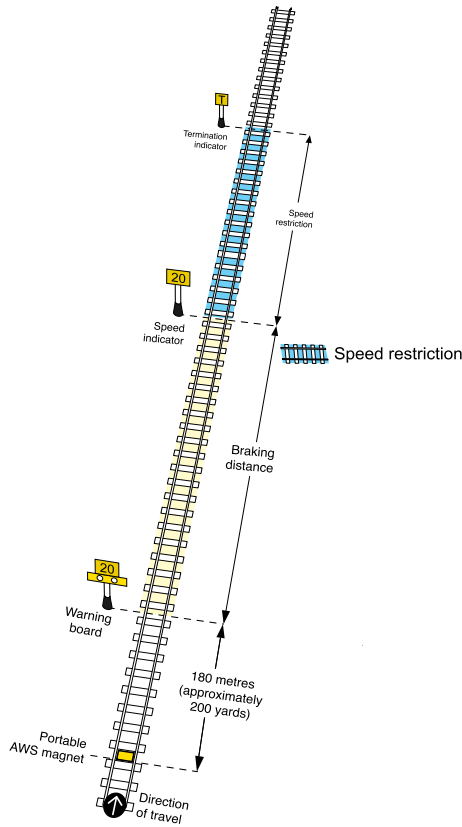
A portable AWS magnet is normally placed 180 metres (approximately 200 yards) on the approach to the warning board.

A warning board is placed on the approach to the speed indicator. The distance between the warning board and the speed indicator is normally the appropriate braking distance for the permissible speed at that location.

A speed indicator is placed at the start of the TSR.

A termination indicator is placed at the end of the TSR.

Diagram SP.1 on page 9 shows a normal TSR.



**TSR normal arrangements**  
**Diagram SP.1**

signaller

### 3.3 Arrangements on ERTMS lines

On lines where lineside signals are not provided, AWS magnets and lineside equipment are not provided.

On lines where lineside signals are provided, the arrangements for the provision of AWS magnets and lineside equipment also apply.

You must make sure that planned TSRs are programmed into the system in enough time before they become active.

If available, a second competent person must check that each TSR is correctly:

- programmed into the system
- activated at the required time
- removed or changed at the required time.

### 3.4 Where there is a fixed AWS magnet

Diagram SP.2 on page 11 shows a TSR where there is already a fixed AWS magnet associated with a:

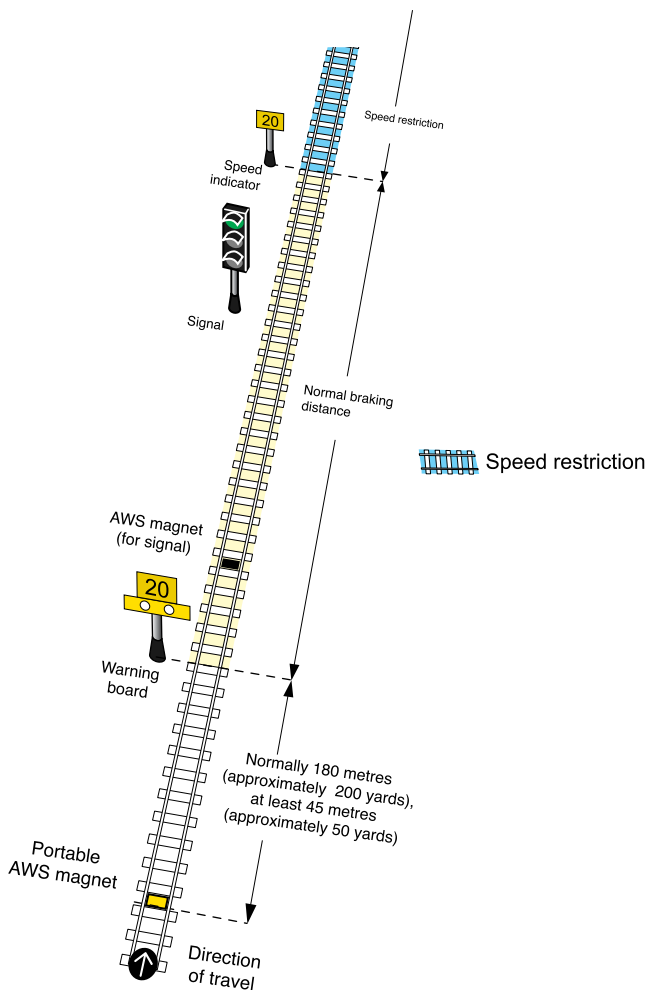
- signal
- permissible speed indicator
- level crossing warning board.

The warning board is not placed between a fixed AWS magnet and the equipment to which it applies.

If possible, the portable AWS magnet and the warning board are kept at the normal distance apart, but may be placed at a reduced distance of not less than 45 metres (approximately 50 yards).

The warning board may be placed at the signal, in which case the associated electro-magnet is disconnected and a temporary AWS magnet is not provided. The driver will always receive an AWS warning indication, no matter what aspect is displayed at the signal.





**Where there is already a fixed AWS magnet**

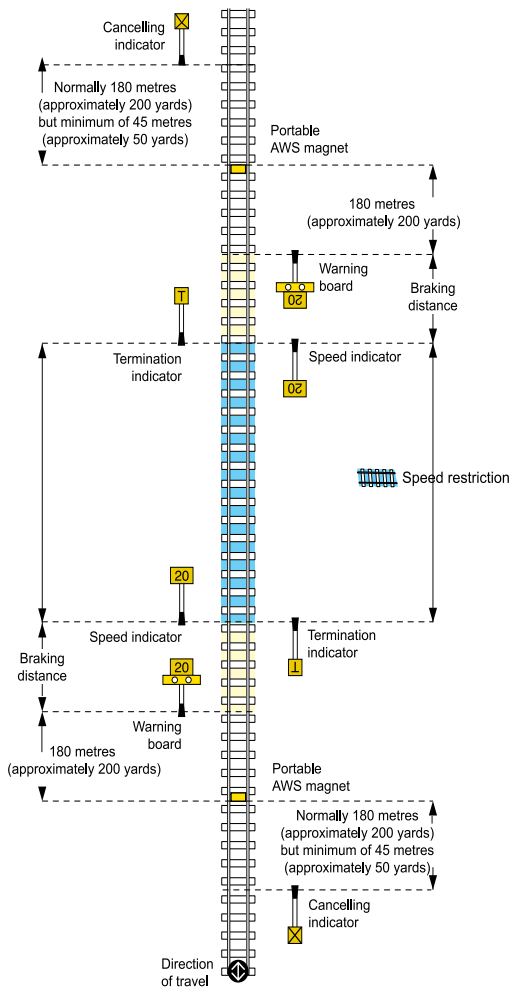
**Diagram SP.2**

### **3.5 TSRs on single and bi-directional lines**

On a single or bi-directional line, equipment for a TSR is provided in both directions.

Diagram SP.3 on page 13 shows an example of the arrangements.

A cancelling indicator is normally placed 180 metres (approximately 200 yards) beyond the AWS magnet at each end of the restriction facing trains that have already passed through the speed restriction, but may be placed at a reduced distance of not less than 45 metres (approximately 50 yards).



Single and bi-directional lines

Diagram SP.3

## 3.6 Consecutive TSRs

### a) If there is a lower speed restriction beyond a higher speed restriction

If there are two TSRs with a lower speed restriction immediately beyond a higher speed restriction, a termination indicator is not placed at the end of the higher speed TSR. Instead a speed indicator is placed showing the speed for the lower speed TSR.

Diagram SP.4 a) on page 15 shows two TSRs like this.

### b) If there is not sufficient distance to position the boards and indicators in the normal way

If there is not sufficient distance to position the warning boards and indicators in the normal way, then:

- the second warning board is placed at least 45 metres (approximately 50 yards) beyond the first warning board
- the second portable AWS magnet is placed immediately beyond the first warning board.

Diagram SP.4 b) on page 15 shows two TSRs like this.

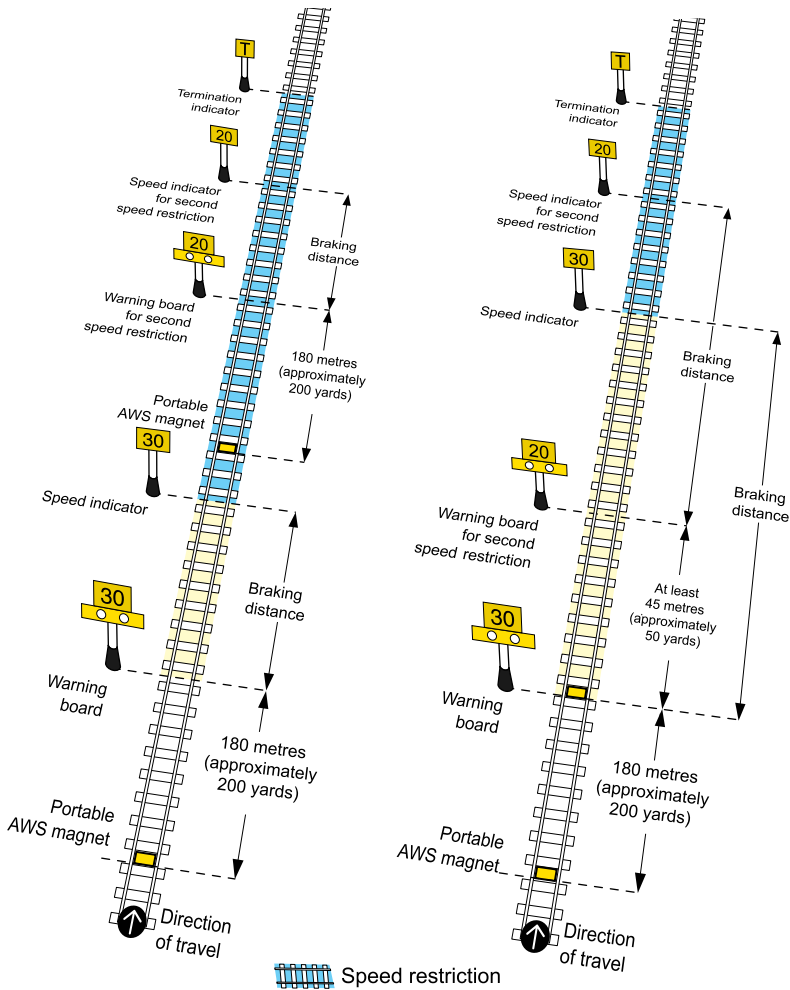
### c) If there is a higher speed restriction beyond a lower speed restriction

If there are two TSRs with a higher speed restriction immediately beyond a lower speed restriction, a warning board is not provided for the second TSR. A termination indicator is not placed at the end of the lower speed TSR. Instead a speed indicator is placed showing the speed for the higher speed TSR.

Diagram SP.5 on page 16 shows two TSRs like this.

### d) Termination indicator

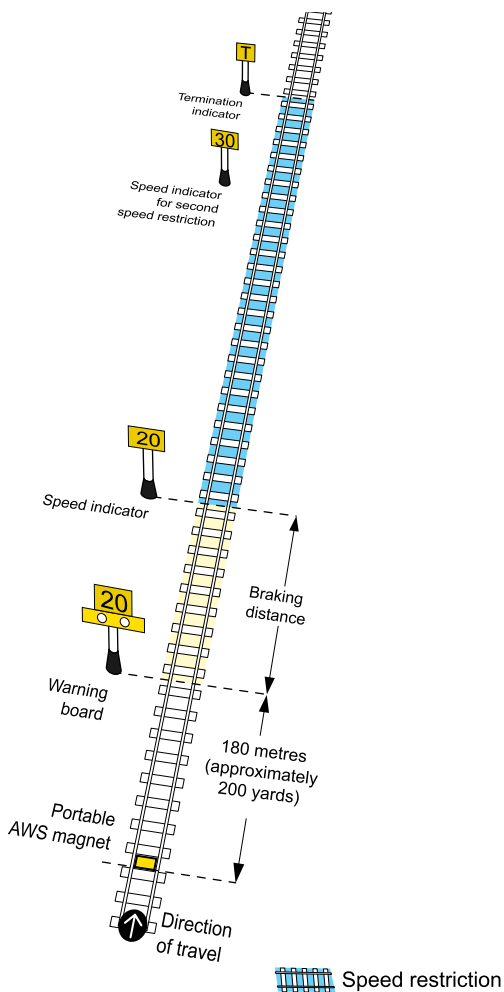
Only one termination indicator is provided. This is located at the end of the second TSR.



**Consecutive TSRs**

**Diagram SP.4 a)**

**Diagram SP.4 b)**



**Consecutive TSRs**  
**Diagram SP.5**

## 3.7 One TSR inside another

### a) If there is a lower speed restriction inside a higher speed restriction

If there are two TSRs with the lower speed restriction inside the higher speed, equipment is provided in the normal way except that the termination indicator is not placed at the end of the lower speed TSR. Instead a speed indicator is placed showing the speed of the higher speed TSR.

Diagram SP.6 a) on page 18 shows outer and inner TSRs like this.

### b) If there is not enough distance to position the boards and indicators in the normal way

If there is not enough distance to position the warning boards and indicators in the normal way, then:

- the second warning board is placed at least 45 metres (approximately 50 yards) beyond the first warning board
- the second portable AWS magnet is placed immediately beyond the first warning board.

Diagram SP.6 b) on page 18 shows two TSRs like this.

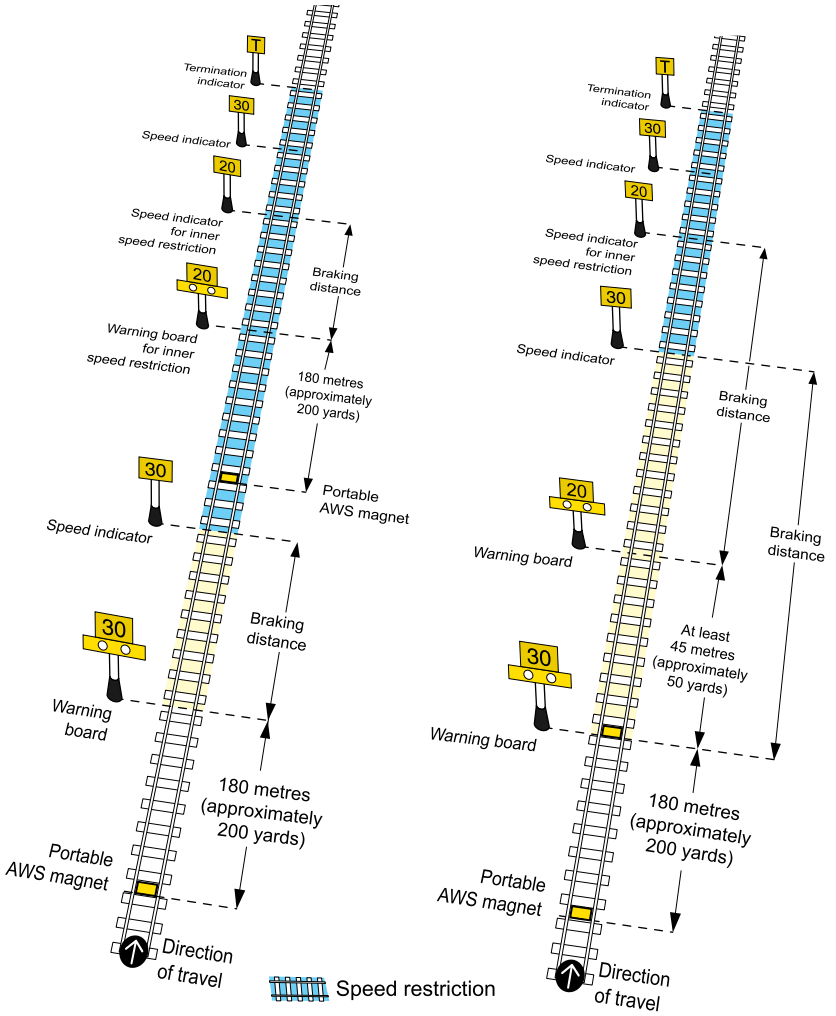
### c) If there is a higher speed restriction inside a lower speed restriction

If there are two TSRs with the higher speed restriction inside the lower speed, a warning board is not provided for the higher speed TSR. A termination indicator is not placed at the end of the lower speed TSR. Instead a speed indicator is placed showing the speed for the higher speed TSR.

Diagram SP.7 on page 19 shows two TSRs like this.

### d) Termination indicator

Only one termination indicator is provided. This is located at the end of the second TSR.

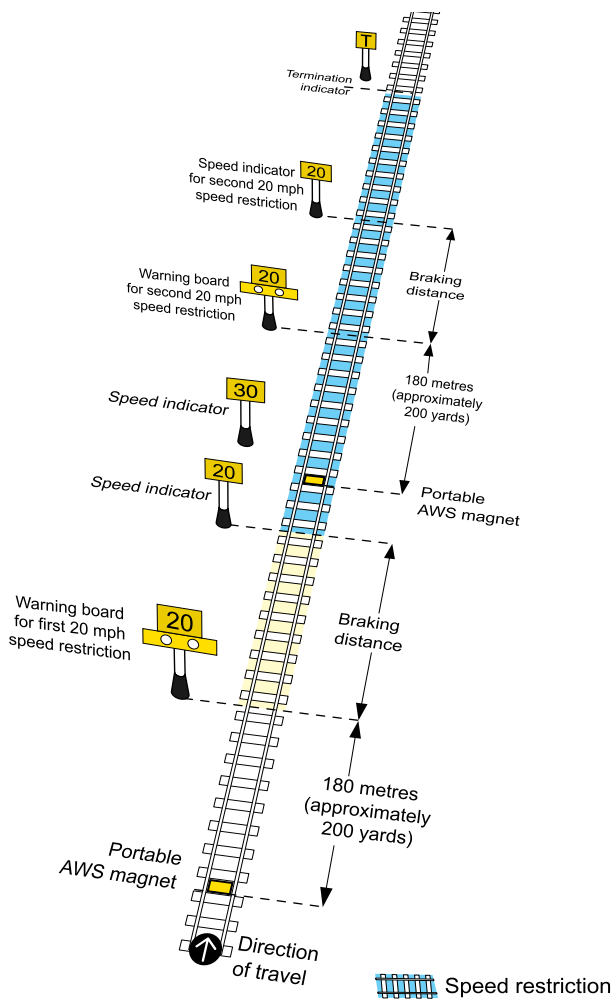


**One TSR inside another**

**Diagram SP.6 a)**

**Diagram SP.6 b)**





**One TSR inside another**

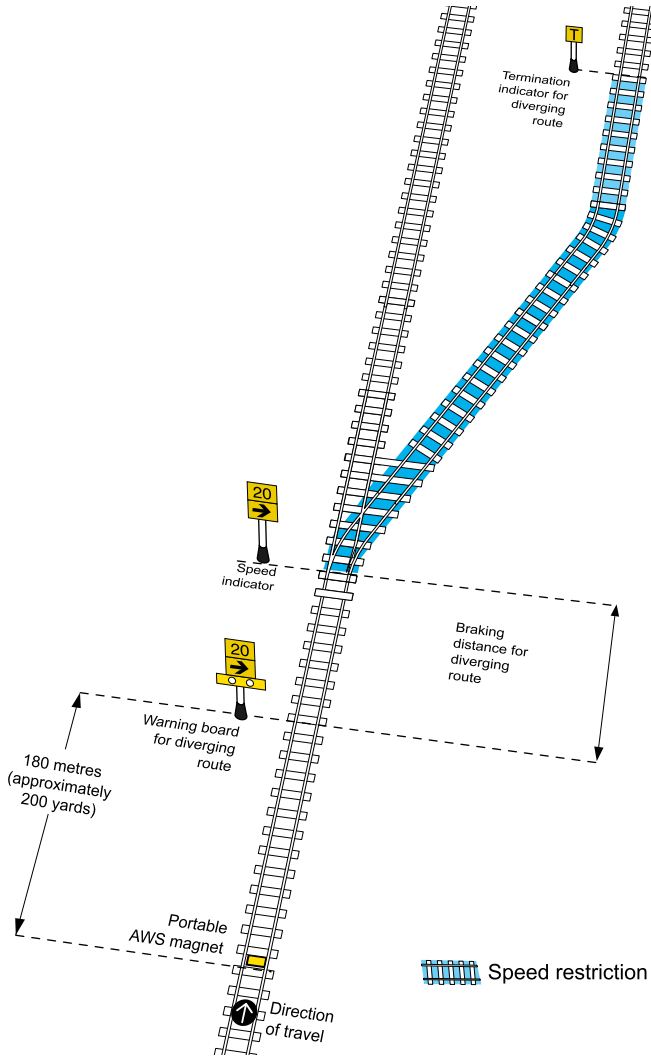
**Diagram SP.7**

## 3.8 TSRs at a diverging junction

### a) TSR on diverging route only

Diagram SP.8 on page 21 shows a TSR on the diverging route only.

Equipment is provided in the normal way except that the warning board and speed indicator have a direction indicator to show that the TSR applies to the diverging route only.



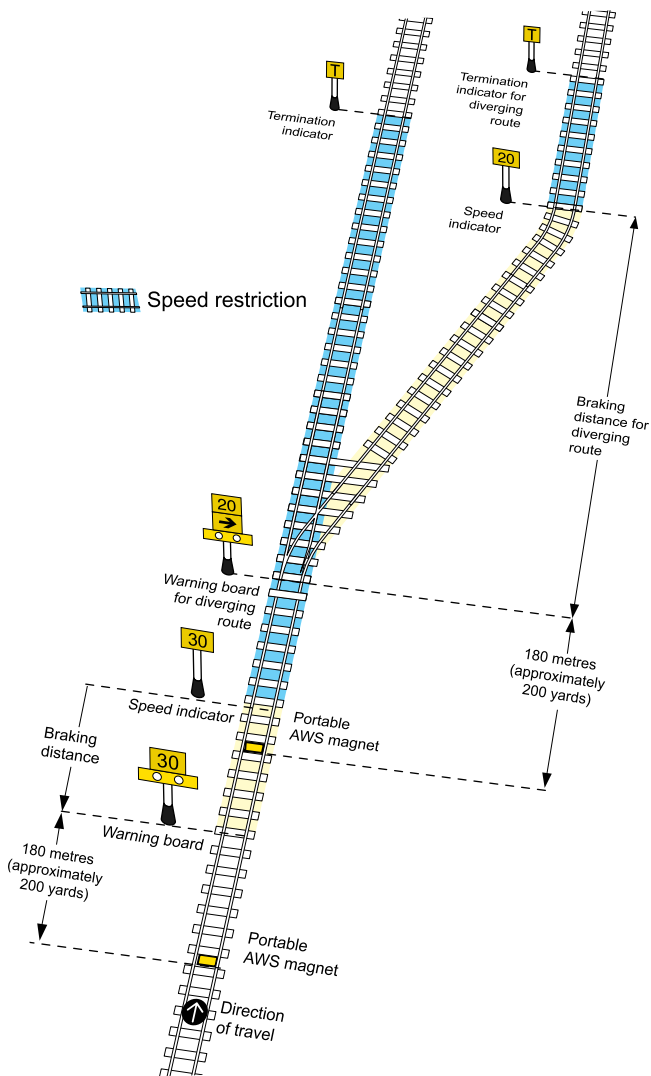
**TSR on diverging route only**  
**Diagram SP.8**

**b) TSR on one route commences beyond the junction**

Diagram SP.9 on page 23 shows a TSR on one route which commences before the diverging junction, and a TSR on the other route commences beyond the junction.

The warning boards for both TSRs are positioned on the approach to the junction, but only the speed indicator on the diverging route is beyond the junction.

Equipment is provided in the normal way except that one warning board has a direction indicator to show that the TSR applies to the diverging route only.



**TSR on one route commences beyond the junction**

**Diagram SP.9**

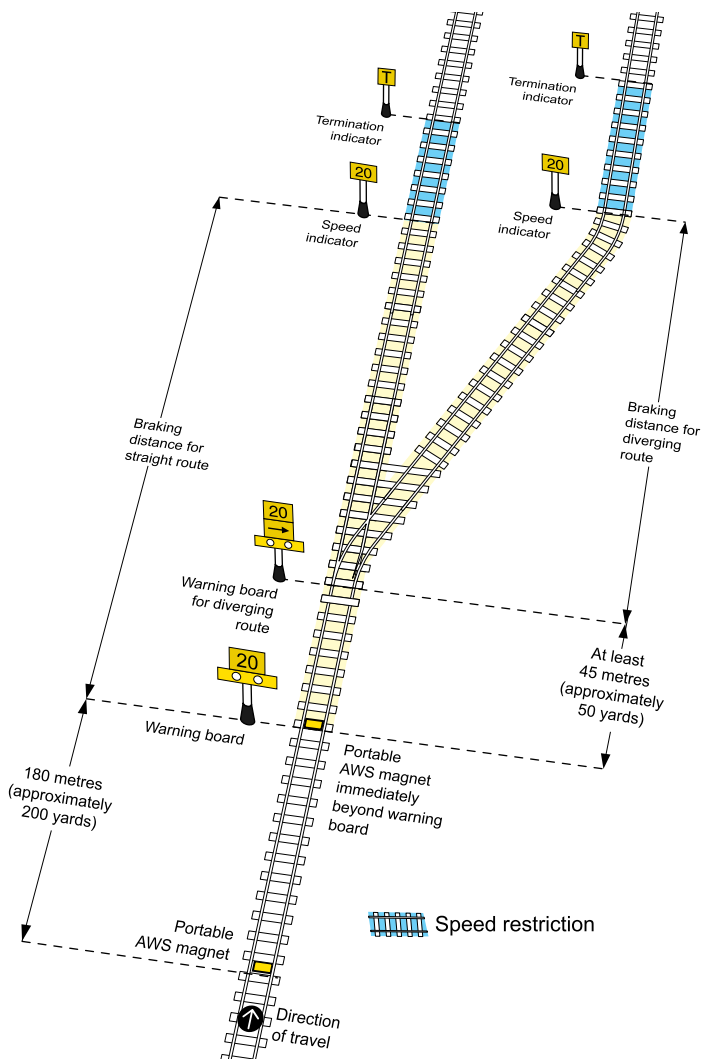
### **c) TSRs on both routes commencing beyond the junction**

Diagram SP.10 on page 25 shows TSRs on both routes which both commence beyond a diverging junction. The warning boards for both TSRs are positioned on the approach to the junction, but the speed indicators on both routes are beyond the junction.

Equipment is provided using the normal arrangement except that one warning board has a direction indicator to show that the TSR applies to the diverging route only.

However, if there is not sufficient distance to position the warning boards and indicators in the normal way, then:

- the warning board for the straight route is positioned on the approach side of the second warning board
- the second warning board is placed at least 45 metres (approximately 50 yards) beyond the first warning board
- the second portable AWS magnet is placed immediately beyond the first warning board.



**TSR on both routes commencing beyond the junction**

**Diagram SP.10**

### 3.9 TSRs beyond a station or siding connection

These instructions apply to a TSR if the warning board is on the approach to a:

- passenger station
- connection from a siding
- connection from a dead-end platform line.

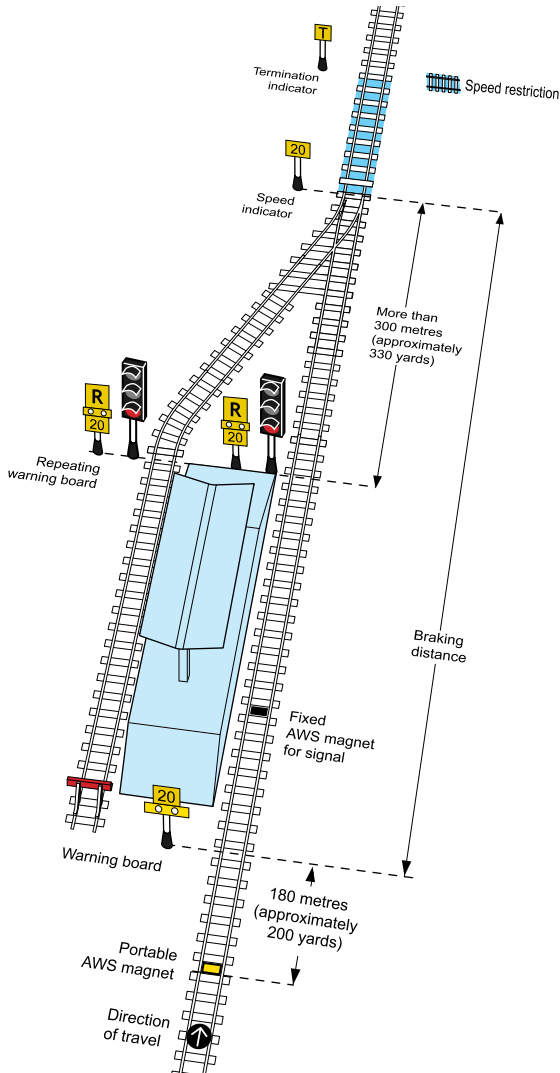
If the speed indicator is more than 300 metres (approximately 330 yards) beyond the station or sidings connection, a repeating warning board is placed as a reminder of the TSR as shown in diagram SP.11 on page 27.

The repeating warning board is placed at one of the following locations.

- Next to the platform starting signal (if there is one).
- Next to the siding exit signal.
- Immediately ahead of the station, siding connection or dead-end platform line.

A portable AWS magnet is not provided on the approach to the repeating warning board.





**TSR beyond a station or siding connection**

**Diagram SP.11**

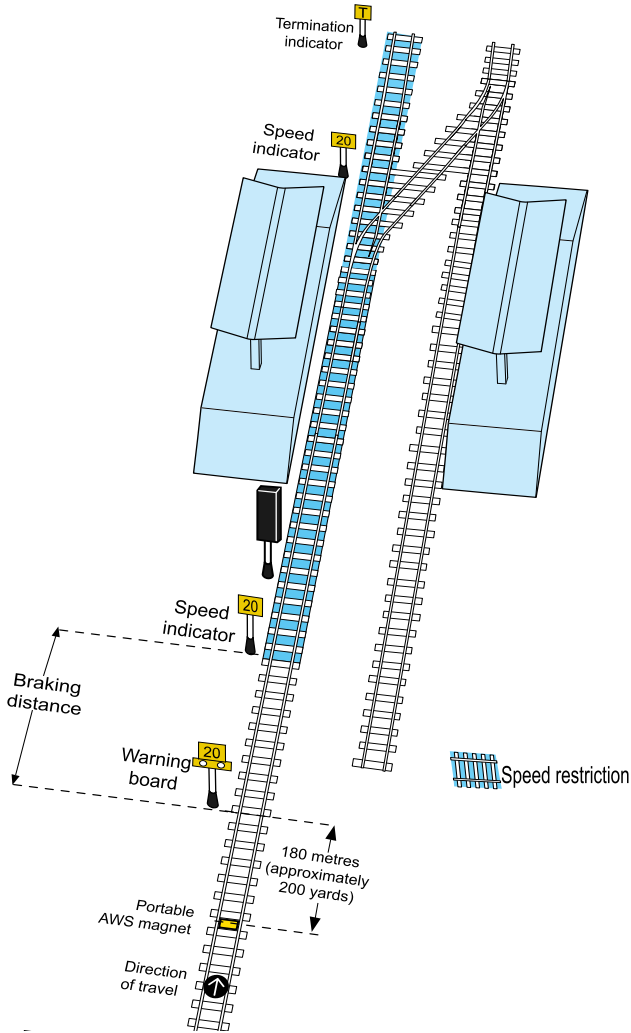
### **3.10 TSR at a location where trains can reverse or change drivers**

These instructions apply to a TSR at a location where trains can reverse or regularly change drivers.

An additional speed indicator is placed within the TSR as a reminder of the TSR as shown in diagram SP.12 on page 29.

The additional speed indicator is placed at one of the following locations.

- Next to the starting signal.
- Immediately ahead of the station.



**TSR at a location where trains can reverse or change drivers**

**Diagram SP.12**

### 3.11 TSR across an ERTMS transition

On lines where lineside signals are provided, if the TSR starts within an ERTMS area but ends outside the ERTMS area, an additional speed indicator will be placed at the end of cab signalling board. See diagram SP.13 on page 31.

This arrangement also applies on a single or bi-directional line.

### 3.12 When a TSR is to be moved

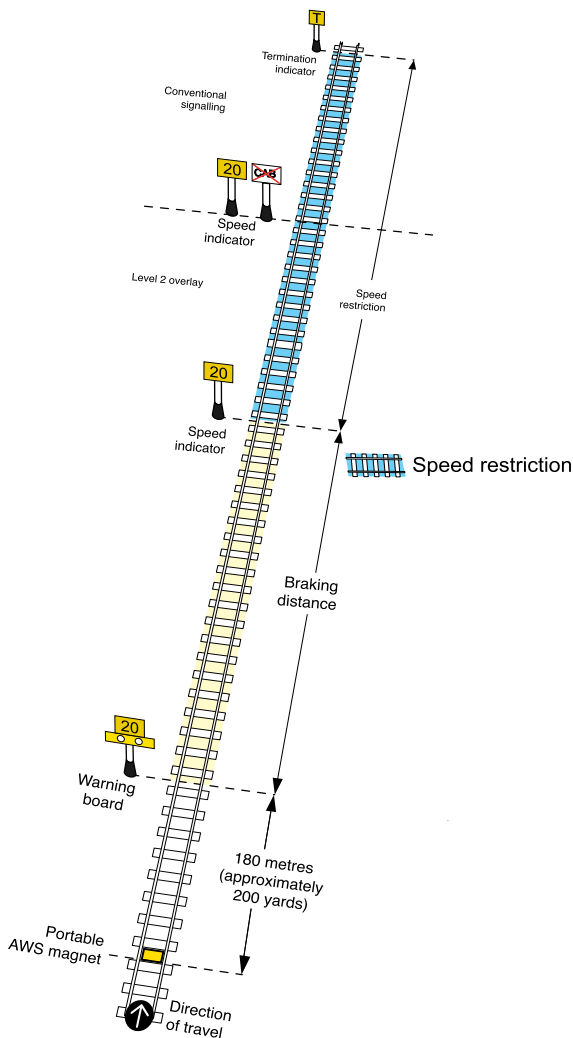
A TSR can be moved if the arrangements have been published in the *Weekly Operating Notice* and one of the following is applied.

- The warning board, speed indicator and termination indicator are all moved in the direction of travel.
- The warning board and speed indicator are moved towards the termination indicator.
- The termination indicator is moved towards the speed indicator.

### 3.13 When a TSR is not introduced

When a TSR has been published in the *Weekly Operating Notice* but the restriction is no longer needed, the details are published in a special notice at least 24 hours before the TSR is due to start. However, the warning boards and indicators are not provided.

If it is not possible to do this at least 24 hours before the TSR is due to start, the TSR is set up as planned but the normal permissible speed will apply. The warning boards and speed indicator show either the permissible speed or a SPATE indicator.



**TSR across an ERTMS transition**

**Diagram SP.13**

### **3.14 When a TSR is eased or removed early**

When a TSR is eased to allow a higher speed earlier than that shown in the *Weekly Operating Notice*, the warning boards and speed indicator are changed to show the higher speed.

When a TSR is removed earlier than the time shown in the *Weekly Operating Notice*, the warning boards and speed indicator show either the permissible speed or a SPATE indicator.

# 4

## Emergency speed restriction (ESR)

*The people responsible: driver, signaller*

### 4.1 Signaller's actions

If it is necessary to allow trains to pass over the ESR before the equipment is in place, you must stop each train which will travel over the ESR and tell the driver:

- the location where the ESR begins and ends
- the speed limit imposed.

You must continue with these arrangements until the equipment has been set up, and on an ERTMS line, the signalling system is supervising the speed restriction.

signaller

### 4.2 Driver's actions

When driving over an ESR before the equipment is in place, you must:

- control the speed of your train to travel over the affected portion of line at no more than the speed the signaller tells you
- make sure the whole of your train has passed clear of a section of line with a lower speed before increasing your speed.

After the equipment has been provided, you must control the speed of your train to no more than the speed shown on the warning board.

Where there are differential speeds shown on the warning board, you must control the speed of your train to no more than the speed that applies to that train.

driver

### 4.3 Normal arrangements

When an ESR is to last for more than a short time, equipment is provided as soon as possible. The normal equipment for a TSR is provided, and in addition an emergency indicator.

A portable AWS magnet is normally placed 180 metres (approximately 200 yards) on the approach to the emergency indicator.

The emergency indicator is placed at least 180 metres (approximately 200 yards) and not more than 400 metres (approximately 440 yards) on the approach to the warning board.

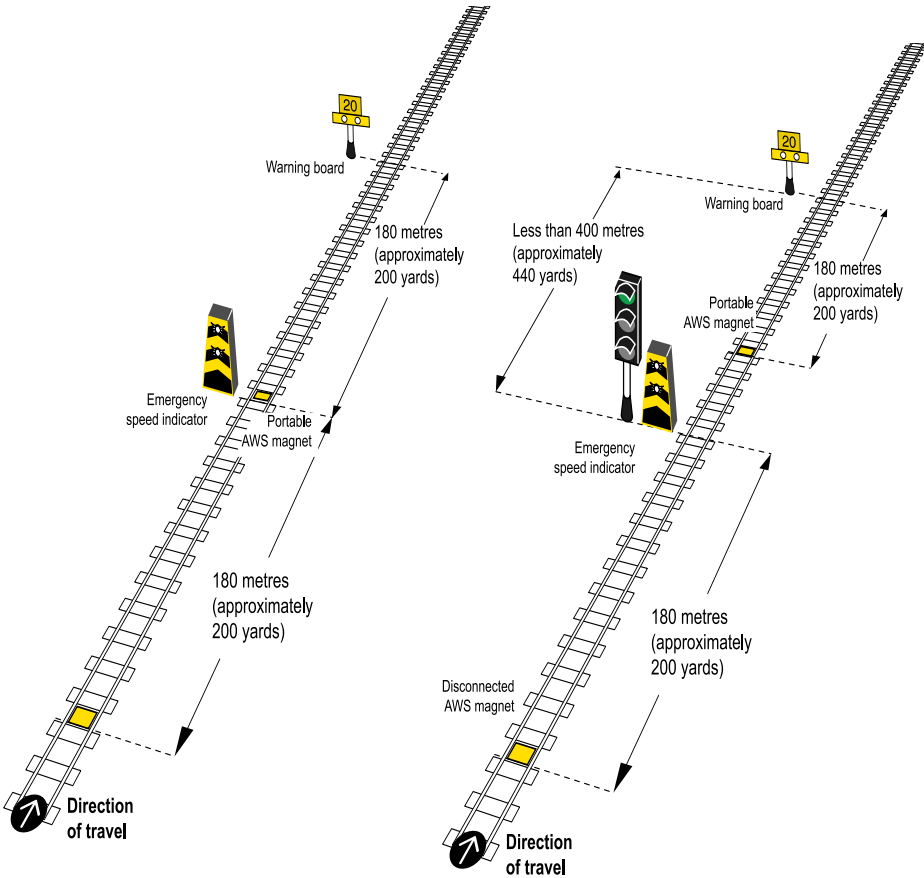
The portable AWS magnet for the warning board is placed at or beyond the emergency indicator.

Diagram SP.14 a) on page 35 shows the normal arrangements for an emergency indicator.

signaller

On an ERTMS line you must make arrangements for the ESR to be programmed into the system.





**Emergency indicator**

**Diagram SP.14 a)**

**Diagram SP.14 b)**

## 4.4 Where there is a fixed AWS magnet

Diagram SP.14 b) on page 35 shows how an ESR is set up where there is already a fixed AWS magnet associated with a:

- signal
- permissible speed indicator
- level crossing warning board.

The emergency indicator is not placed between a fixed AWS magnet and the equipment to which it applies.

If possible, the portable AWS magnet and the warning board are kept at the normal distance apart, but may be placed at a reduced distance of not less than 45 metres (approximately 50 yards).

The emergency indicator may be placed at the signal, in which case the associated electro-magnet is disconnected and a portable AWS magnet is not provided. The driver will always receive an AWS warning indication, no matter what aspect is displayed at the signal.

## 4.5 Emergency indicator to stay in position

The emergency indicator will stay in position until:

- details of the speed restriction appear in the *Weekly Operating Notice*, or
- the speed restriction is withdrawn.

# 5

## Defective or missing ESR or TSR equipment

*The people responsible: driver, signaller*

### 5.1 Speed restriction boards or indicators missing or incorrect

You must tell the signaller immediately if you see that a warning board, a repeating warning board or a speed indicator is:

- missing
- in a different place from the one published in the *Weekly Operating Notice*
- is more restrictive than that shown in the *Weekly Operating Notice*.

You must also tell the signaller immediately if the speed shown on the DMI is different to that shown on lineside equipment or the *Weekly Operating Notice*.

If necessary you must stop your train specially.

You do not have to tell the signaller if you have already been told about this.

You must report the defect the driver has told you about to Operations Control.

You must tell the driver of each train which will travel over the restriction about the irregularity until it has been put right.

driver

signaller

## 5.2 Speed restriction boards or indicators that are, or are becoming, difficult to see

**driver** If you see a warning board, repeating warning board or speed indicator that is, or is becoming, difficult to see, you must tell the signaller at the first opportunity.

**signaller** You must report this to Operations Control.

If the driver has reported that a warning board or indicator is difficult to see, you must also stop each train approaching the warning board or indicator and tell the driver about the difficulty until it has been put right.

## 5.3 Defective or missing emergency indicator

**driver** You must tell the signaller immediately, if necessary stopping the train specially, if you see anything wrong with the emergency indicator.

**signaller** You must report this to Operations Control.

You must stop each train approaching the emergency indicator and tell the driver about the ESR until the irregularity has been put right.

# 6

## Blanket speed restrictions

*The people responsible: **driver, signaller***

If a blanket speed restriction is imposed over an area, emergency indicators and other track equipment are not provided.

If you are told by Operations Control that a blanket speed restriction is to be imposed, you must arrange for the driver of each affected train to be told about the speed restriction and the locations between which it is to be observed.

**signaller**

You do not need to do this if Operations Control has arranged to tell drivers by other means.

When a blanket speed restriction is imposed over an area, you must control the speed of your train to no more than the speed restriction throughout that defined area.

**driver**





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communication**

**172**





# GERT8000-SS1 Rule Book



## Station duties and train dispatch

### Issue 6






Module SS1

September 2018  
Comes into force 01 December 2018



## Conventions used in the Rule Book

	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	
A white i in a blue box indicates that there is information provided at the bottom of the page.	
A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.	

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**RSSB**

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**<https://customer-portal.rssb.co.uk>**

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**Rail Safety and Standards Board Limited**

You will need this module if you carry out the duties of:

- a driver
- a guard
- a person in charge (PIC) of dispatch
- staff responsible for train dispatch or the safety of the public and staff on stations.

## Section

# 1

## **Definitions**

# 2

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- 2.2 Defective driver only (DO) equipment
- 2.3 Items falling onto the line
- 2.4 Station barrow crossings
- 2.5 Moving a train before station work is complete
- 2.6 Moving a train where permissive platform working is authorised
- 2.7 Maintenance and servicing to be completed
- 2.8 Defective slam doors
- 2.9 Opening doors before a train has stopped at the platform

# 3

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- 3.2 The 'station work complete' and 'train safety check complete' signal
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## Section

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- 3.16** Restarting a train from a station where it is not booked to stop for passenger purposes
- 3.17** Watching a train departing from a staffed platform
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## 1 Definitions

### **Dispatch staff**

Dispatch staff means anyone on the platform with a responsibility for train dispatch who is not the person in charge of dispatch.

### **Permissive working**

Permissive working allows more than one train at a time to be on the same platform line.

### **Person in charge of dispatch**

The person in charge of dispatch (PIC of dispatch) is a person on the platform responsible for giving or relaying signals to the driver or guard, as appropriate, during train dispatch. If only one person is involved in train dispatch on a staffed platform, that person is the PIC of dispatch. If more than one person is involved in train dispatch on a staffed platform, local instructions will specify who will be the PIC of dispatch in each situation.

### **Platform staff**

Platform staff means anyone on the platform with a responsibility for the safety of the public or staff, whether or not they are involved in train dispatch.

### **Rolling stock technician**

A person who is authorised and has the necessary technical competence to examine or repair specified items of equipment forming part of a train or vehicle.

### **Unstaffed platform**

An unstaffed platform includes a platform where no staff are present for train dispatch purposes for the particular train concerned.

# 2 Safety at station platforms

*The people responsible: driver, guard, PIC of dispatch, platform staff*

## 2.1 Equipment on platforms

platform staff

You must make sure that any trolleys or mobile station equipment left unattended are placed at least 1.8 metres (6 feet) from the platform edge and are properly secured.

## 2.2 Defective driver only (DO) equipment

driver

If you see a defective platform-monitoring screen or mirror, you must tell the signaller at the first convenient opportunity. You do not need to do this if the screen or mirror is marked with an 'X' which shows that repairs are being carried out.

## 2.3 Items falling onto the line

platform staff

If anything falls onto the line which you consider is a danger to trains, you must immediately tell the signaller.

If you need to go onto a platform line to retrieve a dropped item, you must:

- have been trained to do so at the location concerned
- tell the signaller your name and your employer and why you need to go onto the line
- make sure that the signaller clearly understands on which line trains are to be stopped, including any adjacent line
- only go onto the line when the signaller gives you permission.

When you have retrieved the item, you must tell the signaller that you have returned to the platform, that the line is clear and trains can run as normal.



## 2.4 Station barrow crossings

If you need to take anything with small wheels over a barrow crossing and there is any possibility that the wheels could become trapped, you must:

- ask the signaller for permission before you use the crossing, even if warning lights are provided
- tell the signaller as soon as the equipment is clear of the crossing.

platform  
staff

## 2.5 Moving a train before station work is complete

You must have the signaller's permission before any movement is made towards a signal at danger.

You must tell the guard and person in charge of dispatch that you have the signaller's permission.

You must tell the signaller when the movement has been completed.

You must make sure all the doors are closed before the driver makes any movement.

driver

guard,  
PIC of  
dispatch

## 2.6 Moving a train where permissive platform working is authorised

On a permissive platform line, you must not allow any further movement after the train has come to a stand, other than for coupling or uncoupling, unless one of the following applies.

- A signal is cleared for the movement.
- The movement is authorised by the signaller.
- The train has received a movement authority (MA) to proceed beyond the next end of authority (EoA).

driver,  
guard,  
PIC of  
dispatch

If the signaller gave authority for the movement, you must make sure the signaller is told when the movement has been completed.

## 2.7 Maintenance and servicing to be completed

driver,  
guard,  
PIC of  
dispatch

If the train has been examined by a rolling stock technician, or other servicing has been carried out, you must make sure, before beginning the train dispatch procedure that:

- the work has been completed
- no water pipes or NOT TO BE MOVED boards are attached
- all vehicles are fit to travel.

## 2.8 Defective slam doors

platform  
staff

If a slam door is defective and it is to go forward locked and labelled as out of use, you must make sure that the guard or driver of a DO train is told.

## 2.9 Opening doors before a train has stopped at the platform

driver,  
guard,  
platform  
staff

You must not open a door to allow anyone to get in or out of a moving train.

# 3

## Train dispatch

*The people responsible: dispatch staff, driver, guard, PIC of dispatch, platform staff*

### 3.1 Checking the platform starting signal

Before you begin the train dispatch procedure you must make sure that one of the following applies.

- The platform starting signal, if there is one, or an associated banner repeating signal, is showing a proceed aspect, or an associated '**OFF**' indicator is illuminated.
- The driver has received an MA.
- The driver has the signaller's permission either to pass the signal at danger or pass the EoA without an MA.

You must carry out this check again before giving the '**ready-to-start**' signal to the driver.

Before you start your train, you must check that one of the following applies.

- The platform starting signal, if there is one, or an associated banner repeating signal, is showing a proceed aspect, or an associated '**OFF**' indicator is illuminated.
- You have received an MA to clear the platform.
- You have the signaller's permission to pass the signal at danger or to pass the EoA without an MA.

dispatch  
staff,  
guard

guard,  
PIC of  
dispatch

driver

## Station duties and train dispatch

### 3.2 The 'station work complete' and 'train safety check complete' signal

dispatch  
staff

You must give the 'station work complete' or 'train safety check complete' signal by:

- raising one arm or a dispatch bat above your head during daylight, or
- holding a white light steadily at night or during poor visibility.

PIC of  
dispatch

You must give the 'station work complete' signal to the driver of a DO train by using a close doors (CD) indicator if there is one.

### 3.3 The 'train safety check'

dispatch  
staff,  
guard,  
PIC of  
dispatch

When the train doors have been closed (and on trains fitted with central door locking, the central door locking has been locked), you must carry out the 'train safety check', if you are responsible for doing so, by making sure that:

- the train doors are properly closed.
- nobody is trapped in the doors, for example by clothing.
- nobody is in contact with the train.
- it is safe to start the train.

You must do this by positioning yourself on the platform so that you can see the full length of the train. If more than one person is carrying out the 'train safety check', you must, between you, be able to see the full length of the train.

### 3.4 The 'ready-to-start' signal

guard

You must give the 'ready-to-start' signal to the driver by using the bell or buzzer communication.

If there is no bell or buzzer communication, you must give the 'ready-to-start' signal to the driver by displaying a green hand signal.

For a DO train, you must give the **'ready-to-start'** signal to the driver by displaying a green handsignal or using a right away (**RA**) indicator.

PIC of dispatch

When a train is assisted in the rear, you must give the **'ready-to-start'** signal to the driver of the assisting locomotive.

You must relay the guard's **'ready-to-start'** signal to the driver if the driver cannot see the guard's **'ready-to-start'** signal, or if the train concerned is required to start by using the **'RA'** indicator.

If you receive the **'ready-to-start'** signal and the platform starting signal is at danger, or on an ERTMS line you have not received an MA to proceed beyond the next EoA, you must not move your train unless the signaller gives you permission to do so.

driver

### 3.5 Dispatching a train with power-operated doors with a guard from a staffed platform

You must first make sure all passengers are clear of the train doors.

dispatch staff

You must then give the **'station work complete'** signal to the PIC of dispatch.

When you receive the **'station work complete'** signal you must then give the **'station work complete'** signal to the guard.

PIC of dispatch

When you receive the **'station work complete'** signal from the PIC of dispatch, you may close the train doors.

guard

If the driver operates the doors, you must give the **'close doors'** signal to the driver.

When you receive the **'close doors'** signal, you must close the doors then acknowledge the **'close doors'** signal.

driver

Before you start the train safety check, you must check that the external orange hazard lights have gone out.

dispatch staff

## Station duties and train dispatch

### dispatch staff

You must not rely only on the external orange hazard lights as an indication that it is safe to start.

### guard

You must carry out the 'train safety check'.

You must, where necessary, help dispatch staff to carry out the 'train safety check'.

### dispatch staff

If it is safe for the train to start, you must give the '**train safety check complete**' signal to the PIC of dispatch.

### PIC of dispatch

When you receive the '**train safety check complete**' signal, you must then give the '**train safety check complete**' signal to the guard.

### guard

When you receive the '**train safety check complete**' signal you must then:

- close the local door
- where appropriate, check the traction interlock light is illuminated
- give the '**ready-to-start**' signal to the driver, or if the signal is to be relayed to the driver, give the '**ready-to-start**' signal to the PIC of dispatch
- position yourself in a location, as shown in your train operating company instructions, from where you can stop the train if you become aware of an emergency
- remain there until the train has passed clear of the platform.

### PIC of dispatch

You must relay the guard's '**ready-to-start**' signal to the driver if the driver cannot see the guard's '**ready-to-start**' signal, or if the train concerned is required to start by using the '**RA**' indicator.

### driver

When you receive the '**ready-to-start**' signal, you must, where appropriate, check the traction interlock light is illuminated and acknowledge the '**ready-to-start**' signal before starting the train.

You must start the train only if safe to do so.

### 3.6 Dispatching a train with power-operated doors with a guard from an unstaffed platform

You must first make sure all passengers are clear of the train doors.

guard

You may then close the train doors.

If the driver operates the doors, you must give the '**close doors**' signal to the driver.

When you receive the '**close doors**' signal, you must close the doors then acknowledge the '**close doors**' signal.

driver

Before you start the train safety check, you must check that the external orange hazard lights have gone out, and, where appropriate, the traction interlock light is illuminated.

guard

You must not rely only on the external orange hazard lights or the traction interlock light as an indication that it is safe to start.

You must carry out the 'train safety check'.

If it safe for the train to start, you must then:

- close the local door
- give the '**ready-to-start**' signal to the driver
- position yourself in a location, as shown in your train operating company instructions, from where you can stop the train if you become aware of an emergency
- remain there until the train has passed clear of the platform.

When you receive the '**ready-to-start**' signal, you must, where appropriate, check the traction interlock light is illuminated and acknowledge the '**ready-to-start**' signal before starting the train.

driver

You must start the train only if safe to do so.

## Station duties and train dispatch

### 3.7 Dispatching a DO train with power-operated doors from a staffed platform

dispatch  
staff

You must first make sure all passengers are clear of the train doors.

PIC of  
dispatch

You must then give the **'station work complete'** signal to the PIC of dispatch.

driver

When you receive the **'station work complete'** signal, you must then give the **'station work complete'** signal or **'CD'** indication to the driver.

dispatch  
staff

When you receive the **'station work complete'** signal or **'CD'** indication from the PIC of dispatch, you may close the train doors.

Before you start the train safety check, you must check that the external orange hazard lights have gone out.

You must not rely only on the external orange hazard lights as an indication that it is safe to start.

You must carry out the 'train safety check'.

If it is safe for the train to start, give the **'train safety check complete'** signal to the PIC of dispatch.

PIC of  
dispatch

When you receive the **'train safety check complete'** signal, you must give the driver the **'ready-to-start'** signal or **'RA'** indication.

driver

When you receive the **'ready-to-start'** signal or **'RA'** indication, you must check the traction interlock light is illuminated before starting the train.

You must start the train only if safe to do so.



### 3.8 Dispatching a DO train from an unstaffed platform

You must first check that the platform starting signal, if there is one, or an associated banner repeating signal, is showing a proceed aspect, an associated 'OFF' indicator is illuminated, or an MA has been received.

driver

If the signal cannot be cleared or an MA issued, you must get the signaller's permission to pass the signal at danger or to pass the EoA without an MA before beginning dispatch arrangements.

You must check the whole length of the train to make sure that it is safe to close the doors, using the monitors or mirror, if provided.

You must then close the doors.

Before you start the train safety check, you must make sure that the passenger doors have closed, either by seeing that the external orange hazard lights have gone out, or, where appropriate, the traction interlock light is illuminated.

You must not rely only on the external orange hazard lights or the traction interlock light as an indication that it is safe to start.

You must carry out the 'train safety check', using the monitors or mirror, if provided, by making sure that:

- the train doors are properly closed
- nobody is trapped in the doors, for example by clothing
- nobody is in contact with the train.

You must only start the train if it is safe to do so.

If you cannot make sure it is safe to close the doors or carry out the 'train safety check' from the cab, because of defective monitors or mirror or poor visibility, you must do so by other means, as shown in your train operating company instructions.

## Station duties and train dispatch

### 3.9 Dispatching a train with central door locking from a staffed platform

dispatch  
staff

You must first make sure that:

- all passengers are clear of the train doors
- all the doors are properly closed
- no door-edge indications can be seen
- all door handles are in their correct positions.

You must then give the **'station work complete'** signal to the PIC of dispatch.

PIC of  
dispatch

When you receive the **'station work complete'** signal, you must then give the **'station work complete'** signal to the guard.

guard

When you receive the **'station work complete'** signal, you must lock the central door locking.

dispatch  
staff

You must then carry out the 'train safety check'.

You must also check that the exterior hazard lights have gone out.

You must not rely only on the exterior hazard lights as an indication that it is safe to start.

guard

You must, where necessary, help dispatch staff to carry out the 'train safety check'.

dispatch  
staff

If it is safe for the train to start, you must give the **'train safety check complete'** signal to the PIC of dispatch.

PIC of  
dispatch

When you receive the **'train safety check complete'** signal, you must give the **'train safety check complete'** signal to the guard.

When you have received the **'train safety check complete'** signal, you must:

guard

- close the local door
- give the **'ready-to-start'** signal to the driver, or if the signal is to be relayed to the driver, give the **'ready-to-start'** signal to the PIC of dispatch
- position yourself in a location, as shown in your train operating company instructions, from where you can stop the train if you become aware of an emergency
- remain there until the train has passed clear of the platform.

When you receive the **'ready-to-start'** signal, you must only start the train if safe to do so.

driver

### **3.10 Dispatching a train with central door locking from an unstaffed platform**

You must first make sure that:

guard

- all passengers are clear of the train doors
- all the doors are properly closed
- no door-edge indications can be seen
- all door handles are in their correct positions.

You must then lock the central door locking and carry out the 'train safety check'.

You must also check that the exterior hazard lights have gone out.

You must not rely only on the exterior hazard lights as an indication that it is safe to start.

## Station duties and train dispatch

### guard

When it is safe for the train to start, you must:

- close the local door
- give the '**ready-to-start**' signal to the driver
- position yourself in a location, as shown in your train operating company instructions, from where you can stop the train if you become aware of an emergency
- remain there until the train has passed clear of the platform.

### driver

When you receive the '**ready-to-start**' signal, you must only start the train if safe to do so.

### 3.11 Dispatching a DO train with central door locking from a staffed platform

### dispatch staff

You must first make sure that:

- all passengers are clear of the train doors
- all the doors are properly closed
- no door-edge indications can be seen
- all door handles are in their correct positions.

You must then give the '**station work complete**' signal to the PIC of dispatch.

### PIC of dispatch

When you receive the '**station work complete**' signal, you must lock the central door locking.

### dispatch staff

You must carry out the 'train safety check'.

You must also check that the exterior hazard lights have gone out.

You must not rely only on the exterior hazard lights as an indication that it is safe to start.

If it is safe for the train to start, you must then give the '**train safety check complete**' signal to the PIC of dispatch.

When you receive the **'train safety check complete'** signal, you must:

- close the door from where the central door locking is being operated
- give the **'ready-to-start'** signal to the driver.

You must start the train only if safe to do so.

**PIC of  
dispatch**

**driver**

## Station duties and train dispatch

### 3.12 Dispatching a train with slam doors without central door locking from a staffed platform

dispatch  
staff

You must first make sure:

- all passengers are clear of the train doors
- all the doors are closed
- no door-edge indications can be seen
- all door handles are in their correct positions.

guard

You must then carry out the 'train safety check'.

You must, where necessary, help dispatch staff to carry out the 'train safety check'.

dispatch  
staff

If it is safe for the train to start, you must then give the '**train safety check complete**' signal to the PIC of dispatch.

PIC of  
dispatch

When you receive the '**train safety check complete**' signal, you must then give the '**train safety check complete**' signal to the guard.

guard

When you have received the '**train safety check complete**' signal, you must:

- give the '**ready-to-start**' signal to the driver, or if the signal is to be relayed to the driver, give the '**ready-to-start**' signal to the PIC of dispatch
- position yourself in a location, as shown in your train operating company instructions, from where you can stop the train if you become aware of an emergency
- remain there until the train has passed clear of the platform.

driver

You must start the train only if safe to do so.

### 3.13 Dispatching a train with slam doors without central door locking from an unstaffed platform

You must first make sure:

- all passengers are clear of the train doors
- all the doors are closed
- no door-edge indications can be seen
- all door handles are in their correct positions.

You must then carry out the 'train safety check'.

When it is safe for the train to start, you must:

- give the '**ready-to-start**' signal to the driver
- position yourself in a location, as shown in your train operating company instructions, from where you can stop the train if you become aware of an emergency
- remain there until the train has passed clear of the platform.

You must start the train only if safe to do so.

guard

driver

### 3.14 Dispatching a DO train with slam doors without central door locking from a staffed platform

You must first make sure:

- all passengers are clear of the train doors
- all the doors are closed
- no door-edge indications can be seen
- all door handles are in their correct positions.

You must then carry out the 'train safety check'.

If it is safe for the train to start, you must then give the '**train safety check complete**' signal to the PIC of dispatch.

dispatch  
staff

## Station duties and train dispatch

PIC of  
dispatch  
driver

When you receive the '**train safety check complete**' signal, you must give the '**ready-to-start**' signal to the driver.

You must start the train only if safe to do so.

### 3.15 Dispatching a DO empty coaching stock train from an unstaffed platform

driver

You must make sure that all the doors are closed.

Before you start the train, you must make sure that the passenger doors have closed, either by seeing that the external orange hazard lights have gone out, or, where appropriate, the traction interlock light is illuminated.

You must not rely only on the external orange hazard lights or the traction interlock light as an indication that it is safe to start.

You must only start the train if it is safe to do so.

### 3.16 Restarting a train from a station where it is not booked to stop for passenger purposes

driver,  
guard

If you are working a passenger or empty coaching stock train which for any reason stops in a station platform where it is not intended that passengers should board or alight from the train, you must not release the doors or the central door locking.

driver

If you are working a DO train or a train formed of power-operated door stock, you must not restart until you have made sure it is safe to do so, using the method shown in your train operating company instructions for that location.

guard

If the train is not formed of power-operated door stock, you must give the driver a '**ready-to-start**' signal. You must make sure it is safe to do so by using the method shown in your train operating company instructions for that location.



If the train is worked by a guard and not formed of power-operated door stock, you must not restart the train until you have received a 'ready-to-start' signal from the guard.

driver

If you have released the doors or the central door locking, you must not allow the train to restart until the whole of the train dispatch procedure that would apply to a train that is booked to stop has been carried out.

driver,  
guard

### **3.17 Watching a train departing from a staffed platform**

When a train is departing, you must, if possible, watch the train until it has passed clear of the platform.

dispatch  
staff, PIC of  
dispatch

You must warn anyone on the platform who appears to be putting themselves in danger.

You must take any action necessary to stop the train in an emergency.

### **3.18 Watching a train arriving at a staffed platform**

When a train is arriving, you must, if possible, watch the train until it has stopped in the platform.

platform  
staff

You must warn anyone on the platform who appears to be putting themselves in danger.

You must take any action necessary to stop the train in an emergency.

## Notes





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**GE/RT8000/SS2**  
**Rule Book**

# Shunting

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You will need this module if you carry out the duties of a:

- driver
- shunter
- signaller.

Conventions used in the Rule Book	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	driver
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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# 1

## Definitions

### **Loose shunting**

Shunting of vehicles that do not remain attached to the traction unit during the movement.

### **Points worked from a signal box**

For the purpose of this module this includes points worked from a ground frame.

### **Propelling**

Pushing vehicles by a traction unit. This does not include push-pull trains.

### **Shunter**

The person in control of a specific shunting movement.

### **Shunting movement**

Any movement of a train or vehicle other than a train passing normally along a running line.

### **Signaller**

For the purpose of this module this includes a ground frame operator.

### **Unaccompanied driver**

For the purpose of this module, a driver carrying out a shunting movement without an accompanying shunter.

# 2 Prohibitions and restrictions

*The people responsible: driver, shunter*

## 2.1 Using a traction unit

**driver,  
shunter**

Unless authorised in section 2.2, you must start a shunting movement with a traction unit.

## 2.2 Moving vehicles using a chain, a rope or pushing with a road vehicle

**driver,  
shunter**

You may only move vehicles using a chain or rope, or by pushing with a road vehicle, where it has been specially authorised in local instructions.

You must never move vehicles using a prop or pole against a locomotive or any rail or road vehicle.

## 2.3 Loose shunting

**driver,  
shunter**

You may carry out loose shunting only where specially authorised in local instructions.

You must not loose shunt coaching stock vehicles.

You must not loose shunt other vehicles against coaching stock vehicles.

# 3

## Shunter's personal safety

*The person responsible: shunter*

### 3.1 Riding on the step of a locomotive or vehicle

You must not ride on the step of a locomotive or vehicle.

shunter

If one is provided, you may ride on the special platform on a shunting locomotive.

### 3.2 Coupling or uncoupling

You must never go between vehicles unless you are sure they will not move.

shunter

If you have to go between vehicles, you must:

- wait until the vehicles have stopped completely
- display a hand danger signal to the driver or instruct the driver not to move.

You must never remain between vehicles during an ease-up movement.

If you have to go between vehicles to deal with automatic couplers, you must first stop the vehicles at least 2 metres (6 feet 6 inches) apart.

If there is any possibility that other vehicles might be shunted against those you are going to work between, you must instruct the other shunters not to make any movements towards them.

**shunter**

If you have to go between vehicles to couple or uncouple multiple units, you must:

- make sure the driver is present
- reach a clear understanding with the driver as to what is to be done.

**3.3 Dealing with the automatic brake**

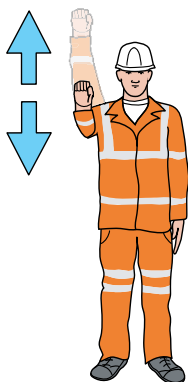
**shunter**

When going between vehicles to uncouple, you must disconnect the brake pipes before any other connections.

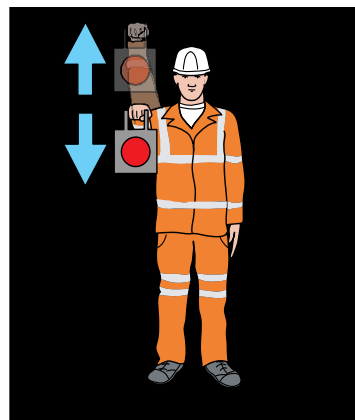
When dealing with the other connections (including the automatic couplers), you must prevent any movement of the vehicles by leaving the air-brake pipe cocks open.

When going between vehicles to couple, you must connect the brake pipes after any other connections.

You must use the handsignals shown in diagram SS2.1 to tell the driver to create brake-pipe pressure.



**Handsignal during daylight**



**Handsignal during darkness**

**Diagram SS2.1  
Create brake-pipe pressure**

### 3.4 Dealing with the electrical train supply (ETS) connections

You must make sure the ETS is switched off or the shore supply is disconnected before:

shunter

- opening the dust caps on cable sockets
- coupling or uncoupling the ETS.

If you can safely reach the connections from alongside the vehicles, you may couple or uncouple them before dealing with the brake pipes.

When coupling or uncoupling the connections, you must make sure:

- the cables do not trail on the ground
- you take special care if there is conductor rail equipment.

# 4

## Precautions before shunting

*The people responsible: driver, shunter*

### 4.1 Reaching a clear understanding

**driver,  
shunter**

Before starting any shunting, you must reach a clear understanding with each other about:

- what exactly needs to be done
- how the shunting movements will be controlled.

### 4.2 Safety checks before making any movement

**shunter,  
unaccompanied  
driver**

You must make sure that:

- the vehicles can be moved safely
- no NOT TO BE MOVED boards are placed on the vehicles
- other vehicles are not foul of the movement to be made
- any road vehicle or equipment is clear
- anyone who could be put in danger is warned to move to a safe position
- anyone who is working on the outside of vehicles on an adjacent line is warned to keep clear
- any derailer or scotch block has been removed.

You must check that any hand points the movement will go over in the facing direction are fitting correctly and that any locking mechanism has engaged.



# 5 Safeguards while shunting

*The people responsible: **driver, shunter***

## 5.1 General

You must work only to the shunter's instructions.

**driver**

You must only make a movement, even when a signal has been cleared, if the shunter has:

- authorised the movement, or
- operated a shunting or other indicator which authorises the movement.

Except where specifically authorised, you must not:

- pass a signal at danger, a block marker or shunt marker when making a movement
- exceed 5 mph (10 km/h) in a siding.

Unless specifically authorised, you must not allow a shunting movement to pass a signal at danger, a block marker or shunt marker without authority.

**shunter**

## 5.2 Controlling movements

### a) By handsignals

You must use the handsignals shown in diagram SS2.2 on page 12 and diagram SS2.3 on page 13 to control a movement.

**shunter**

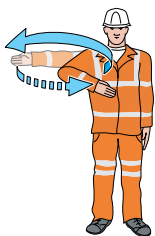
You must make sure the driver can see your handsignals at all times.

You must make sure no other driver acts on your handsignals.

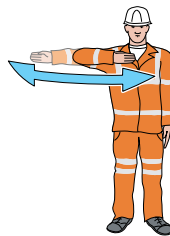
You must work only to the handsignals shown in diagram SS2.2 on page 12 and diagram SS2.3 on page 13.

**driver**

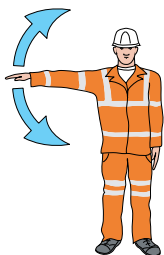
# Shunting



**Move away from the shunter**



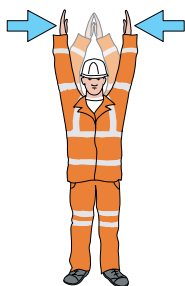
**Move towards the shunter**



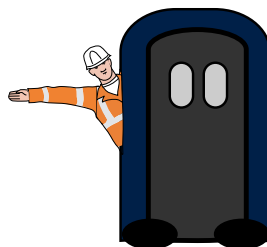
**Slow down**



**Stop immediately**



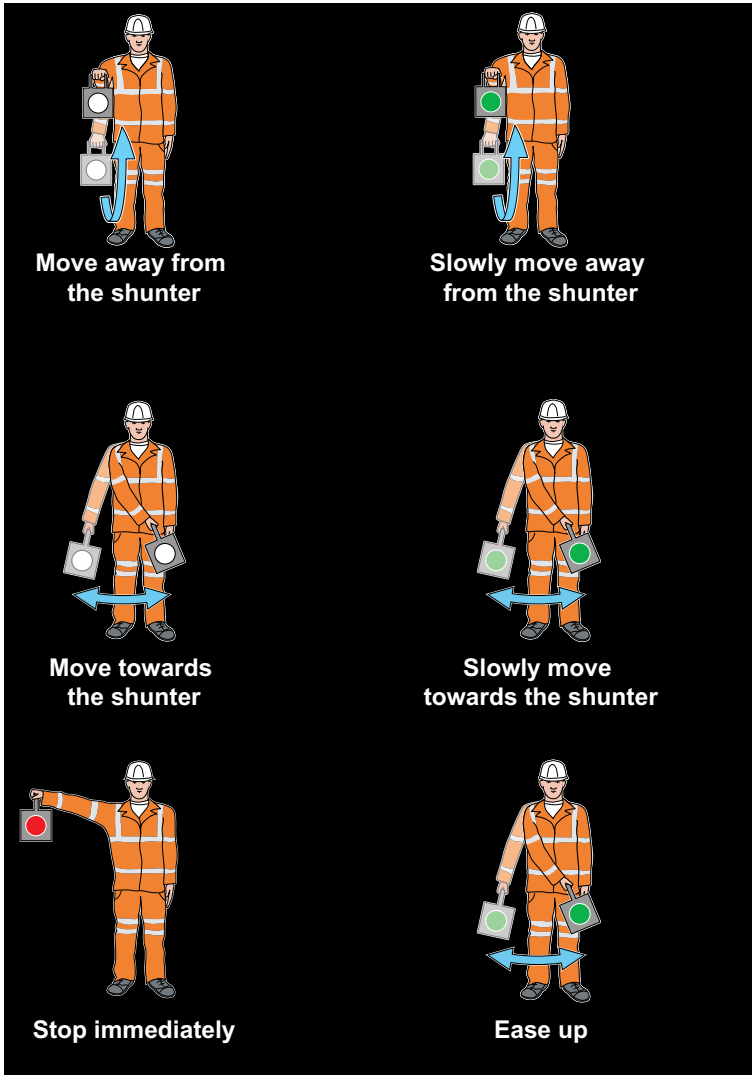
**Ease up**



**Stop immediately when on a vehicle**

**Diagram SS2.2**

**Handsignals during daylight**



**Diagram SS2.3**  
**Handsignals during darkness**

## Shunting

**driver**

You must not start or continue with a movement unless:

- you clearly understand the shunter's handsignal
- you are sure that the handsignal applies to you.

You must:

- stop the movement immediately if you lose sight of the shunter or the shunter's handsignals
- restart only when the shunter has given you the correct handsignal.

**b) By radio****shunter**

You must:

- clearly identify the correct train and driver
- speak continuously or transmit a continuous bleep signal throughout each movement
- instruct the driver to stop immediately if you notice the transmission is failing.

**driver**

If there is a break in transmission, you must stop immediately and restart only when the shunter tells you.

## 5.3 Controlling movements not driven from a cab at the leading end of the movement

### a) General

When a traction unit making a propelling movement or shunting movement is not being driven from a cab at the leading end of the movement, you must:

shunter

- ride in the leading cab, if this is at the leading end of the movement, or
- ride in the vehicle at the leading end of the movement, if this is suitable, from which you can control the movement and apply the automatic brake, or
- control the movement from a safe place on the ground, ahead of the movement, where you are in contact with the driver or where the driver can see you.

During the movement, you must:

- keep a good lookout
- obey all signals unless you are specifically authorised to pass a signal at danger
- not pass a block marker or shunt entry board without authority
- warn anyone on or near the line about the approaching movement
- if anyone on or near the line appears to be in danger, stop the movement.

You must control the movement so that it is made at a safe speed which will allow you to instruct the driver to stop the movement within the distance that you can see the line is clear.

**b) Riding in the leading cab or at the leading end****shunter**

If you are riding in the leading cab or at the leading end of the movement, you must signal to the driver as necessary by:

- using the bell or buzzer code
- cab-to-cab telephone
- driver-guard communication equipment
- radio
- handsignal.

You must use the warning horn or a portable horn as necessary.

In an emergency you must stop the movement by using the automatic brake.

**c) Movements over level crossings**

You must make sure you have a clear view of the crossing and if provided, you know how to operate the plunger, if it is necessary to make a propelling movement over:

- an automatic barrier crossing locally monitored (ABCL)
- an automatic open crossing locally monitored (AOCL)
- an open crossing (OC).

**5.4 After each movement****shunter,  
unaccompanied  
driver**

After each movement, you must make sure vehicles are secured, where necessary, by handbrakes.

You must scotch vehicles which have no handbrake or on which the handbrake is not working. You do not have to do this if the vehicle is attached to other vehicles:

- on which handbrakes can be applied
- which are capable of holding the unbraked vehicle.

If you are shunting vehicles against stationary vehicles, you must secure any vehicles which are to remain at a stand before you make a draw-away movement.

shunter,  
unaccompanied  
driver

You must not rely on the automatic brake to secure any vehicle.

### **5.5 Shunting beyond a limit of shunt signal or indicator**

You must make sure no part of the movement passes a limit of shunt signal or indicator unless the signaller has given permission.

shunter,  
unaccompanied  
driver

### **5.6 Shunting beyond a home signal**

You must not allow a wrong-direction shunting movement to go beyond a home signal unless the signaller has given permission.

shunter,  
unaccompanied  
driver

If there is a falling gradient towards the next signal box, you must not make the movement unless:

- the automatic brake is working throughout the train, or
- the locomotive is at the end nearer to the next signal box.

### **5.7 Entering a shed or building**

Before you allow a movement to enter a shed or building, you must:

- stop the movement at the entrance
- proceed only when you have checked it is safe to do so
- sound the horn as a warning before restarting, unless otherwise authorised in your company instructions.

shunter,  
unaccompanied  
driver

## 5.8 Operating ground frames

### shunter, unaccompanied driver

Before operating a ground frame which controls movements to a siding, you must reach a clear understanding with the signaller about:

- the movements required
- whether the train will be shut in the siding.

If you shut the train in the siding, you must confirm to the signaller that the train is clear of the running line before you restore the ground frame to normal.

### shunter

If a ground frame on a single-line section is to be unlocked by a train staff or token for shunting purposes, you must:

- get the train staff or token from the driver
- when shunting is completed, lock the points in the correct position for trains to pass on the running line
- return the train staff or token to the driver.



# 6

## Driving a traction unit from the leading cab

*The person responsible: driver*

You must always drive a light locomotive (single or in multiple), on-track machine, multiple-unit or push-pull train from the leading cab when a shunting movement is:

- within a depot or stabling siding
- entering a shed or building
- proceeding onto vehicles
- approaching buffer stops.

However, you can drive from another cab, as long as a shunter is controlling the movement by radio, and it is not necessary for you to observe signals or handsignals.

You must drive from the leading cab whenever possible when making any other shunting movement. If you cannot do so, you may drive from another cab, providing a shunter can control the movement, as shown in section 5.3 of this module.

driver

# 7

## Attaching and detaching vehicles

*The people responsible: driver, shunter*

### 7.1 Passenger and postal trains

**driver**

You must make sure the automatic brake is in use on movements which involve attaching to or detaching from a passenger or postal train.

### 7.2 Attaching a traction unit to a train or vehicles

**driver**

You must:

- always stop the traction unit 2 metres (6 feet 6 inches) from the vehicle
- stop again at any distance set out in the instructions for the class of traction unit involved
- if the movement is being controlled by a shunter, move forward only when authorised by the shunter.

### 7.3 Detaching a traction unit or vehicle from a train

**shunter**

Before detaching a traction unit, you must secure the train. If the train is on a gradient, you must secure it at the lower end.

Before detaching a vehicle from a train, you must secure the vehicle.

You must not rely on the automatic brake to secure the train or vehicle.

**driver**

Before a dead traction unit is detached from a train, you must make sure it is properly secured.

## 7.4 Detaching traction units that are coupled together on a running line

You must not uncouple a traction unit from another traction unit on a running line except:

- at a signal box
- at a signal
- on a platform line.

Before uncoupling traction units at a location where this does not happen routinely, you must tell the signaller what movements need to be made.

driver

# 8

## Movements over points worked from a signal box

*The people responsible: driver, shunter, signaller*

### 8.1 Getting the signaller's permission

shunter,  
unaccompanied  
driver

Before authorising a movement over points worked from a signal box, you must:

- get the signaller's permission either verbally or by a handsignal as described in section 8.2
- check the points are fitting correctly, where possible.

### 8.2 Signaller giving permission

signaller

You must give the shunter or driver permission by speaking directly to the shunter or driver, where appropriate, or by these handsignals.

- During daylight - arm raised above the head.
- During darkness - white light twisted quickly.

### 8.3 When the signaller's permission is not needed

shunter,  
unaccompanied  
driver

You do not need the signaller's permission if either of the following apply.

- The signaller has cleared a signal for the movement.
- The movement will pass a shunting or position-light signal which has a yellow 'stop' indication, and the points are set for a route to which the signal does not apply when it is cleared.

signaller

Before moving these points, you must check that no shunting movement will be affected.

## 8.4 When the movement is clear of points

If you need to indicate to the signaller that a movement is clear of points that need to be moved, you must do so as follows.

shunter,  
unaccompanied  
driver

### **Shunter**

During daylight - arm raised above the head.

During darkness - white light twisted quickly.

### **Unaccompanied driver**

During daylight or darkness - one short blast on the horn.

You must not move the points concerned after a movement has been made until the shunter or driver has given you the correct hand or audible signal.

signaller

# 9

## When shunting is completed

*The people responsible: driver, shunter, signaller*

### 9.1 Leaving vehicles in a safe position

**shunter,  
unaccompanied  
driver**

You must make sure that vehicles are:

- not left on a running line, except as shown in section 9.3
- not fouling any other line
- clear of any points which need to be moved
- left within the protection of any trap points, derailleurs or scotch blocks.

You must also make sure that there is enough room at fouling points for anyone to pass safely between:

- the vehicles which are to be left
- any movement on the adjoining line or siding.

### 9.2 Securing vehicles and traction units

**shunter**

You must make sure that vehicles are properly secured to prevent them moving.

**driver**

You must make sure that traction units are properly secured to prevent them moving.

### 9.3 Leaving vehicles or traction units on a running line

**shunter**

When leaving vehicles on a running line, you must:

- first tell the signaller, unless the method of working is routine at that location or for that movement
- place a red light on the rear end of the vehicles, or on both ends when on a single or bi-directional line.

When leaving traction units on a running line, you must:

driver

- first tell the signaller, unless the method of working is routine at that location or for that movement
- place a red light on the rear end of the traction units, or on both ends when on a single or bi-directional line.

## 9.4 Leaving vehicles or traction units on a dead-end line

When leaving vehicles on a dead-end line which has a red or white light on the buffer stops, you must make sure a light of the same colour is placed on the end of the vehicles which faces approaching movements.

shunter

When leaving a traction unit on a dead-end line which has a red or white light on the buffer stops, you must make sure a light of the same colour is placed on the end of the traction unit which faces approaching movements.

driver

## 9.5 Protecting running lines

To protect running lines, you must make sure that:

shunter

- ground-frame operated points and derailleurs are left in the normal position
- scotch blocks, where provided, are placed across the rails.

## 9.6 Checking that all running lines are clear

If necessary, you must ask the shunter or driver to confirm that all running lines are clear.

signaller

# 10

## Additional instructions for shunting within a possession

*The people responsible: driver, shunter*

### 10.1 Headlight on propelling movements

shunter

If there is no fixed headlight on the leading vehicle of a propelling movement, you must place a portable headlight on the leading vehicle before the movement starts.

### 10.2 Before giving a signal to move

shunter

Before giving the driver a signal to move, you must make sure that the driver has been given authority to make the movement from:

- the person in charge of the possession (PICOP), or
- the engineering supervisor (ES) or safe work leader (SWL) if within a work site.

### 10.3 Propelling outside a work site

driver,  
shunter

You must not make propelling movements outside a work site unless the details have been published in the *Weekly Operating Notice* or *Engineering Notice*.

shunter

If it is necessary to propel outside a work site when details have not been published, you must ask the PICOP if permission to propel has been given by Operations Control.

Before a movement begins, you must sound a warning by horn or whistle.



# 11

## Loading and unloading rail vehicles during engineering work

*The people responsible: driver, shunter*

### 11.1 Agreeing the requirements

You must come to a clear understanding with the person in charge who is appointed for the safe loading or unloading of moving or stationary vehicles:

**driver,  
shunter**

- when the person in charge will take over control of movements
- how the movement will be controlled
- when the control of movements will be handed back to the driver or shunter.

### 11.2 During the movement

You must carry out the instructions given by the person in charge.

**driver**





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**172**



# GERT8000-T3 Rule Book



## Possession of a running line for engineering work

### Issue 8






Module T3

September 2017  
Comes into force 02 December 2017



## Conventions used in the Rule Book

	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	
A white i in a blue box indicates that there is information provided at the bottom of the page.	
A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.	

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You will need this module if you carry out the duties of:

- a driver
- a signaller.

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- 1.2 Changing the possession limits
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# 1 Possession details

*The person responsible: signaller*

## 1.1 Possession details to be published

Except where a possession must be taken in an urgent situation, details of the possession must be published in the *Weekly Operating Notice or Engineering Notice*.

signaller

## 1.2 Changing the possession limits

The limits of the possession may be shortened or lengthened as long as:

signaller

- the details of the changed limits, including the planned time, are published in the *Weekly Operating Notice or Engineering Notice*, or
- in exceptional circumstances, it is agreed by Operations Control.

You must record the details in the Train Register.

## 1.3 Changes to the published details

Operations Control will let you and the person in charge of the possession (PICOP) know if it is necessary for any of the published details to be changed.

signaller

# 2 Taking the possession

*The person responsible: signaller*

## 2.1 PICOP confirming the details

signaller

The PICOP will contact the signaller, who controls the signal leading to the section of line that is to be taken under possession, and will state the published possession reference if there is one.

If you are that signaller, you and the PICOP must agree:

- the line that will be taken under possession
- whether possession is to be taken around one or more trains
- the signals leading to the possession that will be kept at danger or the block markers leading to the possession from which the route will be kept closed
- the details of any points or crossings that may be used for trains outside the possession
- the position that points within the possession must be placed in
- the arrangements to be applied for each level crossing within the possession
- the exact location of the detonator protection and whether this is less than the standard distance
- the time the possession is to be taken.

## 2.2 Taking possession around one or more engineering trains

signaller

When the possession is to be taken or lengthened around an engineering train, you must signal the engineering train concerned normally to the signal specified in the notices.

When the engineering train arrives at the specified signal or block marker, you must tell the driver not to move the train again until given instructions by the PICOP, engineering supervisor (ES) or safe work leader (SWL) after the possession has been granted.

When every engineering train is at its specified signal, you must tell the PICOP.

signaller

You must record the details in the Train Register.

## 2.3 Arranging to block the line

When the section of line concerned is clear other than any trains at a stand as shown in section 2.2, or where the possession is to be taken for the purpose of removing derailed vehicles or any other obstruction, the following must apply.

signaller

You must make sure the signals that you agreed with the PICOP will protect the possession have been placed to danger or the routes have been closed.

If a protecting signal needs to be placed to danger by operating a signal post replacement switch (SPRS), you must arrange for this to be done.

You must also make sure all points are in the position necessary to protect the possession.

You must record the details in the Train Register.

You must arrange for the following signals to be placed to danger or routes to be closed:

- all controlled signals or routes within the possession, and
- all other signals or routes which lead to or across the possession.

If any protecting signals or routes are controlled by another signaller, you must get confirmation from that signaller that the protecting signals are at danger and will be kept at danger or the routes have been closed and will kept closed until the possession is given up.

If another signaller is involved with the possession arrangements, you must:

- tell them what the possession arrangements are
- get their assurance that they will keep to these arrangements.

## signaller

If you are another signaller and are told about the possession arrangements, you must record in the Train Register:

- which line is blocked
- the limits of the possession
- the signals you must keep at danger or the routes you must keep closed to protect the possession
- the points you must operate to protect the possession
- the position that points within the possession must be placed in.

If it applies, you must place the block indicator for the affected line to **train on line**.

When all protecting signals are at danger or when the routes have been closed, you must tell the PICOP who will then complete section 1 of the possession arrangements form (RT3198). The PICOP will then read the details back to you.

When you are satisfied that all the details on the PICOP's RT3198 form are correct, you must tell the PICOP that the possession protection can be placed.

If any unworked points need to be secured, the PICOP is responsible for arranging for this to be done.

## 2.4 Arranging detonator protection at the standard distance

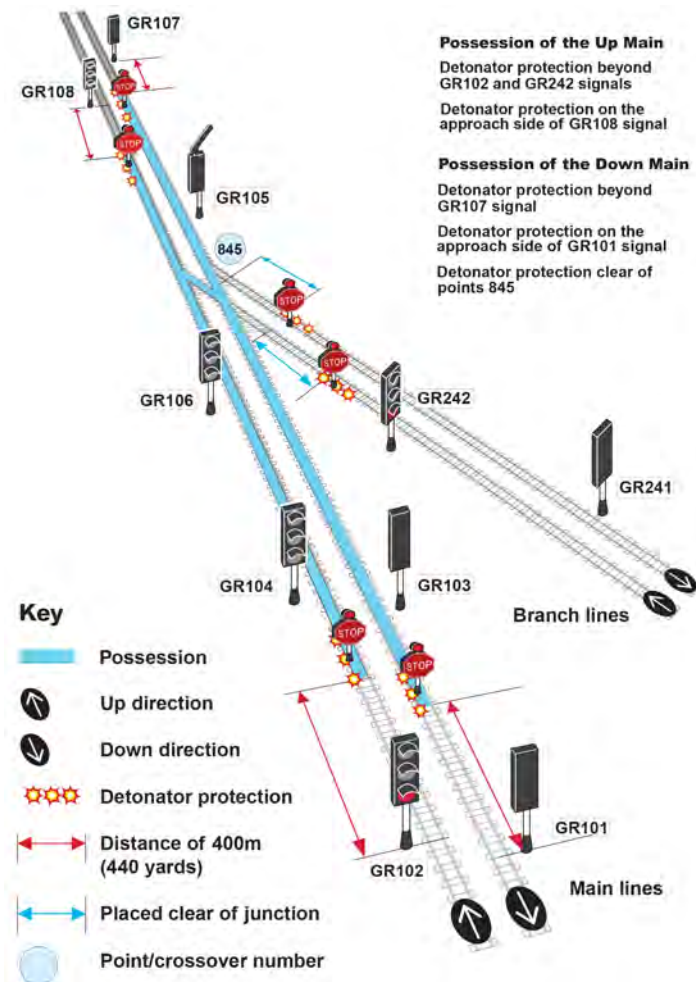
## signaller

The PICOP will arrange for detonator protection to be placed as shown in diagram T3.1, or where points are involved, diagram T3.2.

You must record in the Train Register that standard detonator protection has been provided.

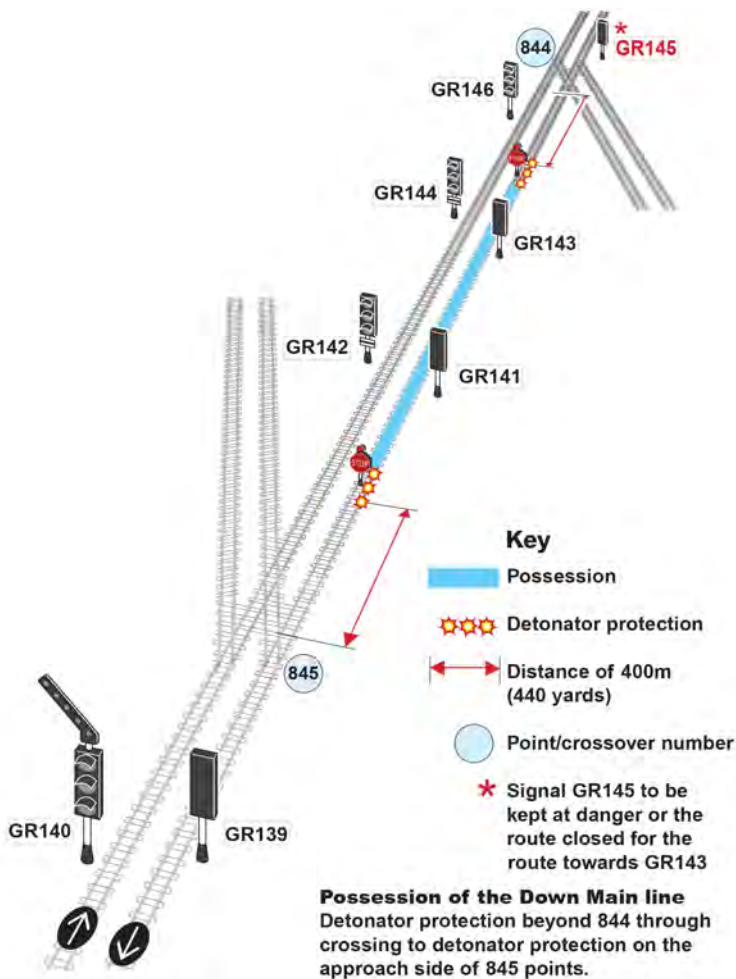
The PICOP will not provide detonator protection:

- at a crossover, siding or loop where it joins the line under possession, or
- on a single line where the PICOP has the token as protection.



**Standard detonator protection**

**Diagram T3.1**



Standard detonator protection-points involved

Diagram T3.2



## 2.5 If the standard distance is not available

If, due to the work that is to take place, it is not possible to place the detonator protection at the standard distance as shown in diagram T3.1 or diagram T3.2, the following must apply.

- The detonator protection must be placed as close to the standard distance as possible.
- Any train movement approaching the detonator protection from within the possession must be made as shown in section 4.8.

You must record in the Train Register that the standard distance for detonator protection is not available.

signaller

## 2.6 When detonator protection is in place

The PICOP will tell you when all detonator protection is in place.

When you are sure that the line concerned is correctly protected, you may grant the possession to the PICOP.

You must enter these details in the Train Register.

signaller

## 2.7 Using the token as protection

If the token is used as protection, the PICOP does not need to arrange detonator protection on a single line.

You must give the token to the PICOP or give a release so that it can be obtained from a token instrument that is not at the signal box. You may then grant the possession to the PICOP.

You must enter these details in the Train Register.

The PICOP must keep the token until the possession is given up.

signaller

# 3 Arrangements at level crossings

*The person responsible: signaller*

## signaller

The PICOP must not allow any train or OTP movement to take place, or any work to be carried out, that will affect the operation of any level crossing until the necessary arrangements have been put in place for that level crossing.

You must reach a clear understanding with the PICOP about the arrangements that will apply at each level crossing.

You must record in the Train Register the arrangements that are applied for each level crossing within the possession.

In addition to the instructions shown in module TS9 *Level crossings - signallers' regulations*, you must:

- tell any crossing keeper who will be affected by the possession arrangements
- tell the PICOP when an attendant is appointed or withdrawn at a level crossing.

# 4 Train movements

*The person responsible: signaller*

## 4.1 Movements towards the possession

You must keep the route closed and not clear any signal leading to the possession. **signaller**

When an engineering train is to enter the possession, you must authorise the driver to pass the signal at danger or pass an end of authority (EoA) without a movement authority (MA) and proceed to the detonator protection.

You must get permission from the PICOP before doing this.

If there is no detonator protection because the token is being used as protection, you must agree with the PICOP the exact location you must authorise the driver to proceed to.

## 4.2 Propelling

You must not allow any of the following movements to be propelled unless the details are published in the *Weekly Operating Notice* or *Engineering Notice*. **signaller**

- Movements entering the possession.
- Movements leaving the possession.

If it is necessary to propel when details have not been published, you must get authority from Operations Control before you can allow any of the above movements to be propelled.

### 4.3 Entering the possession at the detonator protection

#### signaller

Before you give the driver permission to proceed towards the detonator protection, you must make sure:

- the PICOP has given you permission
- you have not authorised a conflicting movement.

When the engineering train has entered the possession, the PICOP will tell you when the detonator protection has been replaced.

### 4.4 Entering the possession at an intermediate point

#### signaller

Before you give the driver permission to proceed from the protecting signal or protecting block marker towards the possession, you must make sure:

- the PICOP has given you permission
- the PICOP has positioned someone at the intermediate point to give instructions to the driver
- you have not authorised a conflicting movement to take place.

You must tell the driver to stop and get instructions from the person at the intermediate point.

The PICOP will tell you when the engineering train has entered the possession and is clear of the points or crossings at the intermediate point.

You must then return the points to the agreed position.

## 4.5 Entering the possession from an adjacent siding under possession

If a movement is to enter the possession from an adjacent siding under possession, you must first agree with the PICOP and the person in charge of the siding possession (PICOS) how this is to be done.

signaller

## 4.6 Leaving the possession

When the PICOP tells you that an engineering train is ready to leave the possession, you must personally authorise the driver to pass:

signaller

- beyond the protecting detonators out of the possession, or
- through points or crossings that are protecting the possession at an intermediate point.

You must make sure that the line is clear and safe for the movement to proceed before you authorise the driver to pass beyond the detonators.

If you can, you must signal the train normally beyond the protecting detonators.

To protect the possession, after the movement has left it, you must restore to their original position all points that you have operated for the movement.

## 4.7 Leaving the possession directly into a siding under possession

If a movement is to leave the possession directly into an adjacent siding under possession, you must first agree with the PICOP and the PICOS how this is to be done.

signaller

## 4.8 Movements towards the detonator protection when the standard distance is not available

### signaller

If the detonators have not been placed at the standard distance from points or crossings, the PICOP will not allow a movement to approach the detonator protection from within the possession without your permission.

You must give this permission only when any previous movement you have authorised through those points or crossings has passed clear.

After giving permission for the movement towards the detonator protection to be made, you must not allow a train to pass over the points or crossings until the movement has passed clear or has been completed.

## 4.9 Leaving the possession when there is no detonator protection

### signaller

When the PICOP is using the token as protection, you must agree with the PICOP how each movement is to leave the possession.

# 5

## Movements over level crossings

*The person responsible: signaller*

### 5.1 When these instructions apply

You must apply the instructions shown in sections 5.2 to 5.11 as appropriate when authorising a movement to enter or leave the possession.

signaller

If the ES, PICOP or SWL is responsible for authorising the movement, the following will apply.

#### AHBC

The ES, PICOP or SWL will get your permission before allowing an engineering train to pass over an AHBC that is not being locally controlled.

You must not give this permission if you are aware of any reason why the train must not pass over the level crossing.

OTP will not be allowed to pass over an AHBC level crossing unless it is being locally controlled.

#### CCTV, OD or RC

If the crossing is not being locally controlled, the ES, PICOP or SWL will get confirmation from you that the barriers have been lowered and the crossing is clear before they authorise the movement to pass over the level crossing.

## 5.2 Before making a movement

### signaller

Before the movement takes place, you must give details of the movement to those personnel operating:

- any CCTV, OD or RC level crossing
- other level crossings, if possible.

## 5.3 AHBC locally controlled

### signaller

You must tell the driver that the movement must not pass over the level crossing unless the crossing attendant is displaying a green handsignal.

## 5.4 AHBC that is not locally controlled

### signaller

Only an engineering train that is to pass normally over the level crossing and in a direction that has controls, may be allowed to proceed over the level crossing.

You must tell the driver not to stop specially before passing over the level crossing.

## 5.5 CCTV, OD or RC locally controlled

### signaller

You must tell the driver that the movement must not pass over the level crossing unless the crossing attendant is displaying a green handsignal.



## 5.6 CCTV, OD or RC that is not locally controlled

You must not allow any movement in the wrong direction to pass over the level crossing.

signaller

For other movements, you must not authorise the driver to pass the signal or block marker protecting the level crossing until the barriers have been lowered for the movement.

You must then tell the driver not to stop specially at the level crossing.

## 5.7 AOCL and ABCL not switched off

If the level crossing has not been switched off as shown in module TS9 *Level crossings - signallers' regulations*: regulation 4.1, the following must apply.

signaller

You must instruct the driver of a train that is to pass over the level crossing normally, to proceed over the level crossing only when it is safe to do so.

For any train movements not passing normally over the level crossing, you must not allow the movement to take place unless:

- the level crossing has been closed to road traffic, or
- a competent person is positioned at the level crossing and has stopped road traffic by displaying a red handsignal on both sides of the level crossing.

You must instruct the driver to stop at the level crossing, sound the horn and then pass over the level crossing only when it is safe to do so.

## 5.8 AOCL and ABCL that has been switched off

### signaller

If the level crossing has been switched off as shown in module TS9 *Level crossings - signallers' regulations*: regulation 4.1, the following must apply.

### During daylight

You must instruct the driver of a train that is to pass over the level crossing to stop the train at the level crossing, sound the horn and then pass over the level crossing only when it is safe to do so.

### During darkness

The movement of a train over the level crossing must not take place unless:

- the level crossing has been closed to road traffic, or
- a competent person is positioned at the level crossing and has stopped road traffic by displaying a red handsignal on both sides of the level crossing.

You must instruct the driver to stop at the level crossing, sound the horn and then pass over the level crossing only when it is safe to do so.

## 5.9 Manned level crossing

### signaller

You must instruct the driver to pass over the level crossing only if the level crossing barriers or gates are closed to road traffic.

If it is a traincrew operated (TMO) level crossing, you must make sure that a competent person is available to operate the level crossing before authorising the driver to proceed.

## **5.10 Crossing with red and green warning lights (R/G)**

You must instruct the driver to stop at the level crossing, sound the horn and then pass over the level crossing only when it is safe to do so.

signaller

## **5.11 Barrow or foot crossing with white light indicators**

You must instruct the driver to pass over the level crossing only when it is safe to do so.

signaller

# 6

## Change of personnel

*The person responsible: signaller*

### 6.1 Change of PICOP

signaller

The PICOP will tell you the name of the new PICOP if there is a change. You must record the details in the Train Register.

### 6.2 Change of signaller

signaller

If you are the new signaller taking duty, you must countersign the entries in the Train Register.

# 7

## Giving up the possession

*The person responsible: signaller*

### 7.1 Giving up the possession around engineering trains

The PICOP may give up the possession around engineering trains standing at the agreed stop signals or block markers on the line under possession, as long as all of the following apply.

- The line is signalled by track circuit block (TCB) or ERTMS and the train is standing at a location where the train detection is by means of track circuits and not by axle counters.
- The movement, after the possession is given up, will be in the normal signalled direction and will be driven from the leading cab.
- You have agreed with the PICOP the stop signal or block marker to be used.
- The agreed signals are controlled signals or signals that you can replace to danger when the possession is to be given up around two or more trains.
- The agreed block markers are ones at which you can keep the route closed when the possession is to be given up around two or more trains.
- Each train is standing at a separate signal or block marker.

When the engineering train arrives at the agreed stop signal or block marker, you must:

- tell the driver to make no further movement until you have given verbal permission for the engineering train to proceed, then
- tell the PICOP the train has arrived at the agreed stop signal or block marker and will not be moved.

You must not start the arrangements to give up the possession until all the engineering trains have arrived at the agreed signals or block markers.

signaller

## 7.2 Removing the protection

### signaller

When the possession is no longer needed, the PICOP will:

- if single line working is still in operation, tell the pilotman that the possession is being given up
- arrange to release any unworked points or train-operated points that have been secured
- arrange for the detonator protection to be removed.

If the token is being used as the protection and the possession is no longer needed, the PICOP will:

- return the token to the signal box at either end of the section, or
- place it in an instrument that is not at a signal box after reaching a clear understanding with you about what is to be done.

## 7.3 Signaller being told when the possession is no longer needed

### signaller

The PICOP will tell you that the line is clear and safe for trains to run on (or if section 7.1 applies, clear and safe other than the trains standing at the agreed signals or block markers) when:

- any unworked points or train-operated points that had been secured have been released
- the detonator protection has been removed.

## 7.4 Confirming the possession is given up

### signaller

You must record the details in the Train Register. You must read the entry back to the PICOP.

When the entry has been made in the Train Register and if the PICOP agrees with the entry, this is confirmation that the possession has been given up.

# 8

## Resuming normal working

*The person responsible: signaller*

### 8.1 Restoring signals and block indicator

When the PICOP has given up the possession, you must arrange for all signals that have been kept at danger or all routes which have been kept closed to be restored to normal working.

signaller

If it applies, you must arrange for the block indicator to be restored to **normal**.

### 8.2 Telling personnel the possession is given up

You must tell the following that the possession has been given up:

signaller

- any other signaller concerned
- any crossing keeper concerned.

If you are another signaller who is told the possession has been given up, you must write the details in the Train Register.

### 8.3 AHBC, CCTV, OD or RC level crossings

You must arrange for normal working to be restored at any AHBC, CCTV, OD or RC level crossing at which an attendant has been appointed.

signaller

## 8.4 Possession given up around an engineering train

### signaller

If the possession was given up with an engineering train standing at a stop signal or block marker, you must tell the driver of that train that the possession has been given up and to proceed obeying all signals or in-cab indications.

## 8.5 First train over the affected portion of line

### signaller

### a) Checking the operation of track circuits

You must specially watch the operation of the track circuits during the passage of the first train over the line that was affected by the possession.

### b) On a TCB line

On a TCB line, you must not allow a second train to pass over the line that was affected by the possession unless there is a controlled signal which you have replaced to danger between the first and second trains.

### c) On an ERTMS line

On an ERTMS line, you must not allow a second train to pass over the line that was affected by the possession unless there is an EoA at which the route is closed between the first and second trains.

### d) Intermediate block signals

If there are intermediate block signals, you must not clear the section signal for a second train until the first train has arrived at the signal box ahead.



# 9

## Driver's duties

*The person responsible: driver*

### 9.1 Authority for movement of engineering trains (See diagram T3.3)

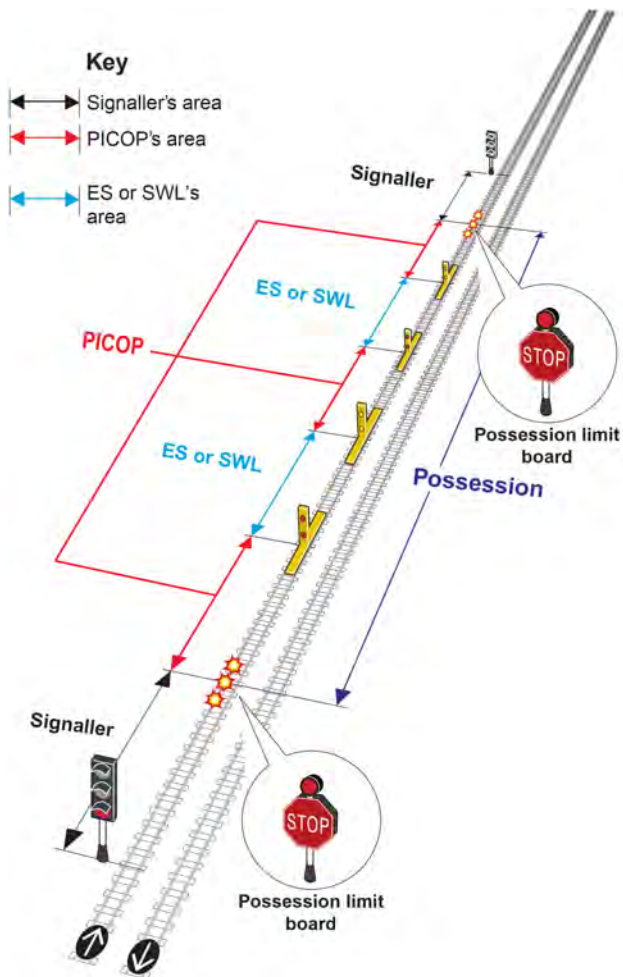
You must make movements only if you have the authority of the following personnel.

driver

#### a) Signaller

The signaller will personally authorise you to make a movement that is required to:

- proceed from either end towards the detonator protection for the possession
- proceed to the location where your train will be met when entering the possession when the PICOP has the token on a single line
- enter the possession at an intermediate point where your train will be met
- pass through points or crossings that are protecting the possession at an intermediate point when leaving the possession
- proceed past the location of the detonator protection when leaving the possession
- proceed from the location agreed between the PICOP and signaller when the train is leaving the possession when the PICOP has the token on a single line.



### Areas of responsibility

Diagram T3.3

## b) PICOP

The PICOP (or competent person on the PICOP's behalf) will authorise you to make a movement that is required to:

driver

- go past the location of the detonator protection into the possession
- pass through points or crossings that are protecting the possession at an intermediate point when entering the possession
- enter or leave the possession from a siding that is also under possession
- move between the detonator protection at each end of the possession and the nearest work site
- pass the work-site marker board (WSMB) at the exit from a work site, this will be showing two yellow flashing lights
- move between work sites.

The PICOP will wear an armlet on the left arm, or a badge on the upper body, with PERSON I.C. POSSESSION in red letters on a yellow background.

## c) ES or SWL

The ES or SWL (or a competent person on the ES's or SWL's behalf) will authorise you to make a movement:

- past a WSMB into a work site, this will be showing two red flashing lights
- within a work site.

The ES or SWL can permit a person to travel in your cab to give you instructions about the working of your train while loading and unloading, as shown in module SS2 *Shunting*.

**driver** The ES will wear an armlet on the left arm, or a badge on the upper body, with ENGINEERING SUPERVISOR in blue letters on a yellow background.

The SWL will wear an armlet on the left arm, or a badge on the upper body, with SWL in blue letters on a yellow background.

## 9.2 Reaching a clear understanding with others

**driver** You must reach a clear understanding with the person authorising the movement as to:

- what you must do
- how far the movement is to proceed.

## 9.3 Headlights and tail lamps

**driver** If the train is detained outside a work site, you must make sure that:

- a red light is showing at both ends of the train
- the headlights are switched off.

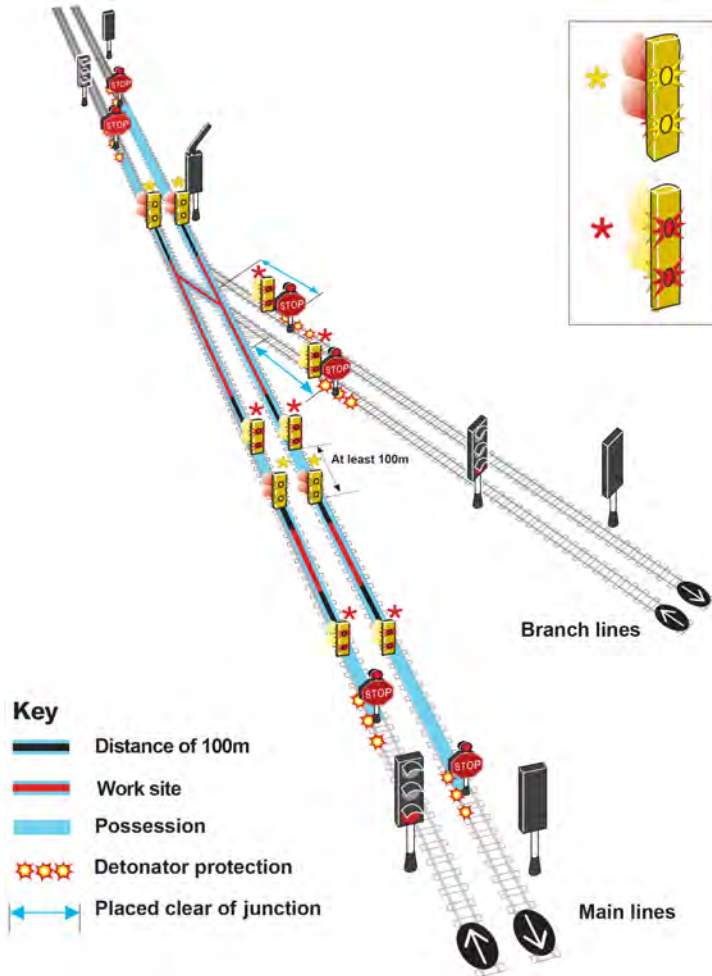
## 9.4 Detonator protection

**driver** Detonator protection is three detonators placed on the same rail, 20 metres (approximately 20 yards) apart with a possession limit board (PLB) placed at the centre detonator.

## 9.5 Indicating each work site

**driver** A work-site marker board (WSMB) will be placed in the 'four-foot' at each end of the work site. See diagram T3.4.

The WSMB for one work site will be no closer than 100 metres (approximately 100 yards) from the WSMB of another work site.



Indication of work sites

Diagram T3.4

driver

WSMBs are not needed if there will be no engineering trains or OTP movements within the possession.

Only the ES or SWL can give authority for your train to pass the WSMB displaying two red lights and enter the work site.

Only the PICOP can give authority for your train to pass the WSMB displaying two yellow lights and leave a work site.

## 9.6 During the movement

driver

### a) Making the movement

You must:

- make the movement at caution
- not exceed 25 mph (40 km/h) at any point in the journey when entering, making a movement within, or leaving the possession
- make any movement in a work site at no greater than 5 mph (10 km/h) unless you are given specific instructions by the ES or SWL
- be prepared to stop before reaching a handsignal that is being displayed.

You can use GSM-R radio to speak at any time about details of the movement being made.

You must also carry out the instructions shown in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)* or TW7 *Wrong-direction movements* until your train is brought under the control of a signal after you leave the possession.

When vehicles are being loaded or unloaded, you must also carry out the instructions shown in module SS2 *Shunting*.

### **b) Passing a signal or block marker within the possession**

You must not pass a signal at danger or a block marker within the possession unless you are authorised to do so by the PICOP, or by the ES or SWL if it is inside a work site.

driver

You can pass without authority a signal showing a proceed aspect or indication, but you must disregard the normal meaning of that signal.

### **c) Level crossings**

You must not pass over any level crossing unless you have been given instructions to do so.

When you pass over the crossing, you must carry out the relevant instructions regarding level crossings shown in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA) or TW7 Wrong-direction movements*.

## 9.7 When a possession is to be taken around one or more engineering trains

### a) Conditions

driver

If the arrangements have been published, the signaller can grant possession to the PICOP when your train is standing at a signal or block marker on the line on which the possession is to be taken.

The signal or block marker this applies to will be shown in the *Weekly Operating Notice* or *Engineering Notice*.

### b) Proceeding to the specified signal or block marker

Your movement to the specified signal or block marker will be signalled under normal arrangements.

### c) Arriving at the specified signal or block marker

When your train arrives at the specified signal or block marker, the signaller will instruct you to make no further movement until you are authorised by the PICOP, ES or SWL, as appropriate.

## 9.8 When a possession is to be given up around engineering trains

### a) Conditions

driver

The PICOP can give up the possession with engineering trains standing at the agreed stop signals or block markers on the line under possession, as long as:

- the movement, after the possession is given up, will be in the normal signalled direction
- the movement is driven from the leading cab.



If the possession is to be given up around your train, the PICOP will tell you the location and identity of the signal or block marker you must stop at.

driver

This signal or block marker will be agreed between the PICOP and signaller and must not be within a work site.

The PICOP will also tell you, and anyone else on the train, that the line on which you are standing must be considered as no longer under possession.

#### **b) Arriving at the signal or block marker**

When your train arrives at the signal or block marker, you must immediately contact the signaller. You must make no further movement with the train until the signaller tells you to proceed.

#### **c) When the possession has been given up**

When the possession has been given up, the signaller will tell you this and the conditions under which the train may proceed.

## Notes





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# GERT8000-T3 ERTMS Rule Book



## Possession of an ERTMS running line for engineering work where lineside signals are not provided

Issue 4



Module T3 ERTMS

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You will need this module if, on ERTMS lines, you carry out the duties of a:

- driver
- signaller.

Conventions used in the Rule Book	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	driver
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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# 1 Possession details

*The person responsible: signaller*

## 1.1 Possession details to be published

Except when a possession must be taken in an urgent situation, details of the possession must be published in the *Weekly Operating Notice* or *Engineering Notice*.

signaller

## 1.2 Changing the possession limits

The limits of the possession may be shortened or lengthened as long as:

signaller

- the details of the changed limits, including the planned time, are published in the *Weekly Operating Notice* or *Engineering Notice*, or
- in exceptional circumstances, it is agreed by Operations Control.

You must record the details in the Train Register.

## 1.3 Changes to published details

Operations Control will let you and the person in charge of the possession (PICOP) know if it is necessary for any of the published details to be changed.

signaller

# 2

## Taking the possession

*The person responsible: **signaller***

### 2.1 PICOP confirming the details

#### signaller

The PICOP will contact the signaller who controls the block marker leading to the section of line that is to be taken under possession and will state the published possession reference if there is one.

If you are that signaller, you and the PICOP must agree:

- the line that will be taken under possession
- the possession procedure to be used
- whether the possession is to be taken around one or more trains
- the locations between which the possession will be taken including the protecting block markers or points
- the details of any points or crossings that may be used for trains outside the possession
- the position that points within the possession must be placed in
- the arrangements to be applied for each level crossing within the possession
- the exact location of the first work-site marker board (WSMB) in the normal direction of travel
- the exact location of the last WSMB in the normal direction of travel
- the time the possession is to be taken and the time it will be given up.

## 2.2 Taking the possession around one or more engineering trains

When the possession is to be taken or lengthened around an engineering train, you must signal the train concerned normally to the block marker specified in the notices.

signaller

When the engineering train arrives at the specified block marker, you must tell the driver not to move the engineering train again until given instructions by the PICOP, engineering supervisor (ES) or safe work leader (SWL) after the possession has been granted.

When every engineering train is at its specified block marker you must tell the PICOP.

You must record the details in the Train Register.

## 2.3 Arranging to block the line

### Protecting the line with block markers

Each entrance to the section of line on which the possession is taken must be protected by a block marker in the normal direction of travel.

signaller

On a single or bi-directional line, each exit from the section of line on which the possession is taken must be protected by a block marker.

On a line that is not single or bi-directional, each exit from the line on which a possession is taken must be protected by a block marker in the normal direction of travel.

The distance between the block marker or points used to protect the entrance to the possession and the first WSMB must not be less than 200 metres.

The block marker immediately beyond the last WSMB must be no closer than 200 metres. This must be the point where normal working starts for train movements in the right direction.

## signaller

### Closing the route

When the section of line concerned is clear other than any trains at a stand, as shown in section 2.2 or when the possession is to be taken for the purpose of removing derailed vehicles or any other obstruction, the following must apply.

You must make sure the routes are closed from the block markers you have agreed will protect the possession.

You must also make sure all points are in the position necessary to protect the possession.

You must record the details in the Train Register.

You must also close:

- all routes within the possession
- all other routes which lead to or across the possession.

You must then ask a competent person, if present in the signal box, to check that this has been done correctly.

### If another signaller is involved

If any protecting block markers are controlled by another signaller, you must get confirmation from that signaller that the routes from the protecting block markers have been closed and will be kept closed until the possession is given up.

If any signallers at other signal boxes are involved with the possession arrangements, you must:

- tell them what the possession arrangements are
- get their assurance that they will keep to these arrangements.

If you are the signaller at another signal box and you are told about the possession arrangements, you must record in the Train Register:

signaller

- which line is blocked
- the limits of the possession
- the block markers at which you must keep the routes closed to protect the possession
- the points you must operate to protect the possession
- the position that points within the possession must be placed in.

### **Telling the PICOP**

When all the routes have been closed to protect the possession, you must tell the PICOP who will then complete section 1 of the Possession Arrangements Form (RT3198 ERTMS). The PICOP will then read the details back to you.

When you are satisfied that all the details on the PICOP's RT3198 ERTMS form are correct, you must tell the PICOP that the possession protection procedure can be carried out.

If any unworked points need to be secured, the PICOP is responsible for arranging for this to be done.





## 2.4 When signalling protection has been provided

When protection by block markers and points has been provided as shown in section 2.3 of this module, one of the following possession procedures must be carried out before the possession can be granted.

signaller

The only exception to this is possession procedure T3-A. This procedure must be carried out after the possession is granted.

You must record in the Train Register which possession procedure has been used.

## 2.5 Possession procedure T3-A (using a track circuit operating device T-COD)

You may use procedure T3-A only if all of the following apply.

signaller

- Use of a T-COD is authorised at the location concerned.
- The signalling equipment is working normally at the time the T-COD is to be placed on the line.
- The work within the possession will not affect the correct operation of the track circuit concerned.

The PICOP will arrange for the T-COD to be placed after the possession has been granted.

Before giving the PICOP permission to place the T-COD, you must make sure the track circuit concerned is showing clear. You must tell the PICOP when the track circuit concerned shows occupied.

## 2.6 Possession procedure T3-D (disconnecting signalling equipment)

### a) When this procedure can be used

signaller

You may use procedure T3-D only if it is authorised at the particular location.

### b) Arranging for a disconnection to be made

When you have told the PICOP all routes leading towards the possession have been closed, as shown in section 2.3 of this module, the PICOP will arrange for the signalling controls of these routes to be disconnected.

The PICOP will tell you when this has been done.

## 2.7 Possession procedure T3-P (PICOP or PICOP's agent going to the signal box)

### a) When this procedure may be used

signaller

You may use procedure T3-P only if it is authorised at the particular location.

### b) PICOP going to the signal box

When you have told the PICOP all routes protecting the entrances and exits from the possession have been closed as shown in section 2.3 of this module, the PICOP will check that this has been done and that the possession is being correctly protected.

If the PICOP cannot personally attend the signal box that controls the routes protecting the entrances to and exits from the possession, the PICOP will arrange for a PICOP's agent to be in the controlling signal box to check that the correct routes have been closed.

If possession procedure T3-P is being used, you must not grant the possession until the PICOP or the PICOP's agent is present and the PICOP is satisfied that the possession is correctly protected.

## 2.8 Possession procedure T3-E (barring the route)

Possession procedure T3-E **must** always be used except when it is not possible to do so and one of the alternative procedures has been agreed at the planning meeting.

signaller

In exceptional circumstances, this may be agreed by Operations Control.

When you have told the PICOP all routes leading towards the possession have been closed as shown in section 2.3 of this module, the PICOP will arrange for the signalling controls of these routes to be barred.

The PICOP will tell you when this has been done.

## 2.9 Granting the possession

You must only grant possession when:

signaller

- signalling protection has been provided
- any additional protection required under possession procedure T3-D or T3-E has been carried out and the PICOP has recorded the details in section 2 of the Possession Arrangements Form (RT 3198 ERTMS)
- the necessary entries have been made in the Train Register.

When you are sure all these requirements have been carried out, you may tell the PICOP the possession is granted.

## 2.10 Changing the limits of the possession after the possession has been granted

### signaller

If it is necessary to set up another work site on the approach to the first WSMB or beyond the last WSMB, the PICOP will first ask your permission to do so.

The PICOP must tell you the exact location (mileage or kilometres and metres) of the new WSMB before allowing any further train movements.

You must not give the PICOP permission to set up another work site until any movement already authorised has passed clear of the area concerned.

You must record the details of the new WSMB in the Train Register.

If possession procedure T3-A is being used, the PICOP must make sure a T-COD is placed on the line at the same time and at the same place as the new first WSMB, as shown in section 2.5.

The PICOP will also, if necessary, arrange to remove the T-COD placed at the previous first WSMB.

## 2.11 Carrying out signalling work in the possession

### signaller

You must not allow signalling work to be carried out if it would affect the route barring or the functioning of the balises protecting the exits from a possession.

# 3 Arrangements at level crossings

*The person responsible: **signaller***

The PICOP must not allow any train or OTP movements to take place, or any work to be carried out, that will affect the operation of any level crossing until the necessary arrangements have been put in place for that level crossing.

**signaller**

You must reach a clear understanding with the PICOP about the arrangements that will apply at each level crossing.

You must record in the Train Register the arrangements that are applied for each level crossing within the possession.

As well as the instructions shown in module TS9 *Level crossings - signallers' regulations*, you must:

- tell any crossing keeper who will be affected by the possession arrangements
- tell the PICOP when an attendant is appointed or withdrawn at a level crossing.

# 4 Train movements

The person responsible: **signaller**

## 4.1 Passing the protecting block marker

**signaller**

You must not set any route leading to the possession.

You must not allow any train other than an ERTMS-fitted train to make a movement from either end towards the first or last WSMB.

When an engineering train is to enter a possession, you must dictate written order No.1 (RTWO01) and authorise the driver to pass the block marker and proceed to the first WSMB.

You must get permission from the PICOP before doing this.

## 4.2 Propelling

**signaller**

You must not allow any of the following movements to be propelled unless the details are published in the *Weekly Operating Notice* or *Engineering Notice*.

- Movements entering the possession.
- Movements leaving the possession.

If it is necessary to propel when details have not been published, you must get authority from Operations Control before you can allow any of the above movements to be propelled.

## 4.3 Entering the possession at the first WSMB

**signaller**

Before you give the driver permission to proceed towards the first WSMB, you must make sure:

- the PICOP has given you permission, and
- you have not authorised a conflicting movement.

When the engineering train has entered the possession, the PICOP will tell you when the first WSMB has been replaced.

signaller

#### **4.4 Entering a possession at an intermediate point**

Before you give the driver permission to proceed from the protecting block marker towards the possession, you must make sure:

signaller

- the PICOP has given you permission
- the PICOP has positioned someone at the intermediate point to give instructions to the driver
- you have not authorised a conflicting movement to take place.

You must tell the driver to stop and get instructions from the person at the intermediate point.

The PICOP will tell you when the engineering train has entered the possession and is clear of the points or crossings at the intermediate point.

You must then return the points to the agreed position.

#### **4.5 Entering the possession from an adjacent siding under possession**

If a movement is to enter the possession from an adjacent siding under possession, you must first agree with the PICOP and the person in charge of the siding possession (PICOS) how this is to be done.

signaller

## 4.6 Leaving the possession

### signaller

You must not allow any engineering train other than an ERTMS-fitted engineering train to make a movement between the last WSMB and the block marker protecting the exit from the possession.

When the PICOP tells you that an engineering train is ready to leave the possession, you must reach a clear understanding with the PICOP about the instructions to give the driver about the movement:

- beyond the WSMB out of the possession, or
- through points or crossings that are protecting the possession at an intermediate point.

You must make sure that the line is clear throughout to the next block marker and safe for the movement to proceed before you give the PICOP instructions to authorise the driver to pass beyond the WSMB and out of the possession.

To protect the possession, after the movement has left it, you must:

- restore to their original position all points that you have operated for the movement
- close the route protecting the exit from the possession.

## 4.7 Leaving the possession directly into a siding under possession

### signaller

If a movement is to leave the possession directly into an adjacent siding under possession, you must first agree with the PICOP and the PICOS how this is to be done.



# 5

## Movements over level crossings

*The person responsible: **signaller***

### 5.1 When these instructions apply

You must apply the instructions shown in sections 5.2 to 5.11 as appropriate when authorising a movement to enter or leave the possession.

**signaller**

Where the ES, PICOP or SWL is responsible for authorising the movement, the following will apply.

#### AHBC

The ES, PICOP or SWL will get your permission before allowing an engineering train to pass over an AHBC that is not being locally controlled.

You must not give this permission if you are aware of any reason why the train must not pass over the level crossing.

OTP will not be allowed to pass over an AHBC level crossing unless it is being locally controlled.

#### CCTV, OD or RC

If the crossing is not being locally controlled, the ES, PICOP or SWL will get your confirmation that the barriers have been lowered and the crossing is clear before they authorise the movement to pass over the level crossing.

### 5.2 Before making a movement

Before the movement takes place you must give details of the movement to those personnel operating:

**signaller**

- any CCTV, OD or RC level crossing
- other level crossing, if possible.

### 5.3 AHBC locally controlled

**signaller**

You must tell the driver that the movement must not pass over the level crossing unless the crossing attendant is displaying a green handsignal.

### 5.4 AHBC that is not locally controlled

**signaller**

Only an engineering train that is to pass normally over the level crossing in a direction that has controls may be allowed to proceed over the level crossing.

You must tell the driver not to stop specially before passing over the level crossing.

### 5.5 CCTV, OD or RC locally controlled

**signaller**

You must tell the driver that the movement must not pass over the level crossing unless the crossing attendant is displaying a green handsignal.

### 5.6 CCTV, OD or RC that is not locally controlled

**signaller**

You must not allow any movement in the wrong direction to pass over the level crossing.

For other movements, you must not authorise the driver to pass the block marker protecting the level crossing until the barriers have been lowered for the movement.

You must then tell the driver not to stop specially at the level crossing.

## 5.7 AOCL or ABCL not switched off

If the level crossing has not been switched off as shown in module TS9 *Level Crossings - signallers' regulations*, regulation 4.1, the following must apply.

signaller

You must instruct the driver of a train that is to pass over the level crossing normally, to proceed over the crossing only when it is safe to do so.

For any train movements not passing normally over the level crossing, you must not allow the movement to take place unless:

- the level crossing has been closed to road traffic, or
- a competent person is positioned at the level crossing and has stopped road traffic by displaying a red handsignal on both sides of the level crossing.

You must instruct the driver to stop at the level crossing, sound the horn and then pass over the level crossing only when it is safe to do so.

## 5.8 AOCL or ABCL that has been switched off

If the level crossing has been switched off as shown in module TS9 *Level crossings - signallers' regulations*, regulation 4.1, the following must apply.

signaller

### During daylight

You must instruct the driver of a train that is to pass over the level crossing to stop the train at the level crossing, sound the horn and then pass over the level crossing only it is safe to do so.

### **During darkness**

#### **signaller**

The movement of a train over the level crossing must not take place unless:

- the level crossing has been closed to road traffic, or
- a competent person is positioned at the level crossing and has stopped road traffic by displaying a red handsignal on both sides of the level crossing.

You must instruct the driver to stop at the level crossing, sound the horn and then pass over the level crossing only when it is safe to do so.

## **5.9 Manned level crossing**

#### **signaller**

You must instruct the driver to pass over the level crossing only if the level crossing barriers or gates are closed to road traffic.

If it is a traincrew-operated (TMO) level crossing, you must make sure that a competent person is available to operate the level crossing before authorising the driver to proceed.

## **5.10 Crossing with red and green warning lights (R/G)**

#### **signaller**

You must instruct the driver to stop at the level crossing, sound the horn and then pass over the level crossing only when it is safe to do so.

## **5.11 Barrow or foot crossing with white light indicators**

#### **signaller**

You must instruct the driver to pass over the level crossing only when it is safe to do so.

# 6

## Change of personnel

*The person responsible: **signaller***

### 6.1 Change of PICOP

The PICOP will tell you the name of the new PICOP if there is a change. You must record the details in the Train Register.

**signaller**

### 6.2 Change of signaller

If you are the new signaller taking duty you must countersign the entries in the Train Register.

**signaller**

# 7

## Giving up the possession

*The person responsible: signaller*

### 7.1 Giving up the possession around an engineering train

**signaller**

The PICOP may give up the possession with an engineering train standing at a block marker on the line under possession, as long as all of the following apply.

- The train is standing at a location where the train detection is by means of track circuits and not by axle counters.
- The movement, after the possession is given up, will be in the normal signalled direction and will be driven from the leading cab.
- You have agreed with the PICOP the block marker to be used.

When the train arrives at the agreed block marker, you must:

- tell the driver to make no further movement until you have given verbal permission for the engineering train to proceed, then
- tell the PICOP the train has arrived at the agreed block marker and will not be moved.

You must not start the arrangements to give up the possession until the engineering train has arrived at the agreed block marker.

### 7.2 Removing the protection

**signaller**

When the possession is no longer needed the PICOP will:

- if single line working is in operation, tell the pilotman that the possession is being given up
- arrange to release any unworked points or train-operated points that have been secured
- arrange for any disconnection made under possession procedure T3-D to be reconnected or for any route barring carried out under possession procedure T3-E to be restored
- arrange for the first and last WSMBs to be removed.

### **7.3 Signaller being told when the possession is no longer needed**

The PICOP will tell you that the line is clear and safe for trains to run on (or if section 7.1 applies, clear and safe other than the train standing at the agreed block marker) when:

signaller

- any unworked points or train-operated points that had been secured have been released
- any disconnection made under possession procedure T3-D has been reconnected or any route-barring carried out under possession procedure T3-E has been restored
- the first and last WSMBs have been removed.

### **7.4 Confirming the possession is given up**

You must record the details in the Train Register. You must read the entry back to the PICOP.

signaller

When the entry has been made in the Train Register and if the PICOP agrees with the entry, this is confirmation that the possession has been given.

# 8 Resuming normal working

*The person responsible: signaller*

## 8.1 Restoring the signalling to normal working

**signaller** When the PICOP has given up the possession, you must arrange for all routes which have been closed to be restored to normal working.

## 8.2 Telling personnel the possession is given up

**signaller** You must tell the following that the possession has been given up.

- Any other signaller concerned.
- Any crossing keeper concerned.

If you are the signaller at an adjacent signal box, you must record the details in the Train Register.

## 8.3 AHBC, CCTV, OD or RC level crossings

**signaller** You must arrange for normal working to be restored at any AHBC, CCTV, OD or RC level crossing at which an attendant is appointed.

## 8.4 Possession given up around an engineering train

**signaller** If the possession was given up with an engineering train standing at a block marker, you must tell the driver of that train that the possession has been given up and the conditions under which the train may proceed.



## 8.5 First train over the affected portion of line

You must specially watch the operation of the track circuits during the passage of the first train over the line that was affected by the possession.

signaller

You must not allow a second train to pass over the line that was affected by the possession unless there is a route setting position (RSP) at which the route is closed between the first and second trains.

# 9

## Driver's duties

*The person responsible: driver*

### 9.1 Authority for movement of engineering trains

#### driver

You must make movements only on the authority of the following personnel.

#### a) Signaller

The signaller will **personally** authorise you to make a movement that is required to:

- proceed from either end towards the first WSMB
- enter the possession at an intermediate point where your train will be met.

The signaller will give the PICOP the necessary instructions to pass on to you when you are to make a movement that must:

- pass through points or crossings that are protecting the possession at an intermediate point when leaving the possession
- proceed beyond the last WSMB when leaving the possession.

All movements described in section 9.1 a) are restricted to engineering trains fitted with ERTMS and operating in SR mode.

Any engineering train not fitted with ERTMS, or with ERTMS not working, must be operated by a traction unit that is fitted with ERTMS.

## b) PICOP

The PICOP (or competent person on the PICOP's behalf) will authorise you to make a movement that is required to:

driver

- pass through points or crossings that are protecting the possession at an intermediate point when entering the possession
- enter or leave the possession from or to a siding that is also under possession
- pass the WSMB at the exit from a work site; this will be showing two yellow flashing lights
- move between work sites
- proceed beyond the last WSMB after passing on the signaller's instructions when leaving the possession.

You do not need a written order to leave a possession at a WSMB or at an intermediate point. However, you must be prepared to stop at the next block marker unless an MA is received.

The PICOP will wear an armband on the left arm, or a badge on the upper body, with PERSON I.C. POSSESSION in red letters on a yellow background.

Within the protection of the first and last WSMBs, all movements may be made by any engineering train or OTP.

## c) ES or SWL

The ES or SWL (or a competent person on the ES's or SWL's behalf) will authorise you to make a movement:

driver

- past a WSMB into a work site; this will be showing two flashing red lights
- within a work site.

The ES can permit a person to travel in your cab to give you instructions about the working of your train while loading or unloading.

The ES will wear an armband on the left arm, or a badge on the upper body, with 'ENGINEERING SUPERVISOR' shown in blue letters on a yellow background.

**driver** The SWL will wear an armlet on the left arm, or a badge on the upper body, with SWL in blue letters on a yellow background.

## 9.2 Reaching a clear understanding with others

**driver** You must reach a clear understanding with the person authorising the movement as to:

- what you must do
- how far the movement is to proceed.

## 9.3 Headlights and tail lamps

**driver** If the train is detained between two work sites, you must make sure that:

- a red light is showing at both ends of the train
- the headlights are switched off.

## 9.4 Indicating work sites within the possession

**driver** A WSMB will be placed in the 'four-foot' at each end of the work site. See diagram T3.1 ERTMS.

The WSMB for one work site will be no closer than 100 metres from the WSMB of another work site.

WSMBs are not needed if there will be no engineering train or OTP movements within the possession.

Only the ES can give authority for your train to pass the WSMB displaying two red lights and enter the work site.

Only the PICOP can give authority for your train to pass the WSMB displaying two yellow lights and leave a work site.

## 9.5 During the movement

### a) Making the movement

You must make the movement at caution and not exceed 40 km/h (25 mph) at any point in the journey when entering, making a movement within, or leaving the possession.

driver

The PICOP, when authorising the movement between work sites, will tell you the location of any permissible or temporary speed restriction lower than 40 km/h (25 mph) on the portion of line concerned and you must not exceed these speeds.

You must:

- make any movement in a work site at not more than 10 km/h (5 mph) unless you are given specific instructions by the ES or SWL on the maximum speed to be applied
- be prepared to stop before reaching a handsignal that is being displayed.

You can use GSM-R radio to speak at any time about details of the movement being made.

You must also carry out the instructions shown in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)* or TW7 *Wrong-direction movements*.

When vehicles are being loaded or unloaded, you must also carry out the instructions shown in module SS2 *Shunting*.

### b) Passing a block marker within the possession

You must not pass a block marker within the possession unless you are authorised to do so by the PICOP or by the ES or SWL if it is within a work site. In this case you do not need a written order.

### **c) Level crossings**

**driver**

You must not pass over any level crossing unless you have been instructed to do so.

When you pass over the crossing, you must carry out the relevant instructions regarding level crossings shown in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)* or TW7 *Wrong-direction movements*.

## **9.6 When a possession is to be taken around one or more engineering trains**

### **a) Conditions**

**driver**

If the arrangements have been published, the signaller can grant a possession to the PICOP when your train is standing at a block marker on the line on which the possession is to be taken.

The block marker this applies to will be shown in the *Weekly Operating Notice* or *Engineering Notice*.

### **b) Proceeding to the specified block marker**

Your movement to the specified block marker will be signalled under normal arrangements.

### **c) Arriving at the specified block marker**

When your train arrives at the specified block marker, the signaller will instruct you to make no further movement until you are authorised by the PICOP, ES or SWL, as appropriate.

## 9.7 When a possession is to be given up around an engineering train

### a) Conditions

The PICOP can give up the possession with one engineering train standing at a specified block marker on the line under possession as long as:

- the movement, after the possession is given up, will be in the normal signalled direction, and
- the movement must be driven from the leading cab.

If the possession is to be given up around your train, the PICOP will tell you the location and identity of the block marker you must stop at.

This block marker will be agreed between the PICOP and the signaller and must not be within a work site.

The PICOP will also tell you and anyone else on the train, that the line on which you are standing must be considered as no longer under possession.

### b) Arriving at the block marker

When your train arrives at the block marker, you must immediately contact the signaller. You must make no further movement with the train until the signaller tells you to proceed.

### c) When the possession has been given up

When the possession has been given up, the signaller will tell you this and the conditions under which the train may proceed.

driver

# Notes





# Notes





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**GE/RT8000/T10**  
**Rule Book**

# Duties of a designated person (DP) and people working on rail vehicles

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You will need this module if you carry out the duties of a:

- designated person
- person working on a rail vehicle.

<b>Conventions used in the Rule Book</b>	<b>Example</b>
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	<b>driver</b>
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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# 1

## Definitions

The following definitions are used in this module.

### **Depot**

A depot is a building or buildings in which train maintenance, servicing or repair takes place. This also includes any sidings within the depot boundary.

### **Designated person**

A designated person (DP) is the person who is responsible for setting up line protection so that people working on rail vehicles will be protected from train movements.

A DP can be in charge of a group of people or can work alone. When working alone, a DP must also carry out the duties of a person working on rail vehicles.

### **Local instructions**

Local instructions may be published by Network Rail in the *Sectional Appendix*, or by the operator of the depot.

These local instructions may modify the arrangements shown in this module for the protection of staff.

### **Working on rail vehicles**

The instructions within this module must be applied when people who are working on rail vehicles may be in danger from train movements.

Examples of working on rail vehicles may include:

- maintenance work
- repair work, or
- servicing.

# 2 Competence

*The person responsible: **designated person***

To act as a DP you must have with you a valid DP certificate of competence issued by your employer.

**DP**

# 3

## Duties of people working on rail vehicles

*The person responsible: person working on a rail vehicle*

### 3.1 Working alone

person  
working  
on a rail  
vehicle

You must not work alone on a rail vehicle unless a DP has made the arrangements for your protection.

### 3.2 Before starting work on a rail vehicle

person  
working  
on a rail  
vehicle

You must get confirmation from the DP that line protection has been provided for the line or siding and that it is safe to start work.

You must not start any work that may foul an adjacent line or siding until you have confirmation from the DP that line protection has also been applied to that line or siding.

### 3.3 If vehicle protection is not in place

person  
working  
on a rail  
vehicle

If you are the first person to start work on a rail vehicle, you must arrange to apply vehicle protection to that vehicle or vehicles.

The vehicle protection must consist of a NOT TO BE MOVED board or a red flag or red light.

You must place this vehicle protection at the end of the last vehicle in the direction from which any other vehicle might approach.

If vehicle protection is to be placed at both ends, you must place it on diagonally opposite corners. However, if there is a running line immediately adjacent to the vehicle, you must place the vehicle protection on the side furthest from the running line.

The instructions in this section 3.3 do not apply on running lines including platform lines where it will be the DP who places the vehicle protection as shown in section 4.3.

If the vehicle or vehicles are within a building, you may place the vehicle protection at the entrance to the building.

person  
working  
on a rail  
vehicle

After applying the vehicle protection, you must place your personal identification on it.

### **3.4 If vehicle protection is already in place**

If you are not the first person to work on the rail vehicle, before you start work, you must place your personal identification on the vehicle protection already in place.

person  
working  
on a rail  
vehicle

### **3.5 During the work**

You must not move the vehicle or allow any other vehicle to make contact with it. If you need the vehicle to be moved, you must tell the DP.

person  
working  
on a rail  
vehicle

### **3.6 When the work is suspended or has been completed**

You must tell the DP when work that may foul an adjacent line or siding has been completed.

person  
working  
on a rail  
vehicle

When you have suspended or completed your work on the vehicle, you must remove your personal identification from the vehicle protection.

You must not remove anyone else's personal identification.

You must tell the DP that your work is suspended or has been completed.

If you are the last person to remove your personal identification, you must also remove the vehicle protection.

### 3.7 Walking to or from a failed train on a running line

#### person working on a rail vehicle

You may be asked to walk along a running line where there is no safe walking route so you can reach or return from a failed train.

You must not do this unless a DP, a controller of site safety (COSS) or a safe work leader (SWL) is present to take charge of the arrangements for your safety and you have received a briefing from them.

# 4

## General duties of a DP

*The person responsible: **designated person***

### 4.1 Before allowing work to start

Before allowing work to take place on the outside of a rail vehicle or ladders to be erected within a vehicle, you must have arranged line protection as described in this module.

DP

If the work will foul an adjacent siding, you must also arrange line protection for that siding.

If the work will foul an adjacent running line, you must arrange protection with the signaller for that running line.

You must brief anyone under your control about the arrangements that you will make for their safety.

### 4.2 Moving a vehicle that is being worked on

If it is necessary to move a vehicle that is being worked on, you must first make sure:

DP

- the vehicle is safe to be moved
- everyone who is affected is told
- everyone is in a safe position
- all vehicle protection placed on that vehicle is removed.

### 4.3 Working on a train on a running line including at a station platform

#### DP

On your arrival, you must report to the driver and guard (if present) and reach a clear understanding about the actions to be taken.

You must place vehicle protection, consisting of a NOT TO BE MOVED board or a red flag or red light, on the side of the train at the end from which the train is being driven.

You must place the vehicle protection at both ends of the train if:

- the driver is not present and the train can be driven from either end
- vehicles might be shunted from that end onto those on which work will take place.

When at a station you must place the vehicle protection on the platform side of the train.

You must not remove the vehicle protection until the work is completed.

When the work has been completed, you must tell the driver and guard (if present).



# 5

## DP arranging line protection for a siding

*The person responsible: **designated person***

### 5.1 Before placing line protection on a siding

You must get permission from the person in charge of the siding or, where necessary, the signaller, before arranging line protection.

DP

If movements can enter the siding from either end, you must arrange the line protection at both ends.

### 5.2 Line protection for all of a siding

You must make sure that the points giving access to the siding are clipped and padlocked to prevent movements entering the siding. You must keep the key to the padlock.

DP

If the points are worked from a signalbox or ground frame, you must not clip the points but you must get confirmation from the signaller or ground frame operator that the points will be kept in the position to prevent movements entering the siding.

### 5.3 Line protection for part of a siding

If it is not possible to arrange line protection for all of the siding as shown in section 5.2, you must place a red flag or red light or a possession limit board in the four-foot of the siding concerned, so that it can be clearly seen by an approaching movement.

DP

### 5.4 Withdrawing the line protection

You must not withdraw the line protection arrangements that have been put in place until you are sure that the work has been suspended or completed. Only you may withdraw the line protection.

DP

# 6

## DP arranging to block an adjacent running line

*The person responsible: **designated person***

### 6.1 Blocking an adjacent running line

**DP**

You must make sure any adjacent running line is blocked to train movements if:

- the distance between the outside rail of the line the vehicle is on and the nearest rail of the adjacent running line is less than 3 metres (approximately 10 feet), and
- work needs to be carried out on the side of the vehicle nearest to the adjacent running line.

### 6.2 Agreeing the arrangements

**DP**

You must agree with the signaller what you want to do. The arrangements must include:

- the exact location
- the line to be blocked
- how long will be needed.

### **6.3 When the signaller has stopped trains**

When the signaller tells you that the line is blocked, you will also be told which other lines will stay open to traffic.

DP

You must not allow anyone under your control to start work until you have briefed them about:

- the arrangements you have made
- any known hazards
- the task.

### **6.4 During the work**

You must take care that neither you nor anyone under your control moves out of the safe area. You must tell the signaller if your work will take longer than agreed.

DP

### **6.5 When the work is suspended or has been completed**

When the work is suspended or is completed, you must:

DP

- make sure everyone is in a safe position, and then
- tell the signaller that you no longer need the line to be blocked.

# 7

## DP walking with a group to or from a failed train on a running line

*The person responsible: **designated person***

### 7.1 Deciding which line to block

DP

If you need to walk as a group along a running line to or from a failed train and there is no safe walking route available, you must arrange for trains to be stopped.

If you can clearly identify your location to the signaller and you are sure of the line the failed train is on, you will only need to block the line that will provide a safe walking route to the failed train.

If you are not sure of your location or that of the failed train, you must arrange for all lines to be blocked. If the signaller is not able to arrange for all lines to be blocked, you must ask for a COSS or SWL to attend, who will make alternative arrangements.

### 7.2 When trains have been stopped

DP

When the signaller tells you that the line is blocked, you will also be told which other lines will stay open to traffic.

You must not allow anyone under your control to start walking until you have briefed them about:

- the arrangements you have made
- the location of the failed train
- where to walk
- any other known hazards.

### 7.3 Arriving at the failed train

When you arrive at the failed train, you must report to the driver and agree what is to happen.

DP

When you and your group are in a safe position, you must tell the signaller that you have arrived and no longer need the line to be blocked.

If you need an adjacent line to be blocked during the work, you must make separate arrangements with the signaller for the line concerned to be blocked, as described in section 6.

### 7.4 Returning from the failed train

You must decide whether the group is to travel on the failed train or will walk to the access point.

DP

If you are to walk to the access point, you must carry out the instructions shown in sections 7.1 and 7.2.

### 7.5 Arriving at the access point

When everyone has reached the access point and all of your group are in a safe position, you must tell the signaller that you no longer need the line to be blocked.

DP









# GERT8000-TS1 Rule Book



## General signalling regulations

## Issue 13



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### Example



driver



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You will need this module if you carry out the duties of a signaller.

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# 1

## Working at signal boxes

### 1.1 Recording in the Train Register

You must:

- make an appropriate entry in the Train Register of any unusual incident and other items as shown in the Rule Book and train signalling regulations
- sign this entry and record the time.

If you are another signaller in the same signal box, you must countersign the entry if it affects you.

### 1.2 Recording times in the Train Register

Unless otherwise shown in the *Signal Box Special Instructions*, you must record the following times in the Train Register, legibly in pen:

**On absolute block and electric token block lines** - the time at which all bell signals are sent and received and the time at which trains arrive, or depart from the signal box.

**On track circuit block and ERTMS lines** - the time at which all train descriptions are sent and received and the time at which trains arrive, depart or pass the signal box.

**On tokenless block lines** - the time at which trains arrive, depart or pass the signal box.

**On all lines** - the times an attendant at an AHBC, CCTV, OD or RC level crossing:

- takes duty at the crossing
- takes local control
- gives up local control
- is authorised to leave the crossing.

### **1.3 Change of signaller**

When going off duty, you must:

- tell the signaller taking over what trains are in the section, whether the equipment is in order, and any other necessary information
- sign the Train Register with the words 'off duty at.....hours' immediately below the last entry.

If you are taking duty, you must:

- make sure you receive all necessary information
- sign the Train Register with the words 'on duty at.....hours'.

### **1.4 Signaller leaving the signal box while on duty**

If you have to leave the signal box (other than to carry out normal duties) without another signaller being left in charge, you must:

- tell the signaller at each adjacent signal box before you leave and when you return
- record the details in the Train Register.

If you are the signaller at an adjacent signal box, you must also record the details in the Train Register.

# 2 Bell signals

## 2.1 Standard code of bell signals

You must use the following bell signals when shown in the Rule Book module concerned or in the following regulations.

- Absolute block (AB)
- Electric token block (ETB)
- Track circuit block (TCB)
- General signalling regulations (GSR).

Module or regulation	Description	Bell code
	Call attention	1
AB TCB ETB	Is line clear for (description of train in TCB system):	
	Class 1	4
	Class 2	3-1
	Class 3	1-3-1
	Class 4	3-1-1
	Class 5	2-2-1
	Class 6	5
	Class 7	4-1
	Class 8	3-2
	Class 9 passenger (Class 373 or other passenger train if specially authorised)	1-4
	Class 9 empty coaching stock (Class 373 train)	1-4-1
	Class 0 locomotive or locomotives	2-3

<b>Module or regulation</b>	<b>Description</b>	<b>Bell code</b>
AB TCB ETB	Train entering section	2
AB TCB ETB	Train out of section	2-1
AB TCB ETB	Obstruction removed	2-1-2
AB TCB ETB	Cancelling	3-5
AB ETB	Train incorrectly described	5-3
AB ETB	Restricted acceptance	3-5-5
AB	Line now clear to clearing point	3-3-5
AB	Locomotive arrived	2-1-3
	Train drawn back clear of section	3-2-3
AB ETB	Obstruction danger	6
TCB	Emergency alarm	6
AB	Blocking back inside home signal	2-4
	Blocking back outside home signal	3-3
AB	Block line for protection purposes	2-2-2
AB	Line blockage completed	1-2-2
AB	Shunting into forward section	3-3-2
	Shunt withdrawn	8
AB	Working in wrong direction	2-3-3
	Train clear of section	5-2
	Train withdrawn	2-5
ETB	Release token	5-2
	Token replaced	2-5
GSR	Stop and examine train	7

## General signalling regulations

<b>Module or regulation</b>	<b>Description</b>	<b>Bell code</b>
AB ETB	Train passed without tail lamp	9 or 4-5
AB	Train or vehicles proceeding without authority in the wrong direction	2-5-5
	Train or vehicles proceeding without authority in the right direction	4-5-5
ETB	Train or vehicles proceeding without authority	2-5-5
AB ETB	Opening of signal box	5-5-5
AB ETB	Closing of signal box	7-5-5
AB	Closing of signal box where section signal is locked by the block	5-5-7
GSR	Testing equipment	16
GSR	Police assistance urgently required	1-1-6
AB TCB ETB GSR	Train that can pass trains signalled 2-6-1 or 2-6-2 on an opposite or adjacent line but which will be signalled 2-6-2 or 2-6-3 for part of its journey	2-6-1
	Train that cannot be allowed to pass trains signalled 2-6-2 or 2-6-3, on an opposite or adjacent line	2-6-2
	Train requiring an opposite or adjacent line to be blocked	2-6-3
	Train with speed or route restrictions only	2-1-6
	Opposite line, or an adjacent line used in the same or opposite direction, to be blocked for the passage of train conveying out-of-gauge load	1-2-6
GSR	Signaller required on telephone	1-2

## 2.2 Call attention

You must send **call attention (1)** and have it acknowledged before you send any other bell signal, except for:

- **train entering section (2)**
- **restricted acceptance (3-5-5)**
- **obstruction danger (6)**
- **emergency alarm (6) (TCB)**
- **police assistance urgently required (1-1-6)**
- **signaller required on telephone (1-2)**
- **train or vehicles proceeding without authority in the right direction (4-5-5)**
- **train or vehicles proceeding without authority in the wrong direction (2-5-5)**
- **train or vehicles proceeding without authority (2-5-5) (ETB).**

## 2.3 Repeating and acknowledging bell signals

You must acknowledge all bell signals by repeating them, except where otherwise shown in the train signalling regulations.

You must not consider any bell signal as understood until it has been correctly acknowledged.

# 3

## Signal box equipment

**Note:** The term 'lever' includes a switch, button or workstation control.

### 3.1 Checking and testing equipment

When you open a signal box you must, as soon as possible, check that the instruments, signals, points and other equipment are working properly.

Where provided, you must test the bells and block indicators as long as no train has been signalled. You must also do this for each line immediately after an intermediate signal box has switched out of circuit.

You must send **testing equipment (16)**, and when acknowledged, move the block indicator to each position in the correct sequence.

When you have acknowledged **testing equipment**, you must acknowledge each movement of the block indicator with **one beat**.

When an intermediate signal box has been switched out of circuit, the signaller at that signal box must be told the results of the test.

Unless otherwise shown in the *Signal Box Special Instructions*, you must test emergency bells, alarms and indicators between 1000 and 1100 hours daily.

You must test each TPWS failure indication unit at the start of your turn of duty.

If the TPWS indication unit fails its test or the main power fails, you must tell the signalling technician immediately. However, you may continue to work normally.

If a TPWS failure is indicated, you must treat the associated TPWS equipment as not able to cause an automatic brake application.



## 3.2 Recording the results of checks and tests

When you check or test equipment for whatever reason, you must record the details in the Train Register, including any telephone calls you make or receive for test purposes.

## 3.3 Block indicators and block bells

You must use block indicators and bells only for the purpose shown in the train signalling regulations or Rule Book modules.

## 3.4 Telephones

You must not use a telephone instead of bell signals or train describers except where authorised in the train signalling regulations.

If you need to speak to the signaller at an adjacent signal box, you may get that signaller's attention by sending **signaller required on telephone (1-2)**.

## 3.5 Using reminder appliances

### 3.5.1 On a signalling control

You must use a reminder appliance on the most appropriate lever to prevent the operation of:

- the signal or route setting position (RSP) protecting a route over which the normal passage of trains (or certain trains) is stopped
- the signal or RSP protecting a route over which trains can pass only after the driver has been told to proceed at caution in connection with an incident, failure or unusual occurrence
- any signal, RSP or level crossing equipment that is disconnected or defective
- the signal protecting a train or vehicles detained or left on a running line where track circuits are not provided.

## General signalling regulations

### 3.5.2 On an override switch

You must use a reminder appliance on an override switch which, if operated to the override position, would clear:

- a signal on which you have already placed a reminder appliance
- a junction signal leading towards a line on which the normal passage of trains is stopped.

### 3.5.3 On signalling equipment that must not be operated

You must use a reminder appliance when signalling equipment or equipment at a manned level crossing:

- must not be worked, or
- is to be kept in a particular position as shown in the rules, regulations and instructions.

### 3.5.4 On block instruments and token instruments

You must use the block or token instrument reminder when a train or vehicles:

- are detained or left at the home signal
- are detained or left within the clearing point
- have been left in the block or token section.

If there is no block or token reminder, and there are no track circuits, you must place a reminder appliance on the lever controlling the home signal.

You must also use the block instrument reminder if the block indicator has been placed to **train on line** to protect engineering work.

### **3.5.5 Removing a reminder appliance**

You must not remove a reminder appliance until the line is clear or normal working is resumed.

However, if you need to signal a train to a route that is not affected, or for a movement to proceed after the driver has been told to proceed at caution, you must:

- remove the reminder appliance
- operate the signalling control
- immediately replace the reminder appliance after you have operated the signalling control.

### **3.6 Checking that signals and points are working**

After operating a signalling control, you must confirm that the signal or points are working correctly, by looking at them if possible, or by observing indicators if they are provided.

If you can normally see the distant signal of the next signal box, you must tell the signaller there if the distant signal is not working correctly or the signal light fails.

## **3.7 Releases for points, facing point locks, signals, block instruments and level crossings**

### **3.7.1 Sealed releases**

If a sealed release is provided, you must only use it if:

- a lever working points or a facing point lock is locked by a failure of a track circuit
- controlled level-crossing barriers are locked down by failure of a track circuit or by the occupation of a track circuit by a failed train and you have the driver's confirmation that the train will not be moved without your authority.

Before using a sealed release, you must make sure each time:

- that it is safe to do so
- that the portion of line is clear and no movement is about to be made over it.

Before operating a release to raise level-crossing barriers, you must also make sure that:

- the protecting signals are at danger and their controls are in the normal position
- the auto raise switch (if provided) is in the 'manual' position.

If you have used a sealed release, you must tell Operations Control and make an entry in the Train Register.

### 3.7.2 Manual time releases

Before you use a manual time release, you must make sure that the line concerned is clear.

You must only use a manual time release if one of the following applies.

- You have to change the route after the junction signal has been cleared.
- You cannot restore a signal lever after the passage of a train because a track circuit or treadle has failed where backlocking is provided.
- You have to place the block indicator to **line clear** again after it has been placed in that position in connection with:
  - testing block instruments
  - testing a signal released by **line clear**
  - closing a signal box where the section signal is released by **line clear**
  - a train being cancelled after being accepted
  - a shunting movement having been completed.

# 4 Working signalling equipment

## 4.1 General

When you place or keep a signal at danger or close a route, you must make sure the danger aspect or indication is showing correctly.

## 4.2 Replacing a distant signal to caution

**Note:** This regulation applies where the signalling equipment does not replace the signal to caution after the passage of a train.

You must replace a distant signal to caution as soon as the train has passed the signal.

## 4.3 Replacing a stop signal to danger

**Note:** This regulation applies where the signalling equipment does not replace the signal to danger after the passage of a train.

You must replace a stop signal to danger:

- as soon as the last vehicle of the train has passed the signal, or
- where there are points facing to the movement, as soon as the last vehicle is clear of the points.

If a train is stopped with a portion still on the approach side of a stop signal, you must place that signal to danger.

## **4.4 Replacing a stop signal to danger after it has been cleared or withdrawing a movement authority (MA)**

### **4.4.1 In an emergency**

In an emergency, if you have replaced any signal to danger, or closed a route, you must make sure that the driver is aware that you have done so before you:

- permit any obstruction of the route to which the signal or MA applies
- move any points in that route.

### **4.4.2 Except in an emergency**

If you have cleared a signal for a train to proceed, you must not replace it to danger if this will cause the driver to see an irregular sequence of aspects or indications.

If you have issued an MA for a train to proceed, you must not withdraw it if this will cause the train to make a brake application or require the driver to apply the brake.

If you have cleared a signal for a train to start, you must not replace it to danger before the train starts until you have made sure that the driver is aware that you are going to do so, or you have made sure the train does not have a driver.

If you have issued an MA for a train to start, you must not withdraw it before the train starts until you have made sure that the driver is aware that you are going to do so, or you have made sure the train does not have a driver.

If a train stops at a signal that you had cleared for the train to proceed, you must not replace it to danger until you have made sure that the driver is aware that you are going to do so.

If a train stops at an end of authority (EoA) where you have issued an MA for the train to proceed, you must not withdraw the MA until you have made sure that the driver is aware that you are going to do so.

### **4.5 Clearing a stop signal when the next signal is at danger**

If you cannot clear a stop signal, you must not clear any associated signals on the approach to it until the train has stopped or nearly stopped at each signal in turn.

You do not need to apply this instruction if the stop signal on the approach to the stop signal at danger is a colour light that can show a yellow aspect, and:

- is controlled by the occupation of a berth track circuit, or
- requires the line to be clear up to and including the overlap track circuit of the signal at danger.

### **4.6 Clearing a stop signal when it is not certain the section signal is at danger**

If you are not sure whether the section signal is at danger, you must not clear the stop signal on the approach to the section signal unless you have told the driver about the circumstances.

### **4.7 Clearing stop signals at crossing places on an electric token block or tokenless block line**

If trains are approaching a crossing place from opposite directions, you must keep both home signals at danger, unless the *Signal Box Special Instructions* authorise otherwise.



When the first train to be allowed to draw forward has stopped, you may clear the home signal for this train to proceed into the loop. After it has stopped in the loop, you may clear the signals for the other train, if the line is clear.

If a shunting movement is to be made on a running line at a crossing place, you must not clear your home signal in the opposite direction for an approaching train until:

- the shunting movement has stopped
- you have instructed the driver not to make any further movement towards the section signal.

This does not apply if you can set the points to prevent the shunting movement fouling the single line.

After you have cleared a home signal, you must not allow a shunting movement to be made towards the section signal in the opposite direction, until the approaching train has passed clear of the single line.

This does not apply if you can set the points to prevent the shunting movement fouling the single line.

## **4.8 Clearing a calling-on signal**

You must not clear a calling-on signal until the train has stopped or nearly stopped at it.

## 4.9 Clearing a subsidiary or position-light signal associated with a main signal

You must always use the main aspect or indication when there is an associated subsidiary or position-light signal, except when:

- shunting
- attaching or detaching
- the line is occupied and permissive working is authorised for that line and the type of train concerned
- it is necessary during single line working or working by pilotman
- a failure of equipment means the main aspect or indication cannot be displayed.

## 4.10 Working signals at converging junctions

**Note:** This regulation does not apply on lines signalled by the track circuit block or ERTMS regulations.

The signals referred to in this general signalling regulation are shown in diagram TS1.1 on page 26.

Where home signal B1 is on the approach to the signal protecting a converging junction B2, you must not clear B1 signal for a train to proceed towards B2 if a conflicting movement has been authorised between signals B3 and B4.

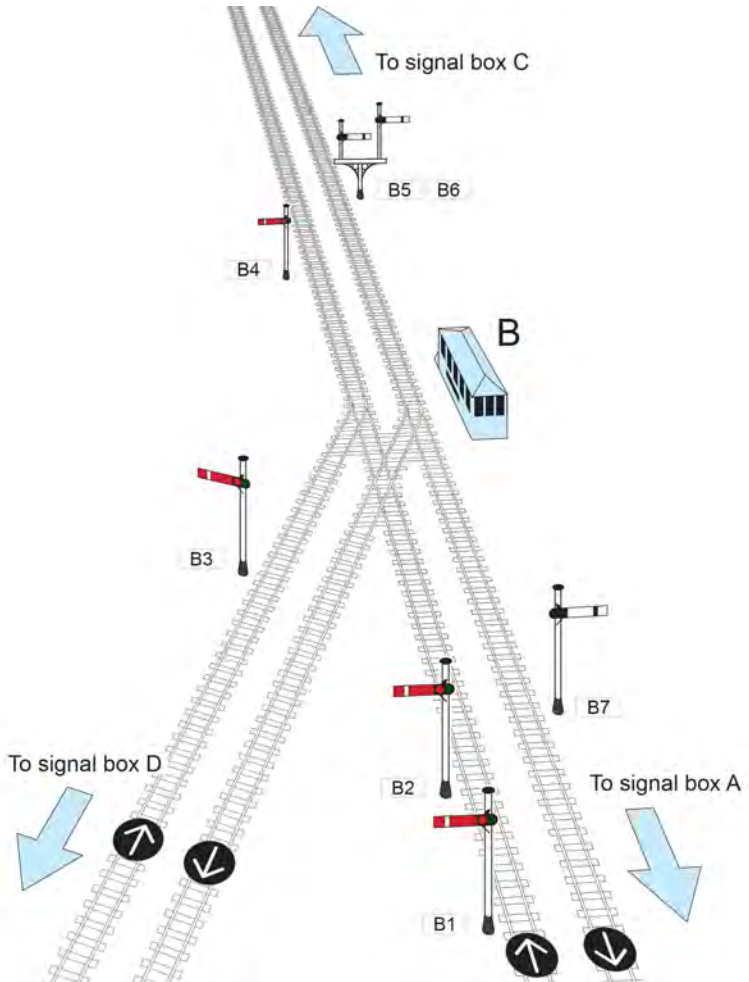
If you have allowed a movement from signal B5 towards signal box D, you must not clear signal B1 unless any of the following applies.

- There are points beyond signal B2 that have been set for another line that is clear (*not illustrated*).
- The conflicting movement has passed clear of the junction.
- The conflicting movement has stopped at signal B5.

If you have accepted a train from signal box D, you must not clear signal B1 unless any of the following applies.

- There are points beyond the protecting signal B2 that have been set for another line that is clear (*not illustrated*).
- There are points beyond the protecting signal B3 that have been set for another line that is clear (*not illustrated*).
- The conflicting movement has passed clear of the junction.
- The conflicting movement has been stopped at signal B3.
- The junction is not within the clearing point from signal box D.

# General signalling regulations



**Diagram TS1.1**

## **4.11 Working signals at diverging junctions**

### **4.11.1 When the train speed must be reduced**

If the signal at a diverging junction does not have approach release arrangements, you must not clear the signal for a route where the speed must be reduced, until the train is close to the signal. You must also be sure that the speed of the train has been suitably reduced.

This does not apply if the train that is to pass is shown to take that route in the working timetable or supplement to the working timetable.

You must only clear a stop signal which is beyond a diverging junction after you have cleared the junction signal and then only as shown in the train signalling regulations.

### **4.11.2 Setting a route**

If you cannot set the route for a train until the train is close to the junction signal, you must take account of the speed and position of the train, and only set the route if it is safe to do so.

# 5

## **Use of signal post replacement switches (SPRS)**

You must not give a person permission to operate an SPRS until the signal is showing a proceed aspect.

You must not rely on an SPRS to keep a signal at danger unless the person operating the SPRS has confirmed the signal:

- was showing a proceed aspect immediately before the key was operated, and
- has returned to danger when the key was operated.

# 6

## Stop signals interlocked with block instruments

### 6.1 When another 'line clear' or token release is needed

When the section signal is locked by the block, or until a token is released, you must send **cancelling** and when acknowledged, send **is line clear** again if:

- you have not cleared the section signal before the block indicator has been placed to **train on line**
- you have placed the section signal to danger after the train has stopped, to allow you to work points on the approach side of the signal for shunting purposes
- you have replaced the section signal to danger before a train has passed it, (either by mistake or in an emergency). In which case, you must not send **cancelling** until the train has stopped.

### 6.2 Failure of the block indicator to release a signal

Except as shown in regulation 6.1, if a section signal stays locked when the indicator is at **line clear**, you must:

- treat the section signal as being correctly locked at danger
- tell the signaller at the next signal box about the circumstances and reach a clear understanding of what is to happen
- stop the train and instruct the driver to pass the signal at danger.

You and the signaller at the next signal box must be sure about the identity of the train before the signaller at the next signal box sends **train out of section**.

You must not try to get another **line clear** until the train has passed through the section and you have received and acknowledged **train out of section**.

# 7

## **Working during poor visibility or snow**

### **7.1 When to apply the regulations for working during poor visibility**

You must apply the regulations for poor visibility when visibility (determined as near as possible from the driver's eye level) is less than 183 metres (200 yards).

### **7.2 Semaphore signal lights and spectacles obscured by snow**

If you become aware or suspect that signal lights or spectacles are becoming obscured by snow, you must arrange for them to be cleared.

During darkness, until you are told the signal lights or spectacles have been cleared of snow, you must treat the signals as defective.

### **7.3 Drawing forward to a semaphore section signal during poor visibility**

During poor visibility you must not allow a train to draw forward to a semaphore section signal to wait for acceptance unless:

- the train will stay within your view, or
- a track circuit is provided to remind you of the presence of the train at the signal.



# 8

## Ground frames

### 8.1 Release for a movement into a siding

Before you give a release for a ground frame, you must reach a clear understanding with the ground frame operator about:

- the movement to be made
- whether or not the train is to be shut in.

You must not allow a train to be shut in at an intermediate siding for other trains to pass, unless:

- the line is signalled by track circuit block or ERTMS, or
- authority is given in the *Signal Box Special Instructions*.

If the train is to be shut in, before you restore the ground frame release to normal operation, you must get confirmation from the ground frame operator that the train is clear of the running line.

### 8.2 Release for a movement from a siding

You must not release the ground frame for a movement from the siding to the running line until all track circuits are clear:

- between the protecting signal or block marker for the running line and the points to be released
- to the next main running signal or block marker on the line to which the movement is to be made unless the *Signal Box Special Instructions* allow a movement onto an occupied line.

### 8.3 Release for a movement from one running line to another

If the movement will be from one running line to another or across a running line, you must not release the ground frame until the line is clear between the protecting signal or block marker and the points to be released on all affected lines.

## 8.4 Entries in the Train Register

You must make a suitable entry in the Train Register whenever:

- a train has been shut in at a siding
- a train has left the siding and the ground frame release has been returned to normal.

## 8.5 Defective ground frame indication

If you lose the 'normal' indication or cannot get a 'normal' indication after the ground frame has been relocked, you must make sure that at the ground frame:

- the levers or switches are locked in the normal position
- the indicator, where provided, is showing normal detection.

If the points are not locked in this way, you must make sure:

- they are secured in the normal position
- they are padlocked, if left unattended.

You must then treat the signal on the approach to the ground frame as defective and instruct each driver to pass that signal at danger.

On an ERTMS line, you must treat the RSP on the approach to the ground frame as defective and instruct each driver to pass the EoA without an MA.

# 9 Working of points

## 9.1 Facing points fitted with facing-point locks

You must always use facing-point locks for the passage of trains and, whenever possible, for shunting movements.

If the train signalling regulations state that points need to be set before **is line clear** is acknowledged, you must not consider facing points with facing-point locks to be set correctly until they are locked.

## 9.2 Movement of vehicles carrying passengers over points

You can only allow a vehicle carrying passengers to pass over points in the facing direction if:

- the points are locked by a facing-point lock, and also by locking bars or track circuits, or
- the points have been secured for the movement.

## 9.3 Trap points, derailleurs and worked catch points

Except when a movement is being made over any of these, you must make sure that:

- trap points and derailleurs are set to prevent vehicles escaping onto or fouling other lines
- points leading to a running line are set to protect the running line
- worked catch points are set to prevent vehicles running back.

# 10

## Train movements

### 10.1 Additional running lines

When it is shown in the train signalling regulations that trains must be stopped or instructed to proceed at caution, you must make sure that the same action is taken for trains on additional running lines if those trains might be affected.

### 10.2 Propelling movements

You must not clear a signal or issue an MA for a propelling movement to begin unless the route is set throughout for the movement.

You must not allow a propelling movement to proceed towards a position-light signal or shunting signal if any other movement is occupying or about to occupy the converging point immediately beyond that signal.

If you have allowed a propelling movement to proceed towards a position-light or shunting signal that is at danger, you must not allow another movement to occupy the converging point immediately beyond that signal until the propelling movement has been completed.

### **10.3 Movements to running lines already occupied**

You must not allow a train to enter an occupied portion of line between two signals or block markers worked from the same signal box unless one of the following applies.

- Permissive working is authorised for the type of train concerned.
- A shunting movement is to take place for which a position-light or shunting signal can be cleared, or an MA issued.
- A shunting movement is to be made for which there is no position-light or shunting signal, or an MA cannot be issued.
- A movement is to enter a line that is obstructed by an accident, failure, obstruction or engineering work.

# 11

## **Working trains carrying passengers over goods lines or goods loops**

### **11.1 Allowing trains carrying passengers over goods lines or goods loops**

You must not allow a train carrying passengers to enter a goods line or goods loop unless:

- the arrangements have been published, or
- it is an emergency, as long as you have been authorised to do so by the signal box supervisor or Operations Control.

Unless the arrangements have been published, you must stop each train carrying passengers and tell the driver what is happening before you allow the train on to the goods line or goods loop.

### **11.2 If the line is not protected by trap points**

Before you allow a train carrying passengers onto a goods line or goods loop that is not protected by trap points from a movement from sidings, you must be sure, or get an assurance from the person in charge, that:

- these sidings are clear of vehicles and no movement will approach, or
- all vehicles and traction units on these sidings are properly secured and are clear of the line to be used by the train carrying passengers.

If the driver of any traction unit is present, you must tell the driver, or be sure that the driver has been told, not to make any further movement until authorised by you.

### **11.3 Additional instructions for TCB or ERTMS goods lines or goods loops**

You must not allow a train carrying passengers to approach a stop signal or block marker on the goods line or goods loop unless the line is clear and the route is correctly set to the next stop signal or block marker beyond.

You must keep all points in the correct position until the train has passed clear of those points or has stopped at the signal or block marker protecting those points.

You must not allow another train to approach a stop signal or block marker if there is a train carrying passengers in the signal or block section beyond.

### **11.4 Additional instructions for a goods loop not on a TCB or ERTMS line worked from one signal box**

Before you allow a train carrying passengers to enter the goods loop, the loop must be clear throughout and all points beyond the loop exit signal must be correctly set for that train.

You must keep all points in the correct position until the train has passed clear of those points or has stopped at the signal protecting those points.

You must not allow another train to enter the loop when it is occupied by the train carrying passengers.

### **11.5 Additional instructions for a goods line not on a TCB, ERTMS or absolute block line worked from two or more signal boxes**

You may only allow a train carrying passengers to enter a goods line not worked by TCB, ERTMS or absolute block if the *Signal Box Special Instructions* allow this.



# 12

## Dealing with trains that cannot be relied upon to operate track circuits

### 12.1 When this general signalling regulation must be used

You must carry out this regulation if:

- the driver of an OTM tells you that the OTM cannot be relied upon to operate track circuits, or
- you are told that a train cannot be signalled normally because a TCA on the train has become defective.

You must pass on the details to the next signaller who is to signal that train.

### 12.2 Points locked by track circuits

You must not operate points that are locked by track circuits until the train concerned has passed well clear of them. You must use:

- individual point switches on a route-setting panel, or
- individual point controls on a work station.

### 12.3 Operation over a TCB or ERTMS line

You must not allow another train to follow the train concerned until that train has passed beyond:

- the overlap of a signal that has been placed to and kept at danger
- an EoA (or its overlap if provided) at which the route has been closed.

If necessary, you must tell the driver of the train concerned to stop specially to report the arrival of the train at a specified signal, block marker or location.

If another signaller is involved, you must get an assurance from that signaller that the train has arrived.

### **12.4 Operation on other than TCB or ERTMS line**

When you are waiting for the next signal box to accept the train concerned, you must not allow it to proceed beyond your signal box if it would be out of sight.

If the section signal is out of sight, you must not allow a following train to approach the section signal until the train that cannot be relied upon to operate track circuits has arrived at the next signal box.

If necessary, you must ask the signaller at the next signal box to tell you when the train arrives.

### **12.5 Intermediate block signals**

Where there is an intermediate block signal, you must not clear the section signal for a following train until the train that cannot be relied upon to operate track circuits has arrived at the next signal box.

If necessary, you must ask the signaller at the next signal box to tell you when the train arrives.

### **12.6 Level crossings operated by a crossing keeper**

Where a crossing keeper relies on the operation of track circuits to be aware of an approaching train, you must tell the crossing keeper about the approach of any train that cannot be relied upon to operate track circuits.

# 13

## Safety of personnel

### 13.1 Personnel asking for trains to be stopped

#### 13.1.1 When this regulation must be used

You must carry out this regulation when:

- personnel need to work on the outside of a train stopped on a running line because of failure or other incident, or who need to check that working equipment on an OTM is correctly positioned
- a driver asks you to block a line for their or another member of the traincrew's personal safety to walk alongside their train
- a designated person (DP) needs to walk with a group to a train stopped on a running line because of failure or other incident
- a member of station staff asks to go on the track to retrieve items at a station platform.

#### 13.1.2 Reaching a clear understanding

You must ask the person who has asked for the protection, the exact location and lines on which trains are to be stopped, or will still be stopped.

If an item is to be retrieved from a platform line, you must also stop trains on any line adjacent to the platform line.

If the person asking for the protection is not sure which lines they want trains stopped on, you must stop trains on all lines.

Unless you have already stopped trains on the lines concerned, you must agree a suitable time for this to be done with the person asking for protection.

### 13.1.3 Providing protection from trains

If you do not control the protecting signal or block marker protecting the line to be blocked, you must:

- tell the controlling signaller
- get an assurance from that signaller that trains have been stopped on the line concerned.

You must use a line-blockage form (NR3180) to record details of the line to be blocked, the protecting signals or block markers and the role of the person who is asking for the line blockage.

If the location of the activity will be beyond any points or crossover, you may clear the protecting signal or issue an MA for an unaffected route as long as you have agreed this with the person asking for the protection.

Additionally if the line blockage includes an absolute block section you must make sure **block line for protection purposes** is sent as shown in module TS3 *Absolute block regulations*, regulation 3.6. Part C.

When the line to be blocked is clear of trains and signalling protection has been provided, you must read the completed Form to the person who has asked for trains to be stopped. If that person agrees that the entry is correct, you must complete the confirmation section of the form NR3180.

You must then:

- confirm to the person concerned that the line will stay blocked until that person tells you that the protection is no longer needed
- remind that person about any other lines that are still open for normal working
- if a driver has asked for a line to be blocked, give the driver an authority number
- give that person permission for the activity to start.

If any crossing keepers will be affected by the protection arrangements you must tell them.

### **13.1.4 When the activity is completed**

When the person who asked for the line to be blocked confirms that the activity is completed and signalling protection is no longer needed, you must record this on form NR3180.

If a driver asked for the line to be blocked, the driver must give you the correct authority number.

You must then tell any other signaller or crossing keeper involved that normal working may be resumed.

## **13.2 COSS, IWA, PC or SWL blocking a line**

### **13.2.1 When this regulation must be used**

A controller of site safety (COSS), individual working alone (IWA), protection controller (PC) or a safe work leader (SWL) may ask for a line to be blocked as part of a safe system of work, as long as no engineering trains or on-track plant will occupy the line concerned.

### **13.2.2 Agreeing the arrangements**

You must agree with the COSS, IWA, PC or SWL:

- the line to be blocked
- the nature of the work
- the locations between which the work will take place
- the amount of time needed to do the work
- the time after which permission can be given for the line blockage to start
- which signals or block markers will protect the activity, including those in both directions on a single or bi-directional line
- any additional protection needed if the work will affect the safety of the line
- the arrangements if single line working is taking place
- the arrangements at any level crossings affected by the line blockage.

## General signalling regulations

If the location of the work will be beyond any points or crossover, you may set the route for an unaffected line as long as you have agreed this with the COSS, IWA, PC or SWL. See diagram TS1.2 on page 45 and diagram TS1.3 on page 46.

If the site of the work will be less than 200 metres from the protecting signal or block marker, and the work will affect the safety of the line, the COSS, IWA, PC or SWL will tell you and you must also keep the previous signal at danger or the route closed at the previous block marker unless the route can be set for an unaffected line. See diagram TS1.4 on page 47 and diagram TS1.5 on page 48.

If this signal or block marker is controlled by another signaller, you must get confirmation from that signaller that this has been done.

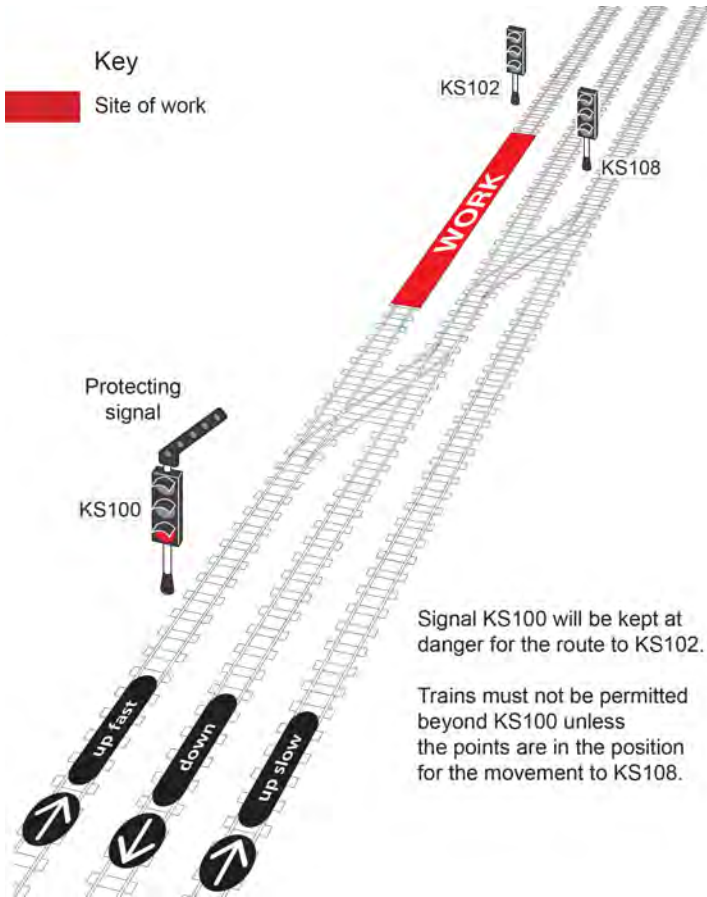
If you have told the COSS, IWA, PC or SWL, you can allow the signal to be passed at danger or the EoA to be passed without an MA so that a train can reach a:

- station
- siding
- crossover being used for single line working.

See diagram TS1.6 on page 49 and diagram TS1.7 on page 50.

If the work will affect the operation of any level crossing, you must carry out the regulations in module TS9 *Level crossings - signallers' regulations*.

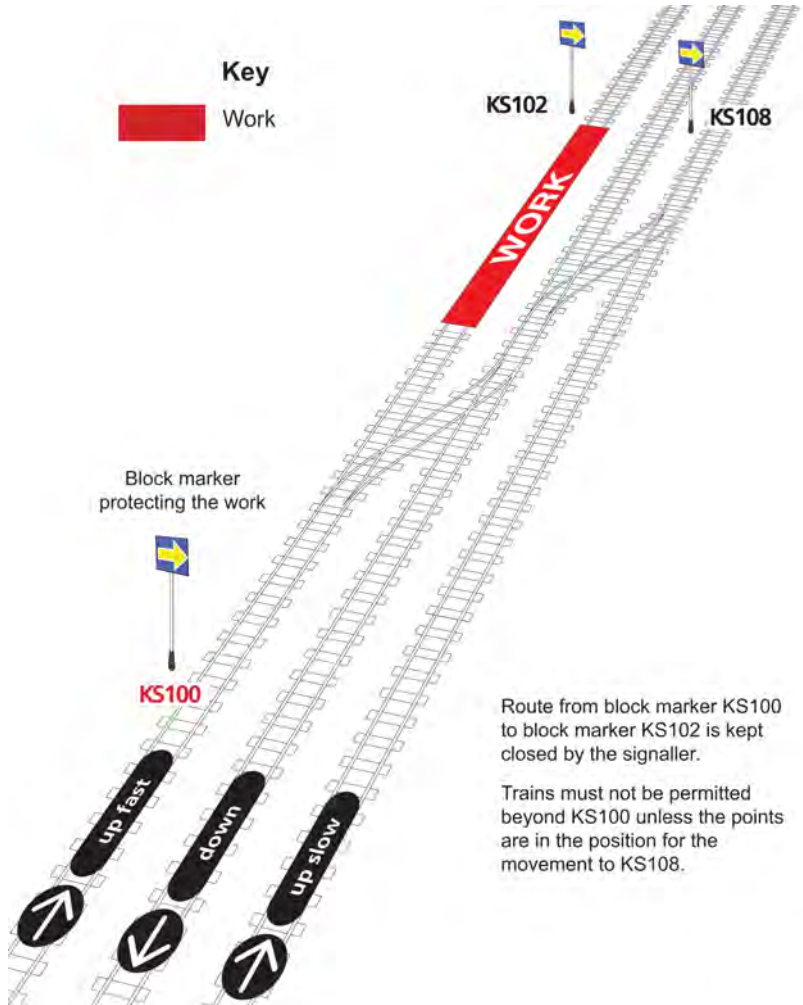
If any crossing keepers will be affected by the protection arrangements or the work, you must tell them.



**Diagram TS1.2**

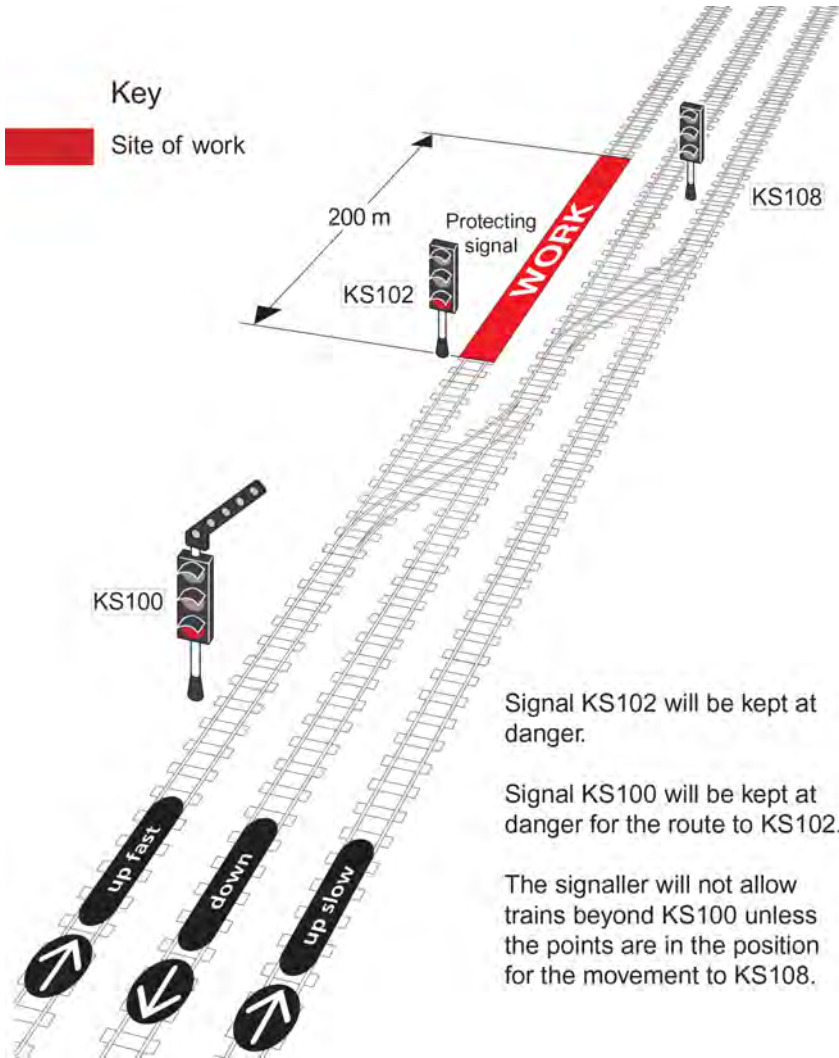
**Work taking place beyond points that will be used**

# General signalling regulations



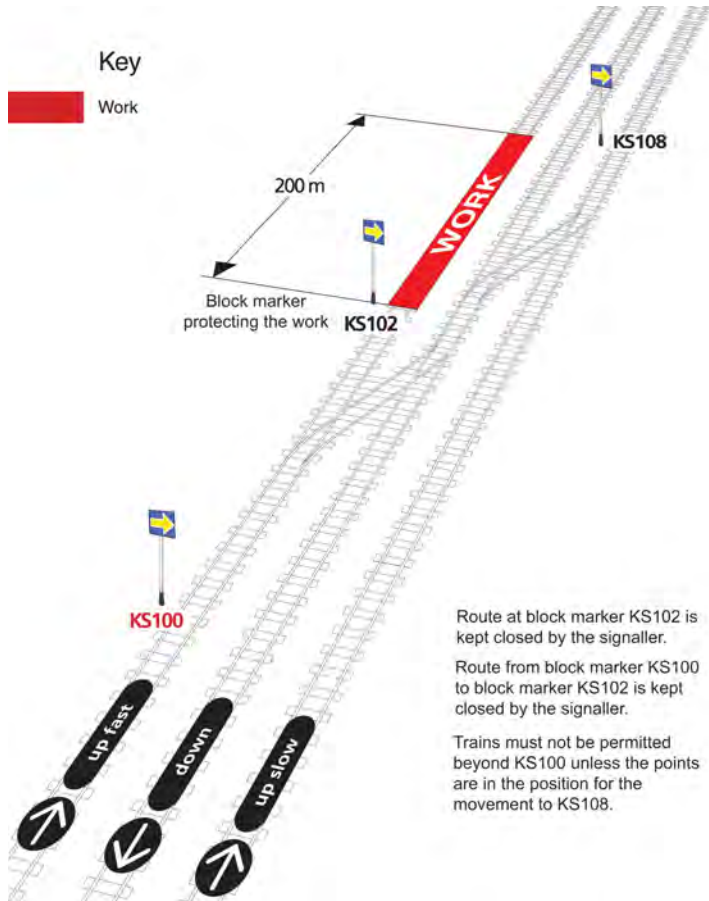
**Diagram TS1.3**  
**Work taking place beyond points that will be used**



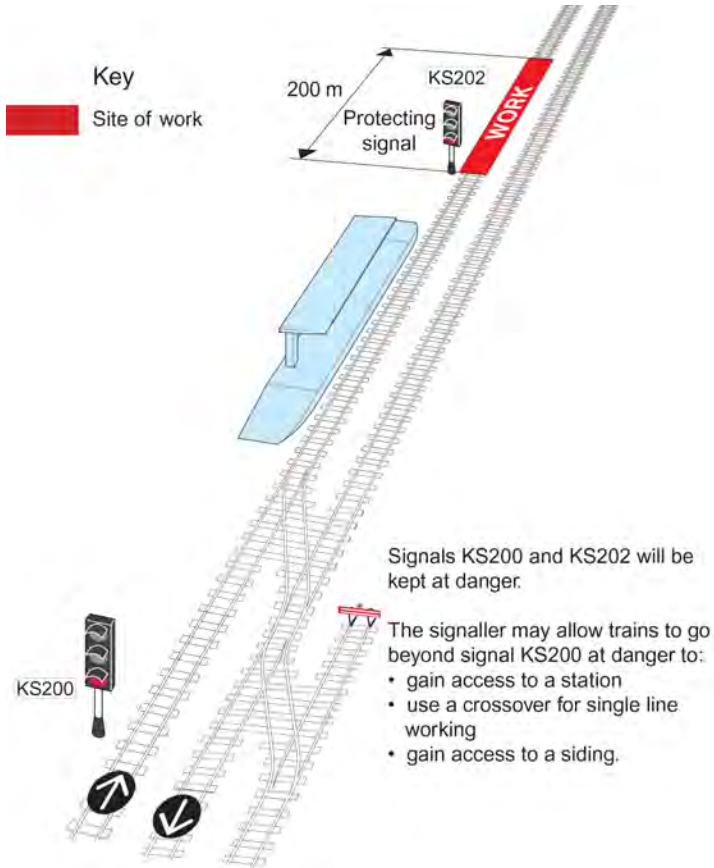


**Diagram TS1.4**  
**Work taking place close to the signal**

# General signalling regulations

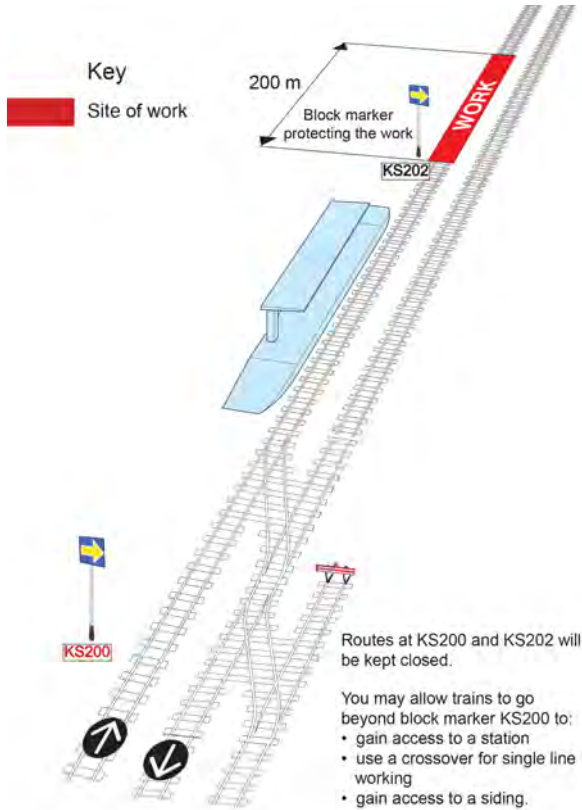


**Diagram TS1.5**  
**Work taking place close to a block marker**



**Diagram TS1.6**  
**Work taking place close to the signal**

# General signalling regulations



**Diagram TS1.7**

## **Work taking place close to a block marker**

### 13.2.3 Blocking the line

You must record details of the line to be blocked and the protecting signals or block markers on a NR3180 form.

The COSS, IWA, PC or SWL will complete a NR3180 form and read it to you. You must make sure that the entries are correct.

You must place or keep signals at danger, arrange for the signal to be placed to danger by operating an SPRS or close the route and keep it closed to protect the line blockage.

You must protect the line blockage in both directions on a single or bi-directional line.

You must also make sure all points are in the position necessary to protect the line blockage.

You must tell any other signaller who controls a protecting signal or block marker protecting the line to be blocked about the arrangements and get their confirmation that they have protected the line blockage. If you are that other signaller, you must record the details in the Train Register.

You must make sure that the line to be blocked is clear of all trains unless the Signal Box Special Instructions allow a line to be blocked with a train in the section, and you and the COSS, IWA, PC or SWL are sure that all trains have passed the location where the activity is to take place.

You can also grant a line blockage with a train that is within the limits of the portion of line to be blocked, if it has become disabled or the driver of the train has confirmed that the train is at a stand and will make no further movements without your permission.

If necessary, you must confirm this with any other signaller involved. If you are that other signaller, you must record the details of the line blockage in the Train Register unless you have already done so.

### Absolute block line

If the line blockage includes an absolute block section, you must send **block line for protection purposes** to the next signal box as shown in module TS3 *Absolute block regulations*, regulation 3.6. Part C.

### Tokenless block line

If the line blockage includes a tokenless block section, you must place or keep the acceptance switch in the **normal** position and ask the signaller at the other end of the section to do the same.

If the tokenless block section is occupied by a train when the line blockage is granted, you must not press the **train arrived** button until the line blockage has been given up.

### Single line worked with a token

If the line blockage includes a section worked with a token, if possible, you must withdraw a token and place it on the Train Register.

If the token section is occupied by a train when the line blockage is granted, you must not place the token in the instrument or send **train out of section** until the line blockage has been given up.

### 13.2.4 Additional protection

The COSS, IWA, PC or SWL may request the use of additional protection, but must always provide additional protection if the work will affect the safety of the line.

You must agree with the COSS, IWA, PC or SWL which of the following additional protection methods will be used.

- A signalling technician disconnecting signalling equipment.
- The COSS, IWA, PC or SWL placing one or more track circuit operating devices (T-COD).
- The COSS, IWA, PC or SWL getting the token.
- The COSS, IWA, PC or SWL providing detonator protection.
- Applying engineering possession reminders (EPRs).

### **Disconnecting signalling equipment**

If additional protection is to be provided by disconnecting signalling equipment, you must agree the necessary disconnections with the signalling technician. You must tell the COSS, IWA, PC or SWL when the disconnections have been made.

### **T-COD**

A T-COD can only be used if all the following conditions apply.

- Use at a particular location is authorised by the *Sectional Appendix*.
- The signalling equipment is working normally at the time the T-COD is to be placed on the line.
- The work will not affect the correct operation of the track circuit concerned.

When the protecting signal has been placed to danger or the route has been closed, you must check that the track circuit concerned is showing clear. You can then give permission to the COSS, IWA, PC or SWL to place the T-COD on the line.

When the COSS, IWA, PC or SWL tells you that the T-COD has been placed on the line, you must check that the track circuit is showing occupied.

### Getting the token

If additional protection is to be provided by getting the token, the COSS, IWA, PC or SWL must get the token before you grant the line blockage.

### Detonator protection

If additional protection is to be provided by detonator protection, the COSS, IWA, PC or SWL will arrange for it to be placed:

- at the protecting signals or block markers for the line blockage, or
- clear of any points or through-crossing that will be used for normal train movements.

### Engineering possession reminders (EPRs)

Where authorised in *Signal Box Special Instructions*, you must protect the line blockage by applying the appropriate EPRs.

#### 13.2.5 Granting authority to work

You must tell the COSS, IWA, PC or SWL when the protecting signals have been placed to danger or the routes have been closed and give an authority number.

If additional protection is needed, you must not give the authority number until the additional protection has been provided.

#### 13.2.6 Closing the signal box during the line blockage

You can close the signal box if additional protection has been provided and the line blockage is planned to be in place until after the signal box has reopened.



### **13.2.7 Completing or suspending the line blockage**

When the work needing the line blockage has been completed or suspended, the COSS, IWA, PC or SWL will tell you their authority number and that the line blockage is no longer needed.

You must record the details on the NR3180 form.

You must tell any other signaller or crossing keeper involved.

#### **Disconnected signalling equipment**

If the line blockage was protected by signalling equipment being disconnected, after the line blockage has been given up or suspended, you must arrange for a signalling technician to make the necessary reconnections.

#### **T-COD**

You must check that the track circuit where the T-COD had been applied is showing clear. If it is not showing clear, you must check with the COSS, IWA, PC or SWL that the T-COD has been removed.

#### **Single line worked with a token**

If the COSS, IWA, PC or SWL had the token, you must be sure that the token has been returned to the signal box at either end of the section, or restored it to an instrument that is not at a signal box, before agreeing that the blockage has been given up.

#### **Engineering possession reminders (EPRs)**

If the line blockage was protected by EPRs, you must remove them after the line blockage has been given up or suspended.

## SPRS

If a signal has been kept at danger by an SPRS, you must arrange for it to be returned to automatic working.

### Signaller in another signal box

If you are a signaller in another signal box that was affected by the line blockage, you must make an appropriate entry in the Train Register when you are told the line blockage has been given up.

#### **13.2.8 First train over the affected portion of line when the work has affected the safety of the line**

You must specially watch the operation of track circuits during the passage of the first train over each line that was affected by the line blockage.

On a track circuit block line, you must not allow a second train to pass over the line that was affected by the line blockage unless there is a controlled signal which you have replaced to danger between the first and second trains.

On an ERTMS line, you must not allow a second train to pass over the line that was affected by the line blockage unless there is an EoA at which the route is closed between the first and second train.

Where there is an intermediate block signal, you must not clear the section signal for a second train until you have received **train out of section** for the first train.

#### **13.2.9 If the line blockage is to resume**

You must give the COSS, IWA, PC or SWL a new authority number each time the line blockage is resumed.

You must use a new form NR3180 if the line that needs to be blocked or the protection arrangements are changed.

## 13.3 Personnel working on or near points

If personnel are to work on or near points, you must find out:

- which points are affected
- the position the points must be kept in
- how long the work will take.

You must then agree a suitable time for the work to start. From this time you must keep the points in the position requested and apply a reminder appliance until you are told the work has stopped or is completed.

During the work, you may signal trains normally over the route for which the points are set.

## 13.4 Taking possession of sidings

### 13.4.1 When this general signalling regulation must be used

Where you control the entrance to a siding or sidings, a person in charge of the siding possession (PICOS), may ask for possession of the siding or sidings concerned.

### 13.4.2 Agreeing the arrangements

You must agree:

- the name and contact number of the PICOS
- the location of the siding or sidings involved
- whether it is the whole length of a siding or just part of it that will be taken under possession
- how line protection will be arranged
- the date and time possession will be taken and when it will be given up
- who will tell the shunter, if involved.

### **13.4.3 Possession of the whole length of a siding**

If you have agreed with the PICOS that possession may be taken of the whole siding, you must:

- where you control the points at the entrance to the siding, make sure those points are set to prevent movements from entering it
- where you do not control points at the entrance to the siding, make sure those points are set by the PICOS to prevent movements from entering it and give the PICOS permission to apply line protection by clipping and padlocking the points.

### **13.4.4 Possession of part of one siding**

If you have agreed with the PICOS that possession may be taken of only part of a siding, you must give the PICOS permission to place line protection on the siding concerned. This consists of:

- a sleeper secured across the rails
- a possession limit board (PLB), red flag or red light placed at the sleeper so that it may be clearly seen by an approaching movement.

You must not allow any movement to enter the siding concerned until you have confirmed with the PICOS that the line protection is in place.

### **13.4.5 If movements can enter from either end**

If movements can enter from either end, you must make sure the necessary actions in this regulation are carried out at both ends of the siding.

#### **13.4.6 Siding adjacent to a running line under possession**

If possession of the siding is to be taken in association with a possession of an adjacent running line, the PICOS does not need to provide line protection unless:

- the siding is a through siding and the PICOS needs to prevent access at the far end of the siding, or
- possession of the siding will be taken before possession of the running line.

When possession of the siding will be kept after the adjacent running line possession is given up, the PICOS must make sure line protection is provided before the adjacent running line possession is given up.

If the siding possession is being used for movements to enter or leave an adjacent running line possession, and it is necessary for you to be involved, the PICOS or PICOP as appropriate, will come to a clear understanding with you about each movement.

#### **13.4.7 Telling the shunter**

If you agreed with the PICOS that you would tell the shunter about the possession arrangements, you must do this when the possession is taken and is given up.

#### **13.4.8 Giving up the possession**

The PICOS will inform you when the possession is given up. You must confirm that any line protection that was provided has been removed.

#### **13.4.9 Recording the arrangements**

You must record in the Train Register:

- the name and contact number of the PICOS
- the siding or sidings taken under possession
- whether possession of the whole or part of the siding is taken
- the location of any line protection
- the date and time that possession is taken
- the date and time that possession is given up.

### **13.5 Personnel working on vehicles in sidings**

#### **13.5.1 When this general signalling regulation must be used**

You must carry out this regulation when personnel are to carry out work on a vehicle in a siding which you control the entrance to and they need protection from movements into that siding.

#### **13.5.2 Agreeing the arrangements**

You must agree, with the person asking for the protection, the details of the siding towards which movements must be stopped.

You must:

- place the points leading to the siding in the correct position to protect the siding
- make an entry in the Train Register
- confirm to the person concerned that no movements will be allowed towards that siding
- remind that person that all other lines will stay open to traffic.

### **13.5.3 When the activity is completed**

When the person who asked for the protection tells you that the work has been completed, you must make an entry in the Train Register and remove the reminder appliances.

## **13.6 Personnel setting up a safe system of work**

If a person setting up a safe system of work contacts you to ask if single line working is in operation, you must:

- find out how long they will be working there
- tell them about any current or planned single line working that may affect them.

# 14

## Requesting police assistance

If you need police assistance, but it is not possible to use a phone, you must send **police assistance urgently required (1-1-6)** or the special train description **1-16** to any adjacent signal box.

If you receive this special bell signal or special train description, you must immediately request the police to attend the signal box from which the bell signal or train description was received.



# 15

## **Out-of-gauge trains and trains that have route restrictions**

### **15.1 Being aware of out-of-gauge trains and trains that have route restrictions**

You must not let a train proceed that is out-of-gauge, carrying an exceptional load, or has route restrictions, unless you have the details of the restrictions that apply to the movement of the train and how it must be signalled.

### **15.2 Dealing with an out-of-gauge train**

An out-of-gauge train will have a train identity including the letter 'X'.

You must deal with any train described as being out-of-gauge as shown below depending on the restrictions that apply to it in any area under your control.

#### **15.2.1 If a train is shown with restriction 'adjacent lines or sidings need not be kept clear'**

You must deal with the train normally, but take into account any routing restrictions that are shown.

**15.2.2 If a train is shown with the restriction ‘no out-of-gauge train must be allowed on the running lines or sidings on both sides of the load’**

You must not allow the train to proceed if any of the following applies.

- It will pass or be passed by another train with the same restriction on an adjacent line or siding.
- It will be on a running line or siding which is required to be kept clear for another out-of-gauge train.
- It has been published in the *Weekly Operating Notice* or a special notice that an engineering train or on-track machine on an adjacent line under possession is out-of-gauge when working.

**15.2.3 If an adjacent running line is to be kept clear for the passage of the out-of-gauge train**

You must not allow the out-of-gauge train to proceed if any of the following applies.

- A train or vehicle is standing on the adjacent line concerned within the portion of line where this restriction applies.
- Permission has been given for a train to proceed or approach on the adjacent line concerned
- The adjacent line concerned is under possession, or a line blockage has been granted on it.

You must speak to any other signaller involved to find out whether any of those situations apply.

Before you allow the out-of-gauge train to proceed, you must block the adjacent line concerned, as shown in regulations 15.3 and 15.4.

### 15.3 Blocking an adjacent line signalled by track circuit block or ERTMS

You must place or keep signals at danger, or close the route and keep it closed, to prevent any train entering the portion of line that must be kept clear until the out-of-gauge train has passed.

If you do not control the signal or route protecting the line to be blocked, you must:

- tell the controlling signaller
- get an assurance from that signaller that trains have been stopped on the line concerned.

If you are that other signaller, you must make an appropriate entry in the Train Register.

### 15.4 Blocking an adjacent line signalled by absolute block

#### 15.4.1 Blocking an adjacent line used in the opposite direction (see diagram TS1.8 on page 67)

**Note:** For the purpose of this general signalling regulation, A, B, C, and D represent four signal boxes on the same line of route. The adjacent line used in the opposite direction, between signal box A and signal box C, needs to be blocked for a train carrying an out-of-gauge load.

When you are to signal a train which needs the adjacent line to be blocked, you must send **1-2-6** to signal box B. You may send this bell signal whatever the position of the block indicator is for the adjacent line.

signaller box  
A

When you receive **1-2-6** from signal box A, you must not acknowledge it but send **1-2-6** to signal box C, whatever the position of the block indicator is for either line.

signaller box  
B

## General signalling regulations

### signaller box C

When you receive **1-2-6** from signal box B, and when the adjacent line is clear, you must:

- if the out-of-gauge train will foul the clearing point on the adjacent line, block back inside home signal to signal box D
- acknowledge **1-2-6** to the signaller at signal box B
- keep the adjacent line clear until the out-of-gauge train has passed.

### signaller box B

When the signaller at signal box C acknowledges **1-2-6**, as long as the adjacent line is clear, you must:

- place the block indicator for the adjacent line to **train on line**
- acknowledge **1-2-6** to the signaller at signal box A
- keep the adjacent line clear until the out-of-gauge train has passed.

### signaller box A

When the signaller at signal box B acknowledges **1-2-6**, as long as the adjacent line is clear, you must:

- place the block indicator for the adjacent line to **train on line**
- signal the train carrying the out-of-gauge load normally using the special **is line clear** signal **2-6-3**.

### signaller box A and B

When you receive **train out of section** for the out-of-gauge train you must:

- give **one beat** of the bell for the adjacent line
- place the block indicator for the adjacent line to **normal**.



## General signalling regulations

### 15.4.2 Blocking an adjacent line used in the same direction (see diagram TS1.9 on page 69)

**Note:** For the purpose of this general signalling regulation, A and B represent two signal boxes on the same line of route. The adjacent line used in the same direction, between signal box A and signal box B, needs to be blocked for a train carrying an out-of-gauge load.

#### signaller box A

When you need to block the adjacent line used by trains in the same direction for a train carrying an out-of-gauge load, you must make sure:

- you have received **train out of section** for the previous train over the adjacent line, and
- the block indicator for the adjacent line is at **normal**.

You must send **1-2-6** to signal box B for the line on which the train carrying the out-of-gauge load will travel.

#### signaller box B

If the adjacent line is clear and you receive **1-2-6** from signal box A for the line on which the train carrying the out-of-gauge load will travel, you must:

- acknowledge **1-2-6** to signal box A
- place the block indicator for the adjacent line to **train on line**.

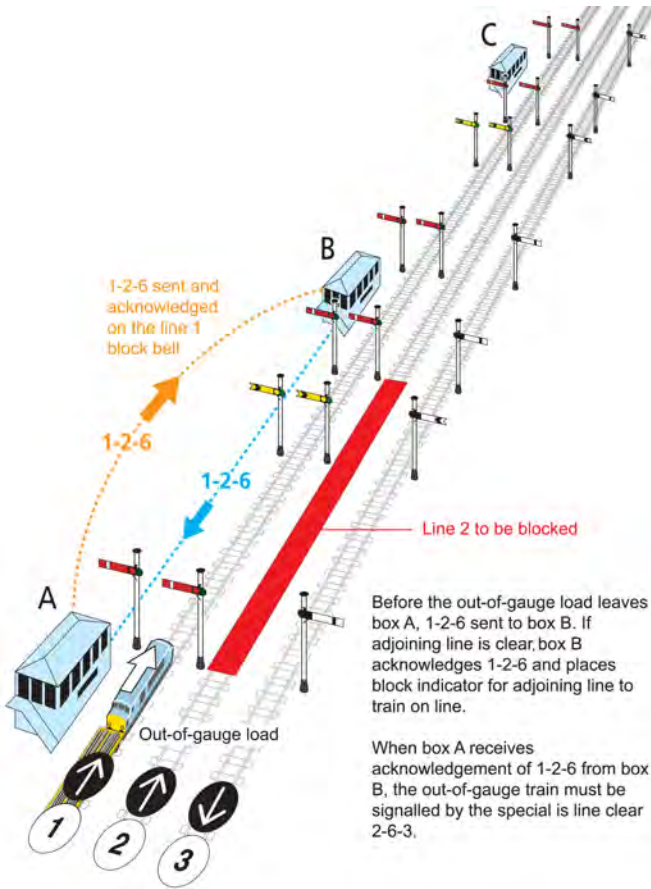
#### signaller box A

When the signaller at signal box B has acknowledged **1-2-6** and placed the block indicator for the adjacent line to **train on line**, you must signal the train carrying the out-of-gauge load normally using the special **is line clear** signal **2-6-3**.

#### signaller box B

When you send **train out of section** to signal box A for the train carrying the out-of-gauge load, you must also:

- give **one beat** of the bell for the adjacent line
- place the block indicator for the adjacent line to **normal**.



**Diagram TS1.9**

**Blocking an adjacent line used in the same direction**

## 15.5 Signalling an out-of-gauge train

### 15.5.1 On any line

You must not allow an out-of-gauge train to proceed until you are sure all the necessary conditions are in place.

### 15.5.2 On a track circuit block or ERTMS line

You must carry out these instructions for an out-of-gauge train if it is shown that no other out-of-gauge train is allowed to be on the running lines or sidings on both sides, or an adjacent running line must be kept clear for its passage.

signaller box  
A and B

If the train is to travel between two signal boxes, you must both carry out the instructions in track circuit block regulation 3.5, or ERTMS level 2 regulation 3.5.

You must use the appropriate **is line clear signal**.

signaller box  
A

If more than one signaller in the same signal box is involved with the movement of the out-of-gauge train, you must all reach a clear understanding as to the action to be taken.

## 15.6 Signalling a train that has route restrictions

A train that has a train identity including the letter 'Q' has route restrictions and must follow its planned route.

You must deal with the train normally, but make sure that it follows the planned route.



# 16

## Accidents and incidents: reporting procedures

### 16.1 Telling Operations Control about accidents or incidents

You must give Operations Control any information you receive about an accident or unusual incident.

### 16.2 Dangerous goods incident

You must stop the passage of trains on all lines at the location, making sure you do not bring trains to a stand in the immediate area unless there is no damage to the wagon, tank, container or flask.

You must pass the information you have received from the traincrew to Operations Control using the message prefix: **'This is a rail dangerous goods emergency.'**

This information must include:

- the train reporting number, if appropriate
- where and when the incident happened
- the wagon types and numbers, if known
- the position of the wagons on the train or in the siding
- as many details of the incident as possible
- whether any railway personnel or members of the public are involved
- the six-character 'Emergency Code', made up of four numbers followed by two letters.



The four-figure 'United Nations number' identifies the substance in the vehicle and the two-letter alpha code allows Operations Control to identify which number to use for specialist assistance.

If there is any doubt whether dangerous goods are involved, you must tell Operations Control immediately. If possible, you must give Operations Control the position in the train of the vehicles concerned.

### 16.3 Irradiated fuel flasks

If an incident involves an irradiated fuel flask, you must make sure that the report from the traincrew includes answers to the following questions in the order shown. Each question must be answered 'Yes' or 'No'.

1	Is the flask wagon derailed?	Yes/No
2	Has the flask wagon been involved in a collision?	Yes/No
3	Is there a fire near the flask?	Yes/No
4	Are large quantities of liquefied petroleum gas, petroleum or other flammable liquids present?	Yes/No
5	Is there any visible damage to the flask or to the cover (if fitted)?	Yes/No

If the answer to any of the questions is 'Yes', you must stop the passage of trains on all lines at the location. However, you must not stop trains in the immediate area.

You must immediately pass this information to Operations Control in the same order.

# 17

## Broken rails and bridge strikes

### 17.1 Broken, distorted or damaged rails or broken fishplates

#### 17.1.1 Signaller's actions

If you are told about a broken, distorted or damaged rail or that both fishplates are broken on the same rail, you must:

- stop trains from passing over the affected line
- tell Operations Control
- arrange for a rail defect examiner (RDE) or rail defect nominee (RDN) to examine the rail or fishplates concerned.

#### 17.1.2 Authority to run trains

When the RDN or RDE has examined the defective rail or fishplates, and gives permission for trains to proceed at a specified reduced speed, you must:

- stop each train over the affected line
- tell the driver what has happened
- tell the driver the location of the defective rail or broken fishplates
- instruct the driver not to exceed the specified reduced speed over the defective rail or broken fishplates.

You must not allow a train to pass over any adjacent line when a train is passing over the defective rail or broken fishplates.

You must continue to instruct drivers to proceed at the speed authorised by the RDN or RDE until one of the following applies.

- The RDN or RDE advises that the condition of the defect has worsened and train movements must be stopped.
- An emergency speed restriction is imposed over the line or lines concerned.
- An RDE authorises that normal speed of trains may be resumed.

### 17.1.3 Report of only one broken fishplate

If you are told that one fishplate of a pair is broken, you must tell Operations Control and arrange for a competent engineer to examine the fishplate concerned.

Until you are informed that the broken fishplate has been replaced or an emergency speed restriction has been imposed, you must:

- stop each train over the affected line
- tell the driver what has happened
- tell the driver the location of the broken fishplate
- instruct the driver not to exceed 20 mph (30 km/h) over the broken fishplate.

You do not need to stop trains on any adjacent line.

## 17.2 Bridge strikes

### 17.2.1 Underline bridge strike

If you become aware that an underline bridge has been struck by a road vehicle, you must:

- stop trains passing over the affected bridge, unless otherwise shown in the *Signal Box Special Instructions*
- tell Operations Control
- arrange for a bridge strike examiner (BSE) or bridge strike nominee (BSN) to examine the bridge.

After the bridge is examined, you must carry out the instructions of the BSE or BSN. This may be to permit trains to pass over the bridge at normal or a specified reduced speed.

If you are given permission for trains to proceed at a specified reduced speed, you must:

- stop each train over the affected line
- tell the driver what has happened and the location of the bridge
- instruct the driver not to exceed the specified reduced speed over the bridge.

### **17.2.2 Overline bridge strike**

If you become aware that an overline bridge has been struck by a road vehicle, you must:

- tell Operations Control
- arrange for a BSE or BSN to examine the bridge
- carry out regulation 20 for the lines concerned.

You must also make sure the driver of the train which is to examine the line is aware of the exact location of the bridge and tell the driver:

- to stop short of the affected bridge
- unless there is obvious damage to the bridge or there is debris on the line, to pass under the bridge and not to exceed 5 mph (10 km/h).

If the driver reports that the line appears safe for the passage of trains, you must instruct the driver of each train which will pass over the affected line to pass under the bridge at no greater speed than 20 mph (30 km/h).

After the bridge is examined, you must carry out the instructions of the BSE or BSN. This may be to permit trains to pass under the bridge at normal or a specified reduced speed.

If you are given permission for trains to proceed at a specified reduced speed, you must:

- stop each train over the affected line
- tell the driver what has happened and the location of the bridge
- instruct the driver not to exceed the specified reduced speed under the bridge.

### **17.2.3 Late reported bridge strike**

If you become aware that an underline or overline bridge has been struck some time earlier, and trains have continued to pass since the bridge strike happened, you must try to get details of:

- the approximate time the bridge was struck
- the type of vehicle that hit the bridge
- whether any damage to the bridge has been reported.

#### **Underline bridge**

You must carry out regulation 17.2.1 and then carry out the instructions given by Operations Control about the speed and type of trains that may pass over the affected bridge.

#### **Overline bridge**

You must carry out regulation 17.2.2 unless Operations Control tell you otherwise.

# 18

## **Trespassers, animals or minor obstacles on the line**

### **18.1 Trespassers**

If you become aware that one or more trespassers are on or near the line, you must arrange for the trespassers to be removed. You must also tell Operations Control.

If you believe, or are told, that trespassers are in danger from passing trains, you must:

- stop each train which is to proceed over the affected portion of line
- tell the driver what is happening, and to proceed at caution past the location.

You must continue to tell each driver to proceed at caution until you are sure the line is again clear or that trespassers are no longer in danger from passing trains.

If the entrance to the section is controlled by another signaller, you must tell that signaller.

## **18.2 Animals, trespassers who may endanger trains, or minor obstacles**

You must arrange for the line to be cleared if you become aware that:

- animals are likely to cause an obstruction
- minor obstacles are on the line
- a cow, bull or other large animal is within the boundary fence
- trespassers or others are likely to endanger trains.

You do not need to examine the line, but you must:

- stop each train which is to proceed over the affected portion of line
- tell the driver what is happening, and to proceed at caution.

If there is a tunnel that might be affected, you must also tell each driver not to exceed 10 mph (15 km/h) through the tunnel.

You must not allow more than one train to be in the tunnel at the same time.

You must continue to stop and tell each driver to proceed at caution until you are sure the line is again clear.

If the entrance to the section is controlled by another signaller, you must tell that signaller.



# 19

## Stop and examine train

### 19.1 When this general signalling regulation must be used

You must carry out this regulation if you become aware of anything unusual or wrong such as:

- signals of alarm
- an insecure load
- a vehicle on fire
- a hot axle box
- a door open or on the catch
- a person has fallen from a train
- unusual noise coming from a train
- other mishaps.

You must also look for damage to the infrastructure which might have been caused by the train including:

- multiple or sequential track circuit failures, or
- multiple or sequential loss of detection of points.

## 19.2 Anything unusual or wrong with a train

If you become aware of anything unusual or wrong with a train, or you receive **stop and examine train (7)**, you must immediately:

- stop the train concerned
- stop trains on any adjacent lines from passing the train concerned
- stop trains proceeding on the same or any other line over the affected area
- tell the signaller who controls the area from which the train approached what has happened
- if necessary, carry out train signalling regulation 4
- arrange for the train to be examined and dealt with as necessary.

If you cannot stop the train concerned before it enters the area controlled by another signaller, you must immediately tell that signaller what has happened.

You must first send the **emergency alarm** on a TCB or ERTMS line, or send **stop and examine train** on other lines where block bells are provided.

### **19.3 After the train has stopped**

After the train has been stopped and you have found out whether any line is obstructed, you may allow normal working on unobstructed lines.

If after the train has been examined, nothing can be found wrong with the train, you must:

- stop the first train to travel over the affected area on any line, and
- tell the driver what has happened.

You must then instruct the driver to:

- proceed at caution through the affected area
- report the state of the line to the next signaller or at a specified point ahead.

Until you receive a report on the state of the line, you must instruct the driver of any other train that is to pass through the affected area to proceed at caution.

If another signaller is involved, you must tell that signaller what has happened.

The other signaller must then carry out this regulation 19.3.

## 19.4 If the train cannot be dealt with

If, after the train has been examined, it is not possible for it to be dealt with but it can proceed safely to a point where it can be dealt with, you must:

- agree the arrangements with the signaller who controls the area ahead
- signal the train in the normal way.

You must not allow the train to pass, or be passed by, a train on an adjacent line unless you have been assured that it can be done safely.

These arrangements must be repeated for each section the train has to pass through.

## 19.5 Door open on a passenger train

### 19.5.1 If a person has fallen from the train

If you are told a person has fallen from a train, you must arrange to examine the line.

### 19.5.2 If it is not known whether a person has fallen from the train

If you are told that a door is open or is on the catch on a passenger train and you have been told the door has been closed, but it is not known whether any person has fallen from the train, you do not need to examine the line. However, you must:

- stop the first train on each line and tell the driver what has happened
- instruct the driver to proceed at caution over the affected portion of line.

### 19.5.3 When no-one has fallen from the train

If it is confirmed that no-one has fallen from the train and the door has been closed, you may resume normal working.

# 20

## Examining the line

### 20.1 When the line is to be examined

If the train signalling regulations require a line to be examined, this can be achieved by one of the following.

- You can see the line is safe for trains to pass.
- You can get a competent person to check the line is safe for trains to pass.
- You can get the driver of a train passing over the affected line to check the line is safe for trains to pass.

You must not use a train to examine the line, but must instead arrange for a competent engineer to examine the line if any of the following are reported:

- broken, distorted or damaged rails
- broken fishplates
- an underline bridge has been struck by a road vehicle, unless otherwise shown in the *Signal Box Special Instructions*
- damage to a bridge not caused by a road vehicle
- subsidence
- suspected damage to any other structure below or above the railway.

## 20.2 Before an examination using a train can start

If another signaller is involved, you must both reach a clear understanding about what is to be done.

You must be sure that the last train to enter the affected section has passed, complete with tail lamp, beyond the stop signal or block marker ahead of the affected portion of line.

You must not allow a train with a failed headlight to examine the line during darkness, or poor visibility, or if there is a tunnel in the section, unless a portable headlight is fitted to the front of the train.

If there is more than one line, you must treat each line as affected unless you have definite information that a line is not affected. Each affected line must be examined individually but this can be done at the same time.

Where the affected portion of line is in a tunnel, you must not allow another train to enter or pass through the tunnel while a train is being used to examine the affected portion of line.

If the overhead line equipment is to be examined using a train, you must also carry out the instructions shown in module AC AC *electrified lines*.

You may allow trains on all other lines not affected to continue to run. However, during the time an affected line is being examined, the driver of each train on lines immediately next to the affected line must be:

- told what is happening
- told the locations between which the adjacent line is affected
- instructed to pass the affected portion of line at caution
- told to report as soon as possible if anything is seen to be wrong.

You must continue to do this until any train being used to examine the affected line has passed over the affected portion of line.

### **20.3 Dealing with the train that will be used to examine the line**

Before you allow the train that will be used to examine the line to enter the affected section, you must:

- tell the driver why the line is to be examined
- reach a clear understanding with the driver as to which portion of the line is to be examined.

You must instruct the driver that, when the signal is cleared or you have given permission to pass the signal at danger, an MA is received or the EoA is to be passed without an MA:

- to proceed at caution over the affected portion of line
- if the affected portion of line is in a tunnel, not to exceed 10 mph (15 km/h) through the tunnel
- if the line is to be examined because of a reported track defect, not to exceed 20 mph (30 km/h)
- report the state of the affected line at an agreed location beyond the affected portion of line.

## 20.4 Signalling the train being used to examine the line

Where another signaller is involved, when the train to be used to examine the line is ready to enter the affected section, you must tell the other signaller and get permission for the train to enter the section. The examining train must then be signalled normally.

When **obstruction danger** has previously been sent, the signaller accepting the examining train, must send **obstruction removed**.

When the driver has been given the necessary information, you may clear the signal or issue an MA for the train to proceed or give the driver permission to pass the signal at danger or pass the EoA without an MA.

After the examining train has gone beyond the signal or block marker protecting the affected portion of line, you must not allow another train to follow until a report is received stating the line is clear and safe for trains to run on.

If the driver tells you the line is obstructed, you must immediately carry out train signalling regulation 4.

If the driver needs the train to return to the end of the section at which it entered, this must be done as shown in module TW7 *Wrong-direction movements*. You must not send the **cancelling** bell signal until the train is clear of the section concerned.



## 20.5 Resuming normal working

If the driver of the train being used to examine the line reports that the line appears to be safe for the passage of trains, you may resume normal working over that line.

However, if the line has been examined for a reported track defect you must tell the driver of each train that is to pass over the affected line:

- a track defect has been reported
- to proceed at caution over the affected portion of line not exceeding 20 mph (30 km/h).

You must continue to do this until a competent engineer has confirmed that the affected portion of line is safe for normal operation.

## 20.6 When a track circuit fails to clear or shows occupied for some other reason

### 20.6.1 Before the passage of the first train

You must carry out this regulation if a track circuit:

- fails to clear after the passage of a train, or
- shows occupied for some other reason.

You must make sure that no train has been signalled over the affected portion of line and that the last train over the affected portion of line has passed clear of the track circuit concerned and one of the following applies.

- That train has occupied and cleared the overlap of the signal or block marker beyond the affected portion of line.
- You have received **train out of section** for that train.
- You have been told that the train has passed out of the section with tail lamp attached.

On a single line or bi-directional line, you must also carry out the instructions shown in module P2 *Working single and bi-directional lines by pilotman*.

Unless you are sure that the line is not obstructed, you must arrange for the line to be examined as well as carrying out the following instructions.

### **20.6.2 First train to pass on an adjacent line**

If the first train to pass on a line immediately next to the affected line before the affected line is examined, the driver of this train must be told:

- what is happening
- the locations between which the adjacent line is affected by the track circuit
- to pass the affected portion of line at caution
- to report as soon as possible if anything is wrong.

### **20.6.3 First train to pass over the affected line**

You must stop the first train to pass over the affected portion of line and ask the driver if the line appears to be clear as far as can be seen.

If the driver confirms that the line appears to be clear as far as can be seen, you must:

- tell the driver what has happened
- reach a clear understanding with the driver as to which portion of the line is to be examined
- tell the driver to pass the signal at danger or the EoA without an MA and to proceed at caution over the affected portion of line
- tell the driver not to exceed 10 mph (15 km/h) through any tunnel on the affected portion of line
- tell the driver to report the state of the affected line at an agreed point ahead of the affected portion of line.

### **20.6.4 When it is known the affected line is not obstructed**

If it has been confirmed that the line is not obstructed, you must treat the track circuit as having failed.

### **20.6.5 If the affected track circuit again shows clear**

If the affected track circuit shows clear before the signalling technician arrives, but a train has not yet passed over the affected track circuit, you must carry out the instructions for a first train passing over the affected line. After you have given the driver the necessary instructions, you may clear the signal or issue an MA. If it is then proved that the line is clear, you may resume normal working.

If a train has already passed over the affected track circuit, you may resume normal working.

### **20.6.6 If the track circuit is showing occupied then clear at intervals**

If, after a train has passed over the affected track circuit, it shows occupied and clear at intervals, and as a result there is a possibility that a signal or signals could revert to danger in front of a train or affect an MA which has been issued, you must treat the track circuit as having failed.

If you have been treating a track circuit as failed but the affected track circuit shows clear before the technician arrives, you may resume normal working as long as:

- at least three trains have passed over the affected track circuit
- the track circuit has been observed to have operated normally for and between each train.

# 21

## **Train an unusually long time in section**

If you become aware that a long time has passed after a train has entered a section, you must try to contact the driver to find out the cause.

If you cannot contact the driver, until you have found out what is wrong, you must:

- stop each train on any adjacent line travelling towards the overdue train
- tell the driver of each train the circumstances regarding the overdue train
- instruct the driver to proceed at caution when the signal is cleared or an MA is received
- tell the driver to report what has happened with the overdue train
- signal each train normally.

If another line is not available, you must get help from a competent person.

If the entrance to the section is controlled by another signaller, you must tell that signaller.

## 22 **Cautioning drivers of moving trains**

If the rules require you to stop a train to tell the driver to proceed at caution, you can instead use a GSM-R berth-triggered broadcast to tell the driver.

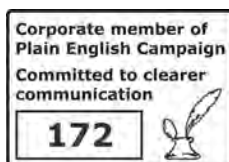
You can only do so if, in the particular situation concerned, an instruction allows you to.





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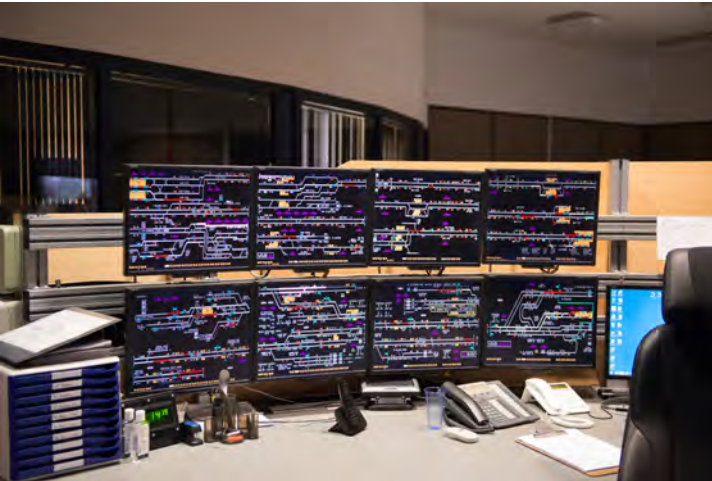


# GERT8000-TS2 Rule Book



## Track circuit block regulations

### Issue 5



Module TS2

September 2018  
Comes into force 01 December 2018



## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

Green text in the margin indicates who is responsible for carrying out the rule.

A white **i** in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



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Regulations for train signalling by the track circuit block system.

You will need this module if you carry out the duties of a signaller in a track circuit block area.

## Regulation

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### 6

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- 9.7 Recording times in the Train Register

Regulation

## 10 Opening and closing signal boxes

10.1 Opening

10.2 Closing

# 1

## Definitions

The following terms are used in these regulations and apply to signallers in track circuit block signalling areas.

### **Signal section**

The line between two stop signals, whether or not these are within the control of the same signal box.

### **Overlap**

The distance beyond a stop signal up to which the line must be clear before the previous signal can show a proceed aspect.

## 2 Principle

The track circuit block system allows a signal to show a proceed aspect when:

- all track circuits, up to and including the overlap of the next stop signal, are clear
- all necessary points within the route are detected in the correct position for a train to pass safely.



# 3

## Method of signalling

### 3.1 Operating signals

#### 3.1.1 Before clearing signals

Before you operate a signal control to allow a train to proceed, you must make sure that:

- no other movement that may conflict is to be made first
- the route is set or is free to be set by the interlocking
- if necessary, you have been given a release by another signaller.

#### 3.1.2 Replacing signals to danger

Before you allow a movement to occupy a track circuit which would change the aspect shown at any signal, you must place, or keep, the necessary signals at danger to protect the movement.

If another signaller controls that signal, you must not allow the movement to take place until that signaller tells you the signal is at danger.

#### 3.1.3 Obstructing or occupying an overlap

You must not allow the line within the overlap of a signal to be obstructed or to be occupied by an unsignalled movement until:

- any approaching train has been stopped at that signal, or
- if no train is approaching that signal, the previous controlled signal has been placed to danger to protect the obstruction or movement.

#### 3.1.4 Emergency alarm

If you receive the **emergency alarm**, you must place the signals for the affected lines to danger. You must then find out whether it is necessary to carry out regulation 4, regulation 5 or general signalling regulation 19.

## 3.2 Train requiring to stop in section

If a train that is to stop in the section is to enter an area controlled by another signaller, you must tell that signaller:

- the type of train
- where the train is to stop and why
- the approximate time the train will occupy the section.

## 3.3 Permissive working

### 3.3.1 When permissive working can be used

You must carry out these regulations where permissive working is authorised in the *Signal Box Special Instructions*.

You do not need to carry out these regulations for shunting movements that are being made with a traction unit into an occupied section, to attach, detach or remove vehicles.

### 3.3.2 Types of permissive working

You must only allow the following classes of train to be in, or enter, a section when permissive working is taking place:

Type of line	Classes of train
Goods	3 to 8 and 0
Passenger (other than platform lines )	3 to 8 and 0
Platform lines	1, 2, 3 ECS, 5,9 and 0. Any class of train formed only of MPV vehicles when operating as a railhead treatment or inspection train

### **3.3.3 Poor visibility**

You must not allow permissive working to take place during poor visibility, except on platform lines.

### **3.3.4 Additional regulations for permissive working on platform lines**

You must not signal a second train into an occupied platform if you have already cleared the signal for the first train to leave that platform.

If you are not sure there is enough room for the second train, you must get confirmation that there is room before clearing the signal for the second train.

If a movement has already been authorised on that platform line, you must get confirmation, from the person in charge of the movement, that it has been completed before you clear the signal for the second train.

Once you have signalled a second train into an occupied platform, you must wait until the second train has stopped in the platform before you can allow the first train to leave.

If a train is not booked to call at a station, you must tell the driver what is happening before you signal that train into an occupied platform line.

## 3.4 Emergency permissive working

In an emergency, you can allow a train conveying passengers to enter an occupied signal section to reach a station platform, as long as you have been authorised to do so by the signal box supervisor or Operations Control.

You must make sure that there is enough room to safely deal with the train at the platform.

Before you allow a train to proceed, you must tell the driver what has happened, and instruct the driver to pass the signal at danger.

You must also tell the driver that when the train has arrived at the station platform, no further movement is to be made without the authority of the signaller.

## 3.5 Signalling by bell or telephone

### 3.5.1 When this regulation must be used

You must use this regulation when it is necessary to signal trains by bells or telephone when one of the following applies:

- signalling equipment is being worked on or has failed
- single line working is in operation
- an out-of-gauge train is to travel between two signal boxes.

### 3.5.2 When signalling by bell or telephone

You must use the standard code of bell signals and, if possible, you must also use the train describer.

If bells are not available, you must send the necessary bell signals as messages on the telephone, and if possible, use the train describer.

You must record the times at which all bell signals are sent or received in the Train Register. This includes bell signals sent as messages on the telephone.

You must record these times in the Train Register even if you do not normally have to record times.

### 3.5.3 Method of signalling by bells or telephone

**Note:** For the purpose of this part of the regulation, A and B represent two signallers. Trains are to be signalled by bell or telephone between their areas of control.

Before you allow a train to proceed, you must:

- make sure that the last train has passed clear of the line concerned
- send **call attention** to signaller B
- send the appropriate **is line clear**.

signaller A

You can accept the train as long as no conflicting movement has been authorised and:

- during a failure or disconnection of the signalling equipment or track circuits (or both), the line on which the train is to run is clear up to and including the overlap of the first stop signal in your area of control
- during single line working, the line is clear as shown in regulation 9
- during emergency special working, the line is clear as shown in section 5 of module S5 *Passing a signal at danger*
- during temporary block working, the line is clear as shown in section 6 of module S5 *Passing a signal at danger*.

signaller B

If for whatever reason you cannot accept a train that is offered, you must not acknowledge the **is line clear**.

If the line is clear and **is line clear** has been acknowledged, you may allow the train to proceed.

signaller A

When the train departs, you must send **train entering section** to signaller B.

## Track circuit block regulations

### signaller B

The conditions under which you accept the train must not be changed until one of the following applies.

- The train has been stopped at the first stop signal.
- The train has passed beyond the point to which the line has been kept clear.
- You have received **cancelling** from signaller A for that train.

You must send **train out of section** to signaller A when:

- you or a competent person has seen the train, complete with tail lamp, pass beyond the point to which the line has been kept clear, or
- you have seen the train occupy and clear the track circuit ahead of the signal beyond the affected portion of line.

### 3.5.4 Signalling trains by telephone

### signaller A and B

If there are no bells, or the bells are not working, you must send all bell signals as messages on the telephone, for example:

Signaller A

'Is Up Main line clear for one alpha two seven'?

Signaller B

'Up Main line **is** clear for one alpha two seven'.

Signaller A

'One alpha two seven train entering section on Up Main line'.

Signaller B

'One alpha two seven train out of section on Up Main line'.

If for whatever reason you cannot accept a train that is offered, you must state the refusal as follows:

signaller B

Signaller B

'No, one alpha two seven refused'.

### 3.5.5 When normal working is to resume

Before returning to normal working, you must both agree how this is to be done.

signaller A  
and B

## 3.6 Working in wrong direction

**Note:** 'multiple unit' in this regulation means a train that can be driven from either end and can assist the failed train. The multiple unit may be loaded or empty.

### 3.6.1 When this regulation must be used

You must use this regulation when it is necessary for a light locomotive or a multiple-unit train to proceed through one or more sections in the wrong direction:

- over the unaffected line to assist a failed train from the front, or
- over the unaffected line to assist a failed train that is beyond a train that cannot provide assistance.

You must first get permission from the signal box supervisor or Operations Control.

You must agree what is to happen with everyone involved in the movement.

## Track circuit block regulations

### **3.6.2 When the crossover used to return the train to the affected line is facing**

If the movement will return to the affected line through points that are facing to the wrong-direction movement, you must make sure that one of the following applies.

- You have operated the points to the correct position to return the movement to the affected line.
- You have got confirmation from any other signaller involved that the points have been set to the correct position to return the movement to the affected line.
- You have got confirmation from the ground-frame operator that the points have been set to the correct position to return the movement to the affected line.

### **3.6.3 When the crossover used to return the train to the affected line is trailing**

If the crossover where the wrong-direction movement will return to the affected line is trailing to the wrong-direction movement, you must make sure that one of the following applies.

- You have operated the points for the safety of the wrong-direction movement.
- You have got confirmation from any other signaller involved that the points have been correctly set.
- You have got confirmation from the ground-frame operator that the points have been correctly set.



# 4 Obstruction of the line

## 4.1 Stopping trains because of an emergency

### 4.1.1 Signal protection

If you need to stop trains because of an obstruction or other emergency, you must place or keep at danger all signals necessary to protect the affected line.

If necessary, you must arrange for train radio messages to be sent.

If you cannot stop a train proceeding towards the obstruction or other emergency, you must carry out the instructions shown in regulation 5.

### 4.1.2 Placing a release to normal

You must also place or keep any release, slot or acceptance switch in the normal position.

### 4.1.3 Obstruction within the overlap

If the obstruction or other emergency is within the overlap of the protecting signal, you must place and keep at danger the previous signal that can be controlled to danger unless there are facing points that you have set for a route that is clear of the affected section.

### 4.1.4 Train detained at a signal on the approach

If a train is detained at a signal on the approach to the affected section, you must instruct the driver to stay at the signal until you give permission for the train to proceed even if the signal displays a proceed aspect.

## 4.2 If another signaller is involved

If another signaller controls the signal that will protect the obstruction or other emergency, you must immediately tell that signaller what is happening.

If this signaller is in another signal box, you must first send the **emergency alarm**.

If you are the signaller receiving this message or **emergency alarm**, you must carry out the instructions shown in regulations 4.1 and 4.3.

You must then tell the signaller giving you the message or **emergency alarm** whether you have been able to stop a train proceeding towards the obstruction or other emergency.

## 4.3 Allowing a train into the affected section

You must not allow a train into the affected signal section until the line is again clear and safe for the passage of trains unless it is necessary to:

- examine the line
- allow an assisting train into an occupied section
- work to and from the point of obstruction, or serve an intermediate station or siding, but only if this can be done safely
- allow a train to pass through a diverging junction before reaching the obstruction.

If more than one signaller is involved, you must both come to a clear understanding as to what is to be done before allowing a train into the affected signal section.

# 5

## **Train or vehicles proceeding without authority (including a SPAD) or train divided**

### **5.1 Immediate actions**

If you become aware, or you suspect, that a train or vehicle is proceeding without authority, or a train is running in two or more portions, you must:

- place or keep signals at danger against the train or vehicle and any other trains that could be put in danger
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of any points to divert trains and prevent collisions
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

### **5.2 If another signaller is involved**

If a train or vehicle that is proceeding without authority, or a portion of a divided train, will enter a signal section controlled by another signaller, you must immediately tell that signaller what is happening.

If this signaller is in another signal box, you must first send the **emergency alarm**.

### 5.3 Making sure the line is clear

If it cannot be confirmed that an adjacent line is not obstructed, you must arrange for that line to be examined.

If a train or vehicle that has proceeded without authority, or all of a divided train, has stopped intact and it is confirmed that no other line is affected, you may resume normal working on the other lines.

You must not allow any train to pass over the line where a train or vehicle has proceeded without authority, or a portion of a divided train has passed, until you are sure that the line is clear.

You must signal the next train normally.

## 6 Tail lamp out or missing

If you become aware that a train has the tail lamp out or missing, you must find out whether the train is complete. You must also tell the driver of that train that the tail lamp is out or missing.

During darkness or poor visibility, where permissive working is authorised and you are aware that the tail lamp is out or missing, you must not signal another train into the same section until you have been told a red light has been placed on the rear of the train.

If the train enters an area controlled by another signaller before you can find out if the train is complete or before you are told the tail lamp has been replaced, you must tell that signaller.

# 7

## Allowing an assisting train into an occupied section

### 7.1 Before allowing an assisting train into the occupied section

You may allow an assisting train into an occupied signal section in either direction to:

- proceed to, and assist, a failed train
- evacuate passengers from a failed train
- remove the rear portion of a divided train
- remove vehicles which have proceeded without authority.

If there is a tunnel in the affected signal section, you must instruct the driver of any train proceeding on an adjacent line to proceed through the tunnel at caution. You do not need to do this if you know the tunnel is clear and the person carrying out any protection is not in the tunnel.

If another signaller is involved, you must come to a clear understanding with that other signaller as to what is to happen.

### 7.2 Occupying or obstructing the line within the overlap

If you are told that the train has failed and will not be moved, you may allow the overlap of the stop signal immediately beyond the failed train to be occupied, fouled or obstructed. You may continue to do this until:

- the failed train is ready to proceed, or
- the assisting train has entered the section and the failed train is to be assisted forward.

### **7.3 When the line is again clear**

When the line is again clear, you must signal the next train normally.

If the assisted train is to enter a signal section controlled by another signaller, you must tell that signaller the train is being assisted and how it is being assisted.

# 8

## **Failure or disconnection of train describers or bells**

### **8.1 Describing trains**

If the train describer equipment fails or is disconnected, you must keep a record of the trains within your area of control.

If a train enters an area controlled by another signaller, you must tell that signaller the identity of the train. If that signaller is at another signal box, you must send the train description by either bell or telephone.

If it is not possible to pass on a train description, you may allow trains to proceed and operate the signals in the normal way.

If you become aware of a train within your area of control for which you have not received a train description, you must find out its identity, if necessary by stopping the train.

### **8.2 Loss of communication on a single line**

If you cannot communicate with the signaller in an adjacent signal box but the signalling equipment is working normally, you must use whatever means are available to find out the order in which trains will proceed over the single line.



# 9

## Signalling trains during single line working

### 9.1 Allowing trains to enter the single line in the right direction

Before you clear the signal controlling the entrance to the single line, you must make sure that the pilotman has given the necessary instructions to the driver.

### 9.2 Allowing trains to enter the single line in the wrong direction

#### 9.2.1 If there is a main aspect signal to control the movement through the crossover at the other end of the single line

You can allow a train to enter the single line, as long as the line is clear to a point 183 metres (200 yards) beyond that signal.

#### 9.2.2 If there is a handsignaller opposite the signal protecting that crossover

You can allow a train to enter the single line, as long as the line is clear to a point 183 metres (200 yards) beyond the handsignaller.

### **9.2.3 If there is no main aspect signal to control the movement through the crossover at the other end of the single line, and no handsignaller opposite the signal protecting that crossover**

Except during poor visibility, you can allow a train to enter the single line, as long as one of the following applies.

- If that crossover is facing to the movement, it is reversed and the line is clear up to and including the overlap of the next signal beyond.
- If that crossover is trailing to the movement, it is correctly set and the line is clear to a point 400 metres (440 yards) beyond.

## **9.3 Allowing wrong-direction movements to return to the proper line**

### **9.3.1 If there is a handsignaller opposite the signal protecting the crossover**

#### **If the crossover is facing to the movement**

You can allow a train in the wrong direction to pass the handsignaller as long as:

- the crossover is set, and if necessary secured, in the correct position
- the line is clear up to and including the overlap of the next signal beyond the crossover.

You must tell the handsignaller that the train can be allowed to proceed without being stopped, if the driver has already been given the necessary instructions.

### **If the crossover is trailing to the movement**

You must:

- place the necessary signals to danger to protect the movement
- tell the handsignaller to make sure the driver understands what is to happen.

When you have done this, you can allow a train in the wrong direction to pass the handsignaller.

### **9.3.2 If there is no main aspect signal and no handsignaller opposite the signal protecting the crossover**

#### **If the crossover is facing to the movement**

You must personally tell the driver to pass beyond the signal on the obstructed line protecting the crossover, as long as:

- the crossover is set, and if necessary secured, in the correct position
- the line is clear up to and including the overlap of the next signal beyond the crossover.

#### **If the crossover is trailing to the movement**

You can allow a train in the wrong direction to draw forward clear of the crossover, as long as you:

- have placed the necessary signals to danger to protect the movement
- make sure the driver fully understands what is to happen.

### **9.4 If the single line has been divided into two sections**

You can allow trains in the wrong direction to enter the single line as long as the line is clear to a point 183 metres (200 yards) beyond the intermediate handsignaller.

You can allow trains to pass the intermediate handsignaller as long as the line is clear to a point 183 metres (200 yards) beyond the main aspect signal or handsignaller at the end of the single line where the train will return to the proper line.

### **9.5 Crossovers used for single line working, worked from a ground frame**

Unless the signals protecting the crossover are individually and directly controlled from the signal box, you must instruct the person working the ground frame to keep the release for the ground frame in the 'release' position during single line working.

Movements in each direction must be authorised to pass the protecting signal at danger.

### **9.6 Crossovers used for single line working, worked from different signal boxes**

If the crossovers at each end of the single line section are worked by different signal boxes, you must, where possible, describe trains in the right direction in the normal way.

Where this is not possible, and for all trains in the wrong direction, you must carry out the instructions in regulation 3.5.

## **9.7 Recording times in the Train Register**

You must record times that trains enter and leave the single line.

You must also record the times that trains enter and leave each section of single line when the single line has been divided into two sections.

You must record these times in the Train Register even if you do not normally have to record times.

# 10

## Opening and closing signal boxes

### 10.1 Opening

When you are to open a signal box, you must find out if the adjacent signal boxes are open and tell the signallers there that your signal box is open.

### 10.2 Closing

When you are to close a signal box, you must:

- make sure there are no more train movements required
- make sure that all controlled signals in your area of control are at danger
- tell the signallers in the adjacent signal boxes that your signal box is closed.





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**GE/RT8000/TS3**  
**Rule Book**

**Module TS3**

# Absolute block regulations

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Regulations for train signalling on double lines by the absolute block system.

You will need this module if you carry out the duties of a signaller in an absolute block area.

Conventions used in the Rule Book	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	driver
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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# 8

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# 1

## Definitions

The following terms are used in these regulations and apply to signallers in absolute block signalling areas.

### **Absolute block section**

The line between the last stop signal (which can be a section signal or an intermediate block home signal) controlled from one signal box, and the home signal controlled by the next signal box.

An absolute block section will be referred to as a section within this document.

### **Block signals**

A stop signal that controls the entrance to, or exit from, a block or intermediate block section.

The following are block signals.

**Home signal:** the first stop signal controlled by a signal box that controls the exit from an absolute block section.

**Section signal:** a stop signal that controls the entrance to an absolute block section or an intermediate block section.

**Intermediate block home signal:** a stop signal that controls the exit from an intermediate block section, and the entrance to an absolute block section.

### **Clearing point**

The point beyond the home signal up to which the line must be clear before a train can be accepted as shown in regulation 3.4.

## **Intermediate block section**

The line between the section signal and the intermediate block home signal worked by the same signal box in the same direction of travel.

# 2 Principle

The principle of the absolute block system is to prevent more than one train being in a section on the same line at the same time.

# 3

## Method of signalling

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. A train is to be signalled from signal box A to signal box B. The procedure shown must be repeated along the line of route if the train is to proceed further.

### 3.1 Normal method of signalling trains

#### 3.1.1 Actions of the signaller at signal box A

##### signaller box A

Before you start the procedure to allow a train to enter the section:

- you must have received **train out of section (2-1)** for the previous train
- the block indicator for the line concerned must be in the **normal** position.

You must send **call attention (1)** to signal box B, and when this has been acknowledged, send the appropriate **is line clear**.

When the signaller at signal box B has acknowledged **is line clear** and placed the block indicator to **line clear**, you may clear the signals for the train to proceed.

When the train passes the signal box, or the location shown in the *Signal Box Special Instructions*, you must send **train entering section (2)** to signal box B.

#### 3.1.2 Actions of the signaller at signal box B

##### signaller box B

When you have received **is line clear**, you must acknowledge **is line clear** to signal box A and place the block indicator for the line concerned to **line clear**.

You must not acknowledge **is line clear**, or place the block indicator to **line clear**, if the line is not clear, or for any reason you cannot give permission for the train to approach.

On receiving **train entering section**, you must acknowledge **train entering section** to signal box A and place the block indicator for the line concerned to **train on line**.

signaller  
box B

### 3.1.3 If the train is to continue to signal box C

If the train is to continue to signal box C, as long as the conditions shown in 3.1 are met at your signal box, you must carry out the requirements of the signaller at signal box A in 3.1.1.

### 3.1.4 Method of signalling if there is an intermediate block home signal between signal box A and signal box B

If there is an intermediate block home signal, you may clear the section signal for a train to enter the intermediate block section before carrying out the instructions shown for you in regulation 3.1.1 as long as the line is clear up to and including the overlap track circuit beyond the intermediate block home signal.

signaller  
box A

If the intermediate block home signal has been cleared, you must send **train entering section** when the train passes your signal box. However, if the signaller at signal box B has not accepted the train, you must send **train entering section** when:

- the train has been accepted by signal box B
- the intermediate block home signal has been cleared.

## Absolute block regulations

### 3.2 Sending 'train out of section'

#### signaller box B

You must observe the train as it passes the signal box and make sure it has a tail lamp at the rear.

When the train has passed beyond the clearing point, or passed beyond a facing junction and you have set the points for another line which is clear to the clearing point of that line or has been shunted clear of the running line, you must:

- send **call attention** to signal box A
- when this has been acknowledged, send **train out of section (2-1)**
- when this has been acknowledged, place the block indicator for the line concerned to **normal**.

When it is necessary to send **train out of section** before the last vehicle of the train passes your signal box, you must make sure that the train has arrived, complete with tail lamp, before doing so.

### 3.3 Train not proceeding, or incorrect 'is line clear' sent

#### 3.3.1 Cancelling

#### signaller box A

If a train is not going to proceed but **is line clear** or **train entering section** has been acknowledged by the signaller at signal box B, you must place the relevant signals to danger, and send **cancelling**.

#### signaller box B

If you receive **cancelling**, you must acknowledge it to signal box A and place the block indicator to **normal**.

### 3.3.2 Train incorrectly described

If you have sent the incorrect **is line clear** and the signaller at signal box B has acknowledged it, you must send **train incorrectly described** to signal box B, and when this has been acknowledged, send the correct **is line clear**.

signaller  
box A

If you receive **train incorrectly described**, you must acknowledge that signal, then acknowledge the correct **is line clear** and leave the position of the block indicator as it is.

signaller  
box B

### 3.4 Giving permission for a train to approach

**Note:** This part of the regulation describes the conditions under which the signaller at signal box B can accept a train from signal box A.

#### 3.4.1 Before allowing a train to approach

Before you allow a train to approach from signal box A, you must make sure that all the following conditions apply.

signaller  
box B

- The line, or at a facing junction the line for which the facing points are set, is clear up to and including the clearing point.
- All points within the clearing point have been set for the safety of the approaching train.
- No conflicting movement has been authorised that will cross or foul the line within the clearing point.
- No train has been accepted from another direction that requires a portion of the same line within the clearing point for acceptance.

# Absolute block regulations

## 3.4.2 Maintaining the clearing point

### signaller box B

After you have accepted a train from signal box A, you must not allow the line to be obstructed within the clearing point for that train, unless one of the following applies.

- The train has been stopped at the home signal.
- The train has passed beyond any points or crossings that you need to use within the clearing point.
- You have received **cancelling** for the train from signal box A.
- The train has failed.

## 3.4.3 Acceptance - location of the clearing point

If the distant signal is a colour light, the clearing point is 183 metres (200 yards) beyond the home signal. This distance is extended at some locations to include the clearing point track circuit.

If the distant signal is a semaphore, the clearing point is 400 metres (440 yards) beyond the home signal. This distance is extended at some locations to include the clearing point track circuit.

## 3.5 Restricted acceptance

### 3.5.1 When this regulation can be used

### all signalers

You may only use restricted acceptance when:

- single line working is in operation, as shown in regulation 9, or
- an engineering train is to enter a T3 possession of the line where a work-site marker board is within the clearing point.



### 3.5.2 Sending 'is line clear'

As long as you have received **train out of section** for the previous train and no emergency bell signals have been sent for the line concerned, you may send **is line clear** to signal box B for a train under the conditions shown in regulation 3.5.1. This applies even though the block indicator may be at **train on line**.

signaller  
box A

### 3.5.3 When 'is line clear' is received

If you receive **is line clear** from signal box A for a train under one of the conditions shown in regulation 3.5.1, and you need to accept the train with restricted acceptance, you must not acknowledge **is line clear**. Instead you must send **restricted acceptance (3-5-5)**.

signaller  
box B

You must repeat **restricted acceptance** back to the signaller at signal box B.

signaller  
box A

When the signaller at signal box A has acknowledged **restricted acceptance**, you must place the block indicator to **line clear**, if the block controls allow you to do this.

signaller  
box B

### 3.5.4 Telling the driver

You must stop the train accepted with **restricted acceptance** and tell the driver what is happening at the next signal box and that the line is clear to the home signal only. If possible, you may then clear the signal for the train to proceed.

signaller  
box A

## Absolute block regulations

### 3.5.5 If you cannot clear the signal

signaller  
box A

If the block controls do not allow a **line clear** to be given, when you have given the driver the necessary information, you must:

- tell the driver to pass the signal at danger
- send **train entering section** to signal box B.

### 3.5.6 If acceptance conditions change

signaller  
box B

If, before you receive **train entering section** for the train accepted with restricted acceptance, the conditions change so that the train can be accepted normally as shown in regulation 3.4, you must send **line now clear to clearing point (3-3-5)** to signal box A.

You must also place the block indicator to **line clear** if it is not in that position.

signaller  
box A

If you have not sent **train entering section** for the train accepted with restricted acceptance and you receive **line now clear to clearing point**, you must acknowledge it and signal the train normally.

### 3.5.7 Sending 'train out of section' when a work-site marker board is within the clearing point

signaller  
box B

When the engineering train has passed the home signal, complete with tail lamp, you must send **train out of section** to signal box A.

You must leave the block indicator at **train on line** until you have accepted another train with **restricted acceptance**, or the line is again clear to the clearing point.

## 3.6 Blocking the section

### Part A: Blocking back inside home signal (2-4)

**Note:** For the purpose of this part of the regulation, A and B represent two signal boxes on the same line of route. The line within the clearing point at signal box B is to be obstructed.

#### 3.6.1 When this regulation must be used

You must use this regulation if the line within the clearing point will be obstructed after **train out of section** has been sent to signal box A and the block indicator is at **normal** by any of the following.

- Any movement that will be stopped on the running line.
- If work which will affect the safety of the line is to take place within the clearing point as shown in module TS1 *General signalling regulations*, regulation 13.2.
- A work-site marker board for a T3 possession.
- An out-of-gauge movement.
- Any other obstruction.

signaller  
box B

#### 3.6.2 Obstructing the line

You must send **blocking back inside home signal** and when this has been acknowledged, place the block indicator to **train on line**.

You may only allow the line concerned to be obstructed when **blocking back inside home signal** has been acknowledged, and the block indicator is at **train on line**.

signaller  
box B

If you have acknowledged **blocking back inside home signal** to signal box B, you must not send **is line clear** unless:

- regulation 3.5 is authorised in these circumstances, or
- you have received **obstruction removed (2-1-2)** from signal box B.

signaller  
box A

## Absolute block regulations

**3.6.3 When the line is again clear****signaller  
box B**

When the line within the clearing point is again clear, you must send **obstruction removed** to signal box A and place the block indicator to **normal**.

**3.6.4 When the line is closed**

If the line on the approach to the home signal is closed and you need to obstruct the clearing point as shown in regulation 3.6.1, you do not need to carry out the instructions in regulation 3.6.2 or 3.6.3.

However, if you receive **opening of signal box (5-5-5)** from signal box A while the clearing point is obstructed, after acknowledging **opening of signal box**, you must:

- immediately send **blocking back inside home signal** to signal box A
- when this has been acknowledged, place the block indicator to **train on line**.

You must then carry out the instructions in regulation 3.6.3 when the line within the clearing point becomes clear.

**signaller  
box A**

If you receive **blocking back inside home signal** immediately after **opening of signal box** is acknowledged, you must:

- understand that the line beyond the home signal at signal box B is obstructed
- acknowledge **blocking back inside home signal**.

**Part B: Blocking back outside home signal (3-3)**

**Note:** For the purpose of this part of the regulation, A and B represent two signal boxes on the same line of route. The line outside the home signal at signal box B is to be occupied.

**3.6.5 When this regulation must be used****signaller  
box B**

This regulation must be used if it is necessary to occupy the line with a movement outside the home signal.

### 3.6.6 Occupying the line

You must send **blocking back outside home signal**, and when this has been acknowledged, place or keep the block indicator at **train on line**.

signaller  
box B

You may only allow the line outside the home signal to be occupied when **blocking back outside home signal** has been acknowledged, and the block indicator is at **train on line**.

### 3.6.7 When 'blocking back outside home signal' must not be acknowledged

You must not acknowledge **blocking back outside home signal** if you have allowed a movement to be made which would conflict with a movement at signal box B, unless you are sure that such a movement could be made safely.

signaller  
box A

### 3.6.8 When the line is again clear

When the line is again clear to the clearing point, you must send **obstruction removed** to signal box A, and place the block indicator to **normal**.

signaller  
box B

### 3.6.9 Transferring a train or vehicles from inside to outside the home signal

After you have sent **blocking back inside home signal**, and it is then necessary to move the train or vehicles from inside to outside the home signal, you must:

- send **blocking back outside home signal** and wait for this bell signal to be acknowledged
- keep the block indicator at **train on line**.

You must not allow the line outside the home signal to be occupied until **blocking back outside home signal** has been acknowledged.

### 3.6.10 Transferring vehicles from outside to inside the home signal

#### signaller box B

After the signaller at signal box A has acknowledged **blocking back outside home signal** and the train or vehicles are to be transferred from outside to inside the home signal, you must:

- allow the movement to take place
- send **blocking back inside home signal**
- keep the block indicator at **train on line**.

### 3.6.11 When the line is closed

If the line on the approach to the home signal is closed and you need to occupy that line outside the home signal as shown in regulation 3.6.5, you do not need to carry out the instructions in regulation 3.6.6 or 3.6.8.

However, if you receive **opening of signal box** from signal box A, while the line is being occupied, after acknowledging **opening of signal box**, you must:

- immediately send **blocking back outside home signal** to signal box A
- when this has been acknowledged, place the block indicator to **train on line**.

You must then carry out the instructions in:

- regulation 3.6.8 when the line up to the clearing point becomes clear, or
- regulation 3.6.10 if you need to transfer vehicles from outside to inside the home signal.

#### signaller box A

If you receive **blocking back outside home signal** immediately after **opening of signal box** is acknowledged, you must:

- understand that the line outside the home signal at signal box B is occupied
- acknowledge **blocking back outside home signal**.

## Part C: Blocking the line for protection of staff or work

**Note:** For the purpose of this part of the regulation, A and B represent two signal boxes on the same line of route. The line between the two signal boxes is to be blocked for the protection of staff or work.

### 3.6.12 When this regulation must be used

This regulation must be used if it is necessary to block the line between signal boxes A and B for the protection of staff or work as shown in:

- module TS1 *General signalling regulations*, regulation 13.1 and regulation 13.2
- module T3 *Possession of a running line for engineering work*.

If the line blockage or possession is to extend beyond the section from signal box A to signal box B, the signaller receiving the request must explain what the arrangements are before sending **block line for protection purposes (2-2-2)**.

If a request for a line blockage in accordance with module TS1 *General signalling regulations*, regulation 13.1 is received by the signaller at box B, the arrangements must be agreed with the signaller at box A. The signaller at box A must then send **block line for protection purposes**.

### 3.6.13 When the line is to be blocked

You must send **block line for protection purposes**.

If the line is to be blocked as shown in TS1 *General signalling regulations*, regulation 13.1 or module T3 *Possession of a running line for engineering work*, you can only send this bell signal if the position of the block indicator is **normal**.

If the line is to be blocked as shown in module TS1 *General signalling regulations*, regulation 13.2, you may send this bell signal if the position of the block indicator is **normal** or at **train on line**.

all  
signalers

signaller  
box A

## Absolute block regulations

signaller  
box B

You must acknowledge **block line for protection purposes** and place the block indicator to **train on line** if it is not already in this position.

If there was a train in section when **block line for protection purposes** was received, you must not send **train out of section** until:

- the train has arrived as shown in regulation 3.2
- you have received **line blockage completed (1-2-2)**.

### 3.6.14 When the blockage is completed or suspended

signaller  
box A

When the blockage is completed or suspended and the section is again clear, you must send **line blockage completed** to signal box B.

signaller  
box B

You must acknowledge **line blockage completed** to signal box A and then take one of the following actions.

If the block indicator was **normal** when **block line for protection purposes** was acknowledged, you must place the block indicator to **normal**.

If the block indicator was at **train on line** when **block line for protection purposes** was acknowledged, you must:

- if the train is still in section, keep the block indicator at **train on line**, or
- if the train has passed clear of the section, send **train out of section** and place the block indicator to **normal**.



### 3.7 Train requiring to stop in section

If you become aware that a train is to stop in the section, you must tell the signaller at signal box B:

signaller  
box A

- the type of train
- where the train is to stop and why
- the approximate time the train will occupy the section.

### 3.8 Working in wrong direction

**Note:** 'multiple unit' in this regulation means a train that can be driven from either end and can assist the failed train. The multiple unit may be loaded or empty.

#### 3.8.1 When this regulation can be used

You may only use this regulation if the block instruments are working and there is communication available between the signal boxes concerned.

all  
signallers

You must first get permission from Operations Control.

You must use this regulation when it is necessary for a light locomotive or a multiple unit to proceed through one or more sections in the wrong direction:

- over the unaffected line to assist a failed train from the front
- over the unaffected line to assist a failed train beyond a train that cannot provide assistance
- over the affected line towards the failed train where no crossover is available at the signal box immediately beyond the failed train in the normal direction of travel.

## Absolute block regulations

**Part A: Over the unaffected line**

**Note:** For the purpose of this part of the regulation, A, B, C and D represent four signal boxes on the same line of route. A train travelling towards signal box A has failed at signal box C where there is no crossover available. A light locomotive or a multiple unit is to work in the wrong direction from signal box D towards signal box B.

**3.8.2 Sending ‘working in wrong direction’ (2-3-3)**signaller  
box D

When a train is to be worked in the wrong direction, you must send **working in wrong direction** to signal box C.

signaller  
box C

When you receive **working in wrong direction** from signal box D, you must not acknowledge it but must send **working in wrong direction** to signal box B.

**3.8.3 Acknowledging ‘working in wrong direction’**signaller  
box B

When you receive **working in wrong direction** from signal box C, and the unaffected line is clear, you must set all points for the safety of the wrong-direction movement.

**Where the crossover used to return the assisting train to the affected line is facing to the wrong-direction movement** (see diagram TS3.1 on page 26)

You must:

- set the crossover for the wrong-direction movement
- acknowledge **working in wrong direction** to signal box C
- keep the unaffected line clear until the wrong-direction movement has passed clear.

### **Where the crossover used to return the assisting train to the affected line is trailing to the wrong-direction movement** (see diagram TS3.2 on page 27)

You must:

- send **blocking back outside home signal** or **blocking back inside home signal** whichever is necessary, to signal box A, and when acknowledged
- acknowledge **working in wrong direction** to signal box C
- keep the unaffected line clear until the wrong-direction movement has passed clear.

signaller  
box B

#### **3.8.4 When ‘working in wrong direction’ is acknowledged**

When the signaller at signal box B has acknowledged **working in wrong direction**, and the unaffected line is clear, you must:

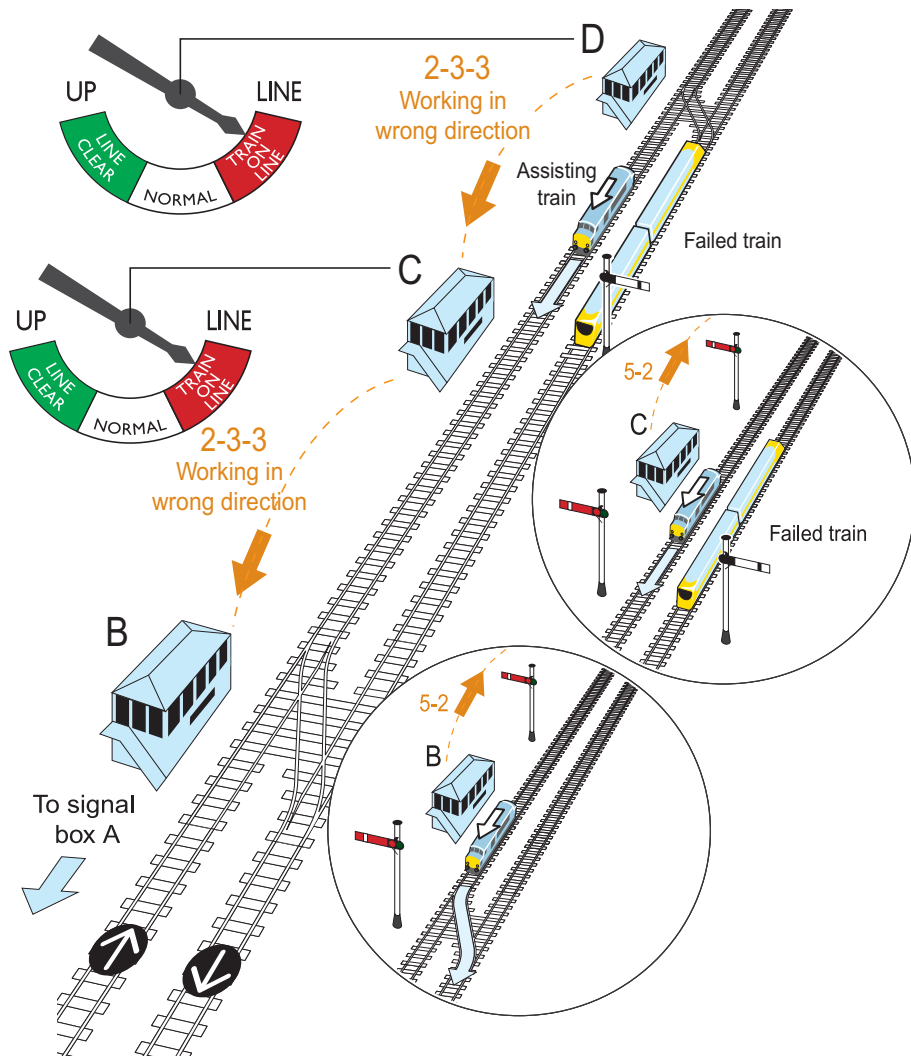
- place the block indicator for the unaffected line to **train on line**
- set all points for the safety of the wrong-direction movement
- acknowledge **working in wrong direction** to signal box D
- keep the unaffected line clear until the wrong-direction movement has passed clear.

signaller  
box C

When the signaller at signal box C has acknowledged **working in wrong direction**, and the unaffected line is clear, you must:

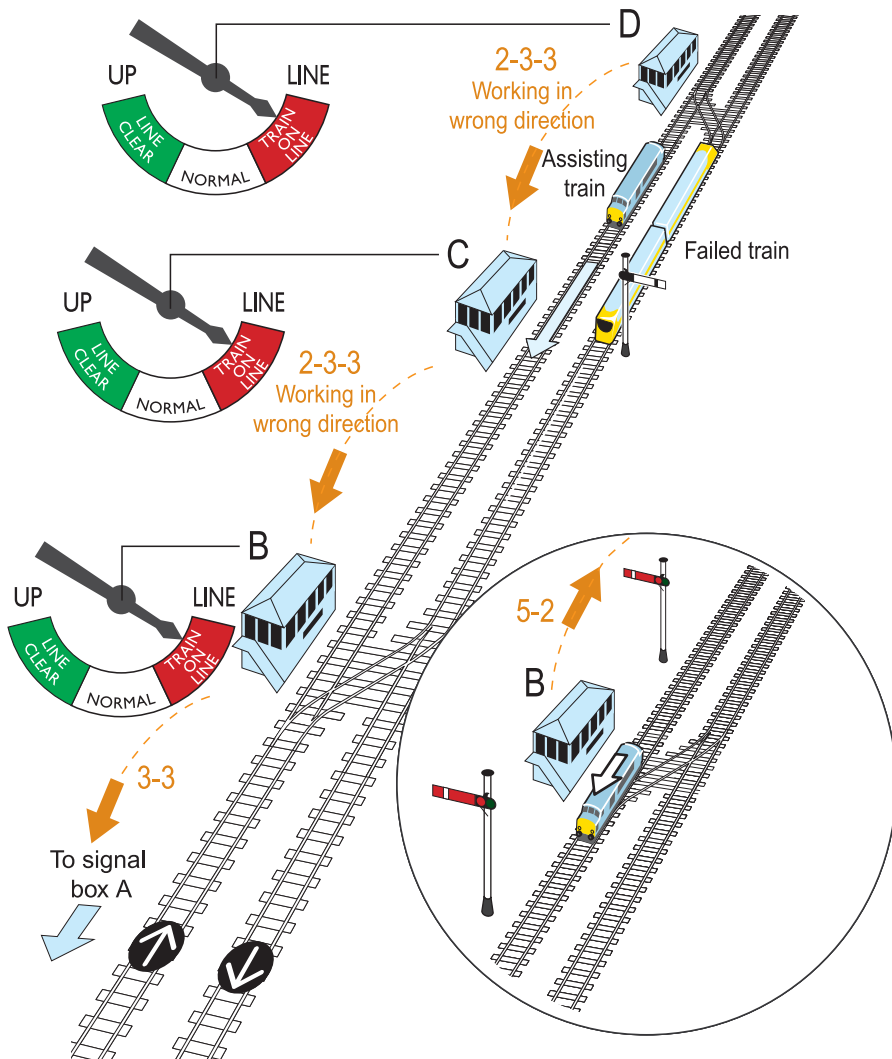
- place the block indicator for the unaffected line to **train on line**
- set all points for the safety of the wrong-direction movement
- keep the unaffected line clear until the wrong-direction movement has passed clear
- reach a clear understanding with the driver where the train is to stop to get further instructions (this must be no further than signal box C)
- give the driver the necessary instructions as shown in module TW7 *Wrong-direction movements*
- clear the signal concerned, if there is one.

signaller  
box D



**Crossover facing to the wrong-direction movement**

**Diagram TS3.1**



**Crossover trailing to the wrong-direction movement**  
**Diagram TS3.2**

## Absolute block regulations

### signaller box C

When the wrong-direction movement arrives at your signal box you must

- reach a clear understanding with the driver where the train is to stop to get further instructions (this must be no further than signal box B)
- give the driver the necessary instructions as shown in module TW7 *Wrong-direction movements*
- clear the signal concerned, if there is one.

### signaller box B

When the wrong-direction movement arrives at your signal box, you must give the driver any necessary instructions and clear the signal if there is one.

### 3.8.5 Train clear of section (5-2)

### signaller box C

When the wrong-direction movement has passed through the section complete with tail lamp and the line is clear between your signal box and signal box D, you must send **train clear of section** to signal box D.

### signaller box D

When you receive **train clear of section** from signal box C, you must place the block indicator for the unaffected line to **normal**.

### signaller box B

When the wrong-direction movement has passed through the section, complete with tail lamp and has returned to the proper line, as long as the line is clear between your signal box and signal box C, you must send **train clear of section** to signal box C.

### signaller box C

When you receive **train clear of section** from signal box B, you must place the block indicator for the unaffected line to **normal**.

### 3.8.6 Train withdrawn (2-5)

If it is necessary to cancel **working in wrong direction**, you must send **train withdrawn** to signal box C.

signaller  
box D

When the line is again clear as shown in regulation 3.4, you must place the block indicator to **normal**.

If it is necessary to cancel **working in wrong direction**, you must send **train withdrawn** to signal box B.

signaller  
box C

When the line is again clear as shown in regulation 3.4, you must place the block indicator to **normal**.

#### Part B: Over the affected line

**Note:** For the purpose of this part of the regulation, A, B and C represent three signal boxes on the same line of route. A train travelling towards signal box B has failed after passing signal box A. There is no crossover available at signal box B. A light locomotive or multiple unit is to work in the wrong direction from signal box C towards signal box B where the train will then enter the obstructed section under regulation 7 (see diagram TS3.3 on page 30).

### 3.8.7 Sending 'working in wrong direction'

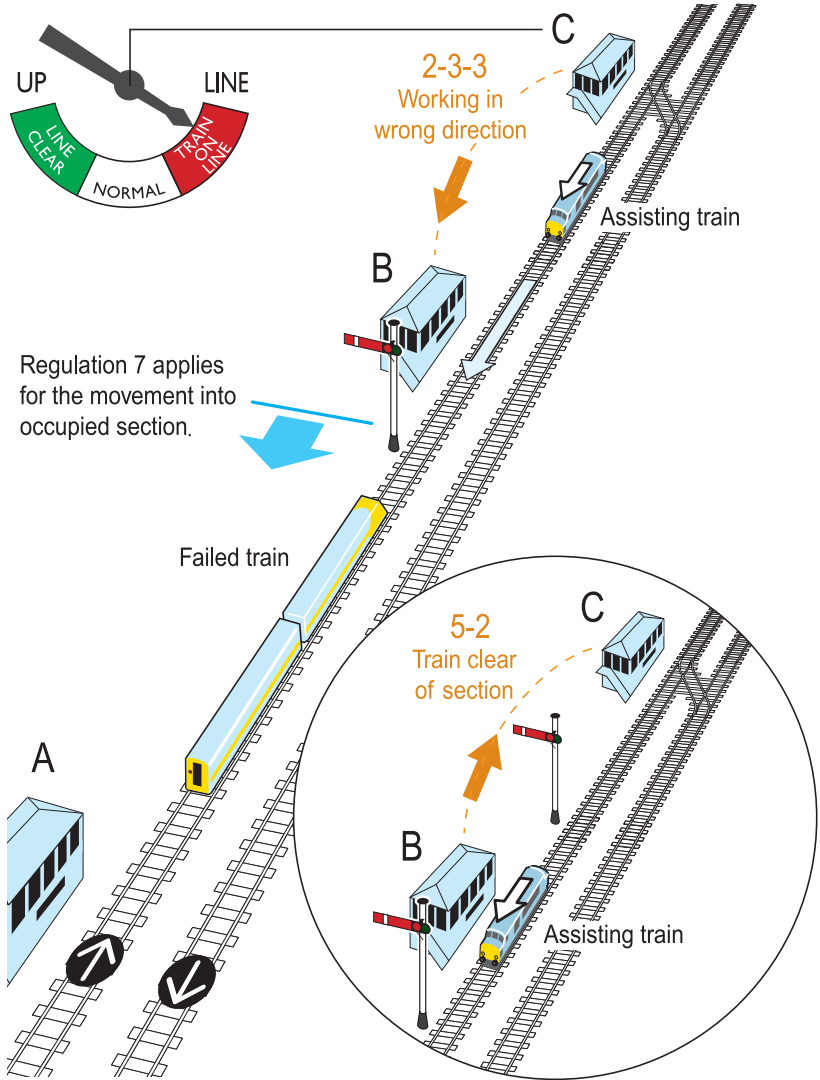
When a train is to be worked in the wrong direction over the affected line, as long as the line is clear, you must send **working in wrong direction** for the affected line to signal box B.

signaller  
box C

When you receive **working in wrong direction** from signal box C, and as long as you have confirmation from the driver of the failed train that the train is being protected and will not be moved, you must:

signaller  
box B

- set all points for the safety of the wrong-direction movement
- acknowledge **working in wrong direction** to signal box C
- keep the affected line clear until the wrong-direction movement has passed clear.



**No crossover available at signal box B**

**Diagram TS3.3**



### 3.8.8 When 'working in wrong direction' is acknowledged

When the signaller at signal box B has acknowledged **working in wrong direction**, you must:

signaller  
box C

- place the block indicator for the affected line to **train on line**
- set all points for the safety of the wrong-direction movement
- keep the affected line clear until the wrong-direction movement has passed clear
- give the driver the necessary instructions as shown in module TW7 *Wrong-direction movements*
- clear the signal concerned, if there is one.

### 3.8.9 Train clear of section (5-2)

When the wrong-direction movement has passed through the section, complete with tail lamp, and the line is clear between your signal box and signal box C, you must send **train clear of section** to signal box C.

signaller  
box B

When you receive **train clear of section** from signal box B, you must acknowledge this and place the block indicator to **normal**.

signaller  
box C

### 3.8.10 Train withdrawn (2-5)

If it is necessary to cancel **working in wrong direction**, you must send **train withdrawn** to signal box B.

When the line is again clear as shown in regulation 3.4, you must place the block indicator to **normal**.

### 3.8.11 Entering the obstructed section

When the wrong-direction movement arrives at your signal box, complete with tail lamp, you must carry out the instructions in regulation 7 to allow the wrong-direction movement to enter the obstructed section.

signaller  
box B

## 3.9 Shunting into forward section

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. A shunting movement is to take place beyond the section signal at signal box A.

### 3.9.1 Signalling the shunting movement

#### signaller box A

You must not allow a train to enter the forward section for shunting purposes until you have sent **shunting into forward section (3-3-2)**, and the signaller at signal box B has acknowledged this.

You may send this bell signal if the position of the block indicator is **normal** or at **train on line**.

#### signaller box B

When the line is clear to the home signal, you must acknowledge **shunting into forward section** and place the block indicator to **line clear** if the block controls allow you to do this.

#### signaller box A

When the train is ready to enter the section for shunting purposes and you have reached a clear understanding with the driver, you must:

- clear the signal if you can, or instruct the driver to pass the section signal at danger
- send **train entering section** to signal box B.

#### signaller box B

When you receive **train entering section** from signal box A, you must place or keep the block indicator at **train on line**.

You may allow the line within the clearing point to be occupied, fouled or obstructed until you receive **shunt withdrawn (8)** from signal box A.

### 3.9.2 When the shunting movement has been completed

When the movement is completed and the forward section is again clear, you must send **shunt withdrawn** to signal box B.

signaller  
box A

You must acknowledge **shunt withdrawn** to signal box A and then take one of the following actions.

signaller  
box B

If the block indicator was **normal** when **shunting into forward section** was acknowledged and:

- if the line within the clearing point is clear, place the block indicator to **normal**, or
- if the line within the clearing point is now obstructed, you must immediately send **blocking back inside home signal** to signal box A and keep the block indicator at **train on line**.

If the block indicator was at **train on line** when **shunting into forward section** was acknowledged, and:

- if the line is still obstructed, you must keep the block indicator at **train on line**, or
- if the line is now clear, you must send **train out of section** or **obstruction removed** depending on the circumstances and place the block indicator to **normal**.

### 3.9.3 Where the line is closed

Where the line beyond the section signal is closed and you need to allow a train to pass the section signal for shunting purposes, you do not need to carry out the instructions in regulation 3.9.1 or 3.9.2.

signaller  
box A

When the train is ready to enter the section for shunting purposes and you have reached a clear understanding with the driver, you must instruct the driver to pass the section signal at danger.

## Absolute block regulations

### signaller box A

However, if you receive **opening of signal box** from signal box B while the shunting movement is being made, after you acknowledge **opening of signal box**, you must immediately send **shunting into forward section** to signal box B.

When the signaller at signal box B acknowledges this, send **train entering section**.

You must then carry out the instructions in 3.9.2 when the shunting movement has been completed.

### signaller box B

If you receive **shunting into forward section** immediately after **opening of signal box** is acknowledged, a train is shunting into the section at signal box A. You must acknowledge **shunting into forward section** and place the block indicator to **train on line**.

## 3.10 Locomotive running round its train

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. A train is to be run round between signal box A and signal box B and will then be withdrawn at signal box A.

If an empty multiple-unit train is intentionally divided between two signal boxes, you must treat the leading unit as the locomotive.

### 3.10.1 Running round in section

You must use this regulation when a locomotive is to run round, or a second locomotive is to enter the section to withdraw a train, while any part of the train stays in the section.

You must tell the signaller at signal box B what is to happen, and signal the train normally.

all  
signalers

signaller  
box A

### 3.10.2 Dealing with the train locomotive at signal box B

When the train locomotive has arrived at your signal box and the line within the clearing point is again clear, you must:

- send **locomotive arrived (2-1-3)** to signal box A
- keep the block indicator at **train on line** until **train drawn back clear of section (3-2-3)** is received from signal box A.

signaller  
box B

### 3.10.3 Dealing with the train locomotive at signal box A

When the train locomotive arrives at your signal box and is ready to enter the occupied section, you must:

- give the driver any necessary instructions
- if necessary, instruct the driver to pass the section signal at danger.

signaller  
box A

# Absolute block regulations

## 3.10.4 When the train has been withdrawn at signal box A

### signaller box A

When the whole of the train has been cleared from the section, you must send **train drawn back clear of section** to signal box B.

### signaller box B

When **train drawn back clear of section** is received from signal box A, you may place the block indicator to **normal** provided **locomotive arrived** has been sent to signal box A.

# 4

## Obstruction of the line

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. The signaller at signal box B becomes aware or suspects that there is an obstruction between signal box A and signal box B.

### 4.1 When to send 'obstruction danger'

If you need to stop trains from signal box A because of an obstruction or other emergency between your signal box and signal box A, or within the clearing point at your signal box, you must immediately and without sending **call attention**, send **obstruction danger (6)** to signal box A.

signaller  
box B

You must do this whether or not you have received **is line clear** or **train entering section**.

You do not need to send **obstruction danger** if the obstruction is only affecting the line for trains heading towards you from signal box A, and:

- the obstruction is beyond the clearing point, or
- there are facing points that you immediately set for another direction clear of the obstruction and that line is clear up to and including the clearing point.

You must also send **obstruction danger** when you see, or become aware of, a train approaching for which you have not:

- acknowledged **is line clear**
- received **train entering section**
- received **train or vehicles proceeding without authority in the right direction**
- acknowledged **shunting into forward section**.

## 4.2 Sending 'obstruction danger'

### signaller box B

When sending **obstruction danger** you must:

- place or keep the block indicator to **train on line** until the obstruction has been removed
- if necessary, place or keep your signals at danger to protect the obstruction
- if necessary, arrange for train radio messages to be sent.

You must then immediately tell the signaller at signal box A the reason for sending **obstruction danger**. You must reach a clear understanding of those lines that must remain blocked and those that can be re-opened for trains.

If, after you have sent **obstruction danger** to signal box A, you receive **train or vehicles proceeding without authority in the right direction** for a train which had been accepted before **obstruction danger** was sent, you must take all possible actions to stop the approaching train.

Only then must you acknowledge **train or vehicles proceeding without authority in the right direction**.

If you receive **cancelling** from the signaller at signal box A for a train which had been accepted before you sent **obstruction danger**, you must acknowledge **cancelling** but you must keep the block indicator at **train on line** until the obstruction has been removed.



### 4.3 Receiving 'obstruction danger'

If you receive **obstruction danger (6)** from signal box B, you must:

- immediately place or keep all signals leading towards signal box B at danger
- place or keep the block indicator for the line from signal box B at **train on line** and keep it in this position until you are sure that line is clear and you have sent **obstruction removed**
- if necessary, arrange for train radio messages to be sent.

If no train has been signalled towards signal box B, you must acknowledge **obstruction danger**.

If you cannot stop a train heading towards signal box B, or there is already a train in the section, you must not acknowledge **obstruction danger** but immediately send **train or vehicles proceeding without authority in the right direction** to signal box B.

If you succeed in stopping a train heading towards signal box B for which **is line clear** has been acknowledged, you must, after acknowledging **obstruction danger**, send **cancelling** to signal box B.

You must find out the reason why **obstruction danger** was sent. You must reach a clear understanding of those lines that must remain blocked and those that can be re-opened for trains.

You must not allow any train to proceed towards signal box B until you have received **obstruction removed** and the signaller at signal box B has acknowledged **is line clear**.

signaller  
box A

#### 4.4 If it is necessary to alter the facing points at a junction

signaller  
box B

If it is necessary to alter the facing points at a junction to allow a train to pass over the junction from another direction and the obstruction will then be within the clearing point, you must first protect the obstruction by sending **blocking back inside home signal** to signal box A.

#### 4.5 When the obstruction has been removed

signaller  
box B

When the obstruction has been removed or a train can pass clear of the obstruction, you must send **obstruction removed** to signal box A and place the block indicator to **normal**.

However, if the signaller at signal box A had been unable to stop a train for which **is line clear** has been acknowledged, you must not send **obstruction removed** to signal box A until that train is clear of the section as shown in regulation 3.2.

# 5

## Train or vehicles proceeding without authority (including a SPAD) or train divided

### Part A: Train or vehicles proceeding without authority in the right direction (4-5-5)

**Note:** For the purpose of this part of the regulation, A, B and C represent three signal boxes on the same line of route. A train or vehicle proceeds without authority in the right direction from signal box A towards signal box B.

#### 5.1 Immediate actions at signal box A

If a train or vehicle proceeds without authority in the right direction, or has entered the section or intermediate block section without your authority, you must:

- if necessary and without sending **call attention**, send **train or vehicles proceeding without authority in the right direction** to signal box B, or if the train has entered an intermediate block section which is already occupied, send **obstruction danger**
- stop any train travelling towards signal box B on any other line
- stop any train on the opposite line, if you consider this to be necessary
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- place or keep signals at danger against the train or vehicle and any other trains that could be put in danger
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

signaller  
box A

## 5.2 Immediate actions at signal box B

### signaller box B

If you have received **train or vehicles proceeding without authority in the right direction** from signal box A, you must:

- place or keep the block indicator at **train on line** for that line
- stop any train proceeding towards signal box A
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- place or keep signals at danger against the train or vehicle and any other trains that could be put in danger
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- if necessary, send **train or vehicles proceeding without authority in the right direction** to signal box C, unless you can divert the train or vehicle
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

## 5.3 If there is already a train in the section between signal box A and signal box B

### signaller box B

If you receive **train or vehicles proceeding without authority in the right direction** from signal box A when there is already a train in the section, you must:

- if you can, allow the first train to pass, and then
- immediately replace the signals to danger against the train which is proceeding without authority.

You must not send **train out of section** to signal box A until both trains have cleared the section complete with tail lamp.

signaller  
box B

If you cannot stop or divert the train or vehicle that is proceeding without authority and it is following the first train on the same line, after you have sent **train entering section** for the first train, you must send **train or vehicles proceeding without authority in the right direction** to signal box C.

When the next train is ready to enter the section, you must signal the train normally but you must also:

signaller  
box A

- tell the driver what has happened
- instruct the driver to proceed through the section at caution.

If the train or vehicle proceeding without authority enters the section between signal box B and signal box C when there is a train already in that section, you must carry out regulation 5.3 as shown for the signaller at signal box B.

signaller  
box C

## 5.4 If there is no train in the section

If the train or vehicle proceeding without authority enters the section when there is no other train in that section, and arrives complete with tail lamp, you must send **train out of section** to signal box A as shown in regulation 3.2.

signaller  
box B

The next train must be signalled normally.

signaller  
box A and B

## Absolute block regulations

### 5.5 Intermediate block section

#### signaller box A

If there is an intermediate block section and the train has been stopped at or before the intermediate block home signal, you must tell the signaller at signal box B.

#### signaller box B

If you are told the train or vehicle that was proceeding without authority has stopped at or before the intermediate block home signal worked from signal box A, you must if the line is clear, place the block indicator to **normal**.

#### signaller box A and B

When the train is to proceed, you must signal it normally.

### 5.6 If the train or vehicle proceeding without authority arrives at signal box B without a tail lamp

#### 5.6.1 Telling the other signaller

#### signaller box B

If the train or vehicle proceeding without authority arrives without a tail lamp, you must keep the block indicator at **train on line** and tell the signaller at signal box A that the train has arrived without a tail lamp.

#### signaller box A and B

You must not allow another train to proceed through the section, in the same or opposite direction as the train or vehicle that proceeded without authority unless:

- you are both sure the line is clear, or
- the line is to be examined.

### 5.6.2 Dealing with the next train over the affected line

When the next train is ready to proceed towards signal box B, you must tell the signaller at signal box B the description of the train and what is to happen, then send **train entering section**.

signaller  
box A

When the line up to and including the clearing point is clear, you may acknowledge **train entering section**.

signaller  
box B

When the signaller at signal box B has acknowledged **train entering section** and the train is ready to proceed, you must:

signaller  
box A

- tell the driver what has happened
- instruct the driver to pass the signal at danger
- instruct the driver to pass through the section at caution.

When this train arrives complete with tail lamp, you must send **train out of section** to signal box A as shown in regulation 3.2.

signaller  
box B

### 5.6.3 Dealing with the next train over any other line

If a train is to pass over any other line before one passes over the affected line, you must:

- tell the driver about the circumstances
- instruct the driver, that when the signal is cleared, to proceed at caution
- tell the driver to report if anything is seen to be wrong
- signal the train normally.

## Part B: Train or vehicles proceeding without authority in the wrong direction (2-5-5)

**Note:** For the purpose of this part of the regulation, A, B and C represent three signal boxes on the same line of route. A train is proceeding in the wrong direction from signal box C towards signal box B.

### 5.7 Immediate actions at signal box C

#### signaller box C

If a train or vehicle proceeds in the wrong direction towards signal box B without authority, you must:

- place or keep signals at danger on any lines which may be affected
- send **train or vehicles proceeding without authority in the wrong direction** to signal box B
- place or keep the block indicator for the affected line at **train on line**
- if possible, alter the position of points to divert trains and prevent collisions
- if necessary, arrange for train radio messages to be sent
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.



## 5.8 Immediate actions at signal box B

If you receive **train or vehicles proceeding without authority in the wrong direction** from signal box C, you must immediately:

signaller  
box B

- stop any train going towards signal box C
- if possible, divert the train or vehicle to the right line or a siding
- if necessary, stop any train on the right line coming from signal box C
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision
- if you consider it necessary, stop any train on any other line that could be affected.

## 5.9 If you cannot stop the train or vehicles proceeding without authority

If you cannot stop the train or vehicle proceeding in the wrong direction, you must send **train or vehicles proceeding without authority in the wrong direction** to signal box A.

signaller  
box B

If you can divert the train or vehicle proceeding in the wrong direction to the right line, you must send **train or vehicles proceeding without authority in the right direction** to signal box A.

## 5.10 Making sure the line is clear

signaller  
box B and C

You must not allow another train to proceed through the section in the same or opposite direction as the train or vehicle that had proceeded without authority, unless:

- you are both sure the line is not obstructed, or
- the line is to be examined.

## 5.11 Dealing with the next train over the same line

signaller  
box B

When the next train is ready to proceed towards signal box C, you must tell the signaller at signal box C the description of the train and what is to happen, then send **train entering section**.

signaller  
box C

When the line up to and including the clearing point is clear, you may acknowledge **train entering section**.

signaller  
box B

When the signaller at signal box C has acknowledged **train entering section** and the train is ready to proceed, you must:

- tell the driver what has happened
- instruct the driver to pass the signal at danger
- instruct the driver to pass through the section at caution.

signaller  
box C

When this train arrives complete with tail lamp, you must send **train out of section** to signal box B as shown in regulation 3.2.

## 5.12 Dealing with the next train over any other line

If a train is to pass over any other line before one passes over the affected line, you must:

- tell the driver about the circumstances
- instruct the driver, that when the signal is cleared, to proceed at caution
- tell the driver to report if anything is seen to be wrong
- signal the train normally.

signaller  
box B and C

## Part C: Train divided

**Note:** For the purpose of this part of the regulation, A, B and C represent three signal boxes on the same line of route. A train that has been signalled from signal box B to signal box C has become divided before entering the section.

## 5.13 Immediate actions at signal box B

If you are aware or suspect that a train has become divided, you must:

- place or keep signals at danger to stop any train travelling towards the divided train
- place or keep signals at danger against the divided train
- if necessary, arrange for train radio messages to be sent.

signaller  
box B

## 5.14 If the divided train enters the forward section

### signaller box B

If the front portion of the divided train enters the forward section, you must:

- send **train entering section** to signal box C
- when this is acknowledged, send **train passed without tail lamp (9)**.

If the rear portion also enters the forward section, you must immediately send **train or vehicles proceeding without authority in the right direction** to signal box C and carry out the instructions shown in Part A of this regulation.

### signaller box C

If you receive **train or vehicles proceeding without authority** from signal box B, you must carry out the instructions shown in regulation 5.2 for the signaller at signal box B.

## 5.15 Making sure the line is clear

### signaller box A and B

You must not allow a train to proceed on any line into the affected section until:

- you are sure that the line on which the train is to travel is not obstructed, or
- the line is to be examined.

# 6 Train passed without tail lamp

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. A train is passing signal box B going towards signal box C.

## 6.1 Train passes without a tail lamp

If a train passes without a tail lamp, or you are not sure that it has a tail lamp and you cannot deal with the train before it enters the section, or to do so would mean bringing the train to a sudden stop, you must:

signaller  
box B

- send **train passed without tail lamp (9)** to signal box C
- not send **train out of section** to the signal box A, but instead send **train passed without tail lamp (4-5)**
- keep the block indicator at **train on line**.

You must stop the first train travelling towards signal box A. You must:

- tell the driver the circumstances
- instruct the driver, that when the signal is cleared, to proceed at caution
- tell the driver to report if anything is seen to be wrong
- signal the train normally.

If you receive **train out of section** from signal box C, or the signaller there tells you the train is complete, you must:

- send **train out of section** to signal box A
- place the block indicator to **normal**.

## 6.2 Actions of the signaller at signal box C

### signaller box C

If you receive **train passed without tail lamp (9)**, you must stop the approaching train and find out if it is complete.

If the train is complete and the line is clear as shown in regulation 3.4, you must send **train out of section** to signal box B, and place the block indicator to **normal**.

If the train is complete but you are not in a position to send **train out of section**, you must tell the signaller at signal box B that the train is complete.

If the train is not complete, you must tell the signaller at signal box B and take any other necessary action depending on the circumstances.

## 6.3 If a train passes with a portable tail lamp out

### signaller box B

If a train passes with a portable tail lamp on the rear but it is out and you cannot deal with the train yourself, or to do so would mean bringing the train to a sudden stop, you must:

- send **train out of section** to signal box A as shown in regulation 3.2
- send **train passed without tail lamp (9)** to signal box C
- tell the signaller at signal box C the tail lamp is out.

You do not need to caution the first train on the opposite line.

# 7

## Allowing an assisting train into an occupied section

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. A train or vehicle is to be assisted out of the section between signal box A and signal box B.

### 7.1 Before allowing an assisting train into the occupied section

You may allow an assisting train to enter an occupied section in either direction to:

- proceed to, and assist, a failed train
- evacuate passengers from a failed train
- remove the rear portion of a divided train
- remove vehicles that have proceeded without authority.

Before you allow an assisting train to enter the occupied section, you must both:

- have a clear understanding of the location of the failed or divided train or vehicles
- agree to which end of the section the failed train is to be assisted.

If there is a tunnel in the affected section, you must instruct the driver of any train on an adjacent line proceeding towards the next signal box, to proceed through the tunnel at caution. You do not need to do this if you know the tunnel is clear and the person carrying out any protection is not in the tunnel.

signaller  
box A and B

## 7.2 Occupying or obstructing the line within the clearing point

### signaller box A and B

If you are told that the train has failed in the section and will not be moved, you may allow the line within the clearing point to be occupied, fouled or obstructed.

You may continue to do this until:

- the failed train is ready to proceed towards your signal box, or
- the assisting train has entered the occupied section and the failed train is to be assisted towards your signal box.

## 7.3 If the assisting train is to enter the occupied section at signal box A

### signaller box A

Before you authorise the driver of the assisting train to enter the occupied section, you must:

- tell the signaller at signal box B the description of the assisting train
- get permission from the signaller at signal box B for the assisting train to enter the occupied section
- send **train entering section**, which must be acknowledged before the assisting train is allowed to depart
- record the details in the Train Register.

### signaller box B

The signaller at signal box A will tell you the train description of the assisting train and get your permission for the train to enter the occupied section. You must then:

- unless the combined train is to return to signal box A, make sure the conditions are the same as when the train that failed was accepted
- acknowledge **train entering section**
- record the details in the Train Register.



## 7.4 If the assisting train is to enter the occupied section at signal box B

Before you authorise the driver of the assisting train to enter the occupied section, you must:

signaller  
box B

- tell the signaller at signal box A the description of the assisting train
- get permission from the signaller at signal box A for the assisting train to enter the occupied section
- record the details in the Train Register.

The signaller at signal box B will tell you the train description of the assisting train and get your permission for the train to enter the occupied section. When you have given permission, you must then record the details in the Train Register.

signaller  
box A

When the assisting train has entered the occupied section, unless the failed train or vehicles is to be assisted to signal box A, you must keep the line clear up to the clearing point.

signaller  
box B

## 7.5 If the train or vehicles are removed from the section at signal box A

If the train or vehicles are to be removed from the section at signal box A, you must keep the block indicator at **train on line** until the next train has passed through the section.

signaller  
box B

When the failed train or vehicles and the assisting train have returned to signal box A and the line is again clear you must, when the next train is ready to proceed over the same line, tell the signaller at signal box B the train description and what is to happen before you send **train entering section**.

signaller  
box A

## Absolute block regulations

**signaller  
box B**

You may acknowledge **train entering section** as long as you are sure the line is clear up to and including the clearing point, and that the signaller at signal box A has told you the train description.

**signaller  
box A**

When the signaller at signal box B has acknowledged **train entering section**, you must:

- tell the driver what has happened
- instruct the driver to pass the section signal at danger
- instruct the driver to pass through the section at caution.

**signaller  
box B**

You must send **train out of section** and place the block indicator to **normal** when this train has arrived complete with tail lamp and the line is clear as shown in regulation 3.2.

## 7.6 If the train or vehicles are removed from the section at signal box B

**signaller  
box B**

You must not send **train out of section** to signal box A until both the failed train and the assisting train arrive complete and the line is clear as shown in regulation 3.2.

**signaller  
box A and B**

The next train over the same line must be signalled normally.

## 7.7 If the combined trains are to proceed from signal box B to signal box C

**signaller  
box B**

If the combined trains are to proceed through the next section, you must tell the signaller at signal box C, when you send **is line clear**, that the train is being assisted and how it is being assisted.

**signaller  
box C**

You must record the details in the Train Register and not send **train out of section** to signal box B until the combined train has arrived complete as shown in regulation 3.2.

## 7.8 When the failed train or vehicles are within the clearing point

**Note:** For this part of the regulation the line is clear to the home signal at signal box B but a train has failed within the clearing point. The assisting train is to enter the section and proceed to the home signal to assist the failed train from the rear.

If a failed train has stopped within the clearing point but the section is clear to the home signal, you must:

- make sure the failed train is complete with tail lamp
- keep the block indicator at **train on line**
- not send **train out of section**
- tell the signaller at signal box A what has happened and that assistance is needed
- give the signaller at signal box A permission for the assisting train to enter the section.

signaller  
box B

Before you authorise the driver of the assisting train to enter the section, you must:

- tell the signaller at signal box B the description of the assisting train
- send **train entering section**, which must be acknowledged before the assisting train is allowed to depart
- record the details in the Train Register.

signaller  
box A

The signaller at signal box A will tell you the description of the assisting train, you must then acknowledge **train entering section**, and record the details in the Train Register.

signaller  
box B

## Absolute block regulations

### signaller box A

When **train entering section** has been acknowledged, you must tell the driver of the assisting train that the line is clear to the home signal only.

You must then tell the driver to:

- pass the section signal at danger
- proceed at caution to, and stop at, the home signal at signal box B
- then immediately contact the signaller at signal box B.

### signaller box B

When the assisting train arrives at the home signal, as long as you have carried out the instructions in module M2 *Train stopped by train failure*, you must instruct the driver to pass the home signal at danger and proceed cautiously towards the failed train.

When the failed train and the assisting train have been disposed of and the line is again clear up to and including the clearing point, you must send **train out of section** to signal box A as shown in regulation 3.2.

### signaller box A and B

The next train must be signalled normally.

# 8

## Failure or disconnection of block signalling equipment

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. The equipment for signalling trains through the section between signal box A and signal box B has failed or has been disconnected.

### 8.1 Recording bell signals

During a failure or disconnection of block signalling equipment, you must record in the Train Register all bell signals sent by bell or telephone, whether the normal bell signals are recorded or not.

all  
signallers

### 8.2 When this regulation must be carried out

When the block signalling equipment fails or is disconnected, you may continue to signal trains as shown in regulation 8.3 as long as there is communication between signal box A and signal box B.

signaller  
box A and B

If there is no communication between signal box A and signal box B, you must carry out the instructions shown in regulation 8.4.

## 8.3 Signalling of trains during failure or disconnection of bells or block indicators

### 8.3.1 Signalling trains by telephone

#### signaller box A and B

If the bells only, or bells and block indicators, have failed or are disconnected but a telephone is available, you must send all bell signals as messages on the telephone, for example:

- Signaller box A - 'Is Up Main line clear for one alpha two seven'?
- Signaller box B - 'Up Main line **is** clear for one alpha two seven'.
- Signaller box A - 'One alpha two seven train entering section on Up Main line'.
- Signaller box B - 'One alpha two seven train out of section on Up Main line'.
- Signaller box B - 'Up Slow line **is** clear for zero foxtrot seven zero under restricted acceptance'.

#### signaller box B

If, for whatever reason, you are unable to accept a train that is offered, you must state the refusal as follows:

- Signaller box B - '**No**, one alpha two seven refused'.

### 8.3.2 Failure or disconnection of block indicators and bells or block indicators only

#### signaller box A and B

If the block indicators fail or are disconnected but the block bells are still working, you must send the bell signals in the normal way.

If the block indicators and bells fail or are disconnected, or only the block indicators fail or are disconnected, you must tell the driver of each train which is required to proceed into the affected section:

- what is happening
- to pass the section signal at danger
- to pass through the section at no greater speed than 50 mph subject to any other speed restriction that may apply.

If there is an intermediate block home signal, you may allow the train to proceed to the intermediate block home signal to get permission to proceed into the absolute block section.

### **8.3.3 Failure or disconnection of block bells only**

If the block bells fail or are disconnected but the block indicators are still working, you must work the block indicators in the normal way, exchanging bell signals as telephone messages as shown in regulation 8.3.1.

## **8.4 If all communication is lost between signal box A and signal box B**

### **8.4.1 When direct communication is lost**

If there is no direct communication, you must not allow trains to enter the affected section on any line until communication is again available, unless you can apply either of the following.

#### **If you can see that the section is clear throughout**

You can allow trains to proceed if you can see the section is clear throughout.

You must record the time each train departs or arrives.

**signaller  
box A and B**

**signaller  
box A and B**

## Absolute block regulations

### signaller box A and B

You must tell the driver of each train which is required to proceed into the affected section:

- what is happening
- to pass the section signal at danger
- to pass through the section at caution
- to stop and tell the signaller at the next signal box what is happening.

### **If you cannot see that the section is clear throughout**

If you cannot see that the section is clear throughout, but you are sure that the previous train has passed clear of the section, you may allow one train to proceed through the section on each line.

You must tell the driver of this train:

- what is happening
- to pass the section signal at danger
- to pass through the section at caution
- to stop and tell the signaller at the next signal box what is happening.

No more trains may be allowed to pass until there is direct communication and you and the signaller at the next signal box confirm that any train that was allowed to proceed has arrived complete with a tail lamp.

### **8.4.2 If there is an AHBC in the section**

If there is an AHBC in the section and you are the signaller at the non-supervising signal box, before allowing a train to enter the section, you must tell the driver to:

- approach each AHBC at caution
- not pass over it until the driver has made sure it is safe to do so.



## 8.5 Keeping the distant signal at caution

During the failure or disconnection of a block indicator at your signal box, you must keep the distant signal in the affected section for that line at caution.

signaller  
box B

## 8.6 Level crossings worked by crossing keepers

If there is a level crossing that has indicators or bells in the affected section and communication is available, you must tell the crossing keeper that the indicators or bells are not working.

signaller  
box A and B

You must tell the crossing keeper when each train enters the single line block section or as otherwise shown in the signal box special instructions.

If there is no communication with the crossing keeper, you must instruct the driver of every train proceeding towards the crossing to approach the crossing at caution, and not to pass over the crossing until they are sure it is safe to do so.

# 9

## Signalling trains during single line working

**Note:** For the purpose of this regulation, A, B, C and D represent four signal boxes on the same line of route. Single line working is to take place between signal box B and signal box C over the up line (see diagram TS3.4 on page 65).

### 9.1 Method of signalling during single line working

#### signaller box B and C

You must both come to a clear understanding as to whether you can continue normal block signalling by using:

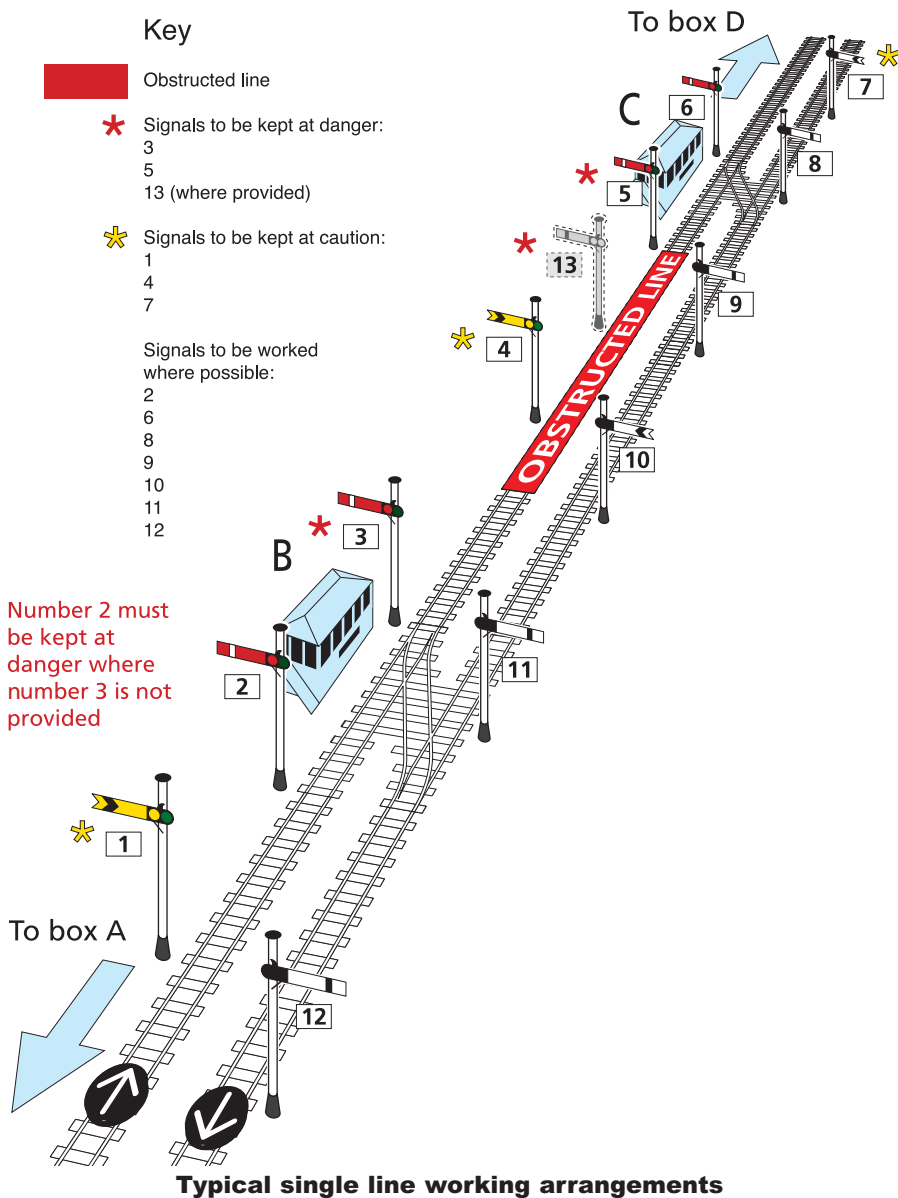
- block instrument and bells
- bells only
- telephone.

If you can use the block instrument, you must signal all movements on the instrument that applies to the line being used for single line working.

If you cannot use the block instrument, you must carry out the instructions shown in regulation 8.

#### signaller box C

Before you clear the signal controlling the entrance to the single line, you must make sure that the pilotman has given the necessary instructions to the driver.



## 9.2 Accepting trains

### 9.2.1 Accepting trains at signal box B from signal box A

#### signaller box B

You must tell the signaller at signal box A that single line working is taking place beyond your home signal.

If the line is clear to the clearing point, you must accept trains from signal box A as shown in regulation 3.4.

If the line is clear to the home signal only, you must accept trains from signal box A as shown in regulation 3.5 as long as there is clear visibility.

If this is the case, you may send **train out of section** as soon as each train, complete with tail lamp, has passed the home signal.

You must keep the block indicator at **train on line** until:

- the line is again clear up to and including the clearing point, in which case you must send **call attention** and when acknowledged, place the block indicator to **normal**, or
- you have accepted the next train as shown in regulation 3.5.

During poor visibility, if protection for the obstructed line is within the clearing point, you can accept trains from signal box A as shown in regulation 3.5 as long as the line is clear to that protection. You must only send **train out of section** when the line is again clear to the protection for the obstructed line.

#### signaller box A

If you have received **train out of section** but the block indicator has stayed at **train on line**, the signaller at signal box B will send **call attention** and place the block indicator to **normal** if the line becomes clear to the clearing point.

### 9.2.2 Accepting trains at signal box B from signal box C

Before you accept a train from signal box C, the pilotman must be at the signal box C end. You must accept trains from signal box C only as shown in regulation 3.4.

signaller  
box B

### 9.2.3 Accepting trains at signal box C from signal box D

You must tell the signaller at signal box D that single line working is taking place beyond the home signal at your signal box.

signaller  
box C

If the line is clear to the clearing point, you may accept trains from signal box D as shown in regulation 3.4 (see diagram TS3.5 on page 71).

However, in clear visibility only, when a train in the wrong direction will need to return to the proper line through a crossover that is within the clearing point for trains from signal box D, you may accept trains from signal box D as shown in regulation 3.5 (see diagram TS3.6 on page 72).

### 9.2.4 Accepting trains in the wrong direction at signal box C from signal box B

#### In all circumstances

Before you accept a train from signal box B, the pilotman must be at the signal box B end.

You must accept trains from signal box B only as shown in regulation 3.4.

When the block indicator is being used for single line working as shown in regulation 9.1 and the signaller at signal box C has accepted a train in the wrong direction, you must:

signaller  
box B

- immediately place the block indicator to **train on line**, and
- keep the block indicator at **train on line** until you receive **train out of section** for that train from signal box C.

## Absolute block regulations

### **Where a main aspect signal or a handsignaller is provided**

#### **signaller box C**

If there is a main aspect signal which applies to trains leaving the single line or a handsignaller is opposite the home signal at signal box C, you must, before accepting a train from signal box B as shown in regulation 3.4, make sure that the line is clear to a point 183 metres (200 yards) beyond the main aspect signal or handsignaller (see diagram TS3.7 on page 73).

### **Where no main aspect signal or handsignaller is provided**

Where there is no main aspect signal which applies to trains leaving the single line and a handsignaller has not been provided opposite the home signal at signal box C and the crossover is facing to the movement, before accepting a train from signal box B as shown in regulation 3.4, you must make sure that:

- if the section signal for the proper line is beyond the crossover, the crossover is reversed and the line is clear to the section signal (see diagram TS3.8 on page 74), or
- if the section signal for the proper line is on the approach to the crossover, the crossover is reversed and the signaller at signal box D has accepted the train (see diagram TS3.9 on page 75).

If a handsignaller has not been provided opposite the home signal at signal box C and the crossover is trailing to the movement, before accepting a train from signal box B as shown in regulation 3.4, you must make sure the line is clear to 400 metres (440 yards) beyond the crossover (see diagram TS3.10 on page 76).

## 9.3 Allowing wrong-direction movements to return to the proper line

### 9.3.1 If the crossover is facing to the movement

If the crossover is facing to the movement, you may allow a train in the wrong direction to pass the handsignaller as long as:

- the crossover is secured in the correct position, and
- the line is clear to the section signal, if the section signal for the proper line is beyond the crossover, or
- the signaller at signal box D has accepted the train, if the section signal for the proper line is on the approach to the crossover.

If the driver has already been given the necessary instructions, you must tell the handsignaller that the train can be allowed to proceed without being stopped.

### 9.3.2 If the crossover is trailing to the movement

If the crossover is trailing to the movement, you may allow a train in the wrong direction to pass the handsignaller as long as you:

- have placed the necessary signals at danger to protect the movement
- have sent **blocking back inside home signal** or **blocking back outside home signal**, whichever is necessary, to signal box D, if the train will come to a stand within the clearing point or outside the home signal
- remind the handsignaller to make sure the driver fully understands what is to happen
- tell the handsignaller to instruct the driver to draw forward and then set back through the crossover.

### 9.3.3 No handsignaller provided

Where a handsignaller has not been provided opposite the home signal, you must personally tell the driver to pass beyond the home signal, after you have made the arrangements in 9.3.1 or 9.3.2.

signaller  
box C

## 9.4 Recording in the Train Register

**signaller  
box B and C**

You must record the times when all bell signals are sent and received in connection with the movements of trains during the time single line working is in operation, even if you do not normally do this.

## 9.5 Intermediate signal boxes

**signaller  
box B and C**

Before allowing any intermediate signal box to open, you must tell the signaller there that single line working is in operation and get confirmation from the signaller that the pilotman has dictated the single line working form.

**signaller  
intermediate  
box**

If single line working has been started during the time your signal box was closed, the signaller at the signal box on either side will tell you single line working is in operation. You must not switch in until you have completed a single line working form, which the pilotman will dictate to you.

You must control trains in the wrong direction by the use of handsignals only.

You may accept a train in the wrong direction when a line is clear to a point 183 metres (200 yards) beyond the handsignal.

## 9.6 When normal working is to resume

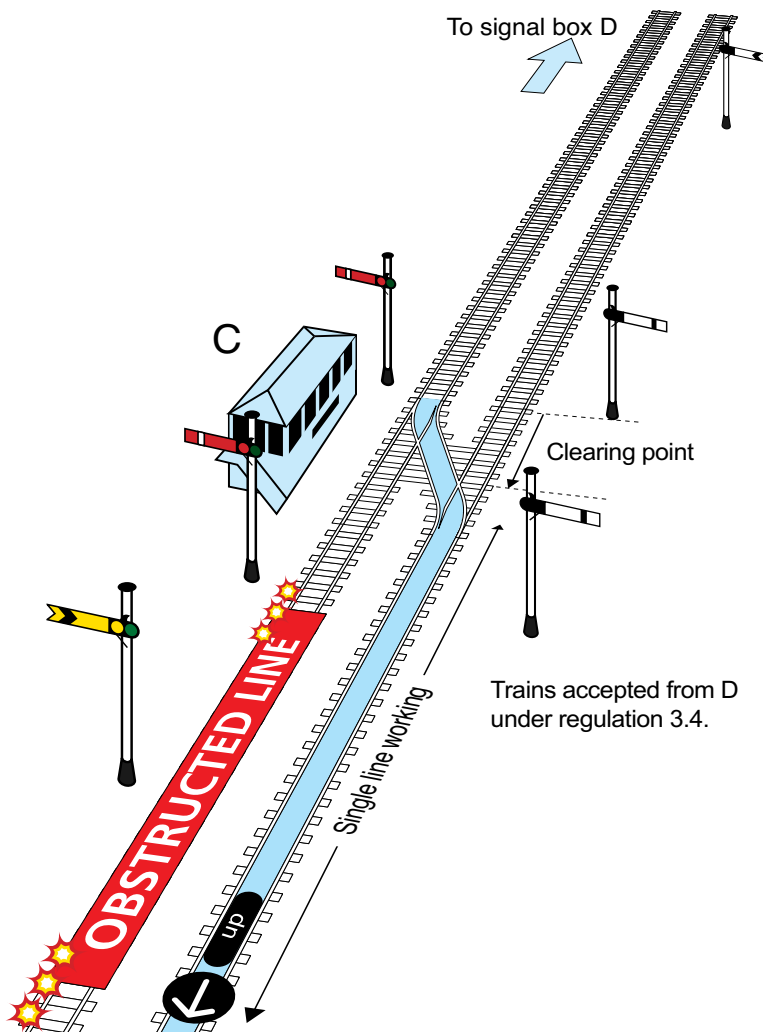
**signaller  
box B**

When single line working has been withdrawn and the single line working form has been cancelled, you must tell the signaller at signal box A that normal working has been resumed.

**signaller  
box C**

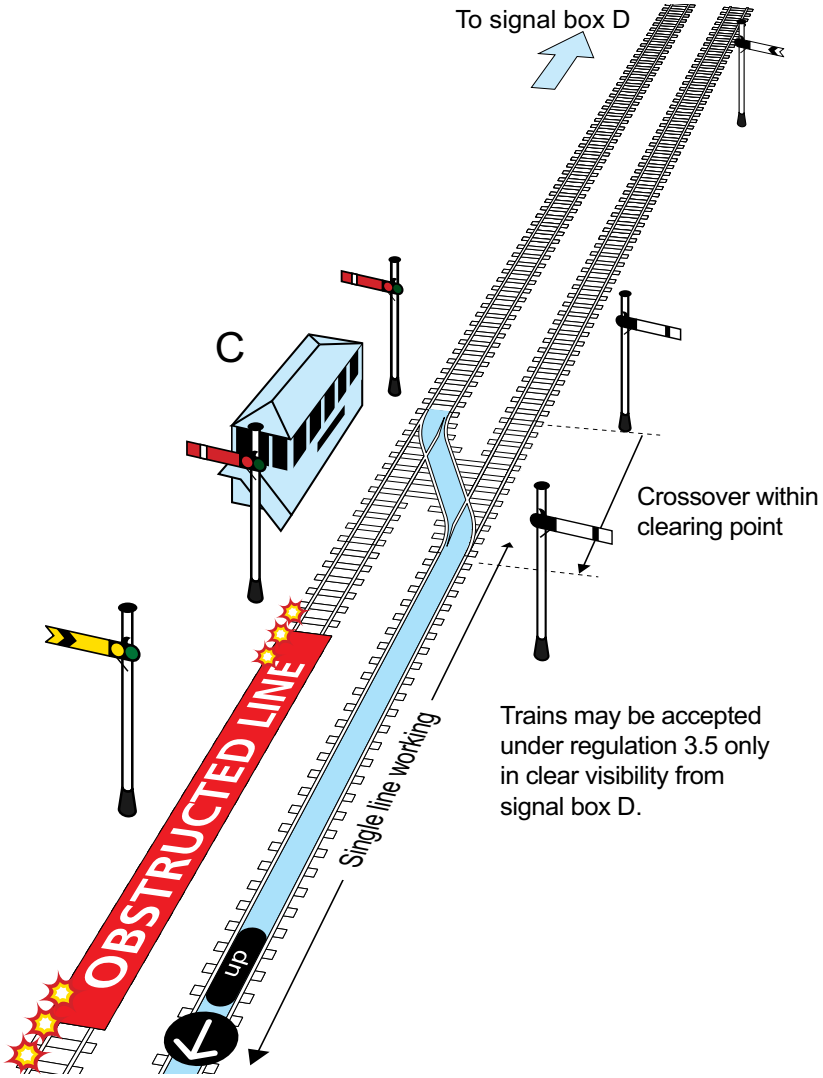
When single line working has been withdrawn and the single line working form has been cancelled, you must tell the signaller at signal box D that normal working has been resumed.





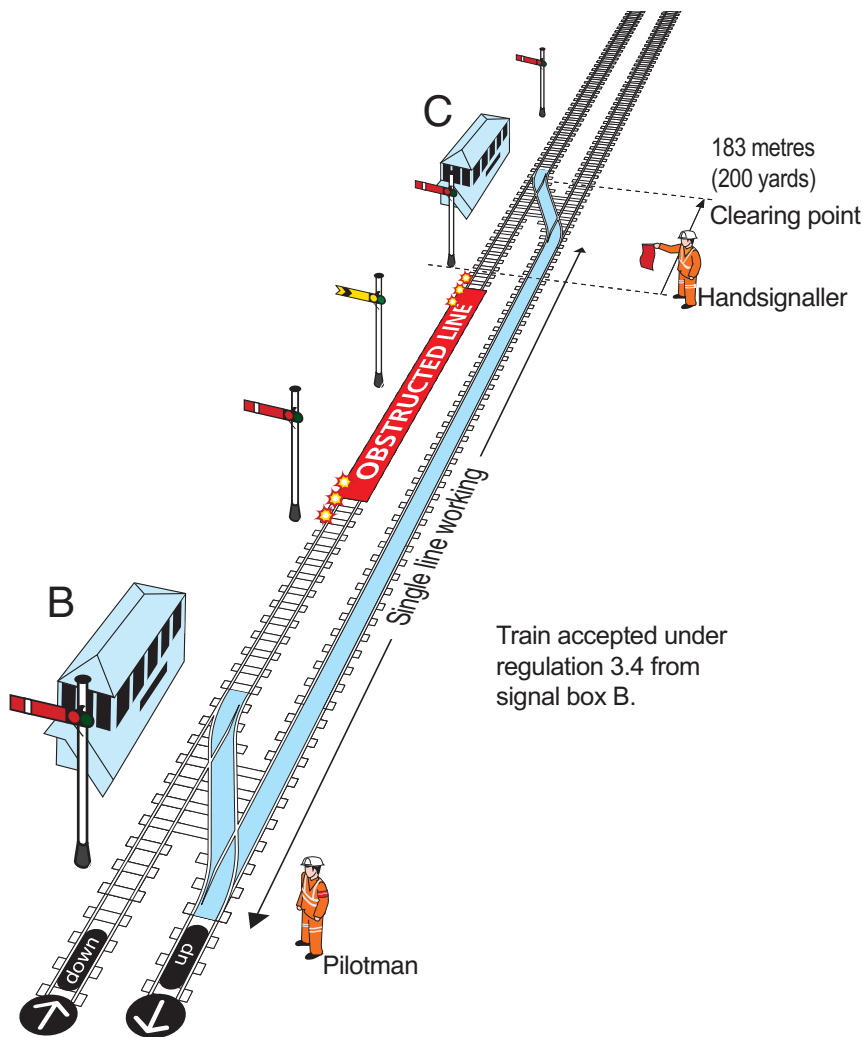
**Signaller at signal box C accepting a train from signal box D**

**Diagram TS3.5**



**Signaller at signal box C accepting a train from signal box D with restricted acceptance**

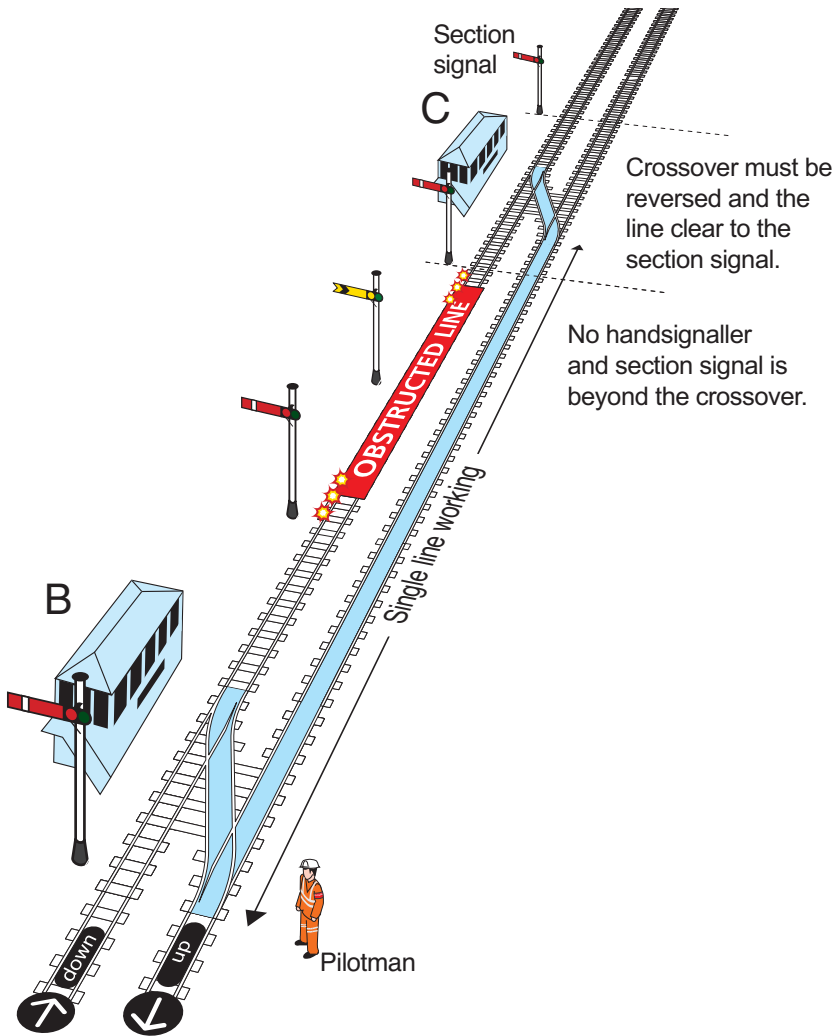
**Diagram TS3.6**



Train accepted under regulation 3.4 from signal box B.

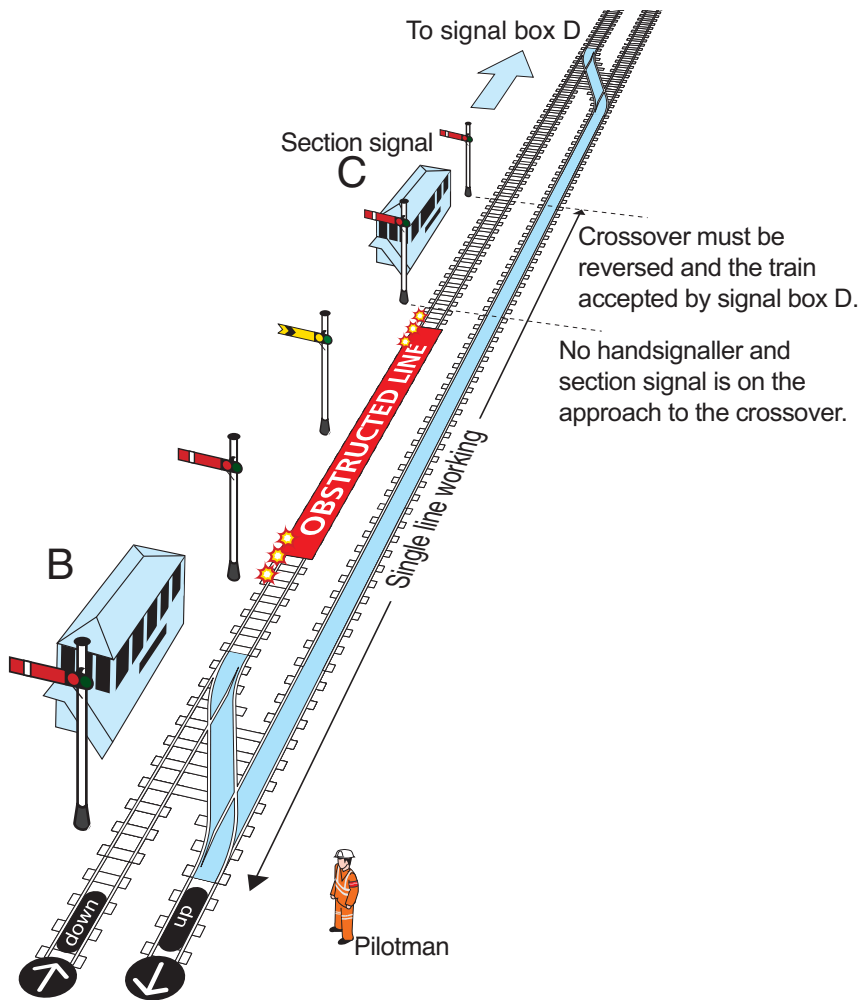
**Signaller at signal box C accepting a train from signal box B. A handsignaller is positioned opposite the signal protecting the crossover**

**Diagram TS3.7**



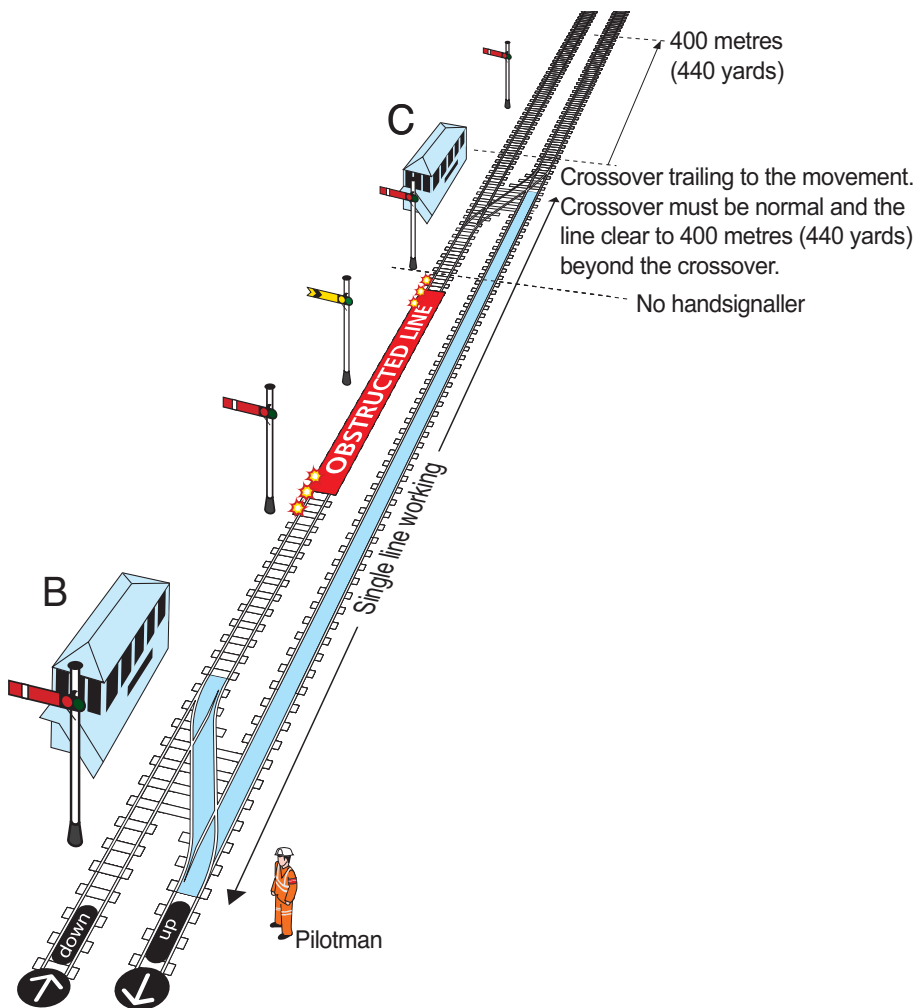
**Signaller at signal box C accepting a train from signal box B. No handsignaller has been provided and the section signal is beyond the crossover**

**Diagram TS3.8**



**Signaller at signal box C accepting a train from signal box B.  
No handsignaller has been provided and the section signal is before  
the crossover**

**Diagram TS3.9**



**Signaller at signal box C accepting a train from signal box B. No handsignaller has been provided and the crossover is trailing to the movement**

**Diagram TS3.10**

# 10

## Opening and closing signal boxes

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. Signal box B is to open and close.

### 10.1 Opening a signal box that has a block switch

#### 10.1.1 Before opening

Before you open the signal box, you must:

- tell the signaller at signal box A and the signaller at signal box C the name of your signal box
- find out the details of any trains that are in the section or are signalled
- find out any other information that you need to carry out your duties.

signaller  
box B

#### 10.1.2 If there are no trains in section or signalled

If there are no trains in the section and no train has been signalled, you can:

- place the signals to danger
- operate the block switch
- send **opening of signal box (5-5-5)** to signal box A and signal box C.

#### 10.1.3 If a train is signalled

If a train has been signalled from signal box A to signal box C and you are told that the block indicator is at **line clear**, you must not operate the block switch until you have been told that the block indicator is at **train on line**.

## 10.1.4 If there is a train in the section

**Note:** For the purpose of this part of the regulation, a train is travelling from signal box A to signal box C, although these instructions apply equally for a train passing from signal box C to signal box A.

### signaller box B

If you are told a train has been signalled from signal box A to signal box C and the block indicator is at **train on line**, you must:

- place the block indicator to **train on line** (for the section from signal box A)
- operate the block switch
- send **opening of signal box** to both signal box A and signal box C.

You must not replace the signals to danger (except for emergency purposes) or send **train out of section** until one of the following applies.

- You see the train pass complete with tail lamp.
- You receive **train out of section** from the signaller at signal box C.
- The signaller at signal box C tells you that the train has arrived complete with tail lamp.

## 10.1.5 No telephone communication between signal boxes

If you find that telephone communication between you and the signallers at signal box A and signal box C is not working, you must not operate the block switch until direct communication is available.



## 10.2 Opening a signal box that has no block switch

To open the signal box, you must send **opening of signal box** to signal box A and signal box C.

signaller  
box B

When you have opened the signal box, unless a train has been signalled or is immediately due to be signalled, you must test the block indicators for the line concerned.

You must record the details of the test in the Train Register.

all signallers

If you find there is no communication between you and the signaller at signal box A or the signaller at signal box C, you must not allow any train to proceed towards the affected signal box until direct communication is again available.

signaller  
box B

## 10.3 Closing a signal box that has a block switch

Before you switch out of circuit, you must:

- make sure there are no trains in the sections concerned
- make sure the block indicators to which the block switches apply are at **normal**
- send **closing of signal box (5-5-7)** to the signal box on either side.

signaller  
box B

You must acknowledge **closing of signal box** by sending **one beat** and then place the block indicator for the section concerned to **line clear**.

signaller  
box A and C

When the signaller has acknowledged **closing of signal box** with **one beat** and the block indicator is at **line clear**, you may clear the signals for the line concerned. You must then acknowledge **one beat**.

signaller  
box B

You must carry out this instruction for each signal box concerned.

**signaller  
box A and C** When **one beat** has been acknowledged by the signaller at signal box B, you must then repeat **closing of signal box** and place the block indicator to **normal**.

**signaller  
box B** When **closing of signal box** has been repeated, you may operate the block switch.

**signaller  
box A and C** After signal box B has switched out, you must test the bell and block indicator for each line. One of you must tell the signaller at signal box B the result of the test.

**all signallers** You must record the details of the test in the Train Register.

**signaller  
box B** You must not leave duty until told that the block indicators and bells are working.

If there is a failure of the block instrument between your signal box and the next signal box and the section signal cannot be released, as long as no trains are required to pass during the time the signal box is closed, you must:

- send **closing of signal box (7-5-5)**
- leave the signals at danger for the direction concerned.

## 10.4 Closing a signal box that has no block switch

You must not close the signal box or leave duty until:

- you have received **train out of section** for the last train to pass
- the block indicator is at **normal**
- you have sent and had acknowledged **closing of signal box (7-5-5)** to both signal box A and signal box C.

all  
signalers

## 10.5 If engineering work is being carried out

If engineering work is being carried out and the instructions in module TS1 *General signalling regulations*, regulation 13.2 or module T3 *Possession of the line for engineering work* allows the signal box to be closed during the work, you may close the signal box using the following additional arrangements, even though the block indicator is kept at **train on line**.

signaller  
box B

You must:

- leave all signals at danger
- if there is a block switch, leave the block switch in circuit
- send **closing of signal box** to the signal box on either side.

When signal box B closes under these arrangements, you must:

- acknowledge **closing of signal box**
- keep the block indicator at **train on line** if it is in that position.

signaller  
box A and C

## 10.6 Opening and closing signal boxes where there is a failure or disconnection of block signalling equipment

### 10.6.1 Opening a signal box

#### signaller box A and C

Before a signaller is allowed to open a signal box that has been switched out within the section which is affected by a failure or disconnection of block indicators or bells, you must tell that signaller the block indicators or bells are not working.

### 10.6.2 Closing a signal box

#### signaller box B

If you are to close your signal box and it is affected by a failure or disconnection of block indicators or bells, you must record the circumstances in the Train Register and leave a notice for the signaller next on duty, describing what has happened and the method of working that has been adopted.

If the section signals are controlled by a line clear release on the block instruments, you must make sure the signal box stays switched in until the fault is rectified or the line closes to traffic.

If you cannot send **closing of signal box** but other direct communication is available, you must:

- speak to the signaller at the signal box on either side of you
- tell those signallers that your signal box is about to be closed.



# Notes



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**172**





**GE/RT8000/TS4  
Rule Book**

# Electric token block regulations

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## Regulations for train signalling on single lines by the electric token block system.

You will need this module if you carry out the duties of a signaller in an electric token block area.

<b>Conventions used in the Rule Book</b>	<b>Example</b>
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	<b>driver</b>
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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# 1

## Definitions

The following terms are used in these regulations and apply to signallers in electric token block signalling areas.

### Block signals

A stop signal that controls the entrance to, or exit from, a block section. The following are block signals:

**Home signal:** the first stop signal controlled by a signal box that controls the exit from a single-line block section.

**Section signal:** a stop signal that controls the entrance to a single-line block section.

### Clearing point

The point beyond the home signal up to which the line must be clear before a train can be accepted as shown in regulation 3.4.

### Single-line block section

The line between the section signal controlled from one signal box, and the home signal controlled by the next signal box in the direction of travel.

A single-line block section will be referred to as a section within this document.



# 2 Principle

## 2.1 Principle of the electric token block system

The principle of the electric token block system is to prevent more than one train being in the same section at the same time.

## 2.2 Handling tokens

You are the only person who is authorised to remove a token from or replace it into the token instrument, except:

**all signallers**

- as shown in regulation 8
- as shown in regulation 9
- where an auxiliary token instrument is provided for the driver to use.

Except where another person is specially appointed to the duty, you are the only person who is authorised to receive a token from, or deliver a token to, the driver.

You must not allow a token to be transferred from one train to another without it being passed through a token instrument, except as shown in:

- regulation 7
- regulation 8
- module P2 *Working single and bi-directional lines by pilotman.*

Where a train has more than one locomotive at the leading end, you must give the token to the driver of the leading locomotive.

# 3

## Method of signalling

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. A train is to be signalled from signal box A to signal box B. The procedure shown must be repeated along the line of route if the train is to proceed further.

### 3.1 Normal method of signalling trains

#### 3.1.1 Actions of the signaller at signal box A

##### signaller box A

Before you start the procedure to allow a train to enter the section:

- you must have sent or received **train out of section (2-1)** for the previous train
- you must not have given permission for a train to approach from the opposite end
- the indicator must be in the **normal** position.

You must send **call attention** to signal box B, and when this has been acknowledged, send the appropriate **is line clear**.

When the signaller at signal box B has acknowledged **is line clear** and operated the token instrument, you must:

- withdraw a token
- clear the section signal for the train to proceed
- give the token to the driver.

When the train departs you must send **train entering section (2)** to signal box B.

### 3.1.2 Actions of the signaller at signal box B

When you have received **is line clear**, you must:

- acknowledge **is line clear** to signal box A
- operate the token instrument to allow a token to be withdrawn at signal box A.

You must not acknowledge **is line clear**, nor operate the token instrument, if the line is not clear, or for any reason you cannot give permission for the train to approach.

### 3.1.3 If the train is to continue to signal box C

After you receive **train entering section** from signal box A, if the train is to continue to signal box C, you must carry out the actions of the signaller at signal box A, as shown in regulation 3.1.1, to the signaller at signal box C.

## 3.2 Sending 'train out of section'

When the train arrives at your signal box, the driver will give you the token. You must observe the train as it passes the signal box and make sure it has a tail lamp at the rear.

When the train, complete with tail lamp, has passed clear of the section and is clear of any points leading to the section, you must:

- place the token into the token instrument
- send **call attention** to signal box A
- when this has been acknowledged, send **train out of section**.

When it is necessary to send **train out of section** before the last vehicle of the train passes your signal box, you must make sure the train has arrived, complete with tail lamp, before doing so.

signaller  
box B

signaller  
box B

### 3.3 Train not proceeding, or incorrect 'is line clear' sent

#### 3.3.1 Cancelling (3-5)

signaller  
box A

If a train is not going to proceed, but **is line clear** or **train entering section** has been acknowledged by the signaller at signal box B, you must:

- place the relevant signals to danger
- restore the token to the token instrument
- send **cancelling**.

#### 3.3.2 Train incorrectly described (5-3)

If you have sent an incorrect **is line clear** and the signaller at signal box B has acknowledged it, you must send **train incorrectly described** to signal box B, and when this has been acknowledged, send the correct **is line clear**.

You must not restore the token to the token instrument or replace the signal to danger.

## 3.4 Giving permission for a train to approach

**Note:** This part of the regulation describes the conditions under which the signaller at signal box B can accept a train from signal box A.

### 3.4.1 Before allowing a train to approach

Before you allow a train to approach from signal box A, you must make sure that all the following conditions apply.

signaller  
box B

- The line, or at a facing junction the line for which the facing points are set, is clear up to and including the clearing point.
- All points within the clearing point have been set for the safety of the approaching train.
- No conflicting movement has been authorised that will cross or foul the line within the clearing point.
- No train has been accepted from another direction that requires a portion of the same line within the clearing point for acceptance.

### 3.4.2 Maintaining a clearing point

After you have accepted a train from signal box A, you must not allow the line to be obstructed within the clearing point for that train, unless one of the following applies.

- The train has been stopped at the home signal.
- The train has passed beyond any points or crossings that you need to use within the clearing point.
- You have received **cancelling** for the train from signal box A.
- The train has failed.

## Electric token block regulations

**3.4.3 Acceptance - location of the clearing point****all  
signalers**

If the distant signal is a colour light, the clearing point is 183 metres (200 yards) beyond the home signal.

If the distant signal is a semaphore, the clearing point is 400 metres (440 yards) beyond the home signal.

At a crossing place where the distance to the loop exit signal is less than that shown in this regulation, the clearing point is at the loop exit signal.

**3.5 Restricted acceptance**

**Note:** For the purpose of this regulation, a train is to be signalled from signal box A to signal box B using the restricted acceptance.

**3.5.1 When this regulation can be used****signaller  
box B**

You may only use restricted acceptance when an engineering train is to enter a T3 possession of the line where the work-site marker board is within the clearing point.

You must tell the signaller at signal box A if a work-site marker board is within the clearing point.

**3.5.2 Sending 'is line clear'****signaller  
box A**

As long as you have sent or received **train out of section** for the previous train and no emergency bell signals have been sent or received, you may send **is line clear** for the engineering train.

**3.5.3 When 'is line clear' is received****signaller  
box B**

If you receive **is line clear** from signal box A for an engineering train that is to enter the possession you must not acknowledge **is line clear**. Instead, you must send **restricted acceptance (3-5-5)**.

**signaller  
box A**

You must repeat **restricted acceptance** back to the signaller at signal box B.

When the signaller at signal box A has acknowledged **restricted acceptance**, you must operate the token instrument to allow a token to be withdrawn at signal box A.

signaller  
box B

### 3.5.4 Telling the driver

You must tell the driver of the train that was accepted with restricted acceptance what is happening at the next signal box and that the line is clear to the home signal only.

signaller  
box A

### 3.5.5 Sending 'train out of section'

When the engineering train has passed into the possession, and the detonator protection has been replaced, you must place the token in the token instrument, and send **train out of section** to signal box A.

signaller  
box B

## 3.6 Releasing a token for protection of work

**Note:** For the purpose of this regulation, a token is needed to protect work that is to take place between signal box A and signal box B. The token is to be removed at signal box B.

### 3.6.1 When this regulation can be used

You must use this regulation when a token is needed to protect work as shown in:

- module TS1 *General signalling regulations*, regulation 13.2, or
- module T3 *Possession of a running line for engineering work*.

all  
signalers

# Electric token block regulations

## 3.6.2 Getting the token released

**signaller  
box B**

As long as you have sent or received **train out of section** for the previous train, you must:

- send **release token (5-2)** to signal box A, and
- tell the signaller at signal box A the reason.

**signaller  
box A**

You must acknowledge **release token** and operate the token instrument to allow a token to be withdrawn at signal box B.

**signaller  
box B**

You must then remove the token from the instrument and immediately clear and then replace the section signal to danger.

## 3.6.3 When the token is no longer needed to protect the work

**signaller  
box B**

When you are told that the token is no longer needed to protect the work, you must replace the token in the instrument and send **token replaced (2-5)** to signal box A.

**signaller  
box A**

If the token is delivered to you, you must:

- tell the signaller at signal box B
- place the token in the token instrument
- send **token replaced** to signal box B.

## 3.6.4 When a token is required before 'train out of section' is normally received

**signaller  
box B**

If the token is required to protect work at the signal box B end before **train out of section** for the previous train is normally received, you must tell the signaller at signal box A the reason.

**signaller  
box A**

If the signaller at signal box B tells you that the token is needed there to protect work, you may send **train out of section** before the last vehicle of the train passes your signal box. However, you must first make sure the train has arrived complete with tail lamp and has passed clear of the section, before doing so.



## 3.7 Occupying the single line for shunting purposes

### 3.7.1 Releasing a token for shunting purposes

**Note:** For the purpose of this regulation, a shunting movement is to occupy the section between signal box A and signal box B outside the home signal at signal box B.

You may allow a token to be released for shunting purposes at the other end of the section as long as:

- you have sent or received **train out of section** for the previous train through the section
- neither of you have given permission for a train to approach
- the line is clear to the home signal at your signal box.

signaller  
box A and B

When a token is needed for shunting purposes, you must send **release token** to signal box A.

signaller  
box B

If the line is clear to the home signal, you may acknowledge **release token** and operate the token instrument to allow a token to be withdrawn at signal box B.

signaller  
box A

When you have withdrawn the token, you must:

- tell the driver what is to happen
- give the token to the driver
- clear the signal, where provided.

signaller  
box B

If you cannot give permission for a token to be withdrawn, you must not acknowledge **release token** or operate the token instrument. You must tell the signaller at signal box B the reason.

signaller  
box A

When the shunting movement has been completed and the section is again clear, you must replace the token in the instrument and send **token replaced** to signal box A.

signaller  
box B

### 3.7.2 If a train has failed in the section

#### signaller box A and B

If a train has failed in the section, you may both allow the line outside the home signal to be occupied by a shunting movement without the token. The driver of the failed train must have given one of you an assurance that the failed train will not be moved.

When you have agreed with the other signaller that a shunting movement may be made, you must:

- tell the driver of the shunting movement what is to happen, and
- instruct the driver to pass at danger the section signal for shunting purposes.

You may continue to do this until:

- the failed train is ready to proceed towards your signal box, or
- an assisting train is ready to enter the occupied section.

You must not authorise the driver of the failed train to move the train, or allow an assisting train to enter the occupied section, until any shunting movement authorised at either end of that section has been completed and is clear of the section.

### 3.8 Train requiring to stop in section

#### signaller box A

If you become aware that a train is to stop in the section, you must tell the signaller at signal box B:

- the type of train
- where the train is to stop and why
- the approximate time the train will occupy the section.

If the train returns to your signal box, when you are sure the section is clear, you must:

- tell the signaller at signal box B what has happened
- place the token in the token instrument
- send **cancelling** to signal box B.

# 4

## Obstruction of the line

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. The signaller at signal box B becomes aware or suspects there is an obstruction between signal box A and signal box B.

### 4.1 When to send 'obstruction danger'

If you need to stop trains from signal box A because of an obstruction or other emergency between your signal box and signal box A, or within the clearing point at your signal box, you must immediately and without sending **call attention**, send **obstruction danger (6)** to signal box A.

signaller  
box B

You must do this whether or not you have received **is line clear** or **train entering section**.

You do not need to send **obstruction danger** if the obstruction is only affecting the line for trains heading towards you from signal box A, and:

- the obstruction is beyond the clearing point, or
- there are facing points that you immediately set for another direction clear of the obstruction and that line is clear up to and including the clearing point.

You must also send **obstruction danger** when you see, or become aware of, a train approaching for which you have not:

- acknowledged **is line clear**
- received **train entering section**
- received **train or vehicles proceeding without authority (2-5-5)**.

# Electric token block regulations

## 4.2 Sending 'obstruction danger'

### signaller box B

When sending **obstruction danger** you must:

- if necessary, place or keep your signals at danger to protect the obstruction
- if necessary, arrange for train radio messages to be sent
- tell the signaller at signal box A the reason for sending **obstruction danger**.

If, after you have sent **obstruction danger** to signal box A, you receive **train or vehicles proceeding without authority** for a train which had been accepted before **obstruction danger** was sent, you must take all possible actions to stop the approaching train.

Only then must you acknowledge **train or vehicles proceeding without authority**.

If you receive **cancelling** from the signaller at signal box A for a train which had been accepted before you sent **obstruction danger**, you must acknowledge **cancelling**.

## 4.3 Receiving 'obstruction danger'

### signaller box A

If you receive **obstruction danger** from signal box B, you must:

- immediately place or keep all signals leading towards signal box B at danger
- if necessary, arrange for train radio messages to be sent.

If no train has been signalled towards signal box B, you must acknowledge **obstruction danger**.

If you cannot stop a train heading towards signal box B, or there is already a train in the section, you must not acknowledge **obstruction danger** but immediately send **train or vehicles proceeding without authority** to signal box B.

If you succeed in stopping a train heading towards signal box B for which **is line clear** has been acknowledged, you must, after acknowledging **obstruction danger**, replace the token in the token instrument and send **cancelling** to signal box B.

signaller  
box A

You must find out the reason why **obstruction danger** was sent.

You must not allow any train to proceed towards signal box B until you have received **obstruction removed (2-1-2)** and the signaller at signal box B has acknowledged **is line clear**.

#### 4.4 When the obstruction has been removed

When the obstruction has been removed or a train can pass clear of the obstruction, you must send **obstruction removed** to signal box A.

signaller  
box B

However, if the signaller at signal box A had been unable to stop a train for which **is line clear** has been acknowledged, you must not send **obstruction removed** to signal box A until that train is clear of the section as shown in regulation 3.2.

# 5

## Train or vehicles proceeding without authority (including a SPAD) or train divided

### Part A: Train or vehicles proceeding without authority

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. A train or vehicle proceeds without authority from signal box A towards signal box B.

#### 5.1 Immediate actions at signal box A

##### signaller box A

If a train or vehicle proceeds without authority or has entered the section without authority or without the correct token, you must:

- place or keep the signals at danger on the line affected
- if necessary and without sending **call attention**, send **train or vehicles proceeding without authority (2-5-5)** to signal box B
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

## 5.2 Immediate actions at signal box B

If you have received **train or vehicles proceeding without authority** from signal box A, you must:

signaller  
box B

- stop any train proceeding towards signal box A
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- place or keep signals at danger against the train or vehicle and any other trains that could be put in danger
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- if necessary, send **train or vehicles proceeding without authority** to signal box C, unless you can divert the train or vehicle
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

## 5.3 If there is already a train in the section between signal box A and signal box B

If the train or vehicle proceeding without authority enters the section behind a train already in the section, you must:

signaller  
box B

- if you can, allow the first train to pass, and then
- immediately replace the signals to danger against the train which is proceeding without authority.

You must not send **train out of section** to signal box A until both trains have cleared the section complete with tail lamp.

# Electric token block regulations

**signaller  
box B** If you cannot stop or divert the train or vehicle that is proceeding without authority and it is following the first train on the same line, after you have sent **train entering section** for the first train you must send **train or vehicles proceeding without authority** to signal box C.

**signaller  
box A and B** When the next train is ready to enter the section, you must signal the train normally. However, if you are sending the train, you must also:

- tell the driver what has happened
- instruct the driver to proceed through the section at caution.

**signaller  
box C** If the train or vehicle proceeding without authority enters the section between signal box B and signal box C when there is a train already in that section, you must carry out the regulations shown for the signaller at signal box B.

## 5.4 If there is no train in the section

**signaller  
box B** If the train or vehicle proceeding without authority enters the section when there is no train in that section, and arrives complete with tail lamp, you must send **train out of section** as shown in regulation 3.2.

**signaller  
box A and B** The next train must be signalled normally.

## 5.5 If it is necessary to remove vehicles from the section

**signaller  
box A and B** If a token has not been taken out of the token instrument, you both must reach a clear understanding on how the vehicles are to be removed. One of you must then remove a token from the instrument for the purpose of clearing the section.



## Part B: Train divided

**Note:** For the purpose of this part of the regulation, A, B and C represent three signal boxes on the same line of route. A train that has been signalled from signal box B to signal box C has become divided before entering the section.

### 5.6 Immediate actions at signal box B

If you are aware or suspect that a train has become divided, you must place or keep the signals at danger against the divided train.

signaller  
box B

If necessary, you must arrange for train radio messages to be sent.

### 5.7 If the divided train enters the forward section

If the front portion of the divided train enters the forward section, you must:

signaller  
box B

- send **train entering section** to signal box C
- when this is acknowledged, send **train passed without tail lamp (9)**.

If the rear portion also enters the forward section, you must immediately send **train or vehicles proceeding without authority** to signal box C and carry out the instructions in Part A of this regulation shown for the signaller at signal box A.

If you receive **train or vehicles proceeding without authority** from signal box B, you must carry out the instructions shown in regulation 5.2 for the signaller at signal box B.

signaller  
box C

## 5.8 Making sure the line is clear

### signaller box A and B

You must not allow another train to enter any affected section until the correct token has been replaced into the token instrument and:

- you are both sure that the section is not obstructed, or
- the line is to be examined.

# 6 Train passed without tail lamp

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. A train is passing signal box B going towards signal box C.

## 6.1 Actions of the signaller at signal box B

### 6.1.1 If a train passes without a tail lamp

If a train passes without a tail lamp, or you are not sure that it has a tail lamp, you must:

- not place the token into the token instrument
- not send **train out of section** to signal box A, but instead send **train passed without tail lamp (4-5)**.

signaller  
box B

### 6.1.2 If you can deal with the train yourself

You must deal with the train yourself, before it enters the forward section, if you can do so without bringing it to a sudden stop.

If the train is complete, send **train out of section** to signal box A.

If you are not in a position to send **train out of section**, you must tell the signaller at signal box A that the train is complete.

If the train is not complete, you must tell the signaller at signal box A and come to a clear understanding of the actions to be taken depending on the circumstances.

### 6.1.3 If you cannot deal with the train yourself

#### signaller box B

If you cannot deal with the train before it enters the forward section, or to do so would mean bringing the train to a sudden stop, you must send **train passed without tail lamp (9)** to signal box C.

If you receive **train out of section** from signal box C, or the signaller there tells you the train is complete, you must:

- place the token into the token instrument
- send **train out of section** to signal box A.

### 6.2 Actions of the signaller at signal box C

#### signaller box C

If you receive **train passed without tail lamp (9)** from signal box B, you must stop the approaching train and find out if it is complete.

If the train is complete and the line is clear as shown in regulation 3.2, you must:

- place the token in the token instrument
- send **train out of section** to signal box B.

If the train is complete but you are not in a position to send **train out of section**, you must tell the signaller at signal box B that the train is complete.

If the train is not complete, you must tell the signaller at signal box B and come to a clear understanding of the actions to be taken, depending on the circumstances.

### 6.3 If a train passes with a portable tail lamp out

If a train passes with a portable tail lamp on the rear, but it is out and you cannot deal with the train yourself, or to do so would mean bringing the train to a sudden stop, you must:

- place the token into the token instrument
- send **train out of section** to signal box A
- send **train passed without tail lamp (9)** to signal box C
- tell the signaller at signal box C the reason for sending the bell signal.

signaller  
box B

# 7

## Allowing an assisting train into an occupied section

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. A train or vehicle is to be assisted out of the section between signal box A and signal box B.

### 7.1 Before allowing an assisting train into the occupied section

#### signaller box A and B

You may allow an assisting train to enter an occupied section in either direction to:

- proceed to, and assist, a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove vehicles that have proceeded without authority.

Before you allow an assisting train to enter the occupied section, you must both:

- have a clear understanding of the location of the failed train or vehicles
- get confirmation that, when appropriate, the token is with the failed train
- agree to which end of the section the failed train is to be assisted.

### 7.2 Occupying or obstructing the line within the clearing point

#### signaller box A and B

If you are told that the train has failed in the section and will not be moved, you may allow the line within the clearing point to be occupied, fouled or obstructed. You may continue to do this until:

- the failed train is ready to proceed towards your signal box, or
- the assisting train has entered the occupied section and the failed train is to be assisted towards your signal box.

### 7.3 If the assisting train is to enter the occupied section at signal box A

**Note:** Regulations 7.3 and 7.4 apply to a train entering the section at signal box A, although the same procedure must be followed if the assisting train were to enter the single line section from signal box B.

Before you authorise the driver of the assisting train to enter the occupied section, you must:

- tell the signaller at signal box B the description of the assisting train
- get permission from the signaller at signal box B for the assisting train to enter the occupied section
- send **train entering section**, which must be acknowledged before the assisting train is allowed to depart
- record the details in the Train Register.

signaller  
box A

When the assisting train enters the occupied section, you must tell the signaller at signal box B.

The signaller at signal box A will tell you the train description of the assisting train and get your permission for the train to enter the occupied section. You must then:

- acknowledge **train entering section**
- record the details in the Train Register.

signaller  
box B

## 7.4 If the train or vehicles are withdrawn from the section at signal box A

### signaller box A

If the failed train or vehicles and the assisting train return to your signal box, when they have passed clear of any points leading to the section and you are sure the single line is clear, you must:

- tell the signaller at signal box B what has happened
- place the token into the token instrument
- send **cancelling** to signal box B.

### signaller box A and B

The next train must be signalled normally.

## 7.5 If the train or vehicles are removed from the section at signal box B

### signaller box B

You must not send train out of section or replace the token in the token instrument until both the failed train and the assisting train arrive complete and the section is clear as shown in regulation 3.2.

### signaller box A and B

The next train must be signalled normally.

## 7.6 If the combined trains are to proceed from signal box B to signal box C

### signaller box B

If the combined trains are to proceed through the next section, you must tell the signaller at signal box C when you send **is line clear** that the train is being assisted and how it is being assisted.

### signaller box C

You must record the details in the Train Register and not send **train out of section** to signal box B or place the token in the token instrument until the combined train has arrived complete.



## 7.7 When the failed train or vehicles are within the clearing point

**Note:** For this part of the regulation the line is clear up to the home signal at signal box B but a train, proceeding from signal box A to signal box B, has failed within the clearing point. The assisting train is to enter the section at signal box A and proceed to the home signal at signal box B to assist the failed train from the rear.

If a failed train has stopped within the clearing point but the section is clear to the home signal, you must:

- make sure the failed train is complete with tail lamp
- tell the signaller at signal box A what has happened and that assistance is required from signal box A
- place the token in the token instrument
- send **train out of section**.

signaller  
box B

Before you allow the assisting train into the section, you must:

- have received **train out of section** for the failed train
- tell the signaller at signal box B the description of the assisting train
- withdraw a token when the signaller at signal box B operates the instrument
- send **train entering section**, which must be acknowledged before the assisting train is allowed to depart
- record the details in the Train Register.

signaller  
box A

# Electric token block regulations

## signaller box B

When the signaller at signal box A tells you the assisting train is ready to enter the section, you must:

- operate the token instrument so the signaller at signal box A can withdraw a token
- acknowledge **train entering section**
- record the details in the Train Register.

## signaller box A

When **train entering section** has been acknowledged, you must:

- tell the driver of the assisting train that the line beyond the home signal at signal box B is occupied by the failed train
- give the driver the token
- instruct the driver to pass the section signal at danger and to proceed at caution to, and stop at, the home signal and to then immediately contact the signaller at signal box B.

## signaller box B

When the assisting train arrives at the home signal, as long as you have carried out the instructions in module M2 *Train stopped by train failure*, you must instruct the driver to pass the home signal at danger and proceed towards the failed train.

When the combined train has passed clear of the section and clear of any points leading to it, you must:

- place the token in the token instrument
- send **call attention** to signal box A
- when this has been acknowledged, send **train out of section**.

## signaller box A and B

The next train must be signalled normally.

## **7.8 Train or portion of a train left on the single line**

**Note:** For this part of the regulation, the rear portion of a train will be left in the section between signal box A and signal box B.

### **7.8.1 Dealing with the train at signal box B**

The driver will tell you when the train, or a portion of the train, has been left in the section.

**signaller  
box B**

Unless it is necessary for another locomotive to remove the rear portion, the driver will keep the token until the whole of the train has been removed from the section.

### **7.8.2 Front portion being taken forward to signal box C**

If the rear portion of the train is to be left in the section while the front portion proceeds to signal box C, you must get the token from the driver.

You must not allow any driver to enter the occupied section to remove the rear portion until you have given the token to the driver.

You must not place the token into the token instrument until the section is again clear or the rear portion is to be removed as shown in regulation 7.8.3.

### **7.8.3 Rear portion being removed by admitting a train from signal box A**

If the rear portion of the train is to be removed from the section by a train being admitted from signal box A, you must get the token from the driver of the front portion.

You must tell the signaller at signal box A what is to happen.

**signaller  
box B**

When you are told that the assisting train is ready to enter the occupied section, you must:

- place the token in the token instrument
- operate the token instrument so the signaller at signal box A can withdraw a token
- record the details in the Train Register.

**signaller  
box A**

Before you authorise the driver of the assisting train to enter the occupied section, you must:

- tell the signaller at signal box B the description of the assisting train
- when the signaller at signal box B has operated the token instrument, withdraw a token
- send **train entering section**, which must be acknowledged before the assisting train is allowed to depart
- record the details in the Train Register.

When **train entering section** has been acknowledged, you must:

- tell the driver of the assisting train that the section is occupied and what is to happen
- give the driver the token
- instruct the driver to pass the section signal at danger
- record the details in the Train Register.

**signaller  
box B**

The signaller at signal box A will tell you the train description of the assisting train and get your permission for the train to enter the section. You must then:

- unless the combined train is to return to signal box A, make sure the conditions are the same as when the train that failed was accepted
- acknowledge **train entering section**, and
- record the details in the Train Register.

You must not send **train out of section** to signal box A, or place the token in the token instrument, until both trains have arrived complete and the line is again clear as shown in regulation 3.2.

signaller  
box B

The next train must be signalled normally. However, the signaller sending the train must tell the driver what has happened and to proceed at caution through the section.

signaller  
box A and B

# 8

## Token lost, or failure or disconnection of token equipment

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. Each part of the regulation deals with the token or token equipment between signal box A and signal box B.

### 8.1 If a token is lost

#### 8.1.1 Method of working

all  
signallers

If a token is lost, working by pilotman, or modified working arrangements as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced until the token is found or the instruments have been adjusted.

#### 8.1.2 If the token is found

If the token is found before the signalling technician has adjusted the instrument, and working by pilotman is in operation, the token must be given to the pilotman who will cancel working by pilotman.

When working by pilotman has been withdrawn, the token can be restored to the instrument and normal working resumed.

If the token is found after normal working has been resumed, you must arrange for it to be kept secure by the Network Rail area operations manager until the signalling technician can arrange to return it to the instrument.

#### 8.1.3 Recording the arrangements

When a token is removed from, or restored to, the token instrument by the signalling technician, you must record the details in the Train Register.

## 8.2 Failure or disconnection of the token equipment

### 8.2.1 Method of working

If the token equipment fails or is disconnected, working by pilotman, or modified working arrangements as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced.

all  
signalers

However, if a token is available and it is possible to run trains as shown in module TS8 *One-train working regulations*, you may continue to run trains without introducing working by pilotman. You must instruct the driver of each train concerned:

- that the single line is being worked as a one-train line with staff
- that the token must be handled as if it were a train staff
- not to place the token in any token instrument
- if necessary, to pass the section signal at danger.

### 8.2.2 Token not required for use at a ground frame

If a token is out of the instrument and it will not be needed to release a ground frame, you must place it back into the token instrument and tell the pilotman, or the responsible person where modified working arrangements have been authorised, that this has been done.

### 8.2.3 Token required for use at a ground frame

If the token is required for use at a ground frame, you must give the token to the pilotman. Modified working arrangements are not permitted in this case.

If necessary, you must arrange for a token to be released by the signalling technician.

# Electric token block regulations

## signaller box A and B

If the token is out of the instrument at the opposite end of the section at which the pilotman is appointed, the signaller who has the token must keep it in a secure place. The token must be given to the pilotman when the pilotman arrives.

You must record the details in the Train Register.

## 8.3 When the token equipment fails but the bells are still working

### signaller box A and B

If the token equipment fails, but the bells are still working, you must continue to exchange bell signals as normal.

## 8.4 Signalling trains by telephone

### signaller box A and B

If the bells only, or bells and token equipment, have failed or are disconnected but a telephone is available, you must send all bell signals as messages on the telephone, for example:

- Signaller box A - 'Is line clear for one alpha two seven'?
- Signaller box B - 'Line **is** clear for one alpha two seven'.
- Signaller box A - 'One alpha two seven train entering section'.
- Signaller box B - 'One alpha two seven train out of section'.
- Signaller box B - 'Line is clear for zero foxtrot seven zero under restricted acceptance'.

### signaller box B

If for whatever reason, you are unable to accept a train that is offered, you must state the refusal as follows:

- Signaller box B - '**No**, one alpha two seven refused'.



## 8.5 Testing the token instruments

If the signalling technician is not present, you must not attempt to withdraw a token from the token instrument unless the pilotman is present at your signal box.

signaller  
box A and B

If, as a result of the equipment being tested you get a token, you must give it to the pilotman until it is to be taken away by the signalling technician or restored to the instrument.

## 8.6 Working to and from the point of obstruction

### 8.6.1 Method of working

If it is necessary to work to and from the point of obstruction, working by pilotman as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced. Modified working arrangements are not allowed.

signaller  
box A and B

If necessary, working by pilotman may be introduced on both sides of the obstruction.

### 8.6.2 If a token is available

However, if a token is available and it is possible to run trains as shown in module TS8 *One-train working regulations*, you may continue to run trains without introducing working by pilotman on one side of the obstruction.

You must tell the driver of each train concerned about the circumstances and instruct them:

- that the single line is being worked as a one-train with staff line
- the location to which the movement is authorised to proceed
- that the token must be handled as if it were a train staff
- not to place the token in any token instrument
- if necessary, to pass the section signal at danger.

## 8.7 Keeping the distant signal at caution

**signaller  
box A and B**

During the time working by pilotman or modified working arrangements are in operation, you must keep the distant signal in the affected section at caution.

## 8.8 Level crossings worked by crossing keepers

**signaller  
box A and B**

If there is a level crossing in the section which has indicators or bells which are affected by a failure or disconnection, you must tell the crossing keeper that the indicators or bells are not working.

You must tell the crossing keeper when each train enters the section or as otherwise shown in the *Signal Box Special Instructions*.

If there is no communication with the crossing keeper, you must tell the driver of every train proceeding towards the crossing to:

- approach the crossing at caution
- not to pass over the crossing until sure it is safe to do so.

If working by pilotman is in force, you must instruct the pilotman to tell the driver.

# 9

## Transferring tokens

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. The tokens have accumulated at signal box B. The tokens will be taken to signal box A.

### 9.1 When this regulation can be used

As long as a token has not been removed from any token instrument involved, you may allow the signalling technician to transfer tokens as shown in this regulation.

signaller  
box A and B

### 9.2 When tokens are to be transferred

After the signalling technician has removed the tokens to be transferred, you must not attempt to remove or release another token from any token instrument involved until the signalling technician has completed the transfer.

signaller  
box A and B

You must sign the signalling technician's entry in their Token Register and insert the time when the tokens are removed from the token instrument.

signaller  
box B

You must tell the signaller at signal box A the number of tokens removed.

You must both record the details in the Train Register.

signaller  
box A and B

### 9.3 Receiving transferred tokens

#### signaller box A

Before the transferred tokens are placed in the token instrument, you must compare the number recorded in the signalling technician's Token Register with the number of tokens received.

When you are sure that the number is correct and the tokens have been placed in the instrument, you must sign the signalling technician's Token Register and insert the time.

You must tell the signaller at signal box B the number of tokens received.

#### signaller box A and B

You must both record the details in the Train Register.

### 9.4 Auxiliary token instrument

#### signaller box A and B

When transferring tokens from an auxiliary token instrument, the procedure shown above must be carried out as far as possible.

# 10

## Opening and closing signal boxes

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. Signal box B is to open and close.

### 10.1 Opening the signal box

To open the signal box, you must send **opening of signal box (5-5-5)** to signal box A and signal box C.

signaller  
box B

### 10.2 Closing the signal box

You must not close the signal box or leave duty until:

- you have received **train out of section** for the last train to be signalled through each section
- you have sent **closing of signal box (7-5-5)** to both signal box A and signal box C
- **closing of signal box** has been acknowledged by the signaller at signal box A and signal box C.

signaller  
box B

# Notes



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# Tokenless block regulations

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## Regulations for train signalling on single lines by the tokenless block system.

You will need this module if you carry out the duties of a signaller in a tokenless block area.

Conventions used in the Rule Book	Example
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	driver
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

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## Regulation

# 5

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# 6

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## Regulation

### 7

#### **Allowing an assisting train into an occupied section**

- 7.1 Before allowing an assisting train into the occupied section
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### 9

#### **Not used**

Regulation

# 10

## Opening and closing signal boxes

**10.1** Opening the signal box

**10.2** Closing the signal box

# 1

## Definitions

The following terms are used in these regulations and apply to signallers in tokenless block signalling areas.

### Block signals

A stop signal that controls the entrance to, or exit from, a block section. The following are block signals:

**Home signal:** the first stop signal controlled by a signal box that controls the exit from a single-line block section.

**Section signal:** a stop signal that controls the entrance to a single-line block section.

### Clearing point

The point beyond the home signal up to which the line must be clear before a train can be accepted as shown in regulation 3.4.

### Single-line block section

The line between the section signal controlled from one signal box, and the home signal controlled by the next signal box in the direction of travel.

A single-line block section will be referred to as a section within this document.



# 2 Principle

## 2.1 Principle of the tokenless block system

The principle of the tokenless block system is to prevent more than one train being in the same section at the same time.

## 2.2 Using the acceptance switch

Unless you need to prevent the approach of a train, you must place the acceptance switch in the **accept** position in anticipation of train movements.

all signallers

# 3

## Method of signalling

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. A train is to be signalled from signal box A to signal box B. The procedure shown must be repeated along the line of route if the train is to proceed further.

### 3.1 Normal method of signalling trains

#### 3.1.1 Actions of the signaller at signal box A

##### signaller box A

Before you start the procedure to allow a train to enter the section, you must make sure the acceptance switch and the block indicator for the section concerned are both in the **normal** position.

You must operate the **offer** button and, if necessary, tell the signaller at signal box B the description of the train.

If the acceptance switch at signal box B is at **accept**, the block indicators at both signal boxes will move to **train accepted**.

You may then clear the signals for the train to proceed.

If the block indicator does not move to **train accepted** after you have operated the **offer** button, you must contact the signaller at signal box B to find out why.

#### 3.1.2 Actions of the signaller at signal box B

##### signaller box B

If the block indicator does not move to **train accepted** after the signaller at signal box A has operated the **offer** button, that signaller will contact you to find out why. You must tell the signaller at signal box A why you cannot accept the train.

### 3.1.3 If the train is to continue to signal box C

When the block indicator from signal box A moves to **train in section**, if the train is to continue to signal box C, you must carry out the actions of the signaller at signal box A, as shown in regulation 3.1.1, to the signaller at signal box C.

signaller  
box B

## 3.2 When the train has arrived

When the train has occupied and cleared the track circuit beyond your home signal, you must:

signaller  
box B

- place the home signal to danger
- place the acceptance switch to **normal**.

When the train arrives, complete with tail lamp, you must operate the **train arrived** button and check that the block indicator is restored to **normal**.

If it is necessary to operate the **train arrived** button before the last vehicle of the train passes your signal box, you must make sure the train has arrived, complete with tail lamp, before doing so.

You must keep the acceptance switch at **normal** until the train has passed beyond the clearing point.

## 3.3 Train not proceeding

If the train is not going to proceed towards signal box B but the block indicator is at **train accepted**, you must:

signaller  
box A

- place the relevant signals to danger
- tell the signaller at signal box B that the train is no longer going to proceed.

If the signaller at signal box A tells you that the train is no longer going to proceed towards you and the block indicator is at **train accepted**, you must place the acceptance switch to **normal**.

signaller  
box B

## 3.4 Giving permission for a train to approach

**Note:** This part of the regulation describes the conditions under which the signaller at signal box B can accept a train from signal box A.

### 3.4.1 Before placing the acceptance switch to 'accept'

#### signaller box B

Before you place the acceptance switch to **accept**, you must make sure that all the following conditions apply.

- The line, or at a facing junction the line for which the facing points are set, is clear up to and including the clearing point.
- All points within the clearing point have been set for the safety of the approaching train.
- No conflicting movement has been authorised that will cross or foul the line within the clearing point.
- No train has been accepted from another direction that requires a portion of the same line within the clearing point for acceptance.

### 3.4.2 Maintaining the clearing point

After you have placed the acceptance switch to **accept** for a train from signal box A, you must not allow the line to be obstructed within the clearing point for that train, unless one of the following applies.

- The train has been stopped at the home signal.
- The train has passed beyond any points or crossings that you need to use within the clearing point.
- The signaller at signal box A has told you that the train is no longer proceeding.
- The train has failed.

### 3.4.3 Acceptance - location of the clearing point

If the distant signal is a colour light, the clearing point is 183 metres (200 yards) beyond the home signal.

If the distant signal is a semaphore, the clearing point is 400 metres (440 yards) beyond the home signal.

At a crossing place where the distance to the loop exit signal is less than that shown in this regulation, the clearing point is at the loop exit signal.

all  
signalers

### 3.5 Not used

### 3.6 Not used

## 3.7 Occupying the single line for shunting purposes

**Note:** For the purpose of this regulation, a shunting movement is to enter the section at signal box A.

### 3.7.1 Occupying the single line

When it is necessary for a shunting movement to enter the section, you must:

- tell the signaller at signal box B what is to happen
- deal with the shunting movement as a departing train.

You must make sure the whole of the shunting movement goes outside the home signal.

You must then clear the home signal for the return shunting movement.

signaller  
box A

### 3.7.2 When shunting is completed

#### signaller box A

After the return shunting movement has occupied and cleared the track circuit inside the home signal, and you are sure the section is clear, you must operate the **train arrived** button.

## 3.8 Train requiring to stop in section

### 3.8.1 When a train is required to stop in section

#### signaller box A

When a train is required to stop in the section, you must tell the signaller at signal box B:

- the type of train
- where the train is to stop and why
- the approximate time the train will occupy the section.

### 3.8.2 If the train returns to signal box A

When the train returns to your signal box and has occupied and cleared the track circuit inside the home signal, and you are sure the section is clear, you must operate the **train arrived** button.

# 4 Obstruction of the line

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. The signaller at signal box B becomes aware or suspects there is an obstruction between signal box A and signal box B.

## 4.1 Actions of the signaller at signal box B

If you need to stop trains because of an obstruction or other emergency within the section or the clearing point, you must immediately:

signaller  
box B

- place or keep signals at danger to protect the obstruction or other emergency
- place or keep the acceptance switch at **normal**
- if necessary, arrange for train radio messages to be sent
- take any other possible action to stop any approaching train
- if necessary, carry out the relevant instructions in regulation 5
- tell the signaller at signal box A what has happened.

## 4.2 Actions of the signaller at signal box A

If the signaller at signal box B tells you that the line is, or may be obstructed or there is an emergency that requires trains to be stopped, you must immediately:

signaller  
box A

- place or keep signals at danger to protect the obstruction or other emergency
- place or keep the acceptance switch at **normal**
- if necessary, arrange for train radio messages to be sent
- take any other possible action to stop any approaching train
- if necessary, carry out the relevant instructions in regulation 5.

**signaller  
box A**

Except if it is necessary to examine the line, you must not allow any train to proceed on the obstructed line towards signal box B until you have been told that the obstruction has been removed.

### **4.3 When the obstruction has been removed**

**signaller  
box A and B**

When the obstruction has been removed, or a train can pass clear of the obstruction, you must tell the other signaller. You may then both resume normal working.



# 5

## **Train or vehicles proceeding without authority (including a SPAD) or train divided**

### **Part A: Train or vehicles proceeding without authority**

**Note:** For the purpose of this part of the regulation, A, B and C represent three signal boxes on the same line of route. A train or vehicle proceeds without authority from signal box A towards signal box B.

#### **5.1 Immediate actions at signal box A**

If a train or vehicle proceeds without authority, or has entered the section without authority, you must:

**signaller  
box A**

- place or keep the signals at danger on the line affected
- place or keep the acceptance switch at **normal**
- tell the signaller at signal box B what has happened
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

## 5.2 Immediate actions at signal box B

### signaller box B

If you are told by the signaller at signal box A that a train or vehicle is proceeding without authority from signal box A, you must:

- stop any train proceeding towards signal box A
- place or keep the acceptance switch at **normal**
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- place or keep signals at danger against the train or vehicle and any other trains that could be put in danger
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- if necessary, tell the signaller at signal box C, unless you can divert the train or vehicle from the running line
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

## 5.3 If there is already a train in the section

### signaller box B

If the train or vehicle proceeding without authority enters the section behind a train already in the section, you must:

- if you can, allow the first train to pass, and then
- immediately replace the signals to danger against the train which is proceeding without authority.

You must not operate the **train arrived** button for the section between your signal box and signal box A until both trains have cleared the section.

If you cannot stop or divert the train or vehicle that is proceeding without authority, you must tell the signaller at signal box C what has happened.

signaller  
box B

You must not place the acceptance switch to **normal** until both trains have occupied and cleared the track circuit beyond your home signal.

When the next train is ready to enter the section, you must signal the train normally. If you are the signaller sending the train, you must:

signaller  
box A and B

- tell the driver what has happened
- instruct the driver to proceed through the section at caution.

#### 5.4 If there is no train in the section

If the train or vehicle proceeding without authority enters the section when there is no other train in that section, and arrives complete, you must operate the **train arrived** button as shown in regulation 3.2.

signaller  
box B

The next train must be signalled normally.

signaller  
box A and B

## Part B: Train divided

**Note:** For the purpose of this part of the regulation, A, B and C represent three signal boxes on the same line of route. A train that has been signalled from signal box B to signal box C has become divided before entering the section.

### 5.5 Immediate actions at signal box B

#### signaller box B

If you are aware or suspect that a train has become divided, you must place or keep the signals at danger against the divided train.

If necessary, you must arrange for train radio messages to be sent.

### 5.6 If the divided train enters the forward section

#### signaller box B

If the front portion of the divided train enters the forward section, you must tell the signaller at signal box C.

#### signaller box C

If you are told that the front portion of a divided train has entered the section, you must carry out the instructions shown in regulation 6.

#### signaller box B

If the rear portion also enters the forward section, you must immediately tell the signaller at signal box C and carry out the instructions in part A of this regulation 5 shown for the signaller at signal box A.

#### signaller box C

If you are told by the signaller at signal box B that the rear portion of the divided train has also entered the section, you must carry out the instructions in part A of this regulation 5 shown for the signaller at signal box B.

## 5.7 Making sure the line is clear

You must not allow another train to enter any affected section until:

- both you and the signaller at the other end of the section are sure that the section is not obstructed, or
- the line is to be examined.

**signaller  
box A and B**

# 6

## Train passed without tail lamp

**Note:** For the purpose of this regulation, A, B and C represent three signal boxes on the same line of route. A train is passing signal box B going towards signal box C.

### 6.1 Actions of the signaller at signal box B

#### 6.1.1 If a train passes without a tail lamp

signaller  
box B

If a train passes without a tail lamp, or you are not sure that it has a tail lamp, you must not operate the **train arrived** button but instead tell the signaller at signal box A.

#### 6.1.2 If you can deal with the train yourself

You must deal with the train yourself, before it enters the section, if you can do so without bringing it to a sudden stop.

If the train is complete, operate the **train arrived** button and tell the signaller at signal box A that the train is complete.

If the train is not complete, you must tell the signaller at signal box A and come to a clear understanding of the actions to be taken depending on the circumstances.

#### 6.1.3 If you cannot deal with the train yourself

If you cannot deal with the train before it enters the forward section, or to do so would mean bringing the train to a sudden stop, you must immediately tell the signaller at signal box C.

If you are then told by the signaller at signal box C that the train is complete, you must tell the signaller at signal box A and operate the **train arrived** button for the section from signal box A.

## 6.2 Actions of the signaller at signal box C

If the signaller at signal box B tells you that the train proceeding towards you has no tail lamp or the signaller there is not sure, you must stop the approaching train and find out if it is complete.

signaller  
box C

If the train is complete and the line is clear as shown in regulation 3.2, you must:

- tell the signaller at signal box B
- operate the **train arrived** button for the section from signal box B.

If the train is not complete, you must tell the signaller at signal box B and come to a clear understanding of the actions to be taken depending on the circumstances.

## 6.3 If a train passes with a portable tail lamp out

If a train passes with a portable tail lamp on the rear, but it is out and you cannot deal with the train yourself, or to do so would mean bringing the train to a sudden stop, you must:

signaller  
box B

- operate the **train arrived** button for the section from signal box A
- tell the signaller at signal box C that the tail lamp is out.

# 7

## Allowing an assisting train into an occupied section

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. A train or vehicle is to be assisted out of the section between signal box A and signal box B.

### 7.1 Before allowing an assisting train into the occupied section

#### signaller box A and B

You may allow an assisting train to enter an occupied section in either direction to:

- proceed to, and assist, a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove vehicles that have proceeded without authority.

Before you allow an assisting train to enter the occupied section, you must both:

- have a clear understanding of the location of the failed train or vehicles
- agree which end of the section the failed train will be assisted to.



## 7.2 Occupying or obstructing the line within the clearing point

If you are told that the train has failed in the section and will not be moved, you may allow the line within the clearing point to be occupied, fouled or obstructed.

signaller  
box A and B

You may continue to do this until:

- the failed train is ready to proceed towards your signal box, or
- the assisting train has entered the occupied section and the failed train is to be assisted towards your signal box.

## 7.3 If the assisting train is to enter the occupied section at signal box A

**Note:** Regulations 7.3 and 7.4 apply to a train entering the section at signal box A, although the same procedure must be followed if the assisting train were to enter the section from signal box B.

Before you authorise the driver of the assisting train to enter the occupied section, you must:

signaller  
box A

- tell the signaller at signal box B the description of the assisting train
- get permission from the signaller at signal box B for the assisting train to enter the occupied section
- record the details in the Train Register.

When the assisting train enters the occupied section, you must tell the signaller at signal box B.

You must record the details in the Train Register when you give permission for the assisting train to enter the occupied section and when you are told that it has entered the section.

signaller  
box B

## 7.4 If the train or vehicles are withdrawn from the section at signal box A

### signaller box A

If the failed train or vehicles and the assisting train return to your signal box, you must, when they have occupied and cleared the track circuit beyond the home signal:

- make sure the section is clear
- tell the signaller at signal box B what has happened
- operate the **train arrived** button.

### signaller box A and B

The next train must be signalled normally.

## 7.5 If the train or vehicles are removed from the section at signal box B

### signaller box B

You must not operate the **train arrived** button to signal box A until both the failed train and the assisting train have arrived complete and the section is clear, as shown in regulation 3.2.

### signaller box A and B

The next train must be signalled normally.

## 7.6 If the combined trains are to proceed from signal box B to signal box C

### signaller box B

If the combined trains are to proceed through the next section, you must tell the signaller at signal box C that the train is being assisted and how it is being assisted, before the combined trains enter the section.

### signaller box C

You must record the details in the Train Register and not operate the **train arrived** button until the combined train has arrived complete with tail lamp.

## 7.7 When the failed train or vehicles are within the clearing point

**Note:** For this part of the regulation the line is clear to the home signal at signal box B but a train, proceeding from signal box A to signal box B, has failed within the clearing point beyond the home signal. The assisting train is to enter the block section at signal box A and proceed to the home signal to assist the failed train from the rear.

If a failed train has stopped within the clearing point but the section is clear up to the home signal, you must:

- make sure the failed train is complete with tail lamp
- tell the signaller at signal box A what has happened and that assistance is required from signal box A
- not operate the **train arrived** button
- give permission for the assisting train to enter the section
- record the details in the Train Register.

signaller  
box B

Before you allow the assisting train into the section, you must:

- get permission from the signaller at signal box B
- tell the signaller at signal box B the description of the assisting train
- record the details in the Train Register.

signaller  
box A

After getting permission from the signaller at signal box B for the assisting train to enter the occupied section, you must:

- tell the driver of the assisting train that the line beyond the home signal is occupied by the failed train
- instruct the driver to pass the section signal at danger and to proceed at caution to, and stop at, the home signal and to then immediately contact the signaller at signal box B.

**signaller box A** You must tell the signaller at signal box B when the assisting train enters the single line block section and record this in the Train Register.

**signaller box B** When the signaller at signal box A tells you the train has entered the single line block section, you must record this in the Train Register.

When the assisting train arrives at the home signal, as long as you have carried out the instructions in module M2 *Train stopped by train failure*, you must instruct the driver to pass the home signal at danger and proceed towards the failed train.

When the combined train has passed clear of the single line block section and the line is clear as shown in regulation 3.2, you must operate the **train arrived** button.

**signaller box A and B** Where the block controls allow you to do so, you must signal the next train normally.

## 7.8 Train or portion of a train left on the single line

**Note:** For this part of the regulation, the rear portion of a train heading towards signal box B will be left in the single line block section between signal box A and signal box B.

**signaller box B** The driver will tell you when the train, or a portion of the train, has been left in the single line block section. You must tell the signaller at signal box A.

**signaller box A and B** You must both record the details in the Train Register.

When the traction unit returns, or another traction unit is to enter the single line block section, to clear the portion of train that has been left, you must deal with the movement as shown in regulation 7.1 or regulation 7.3.

# 8

## Working by pilotman and modified working

**Note:** For the purpose of this regulation, A and B represent two signal boxes on the same line of route. It is necessary to introduce working by pilotman between signal box A and signal box B.

### 8.1 Failure or disconnection of block signalling equipment

If there is a failure or disconnection of the block indicators, or it has not been possible to clear the section signal for a train that has been accepted, working by pilotman, or modified working arrangements as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced.

signaller  
box A and B

### 8.2 Working to and from the point of obstruction

If it is necessary to work to and from the point of obstruction, working by pilotman as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced. Modified working arrangements are not allowed.

signaller  
box A and B

If necessary, working by pilotman may be introduced on both sides of the obstruction.

### 8.3 Keeping the acceptance switch at normal

After you have been dictated the working by pilotman form or after you have been given authority to use modified working, you must place or keep the acceptance switch at **normal**.

signaller  
box A and B

## 8.4 Keeping the distant signal at caution

### signaller box A and B

During the time that working by pilotman or modified working arrangements are in operation, you must keep the distant signal in the affected section at caution.

## 8.5 During working by pilotman

### 8.5.1 When communication is available between signal box A and signal box B

#### signaller box A

When direct communication is available, you must:

- get the permission of the signaller at signal box B, before allowing a train to enter the single line block section
- tell the signaller at signal box B when the train enters the section.

#### signaller box B

You must tell the signaller at signal box A when the train arrives, complete with tail lamp, within the home signal.

### 8.5.2 When all communication is lost between signal box A and signal box B

#### signaller box A and B

You must not allow the line within the clearing point to be obstructed unless the pilotman is present.

# 9 Not used

# 10

## Opening and closing signal boxes

### 10.1 Opening the signal box

#### signaller box B

Before opening the signal box, you must attempt to speak to the signallers at signal box A and signal box C and tell them you are opening the signal box.

### 10.2 Closing the signal box

#### signaller box B

You may only close the signal box when the acceptance switch and the block indicators are in the **normal** position after the last train has passed.

You must tell the signallers at signal box A and signal box C that you are closing the signal box.



## Notes

## Notes



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# No-signaller token regulations

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Regulations for train signalling on single lines by the no-signaller token system.

You will need this module if you carry out the duties of a signaller in a no-signaller token area.

You will also need module TS8 One-train working regulations.

<b>Conventions used in the Rule Book</b>	<b>Example</b>
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	<b>driver</b>
A white <b>i</b> in a blue box indicates that there is information provided at the bottom of the page.	
<div style="border: 2px solid red; padding: 5px;">A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.</div>	

## Regulation

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## Regulation

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## 1

## Definitions

The following terms are used in these regulations and apply to signallers in no-signaller token signalling areas.

### Block signals

A stop signal that controls the entrance to, or exit from, a single-line block section. The following are block signals.

**Home signal:** the stop signal that controls the exit from the single-line block section.

**Section signal:** a stop signal that controls the entrance to the single-line block section.

### Clearing point

The point beyond the home signal or 'end-of-section' board up to which the line must be clear before a train movement can be allowed to approach the home signal or 'end-of-section' board.

### Single-line block section

The single-line block section starts at the section signal leading to the single line or where a signal is not provided, at the 'start-of-section' board.

In the other direction, the single-line block section ends at the home signal or where a signal is not provided, at the 'end-of-section' board.

A single-line block section will be referred to as a section within this document.

# 2 Principle

## 2.1 Principle of the no-signaller token system

The principle of the no-signaller token system is to prevent more than one train being in the same section at the same time.

## 2.2 Handling tokens

You are the only person who is authorised to remove a token from or replace it into the token instrument, except:

- as shown in regulation 8
- as shown in regulation 9
- where a token instrument is provided for the driver to use.

Except where another person is specially appointed to the duty, you are the only person authorised to receive a token from, or deliver a token to, the driver.

You must not allow a token to be transferred from one train to another without it being passed through a token instrument, except as shown in:

- regulation 7
- regulation 8
- module P2 *Working single and bi-directional lines by pilotman.*

Where a train is worked by more than one locomotive at the front, you must give the token to the driver in the leading cab.

# 3

## Method of signalling

### 3.1 Normal method of signalling

Before you allow a train to enter or foul the section, you must make sure the driver of the leading locomotive has the correct token, except where the token is not required when:

- the train is to enter the section as shown in module T3 *Possession of a running line for engineering work*
- the train is to enter the section as shown in regulation 7
- working by pilotman is in operation
- modified working arrangements are authorised.

### 3.2 Maintaining a clearing point

During the time a train is approaching the home signal, you must not allow the line to be obstructed within the clearing point for that train until:

- the train has been stopped at the home signal or 'end-of-section' board
- the train has passed beyond the home signal or 'end-of-section board'
- the train has failed.

Unless shown in the *Signal Box Special Instructions*, the location of the clearing point is 183 metres (200 yards) beyond the home signal or 'end of section' board.

## **3.3 Releasing a token for protection of work**

### **3.3.1 When this regulation can be used**

You must use this regulation when a token is needed to protect work as shown in:

- module TS1 *General signalling regulations*, regulation 13.2, or
- module T3 *Possession of a running line for engineering work*.

### **3.3.2 Getting the token released**

As long as no train is within the section, you may withdraw a token or allow the token to be withdrawn from the instrument at either end of the affected section.

Where the removal of the token from the instrument has released the section signal, you must immediately clear and then replace that signal to danger.

### **3.3.3 When the token is no longer needed to protect the work**

When you are told that the token is no longer needed to protect the work, you must replace the token in the instrument or make sure the token has been replaced at a remote instrument.

# 4

## Obstruction of the line

### 4.1 Becoming aware of an obstruction

If you need to stop trains because of an obstruction or other emergency within the section or clearing point, you must:

- where provided, place or keep signals at danger to protect the obstruction or other emergency
- if necessary, arrange for train radio messages to be sent
- contact the person in charge, if there is one, at the other end of the section to get trains stopped
- take any other possible action to stop trains.

### 4.2 When the obstruction has been removed

When the obstruction has been removed and the line is again clear, you may resume normal working.

# 5

## **Train or vehicles proceeding without authority (including a SPAD) or train divided**

### **5.1 Signaller becoming aware**

If a train or vehicle proceeds without authority or has entered the section without authority or without the correct token, or the train is running in two or more portions, you must:

- where provided, place or keep the signals at danger
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- take the necessary action for any level crossings
- contact the person in charge, if there is one, at the other end of the section to get trains stopped
- take any other possible action to reduce the risk of a collision.

### **5.2 Making sure the line is clear**

You must not allow another train to pass over the portion of line affected, until you are sure the line is not obstructed.

The next train must be signalled normally but you must:

- tell the driver what has happened
- instruct the driver to proceed through the section at caution.

## 6 Tail lamp missing or out

If you become aware that a train has a tail lamp missing or out, you must find out if the train is complete.

You must also tell the driver of that train that the tail lamp is missing or out.



# 7

## **Allowing an assisting train into an occupied section**

### **7.1 Before allowing an assisting train into the occupied section**

You may allow an assisting train to enter an occupied section to:

- proceed to, and assist, a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove vehicles that have proceeded without authority.

Before you allow an assisting train to enter the occupied section, you must:

- get confirmation that, when appropriate, the token is with the failed train
- agree to which end of the section the failed train is to be assisted
- record the details in the Train Register.

### **7.2 Occupying or obstructing the line within the clearing point**

If you are told that the train has failed in the section and will not be moved, you may allow the line within the clearing point to be occupied, fouled or obstructed.

You may continue to do this until:

- the failed train is ready to proceed, or
- the assisting train has entered the occupied section, and the failed train is being assisted towards your signal box.

### **7.3 Assisting train entering the section at a ground frame released by the token**

If the assisting train is to enter the section at a ground frame which is released by the token, you must:

- instruct the driver of the failed train to take the token to the ground frame
- tell the driver of the failed train to telephone you on arrival at the ground frame
- reach a clear understanding with the driver of the failed train of what is to happen
- when the driver of the failed train arrives at the ground frame, instruct the driver to give the token to the driver of the assisting train.

### **7.4 Train or portion of the train left in the section**

When you are told that a train or portion of the train has been left in the section, you must record the details in the Train Register.

Unless it is necessary for another traction unit to remove the rear portion, you must make sure the driver keeps the token until the whole of the train has been removed from the section.

If another traction unit is to remove the rear portion, the driver will give you the token or replace it into the token instrument. If you are given the token, you must make sure it is kept in a safe place until the assisting train is ready to enter the section.

When the assisting train is ready to enter the occupied section, you must:

- tell the driver that the section is occupied and what is to happen
- give or release the token to the driver
- if necessary, instruct the driver to pass the signal at danger.

You must record the details in the Train Register of how the token is dealt with and where the assisting train enters the occupied section.

## **7.5 When the section is again clear**

When the section has been cleared and another train is to proceed through the section, you must signal this train normally. However, you must:

- tell the driver what has happened
- instruct the driver to proceed through the section at caution.

# 8

## Token lost, or failure or disconnection of token equipment

### 8.1 If a token is lost

#### 8.1.1 Method of working

If a token is lost, working by pilotman, or modified working arrangements as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced until the token is found or the instruments have been adjusted.

#### 8.1.2 If the token is found

If the token is found before the signalling technician has adjusted the instrument, and working by pilotman is in operation, the token must be given to the pilotman who will cancel working by pilotman.

When working by pilotman has been withdrawn, the token can be restored to the instrument and normal working resumed.

If the token is found after normal working has been resumed, you must arrange for it to be kept secure by the Network Rail area operations manager until the signalling technician can arrange to return it to the instrument.

#### 8.1.3 Recording the arrangements

When a token is removed from, or restored to, the token instrument by the signalling technician, you must record the details in the Train Register.

## **8.2 Failure or disconnection of the token equipment**

### **8.2.1 Method of working**

If the token equipment fails or is disconnected, working by pilotman, or modified working arrangements as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced.

However, if a token is available and it is possible to run trains as shown in module TS8 *One-train working regulations*, you may continue to run trains without introducing working by pilotman. You must instruct the driver of each train concerned:

- that the single line is being worked as a one-train line with staff
- that the token must be handled as if it were a train staff
- not to place the token in any token instrument
- if necessary, to pass the section signal at danger.

### **8.2.2 Token not required for use at a ground frame**

If a token is out of the instrument and it will not be needed to release a ground frame, you must place it back into the token instrument and tell the pilotman, or the responsible person where modified working arrangements have been authorised, that this has been done.

### **8.2.3 Token required for use at a ground frame**

If the token is required for use at a ground frame, you must give the token to the pilotman. Modified working arrangements are not permitted in this case.

If necessary, you must arrange for a token to be released by the signalling technician.

## 8.3 Working to and from the point of obstruction

### 8.3.1 Method of working

If it is necessary to work to and from the point of obstruction, working by pilotman as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced. Modified working arrangements are not allowed.

If necessary, working by pilotman may be introduced on both sides of the obstruction.

### 8.3.2 If a token is available

However, if a token is available and it is possible to run trains as shown in module TS8 *One-train working regulations*, you may continue to run trains without introducing working by pilotman on one side of the obstruction.

You must tell the driver of each train concerned about the circumstances and instruct them:

- that the single line is being worked as a one-train with staff line
- the location to which the movement is authorised to proceed
- that the token must be handled as if it were a train staff
- not to place the token in any token instrument
- if necessary, to pass the section signal at danger.

## 8.4 Keeping the distant signal at caution

During the time that working by pilotman or modified working arrangements are in operation, where possible you must keep the distant signal in the affected section at caution.

# 9

## Transferring tokens

### 9.1 When this regulation can be used

As long as a token has not been removed from any token instrument involved, you may allow the signalling technician to transfer tokens as shown in this regulation.

### 9.2 When tokens are to be transferred

After the signalling technician has removed the tokens to be transferred, you must not attempt to remove or release another token from any token instrument involved until the signalling technician has completed the transfer.

If the signalling technician is present, you must sign the entry in their Token Register and insert the time when the tokens are removed from the token instrument.

You must record the details in the Train Register.

### 9.3 Receiving transferred tokens

If the tokens are transferred to your signal box, before the transferred tokens are placed in the token instrument, you must compare the number recorded in the signalling technician's Token Register with the number of tokens received.

When you are sure that the number is correct and the tokens have been placed in the instrument, you must sign the signalling technician's Token Register and insert the time.

You must record the details in the Train Register.

## Notes



## Notes

## Notes



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# One-train working regulations

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## Regulations for one-train working on single lines.

You will need this module if you carry out the duties of a signaller in a one-train working area, whether or not a train staff is provided, and a no-signaller token area.

<b>Conventions used in the Rule Book</b>	<b>Example</b>
A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.	
Green text in the margin indicates who is responsible for carrying out the rule.	<b>driver</b>
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## Regulation

### **1** Definitions

### **2** Principle

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- 8.1 Where a train staff is provided
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- 8.3 Ground frames that are required to be used
- 8.4 Working to and from the point of obstruction

# 1

## Definitions

The following terms are used in these regulations and apply to signallers in a one-train working area.

### Block signals

A stop signal that controls the entrance to, or exit from, a one-train section. The following are block signals.

**Home signal:** the stop signal that controls the exit from the one-train section.

**Section signal:** a stop signal that controls the entrance to the one-train section.

### Clearing point

The point beyond the home signal or 'end-of-section' board up to which the line must be kept clear when a train is in the one-train section.

### One-train section

The one-train section starts at the section signal leading onto the single line or where a signal is not provided, the 'start-of-section' board.

In the other direction, the one-train section ends at the home signal or where a signal is not provided, at the 'end-of-section' board.

The one-train section will be referred to as a section within this document.

# 2 Principle

## 2.1 Principle of one-train working

The principle of one-train working is to prevent more than one train being in the section at the same time.

## 2.2 Handling the staff, where provided

Except where another person is specially appointed to the duty, you are the only person authorised to receive a train staff from, or deliver a train staff to, the driver.

Where a train has more than one locomotive at the leading end, you must give the staff to the driver of the leading locomotive.

# 3

## Method of signalling

### 3.1 Method of signalling where a train staff is provided

Before you allow a train to enter or foul the section, you must make sure the driver of the leading locomotive has the correct train staff, except where the train staff is not required when:

- the train is to enter the section as shown in module T3 *Possession of a running line for engineering work*
- the train is to enter the section as an assisting train
- working by pilotman or modified working arrangements are in operation.

### 3.2 Method of signalling where a train staff is not provided

Before you allow a train to enter or foul the section, you must clear the section signal, unless:

- the train is to enter the section as shown in module T3 *Possession of a running line for engineering work*
- the train is to enter the section as an assisting train
- working by pilotman or modified working arrangements are in operation.

### 3.3 Maintaining a clearing point

During the time a train is in the section, you must not allow the line to be obstructed within the clearing point for that train until:

- the train has been stopped at the home signal or 'end-of-section' board
- the train has passed beyond the home signal or 'end-of-section' board
- the train has failed.

Unless otherwise shown in *Signal Box Special Instructions*, the location of the clearing point is 46 metres (50 yards) beyond the home signal or 'end-of-section' board.

### 3.4 Using the train staff for protection of work

As long as no train is within the section, you must use this regulation when the train staff is needed to protect work as shown in:

- module TS1 *General signalling regulations*, regulation 13.2, or
- module T3 *Possession of a running line for engineering work*.

If the removal of the train staff from the instrument has released the section signal, you must immediately clear and then replace that signal to danger.

When you are told that the train staff is no longer needed to protect the work, you must get the staff.

# 4

## Obstruction of the line

### 4.1 Becoming aware of an obstruction

If you need to stop trains because of an obstruction or other emergency within the section, you must:

- if necessary, arrange for train radio messages to be sent
- where provided, place or keep signals at danger to protect the obstruction or other emergency
- take any other possible action to stop trains.

### 4.2 When the obstruction has been removed

When the obstruction has been removed and the line is again clear, you may resume normal working.

# 5

## **Train or vehicles proceeding without authority (including a SPAD) or train divided**

### **5.1 Signaller becoming aware**

If a train or vehicle proceeds without authority or has entered the section without authority or without the correct train staff, or the train is running in two or more portions, you must:

- where provided, place or keep the signals at danger
- if necessary, arrange for train radio messages to be sent
- if possible, alter the position of points to divert trains and prevent collisions
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- take the necessary action for any level crossings
- contact the person in charge, if there is one, at the other end of the section to get trains stopped
- take any other possible action to reduce the risk of a collision.

### **5.2 Making sure the line is clear**

You must not allow another train to pass over the portion of line affected, until you are sure the line is not obstructed.

The next train must be signalled normally but you must:

- tell the driver what has happened
- instruct the driver to proceed through the section at caution.

# 6

## **Tail lamp missing or out**

If you become aware that a train has a tail lamp missing or out, you must find out if the train is complete.

You must also tell the driver of that train that the tail lamp is missing or out.



# 7

## **Allowing an assisting train into an occupied section**

### **7.1 Before allowing an assisting train into the occupied section**

You may allow an assisting train to enter an occupied section to:

- proceed to, and assist, a failed train
- evacuate passengers from a failed train
- remove a portion of a divided train
- remove vehicles that have proceeded without authority.

Before you allow an assisting train to enter the occupied section, you must:

- get confirmation that, when appropriate, the train staff is with the failed train
- record the details in the Train Register.

### **7.2 Occupying or obstructing the line within the clearing point**

If you are told that the train has failed in the section and will not be moved, you may allow the line within the clearing point to be occupied, fouled or obstructed.

You may continue to do this until:

- the failed train is ready to proceed, or
- the assisting train has entered the occupied section.

### **7.3 Assisting train entering the section at a ground frame released by the train staff**

If the assisting train is to enter the section at a ground frame which is released by the train staff, you must:

- instruct the driver of the failed train to take the train staff to the ground frame
- tell the driver of the failed train to telephone you on arrival at the ground frame
- reach a clear understanding with the driver of the failed train of what is to happen
- when the driver of the failed train arrives at the ground frame, instruct the driver to give the train staff to the driver of the assisting train.

### **7.4 Train or portion of the train left in the section**

When you are told that a train or portion of the train has been left in the section, you must record the details in the Train Register.

Where a train staff is provided, unless it is necessary for another traction unit to remove the rear portion, you must make sure the driver keeps the train staff until the whole of the train has been removed from the section.

If another traction unit is to remove the rear portion, where a train staff is provided, the driver will give you the train staff. You must make sure it is kept in a safe place until the assisting train is ready to enter the section.

When the assisting train is ready to enter the occupied section, you must:

- tell the driver that the section is occupied and what is to happen
- where a train staff is provided, give the driver the train staff
- if necessary, instruct the driver to pass the signal at danger
- record the details in the Train Register.

## 7.5 When the section is again clear

When the section has been cleared and another train is to proceed through the section, you must signal this train normally. However, you must:

- tell the driver what has happened
- instruct the driver to proceed through the section at caution.

# 8

## Working by pilotman and modified working

### 8.1 Where a train staff is provided

If the train staff is lost, working by pilotman, or modified working arrangements as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced until the train staff is found or is replaced.

If the lost train staff is eventually found after a replacement has been provided, the train staff that was lost must be locked away and the Network Rail area operations manager told.

### 8.2 Where a train staff is not provided

Except where modified working arrangements are authorised, working by pilotman must be introduced over the section where a train staff is not provided if the signal controlling the entrance to the section cannot be cleared because one of the following applies.

- A failure or disconnection of the signal.
- The failure of a track circuit.
- A failure of the signalling or level crossing equipment.
- It is necessary to work trains to and from the point of obstruction.

### 8.3 Ground frames that are required to be used

If a ground frame requires to be used during working by pilotman, you must arrange for the signalling technician to attend to unlock the ground frame.

The pilotman must remain at the ground frame until the technician has relocked it.

## **8.4 Working to and from the point of obstruction**

### **8.4.1 Method of working**

If it is necessary to work to and from the point of obstruction, working by pilotman as shown in module P2 *Working single and bi-directional lines by pilotman*, must be introduced. Modified working arrangements are not allowed.

If necessary, working by pilotman may be introduced on both sides of the obstruction.

### **8.4.2 If a train staff is available**

However, if a train staff is available, you may continue to run trains without introducing working by pilotman on one side of the obstruction.

You must tell the driver of each train concerned about the circumstances and instruct them:

- the location to which the movement is authorised to proceed
- if necessary, to pass the section signal at danger.

# Notes



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# Level crossings - signallers' regulations

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You will need this module if you carry out the duties of a signaller in an area where there is a level crossing.

Conventions used in the Rule Book	Example
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## Regulation

### 1 **Types of level crossing**

### 2 **General**

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- 2.2 Keeping a record of telephone calls
- 2.3 Failure of a telephone at a crossing
- 2.4 Vehicle gates left open
- 2.5 If another signaller is involved
- 2.6 Train failed on the approach to a level crossing
- 2.7 When a crossing attendant is on duty
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- 3.4 Routine maintenance of crossing equipment
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## Regulation

### **7** OD Level crossings

- 7.1 Lowering the barriers manually
- 7.2 Raising the barriers manually
- 7.3 Obstacle detected
- 7.4 Failure of equipment
- 7.5 Passing a protecting signal at danger or EoA without an MA
- 7.6 Wrong-direction movements
- 7.7 Appointing an attendant
- 7.8 When an attendant is on duty

### **8** Level crossings worked by a crossing keeper

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- 8.2 Passing trains over the level crossing during a failure of equipment
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- 8.4 Wrong-direction movements over other than CCTV or RC crossings
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Regulation

- 9** Crossings with red and green warning lights (R/G)
- 10** Barrow or foot crossings with white light indicators
- 11** Police officer attending during a failure of level crossing equipment

## 1

## Types of level crossing

### Automatic crossings

Automatic half-barrier crossing	AHBC
Automatic barrier crossing locally monitored	ABCL
Automatic open crossing locally monitored	AOCL
Crossing with red and green warning lights (also included as a user-worked crossing)	R/G

### Controlled crossings

At the location:

Manned crossing with barriers	MCB
Manned crossing with gates	MG

Remotely:

Remotely controlled crossing with barriers	RC
Barrier crossing with closed-circuit television	CCTV
Barrier crossing with obstacle detection	OD

### Traincrew operated

TMO

### Open

Crossing without barriers, gates or road warning lights	OC
---	----

### Barrow or foot crossing with white light indicators

### User-worked

Crossing with red and green warning lights (also included as an automatic crossing)	R/G
Occupation and accommodation (including bridleway) crossing	UWC

The locations of controlled, automatic, open and traincrew-operated level crossings are shown in Table A of the *Sectional Appendix*.

Some automatic level crossings can also be operated by trains making wrong-direction movements. These crossings are identified in the *Sectional Appendix* by the letter X (for example AHBC-X).



# 2 General

## 2.1 Telephone calls from users of level crossings

### 2.1.1 Receiving a telephone call

When you receive a telephone call from the crossing, you must find out:

- which crossing the user wants to use
- what is required to pass over the crossing
- how long it will take.

If there is enough time for the crossing to be used before the next train passes over it, you must, except as shown in regulation 2.1.2, tell the user to use the crossing immediately.

If there is not enough time, you must tell the user to wait and telephone again.

### 2.1.2 Animals or large, low or slow-moving vehicles or a trolley with small wheels

Before you authorise anyone to use the crossing with animals or a large, low or slow-moving road vehicle, or anything with small wheels that may get caught in a flangeway, you must:

- find out from the crossing user how long the movement will take
- make sure there is enough time between trains to prevent delay
- make sure that the protecting signals are placed or kept at danger or the route has been closed
- make sure that any approaching train has passed clear of the crossing
- tell the user to report back when the movement has passed over the crossing.

After you have authorised the movement, you must not resume normal working until the crossing user has reported that the movement has passed clear of the crossing.

You must also carry out the above regulations if a user at a crossing with red and green warning lights reports that the lights have failed and wants to cross with a vehicle or animals.

You must also carry out the above regulations, with the help of the crossing keeper, at a crossing worked by a crossing keeper that is not protected by signals or block markers.

If the crossing user does not report back that the movement has cleared the crossing, you must make sure that the driver of each train is told to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so
- tell you whether the crossing is safe for the passage of trains.

You must do this until you are told that the crossing is safe for the passage of trains.

### **2.1.3 Not able to hear or understand a caller**

If you are not able to hear or understand what the caller is saying, you must caution the driver of each train until you are sure the crossing is safe for the passage of trains.

## 2.2 Keeping a record of telephone calls

You must record the following details of each telephone call from the crossing.

- The name of the crossing.
- The time and nature of the request.
- How long the caller says the movement or work will take.
- The time you give permission for the movement or work.
- The time the movement is reported clear or the work is finished.

If the user fails to report back after being told to do so, you must record the time you caution the next train.

## 2.3 Failure of a telephone at a crossing

If you become aware that a telephone provided for users at a crossing has failed, you must tell the driver of each train to approach the crossing at caution and not pass over it until the driver has made sure it is safe to do so.

You do not need to caution drivers if:

- at an automatic crossing, a person is appointed who can contact you using other means of communication
- at a user-worked crossing, there is another way of communicating that allows the crossing to be used safely
- a user-worked crossing has been temporarily secured out of use.

## 2.4 Vehicle gates left open

If you become aware that the vehicle gates at a crossing have been left open, you must arrange for them to be closed.

If the next train is ready to pass over the crossing before you are told that the gates have been closed, you must make sure the driver of each train is told to:

- approach the crossing at caution
- not pass over the crossing until the driver has made sure it is safe to do so
- tell you whether the vehicle gates are closed.

If necessary, you must also ask the driver to close the gates.

You must do this until you are told that the gates are closed.

## 2.5 If another signaller is involved

Where another signaller controls a signal or route protecting a level crossing, you must tell that signaller to carry out the requirements of this module when:

- the protecting signal must be kept at danger or the route kept closed and trains are not allowed to approach the crossing
- the driver must be told to proceed cautiously towards the crossing
- the driver must be told that the gates have been left open at a user-worked crossing
- the driver must be told not to pass over the crossing until a green handsignal is displayed at the crossing.

## 2.6 Train failed on the approach to a level crossing

If a train fails between the signal or block marker protecting a crossing and the crossing, or is occupying a controlling track circuit, you must get the driver's assurance that the train will not be moved without first getting your permission.

## 2.7 When a crossing attendant is on duty

When an attendant takes duty at an AHBC, CCTV, OD or RC crossing, you must tell the attendant if any lines will be affected by:

- a line blockage
- a possession
- single line working
- wrong-direction movements.

## 2.8 Road traffic at level crossings within the clearing point

Road traffic passing over a level crossing controlled from your signal box does not need to be treated as an obstruction within the clearing point for the purpose of accepting a train.

# 3

## AHBC crossings

### 3.1 Opening and closing the signal box

If the telephone alarm is sounding when you open a signal box but you cannot get a reply, you must make sure that the driver of each train is told to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so
- tell you whether the crossing is safe for the passage of trains.

You must do this until you are told that the crossing is safe for the passage of trains.

If you supervise an AHBC that is not under local control on a line that is under possession, you must not close the signal box unless arrangements have been made to make sure the AHBC will not be activated by the work or any rail movement.

### 3.2 Wrong-direction movements

You must not authorise a wrong-direction movement over an AHBC without wrong-direction controls unless the crossing is being locally controlled by an attendant.

If an AHBC has wrong-direction controls, you must make sure that local control has been taken before a wrong-direction movement starts between the wrong-direction speed restriction board and the crossing.

### 3.3 Routine road maintenance

If you are told that routine road maintenance lasting only a short time is to be done near the crossing that might interfere with the flow of road traffic, you must:

- find out from the person concerned how long the work will take
- make sure there is enough time between trains to prevent delay
- make sure that the protecting signals are placed or kept at danger or the route is closed and that any approaching train has passed clear of the crossing
- tell the person concerned to report back when the work is finished and the crossing is clear.

You must not resume normal working until the person concerned has reported that the work is finished and the crossing is clear.

If the person concerned does not report back by the agreed time that the work is finished, you must make sure that the driver of each train is told to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so
- tell you whether the crossing is safe for the passage of trains.

You must do this until you are told that the crossing is safe for the passage of trains.

### 3.4 Routine maintenance of crossing equipment

Before allowing the signalling technician to carry out routine maintenance of equipment that will interfere with the normal operation of the crossing, you must make sure:

- the protecting signals are at danger or the route is closed
- any approaching train has passed clear of the crossing.

After you have given permission, you must keep the protecting signals at danger or route closed until the technician tells you that:

- the work is finished
- the crossing is again working automatically.

If the signalling technician asks you to do so, you must make sure that the driver of the first train in each direction is told to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

### **3.5 Failure of crossing equipment or prolonged occupation of track circuits**

#### **3.5.1 Crossing alarm or advice of failure received**

You must treat the crossing equipment as failed if an alarm sounds, or you receive information indicating that any of the following has happened.

- The road-traffic signals are not operating correctly.
- The barriers are other than fully raised or the road-traffic signals are operating when no train is approaching.
- A failed train is occupying a controlling track circuit.

When any of the above happen, you must carry out the requirements of regulation 3.6 in this module.

You must not authorise any crossing user to pass over the crossing while the road-traffic signals are lit or the barriers are lowered (or both), no matter how long the failure might last.

Instead, you must tell the crossing user to:

- wait until an attendant arrives, or
- take another route, avoiding the crossing.



### **3.5.2 Prolonged occupation of a controlling track circuit**

You may resume normal working and do not need to tell the signalling technician if:

- you are sure that the failure indication was caused by a train occupying a controlling track circuit for a long time, and
- the failure indication clears.

If there are repeated intermittent failures, you must treat the crossing as defective and carry out the requirements of regulation 3.6 in this module.

### **3.5.3 Power failure indication**

If there is an indication that the power to the crossing has failed, you must arrange for the signalling technician to be told immediately.

You may allow trains to pass normally over the crossing for the first six hours of the failure. After that period, until the power supply is restored, you must make sure that the driver of each train is told to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

## **3.6 Local control when the operation of the crossing is immediately affected**

You must arrange for local control to be taken at an AHBC as soon as possible if any of the following happen.

- A failure of the equipment affects the normal operation of the crossing.
- A train fails within the crossing controls.
- The normal flow of road traffic over the crossing is affected by emergency roadworks or a road-traffic incident close to the crossing.

You must arrange for the civil police to be told.

Until an attendant has taken local control, you must instruct the driver of each train which is required to pass over the crossing to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

However, if the barriers have failed in the raised position and the road-traffic signals are not working, you must not authorise a train to pass over the crossing until there is an attendant at the crossing.

### **3.7 Local control during a line blockage or possession**

You must make sure the crossing is operated locally during the whole time of the line blockage or possession unless any of the following applies.

- The crossing controls will not be activated by the work that is taking place.
- For a possession, the only movements over the crossing will be those of engineering trains passing normally in a direction for which there are controls.
- It is shown in the published arrangements or has been agreed with Operations Control that the crossing needs to be under local control only while it is affected by the work.

### **3.8 Local control - other circumstances**

You must make sure that an attendant has taken local control of an AHBC before any of the following activities takes place.

- Planned roadworks (other than those that can be dealt with as shown in regulation 3.3) which may affect the normal flow of road traffic.
- A movement needs to be made over the crossing in a direction for which there are no controls.
- A train required to stop in the section will stop within the crossing controls.
- A train is to pass over the crossing while maintenance work is taking place that affects its normal operation.
- Single line working is to be introduced where there are no wrong-direction controls.

### **3.9 When an attendant is on duty at the crossing**

#### **3.9.1 Allowing an attendant to take local control**

You must not allow the attendant to take local control unless the protecting signals are at danger or the route is closed.

You must also make sure any train (other than a failed train) has passed clear of the crossing unless you have already instructed the driver of that train to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

#### **3.9.2 Alleged failure of the barriers to lower or failure of the road-traffic lights to operate (or both)**

You must instruct the attendant to take local control only when the signalling technician gives you permission to do so, unless it is certain that the crossing equipment has failed.

Before local control is taken, you must tell the attendant to:

- observe the passage of trains
- tell you about any irregularities in the operation of the crossing.

You must tell the driver of any train that is to pass over the crossing to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

### **3.9.3 When the crossing is on local control**

After local control has been taken and before you clear the protecting signal or issue a movement authority (MA), you must tell the driver of each train to:

- approach the crossing at caution
- not pass over it until authorised by a green handsignal shown at the crossing.

You must tell the attendant about the approach of each train in time to allow the attendant to lower the barriers before the train arrives.

### **3.9.4 When local control is no longer necessary**

You must tell the attendant to reset the equipment for automatic working when you are sure:

- no train is approaching the crossing, and
- any train which has passed over the crossing has also passed clear of the crossing controls for each direction. If necessary, you must wait until the train is clear of the section.

Before you authorise the attendant to leave the crossing and normal working to be resumed, you must make sure that you have the normal indications from the crossing after it has been reset to automatic working.

### **3.10 Absence of road sign**

If you become aware that the sign that tells drivers of large or slow vehicles to telephone for permission to cross is missing, you must tell the driver of each train to approach the crossing at caution and not pass over until the driver has made sure it is safe to do so.

You must continue to do this until the sign has been replaced.

# 4

## ABCL and AOCL crossings

### 4.1 Engineering work or roadworks affecting the crossing

If engineering work is likely to cause the crossing equipment to be operated, or roadworks close to the crossing are likely to affect the normal flow of road traffic, you must make sure that arrangements are made for:

- the road-traffic signals to be switched off
- the barriers to be left in the raised position at an ABCL.

If the line is to be blocked by a possession, the PICOP is responsible for making these arrangements.

Unless the PICOP has agreed that they will arrange for this to be done, you must:

- tell the driver of each train about these arrangements
- instruct each driver to treat the crossing as having failed.

### 4.2 Failure of crossing equipment

If you are told that the road-traffic signals at an AOCL or ABCL have failed, or the barriers have failed at an ABCL, you must tell Operations Control and arrange for the signalling technician to be told.

Until normal working is resumed, you must tell the driver of each train to:

- stop at the crossing
- not pass over the crossing until the driver has made sure it is safe to do so.

### 4.3 Failure of equipment and the passage of trains during darkness

If the road-traffic signals have failed during darkness, you must not allow a train to pass over the crossing unless one of the following applies.

- The train is a passenger or empty coaching stock train and the interior lights are lit.
- The crossing has been closed to road traffic.
- There is a competent person at the crossing who will show a red light on each road approach to stop road traffic using the crossing when a train is to pass over it.
- At an ABCL the barriers are in the lowered position and the lights on the barriers are lit.

# 5

## Level crossings with gates worked by the signaller

### 5.1 Lamps on gates

You must make sure that the lamps on the gates are lit during darkness or poor visibility.

### 5.2 If the gates fail or are damaged

During a failure of the gates or when they are damaged, you may clear the protecting signal or issue an MA for a train to pass over the crossing as long as:

- it is safe for the train to proceed
- if possible, the gates are secured
- the train is close to the signal.



# 6

## **CCTV, MCB and RC level crossings controlled by the signaller**

### **6.1 Lowering the barriers manually**

You must place the auto-lower switch (if provided) in the 'manual' position and lower the barriers by using the 'lower' button, watching the whole of the lowering sequence, if:

- at least one pair of the road-traffic signals has failed
- you become aware that there is road-traffic congestion at the crossing
- a track circuit controlling the auto-lower facility fails.

You must also carry out this regulation if any of the following types of movement are to pass over the crossing.

- A trolley, or any vehicle that cannot be relied upon to operate track circuits.
- An unsignalled movement, or any movement for which the auto-lower facility does not apply.

## 6.2 Raising the barriers

You must not raise the barriers unless:

- any approaching train has passed clear of the crossing
- the protecting signals are at danger or the routes are closed
- no route has been set over the crossing.

You must place the auto-raise switch (if provided) in the 'manual' position before you press the crossing-clear button if any of the following applies.

- You need to clear a signal or issue an MA for a second train on the same or another line immediately after the first train has reached the crossing.
- You are to authorise a driver to pass a signal protecting the crossing at danger or authorise a driver to pass an end of authority (EoA) without an MA.
- The barriers have failed in the lowered position and a train is to pass over the crossing.

You must also carry out this regulation if any of the following types of movement is to pass over the crossing.

- A trolley, or any vehicle that cannot be relied upon to operate track circuits.
- A shunting movement.
- An unsignalled movement, or any movement for which the auto-raise facility does not apply.

## 6.3 Failure of equipment

### 6.3.1 Failure of road-traffic signals

If the red road-lights indicator does not light up after you have pressed the 'lower button', you must:

- treat the red road-traffic signals as having failed
- immediately stop the lowering sequence, if possible.

If you have managed to stop the lowering sequence, you must then:

- lower the barriers enough to show your intention to road users
- after a short pause, continue to lower the barriers until they are fully lowered.

At a CCTV or RC crossing, the barriers must stay in this position for the duration of the failure.

### 6.3.2 Instructing the driver

If you can clear the protecting signal or issue an MA, you must first tell the driver to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

If you cannot clear the protecting signal or issue an MA, you must tell the driver to pass the signal at danger or an EoA without an MA as shown in regulation 6.6 of this module.

## 6.4 Failure of equipment - MCB crossings

If a barrier fails to rise, you must:

- immediately stop the raising sequence
- lower the barriers as soon as you are sure it is safe to do so.

You must then raise the defective barrier by hand.

When you lower the barriers by hand, you must make sure the red road-traffic signals are lit by:

- pressing the 'lower' button, or
- lowering a nearside barrier enough to activate the red road-traffic signals before you lower the barriers completely.

If only the raise function has failed, you can raise the barriers by hand. You can lower them by pressing the 'lower' button.

You must make sure the barriers are not left unattended during a failure unless all of the following apply.

- The barriers are secured to prevent them lowering.
- The door of the local control unit is closed.
- The doors of the barrier machines are closed.

## 6.5 Failure of equipment - CCTV and RC crossings

### 6.5.1 Barrier alarm

If a barrier is displaced or does not rise within the normal time, the barrier alarm will sound. If this happens, you must immediately check the crossing.

### **6.5.2 Failing to get a satisfactory view or picture of the crossing**

If your view or picture of the crossing is unsatisfactory, you must send for an attendant.

Until the attendant arrives, you must authorise the driver to pass the protecting signal at danger or the EoA without an MA as shown in regulation 6.6 of this module.

When the attendant is present at the crossing, you must tell the attendant before you lower the barriers.

Before you clear the protecting signal or issue an MA, you must confirm with the attendant that the barriers are lowered and the crossing is clear.

### **6.5.3 Failure of barriers in the lowered position**

If the barriers fail in the lowered position or they are held in the lowered position by a track circuit failure or failed train, you must place and keep the auto-raise switch in the 'manual' position until the failure has been put right.

You must arrange for the civil police to be told.

If the red road-traffic signals are working, you may allow trains to proceed over the crossing normally.

If the red road-traffic signals are not working, you must authorise the driver of each train to pass the protecting signal at danger or the EoA without an MA as shown in regulation 6.6 of this module.

### **6.5.4 Failure of a track circuit controlling the barriers**

If a track circuit between a protecting signal or block marker and the crossing fails when the barriers are in the raised position, you must lower the barriers.

### 6.5.5 Failure of barriers in the raised position

You must press the lower button, making sure that the red road-traffic lights indicator is lit. You may then authorise the driver to pass the protecting signal at danger or the EoA without an MA, as shown in regulation 6.6 of this module.

If the road-traffic signals are not working, you must not authorise any train to pass over the crossing until an attendant has taken up duty at the crossing.

### 6.6 Passing a protecting signal at danger or EoA without an MA

Before you authorise a driver to pass a signal at danger or an EoA without an MA protecting the crossing, you must:

- place or keep the auto-raise switch (if provided) in the 'manual' position
- lower the barriers, if possible
- get confirmation, if possible, that the crossing is clear, if it is, press the crossing-clear button (if provided)
- tell the driver to approach the crossing at caution and pass over it only if it is safe to do so.

You must keep the auto-raise switch in the 'manual' position for as long as you need to pass the signal at danger or the EoA without an MA.

### 6.7 Wrong-direction movements over MCB crossings

Before you authorise a driver to pass over a crossing in a direction for which there is no signalled route, you must make sure that the barriers are fully lowered and the crossing is clear.

You must then authorise the driver to proceed by showing a green handsignal.

## 6.8 Wrong-direction movements over CCTV or RC crossings

### 6.8.1 All occasions when an attendant is at the crossing

If an attendant has taken duty at the crossing (whether or not it is under local control), you may authorise the driver to:

- approach the crossing without stopping opposite the protecting signal or block marker on the other line
- only pass over the crossing when authorised by a green handsignal shown at the crossing.

Unless the attendant has taken local control, you must:

- make sure the barriers are fully lowered
- make sure the crossing is clear, and then
- tell the attendant to show a green handsignal.

### 6.8.2 If there is no attendant at the crossing

You must tell the driver to stop opposite the signal or block marker protecting the crossing on the other line.

Before you authorise the driver to proceed over the crossing, you must make sure the barriers are fully lowered and the crossing is clear.

If you are not sure that the barriers are fully lowered or if the crossing is clear, as long as the red road-lights indicator is lit, you must tell each driver to:

- approach the level crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

## 6.9 Appointing an attendant at CCTV or RC crossings

An attendant must be provided if any of the following applies.

- a)** You cannot get a satisfactory view or picture of the crossing and a pedestrian might not easily be seen when walking between the barriers.
- b)** The barriers fail to respond to the controls.
- c)** A track circuit between the protecting signals or block markers and the crossing fails, is disconnected or is occupied by a failed train.
- d)** The main power supply fails and the failure is likely to last for an extended period.
- e)** Before you grant possession of one or more lines if any of the following applies.
  - Work will be carried out that might cause track circuits to be activated within the protecting signal or block marker.
  - An engineering train or OTP is to work within the protecting signal or block marker or within 200 metres (approximately 200 yards) of the crossing.
  - A wrong-direction movement will be made over the crossing.

The attendant must have taken duty before you grant possession. However, this does not apply if it is shown in the published arrangements, or Operations Control has agreed, that the attendant need only be provided during the times when the crossing is affected by the work or movements over it.

- f)** Single line working is to be introduced over the crossing. The attendant must have taken duty before you allow the first train in the wrong direction to pass over the crossing. This clause does not apply if *Signal Box Special Instructions* allow single line working to be introduced without appointing an attendant.



## **6.10 When an attendant is on duty at CCTV or RC crossings**

### **6.10.1 Attendant arriving at the crossing**

You must tell the attendant whether they are required to place the crossing on local control or to tell you when the crossing is clear as shown in regulation 6.5.2.

### **6.10.2 Before allowing local control to be taken**

You must not allow the attendant to take local control unless:

- any approaching train has passed clear of the crossing
- the protecting signals are at danger or the route is closed
- no route has been set beyond the protecting signals or block markers.

However, you may allow the attendant to take local control if a train has failed between the protecting signal or block marker and the crossing and the driver has told you that the train will not be moved without your permission.

### **6.10.3 When there is an attendant at the crossing**

When the crossing is on local control, you must:

- advise the attendant about each approaching train
- tell the attendant to lower the barriers.

Before you authorise a driver to pass the protecting signal at danger or the EoA without an MA, you must confirm with the attendant that the barriers are lowered and the crossing is clear.

If the movement is in a direction for which there is no signalled route, or for any movement in a possession, you must tell the attendant to display a green handsignal. You must do this even if the attendant has not taken local control.

## **6.10.4 When local control is no longer necessary**

You must tell the attendant to lower the barriers and then reset the crossing for normal working.

Before you allow the attendant to leave, you must make sure that the barriers respond correctly when you operate them.

# 7

## OD level crossings

### 7.1 Lowering the barriers manually

You must place the barrier control switch in the 'lower' position and lower the barriers manually if any of the following types of movement are to pass over the crossing.

- A trolley, or any vehicle that cannot be relied upon to operate track circuits.
- A shunting movement.
- An unsignalled movement, or any movement for which the auto-lower facility does not apply.

In these circumstances you must not return the crossing to 'auto' working until the barriers have been raised.

### 7.2 Raising the barriers manually

You must not raise the barriers unless:

- any approaching train has passed clear of the crossing
- the protecting signals are at danger or the routes are closed
- no route has been set beyond the protecting signals or block markers.

You must raise the barriers manually if any of the following types of movement has passed over the crossing.

- A trolley, or any vehicle that cannot be relied upon to operate track circuits.
- A shunting movement.
- An unsignalled movement, or any movement for which the auto-raise facility does not apply.

## 7.3 Obstacle detected

You must try to lower the barriers manually if the obstacle detector has detected an obstruction on the crossing. You must then authorise the driver of each train to pass the protecting signal at danger or the EoA without an MA as shown in regulation 7.5.

## 7.4 Failure of equipment

### 7.4.1 Failure of road-traffic signals

If the red road-traffic signals do not light up when the barriers are to be lowered, it will not be possible to lower the barriers.

You must not authorise any train to pass over the crossing until an attendant has placed the crossing on local control.

### 7.4.2 Failure of a track circuit

If a track circuit between a protecting signal or block marker and the crossing fails when the barriers are in the raised position, you must lower the barriers.

### 7.4.3 'OD failed' alarm

If you receive an 'OD failed' alarm or you are told that the crossing is not working correctly, you must treat the crossing as failed and send for an attendant.

Until the attendant arrives, if a train is to pass over the crossing, you must attempt to lower the barriers manually and then authorise the driver to pass the protecting signal at danger or the EoA without an MA as shown in regulation 7.5.

### 7.4.4 Prolonged occupation of track circuit alarm

You do not need to tell the signalling technician if you are sure that the alarm was caused by a train occupying a track circuit for a prolonged time.

#### **7.4.5 Failure of barriers in the lowered position**

If the barriers fail in the lowered position or they are held in the lowered position by a track circuit failure or failed train, you must place and keep the barrier control switch in the 'lower' position. You must not return the crossing to 'auto' working until the failure has been put right.

You must arrange for the civil police to be told.

If the red road-traffic signals are working, you may allow trains to proceed over the crossing normally.

If the red road-traffic signals are not working, you must authorise the driver of each train to pass the protecting signal at danger or the EoA without an MA as shown in regulation 7.5.

#### **7.4.6 Failure of barriers in the raised position**

You must operate the manual 'lower' control, making sure that the red road-lights indicator is lit. You may then authorise any driver to pass the protecting signal at danger or the EoA without an MA as shown in regulation 7.5.

If the red road-traffic signals are not working, you must not authorise any train to pass over the crossing until an attendant has placed the crossing on local control.

## 7.5 Passing a protecting signal at danger or EoA without an MA

Before you authorise a driver to pass at danger a signal protecting the crossing or EoA without an MA, you must:

- lower the barriers manually, if possible
- keep the barrier control switch in the 'lower' position
- get confirmation, if possible, that the barriers are lowered and the crossing is clear
- make sure that the red-road lights indicator is lit or the barriers are lowered
- tell the driver to approach the crossing at caution and pass over it only if it is safe to do so.

You must not return the crossing to 'auto' working until a train which has been authorised to pass a protecting signal at danger or EoA without an MA has passed over the crossing.

## 7.6 Wrong-direction movements

### 7.6.1 All occasions when an attendant is at the crossing

If an attendant has taken duty at the crossing (whether or not it is under local control), you may authorise the driver to:

- approach the crossing without stopping opposite the protecting signal or block marker on the other line
- only pass over the crossing when authorised by a green handsignal shown at the crossing.

Unless the attendant has taken local control, you must:

- make sure the barriers are fully lowered
- make sure the crossing is clear, and then
- tell the attendant to show a green handsignal.

## 7.6.2 If there is no attendant at the crossing

You must tell the driver to stop opposite the signal or block marker protecting the crossing on the other line.

Before you authorise the driver to proceed over the crossing, you must attempt to lower the barriers.

If you are not sure that the barriers are fully lowered or if the crossing is clear, as long as the red road-lights indicator is lit, you must tell each driver to:

- approach the level crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

## 7.7 Appointing an attendant

An attendant must be provided if any of the following applies.

- a) An 'OD failure' alarm has been received or you have been told the crossing is not working correctly.
- b) The barriers fail to respond to the controls.
- c) A track circuit between the protecting signals or block markers and the crossing fails, is disconnected or is occupied by a failed train.
- d) The main power supply fails and the failure is likely to last for an extended period.
- e) Before you grant possession of one or more lines if any of the following applies.
  - Work will be carried out that might cause track circuits to be activated within the protecting signal or block markers.
  - An engineering train or OTP is to work within the protecting signal or block marker or within 200 metres (approximately 200 yards) of the crossing.
  - A wrong-direction movement will be made over the crossing.

The attendant must have taken duty before you grant possession. However, this does not apply if it is shown in the published arrangements or Operations Control has agreed that the attendant need only be provided during the times when the crossing is affected by the work or movements over it.

- f)** Single line working is to be introduced over the crossing. The attendant must have taken duty before you allow the first train in the wrong direction to pass over the crossing. This clause does not apply if *Signal box Special Instructions* allow single line working to be introduced without appointing an attendant.

## 7.8 When an attendant is on duty

### 7.8.1 Attendant arriving at the crossing

You must tell the attendant whether they are required to operate the crossing clear unit (CCU) or to operate the local control unit (LCU).

### 7.8.2 Operating the crossing in CCU mode

When the crossing is in CCU mode you do not need to tell the attendant about each approaching train.

You must tell the attendant when it is no longer necessary for the crossing to be operated in CCU mode.

### 7.8.3 Operating the crossing local control unit (LCU)

You must not allow the attendant to take local control unless:

- any approaching train has passed clear of the crossing
- the protecting signals are at danger or the routes are closed
- no route has been set beyond the protecting signals or block markers.



However, you may allow the attendant to take local control if a train has failed between the protecting signal or block marker and the crossing and the driver has told you that the train will not be moved without your permission.

When the crossing is on local control, you must:

- advise the attendant about each approaching train
- tell the attendant to lower the barriers.

Before you authorise a driver to pass the protecting signal at danger or EoA without an MA, you must confirm with the attendant that the barriers are lowered and the crossing is clear.

If the movement is in a direction for which there is no signalled route, or for any movement in a possession, you must tell the attendant to display a green handsignal. You must do this even if the attendant has not taken local control.

#### **7.8.4 When local control is no longer necessary**

When it is no longer necessary for the crossing to be operated in LCU mode, you must tell the attendant to lower the barriers and then reset the crossing for normal working.

Before you allow the attendant to leave, you must make sure that the barriers respond correctly when you operate them.

# 8

## Level crossings worked by a crossing keeper

### 8.1 An emergency affecting the crossing

If an emergency is likely to affect the crossing, you must:

- if possible, tell the crossing keeper about the emergency
- give the crossing keeper any necessary instructions.

### 8.2 Passing trains over the level crossing during a failure of equipment

#### 8.2.1 If the protecting signal cannot be placed to danger or caution

Before you authorise a driver to approach a signal that cannot be placed to danger or caution which protects a level crossing, the crossing keeper must also have told you that the crossing is clear and safe for the train movement.

#### 8.2.2 When the crossing keeper asks you to caution drivers of trains approaching the crossing

If the crossing keeper asks you to caution drivers of trains approaching the crossing because of a failure of equipment, you must tell each driver to:

- approach the level crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

### **8.2.3 Unsatisfactory view or picture of the crossing**

If the crossing keeper cannot get a satisfactory view or picture of the crossing, you must instruct each driver to:

- approach the level crossing at caution
- not pass over it until the driver has made sure it is safe to do so.

### **8.2.4 Failure of the barriers in the raised position at RC or CCTV crossings**

If the crossing keeper tells you that the barriers cannot be lowered and the road-traffic signals are not working, you must not authorise any train to pass over the crossing until an attendant has taken up duty at the crossing.

## **8.3 Signal protecting the crossing to be passed at danger or an EoA to be passed without an MA**

Before you authorise a driver to pass a signal at danger or an EoA without an MA which also protects a level crossing operated by a crossing keeper, you must get the crossing keeper's assurance that the crossing is closed to road traffic.

## 8.4 Wrong-direction movements over other than CCTV or RC crossings

Before you authorise a wrong-direction movement to pass over a level crossing that is operated by a crossing keeper, you must make sure that the driver is told to approach the crossing at caution and:

- only pass over the crossing when authorised by a green handsignal shown by the crossing keeper, or
- if the normal position of the barriers or gates is across the roadway, not pass over it until the driver has made sure it is safe to do so.

## 8.5 Wrong-direction movements over CCTV or RC crossings

### 8.5.1 All occasions when an attendant is at the crossing

If you have been told by the crossing keeper that an attendant has taken duty at the crossing (whether or not it is under local control), you may authorise the driver to:

- approach the crossing without stopping opposite the protecting signal or block marker on the other line
- only pass over the crossing when authorised by a green handsignal shown at the crossing.

### 8.5.2 If there is no attendant at the crossing

You must tell the driver to stop opposite the signal or block marker protecting the crossing on the other line.

Before you authorise the driver to proceed over the crossing, you must get the crossing keeper's assurance that the barriers are fully lowered and the crossing is clear.

## **8.6 If a train is to stop in the section**

If a train is to stop before passing over a level crossing operated by a crossing keeper, you must tell the crossing keeper, if possible.

## **8.7 Train failing between the protecting signal or block marker and the level crossing**

If a train has failed between the protecting signal or block marker and a crossing operated by a crossing keeper, and the driver has told you no further movement will be made without your permission, you must get the crossing keeper's assurance that the crossing is closed to road traffic before authorising the driver to move the train.

## **8.8 Single line working over a CCTV or RC crossing supervised by a crossing keeper**

Before you allow the first train in the wrong direction to pass over the crossing during single line working, you must get an assurance from the crossing keeper that an attendant is on duty at the crossing.

## **8.9 Granting a possession on a line over a CCTV or RC crossing supervised by a crossing keeper**

You must make sure that an attendant is on duty at the crossing before you grant possession if any of the following applies.

- Work will be carried out that might cause track circuits to be activated within the protecting signal or block marker.
- An engineering train or OTP is to work within the protecting signal or block marker or within 200 metres (approximately 200 yards) of the crossing.
- A wrong-direction movement will be made over the crossing.

The attendant must have taken duty before you grant possession. However, this does not apply if it is shown in the published arrangements or Operations Control has agreed that the attendant need only be provided during the times when the crossing is affected by the work or movements over it.

# 9

## **Crossings with red and green warning lights (R/G)**

Unless the crossing has wrong-direction controls, before you authorise a wrong-direction movement you must make sure that the driver is told to:

- approach the crossing at caution
- stop short of the crossing
- sound the horn
- not pass over it until the driver has made sure it is safe to do so.

If there are wrong-direction controls, but the wrong-direction movement is to start between the wrong-direction speed restriction board and the crossing, you must also tell the driver, as shown above, before you authorise the movement.

# 10

## **Barrow or foot crossings with white light indicators**

Unless the crossing has wrong-direction controls, before you authorise a wrong-direction movement, you must make sure that the driver is told to:

- approach the crossing at caution
- not pass over it until the driver has made sure it is safe to do so.



# 11

## **Police officer attending during a failure of level crossing equipment**

If a police officer contacts you from a level crossing where equipment has failed, you must only tell the officer about the arrangements made for:

- an attendant or technician to attend
- passing trains over the crossing during the period of failure.





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# GERT8000-TS10 Rule Book



## ERTMS level 2 train signalling regulations

### Issue 4



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September 2018  
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## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

Green text in the margin indicates who is responsible for carrying out the rule.

A white **i** in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



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You will need this module if you carry out the duties of a signaller in an ERTMS area.

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- 8.1 Describing trains
- 8.2 Loss of communication on a single line

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# 1

## Definitions

The following terms are used in these regulations and apply to signallers in ERTMS level 2 areas.

### 1.1 Types of route-setting positions

#### Controlled route-setting positions (RSPs)

RSPs which are operated by you or a crossing keeper. Some controlled RSPs can be set to work automatically.

Automatic route setting is provided at some signal boxes.

A controlled RSP is normally indicated on the lineside by a block marker.

#### Automatic RSPs

RSPs which are operated by the passage of trains.

### 1.2 Lineside marking of RSPs

#### Block marker

A block marker can only be passed by a train with a movement authority (MA) or with your authority as shown in the rules.

#### Unmarked RSP

An RSP which is not indicated on the lineside can be passed by a train with an MA or with your authority as shown in the rules.

#### Signals

On lines where signals are provided, controlled signals are also route setting positions (RSPs).

### **1.3 Block section**

The line between two RSPs.

### **1.4 Overlap**

An overlap, where provided, is the distance beyond an RSP up to which the line must be clear before an MA can be issued from the previous RSP.

## 2 Principle

ERTMS permits a Full Supervision MA to be issued to a train when:

- all track circuits required for the movement are clear
- all necessary points for the route are detected in the correct position for a train to pass safely
- the train's onboard ERTMS assembly has requested the MA
- the signalling system has correctly identified the train and its position and no other train is in the same block section or has been authorised to use the same block section as the train.

All required information, such as speed and condition of the line ahead, is communicated directly and continuously to a driver via a driver machine interface (DMI) in the driving cab.

On ERTMS fitted lines where signals are provided, ERTMS allows a signal to show a proceed aspect for a train on which ERTMS is not in operation when:

- all track circuits, up to and including the overlap of the next signal section are clear
- all necessary points within the route are detected in the correct position for a train to pass safely.

# 3

## Method of signalling

### 3.1 Operating signals and issuing MAs

#### 3.1.1 Before clearing signals or issuing MAs

Before you operate a signalling control to allow a train to proceed, you must make sure that:

- no other movement that may conflict is to be made first
- the route is set or is free to be set by the interlocking
- if necessary, you have been given a release by another signaller.

#### 3.1.2 Changing signal aspects or shortening an MA

Before you allow a movement to occupy a track circuit which would change the aspect shown at any signal or shorten an MA, you must first close the route concerned to protect the movement.

If another signaller controls that route, you must not allow the movement to take place until that signaller tells you the route has been closed.

#### 3.1.3 Obstructing or occupying an overlap

You must not allow the line within the overlap of a signal or EoA to be obstructed or to be occupied by an unsignalled movement until:

- any approaching train has been stopped at that signal or EoA, or
- if no train is approaching that signal or EoA, you have closed the route from the previous RSP.

#### 3.1.4 Emergency alarm

If you receive the **emergency alarm** from an adjacent signal box, you must close the route on the affected lines. You must then find out whether it is necessary to carry out regulation 4, regulation 5 or general signalling regulation 19.

## ERTMS level 2 train signalling regulations

### 3.2 Train requiring to stop in section

If a train that is to stop in the block section is to enter an area controlled by another signaller, you must tell that signaller:

- the type of train
- where the train is to stop and why
- the approximate time the train will occupy the section.

### 3.3 Permissive working

#### 3.3.1 When permissive working can be used

You must carry out these regulations where permissive working is authorised in the *Signal Box Special Instructions*.

You do not need to carry out these regulations for shunting movements that are being made with a traction unit into an occupied section, to attach, detach or remove vehicles.

#### 3.3.2 Types of permissive working

You must only allow the following classes of train to be in, or enter, a section when permissive working is taking place:

##### Type of line Classes of train

Goods	3 to 8 and 0
Passenger (other than platform lines)	3 to 8 and 0
Platform lines	1, 2, 3 ECS, 5, 9 and 0 Any class of train formed only of MPV vehicles when operating as a railhead treatment or inspection train

### **3.3.3 Poor visibility**

You must not allow permissive working to take place during poor visibility, except on platform lines.

### **3.3.4 Additional regulations for permissive working on platform lines**

You must not signal a second train into an occupied platform if you have already issued an MA or, on a line where main aspect signals are provided, cleared a signal for the first train to leave that platform.

If you are not sure there is enough room for the second train, you must get an assurance that there is enough room before you issue an MA or, on a line where main aspect signals are provided, clear the signal for the second train.

If a movement has already been authorised on that platform line, you must get an assurance from the person in charge of the movement, that it has been completed before you issue an MA or clear the signal for the second train.

Once you have signalled a second train into an occupied platform, you must wait until the second train has stopped in the platform before you allow the first train to leave.

If a train is not booked to call at a station, you must tell the driver what is happening before you signal that train into an occupied platform line.

## **3.4 Emergency permissive working**

In an emergency, you can allow a train conveying passengers to enter an occupied section to reach a station platform, as long as you have been authorised to do so by the signal box supervisor or Operations Control.

You must make sure there is enough room to safely deal with the train at the platform.

## ERTMS level 2 train signalling regulations

Before you allow a train to proceed, you must tell the driver what has happened, and instruct the driver to pass the EoA without an MA or pass the signal at danger if the train is not fitted with ERTMS or if ERTMS is not in operation on the train.

You must also tell the driver that when the train has arrived at the station platform, no further movement is to be made without the authority of the signaller.

### 3.5 Signalling by bell or telephone

#### 3.5.1 When this regulation must be used

You must use this regulation when it is necessary to signal trains by bells or telephone when signalling equipment is being worked on or has failed.

You must also use this regulation when an out-of-gauge train is to travel between two signal boxes.

#### 3.5.2 When signalling by bell or telephone

You must use the standard code of bell signals and, if possible, you must also use the train describer.

If bells are not available, you must send the necessary bell signals as messages on the telephone and, if possible, use the train describer.

You must record the times at which all bell signals are sent or received in the Train Register. This includes bell signals sent as messages on the telephone.

You must record these times in the Train Register even if you do not normally have to record times.

#### 3.5.3 Method of signalling by bells or telephone

**Note:** For the purpose of this part of the regulation, A and B represent two signallers. Trains are to be signalled by bell or telephone between their areas of control.



Before you allow a train to proceed, you must:

- make sure that the last train has passed clear of the line concerned
- send **call attention** to signaller B
- send the appropriate **is line clear**.

signaller A

You can accept the train as long as no conflicting movement has been authorised, and the line on which the train is to run must be clear up to and including the overlap of the second RSP in your area of control.

signaller B

If for any reason, you cannot accept the train, you must not acknowledge **is line clear**.

If the line is clear and **is line clear** has been acknowledged, you may allow the train to proceed.

signaller A

When the train departs, you must send **train entering section** to signaller B.

The conditions under which you accept the train must not be changed until one of the following applies.

signaller B

- The train has been stopped at the first block marker.
- The train has passed beyond the point to which the line has been kept clear.
- You have received **cancelling** from signaller A for that train.

When the train, complete with tail lamp, has passed beyond the overlap of the second RSP, you must send **train out of section** to signaller A.

## ERTMS level 2 train signalling regulations

### 3.5.4 Signalling trains by telephone

signaller A  
and B

If there are no bells, or the bells are not working, you must send all bell signals as messages on the telephone, for example:

Signaller A	'Is Up Main line clear for one alpha two seven'?
Signaller B	'Up Main line <b>is</b> clear for one alpha two seven'.
Signaller A	'One alpha two seven train entering section on Up Main line'.
Signaller B	'One alpha two seven train out of section on Up Main line'.

signaller B

If for whatever reason you cannot accept a train that is offered, you must state the refusal as follows:

Signaller B	' <b>No</b> , one alpha two seven refused'.
-------------	---

### 3.5.5 When normal working is to resume

signaller A  
and B

Before returning to normal working, you must both agree how this is to be done.

## 3.6 Working in wrong direction to provide assistance

**Note:** 'multiple unit' in this regulation means a train that can be driven from either end and can assist the failed train. The multiple unit may be loaded or empty.

### **3.6.1 When this regulation must be used**

You must use this regulation when it is necessary for a light locomotive or multiple-unit train to proceed through one or more sections in the wrong direction:

- over the unaffected line to assist a failed train from the front, or
- over the unaffected line to assist a failed train that is beyond a train that cannot provide assistance.

You must first get permission from the signal box supervisor or Operations Control.

You must agree what is to happen with everyone involved in the movement.

### **3.6.2 When the crossover used to return the train to the affected line is facing**

If the movement will return to the affected line through points that are facing to the wrong-direction movement, you must make sure that one of the following applies.

- You have operated the points to the correct position to return the movement to the affected line.
- You have got confirmation from any other signaller involved that the points have been set to the correct position to return the movement to the affected line.
- You have got confirmation from the ground-frame operator that the points have been set to the correct position to return the movement to the affected line.

### **3.6.3 When the crossover used to return the train to the affected line is trailing**

If the crossover where the wrong-direction movement will return to the affected line is trailing to the wrong-direction movement, you must make sure one of the following applies.

- You have operated the points for the safety of the wrong-direction movement.
- You have got confirmation from any other signaller involved that the points have been correctly set.
- You have got confirmation from the ground-frame operator that the points have been correctly set.

# 4 Obstruction of the line

## 4.1 Stopping trains because of an emergency

### 4.1.1 Protection

If you need to stop trains because of an obstruction or other emergency, you must do this in the quickest and most effective way.

This includes:

- making a railway emergency call
- sending emergency stop
- withdrawing MAs which have been issued
- closing the route to protect the affected line.

If you cannot stop a train proceeding towards the obstruction or other emergency, you must carry out the instructions shown in regulation 5.

### 4.1.2 Placing a release to normal

You must also place or keep any release, slot or acceptance switch in the normal position.

### 4.1.3 Obstruction within the overlap

If the obstruction or other emergency is within the overlap of the protecting RSP, you must close the route at the previous RSP unless there are facing points that you have set for a route that is clear of the affected section.

### 4.1.4 Train detained at an RSP on the approach

If a train is detained at an RSP on the approach to the affected block section, you must instruct the driver to stay there until you give permission for the train to proceed even if an MA is received.

## 4.2 If another signaller is involved

If another signaller controls the RSP that will protect the obstruction or other emergency, you must immediately tell that signaller what is happening.

If this signaller is in another signal box, you must first send the emergency alarm.

If you are the signaller receiving this message or **emergency alarm**, you must carry out the instructions shown in regulations 4.1 and 4.3.

You must then tell the signaller giving you the message or **emergency alarm** whether you have been able to stop a train proceeding towards the obstruction or other emergency.

## 4.3 Allowing a train into the affected section

You must not allow a train into the affected block section until the line is again clear and safe for the passage of trains unless it is necessary to:

- examine the line
- allow an assisting train into an occupied section
- work to and from the point of obstruction, or serve an intermediate station or siding, but only if this can be done safely
- allow a train to pass through a diverging junction before reaching the obstruction.

If more than one signaller is involved, you must both come to a clear understanding as to what is to be done before allowing a train into the affected block section.

# 5

## **Train or vehicles proceeding without authority or train divided**

### **5.1 Immediate actions**

If you become aware, or you suspect, that a train or vehicle is proceeding without authority, or a train is running in two or more portions, you must:

- make a railway emergency call
- send emergency stop
- withdraw MAs which have been issued to the train concerned or any other trains which could be put in danger
- close the route to protect any line that could be affected
- if possible, alter the position of any points to divert trains and prevent collisions
- if possible, arrange for the line on which the train or vehicle is proceeding without authority to be cleared
- take the necessary action for any level crossings
- take any other possible action to reduce the risk of a collision.

### **5.2 If another signaller is involved**

If a train or vehicle that is proceeding without authority, or a portion of a divided train, will enter a block section controlled by another signaller, you must immediately tell that signaller what is happening.

If this signaller is in another signal box, you must first send the **emergency alarm**.

## 5.3 Making sure the line is clear

If it cannot be confirmed that an adjacent line is not obstructed, you must arrange for that line to be examined.

If a train or vehicle that has proceeded without authority, or all of a divided train, has stopped intact and it is confirmed that no other line is affected, you may resume normal working on the other lines.

You must not allow any train to pass over the line where a train or vehicle has proceeded without authority, or a portion of a divided train has passed, until you are sure that the line is clear.

You must signal the next train normally.



# 6

## Tail lamp out or missing

If you become aware that a train has the tail lamp out or missing, you must find out whether the train is complete. You must also tell the driver of that train that the tail lamp is out or missing.

During darkness or poor visibility, where permissive working is authorised and you are aware that the tail lamp is out or missing, you must not signal another train into the same block section until you have been told a red light has been placed on the rear of the train.

If the train enters an area controlled by another signaller before you can find out if the train is complete, or before you are told the tail lamp has been replaced or relit, you must tell that signaller.

# 7

## **Allowing an assisting train into an occupied section**

### **7.1 Before allowing an assisting train into the occupied section**

You may allow an assisting train into an occupied block section in either direction to:

- proceed to, and assist, a failed train
- evacuate passengers from a failed train
- remove the rear portion of a divided train
- remove vehicles which have proceeded without authority.

If there is a tunnel in the affected block section, you must instruct the driver of any train proceeding on an adjacent line to proceed through the tunnel at caution. You do not need to do this if you know the tunnel is clear and the person carrying out any protection is not in the tunnel.

If another signaller is involved, you must come to a clear understanding with that other signaller as to what is to happen.

### **7.2 Occupying or obstructing the line within the overlap**

If you are told that the train has failed and will not be moved, you may allow the overlap of the RSP immediately beyond the failed train to be occupied, fouled or obstructed. You may continue to do this until:

- the failed train is ready to proceed, or
- the assisting train has entered the section and the failed train is to be assisted forward.

### **7.3 When the line is again clear**

When the line is again clear, you must signal the next train normally.

If the assisted train is to enter a block section controlled by another signaller, you must tell that signaller the train is being assisted and how it is being assisted.

# 8

## **Failure or disconnection of train describers or bells**

### **8.1 Describing trains**

If the train describer equipment fails or is disconnected, you must keep a record of the trains within your area of control.

If a train enters an area controlled by another signaller, you must tell that signaller the identity of the train. If that signaller is at another signal box, you must send the train description by either bell or telephone.

If it is not possible to pass on a train description, you may allow trains to proceed and issue MAs in the normal way.

If you become aware of a train within your area of control for which you have not received a train description, you must find out its identity, if necessary by stopping the train.

### **8.2 Loss of communication on a single line**

If you cannot communicate with the signaller in an adjacent signal box but the signalling equipment is working normally, you must use whatever means are available to find out the order in which trains will proceed over the single line.

# 9

## Not used

# 10

## Opening and closing signal boxes

### 10.1 Opening

When you are to open a signal box, you must find out if the adjacent signal boxes are open and tell the signallers there that your signal box is now open.

### 10.2 Closing

When you are to close a signal box, you must:

- make sure there are no more train movements required
- make sure that all controlled RSPs in your area of control are closed
- tell the signallers in the adjacent signal boxes that your signal box is closed.





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# GERT8000-TS11 Rule Book



## Failure of, or work on, signalling equipment - signallers' regulations

### Issue 3



## Module TS11

September 2017  
Comes into force 02 December 2017



## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

Green text in the margin indicates who is responsible for carrying out the rule.

A white **i** in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



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**For information regarding the Rule Book, contact:  
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You will need this module if you carry out the duties of a signaller.

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**General****1.1 Definitions****Another signaller**

This includes signallers at adjacent signal boxes and signallers at other panels or workstations in the same signal box.

**Complex failure**

A failure of power-operated points which needs more point ends to be set or secured (or both) than a simple failure. It also includes all failures that affect switch diamonds or swing-nose crossings.

**Defective signal**

A signal which is not operating or displaying correctly, or where the light is out when it should be illuminated.

**Equipment disconnected**

Equipment that has had its functions limited so that it cannot be operated by the signaller. This includes a signal adjusted to show only its most restrictive aspect or route setting barring.

**Equipment out of use**

Equipment that the signaller must not operate.

**Equipment removed**

Equipment that has been permanently taken out of operational use.

### **Equipment restricted**

Equipment that has had its functions limited but may continue to be operated by the signaller. This includes:

- temporary approach controls on signals
- signals with restricted aspects
- on an ERTMS line, a route setting position (RSP) restricted to prevent the signaller from issuing an MA beyond it
- points that have been restricted so they can only be used in the normal (or reverse) position.

### **Group of signals**

Signals that are placed together that apply to parallel lines.

### **Lever**

This includes a switch or workstation control.

### **Points operator**

A competent person who is provided during a simple failure to set and secure power-operated points as directed by the signaller.

### **Route-setting agent**

A competent person who is provided during a complex failure to set and secure power-operated points as directed by the signaller.



## **Work which affects the normal passage of trains**

Any work which will interfere with signalling equipment and would prevent trains passing or would allow trains to pass only by diversion or degraded-mode working.

### **1.2 When the regulations in this module apply**

The regulations in this module apply:

- during a failure of signalling equipment
- during work on signalling equipment
- when a release of signalling controls is needed.

### **1.3 When the regulations in this module do not apply**

The regulations in this module do not apply to work on signalling equipment when all the following are met. The work:

- will not affect the normal passage of trains
- does not need the signaller's co-operation
- will not affect the normal operation of the signalling equipment.

The regulations in this module do not apply when the signalling equipment is to be disconnected to provide additional protection for a line blockage.

### **1.4 Signaller's responsibilities**

You must never interfere with signalling equipment.

You are responsible for the safe working of trains when the regulations in this module are to be applied.



You do not need to use form RT3187 during a failure of signalling equipment unless equipment will be taken out of use, disconnected or restricted and it will not be possible to complete the work before trains have to pass.

## **1.6 Telling the driver at a previous signal or block marker**

If in these regulations you must tell the driver at a previous signal or block marker about a defective signal ahead and that previous signal is operated by another signaller, you must:

- tell the other signaller about the defect or disconnection
- reach a clear understanding about what is to be done.

On ERTMS lines, if you must tell the driver at a previous block marker about the inability to issue an MA at the block marker ahead and that block marker is operated by another signaller, you must:

- tell the other signaller about the defect or disconnection
- reach a clear understanding about what is to be done.

If you are that other signaller, you must stop each affected train and give the driver the necessary instructions as shown in these regulations.

If there is no previous signal or block marker, such as where the defective signal or ERTMS equipment controls movements from a siding or terminal station, you must tell the person in charge at that location (if there is one) to tell drivers about the defective signal or defect.

If there is no person in charge, you must tell the driver about the defective signal when you give permission to proceed.

# 2

## Work that will not affect the normal passage of trains

### 2.1 When this regulation applies

You must apply this regulation to work on signalling equipment which will not affect the normal passage of trains, but which will affect the normal operation of signalling equipment.

### 2.2 Before starting work

You must come to a clear understanding with the signalling technician about:

- what work needs to be done
- how the signalling equipment will be affected
- any other equipment that will be affected
- how long the work will take
- the time that permission will be given for the work to start
- the time by which the work must be completed.

You must only give permission for the work to start when there is a suitable interval between trains.

You must make an entry in the Train Register.

### 2.3 When the work is completed

When the signalling technician tells you the work is completed, you must make a suitable entry in the Train Register.



## **2.4 If the work cannot be completed**

If the signalling technician tells you that the work cannot be completed on time and you cannot agree more time to complete the work, you must treat the equipment as failed and carry out regulation 5 of this module.

# 3

## Work that will affect the normal passage of trains

### 3.1 When this regulation applies

You must apply this regulation to work on signalling equipment which will affect the normal passage of trains.

### 3.2 Before starting work

You must come to a clear understanding with the signalling technician about:

- what work is to be done
- the details of equipment that will need to be disconnected, restricted, or taken out of use
- any other equipment that will be affected
- how long the work will take
- how the work will affect train working
- the time that permission will be given for the work to start
- the time by which the work must be finished.

You must enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician.

### 3.3 At the agreed time

At the agreed time and when it is safe to do so, you must:

- place or keep the affected equipment in the agreed position
- tell any other signallers who are affected by the work
- give the signalling technician permission to start the work.

You must enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician.

If you are another signaller involved, you must make an entry in the Train Register.

Once you have given the signalling technician permission to disconnect, restrict or take out of use the agreed signalling equipment, you must not allow trains to pass until the signalling technician tells you the disconnections or restrictions have been made.

When the signalling technician tells you the disconnections or restrictions have been made or the equipment has been taken out of use, you must enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician.

### **3.4 During the work**

No alteration to the work must be made unless the signalling technician has first agreed the changes with you.

If it is necessary to agree changes, you must again carry out regulation 3.2 of this module.

You must use a new form RT3187 and cancel the previous form.

### **3.5 When the work is completed**

When the signalling technician tells you the work is completed and the equipment is in working order, you must enter the details in part 4 of your copy of form RT3187 at the same time as the signalling technician.

You must tell any other signaller involved.

If you are another signaller involved, you must make an entry in the Train Register.

# Failure of, or work on, signalling equipment - signallers' regulations

## 3.6 If all the work cannot be completed

If the signalling technician tells you that all the work cannot be completed, you must find out the details of:

- the work that has been completed
- equipment that is in working order
- work that has not been completed
- any equipment that will stay disconnected or restricted
- any equipment that will be taken out of use
- what arrangements will be made to complete the work, if known.

You must:

- fill in part 4 of form RT3187 for the equipment that is back in order at the same time as the signalling technician
- use a new form RT3187 giving details of all equipment that will stay disconnected, restricted or will be taken out of use
- make a suitable entry in the Train Register
- tell Operations Control
- tell any other signaller involved.

If you are another signaller involved, you must make an entry in the Train Register.

# 4 Releasing signalling controls

## 4.1 When this regulation applies

You may only ask for signalling controls to be released when one of the following applies.

- a) A track circuit has failed holding points and it is necessary to move those points to the opposite position.
- b) A track circuit or other equipment has failed holding a route and it is necessary to release that route so that signals can be worked or an MA issued for movements that are clear of the failure.
- c) An obstruction of the line, derailment or engineering work is keeping a track circuit occupied and it is necessary to work signals or issue an MA for movements that will be clear of the obstruction.

You must not ask for the release of a control which will allow:

- a line clear to be given on any block indicator, or
- a proceed aspect or indication to be displayed by a signal held at danger by a track circuit or axle counter failure
- an MA to be issued beyond an EoA when a track circuit or axle counter failure is preventing it on that route.

## 4.2 Procedure for releasing signalling controls

Before you ask for a release of a signalling control, you must make sure the portion of line affected is clear of trains and that the intended movement can be made safely.

You must reach a clear understanding with the signalling technician as to which controls are to be released.

You must fill in part 1 of your copy of a Release of Signalling Controls form (RT3186) at the same time as the signalling technician.

## Failure of, or work on, signalling equipment - signallers' regulations

If the signalling technician agrees to release the signalling controls, you must:

- make sure there are no trains moving or signalled in the affected interlocking area
- not operate any lever within the affected interlocking area.

You must then fill in part 2 of your copy of form RT3186 at the same time as the signalling technician.

When the signalling technician tells you the signalling controls have been released, you must fill in part 3 of your copy of form RT3186 at the same time as the signalling technician.

When you and the signalling technician have completed part 3 of form RT3186, you may allow trains to be signalled in the interlocking area concerned.

If the release given is the type shown in regulation 4.1 b) or c), before you allow each train to proceed, you must make sure that any points which are normally locked by the released track circuits are secured.

### 4.3 Change of personnel

If you are the new signaller, you must sign part 5 of form RT3186 while the signaller you are taking over from is present.

If the signalling technician is changed, you must enter details of the new signalling technician in part 5 of form RT3186.

## **4.4 Cancelling a release of signalling controls**

If a release has been given for the reason shown in section 4.1 b) or 4.1 c), you must arrange for the release to be cancelled as soon as it is no longer needed.

Before you authorise the signalling technician to carry out the restoration, you must make sure the portion of line concerned is clear of trains.

You must then fill in part 4 of your copy of form RT3186 at the same time as the signalling technician.

When the signalling technician tells you that the signalling controls have been restored, you must cancel your copy of form RT3186 by writing 'CANCELLED' across it.

# 5

## Failure of signalling equipment

### 5.1 Immediate actions

When signalling equipment fails, you must:

- make the operational railway safe
- tell any other signallers affected
- tell Operations Control
- make sure trains pass safely
- enter the details in the Train Register.

### 5.2 Indications failure

If you can confirm that an apparent failure of a signal, set of points or a track circuit is an indications failure, you may allow trains to run normally if:

- when cleared, the signal shows the correct aspect (and where appropriate, the indication of route)
- in the case of an automatic signal the line ahead is clear and the correct aspect is displayed
- it is possible to issue an MA.



If a track circuit fails to clear after the passage of a train or shows occupied for some other reason but the signal shows a proceed aspect or indication or it is possible to issue an MA on an ERTMS line, you must not assume there is an indications failure until you have made sure:

- the last train has passed through the section complete with tail lamp
- the next train has been stopped and you have instructed the driver to proceed at caution when the signal is cleared or after an MA has been received and to report the aspect shown at each signal concerned
- the driver has confirmed that each signal has shown the correct aspect (including any indication of route).

If there is more than one route, you must apply this instruction to each route.

### **5.3 Before starting work**

You must come to a clear understanding with the signalling technician about:

- what equipment has failed
- what other equipment will be affected by the work to repair the failure
- whether any equipment needs to be disconnected, restricted or taken out of use
- whether form RT3187 has to be used.

You must agree with the signalling technician the time that work can start.

You must enter in the Train Register all details agreed with the signalling technician.

If you are another signaller involved, you must make an entry in the Train Register.

## Failure of, or work on, signalling equipment - signallers' regulations

### **5.4 If the work requires signalling equipment to be disconnected, restricted or taken out of use**

Before work is allowed to start that requires signalling equipment to be disconnected, restricted or taken out of use, you must:

- place or maintain the equipment in the agreed position
- if no train will pass before the work is completed, make an entry in the Train Register
- if trains will pass before the work is completed, enter the details in part 2 of your copy of form RT3187 at the same time as the signalling technician
- tell any other signaller who is affected by the work
- when it is safe to do so, give the signalling technician permission to start the work.

If you are another signaller involved, you must make an entry in the Train Register.

Once you have given the signalling technician permission to disconnect or restrict the agreed signalling equipment, you must not allow trains to pass until the signalling technician tells you the disconnections or restrictions have been made.

### **5.5 During the work**

No alteration to the work must be made unless the signalling technician has first agreed the changes with you.

You must enter in the Train Register the details of any agreed alterations.

If form RT3187 has been used, you must cancel it and enter the details of the agreed alterations on part 2 of a new form RT3187 at the same time as the signalling technician.

## 5.6 When the work is completed

When the signalling technician tells you the work is completed and the equipment is in working order, you must:

- make an entry in the Train Register, or if form RT3187 has been used, fill in part 4 of your copy at the same time as the signalling technician
- tell any other signaller involved
- tell Operations Control.

## 5.7 If all the work cannot be completed

If the signalling technician tells you that all the work cannot be completed, you must find out the details of:

- work that has been completed
- equipment that is in working order
- work that has not been completed
- any equipment that will stay disconnected or restricted
- any equipment that will be taken out of use
- what arrangements will be made to complete the work, if known.

You must:

- use form RT3187, giving details of all equipment that will stay disconnected, restricted or will be taken out of use
- make a suitable entry in the Train Register
- tell Operations Control and give details of the equipment still affected by the failure.

## 5.8 Failure of an electronic link

During the failure of an electronic link between the signal box and an interlocking, you must not rely on the indications in the signal box for the equipment in the interlocking area concerned.

This does not apply if the signalling technician confirms that the failure only exists in the fault indication circuit and the operating indications can be relied on.

# 6

## **Failure of, or work on, signalling equipment when the line is under possession**

### **6.1 When this regulation applies**

You must apply this regulation as well as the relevant parts of regulations 2, 3, 4 and 5 when a failure of, or work on, signalling equipment takes place within a possession.

### **6.2 Work on signalling equipment**

If work which requires signalling equipment to be taken out of use, disconnected or restricted will affect the movement of engineering trains or OTP, before you give the signalling technician permission to do so, you must arrange a suitable time with the PICOP.

### **6.3 Failure of signalling equipment**

#### **6.3.1 Becoming aware of a failure**

If you become aware that signalling equipment within a possession has failed, you must immediately tell the PICOP.

Until the signalling equipment has been repaired, you must, if necessary, carry out regulations 6.3.2 to 6.3.5.

#### **6.3.2 Failure of a signal or banner repeater**

If, as a result of a failure, a signal or banner repeater is not showing its most restrictive aspect or indication, you must:

- tell the PICOP
- instruct the PICOP to tell the driver of each affected train about the signal or banner repeater.

## Failure of, or work on, signalling equipment - signallers' regulations

### 6.3.3 Points failures

If there is a points failure, you must tell the PICOP that no more movements must take place over the points until:

- the correct detection is obtained, or
- you receive confirmation that the points are in the correct position for the movement and, if they are facing to the movement, they have been secured.

### 6.3.4 Failure of trains to operate track circuits

If a train or vehicle fails to operate a track circuit, you do not need to carry out regulation 15.

### 6.3.5 Disconnecting or restricting signalling equipment

If the failure requires a disconnecting or restricting any signalling equipment within the possession, before you give the signalling technician permission to do so, you must arrange a suitable time with the PICOP.

## 6.4 Operating signalling equipment for tests

If any signalling equipment needs to be operated for testing purposes, you must agree with the PICOP the time at which this can be done.

# 7

## **Train approaching defective trackside equipment, defective main aspect on TCB or ERTMS lines, an EoA without an MA or a missing block marker**

### **7.1 Allowing a train to approach**

You may allow a train to approach a signal with a defective main aspect if you are sure that signal is showing a danger aspect and the signal is kept at danger, or you are sure it is showing the correct aspect and will not cause the driver to see an incorrect sequence.

If this cannot be done, you must not allow a train to approach the defective signal until the driver has been told about the defect and one of the following applies.

- The line is clear up to and including the overlap of the next stop signal that is displaying the correct aspect, beyond the defective stop signal.
- The line is clear up to and including the overlap of the second stop signal beyond a defective distant signal.
- The line is clear to the buffer stops on a dead-end line.

### **7.2 Train approaching an EoA without an MA**

You must not allow a train to approach an EoA without an MA unless the line is clear up to and including the overlap of the next EoA (or the buffer stops on a dead-end line).

# Failure of, or work on, signalling equipment - signallers' regulations

## 7.3 If a controlled signal has returned to danger for no apparent reason

If a controlled signal returns to danger for no apparent reason, you must:

- tell Operations Control and arrange for the signalling technician to attend
- only allow a train to approach the signal when it is at danger
- clear the signal only when the approaching train is at or nearly at a stand at it.

You must continue this method of working until the signalling technician tells you that normal working can be resumed.

## 7.4 Train approaching a missing block marker

You must not allow a train to approach a missing block marker unless the line is clear up to and including the overlap of the next EoA (or the buffer stops on a dead-end line).

## 7.5 Failure of trackside equipment that prevents a level 1 launch

When you become aware of a failure of trackside equipment which prevents a level 1 launch, you must not allow a train to proceed until you have made sure the train is in level 2.



# 8

## **Train approaching a defective signal on other than TCB or ERTMS lines**

### **8.1 Allowing a train to approach**

A train may approach a defective stop signal if it has been placed to, and is kept at, danger and you are sure the correct aspect or indication is showing.

A train may approach a defective distant signal if it has been placed to, and kept at, caution and you are sure the correct aspect or indication is showing.

You may also allow a train to approach a defective signal if you have made sure the correct proceed aspect or indication is being shown, it will not cause the driver to see an incorrect sequence and one of the following applies.

- The train has been accepted by the next signal box.
- The line is clear to the buffer stops on a dead-end line.
- The line is clear up to and including the overlap of an intermediate block home signal.

If none of the above apply, you must not allow a train to approach a defective signal until the driver has been told about the defect and one of the following applies.

- The train has been accepted by the next signal box.
- The line is clear to the buffer stops on a dead-end line.
- The line is clear up to and including the overlap of an intermediate block home signal.
- The defective signal is between the home signal and the section signal and the line is clear to the section signal.

## **8.2 When the defective signal is an intermediate block home or distant signal**

If an intermediate block signal is defective, you must not allow a train to pass the section signal until the driver has been told about the defective signal and the train has been accepted by the next signal box.

# 9

## Allowing a train to pass a defective or disconnected stop signal

### 9.1 Passing the signal at danger

You must carry out the instructions in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)* before authorising a driver to pass a stop signal that is:

- defective
- disconnected
- not showing any aspect or indication
- missing
- held at danger by a failure of other signalling equipment.

### 9.2 Clearing a subsidiary or position-light signal

You may clear a subsidiary signal or a position-light signal in place of the main aspect or indication if a stop signal is held at danger by:

- a failure
- a disconnection
- a failure of other signalling equipment.

You must tell the driver what is happening.

However, if the train is not normally allowed to enter the section under the authority of a subsidiary or position-light signal, you must make sure the line is clear under the same conditions as it would be for the main aspect to be cleared.

# Failure of, or work on, signalling equipment - signallers' regulations

## 9.3 Unable to clear a stop signal but all track circuits are showing clear

On a track circuit block or ERTMS line, if you cannot clear a stop signal that has failed but all track circuits for the route are showing clear, you may authorise a driver to pass the signal at danger. However, this only applies if all the following conditions are met.

- The last train authorised to proceed has passed clear of the overlap of the next stop signal.
- No conflicting movement has been authorised.
- You have told the driver that all track circuits are working correctly and are showing clear.

If another signaller is involved, you must come to a clear understanding with that signaller as to what is to be done.

In the case of a track circuit block or ERTMS single line, you must also:

- operate any acceptance or directional switch as though the signal is working normally
- if the single line is controlled from one signal box, keep a record of the time each train is authorised to pass the controlling signal at danger
- if the single line is controlled from two signal boxes, signal trains as shown in regulation 3.5 of module TS2 *Track circuit block regulations* or TS10 ERTMS *ERTMS level 2 train signalling regulations*.

# 10

## **Allowing a train on which ERTMS is in operation to pass an EoA when it is not possible to signal the movement**

### **10.1 Unable to issue a Full Supervision (FS) MA to the train**

If you cannot issue an FS MA to a train, you may set a proceed on site authority (PoSA) or permissive route if available, which will issue an on-sight (OS) MA to the train.

You must make sure the line is clear:

- up to and including the overlap of the next EoA which is at a stop signal, or
- to the buffer stops on a dead-end line.

### **10.2 Unable to issue any MAs to the train**

If you cannot issue an FS or OS MA to the train you must find out whether the train can operate at an ERTMS level compatible with lineside signals. If so, you must instruct the driver to proceed and obey lineside signals.

If the train cannot operate at a level compatible with lineside signals, you must instruct the driver to pass the EoA without an MA as shown in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)*.

### 10.3 Unable to issue an MA but all track circuits are showing clear

If you cannot issue an MA but all track circuits for the route are showing clear, you may authorise a driver to pass an EoA without an MA. However, this only applies if all the following conditions are met.

- The last train authorised to proceed has passed clear of the overlap of the EoA.
- No conflicting movement has been authorised.
- You have told the driver that all track circuits are working correctly and are showing clear.

If another signaller is involved, you must come to a clear understanding with that signaller as to what is to be done.

In the case of an ERTMS single line, you must also:

- operate any acceptance or directional switch as though the RSP is working normally
- if the single line is controlled from one signal box, keep a record of the time each train is authorised to pass the EoA without an MA
- if the single line is controlled from two signal boxes, signal trains as shown in regulation 3.5 of module TS10 ERTMS *ERTMS level 2 train signalling regulations*.

### 10.4 Resuming normal working after obeying lineside signals

When it is again possible to issue a movement authority, the train must be stopped at the first convenient opportunity and the driver advised to return to normal working.

# 11

## **Defective position-light or shunting signal or defective stop board or limit of shunt indicator**

### **11.1 Defective position-light or shunting signal**

You must not allow a train to approach a position-light signal or shunting signal at which the normal indication is defective if a conflicting movement needs to be protected by that signal.

You may allow a train to approach a defective position-light signal or shunting signal that will not be needed to protect a conflicting movement as long as you have told the driver about the defective signal.

### **11.2 Defective stop board or limit of shunt indicator**

You must not allow a train to approach a defective stop board or a limit of shunt indicator if a conflicting movement is to be protected by that stop board or limit of shunt indicator.

You may allow a train to approach a defective stop board or limit of shunt indicator that will not be needed to protect a conflicting movement, as long as you have told the driver about the defective stop board or limit of shunt indicator.

# 12

## Defective banner repeating signal

You must not allow a train to approach a defective banner repeating signal unless one of the following applies.

- The distant signal to which it applies is showing a clear indication or green aspect and the banner repeating signal is showing an **OFF** indication.
- The stop signal to which it applies is showing a proceed aspect or indication and the banner repeating signal is showing an **OFF** indication.
- The signal to which it applies is showing a green aspect and the banner repeating signal is showing a green **OFF** indication.
- The previous signal is showing one yellow aspect or a caution indication and the banner repeating signal is displaying an **ON** indication.
- The driver has been told about the defective banner repeating signal.



# 13

## **When trains are to approach a defective signal forming one of a group**

If a signal forms one of a group of signals and there is no aspect or indication being displayed at that signal when there should be one, you must tell the driver of each train, needing to approach that group of signals on:

- the line affected
- any other line in the same direction.

If there are signals in the group in the same direction controlled by another signaller, you must tell that signaller about the defect.

If you are that other signaller, you must tell the driver of each train approaching that group of signals, about the failure.

# 14

## Defective points

### 14.1 If you suspect that points have been run through

If you suspect points have been run through, you must not allow any movement to pass over the points in the facing direction until the signalling technician has examined them and tells you:

- the points have not been damaged, or
- they are damaged but can be used when secured.

If the points are found to be damaged, you must not allow any movement to pass over the points in the facing direction until:

- the points have been secured
- the movement can be made safely.

You must also keep the protecting signal at danger until the signalling technician tells you that you may clear it.

You must carry out this regulation even if you have the correct detection.

### 14.2 Defective mechanically-operated points

You must arrange for mechanically-operated points to be checked if any of the following apply.

- They cannot be operated from the signal box.
- They cannot be locked from the signal box.
- You cannot get the required indications.
- You cannot get a 'normal' indication from a ground-frame release.

You may deal with the failed points yourself until a competent person or a signalling technician arrives.

You must tell the person checking the points:

- which points are defective
- when trains have been stopped on the line or lines involved
- if any other lines are still open
- to make sure the points are in the required position
- to make sure the points are not damaged or obstructed.

If you can do so, you must work the relevant levers to correspond with the required position of the equipment. You must do this even if the points or facing point lock (or both) are disconnected.

You must not allow a train to pass over the defective points unless you can get the correct detection indicated on the points, or you have been given an assurance by the person checking the points that:

- they are set in the correct position
- they are not damaged or obstructed
- they have been secured, if they are set for a facing movement.

## **14.3 Defective power-operated points**

### **14.3.1 Checking the points**

You must arrange for power-operated points to be checked and if necessary, operated by hand if any of the following applies.

- They cannot be operated from the signal box.
- You cannot get 'normal' or 'reverse' indications.
- You cannot get a 'normal' indication from a ground-frame release.

You must arrange for a points operator to attend in the case of a simple failure or a route-setting agent in the case of a complex failure.

You may deal with the failed points yourself until a points operator, a route-setting agent or a signalling technician arrives.

## Failure of, or work on, signalling equipment - signallers' regulations

You may tell the signalling technician to operate and secure the points before the points operator or route-setting agent arrives.

When the points operator or route-setting agent arrives on site, you must record their name, employer and the time in the Train Register.

You must tell the points operator or route-setting agent:

- which points have failed
- when trains have been stopped on the line or lines involved
- if any other lines are still open.

You must tell the points operator or route-setting agent to check the points, and tell you whether:

- the points are in the normal or reverse position
- the points are damaged or obstructed
- the point motor is still running.

If you are told the point motor is still running, you must return the points to their previous position.

### **14.3.2 Procedure for a simple failure**

If the points have to be operated by hand, you must use the route list, if there is one and tell the points operator which point ends need to be set and in what position.

When the points operator has told you the points have been set you must:

- if you can, operate the lever to correspond with the position the points have been set in
- if you have detection, clear the protecting signal or issue an MA.

If you cannot get detection, you must instruct the points operator to:

- secure these points with a clip and scotch if facing to the movement
- secure these points with a scotch if trailing to the movement
- tell you when this has been done.

### 14.3.3 Procedure for a complex failure

During a complex failure, the location affected may be split into two or more areas. In this case:

- there must be a route-setting agent for each area
- you and the route-setting agents must clearly understand which points each route-setting agent will be responsible for.

If the points have to be operated by hand, you must use the route list, if there is one and tell the route-setting agent:

- which point ends need to be set
- in what position they must be set
- the route that is to be set, for example Up Fast to Up Slow.

The route-setting agent must record this information on a point-setting form.

When you are sure that the route-setting agent has filled in the point-setting form correctly you must:

- tell the route-setting agent to operate the points by hand
- get the route-setting agent's assurance that this has been done.

When the route-setting agent has told you the route has been set you must:

- if you can, operate the lever to correspond with the position the points have been set in
- if you have detection, clear the protecting signal or issue an MA

If you cannot get detection on any points, you must instruct the route-setting agent to:

- secure only these points with a clip and scotch if facing to the movement
- secure only these points with a scotch if trailing to the movement
- tell you when this has been done.

### **14.4 Passing a signal at danger or an EoA without an MA during a failure of power-operated points**

Before authorising the first train to pass a signal at danger or an EoA without an MA that protects the defective points, you must first stop any train on a line which could become obstructed.

### **14.5 Leaving points secured and unattended**

When trains can continue to operate with some or all of the defective points set in one position and left unattended, you must instruct the points operator, or route setting agent in the case of a complex failure, to:

- clip, padlock and scotch both facing and trailing points in the required position
- leave the point controls set for manual operation
- tell you when this has been done.

You must record the details in the Train Register.

### **14.6 Change of route-setting agent or points operator**

If someone takes over from the points operator or route-setting agent, you must record the name and employer of the new points operator or route-setting agent and the time in the Train Register.

## 14.7 Returning power-operated points to normal operation

When the signalling technician tells you the points are now in working order, you must, as soon as trains have passed clear, tell the points operator, or route-setting agent in the case of a complex failure, to:

- remove the clips and scotches
- return the point machines to power operation
- tell you when this has been done.

If the points have been left unattended, you must tell the signalling technician to do this.

When you are told this has been done, you must:

- operate the points
- ask the points operator, route-setting agent or signalling technician to check the points are working correctly.

If the points are working correctly, you must tell the points operator, route-setting agent or signalling technician that normal working is being resumed.

You must record in the Train Register the time that normal operation has resumed.

## 15

## When a train or vehicle fails to operate track circuits

**Note:** these regulations do not apply to vehicles that cannot be relied upon to operate track circuits or when you are not relying on the track circuit because of rail-head conditions.

### 15.1 Immediate actions

If a train or vehicle fails to operate a track circuit, you must immediately:

- place or keep signals at danger or close the route to protect the train or vehicle
- place or keep signals at danger or close the route to protect the track circuit concerned
- tell Operations Control (including the details of when the previous train passed over the track circuit concerned).

You must also arrange for the train to be stopped at the first available location so that the train can be examined.

### 15.2 Allowing trains to pass over the track circuit concerned

Until the signalling technician tells you that the track circuit that failed to operate can be relied upon to indicate the presence of trains correctly, before allowing a train to pass over the track circuit concerned, you must:

- make sure the previous train has passed beyond the overlap of the next stop signal or EoA beyond the track circuit concerned
- keep points in the correct position for the train movement using individual point controls
- place at danger any other signal or close any other route which would conflict with the movement.



You must not allow another train to pass beyond the controlled signal or block marker on the approach to the signal or block marker protecting the track circuit concerned until the train has passed beyond the track circuit concerned.

### **15.3 Line not used for a considerable time or first train following a possession or line blockage**

You do not need to carry out regulations 15.1 and 15.2 when a train or vehicle fails to operate a track circuit, but has operated track circuits elsewhere:

- when the line has not been used for a considerable time, or
- when the train was the first to pass over a portion of line that was affected by a possession or line blockage.

However, you must:

- report the failure to Operations Control
- before allowing a train to pass, make sure the previous train has passed beyond the overlap of the next stop signal or EoA beyond the track circuit concerned
- carefully watch the track circuit indications concerned as each train passes over it
- keep signals to danger or close the route to protect trains as they pass over it
- keep points in the correct position for each train passing over it using individual point controls
- not rely on the track circuit until a train has correctly operated it.

# 16

## Track circuit showing occupied when clear

### 16.1 Failure of track circuits

If a track circuit fails to clear after the passage of a train or shows occupied for some other reason, you must arrange for the line to be examined.

On a single line, you also must introduce working by pilotman, except where:

- an exemption is authorised in the *Signal Box Special Instructions*, or
- the line is worked by a token and the driver has the token.

If it is reported that the line is not obstructed, you must carry out the instructions in either regulation 16.2, 16.3 or 16.4 as appropriate.

## 16.2 On a double line

You may authorise the driver of each train to pass over the affected track circuit, as long as one of the following applies.

- You can make sure the portion of line concerned is clear after the passage of each train.
- A competent person has been appointed to report the train has passed complete with tail lamp.
- You have seen the previous train occupy and clear the track circuit ahead of the signal or EoA beyond the affected portion of line.
- On a track circuit block or ERTMS line, where the track circuit concerned is between two signal boxes, you have introduced working as shown in regulation 3.5 of module TS2 *Track circuit block regulations* or TS10 ERTMS *ERTMS level 2 train signalling regulations*.
- Where the track circuit is associated with an intermediate block section, the train must have been accepted by the next signal box before you allow the train to pass the section signal.

## 16.3 On a single line

You may authorise the driver of each train to pass over the affected track circuit, as long as one of the following applies.

- You can make sure the single line is clear after the passage of each train.
- A competent person has been appointed to report the train has passed complete with tail lamp.
- If you cannot make sure that each train leaving the single line is complete with tail lamp, the pilotman accompanies every train.

On a track circuit block single line where two signal boxes are involved, you must also introduce working as shown in regulation 3.5 of module TS2 *Track circuit block regulations* or TS10 ERTMS *ERTMS level 2 train signalling regulations*.



# 17

## **Automatic Warning System (AWS) equipment**

### **17.1 When an AWS warning indication has not been received**

If you are told that an incorrect AWS indication (or no indication) was received when an AWS warning indication should have been received (AWS fault codes 5 or 7), you must make sure the driver of each train that is to pass over the defective equipment is told about the fault.

### **17.2 When an AWS clear and warning indication are received together**

If you are told that a clear and warning indication were received together (AWS fault code 4), you must:

- make sure the signal concerned is not showing a green aspect, or a semaphore distant signal is not showing 'clear'
- instruct the driver of the first train to tell you what AWS indication is received.

If that driver tells you the correct indication was received, you do not then need to tell the drivers of other trains.

### **17.3 When AWS is under repair or is out of use**

If AWS equipment is being repaired or is out of use, you must make sure the driver of each train that is to pass over the defective equipment is told about the fault.

You do not need to do this if the AWS warning indication will be given together with an appropriate signal aspect or indication.

# 18

## Train protection and warning system (TPWS) equipment

### 18.1 Immediate action

Where a TPWS failure is not clearly identifiable from other types of failure and a failure is indicated, you must carry out regulation 7 or 8 of this module until you identify whether:

- the TPWS equipment has failed
- a lamp is out in a signal
- it is an indications failure only.

### 18.2 TPWS train-stop failure

If the TPWS equipment has failed and is causing an automatic brake application when the signal is showing proceed, before you allow a train to pass over the failed TPWS equipment, you must:

- tell the driver what is happening
- instruct the driver to operate the TPWS override button before passing over the TPWS track equipment.

### 18.3 TPWS has failed and will not cause an automatic brake application

If the TPWS equipment which applies to a signal has failed and will not cause an automatic brake application, you must set the forward route before you allow a train to approach that signal.

# 19

## Standby batteries for colour-light signals

**Note:** These instructions do not apply to signals on track circuit block or ERTMS lines.

### 19.1 Failure of the main power supply

If the main power supply fails, you must tell Operations Control and make an entry in the Train Register.

You may continue to work normally as long as the standby batteries are working and visibility is clear.

If the main and standby power supplies both fail, you must treat each affected signal as being defective.

### 19.2 Failure of the main power supply during poor visibility

#### 19.2.1 To a distant signal

If the main power supply to a distant signal has failed, you must not acknowledge **is line clear** for a train on that line unless one of the following applies.

- **Train out of section** or **obstruction removed** has been received from the next signal box.
- The line is clear to the buffer stops on a dead-end line.
- The line is clear up to and including the overlap of an intermediate block home signal.

#### 19.2.2 To an intermediate block home or distant signal

If the main power supply to an intermediate block home or distant signal has failed, you must not allow a train to pass the section signal until the train has been accepted by the next signal box.

## 20

**Failure of repeaters****20.1 Arm repeaters for semaphore signals**

If an arm repeater indicates that a signal is defective, but you can see that the signal responds correctly to the lever, you do not need to treat the signal as defective.

If the signal is a distant signal, you must keep the signal at caution until the repeater is repaired.

**20.2 Light repeaters for semaphore signals**

If a light repeater indicates that a signal light is out, you must immediately find out if it is actually out.

In the case of a distant signal that is in sight of the signaller in another signal box, you must ask that signaller if the light is out. If this signaller tells you the light is lit, you do not need to treat the signal as defective.

If the light is out, you must:

- arrange for it to be relit
- treat the signal as defective during darkness or poor visibility.

If you are the signaller at the previous signal box, you must continue to observe the light in the signal until you are told the repeater is in order. However, if the light goes out when it should be lit, you must immediately tell the signaller who controls the distant signal.



### **20.3 Repeaters that apply to a group of semaphore signals**

If a light repeater applies to two or more signals, you must treat any 'light out' indication as applying to each signal concerned.

If the repeater is provided to indicate the position of two or more signals or slots worked by the same lever, you must treat any fault indication as applying to all the equipment concerned.

### **20.4 Repeaters for power-operated points worked from a mechanical frame**

If the points indicator does not show the correct position of the power-operated points, you must find out whether it is the indicator that has failed rather than the points.

You must operate the points lever to the opposite position and back again. If you can then clear the signal leading over the points, you do not have to treat the points as defective but only the indicator as failed.

If you cannot clear the signal leading over the points, you must treat the points as defective.

## 21

**Resetting and restoring axle  
counters**

You must be sure that the affected section of line is clear and the protecting signal is placed to and kept at danger, or the route closed before starting the resetting and restoration procedure as shown in the *Signal Box Special Instructions*.

You must arrange to examine the affected section of line before the resetting and restoration procedure is completed.

If the equipment requires a train to pass through the affected section as part of the resetting process, the train being used to examine the line can do this.





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# GERT8000-TW1 Rule Book



## Preparation and movement of trains

### Issue 13



Module TW1

March 2018  
Comes into force 02 June 2018



## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

Green text in the margin indicates who is responsible for carrying out the rule.

A white **i** in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



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You will need this module if you carry out the duties of a:

- driver
- guard
- shunter
- signaller
- train preparer.

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# 1

## Abnormal brake applications

*The person responsible: driver*

### driver

If your train has been brought to a stand by a brake application which you did not make, you must immediately check the in-cab equipment indications, such as automatic warning system (AWS), ERTMS or train protection and warning system (TPWS), to see if this has intervened.

If AWS, ERTMS or TPWS equipment has intervened, you must immediately contact the signaller, unless TPWS caused the brake application when the train was approaching buffer stops.

If AWS, ERTMS or TPWS did not cause the brake application, you must find out if the brake was applied by the guard or by the passenger communication apparatus.

If none of these caused the brake application, you must check if the train is complete.

You must agree with the signaller what actions will be taken to find out whether the train has become divided and whether any other line is affected.

You must assume that your train has become divided if:

- the tail lamp is missing
- the brake pipe is open at the rear.



# 2

## Assisting failed locomotive-hauled trains in the rear

*The person responsible: driver*

### 2.1 General

If your train has failed, it may be assisted in the rear if you can apply the automatic brake in an emergency.

driver failed train

You must only allow the movement to proceed to the next place where the train can be moved clear of the running line, or a locomotive can be attached to the front.

You must make sure that you can fully control the train throughout the movement.

You must reach a clear understanding with the driver of the assisting locomotive about how the movement is to be started, stopped and controlled.

You can use GSM-R radio for this purpose at any time during the movement.

Before the movement begins, you must temporarily isolate the TPWS.

driver assisting train

Immediately after your train is detached from the failed train, you must reinstate the TPWS.

If you are the driver of an assisting train on which ERTMS is in operation, you must make sure that ERTMS is in the correct mode both before the movement starts, and immediately after your train is detached from the failed train.

You must not make any further movement without the signaller's authority.

## Preparation and movement of trains

### driver failed train

### 2.2 Failed air-braked train

An air-braked train can only be assisted in the rear by:

- a light locomotive
- an air-braked train
- a vacuum-braked train hauled by a dual-braked locomotive.

You must not exceed 25 mph (40 km/h).

However, if the brake pipe is operative throughout the train, a light locomotive may assist:

- a passenger train (loaded or empty)
- a postal or parcels train
- any other train running with passenger brake timings.

You must not exceed 40 mph (65 km/h).

A single-piped air-braked train can be assisted in the rear if the failed locomotive is:

- capable of maintaining its own main reservoir pressure, or
- fitted with an assistance to failed train (AFT) cock.

A two-pipe air-braked train can be assisted in the rear if the main reservoir pipe is:

- coupled and operative throughout the failed train
- coupled to the assisting locomotive.

# 3

## Attending for and leaving duty

*The people responsible: driver, guard*

When attending for duty, you must read the notices that apply to you.

Before leaving duty, you must hand in a full written report of the circumstances of any irregularity or exceptional incident.

**driver,  
guard**

# 4

## Brake system requirements

*The people responsible: driver, guard, train preparer*

### 4.1 Making sure brakes are working correctly

driver,  
guard,  
train  
preparer

The automatic brake must normally be in use on every vehicle in a passenger, parcels or postal train. You must make sure that the brakes are working correctly before allowing a train to enter service.

### 4.2 Carrying out a brake continuity test on locomotive-hauled trains or HSTs

driver,  
guard,  
train  
preparer

You must carry out a brake continuity test:

- when a locomotive is coupled to the train
- after a brake defect has been repaired
- after a train has been left unattended and the traction unit shut down (except where authorised in local instructions)
- when a vehicle is uncoupled from the train, unless it is uncoupled from the extreme rear
- when a vehicle is coupled to the train.

driver

If the train is assisted by a locomotive coupled in the rear, you must ask the driver of the assisting locomotive to carry out the brake continuity test.

### 4.3 Carrying out a brake continuity test on multiple-unit passenger trains

driver,  
guard,  
train  
preparer

You must make sure a brake continuity test is carried out as shown in train operating company instructions.

## 4.4 Coaching stock vehicles with isolated brakes

You may allow a train to enter service from somewhere other than a maintenance depot with one vehicle on which the automatic brake has been isolated, if the following conditions are met.

- The train is formed of at least five coaching stock vehicles.
- The automatic brake is working on the last vehicle.
- On multiple-unit trains the automatic brake is operative on the first and last vehicle (except when the vehicle is fitted with a rigid bar coupling).
- The speed of the train is restricted to 10 mph (15 km/h) below the permitted speed for that train over the line concerned.  
However, the speed need not be reduced below 35 mph (55 km/h).

You may allow more vehicles on which the automatic brake has been isolated to be conveyed in the train as shown below.

Total number of coaching stock vehicles in the train	Number of vehicles with brakes isolated
10 to 14	2
15 to 19	3
20 to 24	4
25 or more	5

## 4.5 Isolated vehicle brakes

You must treat a vehicle with two air-brake distributors, one of which is isolated, as having isolated brakes.

driver,  
guard,  
train  
preparer

driver,  
guard,  
train  
preparer

## Preparation and movement of trains

driver,  
guard,  
train  
preparer

If it is necessary to isolate the automatic brake on any vehicle, you must:

- carry out any necessary instructions for the type of vehicles concerned
- tell the driver
- make sure the train document is amended
- make sure the train meets the requirements of section 4.4.

### 4.6 Carrying out a running brake test

driver

You must test that the automatic brake is working properly by carrying out a running brake test.

When you carry out a running brake test, you must do so from a speed that is high enough for you to be sure that:

- the brake is operating effectively
- the speed of the train is being reduced.

#### Locomotive-hauled trains and HSTs

You must carry out the running brake test at the first opportunity after beginning the journey.

You must, if possible, also carry out a running brake test in good time before approaching:

- the first stopping place
- a crossing place on a single line
- a steep falling gradient
- a terminus or dead-end platform line.

#### Multiple-unit trains

When working multiple-unit trains you must carry out the running brake test as shown in your train operating company instructions.

# 5

## Broken rails and bridge strikes

*The person responsible: driver*

### 5.1 Broken, distorted or damaged rails and broken fishplates

If there is a broken or defective rail or broken fishplates on the line on which your train is to travel, the signaller will tell you what is happening and the location of the rail defect.

driver

When you are told to proceed, you must do so at no more than the speed the signaller tells you.

### 5.2 Bridge strikes

If a bridge is reported as having been struck by a road vehicle on the line on which your train is to travel, the signaller will tell you what has happened and the location of the bridge.

driver

When you are told to proceed, you must do so at no greater speed than the signaller tells you. You must not increase speed until the whole of your train has passed beyond the bridge concerned.

If it is an overline bridge that has been struck, the signaller may ask you to check the bridge before passing under it. In this case you must:

- stop your train before passing under the bridge
- check for any obvious damage, including debris on the line
- tell the signaller whether the line appears to be safe for the passage of trains.

If there is no obvious damage or debris, you may pass under the bridge at a speed not exceeding 5 mph (10 km/h).

# 6

## Classification of trains

*The people responsible: driver, train preparer*

The following table shows the classification used to identify the types of train.

You must tell the signaller if the classification of the train is different, or has been changed, from that published.

driver,  
train  
preparer

Description	Class
Express passenger train Nominated postal or parcels train Breakdown or overhead line equipment train going to clear the line (1Z99) Traction unit going to assist a failed train (1Z99) Snow plough going to clear the line (1Z99)	1
Ordinary passenger train Officers' special train (2Z01)	2
Freight train if specially authorised A parcels train Autumn-railhead treatment train Empty coaching stock train if specially authorised	3
Freight train which can run up to 75 mph (120 km/h)	4
Empty coaching stock train	5
Freight train which can run up to 60 mph (95 km/h)	6
Freight train which can run up to 45 mph (70 km/h)	7
Freight train which can run up to 35 mph (55 km/h)	8
Class 373 train Other passenger train if specially authorised	9
Light locomotive or locomotives	0



# 7

## Dead locomotives

*The people responsible: driver, train preparer*

### 7.1 General

You can allow dead locomotives to be worked as part of a formation of light locomotives, or conveyed in a train.

If a dead locomotive has an operational automatic brake, you must make sure that it is used even when it is partially defective. This means the number of brakes isolated reduces the brake force by no more than 25%.

You must make sure that the brake timings are compatible throughout the train, including the locomotives.

driver,  
train  
preparer

### 7.2 As a formation of light locomotives

Unless authorised otherwise, you must not allow more than a total of five hauling and dead locomotives to be worked as a formation of light locomotives.

You must not haul a locomotive on which the automatic brake is totally inoperative.

If any locomotive has a partially defective automatic brake, you must not allow the speed to exceed 50 mph (80 km/h).

driver,  
train  
preparer

### 7.3 In a passenger train (loaded or empty), postal or parcels train

Unless authorised otherwise, you can only convey one hauling and one dead locomotive, except that you can allow two dead class 20 or class 73 locomotives to be formed at the rear of the train.

You can convey more locomotives when an electric locomotive in service is being hauled over a non-electrified line, or an electrified line on which the traction current has been isolated.

driver,  
train  
preparer

## Preparation and movement of trains

driver,  
train  
preparer

When preparing the train, you must make sure that a dead locomotive is formed:

- immediately behind the hauling locomotive, or
- immediately inside the powering locomotive on a push-pull train, or
- at the rear of the train.

You must make sure that the automatic brake is fully operative on a dead locomotive.

### 7.4 In a freight train

driver,  
train  
preparer

Unless authorised otherwise, you must not convey more than a total of five hauling and dead locomotives.

When preparing the train, you must make sure that dead locomotives are formed:

- immediately behind the hauling locomotive, or
- at the extreme rear of the train.

If the dead locomotives have only a through pipe available, you must make sure that:

- not more than three locomotives are hauled
- the automatic brake is operating on the three vehicles behind the dead locomotives.

You can only allow one locomotive (or two class 20 or class 73 locomotives) to be formed at the rear of the train.

You must not convey a dead locomotive at the rear of a train unless the automatic brake is operating fully.

If a dead locomotive is formed at the rear of a single-piped air-braked train, you must make sure that it is fitted with an AFT cock or equivalent. If not fitted with an AFT cock, a locomotive cannot be hauled dead, but can be conveyed with the engine under power but not supplying traction power.

# 8

## Doors on passenger, postal and parcels trains

*The people responsible: driver, guard, signaller*

### 8.1 Door open or not completely closed

If a door comes open or is not completely closed while the train is moving, you must not try to close or secure the door, but immediately stop the train before doing so.

guard

### 8.2 Treating and reporting doors as defective

You must treat a door as defective and carry out the instructions in module TW5 *Preparation and movement of trains: Defective or isolated vehicles and on-train equipment* if any of the following applies.

driver of a  
DO train,  
guard

- A power-operated door closes other than through normal operation.
- The train starts with someone or something trapped in a door.
- A power-operated door remains open when it should be shut.
- A door comes open during the journey.
- Someone is injured when opening or closing the door and it is possible that the condition of the door may have contributed to the accident.
- Someone falls from the door during the journey.
- The power-operated door controls become inoperative.
- The central door locking becomes defective.
- The internal passenger 'door open' buttons become lit when the train is moving.

## Preparation and movement of trains

### driver of a DO train, guard

You must also treat a door as defective and carry out the instructions in module TW5 *Preparation and movement of trains: Defective or isolated vehicles and on-train equipment* if any of the following applies.

- A slam door is found on the safety catch, unless it is known that the door was not properly closed before the train started.
- A door handle does not return to the horizontal position when closed.
- A door is stiff in its frame.

### guard driver

You must tell the driver what has happened.

If it is necessary to stop the train, you must do so immediately.

You must tell the signaller what has happened and give details of:

- the vehicle number
- the location of the door
- the position of all door controls
- the position of the traction interlock switch at the time of the incident.

### signaller

You must not move your train until instructed to do so by the signaller.

You must instruct the driver not to make any further movement until you have been given specific instructions from Operations Control.

### 8.3 Passenger falling from the train during the journey

If you know or suspect that someone has fallen from the train, you must tell the driver.

guard

You must tell the signaller if:

driver

- someone has fallen from the train
- you cannot be certain whether anyone has fallen from the train.

You must also tell the signaller if it is known or suspected that someone has fallen from the train, but it is not known which door was involved.

You must, if possible, transfer passengers to another vehicle and place the vehicle out of use.

driver of a  
DO train,  
guard

You must not move your train until instructed to do so by the signaller.

driver

You must instruct the driver not to make any further movement until you have been given specific instructions from Operations Control.

signaller

# 9

## Driver-guard communication

*The people responsible: driver, guard*

**driver,  
guard**

When using the bell or buzzer to communicate, you must use the following codes.

Code	Meaning
1	Stop
1-2	Close power-operated doors
2	Ready to start
2-2	Do not open doors (driver and guard to speak to one another)
3	Set back
3-1	Lock central door locking
3-2-1	Testing doors
3-3	Guard required by driver, or guard or driver to speak on the telephone
3-3-1	Release central door locking
4	Slow down
6	Draw forward
9	Police assistance required

You must make sure that all codes are made carefully, clearly and distinctly, with pauses clearly marked and acknowledged by repetition (except for code '3-2-1').

If you receive a code '9', you must get police assistance at the next suitable stopping point. You must arrange this by telling the signaller in the quickest way possible.

You must use the cab-to-cab telephone only for essential conversations about the working of the train.

You must not use the cab-to-cab telephone instead of the bell or buzzer codes to control movements of trains.

# 10

## Driver's reminder appliance (DRA)

*The person responsible: driver*

**Note:** On a train on which ERTMS is in operation, the use of the DRA will be as shown in train operating company instructions.

### 10.1 When entering or leaving the driving cab

When you enter a driving cab before starting a journey, or when taking over the train from another driver, you must:

- make sure that the DRA is set
- reset the DRA only when the platform starting signal has been cleared, or if there is no platform starting signal, when you have authority to start the train.

You must set the DRA when you leave the driving cab at the end of a journey or when another driver is to take over the train.

### 10.2 When stopping at a station platform or at a signal at danger

You must set the DRA when your train:

- stops at a station platform where the starting signal is at danger
- is stopped at any signal at danger.

You must only reset the DRA when:

- the signal has cleared
- you have been given authority to pass the signal at danger
- you are allowed to pass the signal at danger on your own authority.

You may set the DRA before your train stops at the platform.

driver

driver

### 10.3 When stopping at a station platform where no signal is provided

**driver**

You must set the DRA when your train stops at a station platform after having:

- passed a signal displaying a single yellow aspect or a semaphore distant signal at caution
- been authorised to pass at danger the signal on the approach to the platform
- entered the platform under the authority of a position-light signal or subsidiary signal.

You may set the DRA before your train stops at the platform.

You must only reset the DRA when you receive the '**ready-to-start**' signal.



# 11

## Driving-cab equipment

*The people responsible: driver, train preparer*

When preparing a train for service, you must check that the following equipment is available in each driving cab or other location, as shown in train operating company instructions for the type of rolling stock concerned.

- At least 10 detonators.
- Two track-circuit operating clips.
- Two red flags.
- A spare tail lamp or hand lamp when working locomotive-hauled DO trains.
- Any other equipment shown in the instructions for the type of train concerned.

On a multiple-unit train, one red flag must be available in each cab.

If any equipment is not available, you must not allow the train to enter service.

**driver,  
train  
preparer**

# 12

## Examining the line

*The person responsible: driver*

### 12.1 How to carry out an examination of the line

**driver**

If instructed by the signaller to examine the line, you must:

- reach a clear understanding with the signaller as to which portion of line is to be examined
- proceed over the affected portion of the line at caution
- carry out any other instructions.

If the affected portion of line is within a tunnel, you must not exceed 10 mph (15 km/h) through the tunnel.

If the signaller has told you that the examination of the line is because of a suspected track defect, you must not exceed 20 mph (30 km/h) over the affected portion of line.

You must report the state of the affected line from an agreed location beyond the affected portion of line.

### 12.2 If the headlight has failed

**driver**

During darkness, poor visibility, or if there is a tunnel in the section, you must not use a train to examine the line if the headlight has failed completely, unless a portable headlight is fitted.

### 12.3 Being accompanied by a competent person

**driver**

During darkness, poor visibility, or if the affected portion of line is within a tunnel, while examining the line, you must be accompanied by the guard or other competent person (if one is immediately available).

# 13 Exploding detonators

*The person responsible: driver*

## 13.1 At a signal box or when a hand danger signal is shown

If your train explodes one or more detonators at a signal box or when a hand danger signal is being shown, you must:

driver

- stop your train immediately
- not proceed until given permission to do so.

## 13.2 Other situations

If your train explodes one or more detonators in any other situation, you must:

driver

- stop your train immediately
- proceed at caution towards the obstruction, or any signal, end of authority (EoA) or handsignal.

# 14

## Lights on trains

*The people responsible: driver, guard, train preparer*

### 14.1 Headlights and marker lights

**driver**

You must make sure that any marker lights at the front of your train are switched on when the train is:

- on a running line
- moving on any line or in a depot, yard or siding
- being propelled in the right direction.

You must make sure that the headlight (fixed or portable) at the front of your train is:

- switched on when the train is moving on a running line
- displaying the correct day or night beam.

You must make sure that the headlight (fixed or portable) is switched off:

- in a depot, yard or siding
- when stabled on a running line.

### 14.2 Tail lamps

**driver,  
guard,  
train  
preparer**

You must make sure there is a tail lamp that is lit at the rear of the train when it is:

- on a running line
- on a through or reception siding
- being propelled in the right direction.

When two built-in electric tail lights are provided, you must make sure both are lit, where possible.

You must make sure that no other tail lamp is displayed at any other position.

### 14.3 Lights on shunting locomotives

You must make sure there is at least one red and one white light displayed at each end of a shunting locomotive (where these are fitted) when it is being used for shunting purposes.

driver

### 14.4 Lights when making a wrong-direction movement

When making a wrong-direction movement of less than 400 metres (440 yards), you need not change the normal head or marker lights or the tail lamp.

driver

When making a wrong-direction movement of more than 400 metres (440 yards), you must make sure that the headlights and marker lights are lit on the leading end of the movement and a tail lamp is lit at the rear end of the movement.

When making a wrong-direction movement as an assisting train towards a failed train, you must make sure you display normal headlights at both ends of your train and have switched off the tail lamp.

You can use a portable headlight or a handlamp if the above lights or lamps are not available.

# 15

## Locomotive assisting in the rear of a train

*The person responsible: driver*

### 15.1 Before the movement begins

**driver**

You must reach a clear understanding with the driver of the assisting locomotive about how the movement is to be started, stopped and controlled.

You can use GSM-R radio for this purpose at any time during the movement

**driver assisting locomotive.**

You must only assist a train in the rear where authorised in the *Sectional Appendix*.

You must make sure that the assisting locomotive is always coupled to the train except where authorised in the *Sectional Appendix*.

Whenever an assisting locomotive is attached to the rear of the train, you must tell the signaller.

Before the movement begins, you must temporarily isolate the TPWS or make sure that ERTMS is in the correct mode.

### 15.2 Assisting locomotive leaving the train

**driver assisting locomotive**

Immediately after the locomotive is detached from the train, you must reinstate the TPWS, or make sure that ERTMS is in the correct mode.

You must only detach the assisting locomotive at a location authorised in the *Sectional Appendix*.

You must not pass a signal which has been cleared for the train that was assisted, until the signal has been returned to danger and then cleared again.

If ERTMS is operative on the assisting locomotive, you must not make any further movement without the signaller's authority.

**driver  
assisting  
locomotive**

# 16

## Locomotives at both ends of the train or in tandem

*The person responsible: driver*

### 16.1 Trains with locomotives at both ends of the train

#### driver

You can operate a train with powered locomotives at both ends of the train in the following circumstances.

- When the rear locomotives are providing traction power.
- When the rear locomotives are providing an electrical train supply only.

You must make sure that the automatic brake is connected and operative throughout the train.

#### driver locomotive on rear

You must reach a clear understanding with the driver of the leading locomotive as to what is required before the journey or movement begins.

You can use GSM-R radio to speak to the other driver at any time during the journey about how the movement is to be started, stopped and controlled.

During the journey, you may disregard any signal which reverts to danger or caution before your locomotive passes it.



## 16.2 Trains hauled by locomotives in tandem

If ERTMS is in operation on the leading locomotive, you must make sure that suitable communication is available between each of the drivers.

driver

If you are the driver of the leading locomotive, you are responsible for observing signals or in-cab indications and operating the brake.

If you are the driver of the second locomotive, you must:

- observe all signals affecting the working of the train, where possible
- observe any signals or follow other communication given by the driver of the leading locomotive
- apply the brake if it becomes necessary.

You can use GSM-R radio to speak to the other driver at any time during the journey about how the movement is to be started, stopped and controlled.

## 16.3 If a locomotive is not the leading one

If you are the driver of any locomotive that is not the leading one, you must:

driver

- temporarily isolate TPWS before the movement starts, if it is required to be in operation during any part of the journey
- reinstate the TPWS after the movement has been completed, or before the train reverses, if it will then be required to be in operation
- make sure that ERTMS is in the correct mode throughout any part of the journey when it is required to be in operation.

# 17

## Locking doors on passenger trains

*The people responsible: guard, train preparer*

guard,  
train  
preparer

Before any train enters service, you must make sure that the following doors are locked.

- Gangway doors at each end of the train.
- Gangway doors at each side of any gangway connection which cannot be made.
- A door leading to any accommodation or vehicle which is not for public use.

You must make sure that all other doors (internal and external) are kept unlocked at all times.

# 18

## Looking out along a train

*The people responsible: driver, guard*

When starting away, if it is safe and possible to do so, you must look out to make sure everything is in order.

When working a freight train, if it is safe and possible to do so, you must look out from time to time to make sure the train is following in a safe and correct way.

**driver,  
guard**

# 19

## Passenger communication apparatus (PCA)

*The people responsible: driver, guard*

### driver

If the PCA is operated, you must, if possible, avoid stopping the train:

- in a tunnel
- on a viaduct
- in any other unsuitable location.

If an emergency brake application is not automatically made when the warning alarm sounds on a train fitted with a PCA, you must:

- if possible, contact the person who has operated the apparatus
- ask the person why the PCA has been used
- take the necessary action
- if necessary, bring the train to a stand as soon as possible at a suitable location.

However, you must stop the train immediately if:

- you have reason to believe that the train may be in danger, or
- the apparatus is operated as the train is leaving a station.

You must reset the PCA before the train restarts.

### driver of a DO train, guard

# 20

## Permissive working

*The person responsible: driver*

### 20.1 Definition

Permissive working allows a second train to be signalled onto a running line that is already occupied so that more than one train at a time can be on the same line in a:

- block section
- signal section
- dead-end platform line.

### 20.2 Authority for permissive working

You must only make a permissive movement where authorised in the *Sectional Appendix*.

driver

However, you can make a shunting movement to a portion of line that is already occupied, even though permissive working is not authorised, as long as this is for the purpose of attaching, detaching or removing vehicles.

### 20.3 Proceeding towards the rear of another train on permissive-worked lines

When proceeding towards another train which is at a stand, you must:

driver

- approach at caution
- stop your train at least 2 metres (6 feet 6 inches) short of the train in front.

## 20.4 Following another train which is moving on a permissive-worked line

### driver

When it is permitted to drive a train towards the rear of another train which is moving forward, you must:

- proceed at caution
- keep sufficient distance from the train in front to prevent your train colliding with that train in case it stops
- not pass a signal which has been cleared for the train in front until the signal has been returned to danger and then cleared again.

## 20.5 Setting-back movements where permissive working is authorised

### driver

You must not make any movement, other than for coupling or uncoupling, once the train has come to a stand unless one of the following applies.

- A signal is cleared for the movement.
- The movement is authorised by the signalling system.
- The movement is authorised by the signaller.

If the movement was made on the authority of the signaller, you must tell the signaller when the movement has been completed.

If making a setting-back movement when coupling or uncoupling, you must make sure that the movement is not greater than a distance of 600 mm (2 feet).

If it is necessary for the movement to be greater than this distance, you must get the authority of the signaller.

## 20.6 Emergency permissive working

You can also make a permissive movement when the signaller tells you that in an emergency situation on a TCB or ERTMS line your train is authorised to enter an occupied section to use a station platform.

driver

# 21

## Personal equipment

*The people responsible: driver, guard*

**driver,  
guard**

When on duty, you must have with you:

- a handlamp
- high-visibility clothing
- a watch
- up-to-date notices for all lines over which you are required to work
- any other equipment as shown in your train operating company instructions.

**driver**

You must also have with you a supply of Form RT3185 Reporting a Signal/AWS/TPWS/ERTMS/ATP/TVM failure or irregularity

**guard**

You must also have with you:

- a red flag and a green flag
- 10 detonators when working a locomotive-hauled passenger train that is not a push-pull train.



# 22

## Poor visibility

*The person responsible:* **driver**

If you cannot see signals, block markers or lineside indicators soon enough to react to them during poor visibility, you must reduce the speed of your train as you consider necessary.

**driver**

You must not exceed 40 mph (65 km/h) during poor visibility on a line where AWS is not provided as shown in Table A of the *Sectional Appendix*.

# 23

## Preparing a train

*The people responsible: guard, train preparer*

guard,  
train  
preparer

Before a train enters service, you must check all of the following.

- All vehicles are properly coupled, including the brake-pipe and electrical connections.
- The necessary lamps are provided on the trains.
- The load and formation of the train meet the relevant rules and instructions.
- Before moving any locomotive or vehicle in the train that is not registered with Network Rail, that special authorisation has been received from Network Rail.
- All vehicles appear safe to travel.
- All handbrakes are released (unless it is the driver's responsibility on multiple units).
- All the doors are properly closed on a passenger or empty coaching stock train.
- Two track-circuit operating clips are available for use in or next to each brake compartment on a train of coaching stock.

You must make sure the driver is aware of any items of defective or isolated on-train equipment.

You must give the driver any necessary instructions to do with the safe working of the train.

You must test power-operated doors as shown in your train operating company instructions. You must carry out this test before a train enters service, unless your train operating company instructions allow the test to be done before entering passenger service.

If you are working a train on which ERTMS is in operation, you must not enter data into the DMI when a train or vehicle is standing between your train and the signal or block marker at the EoA ahead.

# 24

## Proceeding after being stopped because of an accident or other exceptional cause

*The people responsible: driver, guard*

When your train has been stopped because of an accident or other exceptional cause, you must not restart until:

driver

- you have received a **'ready-to-start'** signal from the guard, if the train is worked by a guard
- you have made sure it is safe to do so, if you are working a driver only (DO) train.

You must only give a **'ready-to-start'** signal to the driver after you have made sure it is safe to do so when the train has been stopped by an accident or other exceptional cause.

guard

If your train has stopped over unworked points, you must:

driver

- only restart when it is safe to do so
- if necessary, arrange for the points to be secured before restarting.

# 25

## Proceeding at caution

*The person responsible: driver*

### driver

If instructed to proceed at caution, you must, as well as not exceeding any specified speed, proceed at a speed which takes account of conditions (such as the distance you can see to be clear), that will allow you to stop the train short of any train, vehicle or other obstruction, or the end of your movement authority.

# 26

## Propelling movements

*The people responsible: driver, shunter, signaller,*

### 26.1 Authority for propelling

You may allow a propelling movement to take place as follows.

- At locations shown in the *Sectional Appendix*.
- Within the station limits of the same signal box.
- A shunting movement on a track circuit block line that is not required to proceed beyond more than one main aspect signal.
- A shunting movement on an ERTMS line that is not required to proceed beyond more than one main aspect signal or block marker.
- Through points worked from a ground frame.
- An officers' special train in the right direction.
- A wrong-direction movement that has been authorised after taking a wrong route at a junction.
- When a wrong-direction movement has been authorised after overrunning a station.
- A movement that is in connection with single line working.
- A movement that is in connection with working to or from the point of obstruction.
- A movement of a breakdown train.
- A movement in connection with clearing a disabled train or portion of it from the section.
- A wrong-direction movement with the front portion of a divided train to the rear portion.

**driver,  
shunter,  
signaller**

## 26.2 Controlling the movement

**driver**

You must not make a propelling movement unless it is controlled by a person acting as a shunter as shown in Rule Book module SS2 *Shunting*.

## 26.3 Before the movement starts

**driver,  
shunter**

Before the movement starts, you must both reach a clear understanding about:

- the movement
- the limits of the movement
- how it will be controlled.

You can use GSM-R radio to speak at any time during the journey about how the movement is to be started, stopped and controlled.

**shunter**

If the movement is to be made along a running line, you must:

- make sure the automatic brake is in use
- tell the signaller that the movement will be propelled, except when the movement is being made through points worked by a ground frame.

**driver**

You must:

- temporarily isolate the TPWS before the propelling movement starts
- reinstate the TPWS when the movement has been completed
- make sure that ERTMS is in the correct mode before the propelling movement starts.

## 26.4 During the movement

If you are making a propelling movement, you must drive from the leading cab unless either of the following applies.

driver

- You have to look out for signals or handsignals and you will have a better view from another cab.
- A shunter is controlling the movement by radio and you do not have to look out for signals or handsignals during the movement.

Throughout the movement you must:

- observe all signals
- not pass any block marker, signal or stop board without authority
- not exceed 20 mph (30 km/h), except for an officers' special train
- sound the warning horn when approaching a level crossing.

# 27

## Public address system

*The person responsible: driver*

### driver

If your train operating company's instructions tell you to make announcements using the public address system, you must not do so when the train is moving if you may become distracted and put the safe operation of the train in danger.



# 28

## Rail adhesion

*The people responsible: driver, signaller*

### 28.1 Levels of rail adhesion

There are three levels of rail adhesion conditions:

Level	Definition
Good	Rail adhesion conditions are good.
Expected	Rail adhesion is no worse than would be expected for the location and environmental conditions.
Reportable	Rail adhesion is worse than would be expected for the location and environmental conditions.

### 28.2 When to report rail adhesion levels

You must follow your train operator's driving policy for low rail adhesion at locations where you expect to experience 'expected' adhesion levels. You do not need to report 'expected' adhesion levels to the signaller.

You must tell the signaller immediately if you experience 'reportable' rail adhesion levels.

driver

## Preparation and movement of trains

### signaller

If you are told about 'reportable' rail adhesion levels, you must tell Operations Control and take the following action.

Location where conditions apply	Action to be taken
Approach to a stop signal or an End of Authority (EoA)	Arrange for the driver of each train to be told about the circumstances unless the signal is showing a proceed aspect or an MA has been issued beyond the EoA
Controlled level crossing within the overlap of a signal or EoA	Close the crossing to road traffic before each train approaches
AHBC level crossing	Select the non-stopping mode (where provided)
Approach to a platform	Arrange for the driver of each train booked to call to be told about the circumstances
Dead-end platform	Arrange, if possible, for the platform to be taken out of use

### signaller

When it is necessary for you to tell a driver about 'reportable' rail adhesion levels, you can do this by using the 'Acknowledged (safety) broadcast calls' arrangement.

### driver

If you have been told about 'reportable' rail adhesion levels, you must approach the location using the method shown in your train operator's driving policy.

## 28.3 Arranging a controlled test stop

### signaller

You must arrange for a train to make a controlled test stop at the location concerned, if one of the following applies.

- Operations Control tell you that the rail head has been inspected and nothing unusual has been found.
- Operations Control tell you that the rail head has been inspected, and improvement treatment carried out.
- At least 30 minutes have passed since you were told about the 'reportable' rail adhesion level.

In the case of a dead-end platform, you must not arrange for a test stop to be made unless you have been told that the rail head has been treated.

signaller

If possible, you must arrange for the test stop to be performed by a similar type of train to that which reported the conditions.

Before a controlled test stop is made, you must:

- arrange for the signal, where provided, to be cleared
- arrange for an MA to be issued beyond the EoA, if there is one
- where permissive working is authorised, make sure the platform line is clear.

When the signaller tells you to make a controlled test stop, you must brake the train in the way that you would normally use for the environmental and rail adhesion conditions at the location, rather than the way that you would for 'reportable' rail adhesion levels.

driver

Immediately after the controlled test stop, you must tell the signaller:

- the results of the test
- whether the rail adhesion level should still be considered as 'reportable'.

If the driver who made the controlled test stop reports that the rail adhesion level is still 'reportable', you must tell Operations Control, who will tell you when to arrange a further controlled test stop.

signaller

## 28.4 Resuming normal working

Until you are told that drivers are being notified by other means, you must continue to advise drivers.

signaller

You must continue to take any other action shown in section 28.2.

You must not resume normal working until a controlled test stop has been carried out and the rail adhesion level is no longer considered as 'reportable'.

## | 28.5 Serious wheel slip

### driver

You must tell the signaller the location where serious or prolonged wheel slip is experienced. However, if you suspect the rail to be damaged, you must stop the train specially and tell the signaller immediately.

### signaller

You must arrange for the affected portion of line to be inspected.

# 29

## Route and traction knowledge requirements

*The people responsible: driver, guard*

### 29.1 Driver's responsibilities

When working a train, you must have the necessary knowledge for the entire route over which you are to work, or be accompanied by a competent conductor driver.

driver

If the conductor driver is not familiar with the type of traction concerned, you must explain before starting the journey:

- how to stop the train in an emergency
- where the emergency equipment is kept
- how to shut down the traction unit in an emergency.

If you are being conducted over a portion of line you are not familiar with, you must take note of signals, speed restrictions and other features about the line.

If you are the conductor driver, you must:

- take responsibility for the safe working of the train
- observe all signals and speed restrictions
- drive the train if authorised and competent to do so.

conductor driver

If you are not driving the train, you must give the driver the necessary instructions concerning:

- signals
- speed restrictions
- gradients
- curves
- other features of the line the driver needs to know.

## 29.2 Guard's responsibilities

### guard

When working a train, you must have the necessary knowledge for the entire route over which you are to work, or be accompanied by a person who has.

# 30 Sidings and goods lines

*The person responsible: driver*

You must not allow a passenger train to enter a siding, a goods line or a goods loop unless:

- the arrangements have been published, or
- in an emergency, when authorised by the signaller.

**driver**

# 31

## Single line working

*The people responsible: driver, guard*

### 31.1 In the wrong direction

driver

If your train is to travel over the single line in the wrong direction, you must tell the guard.

driver,  
guard

You must consider the effect on:

- station working, releasing doors and passenger safety
- protection arrangements if you have to carry out the requirements of Rule Book module M1 *Dealing with a train accident or train evacuation*.

### 31.2 Single line working where more than one running line is available

driver

If your train is to travel over the single line in the wrong direction and the single line working arrangements have not been published in the *Weekly Operating Notice*, you must tell the guard.

driver,  
guard

If protection needs to be carried out as shown in Rule Book module M1 *Dealing with a train accident or train evacuation*, you must take into account the altered direction of train working under single line working arrangements.



# 32

## Single lines worked with a token, or with or without a train staff

*The person responsible: driver*

### 32.1 Principle

Only one train at a time is allowed in a single-line section.

### 32.2 Entering or fouling a single line worked with a token or train staff

You must always stop your train when you need to get, deliver or exchange a token or train staff.

driver

Before you take a train onto the single line, you must make sure you get the correct token or train staff for the section you are about to enter from the signaller or person authorised in the *Sectional Appendix*.

Where a no-signaller token instrument is provided, you must ask the signaller or authorised person to release the token.

If you are the driver at the leading end of the train, you must show the token or train staff to the driver of any other locomotive at the leading end of the train before you enter the single line section.

You do not need to have the token or train staff, if any of the following apply.

- The line is under possession.
- Working by pilotman is in operation.
- Modified working arrangements are in operation.
- You are authorised to pass the section signal on an electric token line at danger for shunting purposes.
- Your train is to enter the single-line section as an assisting train.

### 32.3 Handling the token or train staff

#### driver

You must keep the token or train staff with you in the cab from which the train is being driven until it is needed by a shunter.

If the token or train staff has been given to the shunter for shunting purposes, you must not continue with the journey until:

- shunting is completed
- the points have been locked in the correct position for trains to pass on the single line
- the shunter has returned the token or train staff to you.

When the train has reached the end of the section, you must:

- give the token or train staff to the signaller or the person authorised in the *Sectional Appendix*, or
- where a no-signaller token instrument is provided, place the token in the instrument or give the token to the authorised person to do this.

If your train has failed and an assisting train is to enter the section from a ground frame which is released by the token, the signaller will instruct you to take the token to the ground frame.

When you arrive at the ground frame, you must:

- contact the signaller
- not place the token in the instrument
- come to a clear understanding with the signaller about what is to be done
- hand the token to the driver of the assisting train.

If any portion of the train is left in the single-line section, you must tell the signaller before you leave the single-line section. You must keep the token or train staff until the whole train is clear of the single-line section.

If the signaller tells you that the front portion of the train is to continue on its journey, leaving the rear portion in the single-line section, you must then give up the token or train staff.

If the signaller has told you that, because of a failure of token instruments, trains will be run as if on a one-train working line where a train staff is provided, you must:

- handle the token as if it is a train staff
- not place the token in any instrument.

On a no-signaller token line, you must not transfer the token from one train to another unless it has been passed through a token instrument, except when:

- a train is to enter the section to assist, from the front, a portion of a train which has been left in the section
- you are told that due to a failure of token instruments, the single-line section will be worked as a one-train working line with train staff.

### **32.4 One-train working without a train staff**

You must not enter or foul the single-line section until the controlling signal is cleared unless one of the following applies.

- The line is under possession.
- Working by pilotman is in operation.
- Modified working arrangements are in operation.
- Your train is to enter the single-line section as an assisting train.

If any portion of the train is left in the single-line section, you must tell the signaller. You must not leave the single-line section until you have told the signaller.

driver

driver

# 33

## Snow conditions

*The person responsible: driver*

### driver

When snow is falling, or fallen snow is being disturbed by the passage of trains, you must carry out running brake tests as frequently as necessary to make sure that the automatic brake is operating effectively.

You must also carry out any other train operating company instructions.

# 34 Starting a train

*The people responsible: driver, person in charge*

## 34.1 Starting a train from a siding, depot or yard

Before you give permission to the driver of a train leaving a siding, depot or yard to start the train, you must make sure it is safe to do so.

person in charge

Before you start a train from a siding, depot or yard, you must make sure it is safe to do so, and get permission from the person in charge, if there is one. **i**

driver

## 34.2 Starting a train assisted in the rear

If a train is assisted in the rear, you must also give permission to the driver of the assisting locomotive for the train to start.

person in charge



Person in charge in this section means the person in charge of movements at the location concerned.

# 35

## Stopping a train at a station where the train is booked to stop

*The people responsible: driver, guard*

### driver

You must stop your train at the platform as indicated by the car stop markers, where provided.

Unless you are authorised to do otherwise, you must stop your train so that all doors used by passengers are at the platform.

### driver of a DO train, guard

If your train is to stop at a station where it is longer than the platform, you must, if possible, tell passengers leaving the train at that station to move along the train before reaching the station, or wait for the train to be drawn forward.

### driver, guard

You must make sure you do not release the doors until the train has stopped and is at the correct position at the platform.

You must make sure that you release the doors at the correct side of the train.

If the whole of the train will not be at a platform, you must make sure that you only release those doors that will be alongside the platform.

# 36

## Stopping or stabling a train

*The person responsible: driver*

### 36.1 Train shunted clear of the line or entering loop lines on other than track circuit block (TCB) or ERTMS lines

If your train has not already passed the controlling signal box, you must tell the signaller immediately that your train has arrived complete with tail lamp and is clear of the running line when your train has:

- entered a loop or siding, or
- been shunted clear of the line on which it arrived.

driver

### 36.2 Traction unit left unattended

You must only leave your traction unit unattended when you are:

- handing it over to another competent person who is to take charge of it
- stabling the traction unit in either a depot, siding or other authorised place
- required to leave your traction unit unattended as instructed in the rules.

driver

Each time you leave your traction unit unattended, you must make sure it is properly secured.

### 36.3 Standing foul of any other line

When stopping your train on a reception line or siding, you must make sure that the train does not stand foul of any other line.

driver

# 37

## Stopping short of, or overrunning a platform

*The people responsible: driver, guard*

### 37.1 If the train is stopped incorrectly at a station platform

**driver**

When the guard is responsible for releasing the doors and you have stopped your train incorrectly at a station so that the whole of the train is not at the platform, you must tell the guard immediately using the bell or buzzer communication.

**driver of a DO train, guard**

You must immediately tell passengers not to get out of the train until it has been moved to the correct stopping position.

If the doors have been released by mistake, you must check that no one has fallen from the train before moving the train.

**guard**

If someone has fallen from the train or you are not sure whether someone has fallen from the train, you must tell the driver.

**driver**

You must tell the signaller if someone has fallen from the train, or you cannot be certain whether anyone has fallen from the train.

**driver, guard**

You must make arrangements, including where necessary with the person in charge of the platform, for the train to be moved so that those passengers who want to get off can do so safely.

**driver**

If the train is to draw forward or return in the wrong direction, you must only do this when all doors are closed and are no longer released.

You must get the signaller's permission before you make a wrong-direction movement.

Before you make the movement, you must make sure you can do this without endangering anyone who has got off the train.



## 37.2 Returning to the platform after an overrun

If your train overruns a platform, it can only return to the platform if all of the following apply.

driver

- The overrun is no more than 400 metres (440 yards) beyond the platform.
- You have received permission from the signaller.
- The movement does not need to pass over an automatic half-barrier crossing (AHBC), unless the crossing is being locally operated.

You must tell the guard when permission has been given for the train to return to the platform.

If the train has to pass over a level crossing, you must make sure that the crossing is clear.

# 38

## Train in distress

*The people responsible: driver, guard*

### driver

If you cannot control the speed of your train or you need to alert anyone about some other emergency, you must:

- sound the 'train in distress' warning (a continuous series of long blasts on the high/loud tone of the horn)
- switch on the hazard warning indication if provided
- display a red light.

### guard

If you become aware that the 'train in distress' warning is being sounded, you must:

- try to stop the train immediately
- contact the driver.

# 39

## Train radio equipment

*The people responsible: driver, guard, signaller*

### 39.1 Using the train radio safely

Except in an emergency, you must only use the train radio when a train is moving if one of the following applies.

driver

- You need to pass a message relating to the immediate movement of the train and it is necessary to do so before your next stopping point.
- You are responding to a 'contact signaller' or a 'contact train operator's control' message.
- You are allowed to elsewhere in the Rule Book.

Before you use the train radio when a train is moving, you must decide whether it is necessary and whether it can be done safely, taking into consideration whether:

- your train is running under cautionary signal aspects or you can see cautionary signal aspects ahead
- your train is approaching a location where it is necessary to reduce speed or you are running over a speed restriction
- you have reduced the speed of your train sufficiently before making the call to keep full control of the train throughout the call.

If a conversation cannot be completed quickly, you must end the call or stop the train.

If you need clarification, advice or information from a signaller, you must bring the train to a standstill before making a call.

If you receive a text message, you must only read that message when it is safe to do so.

Except in an emergency, you must not use the train radio to speak to the driver unless you are sure that the train concerned is at a standstill.

signaller

## Preparation and movement of trains

### signaller

You can use the train radio at any time to send a 'contact signaller' message to get the driver to call you.

### 39.2 Communicating with the signaller

### driver

You must use the train radio (if available) as the normal method of communicating with the signaller.

You must only use a signal-post telephone if it is not possible to communicate using the train radio.

### 39.3 Signaller unable to contact the driver

### signaller

If you cannot contact the driver on the train radio, you must not send messages to the driver through anyone else. Instead, you must arrange for the driver to contact you direct.

### 39.4 Radio area boundaries

### driver

When your train passes a sign indicating the start of a GSM-R radio section, you must check that the GSM-R radio is operating and connected to the GSM-R network.

When your train passes a sign indicating the end of a GSM-R radio section, you must check that the alternative radio system is operational.

### 39.5 Making an emergency call

### driver

You must only use the emergency call facility when it is necessary to give immediate advice for trains to be stopped or cautioned, or to call the emergency services, in connection with an accident, obstruction or other exceptional incident.

### signaller

You must only use the emergency call facility when it is necessary to do so to stop the movement of trains, as shown in the train signalling regulations.

## 39.6 Railway emergency group call (REC)

### a) Receiving a REC

driver

If you receive a REC, you must:

- bring your train to a stand immediately
- listen to the message.

### b) During the REC

signaller

During the REC, you must:

- identify all trains that must remain at a stand
- instruct the drivers of those trains to remain at a stand
- get confirmation from the driver of each train that must remain at a stand that the message has been received and understood.

### c) Ending the REC

When you are sure the emergency has been protected, you must end the REC with the phrase 'End of railway emergency group call'.

You must not consider the REC to be ended until the signaller has said this.

driver

### d) Restarting trains

After the REC has been ended, you may restart your train as long as:

- you are sure your train is not affected by the emergency
- the signaller has not instructed you to remain at a stand.

You must proceed at caution as far as the next stop signal or proceed as indicated by the movement authority displayed.

## Preparation and movement of trains

### driver

In all other situations you must get authority from the signaller before you restart your train.

# 40

## Train requiring to stop in section

*The person responsible: driver*

### 40.1 General

You must tell the signaller, if necessary stopping the train at a signal or the signal box, before reaching the section of line in which the train has to work, if you are working:

driver

- an engineering train that is required to work on a running line which is not under possession
- a freight train that is required to make an unscheduled call at an intermediate siding
- an officers' special train that is required to stop at a location that is not shown in the published notice.

You must:

- agree with the signaller a time when the section must be clear
- make sure your train has left the section by the agreed time.

### 40.2 Level crossings

You must not stop the train within the controls of:

driver

- an AHBC, unless it is under local control
- an automatic barrier crossing locally monitored (ABCL) or an automatic open crossing locally monitored (AOCL) level crossing.

### 40.3 Changing direction

If the train is returning to the same end of the section at which it entered on a single or bi-directional line, you must ask the signaller for permission before the returning movement starts.

driver

# 41

## **Train stopped out of course**

*The person responsible: driver*

### **driver**

If your train stops out of course for any reason, you must tell the signaller as soon as possible.



# 42

## Traincrew being relieved

*The people responsible: driver, guard*

You must give the new driver or guard all necessary instructions and information about the safe operation of the train.

**driver,  
guard**

This must include:

- any operational requirements affecting the safe working of the train
- any defects with the train which the new driver or guard needs to know about
- any instructions given by the signaller.

# 43

## Trains put in danger

*The people responsible: driver, guard*

### 43.1 When other trains are put in danger

#### driver

You must carry out the instructions in this section if you see:

- an obstruction on the line which could cause danger to other trains
- a cow, bull or other large animal within the boundary fence, even if it is not an immediate danger to trains
- any other animal on or near the line which might be a danger to trains
- something wrong with another train.

You must use the emergency call facility on the train radio equipment.

You must warn the driver of any approaching train, if possible, by:

- sounding the horn
- switching on the hazard warning indication where provided.

If you cannot switch on the hazard warning indication, you must display a red light forward.

You must:

- place a track-circuit operating clip and three detonators 20 metres (approximately 20 yards) apart on each affected line, at least 2 km (1¼ miles) from the obstruction
- tell the signaller in the quickest way possible.

#### guard

If you see something wrong which could put another train in danger, you must, if possible, alert the driver of the other train by the most appropriate means.

## 43.2 When a following train is put in danger

If you see an obstruction or something wrong which could put a following train in danger, you must not proceed beyond the next stop signal until you have told the signaller.

driver

## 43.3 When your train is put in danger

If you become aware of something which could put the safety of your train in danger, you must stop your train as soon as possible.

driver,  
guard

You must, if possible, avoid stopping the train:

- in a tunnel
- on a viaduct
- at any other unsuitable place.

## 43.4 When trains will not be put in immediate danger

If you see something wrong which will not put trains in immediate danger, you must tell the signaller at the first available opportunity.

driver

# 44

## Vehicles labelled for repair or with a NOT TO BE MOVED board attached

*The people responsible: driver, guard, train preparer*

### 44.1 Trains or vehicles with a NOT TO BE MOVED board attached

driver,  
guard,  
train  
preparer

If a train or vehicle has a NOT TO BE MOVED board attached, you must not allow:


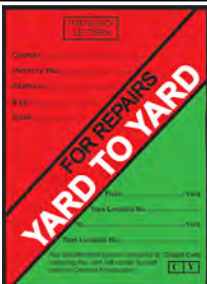

- it to enter service
- it to be moved
- another vehicle to make contact with it
- the controls on a traction unit to be interfered with.

### 44.2 Vehicles labelled for repair



driver,  
guard,  
train  
preparer



If a train or vehicle has a repair label attached, you must make sure the movement restrictions on the label are carried out.

The meaning of each type of label is shown in the following table.

Label	Meaning	Example
<p><b>NOT TO GO</b></p>	<p>Must not:</p> <ul style="list-style-type: none"> <li>• be worked away from the station, depot, yard or siding, or</li> <li>• be moved within the station, depot, yard or siding unless authorised by a rolling stock technician</li> </ul>	 <p>The image shows a 'NOT TO GO' label. It has a red diagonal band across the center with the text 'NOT TO GO' in white. Above the band, it says 'THE BLOCK LISTERS'. Below the band, there are fields for 'Vehicle No.', 'Owner', and 'Defects'. At the bottom, there are checkboxes for 'Craper Code' and 'Defect Code'.</p>
<p><b>YARD TO YARD FOR REPAIRS</b></p>	<p>Must only make the journey to a maintenance depot shown on the label</p>	 <p>The image shows a 'YARD TO YARD FOR REPAIRS' label. It has a red diagonal band with 'FOR REPAIRS' and a green diagonal band with 'YARD TO YARD'. Above the bands, it says 'THE BLOCK LISTERS'. Below the bands, there are fields for 'Owner', 'Vehicle No.', 'Repair to', 'Siding', 'Yard', 'Yard Location No.', 'Yard Location No.', and 'Yard Location No.'. At the bottom, there are checkboxes for 'Craper Code' and 'Defect Code'.</p>
<p><b>FOR REPAIRS</b></p>	<p>May complete the journey and then be dealt with as shown in train operating company instructions</p>	 <p>The image shows a 'FOR REPAIRS' label. It is green and has 'FOR REPAIRS' in large black letters. Above it, it says 'THE BLOCK LISTERS'. Below it, there are fields for 'Vehicle No.', 'Owner', 'Vehicle No.', 'Defects', and 'Equipment'. At the bottom, there are checkboxes for 'Craper Code' and 'Defect Code'.</p>

Preparation and movement of trains

Label	Meaning	Example
<p><b>AUTOMATIC BRAKE DEFECTIVE (PIPE OPERATIVE)</b></p>	<p>Must be treated as a piped-only vehicle</p>	
<p><b>AUTOMATIC AND HAND BRAKE DEFECTIVE</b></p>	<p>Must be treated as a piped-only vehicle and must be coupled to another vehicle unless suitably secured</p>	

Label	Meaning	Example
<p><b>HAND BRAKE DEFECTIVE</b></p>	<p>Must be coupled to another vehicle unless suitably secured</p>	
<p><b>FOR URGENT REPAIRS/ RESTRICTED MOVEMENT</b></p>	<p>Vehicle must be worked to a maintenance depot and must not exceed 35 mph (55 km/h)</p>	

# 45

## Warning horn

*The person responsible: driver*

### 45.1 General

**driver** You must only use the horn as much as is necessary to give an effective warning or to make sure safe working takes place.

### 45.2 Warning tones to use

**driver** If two tones are provided, you must use the horn as shown below.

If the horn has no soft/loud setting, you must use the setting provided.

Circumstances	Tones you must use
To give a warning to anyone on or near a running line	High and low tones - use the loud setting
To give an urgent warning to anyone on or dangerously near to the line	High tone - use the loud setting
When passing a whistle board	Low tone - use the loud setting
To give a warning when in a depot or siding	Low tone - use the soft setting
To sound a local or special code	High tone - use the loud setting
Wrong-direction movements	High tone - use the loud setting



## 45.3 Sounding the horn as a warning

### a) Anyone on or near the line

driver

You must sound the horn to warn anyone who is on or near the line on which you are travelling.

Give a series of short, urgent danger warnings to anyone who is on or dangerously near the line who does not:

- acknowledge your warning by raising one arm above the head, or
- appear to move clear out of the way of the train.

### b) Whistle boards

You must only sound the horn when passing a whistle board between 0600 and 2359, except in an emergency or when anyone is on or near the line.

### c) Within a possession

You must sound the horn on starting your train when making a movement within a possession.

### d) Wrong-direction movements

When making a wrong-direction movement on a running line for which there is no signal provided, you must sound a series of short blasts at frequent intervals.

### e) Train movements

You must sound the horn at any other time you consider necessary.

# 46

## Working on the outside of a train

*The person responsible: driver*

### driver

You must ask the signaller to stop trains on any adjacent line which could put you, another member of traincrew, or anyone else whose duties mean that person has to be with you, in danger if one of the following applies.

- You or the other person needs to work on the outside of your train **i** after it has stopped because of a failure or other exceptional incident.
- You or the other person has to walk alongside your train.
- You or the other person needs to check that the working equipment on an on-track machine (OTM) is correctly positioned.

You must do this before you or the other person starts working or walking.

To arrange for trains to be stopped, you must:

- ask the signaller to stop the passage of trains on the lines concerned
- get an assurance from the signaller that this has been done
- reach a clear understanding about which lines have been blocked
- reach a clear understanding about which lines will stay open to traffic
- ask the signaller to read back to you the details that have been recorded.

If you are satisfied that the details recorded by the signaller are correct, you must confirm you understand the arrangements.



Work includes checks or examinations for defects or damage which must be carried out to meet the rules, and minor repairs to your train that your employer has authorised you to carry out.

The signaller will then give you an authority number. Until you are given this authority number, you must not consider the adjacent line as being blocked.

driver

If you have arranged to stop the passage of trains for another person to work on the outside of your train or walk alongside it, you must explain the arrangements to that person.

When the work on the outside of the train has finished or you, or the other person have finished walking, you must tell the signaller that the normal passage of trains can be resumed.

You must give the signaller the authority number that you were given.

## Notes



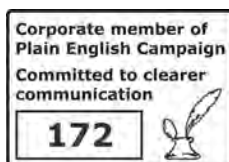
## Notes





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# GERT8000-TW5 Rule Book



## Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

### Issue 9

## Module TW5



September 2018  
Comes into force 01 December 2018



## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

Green text in the margin indicates who is responsible for carrying out the rule.

A white **i** in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



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You will need this module if you carry out the duties of a:

- driver
- guard
- signaller
- train preparer.

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## 1

## Reporting defective or isolated on-train equipment

*The people responsible: driver, guard, signaller*

### 1.1 Driver reporting a defect

#### a) Stopping the train immediately

driver

You must stop your train and tell the signaller as soon as you become aware of a defect with the:

- air suspension
- automatic warning system (AWS) - if in operation on the train
- axle boxes
- brakes
- doors if they cannot be closed
- driver's safety device (DSD)
- driver's vigilance equipment
- driving cab window - broken or obscured
- driving controls
- emergency bypass switch (EBS)
- ERTMS on-train equipment - if in operation on the train
- external orange hazard lights
- headlights or tail lights
- lifeguards
- sanding equipment - if you believe you may have difficulty stopping the train if it continues in service
- selective door-opening - if you consider this may be due to defective lineside equipment
- speedometer, other than DMI displaying the incorrect units of speed

- track circuit actuators (TCA) - if the train cannot continue normally
- traction interlock switch (TIS)
- train protection and warning system (TPWS) - if in operation on the train
- warning horn - complete failure
- wheel slide protection - if you believe you may have difficulty stopping the train if it continues in service

If possible, you must avoid stopping the train:

- on a viaduct
- in a tunnel
- at the entrance to a station
- on or near points until the last vehicle of the train is clear
- on a level crossing
- at any other place where it might be difficult to deal with the situation.

### **b) Stopping the train at the first convenient opportunity**

You must tell the signaller at the first convenient opportunity, stopping the train specially if necessary, when you become aware of a defect with the train radio equipment.

You must stop your train at the first convenient opportunity and tell the train operators control when you become aware of a defect with the:

- automatic warning system (AWS) - if not in operation on the train
- doors unless they cannot be closed
- driver's reminder appliance
- ERTMS on-train equipment - if not in operation on the train
- on-train data recorder
- public address system on DO trains
- sanding equipment - unless you believe you may have difficulty stopping the train if it continues in service

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## driver

- DMI if it is displaying the incorrect units of speed.
- selective door-opening - unless you consider this may be due to defective lineside equipment
- track circuit actuators (TCA) - if the train can continue normally
- train protection and warning system (TPWS) - if not in operation on the train
- warning horn - partial failure
- wheel slide protection - unless you believe you may have difficulty stopping the train if it continues in service.

### c) General

If you isolate an item of defective on-train equipment that will affect the movement of the train, you must tell the signaller immediately.

If the train stops out of course or might not be able to depart on time, you must tell the signaller immediately.

After reporting the defect you must make sure you receive instructions on how the defect is to be dealt with and the arrangements for further movement.


If reporting the defect to the train operator's control will cause delay, you must tell the signaller the reason for the delay.

## signaller

If the train has stopped in a position which prevents the movement of other trains, you may, if the circumstances allow, authorise the driver to move the train to clear points or junctions.

## 1.2 Guard reporting a defect

## guard

If you become aware that on-train equipment is defective and this may affect normal movement of the train, you must tell the driver immediately 



In this module the term 'normal movement of the train' means that the train can accelerate, travel and stop in the normal way without speed restriction or special travel conditions

If you become aware that on-train equipment is defective, but this will not affect normal movement of the train, you must tell the train operator's control.

guard

If you do not have a way to contact the train operator's control, you must ask the driver to do this.

### 1.3 Signaller receiving a report from a driver

If a driver tells you about defective or isolated on-train equipment, you must:

signaller

- if necessary take action to stop trains and protect any line affected
- tell Operations Control
- make a suitable entry in the Train Register.

### 1.4 Signaller receiving instructions from Operations Control

When you receive instructions from Operations Control about the action to be taken with the train, you must:

signaller

- pass the instructions to the driver immediately
- make sure the driver understands clearly what action to take
- make a suitable entry in the Train Register.

### 1.5 Giving instructions to the driver

You must give directly to the driver any instructions from Operations Control relating to the movement of the train.

signaller

Any instruction relating to the movement of the train will be given to you directly by the signaller.

driver

In exceptional circumstances, instructions may be given to vary the conditions shown in this module. The conditions shown in this module cannot be varied for AWS, ERTMS or TPWS equipment.

driver,  
signaller

# 2

## Competent person travelling with driver

*The people responsible: competent person, driver*

### 2.1 General instructions

driver

If the automatic warning system (AWS), train protection and warning system (TPWS), driver's safety device (DSD) or driver's vigilance equipment fails, or if the windscreen becomes broken or obscured, a competent person may be provided to travel with you.

When you are accompanied by a competent person, you must tell the competent person which equipment is defective and what to do.

### 2.2 Defective or isolated AWS or TPWS

driver

When approaching a signal, you must:

- call out the signal aspect or indications to the competent person
- give a commentary on the speed reduction on the approach to cautionary and stop aspects.

On the approach to speed restrictions, you must tell the competent person that you are applying the brakes to observe the restriction.

competent  
person

You must:

- acknowledge the driver's reaction to signal aspects, sequences or indications
- if necessary, remind the driver of a signal displaying a cautionary or stop aspect
- acknowledge the driver's reaction to speed restrictions
- if necessary, remind the driver of the speed restriction ahead.



### 2.3 Broken or obscured windscreen

You must help and advise the driver with sighting signals, speed restrictions, lineside signs, stations, level crossings and anything else on the line which the driver needs to be aware of.

competent  
person

### 2.4 Defective or isolated DSD or driver's vigilance equipment

If necessary you must point out and explain to the competent person the relevant equipment needed for stopping the train in an emergency and how to contact the signaller.

driver

You must confirm to the driver that you understand how to stop the train in an emergency and contact the signaller.

competent  
person

If the driver becomes unable to drive, you must stop the train immediately and tell the signaller, by using the train radio if possible.

# 3

## Air suspension

*The people responsible: driver, train preparer*

driver,  
train  
preparer

### 3.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if the air suspension is not inflated on any bogie.

driver,  
train  
preparer

### 3.2 Starting a journey from somewhere other than a maintenance depot

If the air suspension is not inflated on any bogie, you must tell the train operator's control.

If the train operator's control gives authority to start a journey, you must comply with any speed or route restrictions given. You must make sure that the signaller is aware of these restrictions.

driver

### 3.3 During a journey

If the air suspension becomes deflated on any bogie, you must:

- stop your train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

# 4 Automatic warning system (AWS)

*The people responsible: driver, train preparer*

## 4.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if, in any cab which is required to be driven from when AWS is required to be in operation.

- The AWS is defective.
- The AWS is isolated.
- The seal is broken on an AWS isolating handle.

driver,  
train  
preparer

## 4.2 Starting a journey from somewhere other than a maintenance depot

You can allow a train to start a journey with the AWS defective, isolated or with the seal broken on the isolating handle in the cab to be driven from, as long as AWS will not be required to be in operation during the journey.

You must:

- tell the train operator's control at the first convenient opportunity
- carry out any instructions given.

You can allow a train to start a journey (but not carrying passengers) with AWS defective, isolated or with the seal broken on the isolating handle in the cab to be driven from, when AWS is required to be in operation, to travel to a maintenance depot for repair as long as you:

- tell the signaller
- get permission for the train to start a journey in this condition.

driver,  
train  
preparer

### 4.3 If the AWS becomes defective during a journey

#### driver

If you become aware that the AWS has become defective when it is required to be in operation, you must:

- stop your train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

If you become aware that the AWS has become defective when it is not required to be in operation, you must:

- tell the train operator's control at the first convenient opportunity
- carry out any instructions given.

### 4.4 Isolating the AWS during a journey

#### driver

You may isolate the AWS when it is required to be in operation only when:

- cancelling the AWS warning indication does not stop the horn sounding or the brakes applying
- successive or intermittent failures suggest that the AWS equipment is defective
- the train stops directly over the track equipment.

If the AWS has been isolated because the train stopped with the receiver directly over the track equipment, you must if possible, make sure the AWS is made operative again immediately when restarting the train.

If it becomes necessary to isolate the AWS, you must:

- stop your train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

## 4.5 If the AWS is defective or isolated

If permission is given for a train to start a journey or proceed after the AWS has become defective, been isolated or the seal is broken on an AWS isolating handle, you must follow the conditions in the table below during any part of the journey where AWS would normally be in operation.

<b>Competent person not provided</b>	<b>Competent person is provided</b>
Freight trains and OTMs can proceed at a speed not exceeding 50 mph (80 km/h), all other trains can proceed at a speed not exceeding 60 mph (95 km/h), or any lower permissible speed that may apply, to the location where a competent person is to be provided. During poor visibility, the train must not exceed 40 mph (65 km/h).	Proceed at normal permissible speed. During poor visibility, the train must not exceed 40 mph (65 km/h).

driver

# 5

## Brake defects

*The people responsible: driver, guard*

### 5.1 Brake not working correctly

**driver**

If you suspect that the automatic brake is not working correctly, you must:

- if necessary, stop the train
- report the circumstances to the signaller immediately
- carry out the instructions given
- if permission is given to proceed, travel at reduced speed as necessary to maintain full control of the train.

### 5.2 Brake-pipe parting

**driver**

If the train comes to a stand because the brake-pipe coupling heads separate, you must try to recouple them if they are undamaged.

If this can be done, you may continue normally as long as you:

- tell the signaller
- carry out a brake continuity test.

### 5.3 Coaching stock train with brakes no longer operating on more vehicles than is allowed

**driver**

If the brakes are no longer operating on more vehicles than is allowed, as shown in module TW1, section 4.4, if the train is to continue, you must travel at a speed which will allow you to keep full control of the train.

## 5.4 Brake no longer operating on the leading vehicle of a passenger train

If the brake is no longer operating on the leading vehicle, you must tell the signaller immediately and carry out the instructions given.

driver

The train must be assisted from the front unless one of the following applies.

- The line ahead is rising.
- The leading vehicle is fitted with a parking brake which can be applied in an emergency, in which case the movement must not exceed 5 mph (10 km/h).
- The leading vehicle is coupled by a bar coupling to the next vehicle on which the brake is operating.

You must transfer passengers to a vehicle on which the brake is operating unless:

driver of a  
DO train,  
guard

- this is not possible, or
- the vehicle is coupled by a bar coupling to the next vehicle on which the brake is operating.

You must travel in other than the leading vehicle to secure the train in an emergency unless:

guard

- the train is being assisted from the front
- the leading vehicle is coupled by a bar coupling to the next vehicle on which the brake is operating.

On a DO train a competent person must be provided to travel in a vehicle other than the leading vehicle to secure the train in an emergency unless:

driver

- the train is being assisted from the front
- the leading vehicle is coupled by a bar coupling to the next vehicle on which the brake is operating.

**Loss of brake continuity****driver of a  
DO train,  
guard**

If control of the automatic brake is no longer continuous throughout the train, you must drive the train from a cab where you have control of the automatic brake. You must apply the instructions shown in section 10 of this module, making sure that:

- the leading cab, in which a competent person must ride, has a hand or parking brake operating on the first vehicle
- the train does not exceed 5 mph (10 km/h).

**5.5 Brake no longer operating on the last vehicle****driver**

If the brake is no longer operating on the last vehicle, you must tell the signaller immediately and carry out the instructions given.

The train must be assisted in rear unless one of the following applies.

- The line ahead is level or falling.
- The last vehicle, is provided with a hand or parking brake operating on that vehicle.
- The last vehicle is coupled by a bar coupling to the next vehicle on which the brake is operative.

**driver of a  
DO train,  
guard**

You must transfer passengers to a vehicle on which the brake is operating unless:

- this is not possible, or
- the vehicle is coupled by a bar coupling to the next vehicle on which the brake is operating.

**guard**

You must travel in the rear vehicle to apply the hand or parking brake in an emergency unless:

- the train is being assisted from the rear
- the rear vehicle is coupled by a bar coupling to the next vehicle on which the brake is operating.



On a DO train, a competent person must be provided to travel in the rear vehicle to secure the train in an emergency unless:

- the train is being assisted from the rear
- the rear vehicle is coupled by a bar coupling to the next vehicle on which the brake is operating.

### **Loss of brake continuity**

If control of the automatic brake is no longer continuous throughout the train, you must not exceed 5 mph (10 km/h).

You must make sure, as often as possible, that the train is still complete.

driver

driver,  
guard

## 6

**Door defects on passenger vehicles***The people responsible: driver, guard, signaller, train preparer***driver,  
guard,  
train  
preparer****6.1 Starting a journey**

You must not allow a train to start a journey with a bodyside door that is defective and cannot be used, unless the train operator's control has given authority to do so. You must carry out any instructions given.

**driver,  
guard,  
train  
preparer****6.2 Arrangements for defective doors**

You must make sure that any bodyside door which is defective is locked or made inoperative and that there is a label or indication that it is out of use.

You must also do this to any door which is not locking or releasing correctly (including by the central door locking).

In an emergency, if the door can still be opened by passengers inside the vehicle then the label or indication must show this.

**driver,  
guard,  
train  
preparer****6.3 Vehicles which passengers must not travel in**

If a bodyside door is defective and has been locked or made inoperative, it may also be necessary to place the vehicle out of passenger use. The following table gives details of when this may be required. If permission is required this must be given by the train operator's control.

driver,  
 guard,  
 train  
 preparer

<b>Position of defective door</b>	<b>Door defective locked or made inoperative</b>	<b>Door made inoperative but the emergency egress control will still release the door</b>
<b>Two adjacent doors on the same side of the train</b>	Vehicle or vehicles to be placed out of use	If authority given can continue normally
<b>Door available to passengers as an emergency exit close to the end of a vehicle with no passenger access to an adjacent vehicle</b>	Vehicle to be placed out of use	If authority given can continue normally
<b>Door closest to the end of a vehicle with no passenger access to an adjacent vehicle</b>	Vehicle to be placed out of use (see note below)	If authority given can continue normally
<b>Door on only one side of the train leading to wheelchair accommodation</b>	Authority required and special arrangements made for access and egress by wheelchair users	Authority required and special arrangements made for access and egress by wheelchair users
<b>Only door on one side of a vehicle (with no other emergency exit)</b>	Vehicle to be placed out of use	If authority given can continue normally
<b>Any other door</b>	Can continue normally	Can continue normally

**Note:** If there is an internal door or barrier near the next operative door which has been secured, passengers can travel in the portion with the operative door.

driver,  
guard,  
train  
preparer

You must place the vehicle or vehicles out of use and move passengers to another vehicle before the train departs from a station. A door or barrier must be secured to prevent passengers entering the out-of-use vehicle or vehicles. The train operator's control must be told at the first convenient opportunity.

#### **6.4 If the doors on one or both sides cannot be released**

driver

If all the doors on one or both sides cannot be released, you must:

- report the circumstances to the signaller immediately
- carry out the instructions given.

#### **6.5 If the train has to be worked forward with a door open**

driver of a  
DO train,  
guard

If the train has to be worked forward with a door open, it must be taken out of passenger service.

If the train is not at a station, you must:

- transfer passengers to another vehicle
- close and lock the vestibule doors on the affected vehicle.

If you are not able to do both of these, passengers must be kept as far away from the open door as possible. If a guard or other competent person is available, they must travel in the affected vehicle. The train must be taken out of passenger service at the next station. Exceptionally if the next station cannot deal with the detained passengers, or during severe weather, the train operator can give permission for the train to continue to a more suitable station.

driver

You must tell the signaller that the door cannot be closed and get permission to make a movement with the door open. If the open door increases the width of the train, you must tell the signaller.

signaller

If the open door increases the width of the train, you must make sure that you do not allow the train to pass, or be passed by, any moving train on an line adjacent to the open door.

When it is safe for the train to start, you must give the **'ready-to-start'** signal to the driver after the doors have been checked.

guard

If the bell or buzzer communication does not work, you must give the **'ready-to-start'** signal to the driver by either:

- handsignal, or
- by speaking to the driver to reach a clear understanding.

After receiving the **'ready-to-start'** signal, you must proceed at caution and take special care when passing any structure or vehicle where clearance with the open door is limited.

driver

## 7

**Driver's reminder appliance (DRA)**

*The people responsible: driver, train preparer*

driver,  
train  
preparer

**7.1 Starting a journey from a maintenance depot**

You must not allow a train to start a journey if you are aware that the DRA is defective in any cab that is required to be driven from when the DRA is required to be in use.

driver

**7.2 Starting a journey from somewhere other than a maintenance depot**

If you are aware that the DRA is defective in any cab that is required to be driven from when the DRA is required to be used, you must tell the train operator's control.

If the train operator's control gives authority to start a journey, you must carry out any instructions given.

driver

**7.3 During a journey**

If the DRA becomes defective on a train during a journey, you must:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given.

# 8

## Driver's safety device (DSD) and driver's vigilance equipment

*The people responsible: driver, train preparer*

### 8.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if you are aware the DSD or vigilance equipment is defective or isolated in any cab which is required to be driven from.

driver,  
train  
preparer

### 8.2 Starting a journey from somewhere other than a maintenance depot

A train can start a journey (but not carrying passengers) with DSD or vigilance equipment defective or isolated in the cab to be driven from, to travel to a maintenance depot for repair as long as you:

- tell the signaller
- get permission for the train to start a journey in this condition.

If permission is given for the train to start a journey, you must apply the conditions for travel shown in section 8.4.

driver,  
train  
preparer

### 8.3 Isolating the driver's vigilance equipment

You must only isolate the driver's vigilance equipment if the equipment cannot be reset.

driver

**driver**

## 8.4 During a journey

If the DSD becomes defective, or you need to isolate the vigilance equipment, you must:

- stop the train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

If permission is given for the train to proceed, you must apply the conditions in the following table.



If ERTMS or ATP is not in operation	If ERTMS is in operation	If ATP is in operation
<p>If AWS or TPWS are operative a freight train or OTM can proceed at a speed not exceeding 50 mph (80 km/h), all other trains can proceed at a speed not exceeding 60 mph (95 km/h). If a competent person has been provided, you can proceed at normal permissible speed.</p> <p>If AWS is not working, during poor visibility speed is not to exceed 40 mph (65 km/h) whether or not a competent person is provided.</p> <p><b>If neither AWS or TPWS are operative, the train is not to make any movement until a competent person is provided.</b> When a competent person is provided the most restrictive conditions for AWS or TPWS defects also apply.</p>	<p>The train can continue normally if ERTMS is working in the cab to be driven from. The train must not leave an ERTMS line driven from the cab in which the DSD or vigilance is defective or isolated unless AWS or TPWS is operative.</p> <p><b>If ERTMS is not working correctly in the cab being driven from, the train is not to make any movement until a competent person is provided.</b> Speed is not to exceed 60 mph (95 km/h). On a line where lineside signals are not provided speed is not to exceed 25 mph (40 km/h).</p>	<p>The train can continue normally if ATP is working in the cab being driven from. The train must not leave an ATP fitted line driven from the cab in which the DSD or vigilance is defective or isolated unless AWS or TPWS is operative.</p>

## 9

**Driving cab windows - broken or obscured**

*The people responsible: driver, train preparer*

driver,  
train  
preparer

**9.1 Starting a journey from a maintenance depot**

You must not allow a train to start a journey if you do not have a clear view of:

- the line ahead, or
- train dispatch equipment through any window which may need to be used.

**9.2 Starting a journey from somewhere other than a maintenance depot**

driver

If you have not got a clear view of the line ahead because the windscreen is broken or obscured, you must take appropriate action. This may include reducing speed and using the warning horn more frequently to make sure that the train, or anyone on or near the line, is not placed in any danger.

If the train cannot proceed safely, you must:

- stop the train immediately
- tell the signaller
- if necessary, ask for a competent person to assist you
- not move the train until instructed to do so
- carry out the instructions given.

# 10

## Driving controls defective

*The people responsible: competent person, driver*

### 10.1 During a journey

If the driving controls become defective in the leading cab, you must:

- stop the train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

A competent person must be provided to ride in the leading cab, if permission is given for the train to proceed, driven from another cab, which must be forward-facing if one is available.

If the automatic brake cannot be applied by the competent person because only a hand or parking brake is available in the leading cab, the train must not exceed 5 mph (10 km/h).

### 10.2 Duties of the competent person

If you are to travel in the leading driving cab in which the driving controls are defective and the train is being driven from another cab you must:

- keep a good lookout
- use the warning horn as necessary
- observe all signals and block markers.

driver

competent  
person

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## competent person

You must give instructions to the driver as necessary by:

- cab-to-cab telephone
- driver-guard communication equipment
- radio
- bell or buzzer
- handsignal.

You must be prepared to stop the movement in an emergency.

# 11

## Emergency bypass switch (EBS)

*The people responsible: competent person, driver, guard, signaller, train preparer*

### 11.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if the EBS has been operated in any driving cab.

driver,  
train  
preparer

### 11.2 Starting a journey from somewhere other than a maintenance depot

A train can start a journey (but not carrying passengers) if the EBS has been operated in any driving cab to travel to a maintenance depot for repair as long as you:

- tell the signaller
- get permission for the train to start a journey in this condition
- tell the guard, if there is one, about the circumstances.

driver

If the train is formed of more than one unit and is to travel over a line that is not signalled by TCB or ERTMS, a guard or competent person must be provided.

You must travel in the rear unit.

You must travel in the rear unit and, if necessary, carry out the instructions in Rule Book module M1 *Dealing with a train accident or train evacuation*.

guard  
competent  
person

If a track circuit remains occupied after the passage of a train on which the EBS has been operated, you must immediately contact the driver to find out if the train is complete.

signaller

## 11.3 Operating the EBS during a journey

### driver

If you need to operate the EBS, you must:

- tell the signaller immediately
- not move the train until instructed to do so
- carry out the instructions given.

If the train is to be moved, you must tell the guard, if there is one, about the circumstances.

### driver of a DO train, guard

If the train is formed of more than one multiple unit you must:

- transfer all passengers to the leading unit, if it is possible
- lock the remaining units out of use.

### guard

You must travel in the rear unit.

### driver

If a guard is not able to travel in the rear unit, if possible you must arrange for a competent person to travel in the rear unit.

### competent person

You must travel in the rear unit and, if necessary, carry out the instructions in Rule Book module M1 *Dealing with a train accident or train evacuation*.

### signaller

If a track circuit remains occupied after the passage of a train on which the EBS has been operated, you must immediately contact the driver to find out if the train is complete.

# 12 ERTMS on-train equipment

*The people responsible: driver, signaller, train preparer*

**Note:** In this section, ERTMS equipment also includes GSM-R data radio.

## 12.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if ERTMS is not working in any cab which is required to be driven from when ERTMS is required to be in operation.

driver,  
train  
preparer

## 12.2 Starting a journey from somewhere other than a maintenance depot

You can allow a train to start a journey with ERTMS not working in the cab to be driven from, as long as ERTMS will not be required to be in operation during the journey.

driver,  
train  
preparer

You must:

- tell the train operator's control at the first convenient opportunity
- carry out any instructions given.

You can allow a train to start a journey with ERTMS not working in the cab to be driven from when ERTMS is required to be in operation as long as one of the following applies.

- On a line where lineside signals are provided, both AWS and TPWS are operating.
- On a line where lineside signals are not provided, to travel (not carrying passengers) to a maintenance depot for repair.

You must:

- tell the signaller
- get permission for the train to start a journey in this condition.

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## 12.3 During a journey

driver

If ERTMS becomes defective when it should be in operation, you must:

- stop your train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

If ERTMS becomes defective when it is not required to be in operation, you must:

- tell the train operator's control at the first convenient opportunity
- carry out any instructions given.

## 12.4 If ERTMS is not in operation when it should be

driver

If permission is given for a train to start or continue a journey, as shown in sections 12.2 and 12.3, you must follow these conditions during any part of the journey where ERTMS would normally be in operation.

### a) On an ERTMS line where lineside signals are provided

If AWS and TPWS are operating, and you have been authorised to do so, you may proceed at normal permissible speed, obeying all lineside signals.

signaller

You must signal the train normally as though it is a train on which ERTMS is not operating.

You must tell the next signaller who is to signal the train about the defective ERTMS.

driver

If AWS and TPWS are not operating, the train may be allowed to proceed under the conditions for defective AWS and TPWS shown in sections 4 and 24.



You must signal the train as one that has defective TPWS as shown in section 24.5.

signaller

You must tell the next signaller who is to signal the train that ERTMS is not in operation and the arrangements for signalling the train.

### **b) On an ERTMS line where lineside signals are not provided**

If you are authorised to proceed, the signaller will authorise you to pass each end of authority without a movement authority, as shown in module S5 *Passing a signal at danger or an end of authority (EoA) without a movement authority (MA)*.

driver

You must make sure that the train with defective ERTMS does not proceed beyond the EoA on the approach to the EoA that protects any conflicting or converging movements ahead of it.

signaller

You must tell the next signaller who is to signal the train about the defective ERTMS.

## **12.5 If a train fails to transition to ERTMS**

If your train fails to transition automatically when entering an ERTMS area where lineside signals are provided, as long as AWS and TPWS are operating, you may proceed at normal permissible speed, obeying all lineside signals.

driver

You must:

- tell the signaller at the first convenient opportunity, unless you have already been told that the train will not transition
- tell the train operator's control at the first convenient opportunity
- carry out any instructions given.

You must signal the train normally as though it is a train on which ERTMS is not operating.

signaller

You must tell the next signaller who is to signal the train that ERTMS is not in operation on the train.

## 13

**External orange hazard lights**

*The people responsible: driver, guard, signaller*

**13.1 Signaller becoming aware of an illuminated orange hazard light**

**signaller**

You must arrange for the driver to be told if you become aware of a train with an illuminated orange hazard light and you have not been told the reason.

You must not stop the train specially unless you notice anything else unusual affecting the train.

**13.2 Guard becoming aware of an illuminated orange hazard light**

**guard**

If you become aware that an external orange hazard light is irregularly illuminated on your train, you must tell the driver.

**13.3 Train starting or continuing a journey**

**driver**

If the train is to start or continue a journey with an orange hazard light illuminated, you must tell the signaller immediately.

**signaller**

On receiving advice from the driver about the circumstances, you must tell Operations Control immediately and arrange for any other signaller concerned to be told.

# 14

## Headlights, marker lights and tail lamps

*The people responsible: driver, signaller, train preparer*

### 14.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if any headlight, tail lamp or marker light is not working on any vehicle that is required to be at the front or rear of a train.

driver,  
train  
preparer

### 14.2 Starting a journey from somewhere other than a maintenance depot

You must not allow a train to start a journey without a working headlight or tail lamp on any vehicle which is required to be at the front or rear of a train.

driver,  
train  
preparer

If the headlight has failed and there is no other headlight, the train can start a journey if a portable headlight is provided and the speed of the train is restricted to 75 mph (120 km/h).

A train can start a journey with a defective tail lamp if the train is fitted with two built-in tail lamps, one of which is working, or a portable tail lamp is provided.

### | 14.3 During a journey

#### signaller

If you become aware that a train is proceeding without a headlight illuminated on the front, you must arrange for the driver to be told in the quickest way possible.

If the train has to be stopped specially to tell the driver, but you cannot do this without stopping it suddenly, you must tell the next signaller.

#### driver

You must deal with any headlight or tail lamp failure as shown in the following table.

Type of failure	Action the driver must take
A failure of one headlight beam	Use the other day or night beam Report the circumstances to the train operator's control at the first convenient opportunity The train may proceed normally
The headlight has completely failed	<ul style="list-style-type: none"> <li>• Stop the train immediately</li> <li>• Arrange for a white light to be displayed at the front of the train (An operative marker light can be treated as a white light)</li> <li>• Tell the signaller</li> <li>• Not move the train until instructed to do so</li> <li>• Carry out the instructions given</li> <li>• Not allow the speed of the train to exceed 20 mph (30 km/h)</li> <li>• Sound the warning horn frequently so as to warn anyone on or near the line</li> </ul> If a portable headlight is provided, you must not allow the speed of the train to exceed 75 mph (120 km/h).
Complete failure of tail lamp	<ul style="list-style-type: none"> <li>• Report the circumstances to the signaller immediately</li> <li>• Arrange for a handlamp with a red aspect to be displayed at the rear of the train</li> <li>• Report the circumstances to the train operator's control at the first convenient opportunity</li> </ul>
Failure of one tail lamp where two built-in lamps are provided	Report the circumstances to the train operator's control at the first convenient opportunity The train may proceed normally

## 15

**Hot axle boxes and activation of  
lineside hot axle box detectors***The people responsible: driver, guard, signaller***15.1 Starting a journey****driver**

You must not allow a train or vehicle to start a journey with a hot axle box.

**15.2 Vehicle developing a hot axle box****driver**

If you become aware that a vehicle on your train has developed a hot axle box, you must:

- stop the train immediately
- tell the signaller
- if your train is carrying dangerous goods, tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

**driver of a  
DO train,  
guard**

You must if possible, arrange for passengers to be transferred from the affected vehicle.

**driver**

If you have any doubt about whether the movement can be made safely, you must get the authority of a rolling stock technician.

During the movement, you must not allow the speed of the train to exceed:

- 10 mph (15 km/h)
- 5 mph (10 km/h) over any points or crossings.

**signaller**

You must stop all trains on the adjacent line or lines before giving the driver authority for the movement to be made.

### **15.3 Vehicle activating a lineside hot axle box detector or receiving a report of a hot axle box from another source**

#### **a) When the alarm operates**

When the alarm operates in the signal box, or you receive a report of a hot axle box from another source, you must:

signaller

- stop the train concerned immediately
- stop any trains on the adjacent line or lines
- advise Operations Control.

#### **b) After the train has been stopped**

When the train has been stopped, you must tell the driver:

- which axle box is affected by identifying the axle number (counting from the front of the train including the locomotive where appropriate)
- on which side of the train (in the direction of travel) the affected axle box is
- to examine the vehicle concerned.

If you do not know which axle box is affected, you must:

- give the driver as much information as possible
- tell the driver the approximate location of the defective vehicle
- tell the driver to examine the whole train if necessary.

You must ask the driver if the adjacent line or lines need to stay blocked while the examination is carried out.

You must also ask the driver to tell you if the adjacent line or lines are obstructed.

If the driver tells you that the adjacent line or lines are clear, you can allow any other train which has been stopped to proceed.

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## driver

### c) Delay in carrying out an examination

If you are unable to carry out the examination within 10 minutes of stopping, you must:

- tell the signaller
- carry out the instructions given
- if the train is to be moved, proceed at no more than 20 mph (30 km/h).

## 15.4 Checking for evidence of overheating

## driver

If one is available, a rolling stock technician must carry out the examination.

However, if one is not available, you must immediately examine the vehicle concerned for evidence of overheating.

After examining the axle box concerned, if there is no evidence of overheating, you must continue to check the other axle boxes to see if they are at similar temperatures, as follows.

- All axle boxes on both sides of the vehicle concerned.
- All the axle boxes on the vehicles on either side of the vehicle concerned.

When you have examined the affected vehicle, you must tell the signaller if you have found any defects.



## 15.5 No evidence of overheating

If the examination reveals no evidence of overheating to any axle box and all the vehicles examined have roller bearings, the train must proceed normally.

driver

If the train is stopped because of another hot axle box detector activation within 50 miles (80 kilometres), or any of the vehicles examined have other than roller bearings you must:

- not move the train until instructed to do so
- carry out the instructions given
- if the train is to be moved, proceed at no more than 20 mph (30 km/h).

If the train has not passed over another hot axle box detector within 50 miles (80 kilometres), arrangements will be made for it to be stopped and you must then carry out another examination.

## 15.6 If there is evidence of overheating

If an axle box is obviously hot, or hotter than those on the same vehicle or on a vehicle on either side, you can move the train to the next location where it can be dealt with.

driver

If you have any doubt about whether the movement can be made safely, you must get the authority of a rolling stock technician.

If the train is to be moved, you must get authority from the signaller for the movement to be made.

You must if possible, arrange for passengers to be transferred from the affected vehicle.

driver of a  
DO train,  
guard

During the movement, you must not allow the speed of the train to exceed:

driver

- 10 mph (15 km/h)
- 5 mph (10 km/h) over any points and crossings.

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## signaller

You must stop all trains on the adjacent lines before giving the driver authority for the movement to be made.

## 15.7 Activation of a built-in hot axle box detector

## driver

When a built-in hot axle box detector is activated, you must:

- tell the signaller immediately
- unless a rolling stock technician is immediately available, examine the axle box concerned to check whether it is overheated.

If the train is to be moved, you must get authority from the signaller.

If you have any doubt about whether the movement can be made safely, you must get the authority of a rolling stock technician.

## driver of a DO train, guard

You must if possible, arrange for passengers to be transferred from the affected vehicle.

## driver

During the movement, you must not allow the speed of the train to exceed:

- 10 mph (15 km/h)
- 5 mph (10 km/h) over any points and crossings.

## signaller

You must stop all trains on the adjacent lines before giving the driver authority for the movement to be made.

# 16 Lifeguards

*The people responsible: driver, train preparer*

## 16.1 Starting a journey

You must not allow a train to start a journey with a loose or damaged lifeguard.

You must not allow a train to start a journey with a missing lifeguard at any cab which is required to be used.

driver,  
train  
preparer

## 16.2 During a journey

If you become aware that a lifeguard is missing, loose or damaged, you must:

- tell the signaller immediately
- not move until instructed to do so
- carry out the instructions given.

If you have any doubts about whether the movement can be made safely, you must get the authority of a rolling stock technician.

driver

# 17

## On-train data recorder (OTDR)

*The people responsible: driver, train preparer*

**Note:** OTDR includes the recorder legally required on trains on which ERTMS is in operation when operating on ERTMS lines.

driver,  
train  
preparer

### 17.1 Starting a journey

You must not allow a train to start a journey if you are aware that the OTDR that records activity in the leading cab is defective. This applies unless a working OTDR is provided elsewhere on the train.

You must tell the train operator's control at the first convenient opportunity.

### 17.2 During a journey

driver

If you become aware of an OTDR becoming defective on a train during a journey, you must:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given.

# 18 Public address system on DO trains

*The people responsible: driver, train preparer*

## 18.1 Starting a journey

On a DO train, passengers must not be allowed to travel in vehicles on which the public address system is not working.

Before starting a journey, you must place any of these vehicles out of passenger use by:

- locking or making the external doors inoperative and making sure that there is a label or indication that they are out of use
- closing and locking the vestibule doors leading to any of these vehicles.

driver,  
train  
preparer

## 18.2 During a journey

If you become aware that the public address system is not working on a vehicle, you must:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given
- if possible move the passengers to an unaffected vehicle and lock and label any defective vehicle out of use.

driver

## 19

**Sanding equipment to assist train  
braking**

*The people responsible: driver, train preparer*

**driver,  
train  
preparer**

**19.1 Starting a journey from a maintenance  
depot**

You must not allow a train to start a journey if:

- the sanding equipment is defective
- there is no sand in the sand box.

**19.2 Starting a journey from somewhere  
other than a maintenance depot or  
during a journey**

**driver**

If the sanding equipment is defective or becomes defective on a train or there is no sand in the sand box, you must:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given.

However, if you believe you may have difficulty in stopping the train, you must:

- tell the signaller immediately
- not move the train until instructed to do so
- carry out the instructions given.

# 20

## Selective door-opening

*The people responsible: driver, signaller*

If selective door operation does not operate correctly and you consider that this may be due to defective lineside equipment, you must tell the signaller immediately.

driver

If you become aware of the failure of lineside equipment provided for selective door operation, you must:

signaller

- tell Operations Control
- tell the driver of any following train which would use the equipment, about the circumstances.

## 21

**Speedometer**

*The people responsible: driver, train preparer*

**driver,  
train  
preparer**

**21.1 Starting a journey**

You must not allow a train to start a journey unless there is a working speedometer displaying the correct units of speed in any cab which is required to be driven from.

**driver**

**21.2 During a journey**

If a speedometer fails or cannot be read and there is no other authorised working speedometer in the cab, you must:

- tell the signaller immediately
- not move the train until instructed to do so
- carry out the instructions given.

If the train is to be moved, you must proceed at a speed that will make sure you are keeping to all speed restrictions.

If the DMI fails to display the correct units of speed, you do not need to stop the train immediately, but you must inform the signaller at the first convenient opportunity.

You must proceed at a speed that will make sure you are keeping to all speed restrictions.



# 22

## Track circuit actuators (TCA)

*The people responsible: driver, signaller, train preparer*

**Note:** The instructions in this section do not apply to an on-track machine (OTM) which is being hauled dead.

### 22.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if the TCA:

- is isolated on any vehicle
- isolating switch is unsealed
- warning light indicates a system fault.

driver,  
train  
preparer

### 22.2 Starting a journey from somewhere other than a maintenance depot

You can allow a train to start a journey with one or more defective or isolated TCAs, as long as:

- for a train formed of one or two vehicles, there is at least one TCA working on the train
- for a train formed of three or more vehicles, there is at least one TCA working on either of the first two vehicles and at least one TCA working on either of the last two vehicles.

driver,  
train  
preparer

You must first tell the train operator's control.

You may also allow a train that does not meet the requirements shown in this section to enter service as long as:

- there is at least one working TCA on the train
- you have received authority to do so from the train operator's control.

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

driver,  
train  
preparer

The following are some examples of some possible arrangements.



TCA working



Train can continue normally



Train can continue normally



Train can continue with authority



Train cannot continue normally

driver,  
train  
preparer

You can allow an OTM to start a journey with a defective TCA but only to:

- travel to a maintenance depot for repair, or
- travel directly, to or return from, an engineering possession.

You must tell the signaller that the OTM cannot be relied upon to operate track circuits.

## 22.3 During a journey

### a) When the train can continue normally

You can allow the train to proceed normally if one or more TCAs become defective during a journey, as long as:

- for a train formed of one or two vehicles, there is at least one TCA working on the train
- for a train formed of three or more vehicles, there is at least one TCA working on either of the first two vehicles and at least one TCA working on either of the last two vehicles.

You must:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given.

### b) When the train can continue normally with authority

If one or more TCAs become defective during a journey, and the train does not meet the requirements of section 22.3 a), you must:

- tell the signaller immediately which vehicle is defective
- not move the train until instructed to do so
- carry out the instructions given.

You can allow the train to continue its journey as long as:

- there is at least one working TCA on the train
- you are told that the train operator's control has given permission.

driver

driver

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## c) When the train cannot continue normally

### signaller

You must carry out these instructions if a TCA becomes defective on any vehicle which does not meet the requirements of section 22.3 a) and cannot be given authority to continue its journey as shown in section 22.3 b).

### driver

You must:

- not move the train until instructed to do so
- carry out the instructions given.

### signaller

When you are told about the defective TCA, you must make sure the signal protecting the train is at danger or, on an ERTMS line, you keep the route closed to protect the train.

You must signal the train as shown in regulation 12 of Rule Book module TS1 *General signalling regulations*.

Except for an automatic half-barrier crossing (AHBC) provided with treadles, you must instruct the driver to approach at caution and not pass over until sure it is safe to do so, any:

- automatic level crossing
- barrow or foot crossing with white light indications.

### driver

When given authority to proceed, you can do so at normal speed.

If you are told to approach any level crossing at caution, you must sound the warning horn continuously, from the location you start to travel at caution until the front of the train is on the crossing.

# 23

## Traction interlock switch (TIS)

*The people responsible: driver, guard, train preparer*

### 23.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if the TIS has been operated or is unsealed in any cab.

driver,  
train  
preparer

### 23.2 Starting a journey from somewhere other than a maintenance depot

You must not allow a train to start a journey conveying passengers if the TIS has been operated.

driver,  
train  
preparer

### 23.3 Operating the TIS

If it becomes necessary to operate the TIS, you must only do this:

driver

- when the train is at a stand
- when you cannot get traction power
- after you have checked that all the doors on both sides of the train are securely closed.

When you have operated the TIS, you must:

- tell the signaller immediately
- not move the train until instructed to do so
- tell the guard
- carry out the instructions given.

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## 23.4 Before the movement begins

driver of a  
DO train,  
guard

Before the movement begins, you must check all doors on both sides of the train to make sure they are securely closed.

On each occasion that the doors are released, you must check all doors on that side of the train to make sure they are securely closed.

## 23.5 When the journey is over

driver

You must restore the TIS to the normal position before shutting down the driving controls when the train is:

- stabled
- reversed
- coupled to another train and you are driving the train from another cab.

You must not leave a switch in the isolate position in any driving cab other than the cab from which the train is being driven.

This does not apply to a TIS which can only be restored by a rolling stock technician.

# 24

## Train protection and warning system (TPWS)

*The people responsible: driver, signaller, train preparer*

### 24.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if the TPWS is not working in any cab which is required to be driven from when TPWS is required to be in operation.

driver,  
train  
preparer

### 24.2 Starting a journey from somewhere other than a maintenance depot

You can allow a train to start a journey with the TPWS defective in the cab to be driven from, as long as TPWS will not be required to be in operation during the journey.

driver,  
train  
preparer

You must:

- tell the train operator's control at the first convenient opportunity
- carry out any instructions given.

You can allow a train to start a journey (but not carrying passengers) with TPWS defective in the cab to be driven from when TPWS is required to be in operation to travel to a maintenance depot for repair as long as you:

- tell the signaller
- get permission for the train to start a journey in this condition.

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## 24.3 During a journey

### driver

If the TPWS becomes defective when it should be in operation, you must:

- stop your train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

If the TPWS becomes defective when it is not required to be in operation, you must:

- tell the train operator's control at the first convenient opportunity
- carry out any instructions given.

## 24.4 Failure to activate

### driver

If you become aware that TPWS has failed to activate when it should have done, you must:

- stop your train immediately
- tell the signaller
- not move the train until instructed to do so
- carry out the instructions given.

## 24.5 If the TPWS is defective

### driver

If permission is given for a train to start a journey or proceed after the TPWS has become defective, you must follow the conditions in the table below during any part of the journey where TPWS would normally be in operation.



Competent person not provided	Competent person is provided
Freight trains and OTMs can proceed at a speed not exceeding 50 mph (80km/h) all other trains can proceed at a speed not exceeding 60 mph (95 km/h), or any lower permissible speed that may apply, to the location where a competent person is to be provided	Proceed at normal permissible speed

driver

signaller

You must tell the next signaller who is to signal the train about the defective TPWS.

If permission is given for the train to proceed, you must apply the following signalling conditions.

**a) On a track circuit block (TCB) line or an ERTMS line where lineside signals are provided**

You must make sure that there are at least two controlled signals which are being kept at danger between the train with defective TPWS and any conflicting or converging movements ahead of it.

**b) On an absolute block (AB) line**

You must not accept a train with defective TPWS until the line is clear to your section signal.

If your home signal is also the section signal, you must not accept a train with defective TPWS until it has been accepted by the next signal box.

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## signaller

### c) On a non-TCB single line

You must not allow a train with defective TPWS to approach a crossing loop if a train is approaching the crossing loop in the opposite direction.

At a junction you must not allow a train with defective TPWS to approach if any conflicting or converging movements are taking place.

# 25

## Train radio equipment

*The people responsible: driver, train preparer*

### 25.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey with a defective radio in any cab which is required to be driven from at any time during its planned working.

driver,  
train  
preparer

### 25.2 Starting a journey from somewhere other than a maintenance depot

You must not allow a train to start a journey with a defective radio in any cab which is required to be driven from unless one of the following applies.

driver,  
train  
preparer

- Operative transportable or portable GSM-R radio equipment has been provided in the cab to be driven from.
- You have been given permission to start a journey and proceed to a location where operative transportable or portable GSM-R radio equipment will be provided in the cab to be driven from.
- You have been given permission to start a journey and complete the journey without an operative radio in the cab to be driven from.
- The defective radio is not in the cab from which the train is to be driven from during the current journey.
- You have been told that there is a radio network failure.

If you are told that there is a radio network failure, you may be told not to allow the speed of your train to exceed 100 mph (160 km/h) or 60 mph (100 km/h) while passing through the area affected by the failure. You must control the speed of your train to no more than the speed that you have been told.

### 25.3 During a journey

#### driver

If the radio in the cab which the train is being driven from becomes defective during a journey, you must:

- tell the signaller as soon as possible, stopping the train specially if necessary
- not move the train until instructed to do so
- carry out the instructions given.

The train can continue its journey as long as one of the following applies.

- Operative transportable or portable GSM-R radio equipment has been provided in the cab to be driven from.
- You have been given permission to proceed as far as a location where operative transportable or portable GSM-R radio equipment will be provided in the cab to be driven from.
- You have been given permission to complete the journey without an operative radio in the cab the train is being driven from.
- You have been told that there is a radio network failure.

If you are told that there is a radio network failure, you may be told not to allow the speed of your train to exceed 100 mph (160 km/h) or 60 mph (100 km/h) while passing through the area affected by the failure. You must control the speed of your train to no more than the speed that you have been told.

# 26

## Vehicles with locked wheels, wheel flats, shifted tyres or dragging brakes

*The people responsible: driver, guard, signaller, train preparer*

### 26.1 Starting a journey

You must not allow a train or vehicle to start a journey with:

- locked wheels
- shifted tyres
- dragging brakes
- serious wheel flats.

driver,  
train  
preparer

### 26.2 During a journey

#### a) Dragging brakes

If you believe that the brakes on a vehicle may be dragging, you must:

- attempt to release the brakes on the vehicle locally
- examine the brakes, tyres and wheels for evidence of damage or overheating.

If the brakes cannot be fully released, they must be isolated.

You must check to see that the wheels rotate freely before you proceed.

If there is evidence of damage to the wheels, you must carry out the instructions shown in section 26.2 c) of this module.

driver,  
guard

driver

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

**driver**

If the brakes are still not fully released, you must not allow the speed of the train to exceed:

- 10 mph (15 km/h)
- 5 mph (10 km/h) over points and crossings.

**b) Checking for wheel rotation****driver,  
guard**

After freeing locked wheels, you must make sure that the wheels will rotate freely before you proceed.

**c) Following an examination****driver**

If the train has been examined for locked or hot wheels, it must only continue as shown in the following table.

Can wheels be freed?	Condition of wheels	Action to be taken
Yes	Slight flats or no evidence of damage	The train can proceed normally
Yes	More serious flats but no other obvious damage	<ul style="list-style-type: none"> <li>• Report the circumstances to the signaller immediately</li> <li>• Not move the train until instructed to do so</li> <li>• Carry out the instructions given</li> <li>• If the train is to be moved, proceed at no more than 20 mph (30 km/h)</li> </ul>
Yes	Serious damage such as: <ul style="list-style-type: none"> <li>• a flat greater than 60 mm (2½ inches) in length</li> <li>• a flat which has formed a flange on the outside of the wheel</li> <li>• evidence that a tyre may have shifted</li> </ul>	<ul style="list-style-type: none"> <li>• Report the circumstances to the signaller immediately</li> <li>• Not move the train until it has been examined by a rolling stock technician</li> <li>• Carry out the instructions given</li> </ul>
No	Any condition	<ul style="list-style-type: none"> <li>• Report the circumstances to the signaller immediately</li> <li>• Not move the train until it has been examined by a rolling stock technician</li> <li>• Carry out the instructions given</li> </ul>

# Preparation and movement of trains: Defective or isolated vehicles and on-train equipment

## d) If there is doubt the train can proceed safely

driver

You must:

- tell the signaller immediately
- not move the train until it has been examined by a rolling stock technician.

## e) If the damage to the vehicle is serious

driver

You must tell the signaller immediately.

signaller

If Operations Control tells you that the portion of line needs to be examined by an engineer, you must instruct the driver of each subsequent train to proceed at caution until it is safe to resume normal working.

## 26.3 Detaching the defective vehicle

driver,  
guard

If the damage to the wheels or brake gear is such that the brakes may not adequately secure the vehicle, you must:

- not detach the vehicle from the train until the vehicle has been properly secured
- let the signaller or person in charge of that location know the condition of the vehicle and where the vehicle is located.

## 26.4 Moving vehicles with wheelskates

driver,  
signaller

Before the movement starts, you must find out the conditions of travel.

driver

If fitting the wheelskate results in 50% or more of the brake force of the vehicle being unavailable, you must treat the vehicle as being piped only.

A traction unit fitted with a wheelskate can only be moved under its own power as long as at least 50% of the brake force of the traction unit is available and the parking brake is fully operative.



# 27

## Warning horn

*The people responsible: driver, train preparer*

### **27.1 Starting a journey from a maintenance depot**

You must not allow a train to start a journey if you are aware the warning horn is defective in any cab which is required to be driven from.

driver,  
train  
preparer

### **27.2 Starting a journey from somewhere other than a maintenance depot**

A train can start a journey if the warning horn is partially defective (for example, one tone not working) in a cab to be driven from, as long as you:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given.

driver,  
train  
preparer

## | 27.3 During a a journey

### a) Complete failure

driver

If the warning horn becomes completely defective on a train, you must:

- tell the signaller immediately
- not move the train until instructed to do so
- carry out the instructions given.

If permission is given to proceed, you must make sure the train does not exceed 20 mph (30 km/h).

### b) Partial failure

driver

If the warning horn becomes partially defective (for example, one tone not working) on a train, you must:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given.

# 28

## Wheel slide protection (WSP) equipment

*The people responsible: driver, train preparer*

### 28.1 Starting a journey from a maintenance depot

You must not allow a train to start a journey if you are aware the WSP equipment is defective.

driver,  
train  
preparer

### 28.2 Starting a journey from somewhere other than a maintenance depot or during a journey

If the WSP equipment is defective or becomes defective on a train, you must:

- tell the train operator's control at the first convenient opportunity
- carry out the instructions given.

However, if you believe you may have difficulty in stopping the train, you must:

- tell the signaller immediately
- not move the train until instructed to do so
- carry out the instructions given.

driver

## Notes



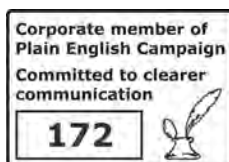
## Notes





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# GERT8000-TW7 Rule Book



## Wrong-direction movements

### Issue 7



Module TW7

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## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

### Example



Green text in the margin indicates who is responsible for carrying out the rule.

driver

A white i in a blue box indicates that there is information provided at the bottom of the page.



A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

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You will need this module if you carry out the duties of a:

- driver
- signaller.

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# 1

## When a wrong-direction movement can be made

*The people responsible: driver, signaller,*

### 1.1 Authority for a wrong-direction movement

A wrong-direction movement for which no signal or signalled route is provided may be authorised only in the following circumstances.

signaller,  
driver

- A train is to return after overrunning a platform as long as the overrun is not more than 400 metres (440 yards) beyond the platform.
- A train is to return after taking a wrong route at a junction.
- A train is to make a movement to return from or proceed towards a line blocked by an accident, failure, obstruction, or other exceptional incident.
- A train cannot continue forward and has to return because it has failed, or it cannot be driven from the cab at the leading end.
- A light locomotive or multiple-unit train (loaded or empty) is to proceed over the affected or unaffected line to assist a failed train.
- The front portion of a divided train is to return to the rear portion.
- An engineering train is to move towards or from a line under possession.
- A shunting movement is to be made through points that are worked from a ground frame.
- Single line working is in operation.
- An on-track machine working in section is to return to or towards the published start mileage of the site of work.
- A rail-grinding train is to return to extinguish a lineside fire.

## Wrong-direction movements

### 1.2 Driver getting authority

#### driver

Before you make the movement, you must get the authority of:

- the signaller, or
- the pilotman or handsignaller acting on the signaller's instructions..

When an on-track machine working in section may have to return to or towards the published start mileage of the site of work, you can agree with the signaller before the start of work that these movements can be made. A wrong-direction movement can then be made at any time the supervisor or person in charge of an on-track machine tells you that it is necessary.

If you are authorised to make a wrong-direction movement, you must drive the train from the cab at the leading end of the movement, if there is one.

If there is no cab at the leading end of the movement, you can drive from another cab as long as a competent person is available to control the movement.

# 2 Signaller's responsibilities

*The person responsible: signaller*

## 2.1 Making sure the line is safe

Before you authorise a wrong-direction movement for which no signal or signalled route is provided, you must make sure that:

signaller

- the barriers or gates at any controlled level crossings are closed to road traffic
- any automatic half-barrier crossing (AHBC) without wrong-direction controls is locally operated
- all points are in the required position and locked by facing point locks (where provided)
- any unworked points are secured
- any ground-frame release giving access to the route is 'normal' unless it needs to be operated for the movement.

## 2.2 Individual point controls

On a route-setting panel or work station, you must:

signaller

- use the individual point controls to set points in the required position
- ask a competent person, if present, to check the route setting.

Before you authorise the movement, you must stop any train on an adjacent line which could be fouled by the movement if the route is set incorrectly.

When one train has passed safely over the affected route, you may allow trains to run without restriction on other lines. However, you must not do this if you have changed the position of any points in the route.

## Wrong-direction movements

### 2.3 Clearance distance

#### signaller

Before the movement takes place, you must make sure the line is clear for 400 metres (440 yards) beyond the signal or place to which the movement is required to proceed.

You must not allow any conflicting movement to take place within this distance until the movement has cleared the section of line involved.

You do not need to carry out this instruction if the movement is proceeding:

- to a stationary train or vehicle
- to the point of obstruction
- to the detonators protecting a possession
- to the first or last work-site marker board protecting a T3 ERTMS possession
- beyond the point at which it will return to a line in the right direction.

### 2.4 On-track machine working in section

#### signaller

If the driver of an on-track machine that is to work in section tells you that it will be necessary to make wrong-direction movements up to or towards the published mileage of the start of the site of work, you must both agree:

- how far the movements can go
- any instructions that the driver must carry out
- that the supervisor or person in charge can authorise the driver to make each movement.



# 3

## Signaller instructing the driver

*The person responsible: signaller*

You must tell the driver:

**signaller**

- what is required
- how far the movement can go
- to check, where possible, that points and crossings are set correctly for the movement
- that any unworked points have been secured
- to proceed at caution
- the arrangements at level crossings.

# 4

## During the movement

*The people responsible: driver, signaller*

### 4.1 Points and crossings

#### driver

Unless you have been given specific instructions by the pilotman during single line working, you must:

- approach at caution any points, switch diamonds or swing-nose crossings and make sure, if possible, that they are in the correct position
- not pass over any of these points or crossings at more than 15 mph (25 km/h).

You must not pass over any unworked points unless:

- you have been told by the signaller that they are secured for the safety of the movement, or
- during single line working, there is a green handsignal next to the points.

#### signaller

Until you are sure the movement has passed clear of any points in the route involved, or the track circuit controlling these points, you must not allow any points which have been secured to be released.

## 4.2 Level crossings

Wrong-direction speed restriction boards (see the examples below) are positioned on the approach to level crossings that have wrong-direction controls. You must control the speed of the train to comply with the speed shown between the board and the crossing.

driver



### Automatic half-barrier crossing (AHBC)

If the signaller tells you that the crossing is being locally operated, you must approach the crossing at caution and not pass over it unless authorised by a green handsignal shown at the crossing.

### Automatic barrier crossing locally monitored (ABCL) and automatic open crossing locally monitored (AOCL)

If there are no wrong-direction controls, you must stop before reaching the crossing.

If an emergency plunger is provided, you must use this to operate the crossing controls.

## Wrong-direction movements

### driver

Whether or not an emergency plunger has been operated, you may pass over the crossing as long as you:

- make sure it is safe to do so
- sound the horn continuously until the front of your train is on the crossing.

### **Barrier crossing with closed-circuit television (CCTV), obstacle detection (OD) or remotely controlled crossing with barriers (RC)**

#### **a) if there is no attendant at the crossing**

You must stop opposite the signal protecting the crossing on the other line and get further instructions from the signaller.

If single line working is in operation the pilotman will tell you to:

- approach the crossing at caution
- not pass over the crossing until you are sure if it is safe to do so.

#### **b) if there is an attendant at the crossing**

If you have been told that an attendant is on duty at the crossing, you must:

- approach the crossing at caution
- only pass over the crossing when authorised by a green handsignal.

### **Manned crossing**

You must approach at caution any manned level crossing and not pass over it until you are sure it is safe to do so.

### **Crossing with red and green warning lights**

You must:

driver

- approach the crossing at caution
- stop short of the crossing
- sound the horn
- pass over the crossing only if it is safe to do so.

If the crossing has wrong-direction controls, you do not need to carry out these instructions unless the movement starts between the wrong-direction speed restriction board and the crossing.

### **Barrow or foot crossing**

If you are told that any barrow or foot crossing with white-light indications will not operate normally for the movement, you must approach the crossing at caution and check it is safe before passing over.

## **4.3 Train speed**

Except during single line working, you must always be able to stop within the distance you can see to be clear.

driver

## **4.4 Automatic warning system (AWS) indication**

You must disregard the AWS indication and cancel any warning indication.

driver

## Notes





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# GERT8000-TW8 Rule Book



## Level crossings - drivers' instructions

### Issue 8



## Module TW8

September 2017  
Comes into force 02 December 2017



## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule and is shown when published in the module for the first time.

Green text in the margin indicates who is responsible for carrying out the rule.

A white **i** in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



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**Contents approved by Traffic Operations and Management Standards Committee.**

**For information regarding the Rule Book, contact:**

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You will need this module if you carry out the duties of a driver.

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- 5.1    If a train is not required to stop at the crossing
- 5.2    If a train is required to stop at the crossing

# 1

## Types of level crossing

### Automatic crossings

Automatic half-barrier crossing	AHBC
Automatic barrier crossing locally monitored	ABCL
Automatic open crossing locally monitored	AOCL
Crossing with red and green warning lights (also included as a user-worked crossing)	R/G

### Controlled crossings

At the location:

Manned crossing with barriers	MCB
Manned crossing with gates	MG

Remotely:

Remotely controlled crossing with barriers	RC
Barrier crossing with closed-circuit television	CCTV
Barrier crossing with obstacle detection	OD

## Level crossings - drivers' instructions

**Traincrew operated** TMO

### **Open**

Crossing without barriers, gates or road warning lights OC

### **Barrow or foot crossing with white light indicators**

#### **User-worked**

Crossing with red and green warning lights  
(also included as an automatic crossing) R/G

Occupation and accommodation (including bridleway)  
crossing UWC

The locations of controlled, automatic, open and traincrew-operated level crossings are shown in Table A of the *Sectional Appendix*.

Some automatic level crossings can also be operated by trains making wrong-direction movements. These crossings are identified in the *Sectional Appendix* by the letter X (for example AHBC-X).

# 2 Drivers' general instructions

## 2.1 Reporting equipment failure

You must report to the signaller, in the quickest way possible, any defect or irregularity with level crossing equipment.

## 2.2 Carrying out the signaller's instructions

If the signaller tells you to approach a crossing at caution, you must not pass over it until you have made sure it is safe to do so.

If the signaller tells you to do so, you must report back whether the crossing is safe for the passage of trains.

If the signaller asks you to do so, you must tell the signaller whether or not:

- the barriers are fully lowered
- the crossing is clear.

## 2.3 Vehicle gates left open

You must report to the signaller, in the quickest way possible, any level crossing gates which have been left open.

## **2.4 Passing over level crossings that are under local control**

You must approach the crossing at caution and pass over it only if a green handsignal is shown at the crossing when you have been told:

- an AHBC is under local control
- to make a wrong-direction movement over a CCTV, OD or RC that is under local control
- to make a movement in either direction over a CCTV, OD or RC that is under local control on a line under possession.



# 3

## **AHBC crossings and crossings operated by a crossing keeper**

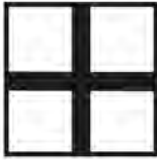
If your train has failed and the signaller reminds you about the presence of the level crossing, you must assure the signaller that you will make no further movement with your train until the signaller authorises it.

# 4

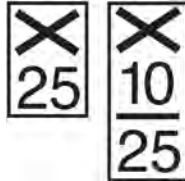
## ABCL and AOCL crossings

### 4.1 If a train is not required to stop at the crossing

On passing the warning board, you must control the speed of your train to not more than the speed shown on the speed restriction board or driver machine interface (DMI).



Warning board



Speed restriction board



Sighting board

If differential speeds are shown on the speed restriction board, they have the meanings shown in module SP *Speeds*. You must control the speed of your train to comply with the speed shown between this board and the crossing.

On passing the speed restriction board or sighting board, you must make sure you can see that the crossing is clear, and the white light next to the crossing is flashing.

You may then:

- proceed to the crossing at a speed which is not more than that shown on the speed restriction board or DMI.
- accelerate as soon as the front of the train is on the crossing.

## 4.2 If a train is required to stop at the crossing

On passing the warning board, you must control the speed of your train to stop at the stop board.

After you have stopped at the stop board, you must:

- if there is a plunger, operate it to activate the road-traffic signals but not before you are ready to restart your train
- make sure you can see the crossing is clear and that the white light next to the crossing is flashing
- sound the horn (only between 0600 and 2359, except in an emergency or when anyone is on or near the line), restart your train and proceed over the crossing.

## 4.3 Train delayed or stopped out of course when approaching the crossing

If your train is delayed or stopped out of course on the approach to a crossing after the white light has started flashing, you must approach the crossing at caution even if the white light continues to flash.

If the white light is still flashing when your train reaches the crossing, you may pass over the crossing without stopping.

If the white light has stopped flashing when your train reaches the crossing, you must:

- stop short of the crossing
- carry out the instructions shown in section 4.4 of this module.

#### **4.4 If the crossing is not working correctly**

You must stop before reaching the crossing if:

- the white light next to the crossing is not flashing, or the red light is flashing
- the crossing is obstructed
- you cannot see if the crossing is clear
- the signaller has told you the crossing has failed
- you have been told that the road-traffic signals have been switched off and at an ABCL the barriers have been left raised.

You may then pass over the crossing as long as you:

- make sure it is safe to do so
- sound the horn continuously until the front of your train is on the crossing.

#### **Where an emergency plunger is provided**

If an emergency plunger is provided, you must use this to operate the crossing controls when:

- the level crossing equipment has failed, or
- the equipment has stopped working because it has been operating for an unusually long time.

After you have operated the plunger, you may pass over the crossing but before doing so, you must:

- make sure it is safe to do so
- sound the horn continuously until the front of your train is on the crossing.

### **Passage of trains during darkness**

If the white light at the crossing is not flashing, you must not pass over the crossing during darkness unless one of the following conditions applies.

- The train is a passenger or empty coaching stock train and the interior lights are lit.
- Arrangements have been made to prevent road traffic from passing over the crossing.
- At an ABCL the barriers are in the lowered position and the lights on the barriers are lit.

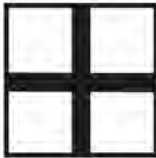
# 5

## Open crossings

### 5.1 If a train is not required to stop at the crossing

On passing the warning board, you must control the speed of your train to comply with the restriction of speed that applies between the combined speed and whistle board, and the crossing.

On a train where ERTMS is in operation you must control the speed of your train to not more than that displayed on the DMI.



**Warning board**



**Combined speed and whistle board**

If differential speeds are shown on the combined speed and whistle board, they have the meanings shown in module SP *Speeds*.

On passing the combined speed and whistle board, you must make sure you can see the crossing is clear.

You may then:

- proceed to the crossing at a speed which is not more than that shown on the combined speed and whistle board or the speed displayed on your DMI
- accelerate as soon as the front of the train is on the crossing.

You must stop before reaching the crossing if:

- the crossing is obstructed
- you cannot see if the crossing is clear.

You may then pass over the crossing as long as you:

- make sure it is safe to do so
- sound the horn continuously until the front of your train is on the crossing.

## **5.2 If a train is required to stop at the crossing**

On passing the warning board, you must control the speed of your train to stop at the stop board.

Before passing the stop board, you must make sure it is safe to pass over the crossing.

## Notes





## Notes





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# Signals, Handsignals, Indicators and Signs

## Issue 5



RS521

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# **Signals, Handsignals, Indicators and Signs Handbook RS521**



**First issued December 2013  
Issue 5, December 2018**

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You will need this handbook if you need to understand the meaning of signals, handsignals, indicators and signs.

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## 1.1 Definitions

### Stop signal

A stop signal is a signal that can show a stop aspect or indication.

It also includes:

- position-light signals
- shunting signals
- limit of shunt signals or indicators
- stop boards
- buffer stop indications
- possession limit boards
- work-site marker boards.

### Distant signal

A distant signal is a signal which cannot show a stop aspect or indication.

Some colour light distant signals are identified by a white triangle or the letters 'R' or 'RR' on the signal identification plate.

### Automatic signal

A signal operated by the passage of trains. The signaller or a person operating a signal post replacement switch can place some automatic signals to danger.

### Controlled signal

A signal operated by the signaller, some of which may be set by the signaller to work automatically.

### Semi-automatic signal

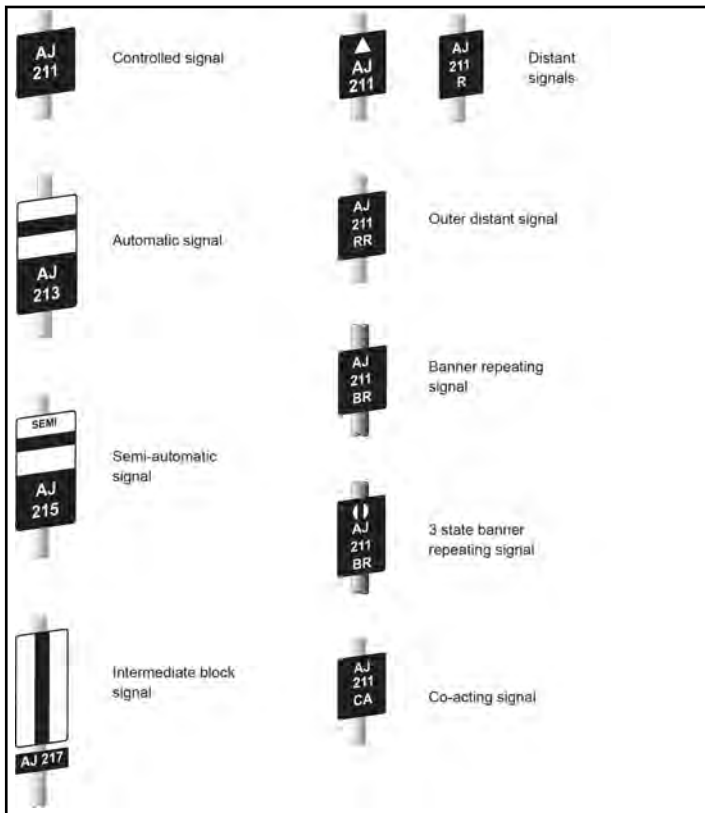
A signal normally operated by the passage of trains, but can also be controlled from a signal box or a ground frame, or by a person operating a signal post replacement switch.

### Intermediate block home signal

A stop signal that controls the exit from an intermediate block section, and the entrance to an absolute block section or another intermediate block section.

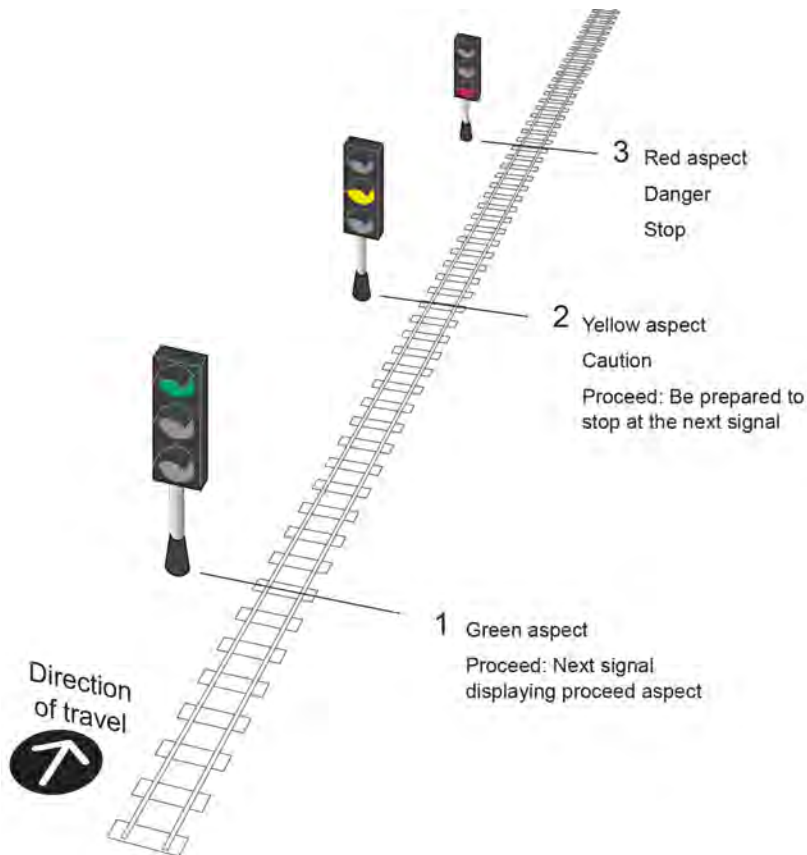
## 1.2 Signal types - identification

The meanings of signal identification plates are as follows:



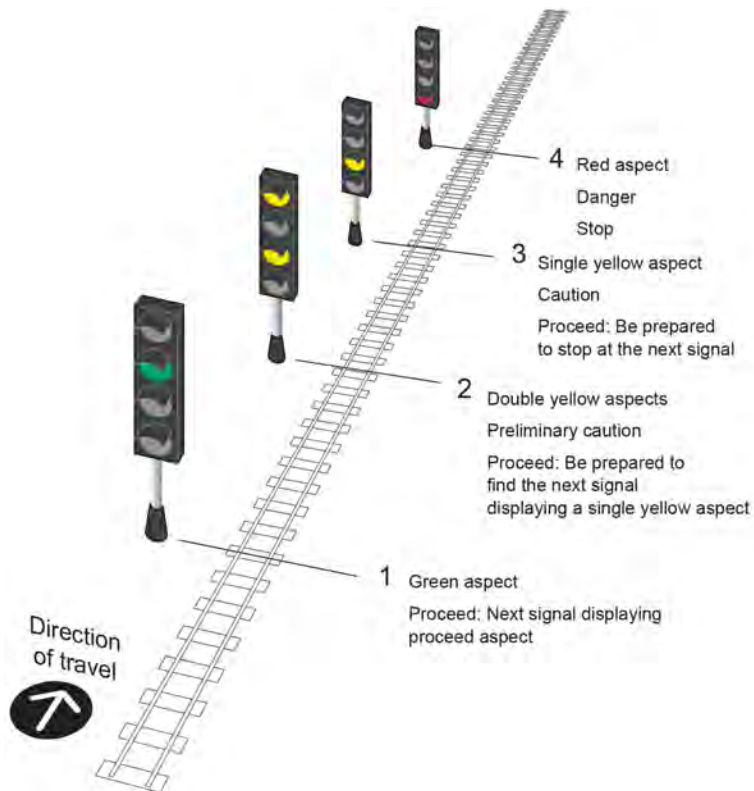
## 2.1 Three-aspect signalling - normal sequence

The normal sequence of three-aspect signalling is:



## 2.2 Four-aspect signalling - normal sequence

The normal sequence of four-aspect signalling is:



## 2.3 Junction indicators

Junction indicators are provided to show that a train is being signalled to a route to the left or right of the straight route.

A junction indicator is normally located above the signal, and will display a line of white lights when a proceed aspect is displayed.

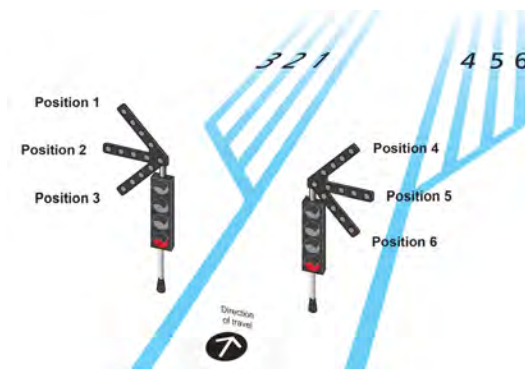


When the straight route is obvious, there is normally no junction indicator provided for this route.

Where there is no obvious straight route, a junction indicator will be provided for all signalled routes.

Where the straight route is not the highest-speed route, the junction indicator will normally apply to the lower-speed route.

Where the diverging routes ahead are both of equal speed, a junction indicator will be provided for each route.





## 2.4 Route indicators

At some locations a route indicator is provided at the signal. The indicator will display either a letter or a number to show the route onto which the movement is being signalled.

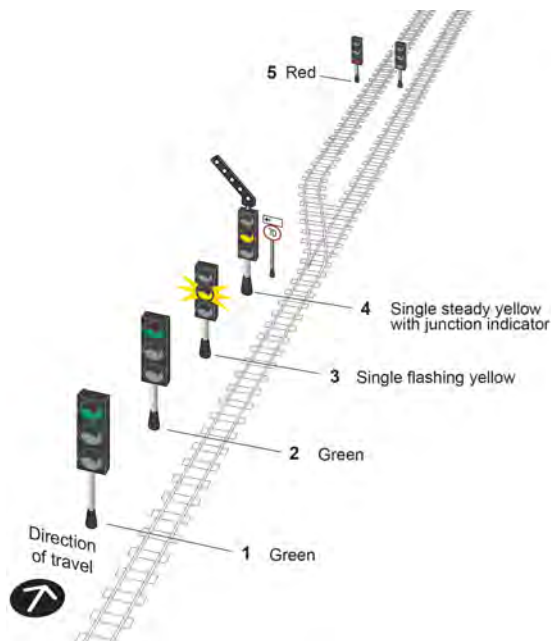
Route indicators may also be associated with a junction indicator.



## 2.5 Flashing yellow aspects

A flashing yellow aspect means facing points at a junction ahead are set for a diverging route with a lower speed than that for the straight route.

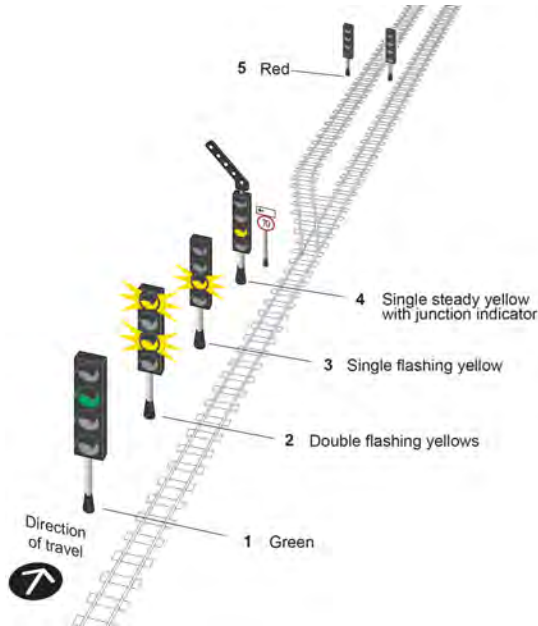
The normal sequence of three-aspect flashing yellow signalling is:



### Three-aspect flashing yellow signalling

When a single steady yellow aspect is displayed together with a junction indicator at signal 4, this has the normal meaning of a yellow aspect, be prepared to stop at the next signal (number 5). This applies even though a flashing aspect may have been displayed at signal 3.

The normal sequence of four-aspect flashing yellow signalling is:



### Four-aspect flashing yellow signalling

If the train is between signals 2 and 3 when signal 4 is cleared for the diverging route, signal 3 may then display one flashing yellow aspect. This applies even though a steady aspect has been displayed at signal 2.

When a single steady yellow aspect is displayed together with a junction indicator at signal 4, this has the normal meaning of a single yellow aspect, be prepared to stop at the next signal (number 5). This applies even though a flashing aspect may have been displayed at signal 3.

### Flashing yellow signalling in ERTMS areas

For trains on which ERTMS is operating the ability of approaching signals to display flashing aspects will be disabled. Only standard aspect sequences will be displayed to these trains. Route or junction indicators will continue to operate.

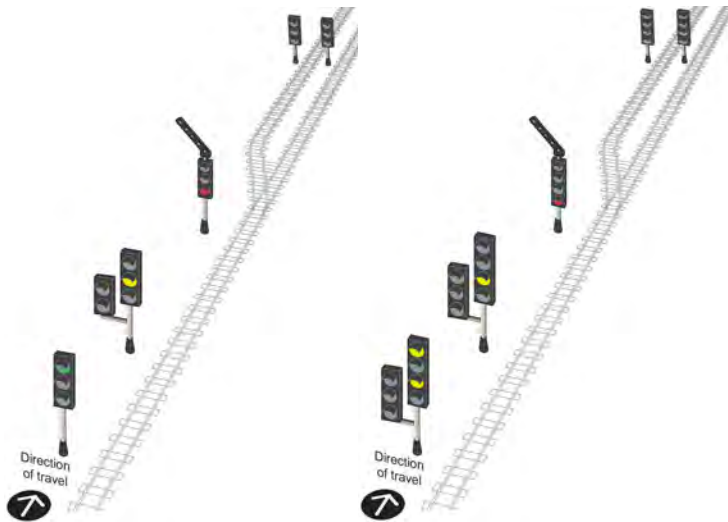
## 2.6 Splitting distant signals

Splitting distant signals are used to show which route is set at a diverging junction.

Splitting distant signals may be provided with three or four aspect signalling.

Examples of a four aspect primary head with left-hand off-set head, and a three aspect primary head with right-hand off-set head are shown below.

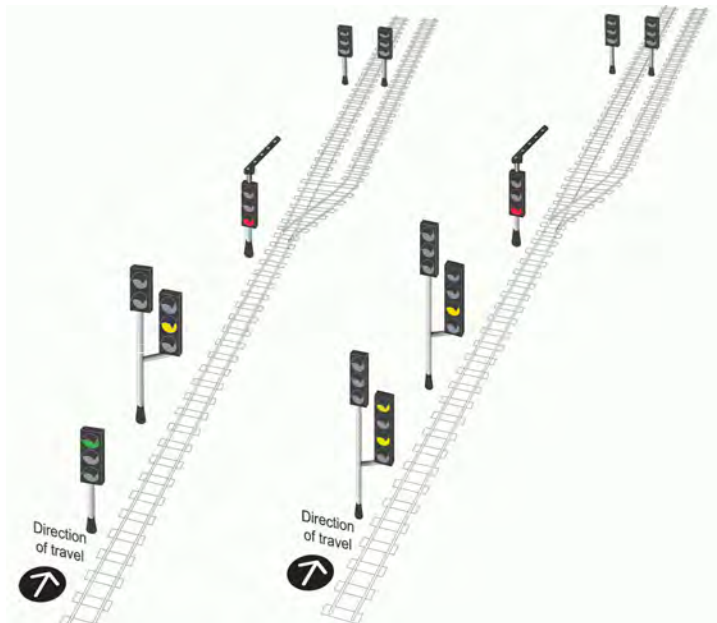




### Splitting distant signals with junction signal at danger where there is a left-hand diverging route

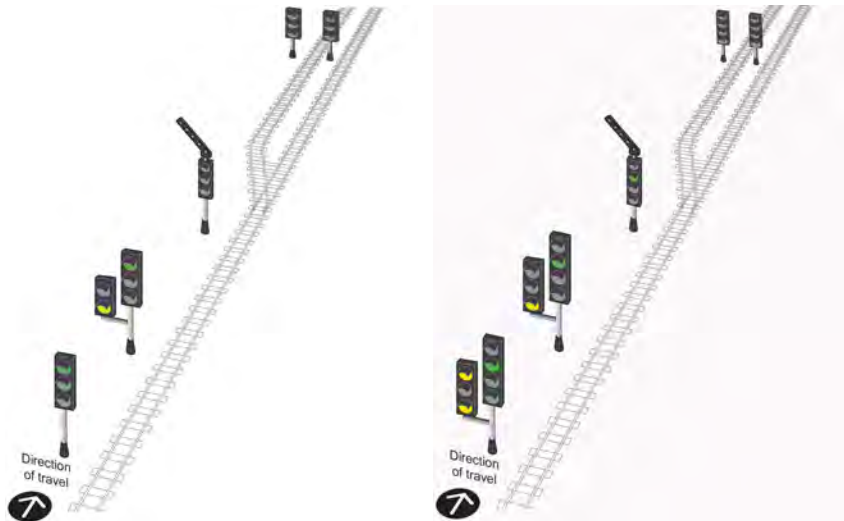
The junction signals are at danger so no aspect is shown in the off-set heads.

Examples of a four aspect primary head with left-hand off-set head, and a three aspect primary head with right-hand off-set head are shown below.



**Splitting distant signals with junction signal at danger where there is a right-hand diverging route**

The junction signals are at danger so no aspect is shown in the primary heads.



### Splitting distant signals with junction signal cleared for the straight route where there is a left-hand diverging route

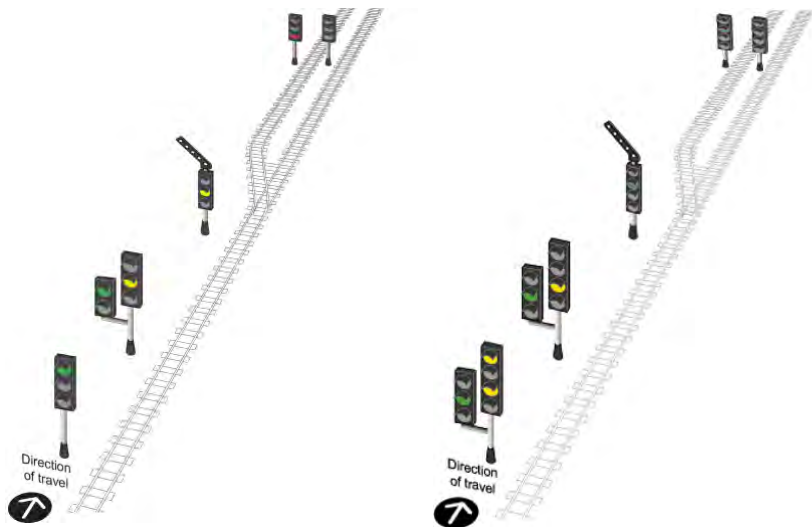
The aspects displayed in the primary heads indicate what aspect is shown at the first signal after the junction. The off-set heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.



**Splitting distant signals with junction signal cleared for the straight route where there is a right-hand diverging route**

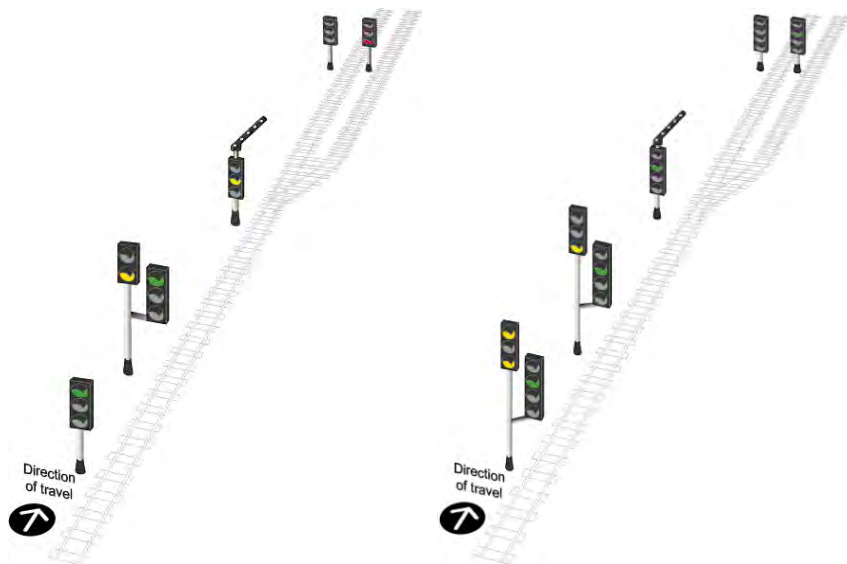
The aspects displayed in the primary heads indicate what aspect is shown at the first signal after the junction. The off-set heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.





### Splitting distant signals with junction signal cleared for the left-hand diverging route

The junction signal is cleared for the left-hand diverging route and is not approach released so the aspects displayed in the off-set heads indicate what aspect is shown at the first signal after the junction. The primary heads on the approach to the junction display aspects that are appropriate for the junction signal being at danger.



### Splitting distant signals with junction signal cleared for the right-hand diverging route

The junction signal is cleared for the right-hand diverging route and is not approach released so the aspects displayed on the off-set heads indicate what aspect is shown at the first signal after the junction. The primary heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.

## 2.7 Position-light signals

### Position-light signals that display a red aspect

These position-light signals are normally positioned at ground level independent of a main aspect.

When proceeding on the authority of a main aspect, any position-light signals along the route between main running signals will show a proceed aspect.

The signal identification plate may also have a direction arrow showing the line to which the signal applies.

These indicate stop.



## Position-light signals that display a yellow aspect

Position-light shunting signals that display a yellow aspect are stop signals applying only to movements in the direction to which the signal can be cleared. Other movements can pass the signal without it being cleared.

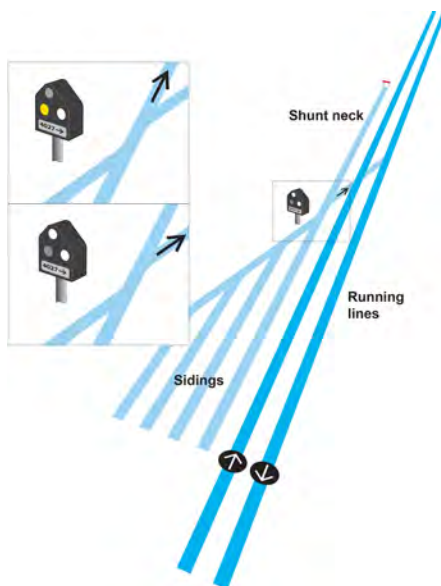
The signal identification plate may also have a direction arrow showing the line to which the signal applies.

These indicate stop.



The signal can be passed in the 'stop' position when a movement is being made towards the shunt neck or siding and not the running line.

The route may be obstructed, including by a train or vehicle.



**Yellow position-light signal**

## Position-light signals that display a proceed aspect

If a position-light signal displays two white lights at 45°, this authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



## Position-light signals associated with a main aspect

These are normally positioned below the main aspect they are associated with, and often on the same signal post.

The normal aspect for a position-light signal is unlit. This means 'obey the main signal'.



When the position-light signal shows two white lights at 45° it authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



### **Position light signal that has an associated route indicator**

Route indicators associated with position-light signals are of miniature design, and display a letter or a number that shows the route onto which the train is being signalled.



### **2.8 Colour light signals not in use**

When not in use, main and position-light signals are covered up.

Main aspects may also have a large 'X' displayed over the cover.



### 3.1 Distant signals

These signals show the following indications.

#### Caution

Indication by day: arm horizontal.

Indication by night: yellow light or reflectorised indication.

Meaning: be prepared to stop at the next stop signal, or other specified place to which the distant signal applies.



#### Clear

Indication by day: arm raised or lowered 45°.

Indication by night: green light.

Meaning: all associated stop signals worked from the same signal box are clear.



If there is only one distant signal provided for a diverging junction, this signal applies to all trains that approach it.

## 3.2 Stop signals

These signals show the following indications.

### Danger

Indication by day: arm horizontal.

Indication by night: red light.

Meaning: stop.



### Clear

Indication by day: arm raised or lowered 45°.

Indication by night: green light.

Meaning: proceed.



If there is a distant signal on the same post as a stop signal:

- the stop signal is worked by the signal box at that location, and
- the distant signal is normally worked by the signal box ahead.



The stop signal that controls movements into a loop, siding or no-block line may be a miniature semaphore arm.

Meaning when cleared: proceed at caution and be prepared to stop short of any train, vehicle or any obstruction.





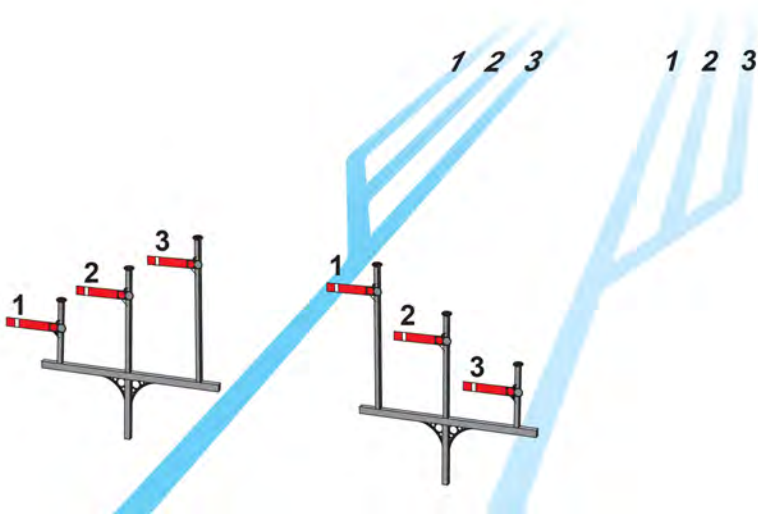
### 3.3 Route indications

Indications of route within semaphore-signalled areas may be given by one of the following methods.

- 'Stepping'.
- 'Stacking'.
- A route indicator.

The diagram below shows the 'stepping' arrangement of signals. This arrangement is the normal method of route indication on running lines in semaphore areas.

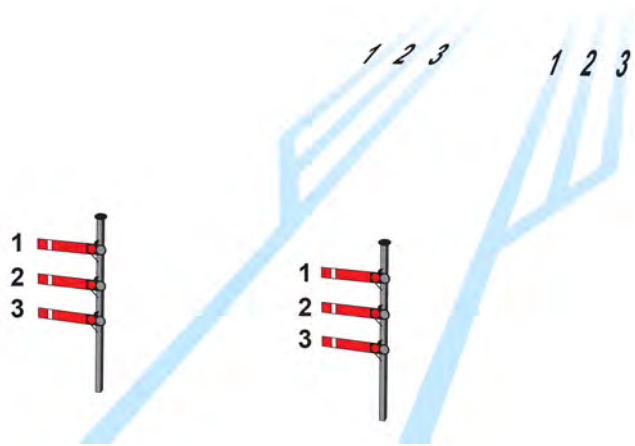
Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



Stepping

The diagram below shows the 'stacking' arrangement. This arrangement is the normal method of route indication for shunting signals in yards and sidings, and also on running lines where there is little gantry space.

Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



**Stacking**

At some locations a route indicator is provided at the signal. The indicator will display a figure or letter to show the route onto which the movement is being signalled.

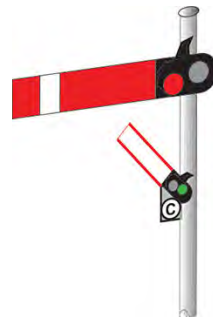


**Route Indicator**



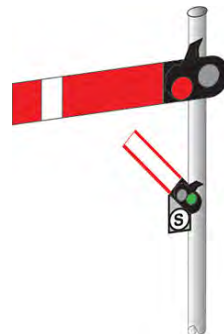
### Calling-on

When this signal is cleared with the letter 'C' showing, it authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



### Shunt-ahead

When this signal is cleared with the letter 'S' showing, it authorises the driver to proceed for shunting purposes only.



### 3.5 Semaphore shunting signals that display a red aspect

Semaphore shunting signals that display a red aspect are stop signals.

Shunting signals have a:

- white disc with a red horizontal bar, or
- miniature semaphore arm with a vertical white stripe.

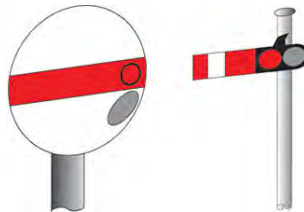
These signals show the following indications.

#### Danger

Indication by day: arm or bar horizontal.

Indication by night: red light.

Meaning: stop.

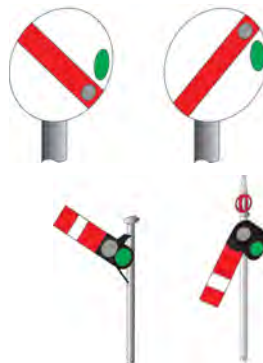


#### Proceed

Indication by day: disc turned 45° or arm raised or lowered 45°.

Indication by night: green light.

Meaning: proceed at caution as far as the line is clear.



## 3.6 Semaphore shunting signals that display a yellow aspect

Semaphore shunting signals that display a yellow aspect are stop signals applying only to movements in the direction to which the signal can be cleared. Other movements can pass the signal without it being cleared.

Shunting signals have a:

- white disc with a yellow bar
- black disc with a yellow bar
- miniature semaphore arm with a vertical black stripe.

These signals show the following indications.

### Stop

Indication by day: bar or arm horizontal.

Indication by night: yellow light.

Meaning: stop. The driver may pass the signal in the 'stop' position when the movement is being made towards the shunt neck or siding and not the running line.



### Proceed

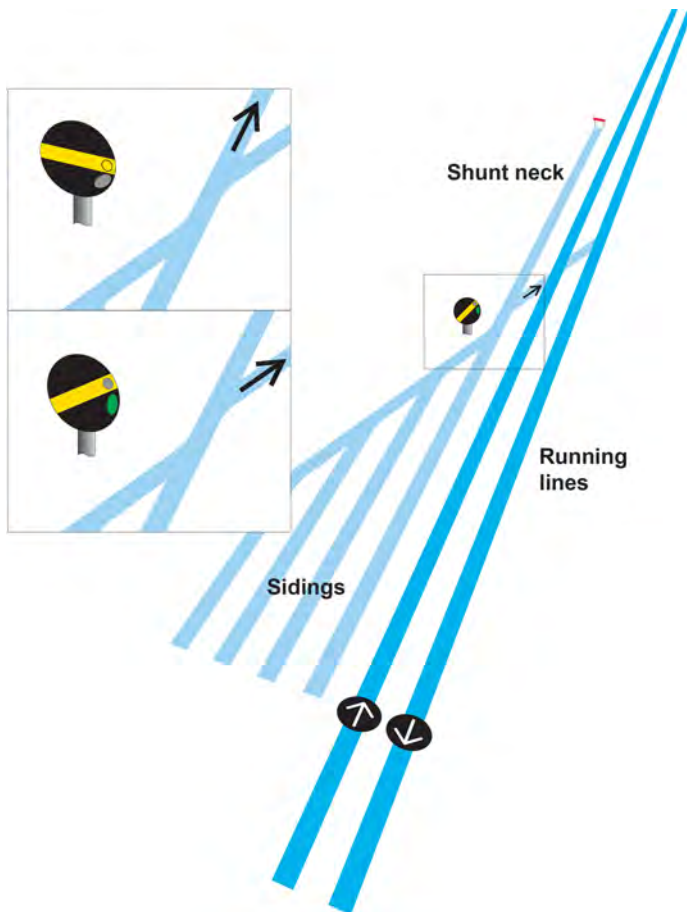
Indication by day: disc turned 45° or arm raised or lowered 45°.

Indication by night: green light.

Meaning: proceed at caution as far as the line is clear.



## Semaphore signals



Yellow shunt signal





### 3.8 Semaphore signals not in use

When semaphore signals are not in use, they have:

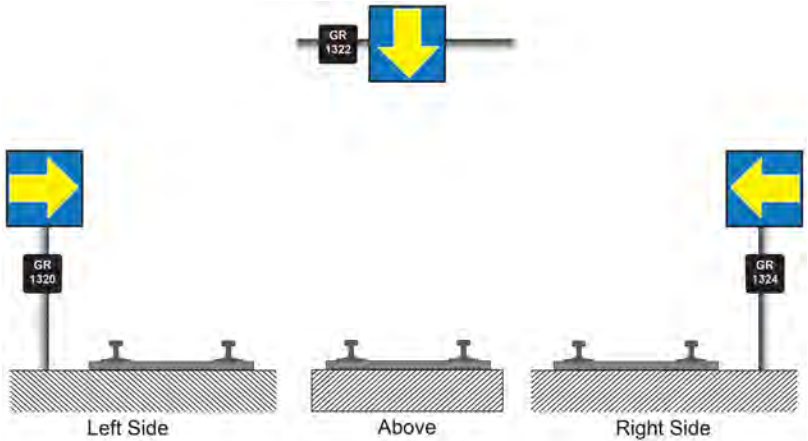
- a large X fixed on the signal arm, or
- the disc covered over.



## 4.1 Block markers

A block marker consists of a reflective square sign showing a yellow arrow on a blue background. The arrow shows which line the marker applies to.

Each block marker is provided with a unique identification plate, of white characters on a black background.





### 4.3 Cab signalling boards

#### Warning of start of cab signalling board

This board indicates that ERTMS signalling is about to start.



#### Start of cab signalling board

This board indicates that ERTMS signalling is about to start.



#### End of cab signalling board

This board indicates the end of ERTMS signalling.



## 4.4 Shunt entry boards

Shunt entry boards consist of a reflective board showing a white chevron on a violet background. The chevron points toward the line to which the shunt entry board applies.

Shunt entry boards mark the entry of a shunt route on ERTMS cab signalled lines where lineside signals are not provided.

The identity of a shunt entry board is shown on an identification plate in white characters on a black background.



## 5.1 Limit of shunt signals or indicators

Limit of shunt signals or indicators are either:

- instructions on illuminated signs, or
- two red lights horizontally displayed.

No part of the train may pass a limit of shunt signal or indicator unless authorised by the signaller.



If a limit of shunt signal or indicator is passed without authority, it is a signal passed at danger.

## 5.2 Stop boards

A stop board shows the word 'Stop' and may also:

- show other instructions
- be illuminated.

The driver or person controlling the movement may only proceed past the stop board when:

- the instructions on the stop board have been carried out, or
- permission to do so has been given by the authorised person.

If a stop board is passed without authority, it is a signal passed at danger.

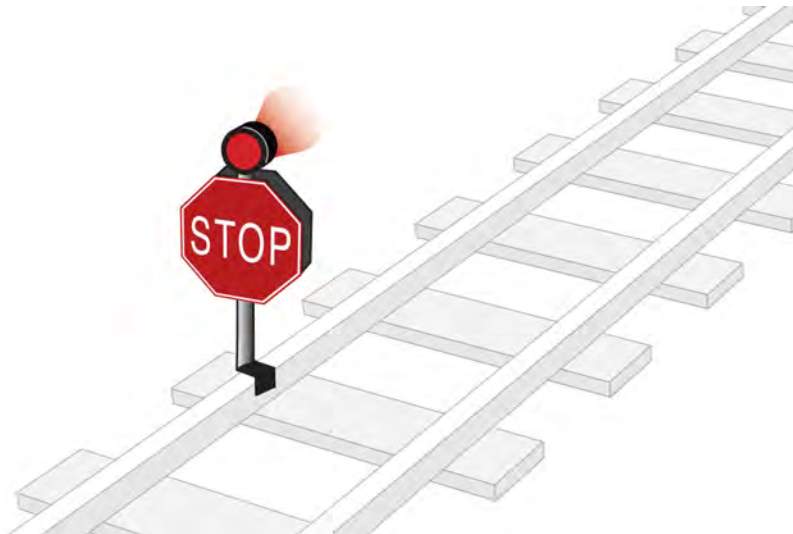


### 5.3 Possession limit boards (PLB)

A PLB identifies the boundary of a possession. They may also be used as part of the protection for a line blockage.

The board is red, double-sided and is visible along the line in both directions.

It will also have a steady or flashing red light visible along the line in both directions.



If a PLB is passed without authority, it is a signal passed at danger.

## 5.4 Work-site marker boards

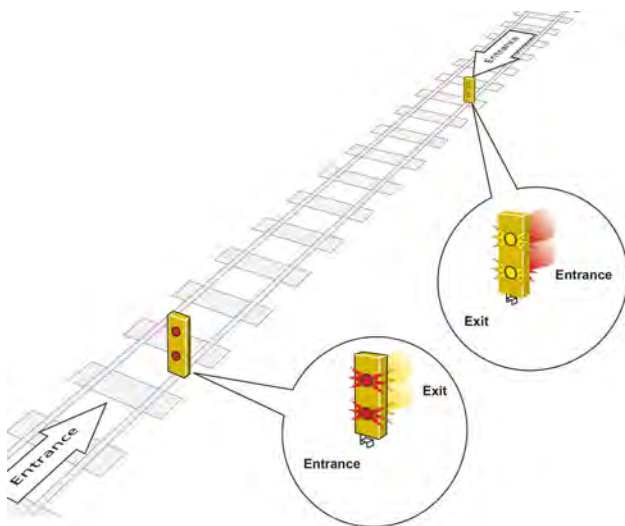
Work-site marker boards may be provided within a possession of a running line.

The board is yellow, double-sided and is visible along the line in both directions.

It has two red flashing lights which indicate an entrance to a work site. The authority of the Engineering Supervisor or Safe Work Leader is needed to pass it.

It has two yellow flashing lights which indicate an exit from a work site. The authority of the PICOP is needed to pass it.

Both indications are treated as a stop signal.



If a work-site marker board is passed without authority, it is a signal passed at danger.



## 5.5 Signal passed at danger (SPAD) indicator

Where provided, SPAD indicators are normally positioned about 50 metres (55 yards) beyond certain signals.

The indicator has a three-aspect signal head which is fitted with a blue backplate.

### Indications and meanings

The indicator is not normally lit. If a signal is passed at danger, the indicator will be activated. It will then display:

- a flashing red light in the top and bottom aspect
- a steady red light with the word STOP in the centre aspect.



If the indicator is activated, any movement on the line to which the signal applies or any other line, is to be brought to a stand immediately and the signaller contacted.

## 5.6 Points indicators

A points indicator is associated with hydro-pneumatic and certain other types of points and is identified by a sign showing the words 'Points indicator'.

They display the following indications.

Indication: A red light that may be steady or flashing or no light is showing.

Meaning: Stop at the points indicator and contact the signaller unless otherwise authorised.



Indication: A steady yellow light.

Meaning: The points to which it applies are fitting correctly.



If a points indicator is passed without authority, it is a signal passed at danger.

## 5.7 Banner repeating and co-acting signals

### Banner repeating signals

Banner repeating signals are provided on the approach to certain signals which have restricted sighting (for example because of curvature of the line, buildings or tunnels), to give advance information of the signal aspect.

Position: On

Meaning: distant signal to which it applies is at caution.



Position: Off

Meaning: distant signal to which it applies is showing clear.



Position: On

Meaning: the signal to which it applies is at danger.



Position: Off

Meaning: the signal to which it applies is displaying a proceed aspect.



Position: Off

Meaning: the signal to which it applies is displaying a green aspect.



Position: On for the Straight Route

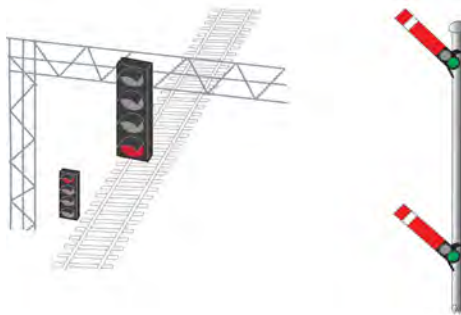
Off for the Diverging Route

Meaning: the signal to which it applies is displaying a proceed aspect for the diverging line and danger for the straight route.



### Co-acting signals

Co-acting signals are provided to give both short and long distance sighting of the signal. A co-acting signal repeats the exact aspect or indication of the main signal. Co-acting signals are always the same type (colour light or semaphore) as the main signal.



## 5.8 'Off' indicators



If an 'OFF' indicator is provided at a platform, it will:

- show the word 'OFF' when the signal to which it applies shows a proceed aspect
- allow a guard or platform staff to check the signal is clear before commencing the train despatch procedure
- show no indication when the signal to which it applies is at danger.

On a bi-directional platform line, the 'OFF' indication may be accompanied by an 'UP' or 'DN' or other indication to show which route has been set.

An 'OFF' indication does not always mean the line ahead is clear as the signal to which it applies may have been cleared for another train standing ahead in the same platform.

'OFF' indicators may be provided at locations other than platforms to show the driver that the signal to which they apply is displaying a proceed aspect.



## 5.12 Mid-platform train berth marker

This sign informs the driver of the sub-divisions along a station platform to permit its use by more than one train.



## 5.13 Whistle boards

A whistle board may be provided on the approach to some level crossings.

The whistle board can be a retro-reflective round sign or a cut out.











### 5.14 Preliminary route indicators

A preliminary route indicator is provided where it is necessary for a driver to receive advance information about the route that has been set beyond a junction signal ahead of the train.

A preliminary route indicator displays an arrow pointing in the same direction as any junction indicator displayed at the junction signal that the preliminary route indicator applies to. If the junction signal is displaying a proceed aspect without a junction indicator, the associated preliminary route indicator will display an arrow pointing straight up.

If the junction signal is at danger, the preliminary route indicator is not illuminated.

The table below gives examples of the preliminary route indicator display which depends on what is displayed on the junction signal concerned.

Junction signal ahead showing:	Preliminary route indicator	Junction signal ahead showing:	Preliminary route indicator
Proceed with position 1 JI		Proceed with position 4 JI	
Proceed with position 2 JI		Proceed with position 5 JI	
Proceed with position 3 JI		Proceed with position 6 JI	
Proceed with no JI		Stop aspect	



## 5.15 Automatic warning system (AWS) cancelling indicators

On single and bi-directional lines, the AWS magnet will normally be suppressed for movements for which it does not apply, this means the AWS will not operate.

However, there are some locations where the AWS magnet is not suppressed.

In these cases a cancelling indicator is provided to tell the driver that the AWS warning indication does not apply to trains travelling in that direction.

Where the AWS magnet is permanently installed. The indicators look like this.



Where the AWS magnet is provided in connection with a temporary or emergency speed restriction on a single or bi-directional line. The indicators look like this.



The cancelling indicator is normally positioned 180 metres (approximately 200 yards) after passing over the AWS magnet.

### 5.16 AWS gap indicators

In some AWS fitted areas AWS equipment is not provided throughout. These areas are identified with the following signs.

**Where AWS is not provided at a station on a line equipped with AWS.**



Start of AWS gap



End of AWS gap

### 5.17 AWS on a bi-directional line

On some bi-directional lines, AWS equipment is not provided in the opposite direction. These portions of line are identified with the following signs.

However, for a temporary or emergency speed restriction, AWS will be provided in both directions.

#### **Where AWS is not provided in the opposite direction on a bi-directional line.**



Start of the relevant section of line concerned



End of the section normal arrangements resume

## 6.1 Level crossing signs

### Automatic barrier crossing locally monitored, automatic open crossing locally monitored crossings and open crossings

The warning board means that there is an automatic barrier crossing locally monitored, automatic open crossing locally monitored or an open crossing ahead.

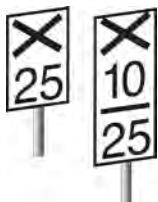


**Warning board**

The speed restriction board shows the permissible speed from the board to the level crossing.

If differential speeds are shown on the speed restriction board, they have the meanings shown in section 7.4.

At open level crossings the speed restriction or stop board is combined with a whistle board.



Speed restriction board



Combined speed and whistle board

On ERTMS lines a speed restriction board is not provided but the speed restriction approaching the crossing will be shown on the driver machine interface (DMI).

### Wrong-direction boards

Wrong-direction speed restriction boards are positioned on the approach to level crossings that have wrong-direction controls.



The numerals show the permissible speed from the board to the level crossing. Black numerals on a white background denote mph and white numerals on a black background denote km/h.

### Sighting board on ERTMS lines

This sign indicates the point at which the driver is required to ensure that the level crossing is clear and to observe the driver's level crossing indicator.



## 6.2 Level crossing indicators

A level crossing indicator is associated with locally monitored level crossings.

They display the following indications.

Indication: A red light that may be steady or flashing or no light is showing.

Meaning: Stop before reaching the level crossing and ensure it is safe before passing over it.



Indication: A flashing white light.

Meaning: The level crossing is working correctly, and providing the level crossing is clear, it is safe to proceed over it.



## 7.1 Permissible speed indicators



Permissible speed indicators show the start of the permissible speed.

Black text on a white background and cut-out signs show the speed in mph. White text on black background shows the speed in km/h.

In limited clearance areas the indicators are sometimes oval-shaped.



## 7.2 Warning indicators

Warning indicators are provided on the approach to certain speed indicators and give a warning of a reduction in permissible speed ahead.

Black text on a white background shows the speed in mph. White text on black background shows the speed in km/h.



There may also be a fixed AWS magnet on the approach to the indicator.



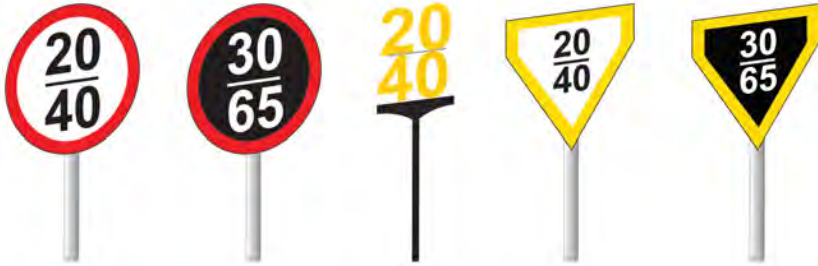


## 7.4 Differential permissible speed indicators

The bottom figure always shows the higher speed. It applies to:

- passenger trains (loaded or empty)
- parcels and postal trains (loaded or empty)
- light locomotives.

The top figure applies to all other trains.





## 7.6 Enhanced permissible speed (EPS) indicators

These show the enhanced permissible speed in mph and apply to tilting trains in tilting mode.



Where differential signs are provided, the bottom figure always shows the higher speed and applies to class 390 trains in tilting mode. The top figure applies to class 221 trains in tilting mode.



Warning indicators are provided on the approach to certain EPS speed indicators and give a warning of a reduction in the enhanced permissible speed ahead.







### SPATE indicator

The SPATE indicator shows the speed restriction has been withdrawn or will not be imposed.

SPATE is an abbreviation of 'Speed Previously Advised Terminated Early'.



### Repeating warning board

A repeating warning board is placed on the end of a platform or a connection from a siding or dead-end platform line to remind the driver there is a temporary speed restriction ahead.

The board will also have the associated speed indicator or a spate indicator below the board.



## 8.2 Emergency indicator



When an emergency speed restriction is to be imposed an emergency indicator will also be used.

The indicator has flashing white lights which will be working at all times.

An AWS magnet is provided on the approach to an emergency indicator for an emergency speed restriction ahead.

There will be no AWS in AWS gap areas.

## 9.1 Neutral section signs

### Neutral section warning board

This sign provides advance warning of a neutral section.



### Neutral section indication board

This sign identifies the commencement of a neutral section.





## 9.2 Coasting signs

This 'advance lower pantograph' sign provides warning of a lower pantograph sign ahead.

The sign also has flashing white lights.

This sign means 'lower pantograph'.

This sign means 'raise pantograph'.

This sign means 'do not raise pantograph'.



### **GSM-R radio area**

This sign indicates the start of a GSM-R radio section



### **Areas where GSM-R radio is not provided**

This sign indicates the end of a GSM-R radio section.



### **GSM-R alias plate**

In places where there is no signal or where there may be confusion over the number to enter when registering the cab radio, an alias plate may be provided.



## **GSM-R signalbox phone number plate**

At certain signals the GSM-R network may not be able to automatically route calls from the driver to the signaller who controls the area. This sign is a reminder to drivers of the signaller's GSM-R phone number.



## **GSM-R signalbox short code plate**

An alternative method has been developed to avoid a driver having to dial the long 8-digit number. This is achieved by dialling a short code number. This sign displays the correct signaller's GSM-R short code number.



## 11.1 Telephones

### Signal post telephones

Telephones associated with a signal are similar to these. If the telephone has a number on the cabinet the number states the maximum amount of minutes that can elapse before the signaller is contacted by the driver.



### Lineside telephones

These telephones are provided to contact the signaller.



## 11.2 Limited clearance telephones

### Telephones with yellow or white diamonds with the letter X or a yellow roundel.

If any of these signs are displayed it means that the signal post telephone is not in a position of safety. It may only be used to contact the signaller:

- in an emergency
- if told that the adjacent line has been blocked.



### Telephone with limited clearance warning signs

These signs mean that a train driver may use the signal post telephone because it is in a position of safety in relation to the adjacent line and protection is provided by the presence of the train.



The telephone may only be used by other staff to contact the signaller:

- in an emergency
- if told that the line to which it applies has been blocked.

## 11.3 Signals without telephones

### White diamond sign



This sign means that a telephone is not provided but the presence of the train or shunting movement is indicated to the signaller.

### White diamond sign with a telephone number displayed

This sign means that a telephone is not provided but the presence of the train or shunting movement is indicated to the signaller. If GSM-R or CSR is not available the signaller may be contacted using the telephone number on the plate.



A driver may only leave the cab in order to use a lineside telephone to contact the signaller:

- in an emergency
- if told that the adjacent line(s) has been blocked.

## 12.1 Low adhesion hazard signs

### Entrance to a low adhesion area

This sign informs the driver of the entrance to a low adhesion area.



### Exit from a low adhesion area

This sign informs the driver of the exit from a low adhesion area.



## 12.2 Sandite markers



These signs inform the driver of sites where Sandite should be applied. There are three signs.

- Three marks - advance warning of Sandite application site.
- Two marks - start applying Sandite.
- One mark - stop applying Sandite.

### 12.3 Signal reminder signs

This sign informs the driver of a particular signal ahead.



### 12.4 Countdown markers

These signs inform the driver of the distance between the sign and the signal concerned.

There are three signs.

- Three marks - distance to signal normally 300m.
- Two marks - distance to signal normally 200m.
- One mark - distance to signal normally 100m.



### 12.5 Coasting boards

This board advises that the driver may coast to a stopping point or significant speed reduction beyond the board.





## 12.6 Car stop markers

These signs inform the driver of the correct stopping point for the train.



## 12.7 Mile posts

These signs are situated on the lineside and used to identify locations. The number denotes the mileage and each mark under the number denotes a quarter of a mile.



## 12.8 Gradient signs



These signs are situated on the lineside and used to identify the change in gradient at that particular location. Gradients are expressed as a ratio. e.g '1 in 460' means the track rises (or falls) one unit in every 460 units. The angles of the gradient signs indicate the direction of the slope.

# 12 Other lineside signs

## 12.9 Spring catch points sign

These signs are placed on the approach to spring catch points.



## 12.10 Bridge identity plates

These signs identify the location of bridge structures.



## 12.11 Safety signs

### Limited clearance sign

This sign means there is no position of safety on this side of the railway for the length of the structure. It is not safe to enter or stand at that location when a train is approaching.



## No refuges warning sign

This sign means there is no position of safety on this side of the railway for the length of the structure. However, there are positions of safety, or refuges, on the opposite side of the railway line.



## Prohibition sign

This sign means that staff must not pass beyond this sign while trains are running unless carrying out emergency protection. This is because it would not be possible to reach a position of safety or refuge safely. Extreme care is necessary if carrying out emergency protection.



## 12.12 End of emergency special working sign

This sign indicates the end of an emergency special working section.



# 13 Lineside handsignals

## Red handsignal

A red flag during daylight or a red light during darkness or poor visibility means 'STOP'.



## Yellow handsignal

A yellow flag during daylight or a yellow light during darkness or poor visibility is used when giving authority to pass a signal at danger.



## Green handsignal

A green flag during daylight or a green light during darkness or poor visibility is used to give authority to pass over a level crossing.





# Notes





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# AWS and TPWS Handbook

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# **AWS and TPWS Handbook**

RS/522 Issue 3 (December 2015)



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You will need this AWS and TPWS handbook if you carry out the duties of a:

- driver
- signaller.



This symbol indicates extra information or guidance regarding the instructions.

# Contents

## 1

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# Automatic warning system

## 1.1 General information

### 1.1.1 Background

The Automatic Warning System (AWS) has been implemented as the national warning system on the UK main line passenger railway network since the 1950s.

### 1.1.2 The purpose of AWS

The original concept of AWS was to provide the driver with an audible and visual indication of whether the distant signal was clear or at caution.

Should the driver fail to respond to a warning indication, an emergency brake application will be initiated.

Since the introduction of multi-aspect signalling, the majority of signals are fitted with AWS.

It should be noted that AWS does not relieve the driver of the responsibility of observing and obeying lineside signals and indicators.

### 1.1.3 Provision of AWS

AWS consists of track and train equipment. The track equipment consists of an AWS magnet that is normally provided 180 metres (approximately 200 yards) on the approach to a signal. The AWS magnet may be positioned at a greater distance from the signal on high-speed lines or at a lesser distance from the signal on lower speed and platform lines.

This system works by the train detecting sequences and polarities of magnetic fields passing between the track equipment and the train equipment via a receiver under the train.

At through stations where the permitted speed is 30 mph or less and the layout is complex, AWS track equipment need not be provided. Where this occurs, these are called AWS gap areas.

AWS magnets are not provided at semaphore stop signals. Where a distant signal is mounted on the same post as a semaphore stop signal then AWS is provided for the distant signal.

Where a line is not fitted with AWS, this is shown in the *Sectional Appendix*.

Where a reduction in permissible speed is provided with a warning indicator (i.e. the permissible speed on the approach is 60 mph or more and the reduction in the permissible speed is at least one third) an AWS permanent magnet is provided 180 metres (approximately 200 yards) on the approach to the warning indicator. These are sometimes referred to as 'Morpeth magnets'.

AWS magnets are also used to alert the driver to the following.

- Level crossing warning boards or indicators.
- Temporary speed restriction warning boards.
- Emergency speed restriction warning boards and emergency indicators.

## 1.2 Track equipment

The AWS track equipment comprises various components mounted in the centre of the four-foot.

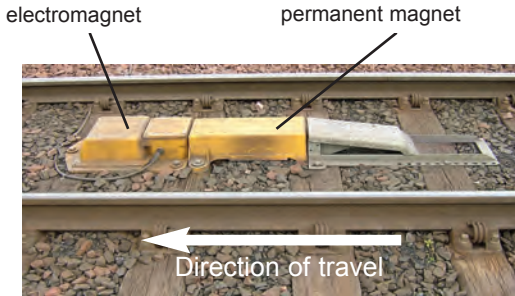
### **Permanent magnet**

The train will first encounter a permanent magnet. Following the train passing over a permanent magnet where an electromagnet is either not provided or not energised, the AWS gives a warning indication to the driver.

### **Electromagnet**

An energised electromagnet, when presented after the permanent magnet, gives the driver a 'clear' indication when approaching a green signal or a semaphore distant signal showing 'clear'.

# Automatic warning system



**An example of AWS track equipment**

## Suppressor magnet

Suppressor magnets are used to suppress permanent magnets when they are not required to apply to a train movement (for example, magnets applicable to the opposite direction on a single or bi-directional line).

## Depot test magnet

A permanent magnet, used to test the operation of a train's AWS equipment, may be provided at the exit of certain maintenance depots.

## Portable magnet

Portable AWS magnets are provided to give a warning to the driver, on the approach to temporary and emergency speed restrictions.



**An example of a portable magnet**

### 1.3 Train equipment

The following equipment is provided on each fitted traction unit.

#### **AWS receiver**

The AWS receiver is located under a traction unit and detects the sequences and polarities of magnetic fields from the AWS track magnets.

#### **AWS audible indicator**

The audible indicator gives a **warning** or a **clear** indication that is distinguishable from all other audible cab indications. The audible indication is either:

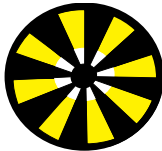
- a **clear** indication (bell or electronic equivalent), or
- a **warning** indication (horn or electronic equivalent).

#### **AWS visual indicators**

The visual indications are as follows.



The black indication advises the driver that the associated signal is showing a green aspect or 'all clear'. It also advises the driver that the audible warning has not been acknowledged and, if not acknowledged, the brakes will be applied.



The yellow and black indication advises the driver that a warning indication has been acknowledged.

#### **AWS/TPWS acknowledgement button**

The AWS/TPWS acknowledgement button is used to acknowledge an AWS audible warning. If an AWS audible warning is not acknowledged within two to three seconds an emergency brake application will occur.



### **AWS isolation/fault indicator**

Some traction units are fitted with a visual indicator to advise the driver of a fault with the AWS, and when the AWS has been isolated. The yellow isolation/fault indicator gives three indications.

- Off                      AWS state is normal.
- Flashing                A fault has been detected in the train  
                                 AWS equipment.
- On (steady)            The train AWS equipment has been isolated.

## **1.4 AWS indications and their meanings**

### **1.4.1 Warning indication**

The driver will receive a **warning** indication in the driving cab on the approach to a:

- colour light signal displaying a single or double yellow (steady or flashing) or a red aspect
- semaphore distant signal displaying a caution indication
- warning indicator provided for some permissible speed reductions
- warning board provided for an automatic barrier crossing locally monitored (ABCL), an automatic open crossing locally monitored (AOCL) or an open crossing (OC)
- warning board or emergency indicator for a temporary or emergency speed restriction
- cancelling indicator for an AWS warning which does not apply to the train.

The driver will also receive a warning indication when passing over an AWS depot test magnet.

AWS is not capable of distinguishing between a red, double yellow or single yellow aspect.

## 1.4.2 Clear indication





The driver will receive a **clear** indication in the driving cab when approaching:

- a colour light signal showing a green aspect, or
- a semaphore distant signal displaying a clear indication.

The driver does not have to acknowledge a clear indication.

## 1.5 Areas where AWS is not provided

In some AWS fitted areas AWS equipment is not provided throughout. These areas are identified with the following signs.

Where AWS is not provided at a station on a line equipped with AWS.	Start of AWS gap	
	End of AWS gap	
Where AWS is not provided in the wrong direction on a bi-directional line (if a wrong-direction movement approaches a temporary or emergency speed restriction, AWS will be provided).	Start of relevant section of line concerned	
	End of the section normal arrangements resume	

## 1.6 AWS suppression and AWS cancelling indicators

On single and bi-directional lines, the AWS magnet is normally suppressed for movements for which it does not apply and the AWS will not operate.

However, where the AWS magnet is not suppressed, a cancelling indicator is provided to advise the driver that the AWS warning indication does not apply to trains travelling in that direction.

The following signs are used:

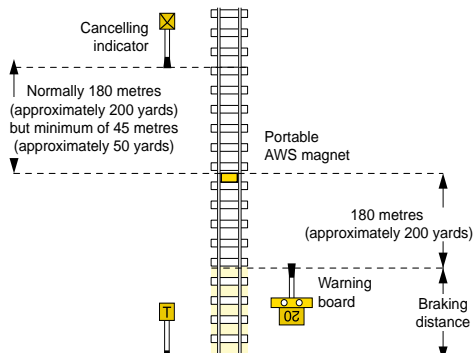
Where the AWS magnet is permanently installed.



Where the AWS magnet is provided in connection with a temporary or emergency speed restriction.



The cancelling indicator is normally positioned 180 metres (approx. 200 yards) after passing over the AWS magnet.



**Single and bi-directional lines**

## 2.1 General information

### 2.1.1 Background

Widespread fitment of the Train Protection and Warning System (TPWS) began in early 2000, in order to meet the requirements of the Railway Safety Regulations 1999.

### 2.1.2 The purpose of TPWS

The purpose of TPWS is to stop the train by automatically initiating a brake demand, where TPWS track equipment is fitted, if the train has:

- passed a signal at danger without authority
- approached a signal at danger too fast
- approached a reduction in permissible speed too fast
- approached buffer stops too fast.

TPWS is not designed to prevent SPADs but to mitigate against the consequences of a SPAD, by preventing a train that has had a SPAD from reaching a conflict point ahead of the signal.

TPWS does not relieve the driver of responsibility for observing signals and speed restrictions.

### 2.1.3 Provision of TPWS

TPWS is provided at certain signals, approaching some speed restrictions and all buffer stops on platform lines. Not all signals are provided with TPWS equipment as fitment is dependent on the risk involved.

The TPWS system consists of track and train equipment. The track equipment creates an electro-magnetic field which an aerial under the train detects.

TPWS is provided:

- on passenger lines, at all main running signals capable of showing a stop aspect (including some stop boards) which protect crossing or converging movements
- at any signal capable of showing a stop aspect on a non-passenger line, where that signal that protects a crossing of, or convergence with, a passenger line
- at stop signals where conflicting movements could take place in the overlap of the next stop signal ahead
- on the approach to the buffer stops at the end of passenger platforms. These are fitted approximately 65 metres (70 yards) from the buffer stops, and will trigger a brake application at speeds greater than 10 mph
- on the approach to permissible speed reductions, where the permissible speed on the approach is 60 mph or more and the reduction in the permissible speed is at least one third.



### 2.2.3 Overspeed Sensor System (OSS)

An OSS comprises two transmitters: an arming loop and a trigger loop. When a train passes over an arming loop, the on-train equipment detects it and starts an internal timer. If the train passes over a trigger loop within a designated time period, indicating that the train is exceeding the 'set speed', then the on-train TPWS equipment will initiate a brake demand.

The timer on a freight locomotive is calibrated so that the speed at which a brake demand is initiated at an OSS is 20% lower than that for a passenger train. This is to take into account the different braking characteristics of passenger and freight trains.

The 'set speed', over which a brake demand will be initiated, is determined by the distance between the arming loop and the trigger loop. The 'set speed' is based on factors such as permissible speed, gradient, distance to conflict point and braking characteristics.

Where OSS loops are provided on the approach to stop signals, they are only energised when the signal is at danger, whereas those on the approach to reductions in permissible speed and buffer stops are always energised.

OSS loops may also be provided for some temporary speed restrictions.



**Typical OSS loops**





### 2.3.3 TPWS control panel (standard version)



**Examples of standard TPWS control panels**

The TPWS control panel is found in the driving cab and has two indicators and one illuminated button as follows:

#### **Brake demand indicator**

The red brake demand indicator gives three indications.

- Off                    No brake demand has been initiated.
- Flashing            TPWS or AWS has initiated a brake demand that has yet to be acknowledged by the driver.
- On (steady)        The brake demand has been acknowledged by the driver.

#### **Temporary isolation/fault indicator**

The yellow temporary isolation/fault indicator gives three indications.

- Off                    TPWS state is normal.
- Flashing            A fault has been detected in the train TPWS equipment, or the start-up test has not been completed successfully.
- On (steady)        The train TPWS equipment has been temporarily isolated.

The on-train TPWS carries out a self-test whenever the driving cab is opened, to check that the equipment is functioning correctly. When this test starts, all three indicators illuminate.

If the test is completed successfully, then the indicators extinguish.



### 2.3.4 TPWS control panel (enhanced version)



**Example of enhanced TPWS control panel**

Some driving cabs are fitted with an enhanced version of the TPWS control panel. This comprises the following indicators/buttons.

#### **Brake demand indicators**

Enhanced versions of the TPWS control panel are fitted with three illuminated brake demand indicator buttons, labelled as follows.

- SPAD (red).
- OVERSPEED (yellow).
- AWS (yellow).

Each of these indicator buttons has three states:

- Off No brake demand has been initiated.
- Flashing A brake demand has been initiated and is awaiting driver's acknowledgement. When the button is pressed and released, the indicator will go on (steady).
- On (steady) The brake demand has been acknowledged by the driver.



This is effective for approximately 20 seconds (generally for passenger trains) or approximately 60 seconds (generally for slower accelerating freight trains). Once pressed the Train Stop Override button will illuminate. It will extinguish when the train passes over the TSS.

### **Brake release button**

The brake release button is used in conjunction with the brake demand indicator/button to release the brakes after acknowledging the brake demand. The brakes are released by pressing the brake release button at the same time as pressing the appropriate brake demand indicator/button.

If the brake demand was initiated by both an overspeed and by AWS, then pressing the overspeed brake demand indicator/button with the brake release button also releases the AWS-initiated brake demand.

### **AWS/TPWS acknowledgement button**

In driving cabs fitted with the enhanced TPWS control panel, the AWS/TPWS acknowledgement button is used solely to acknowledge AWS warnings, and has no involvement with TPWS.

#### **2.3.5 TPWS temporary isolation switch**

The TPWS temporary isolation switch is generally mounted in the driver's cab but out of reach of the normal driving position.



**TPWS temporary isolation switch**



## **2.4 Signal box equipment**

### **2.4.1 Power signal boxes**

In recent signalling installations, TPWS track equipment faults are indicated by a blue 'fault' indication on the signalling panel or VDU workstation. On other signalling panels, a TPWS track equipment fault at a signal is indicated via a simulated 'lamp out' fault in the signal lamp indication repeater circuit.

During a failure of the TPWS track equipment, the signal indication on the panel will appear blank, whilst the signal is displaying a red aspect.

Initially the signaller will not know whether the TPWS track equipment or the signal lamp has failed. It may be necessary to ask the driver to confirm if the signal is lit or not.

In colour light areas, if there is a TPWS fault at a signal, the signal in rear will usually be held at danger until the affected signal displays a proceed aspect and its TPWS is no longer required to be energised.

### **2.4.2 Mechanical signal boxes**

In mechanical signal boxes, the position of the lever in the frame determines the operational condition of the TPWS at that signal. If the lever is in the normal position, then the signal will be at danger and therefore the TPWS equipment for that signal will be armed.

In mechanical signalling, it is considered too restrictive to hold the signal in rear at danger should there be a TPWS fault and therefore a failure indication unit (FIU) is provided to monitor the status of the TPWS.

In the event of a TPWS failure at an individual signal, an audible alarm will sound and a blue light will flash. Once the audible alarm has been acknowledged and cancelled, the blue light remains as a reminder, but stops flashing.

# 3

## Failures and irregularities



**Example of a failure indication unit**

The signaller performs a test to establish that the FIU is capable of detecting a fault. This test is performed at least every 12 hours and is carried out by signallers at each shift change and when the signal box opens. It is important that faults and failures of the AWS or TPWS equipment are reported fully and promptly. This is essential as it prevents important data about the performance of the equipment becoming lost.

The prompt reporting of wrong-side failures allows the signaller to advise any subsequent drivers of the defective equipment at a specific location and enables defective on-train equipment to be investigated without delay.

The signaller is required to carry out appropriate instructions when any failure of TPWS occurs.



**List of fault codes to be reported**

<b>Required Indication</b>	<b>Actual Indication</b>	<b>Fault Code</b>
<b>Clear (Bell)</b>	Horn & Bell	1
	Horn instead of Bell	2
	None	3
<b>Warning (Horn)</b>	Bell & Horn	4
	Bell instead of Horn	5
	Brake without Horn	6
	None	7
	Indicator did not change to Yellow and Black ( <i>this is not a fault if it occurs after cancelling the AWS indication received when setting a driving cab into service</i> )	7a
<b>None</b>	Horn	8
	Bell	9
	Unable to cancel	10
	Indicator did not change to all black	11
	AWS failed to arm	12
	AWS failed to disarm	13
	ATP/TVM failed to arm	14
	ATP/TVM failed to disarm	15
	TPWS failed to activate	16
	TPWS operated when not required	17

## Notes



**Published by**





# GSM-R Handbook

## Issue 1.2



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# **GSM-R Handbook Handbook RS523**



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You will need this handbook if you carry out the duties of a:

- driver
- operations controller
- signaller
- train operator's controller.

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## **Purpose of this handbook**

This handbook is intended as guidance to users of the GSM-R system used on the GB mainline railway.

It has been designed as a day-to-day reference guide for the less frequently used processes and functions of the GSM-R system. The handbook looks at these from the perspective of a driver, operations controller, signaller and train operator's controller.

**Note:** This handbook contains train radio and fixed terminal information typically found on the Great Britain mainline railway. Other equipment may differ in functionality.





**Increase brightness/scroll**

**right:** Increases the brightness of the display or used to scroll to the right when the text on the screen is longer than 20 characters.



**Reduce brightness/scroll**

**left:** Reduces the brightness of the display or used to scroll to the left when the text on the screen is longer than 20 characters.



**Registration/turn on:** Enables registration and deregistration of the train radio. Turns driver's control panel on when pressed for two seconds.



**Standing at signal:** Used to inform the signaller that the train is at a stand at a stop signal.



**ST:** Used to acknowledge to the signaller that a broadcast has been received and understood.



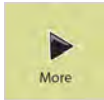
**Call signaller:** To make a call to the signaller.



**Railway emergency group**

**call (REC):** Used to make a railway emergency group call.





**More:** To display more functions.



**Less:** To display less functions.



**Settings:** To adjust the brightness of the display and volume controls.



**Roles:** To change signaller roles.



**SMS:** To compose and send a message.



**NR about:** Displays the software version of the fixed terminal.



**Emergency dial pad:** Displays a sub menu that will display the speed dial keys for group call areas.

### 3.1 Train radio

The train radio system is generally connected to the train battery supply, this enables usage of any train radio on which the batteries are switched on. During normal operation the supply to the train radio is provided when the master switch is moved away from the off position. The driver control panel can also be powered up by pressing the **Registration/Deregistration** button for more than two seconds.

### 3.2 Fixed terminal

If the power supply to the signaller's or controller's fixed terminal is interrupted, it will reboot and return to the log in screen.



## 4.1 Registration of the train radio

When preparing a train for service the train radio is always required to be registered with the GSM-R network. This enables the registration of a headcode and will allow the signaller to contact the train radio. It will also support the correct routing of calls from the train radio to the signaller.

Drivers should always make sure that the correct headcode is displayed on the train radio.

## 4.2 Pending registration

If GSM-R network coverage is not available, pending registration will be used. Pending registration enables the train radio to be prepared to register once GSM-R network coverage becomes available.

**Note:** Pending registration is not available through the menu.

In order for the pending registration to be completed, the driver needs to follow these steps.

**1** Press the **Registration** button.

**2** Press the **Accept** button.

After five seconds the 'Reg code saved' message is cleared and replaced by a 'Searching networks - Please wait' message.

The registration process will only be complete once GSM-R coverage is detected and the driver has responded to the prompt from the train radio to press the **Accept** button.

The pending registration state can be cancelled by pressing the **Cancel** button at any time.

### 4.3 Company wild card codes (99x)

The '99x' company wild card code should only be used when registration problems are being experienced.

If a train radio has been registered using a company wild card code, it will not be possible for a call to the signaller to be routed to the controlling signaller. It may be necessary to use the phonebook to contact the correct signaller.

The company wild card codes can be found in the *Sectional Appendix*.

### 4.4 Preregistration

The preregistration function is available by using the menu.

If it is necessary for trains to be preregistered at a location where this is not normally done, the signaller will normally arrange for drivers to be told. This will avoid delay in registering the train radio.

When preregistering the train radio, the company wild card code should be used.

Preregistration can be triggered manually by the driver pressing the **Accept** button.

## 4.5 Registration problems

### 4.5.1 Registration failure

There may be times when 'Registration failed' is displayed after an attempt has been made to register the train radio. The driver would normally check the registration code was entered correctly by attempting to register the train radio a second time.

If the second attempt also fails, the first point of contact would be the signaller who may know about a problem that is causing registration failures.

Two attempts should be made at registration using the details provided before contacting the signaller. The call to the signaller will need to be made using the phonebook. This step also confirms that the train radio is correctly connected to the network and calls can be made.

After contacting the signaller, one further attempt can be made using a '99x' company wild card code if necessary.

When a train is registered with the '99x' company wild card code, voice calls and operational text messages may be routed to the wrong signaller. The driver should always check the train radio display to make sure the connection is to the correct signaller and to confirm the correct identity of the signaller once communication is established.

The driver would tell the signaller if the '99x' company wild card code has also failed to register the train.

This flowchart indicates the process that a driver can follow to determine their actions when experiencing a train radio registration failure.



### 4.5.2 Wrong train reporting number displayed

If the headcode displayed on the driver's control panel is incorrect, the train radio should be deregistered and reregistered using the correct headcode and location code.

### 4.5.3 Duplicate registration identity

There may be instances when a registration code is already in use by another train radio. Any new registration will be rejected and the message 'Duplicate' will appear on the display. If it appears that the correct code has been entered, contact can be made with the signaller for a new code. In most cases, the signaller would advise the driver to use the '99x' company wild card code.

If the attempt using the '99x' company wild card code also results in 'duplicate' being displayed on the train radio, the driver will need to contact the signaller for an alternative '99x' company wild card code.

**Note:** As the train radio is not registered, the driver would be required to find the signaller's number from the phonebook or dial the signaller's full number using the '12nn' short code if this is available.

#### **4.5.4 Loss of registration**

If the train radio loses registration at any time, a reregistration is required.

#### **4.5.5 Failure of the train radio to deregister**

If the train radio fails to deregister, the driver should attempt to deregister. If this also fails it should be reported to the signaller.

#### **4.5.6 Unregistered trains**

A train can continue in service following unsuccessful attempts to register the train radio. Provided GSM-R GB is displayed on the screen, the core functionality of the radio system is still available.

If the signaller needs to contact an unregistered train they may make a broadcast call to the area in which the unregistered train is travelling and request the driver to contact them.

The signaller can use the train headcode to gain the attention of the driver.

The driver will need to use the Network Rail phonebook to contact the controlling signaller.

A railway emergency group call will still operate correctly on an unregistered train but it is important to confirm that the correct signaller has been contacted.



## 5.1 GSM-R call types

There are two types of GSM-R calls, point-to-point and group calls.

### 5.1.1 Point-to-point calls

Point-to-point calls can be separated into four types.

#### **Normal call and urgent call**

These are similar to telephone calls in which both people can speak at the same time.

#### **Driver's Safety Device (DSD) alarm**

This is an alarm sent from the train radio to the fixed terminal in the event that the driver does not acknowledge and reset the DSD in the allotted timescale for the traction type being driven.

#### **Public address (PA) calls**

These are calls made by the signaller or train operator's control and are a one-way method of communication. The driver will also be able to hear the PA announcement over the train radio loudspeaker.

#### **Berth-triggered broadcast calls**

A berth-triggered broadcast call is a pre-recorded message received by the train when it enters a selected berth. The berth-triggered broadcast can be acknowledged when instructed to do so by pressing the **ST** button once the message has completed, the call terminated and the instructions understood. The berth-triggered broadcast allows the signaller to caution a train in certain circumstances without the need to bring the train to a stand first.



### **5.1.2 Group calls**

Group calls can be separated into three types.

#### **Railway Emergency Group Call (REC)**

This is a multi-party method of communication but only one person can speak at a time.

#### **Broadcast area call**

This is a method of communication which allows a signaller to broadcast a message to several trains within a given area.

#### **Shunting group calls**

These are conference calls where multiple drivers and shunters can participate in the call.

## **5.2 Urgent calls**

An urgent call is given a higher priority by the GSM-R system and will override a normal call. An urgent call can be made in relation to an incident affecting one train only.

### **5.2.1 Driver actions and indications**

If the signaller makes an urgent call to a train, the message will begin with the following script.

'This is an urgent call from the signaller at \_\_\_\_\_ to the driver of (train reporting number) \_\_\_\_\_'.

If this call is received the driver should respond as quickly as possible.

### **5.2.2 Signallers actions and indications**

If a driver makes an urgent call, the call will be displayed on the signaller's incoming call screen. The active call button will flash yellow.

An urgent call must be answered as a priority over existing calls with the exception of a REC call.

## 5.3 Railway Emergency Group Calls

A REC is the highest priority call and can be made from any terminal or train radio that is connected to the GSM-R network. The **Press to Talk** button (PTT) must be used by the driver to speak during a REC. If the PTT button is not used correctly, the signaller is able to override it, see 5.3.3.

On receiving a REC the driver must stop the train and confirm that they are at a stand by pressing the **ST** button.

A REC can be used during any emergency situation affecting more than one line or more than one train.

It is important that, when a REC is initiated, the details of the incident are established quickly in order for the incident to be dealt with correctly and for unaffected trains to proceed as soon as possible.

### 5.3.1 Signaller and route controller actions and indications (Lead and non-lead signallers)

#### Making a REC

In an emergency situation the signaller may need to initiate a REC.

The lead signaller who initiates the REC call will be the lead signaller during the conversation. All other signallers will be able to monitor the call.

After the REC has been made and the signaller is sure that the emergency has been protected, the lead signaller will close the REC.

#### Receiving a REC

If receiving a REC, an alarm will sound on the fixed terminal and the call will be answered automatically. The call will be heard over the loudspeaker.

The lead signaller will be able to participate in the call, any non-lead signallers will only be able to monitor the call.

### 5.3.2 Driver actions and indications

#### Making a REC

In an emergency situation the driver may need to initiate a REC.

Once the REC has commenced the PTT button should be used to speak.

#### Receiving a REC

If you receive a REC the train radio will sound an audible alarm and display the message **'STOP EMERGENCY'**.

It is good practice for other drivers not to speak unless requested by the lead signaller or if they have important information to add to the call.

After the audible alarm, the call will be automatically connected. If a signaller is making the REC you will hear the following message.

**"This is a railway emergency call. I repeat this is a railway emergency call from the signaller at \_\_\_\_\_ to all trains in the \_\_\_\_\_ area."**

The lead signaller will indicate the end of each REC by stating **"end of railway emergency group call."**

An emergency group call is not considered completed until this phrase has been heard.

When the railway emergency group call has ended, any train that has not been instructed by the lead signaller to remain at a stand, can proceed if the driver is certain that the train is not affected by the incident.

### 5.3.3 PTT override

When a driver is pressing the PTT button the lead signaller cannot be heard.

If the driver forgets to release the PTT, then the lead signaller can override the PTT by pressing the override button on the fixed terminal.

### **5.3.4 REC closure**

The call can only be ended by the lead signaller. It is important that the call is closed correctly to avoid unnecessary delays.

### **5.3.5 Accidental use of REC**

If you accidentally initiate a REC you should speak to the lead signaller and explain the circumstances. This is to avoid extensive delays whilst the initiator of the REC is determined.

## **5.4 Short dial codes**

The train radio includes a function which enables short dial code calls to the signaller (1200), operations control (1300) and electrical control operator (ECO) (1400) with the use of the key pad. When using these short dial codes, the call will normally be connected to the correct controlling area in which the train radio is registered. The train must be correctly registered in order for the short dial codes to work correctly.

## **5.5 Using the train radio phonebooks**

If it is necessary to contact a signaller not controlling the signalling on the line on which the train is located or the train radio is unregistered, the train radio phonebooks should be used.

The Network Rail phonebook has details of signallers, operations controllers and ECOs. The train operator's phonebook contains contacts specific to the train operator.

The entries in the train radio phonebooks are listed alphabetically and can be searched using the scroll buttons to move the cursor up and down the list. Alternatively, the first three letters of the location can be entered into a search field using the keypad.



## 5.8 Role profiles

The role profile sets the limits of a signaller's area of responsibility for receiving GSM-R messages.

If appropriately configured, a single role profile can be used by more than one user at the same time. For example by a signaller and signal box supervisor.

## 5.9 Role transfer

A single role profile can be transferred to another signaller's terminal. This should only be done in the following circumstances.

- A signal box is to be closed or opened with a switching out facility.
- A signaller is unable to log into the system or the fixed terminal has failed.
- A signaller is to leave the signal box for other than normal duties.

A clear understanding should be reached between the signallers concerned before the transfer takes place.

## 5.10 Call transfer

Signallers are able to forward calls to third parties such as other signallers, drivers, maintenance control or the emergency services.

The signaller should come to a clear understanding with all parties involved in the call when a call transfer is taking place.

If the signaller receives a misrouted call, the call transfer facility can be used to direct the call to the correct signaller. Please refer to section 5.7.

REC calls cannot be transferred.

## 6.1 DSD alarm calls

The train radio will send a DSD alarm message to the signaller after one minute if:

- the master switch is in the 'forward' or 'reverse' position, and
- no action is taken by the driver to reset the DSD.

If a DSD alarm message is received the signaller should attempt to contact the driver.

If a driver is aware that a DSD alarm call has been triggered, they should inform the signaller and advise them that the alarm was triggered in error.

## 6.2 PA calls

If the signaller is unable to contact the driver, it may be necessary for the signaller to make a PA announcement to a driver-only operated (DOO) passenger train. This allows the signaller to seek assistance if the driver is suspected of being incapacitated.

If the driver is able to respond to the PA announcement, a point-to-point call should be made after the PA announcement has terminated.

## 7.1 Standing at signal message

This is used by drivers to indicate that their train is standing at a signal at danger, or an end of authority and it is not immediately obvious why the train has been brought to a stand.

The signaller can respond to this message by:

- clearing the signal or issuing a new movement authority
- sending a 'wait' message
- making a voice call to the driver to explain why the train is being detained.

## 7.2 Contact signaller message

This is normally the first method a signaller uses to contact the driver.

The driver should only reply when it is safe to do so by pressing the **Accept** button.

## 7.3 Contact train operator control message

This will be received if the train operator wishes to speak to the driver.

The driver should only reply when it is safe to do so by pressing the **Accept** button.

## 7.4 Wait message

The driver may receive a 'wait' message in response to sending the 'standing at signal' message.

The driver would need to wait for further instructions, clearance of the signal or the issuing of a new movement authority.



## 7.5 Acknowledge message

The driver can acknowledge a broadcast call by pressing the **ST** button.

Once the driver has acknowledged a broadcast message, the signaller will receive an acknowledgement message on the fixed terminal.

## 7.6 Messages between signal boxes

Signallers can send text messages to adjacent signal boxes for regulation purposes only. These messages are automatically recorded and saved on the fixed terminal.

## 8.1 Types of broadcast calls

Broadcast calls are a method of communication by which the signaller can pass on information to individual drivers or groups of drivers.

These calls are answered automatically by the train radio and the driver will hear the call over the loudspeaker in the driving cab.

There are two types of broadcast calls.

### **Berth-triggered broadcast call**

This type of call is activated once the train enters the berth relevant to the broadcast. The message is pre-recorded by the signaller. The signaller will receive either a 'failed' or 'not sent' message if the call has not been received by the train radio. These types of calls include advisory and acknowledged (safety) broadcast calls.

### **Cell-based group broadcast call**

This type of call is applicable to a pre-defined service area and will be received by all drivers within that area. These calls can be pre-recorded or live.

The content of the broadcast calls can be separated into three categories: general, advisory and safety. Messages in the safety category must be acknowledged by the driver. General broadcast calls are cell based.

## 8.2 General broadcast calls

The following communication protocol for a general broadcast call would begin with.

**“This is a general broadcast from the signaller at \_\_\_\_\_ to all trains in the \_\_\_\_\_ area”.**

Once the message has been communicated, the call is terminated with:

**“End of general broadcast.”**

In this situation acknowledgement of the broadcast is not required.

## 8.3 Advisory broadcast calls

An advisory broadcast can be used to provide advice to drivers, for example, concerning line congestion and delays to the service.

The following script must be followed.

**“This is an advisory broadcast from the signaller at \_\_\_\_\_”**

Once the advice has been communicated, the call is terminated with.

**“End of advisory broadcast”.**

In this situation acknowledgement of the broadcast is not required.

## 8.4 Acknowledged (safety) broadcast calls

Safety broadcast calls are used to reach a clear understanding by using non verbal acknowledgement.

After listening to the message in its entirety and after the call has been terminated the driver acknowledges their understanding of the message by pressing the **ST** button.

### Uses for safety broadcasts

Safety broadcast calls can be used for the following scenarios.

- Poor rail conditions.
- Animals on the line (Not tunnels).
- Defective Emergency Indicators.
- Missing or obscured Temporary Speed Restriction (TSR) board.
- Unusual events (Not Track or Signalling).

### Scripts for safety broadcasts

The following scripts set out the content of a pre-recorded safety broadcast:

#### Poor rail conditions

"This is a safety broadcast from the signaller at \_\_\_\_\_. There are reportable railhead conditions at/on\* the approach to \_\_\_\_\_. Only acknowledge if you have fully understood this message. To acknowledge, press the **ST** button. End of safety broadcast."

\*Delete as appropriate.

#### Animals on or near the line

"This is a safety broadcast from the signaller at \_\_\_\_\_. There are animals on or near the line at/between\* \_\_\_\_\_ and\* \_\_\_\_\_, proceed at caution. Only acknowledge if you have fully understood this message. To acknowledge, press the **ST** button. End of safety broadcast."

\*Delete as appropriate.

### Defective Emergency Indicators

"This is a safety broadcast from the signaller at \_\_\_\_\_. There is a defective emergency indicator for a \_\_\_\_\_ mph emergency speed restriction at \_\_\_\_\_. Only acknowledge if you have fully understood this message. To acknowledge, press the **ST** button. End of safety broadcast."

### Missing or obscured TSR board

"This is a safety broadcast from the signaller at \_\_\_\_\_. There is a missing/obscured\* warning board or speed indicator\* for the \_\_\_\_\_ mph temporary speed restriction at \_\_\_\_\_. Only acknowledge if you have fully understood this message. To acknowledge, press the **ST** button. End of safety broadcast."

\*Delete as appropriate

\*\* Insert name or location.

Note: If more than one TSR board is missing or obscured for a speed restriction then a GSM-R berth-triggered broadcast message cannot be used for this purpose.

### Unusual events

"This is a safety broadcast from the signaller at \_\_\_\_\_. \* \_\_\_\_\_. Only acknowledge if you have fully understood this message. To acknowledge, press the **ST** button. End of safety broadcast."

\*Insert details of the incident, location and any speed restriction in the main body of the broadcast.

Note: unusual events can include overcrowding on station platforms. The location of the event must be easily identifiable by the signaller and the driver.

## 9.1 Deregistration of the train radio

If the train radio is not correctly deregistered at the end of the journey, subsequent attempts to register that train radio may not be successful.

Incorrect deregistration could also result in the headcode remaining on the signaller's fixed terminal.

If the train radio is not correctly deregistered, a 'duplicate' headcode fault message may be displayed on the train radio.

### 9.1.1 Deregistration - end of journey

The train radio will automatically begin the deregistration process once the driving desk is moved to the off position.

The radio can be allowed to complete the deregistration process automatically or stopped by following the instructions on the screen.

### 9.1.2 Deregistration - mid journey

If the train is to change headcode mid journey this can be done by manually deregistering and re-registering using the train radio menu.

### 9.1.3 Deregistration - reversing movement

It is important that the train radio is deregistered during a reversing movement before trying to register the same headcode on the radio of the cab that will become leading in the new movement.

## 9.2 Deregistration problems

### 9.2.1 Train radio failed to deregister from previous journey

If the train radio has failed to deregister from the previous journey, the driver will not be able to register a new TRN. If the previous TRN or the registration code is shown in the train number field the driver should attempt to deregister the radio.

**Note:** The signaller may be able to identify a 'stuck registration' on the fixed terminal. It may be possible to register to the exact same registration code but only if the train is standing at the same signal as the previous train. Otherwise the signaller will report this as a fault.

### 9.2.2 PA deregistration failure

If during registration the train radio displays 'Deregistration failed PA', fixed terminal users will be unable to initiate a call to the train's PA system. This is referred to as a stuck headcode.

If the cancel button is pressed the display will show 'No PA Reg'd'.

The driver should attempt to deregister the train radio but if the fault persists the driver should report it to the signaller and await further instructions. The signaller may be able to clarify that the PA is shown on the fixed terminal and will therefore be able to call the PA.

## 10.1 GSM-R TD failure

If the GSM-R connection to the train describer fails, the signaller will receive a 'GSM-R TD' failure message.

During such a failure, calls from trains will be routed to a signaller based on its GSM-R radio cell location and not its signalling location. In cell fringe areas this may mean that calls are not directed to the controlling signaller.

As a result of a TD failure, drivers should need to be informed. The best method of communicating this is via a broadcast call.

Due to the nature of the failure the phonebook should be used.

Any misrouted calls should be dealt with as described in section 5.7.

## 10.2 Train radio failures

### 10.2.1 Power-up self-test failures

If the train radio fails the power-up test, the driver will see a failure message. Failures can be split into service affecting failures and non-service affecting failures.

#### Service affecting failures

If the train radio experiences a service affecting failure it will not be permitted to enter service, unless the Train Operator's Control gives permission.

#### Non-service affecting failures

If the train radio experiences a non-service affecting failure the train can continue in service.

Generally, as long as the train radio can make and receive a REC, the radio will not be considered defective.



## 10.2.2 Service affecting failures

These can be either specific messages, a blank screen or a 'Radio Failure' message associated with a fault number. These faults should be reported to the signaller immediately using alternative methods of communication.

A blank screen, or any of the following faults, should be treated as indicating a defective radio. The driver should carry out the instructions in Rule Book GERT8000 module TW5 *Preparation and movement of trains Defective or isolated vehicles and on-train equipment*.

- Failure XX (range 01-07).
- Radio failure.
- Cab Radio Flt.
- EPROM/RAM Flt.

RAM Test failure and the EPROM test fault message will occur when the control panel initialises.

## 10.2.3 Non-service affecting faults

Non-service affecting faults are identified by a 'Warning' followed by a number which identifies the type of fault to the maintainer. This type of fault means that the train radio will work, but may be limited in its functionality.

If the train is being prepared to enter service it can do so without restriction but the driver should advise the Train Operator's Control before departure.



### 10.3.1 No network message

The 'No Network' message appears when the train radio attempts to connect to the network at power up and:

- receives a corrupted or unintelligible message, or
- receives no response at all, or
- is denied access.

The user can manually reselect the GSM-R GB network through the menu using the following procedure.

Press the **Menu** key

Select Option [3] 'Settings'

Select Option [1] 'Select Network'

Select 'GSM-R GB' and press the **Accept** button.

This process would be followed at a location where there is known to be GSM-R GB coverage.

### 10.3.2 If the train radio does not find the network at the starting location

Unless advice of a network failure has been received, the driver should contact the signaller to establish if there is a GSM-R failure.

In locations affected by GSM-R network issues, the train radio can be pre-registered and the train can enter into service as normal.

If network coverage is not regained once the train has passed through the affected area, the train radio should be considered as defective.

The driver should carry out the instructions in Rule Book GERT8000 module *TW5 Preparation and movement of trains Defective or isolated vehicles and on-train equipment*.

### 10.3.3 Public mobile network interference

In some circumstances, a train radio may be affected by public radio network interference. This interference prevents the train radio automatically connecting to the GSM-R GB network and will result in the train radio displaying 'Searching Networks'. This is most common in terminal stations when a service terminates and the driver changes ends.

In a high proportion of cases the fault can be rectified by using the following procedure.

Press the **Menu** key

Select Option [3] 'Settings'.

Select Option [1] 'Select Network'.

Select 'GSM-R GB' and press the **Accept** button.

If the fault has been successfully rectified the train radio will connect to the GSM-R GB network.

If the above actions do not rectify the fault, the actions in section 10.3.2 should be followed.

## 10.4 Call failure and dropped calls

The driver should report any instances of call failures or dropped calls to the signaller.

The signaller should log the details of any failed or dropped calls in the train register and report the fault as set out in Network Rail company instructions.

## 10.5 Checking the train radio can make and receive calls (echo call test)

If the driver believes that the train radio may not be making and receiving calls, this can be checked by making an 'echo call' to the network. To do this, use the keypad to dial '1900', record a short message and then wait a few seconds for the recorded message to be played back. If the message is not played back the signaller should be informed, if necessary, by using an alternative methods of communication.

## 10.6 Loss of a signaller's fixed terminal

A complete failure of the fixed terminal should be reported to the infrastructure manager. The most likely reason is the loss of data connection to the GSM-R network. If the signaller is aware of the failure a general broadcast can be made to alert drivers.

If this occurs a notification will appear. The message should be acknowledged by the driver.

If the connection is lost for a significant period of time, the fixed terminal will log out and will revert to a pink screen.

When connection is restored, the display on the fixed terminal will return to the normal log in screen.

In the event of the loss the fixed terminal, the procedures concerning role transfer and role rescue should be followed. Please refer to section 5.9.

## 10.7 Loss of a train operator's fixed terminal

A complete failure of the fixed terminal should be reported to the infrastructure manager. The most likely reason is the loss of data connection to the GSM-R network.

## 10.8 Use of hand portable devices

In the event of a train radio failure the train may be allowed to remain in service with an operational hand portable device.

This device will not be registered onto the GSM-R system.

Rule Book GERT8000 module *TW5 Preparation and movement of trains Defective or isolated vehicles and on-train equipment* includes information regarding the use of hand portable devices.

## 10.9 Use of transportable devices

In the event of a train radio failure the train may be allowed to remain in service with an operative transportable device.

The transportable device can be registered onto the GSM-R network in the same manner as the normal train radio.

Rule Book GERT8000 module *TW5 Preparation and movement of trains Defective or isolated vehicles and on-train equipment* includes information regarding the use of transportable devices.





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# Glossary of Railway Terminology

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## Introduction

To meet the requirements of the European Rail Agency, the glossary is now presented by two methods - by subject matter and by alphabetical listing.

**Terms by subject matter**    **Page 2 to 16**  
**Terms in alphabetical**    **Page 17 to 30**  
**order**

<b>Conventions used in this</b>	<b>Example</b>
<b>Glossary</b> A black line in the margin indicates a change to that term and is shown when published in the glossary for the first time	

## Terms by subject matter

### Electrified Lines

<b>Conductor rail</b>	A rail through which electricity is supplied to electric-powered trains.
<b>Earthed</b>	The term 'earthed' when applied to the overhead line equipment which is normally live, means connected to the traction return running rail either directly or to a structure which is itself connected thereto.
<b>Electrified line</b>	A line that is electrified either by 25,000 volts AC overhead lines or by 750 volts DC conductor rails. Local instructions are issued for certain sections of route electrified by 1500 volts DC overhead lines.
<b>Isolated</b>	Electrical equipment is isolated when it is disconnected from all sources of electricity supply in a secure way.
<b>Isolation</b>	Isolation is the action of causing electrical sections or sub-sections of the OLE or CRE to be isolated. For AC it includes the entire process of switching off, securing, testing and earthing and issue of the overhead line permit. For DC it includes the entire process of switching off, securing and testing and issue of the conductor rail permit.
<b>Live</b>	Connected to an electrical supply.
<b>Overhead line equipment</b>	Wires and associated equipment, suspended over or adjacent to the railway line for supplying electricity to electric trains.
<b>Switched off</b>	Electrical equipment that is disconnected and separated from all sources of supply.

## Engineering Work

<b>Affect the normal passage of trains</b>	Any activity or event that allows train working to continue but causes diversion, inability to call at a planned destination or introduction of degraded-mode operations such as passing signals at danger, handsignalling, manual route setting or single line working arrangements.
<b>Affect the safety of train working</b>	Any activity or event that may, during its course, render a movement control or interlocking system unusable for the signaling of trains.
<b>Engineering train</b>	Includes an on-track machine.
<b>Engineering Possession Reminder (EPR)</b>	A reminder applied by the signaller to one or more axle counter sections in advance of pre-planned engineering works in order to indicate the area affected. When removed from an axle counter section indicating occupied, this initiates an unconditional reset/restoration of the axle counter without aspect restriction.
<b>Intermediate point to a possession</b>	A location other than the limits at the ends of the possession where an engineering train can enter or leave the possession to: <ul style="list-style-type: none"><li>• an open line</li><li>• a siding not under possession.</li></ul>
<b>On-track plant</b>	A road-rail vehicle (RRV) or rail mounted maintenance machine (RMMM) also known as 'in possession only' vehicles.
<b>Possession Limit Board (PLB)</b>	A double-sided board, red on both sides, with a red light (which may be steady or flashing). The board also has the word STOP printed on both sides.

## Terms by subject matter

**Track circuit operating device (T-COD)** A special device that can be placed on the line to provide protection by operating the track circuit, to hold a signal at danger.

## Incidents & Emergencies

**Controlled evacuation** The evacuation of passengers from a train after the signaller has confirmed that all lines have been protected.

**Detonator** A small disc-shaped warning device, designed to be placed on the railhead for protection and emergency purposes. It explodes when a train passes over it.

**Detonator Protection** Detonator protection consists of three detonators placed 20 metres (approx 20 yards) apart on the same rail with a possession limit board at the first detonator in the direction of travel.

**Emergency evacuation** The evacuation of passengers from a train if the signaller states that protection cannot be given or the signaller cannot be contacted.

**Emergency protection** The means of protecting a train by track circuit operating clips, hand danger signals and detonators when:

- a driver or guard cannot contact the signaller, or
- the signaller cannot provide signal protection.

**Protection** Ways of making sure that a line is protected. This includes keeping signals at danger, placing detonators on the line, using a track circuit operating clip and showing a hand danger signal.

**Track circuit operating clip** A device which, in an emergency can be placed on top of each running rail to operate the track circuit and protect an obstruction.

**Uncontrolled evacuation** The self evacuation of passengers from a train, which is not initiated by the driver or guard.

## Level crossings

**Automatic level crossing** Any of the following level crossings:

- Automatic half-barrier (AHBC)
- Automatic barrier crossing, locally monitored (ABCL)
- Automatic open crossing, locally monitored (AOCL)
- Crossing with red and green warning lights (R/G).

**Barrow crossing** A crossing (often at the end of a platform) for railway personnel to use. Some barrow crossings have white-light indicators which, when lit, indicate to the user that it is safe to cross.

**Controlled crossing** Any of the following level crossings.

- Manned crossing with barriers (MCB).
- Manned crossing with gates (MG).
- Remotely controlled crossing with barriers (RC).
- Barrier crossing with closed-circuit television (CCTV).
- Barrier crossing with obstacle detection (OD).

**Level crossing** Any manned, automatic, controlled, or open crossing shown in Table A of the Sectional Appendix.

**Manned level crossing** A level crossing that is operated locally by a signaller or crossing keeper (MCB or LC).

## Terms by subject matter

**Open level crossing** An unmanned level crossing that has no barriers, gates or road traffic signals. It has a 'Give Way' sign on each road approach.

### Lines, Stations and Depots

**Adjacent line** A line or siding next to the line you are on.

**Bi-directional line** A line on which the signalling allows trains to run in both directions.

**Goods line** A line that has not been signalled to the standard required for running passenger trains.

**Maintenance depot** A location defined in a train operator's Contingency Plan with the facilities to repair or replace specified items of defective on-train equipment.

**No-block line** A line on which the signaller does not monitor the condition of the block section.

**Running line** A line as shown in Table A of the Sectional Appendix as a passenger line or as a non-passenger line.

**Siding** A line on which vehicles are marshalled, stabled, loaded, unloaded or serviced clear of a running line.

**Single line** One line is available for movements in both directions.

**Station** Terminal, depot, yard or halt.

### Lineside Equipment

**Aspect** The indication of a colour light signal that the driver sees.



<b>ATWS</b>	<p>Automatic track warning system.</p> <p>An individual or lineside warning system that can be installed at a site of work to:</p> <ul style="list-style-type: none"><li>• detect an approaching train</li><li>• alert personnel who are on or near the line.</li></ul> <p>It may be installed temporarily for the period of work or it may be installed permanently at a location. This definition does not include TOWS or LOWS</p>
<b>Automatic Signal</b>	<p>A signal operated by the passage of trains. The signaller or a person operating a signal post replacement switch can place some automatic signals to danger.</p>
<b>Axle counter</b>	<p>A method of detecting the presence of a train or vehicle on a line. Track-mounted equipment, at each end of a portion of line, counts the number of axles passing over. This is used to identify when a portion of line is occupied or clear.</p>
<b>Axle counter head</b>	<p>A device that detects the passage of a wheel passing over a running rail.</p>
<b>Block marker</b>	<p>Reflective board that serves as a physical indication of signalling sections within ERTMS. Used when degraded working is required.</p>
<b>Home signal</b>	<p>The first stop signal on the approach to a signal box on a line not signalled by the track circuit block system of signalling.</p>
<b>Interlocking</b>	<p>A general term applied to equipment that controls setting and releasing signals and points to prevent an unsafe condition of the signalling system arising during the passage of trains.</p>

## Terms by subject matter

<b>Intermediate block home signal</b>	A stop signal that controls the exit from an intermediate block section. (Although an intermediate block home signal controls the entrance to an absolute block section, it is referred to as the intermediate block home signal).
<b>Junction signal</b>	A signal that controls more than one running route and can display an indication of route.
<b>LOWS</b>	Lookout operated warning system. A lineside warning system, used to warn personnel on or near the line about an approaching train. It is operated by a lookout.
<b>Main aspect</b>	The following aspects of a colour light signal: <ul style="list-style-type: none"><li>• red</li><li>• yellow</li><li>• two yellows</li><li>• flashing yellow</li><li>• two flashing yellows</li><li>• green.</li></ul>
<b>PoSA</b>	Proceed-on-sight authority. A signal used for controlling movements into a section affected by a failure of signalling equipment.
<b>Right-side failure</b>	A failure that does not reduce the protection given by signalling equipment.
<b>Section signal</b>	A stop signal that controls the entrance to a block section or intermediate block section ahead.
<b>Semi-automatic signal</b>	A signal normally operated by the passage of trains, but can also be controlled from the signal box or from a ground frame, or by a person operating a signal post replacement switch.

<b>Shunt entry board</b>	A lineside indicator board that indicates the entry of a shunt route on ERTMS cab signalled lines where lineside signals are not provided.
<b>Shunting signal</b>	A signal that is provided for shunting purposes only.
<b>Signal post replacement key</b>	The key used to operate a signal post replacement switch.
<b>Signal post replacement switch</b>	A switch on the post of an automatic or semi-automatic colour light signal that can be operated by a key to turn it to, and keep it at, danger.
<b>Stop signal</b>	A signal that can show a stop aspect or indication.
<b>Subsidiary signal</b>	A semaphore signal used for controlling shunting movements and movements onto occupied tracks. It is always positioned below the main semaphore arm with which it is associated.
<b>TOWS</b>	Train operated warning system. An audible warning system at locations listed in the Sectional Appendix. When switched on, it is used to warn personnel on or near the line about an approaching train.
<b>TPWS</b>	Train protection and warning system. A system by which a train is stopped by an automatic application of the brakes when activated by lineside equipment.
<b>Wrong-side failure</b>	A failure that reduces or removes the protection given by signalling equipment.

## Terms by subject matter

### Points

<b>Catch points</b>	Points designed to derail vehicles running back on a gradient in the wrong direction. These points may be unworked if trains normally pass over them in one direction only.
<b>Derailer</b>	A device at an exit from a siding or bay platform that derails an unauthorised movement.
<b>Detection</b>	An electrical or mechanical indication that points are set in the correct position.
<b>Facing point lock</b>	Equipment that physically locks facing points so that they cannot move.
<b>Facing points</b>	Points where two routes diverge.
<b>Ground frame</b>	A control point containing levers or switches to allow points in running lines and sidings, and any associated signals, to be operated locally. This local operation is only possible when the signaller at the controlling signal box gives a release. Also includes a ground-switch panel.
<b>Hand points</b>	Points that are worked manually by lever independent of any other signalling controls.
<b>Mechanical points</b>	Points that are mechanically operated without any other form of power operation.
<b>Power-operated points</b>	Points that are operated by means other than mechanically.
<b>Run through (of points)</b>	An incident where a movement runs through a trailing set of points that are not set in the correct position for the movement.
<b>Token</b>	Any single line token, staff or tablet.

<b>Track circuit</b>	A method of detecting the presence of a train or vehicle on a line. An electrical device, using the rails as an electrical circuit, detects the absence of a train or vehicle. If these rules refer to track circuits, this also includes detection by axle counters unless specially excluded.
<b>Trailing points</b>	Points where two routes converge.
<b>Train-operated points</b>	Points that are continuously driven to one position such that facing movements always pass through them in the same direction. Trains themselves operate the points in the trailing reverse direction.
<b>Trap points</b>	Facing points at an exit from a siding or converging route that derail an unauthorised movement, so protecting the adjacent line.
<b>Unworked points</b>	Points that are not operated from a signal box or ground frame.
<b>Worked points</b>	Points that are operated from a signal box or ground frame.

## Train Signalling Regulations

<b>Absolute block</b>	A signalling system that allows only one train to be in a block section at the same time. The block indicator is used to indicate whether the line between adjacent signal boxes is clear or occupied.
<b>Block section</b>	The section of the line between the section signal of one signal box and the home signal of the next signal box ahead.
<b>ERTMS</b>	European rail traffic management system. A signalling system that uses in cab indications as opposed to external track borne signals.

## Terms by subject matter

<b>Intermediate block section</b>	The line between the section signal and the intermediate block home signal worked by the same signal box in the same direction of travel.
<b>Overlap</b>	The distance beyond a stop signal up to which the line must be clear before the previous signal can show a proceed aspect.
<b>Route setting position</b>	Location on a signalling control panel or workstation from which a route can be set or closed.
<b>Station limits</b>	The line between the home signal and the section signal worked by the same signal box and in the same direction of travel. This does not apply on a track circuit block line.
<b>Track circuit block</b>	A method of signalling trains in a section of line using track circuits or other means of automatic train absence detection and without using block instruments.
<b>Train signalling regulations</b>	Instructions for use by the signaller that give details of the rules, regulations and instructions relating to each different kind of signalling system.
<b>Transition</b>	The process of the onboard ERTMS signaling system transferring from one signalling system to another. This process has to be acknowledged by the driver.

## Train Working

<b>Braking distance</b>	The distance a train needs in which to stop or reduce speed, from travelling at a given speed.
<b>Coupled in multiple</b>	Traction units coupled to allow through controls by one driver.
<b>Coupled in tandem</b>	Each traction unit is separately controlled by its own driver, with through control of the automatic brake only.

<b>Driver only (or DO) train</b>	A train that is worked only by a driver and does not have a guard.
<b>In service</b>	A train is in service from the time it is ready to start its journey until the time it completes its journey. A vehicle is in service when it forms part of a train which is in service.
<b>End of authority</b>	The location to which a train is permitted to proceed. The boundary of a movement authority.
<b>Full supervision</b>	The normal movement used by ERTMS, an authority that gives comprehensive protection to all trains.
<b>Journey</b>	<p>The route from the starting point of a train (siding, platform line or other place) to its planned destination (siding, platform line or other place), or where:</p> <ul style="list-style-type: none"><li>• is required to reverse before continuing to its destination</li><li>• vehicles are attached or detached</li><li>• it is terminated short of its destination</li></ul> <p>Any light locomotive movement, empty coaching stock movement or short distance shunting movement is a separate journey from the associated train movement.</p>
<b>Movement authority</b>	Permission for a train to run to a specific location as a signalled move.
<b>On sight</b>	A type of movement authority used by ERTMS that allows entry into an occupied section. The driver will be presented with a maximum speed and must ensure that the train is stopped short of any obstruction.
<b>One-train working</b>	Method of signalling on a single line, with or without a train staff, where only one train at a time is permitted.

## Terms by subject matter

**Out of service (train)** A train is out of service between the time that it completes its journey and the time it is ready to start another journey.

**Out of service (vehicle)** A vehicle is out of service when it forms part of a train that is out of service, or when it has been detached from a train in a depot, siding, platform line or other authorised place. The detraining of passengers does not in itself mean a train has been taken out of service.

**Passenger service** A train that is in service carrying passengers.

**Permissible speed** The maximum permitted speed as shown in the Sectional Appendix.

**Shunting movement** Any movement of a train or vehicle other than a train passing normally along a running line.

**Tail lamp** Includes an illuminated built-in red light or blind.

## Trains

**Brake van** Any vehicle with a brake compartment.

**Cant rail** The point on the side of a locomotive or coach where the bodyside meets the roof (sometimes marked by an orange stripe).

**Central door-locking** A secondary locking system fitted to certain slam-door passenger vehicles and controlled by the guard that prevents passengers from opening the doors.

**Defective on-train equipment** On-train equipment that:

- is not performing its intended safetyfunction, either fully or partly
- is isolated
- is missing.



<b>Driver machine interface (DMI)</b>	The device used by a driver to interact with ERTMS onboard equipment. Typically a computer screen located in the driving cab.
<b>Driver's reminder appliance (DRA)</b>	A device in a driving cab that allows the driver to set a reminder that the signal ahead is at danger. While the DRA is set, the driver cannot take power.
<b>Power-operated doors</b>	Doors on a train where the opening and closing are controlled by the driver or guard.
<b>TASS</b>	Tilt authorisation and speed supervision. A system on tilting trains that controls: <ul style="list-style-type: none"><li>• the operation of the tilt system</li><li>• the speed of the train on routes where enhanced permissible speeds apply on TASS fitted lines.</li></ul>
<b>TPWS</b>	Train protection and warning system. A system by which a train is stopped by an automatic application of the brakes when activated by lineside equipment.
<b>Track circuit actuator</b>	Equipment provided on certain trains to improve the operation of track circuits.
<b>Traction unit</b>	Locomotive, multiple unit, self-propelled rail vehicle or road-rail vehicle operating in rail mode.
<b>Train</b>	This includes light locomotive, self-propelled rail vehicle or road-rail vehicle in rail mode.

## Workforce

<b>Competent person</b>	A person who is passed as being qualified and has the required knowledge and skills to carry out a particular rule, regulation, instruction or procedure.
<b>Operations control</b>	The term used for Network Rail Operations Control Offices.

## Terms by subject matter

<b>Pilotman</b>	A person who has been appointed to manage the passage of trains over a single line during a failure of equipment, during repairs or due to an obstruction.
<b>Rolling stock technician</b>	A person who is authorised and has the necessary technical competence to examine or repair specified items of equipment forming part of a train or vehicle.
<b>Traincrew</b>	Driver and guard.
<b>Train operator</b>	The company responsible for operating a train.
<b>Your employer</b>	The company, or subsidiary of a larger organisation for whom you work.

## A

- Absolute block** A signalling system that allows only one train to be in a block section at the same time. The block indicator is used to indicate whether the line between adjacent signal boxes is clear or occupied.
- Adjacent line** A line or siding next to the line you are on.
- Affect the normal passage of trains** Any activity or event that allows train working to continue but causes diversion, inability to call at a planned destination or introduction of degraded-mode operations such as passing signals at danger, handsignalling, manual route setting or single line working arrangements.
- Affect the safety of the line** Any activity or event that may, during its course, render the track, the formation or a structure unsafe for the passage of trains, or unsafe for the passage of trains at normal speed.
- Affect the safety of train working** Any activity or event that may, during its course, render a movement control or interlocking system unusable for the signaling of trains.
- Aspect** The indication of a colour light signal that the driver sees.

## Terms by alphabetical order

<b>ATWS</b>	<p>Automatic track warning system.</p> <p>An individual or lineside warning system that can be installed at a site of work to:</p> <ul style="list-style-type: none"><li>• detect an approaching train</li><li>• alert personnel who are on or near the line.</li></ul> <p>It may be installed temporarily for the period of work or it may be installed permanently at a location. This definition does not include TOWS or LOWS</p>
<b>Automatic level crossing</b>	<p>Any of the following level crossings:</p> <ul style="list-style-type: none"><li>• Automatic half-barrier (AHBC)</li><li>• Automatic barrier crossing, locally monitored (ABCL)</li><li>• Automatic open crossing, locally monitored (AOCL)</li><li>• Crossing with red and green warning lights (R/G).</li></ul>
<b>Automatic Signal</b>	<p>A signal operated by the passage of trains. The signaller or a person operating a signal post replacement switch can place some automatic signals to danger.</p>
<b>Axle counter</b>	<p>A method of detecting the presence of a train or vehicle on a line. Track-mounted equipment, at each end of a portion of line, counts the number of axles passing over. This is used to identify when a portion of line is occupied or clear.</p>
<b>Axle counter head</b>	<p>A device that detects the passage of a wheel passing over a running rail.</p>

## B

### **Barrow crossing**

A crossing (often at the end of a platform) for railway personnel to use. Some barrow crossings have white-light indicators which, when lit, indicate to the user that it is safe to cross.

### **Bi-directional line**

A line on which the signalling allows trains to run in both directions.

### **Block marker**

Reflective board that serves as a physical indication of signalling sections within ERTMS. Used when degraded working is required.

### **Block section**

The section of the line between the section signal of one signal box and the home signal of the next signal box ahead.

### **Brake van**

Any vehicle with a brake compartment.

### **Braking distance**

The distance a train needs in which to stop or reduce speed, from travelling at a given speed.

## C

### **Catch points**

Points designed to derail vehicles running back on a gradient in the wrong direction. These points may be unworked if trains normally pass over them in one direction only.

### **Cant rail**

The point on the side of a locomotive or coach where the bodyside meets the roof (sometimes marked by an orange stripe).

### **Central door-locking**

A secondary locking system fitted to certain slam-door passenger vehicles and controlled by the guard that prevents passengers from opening the doors.

## Terms by alphabetical order

<b>Competent person</b>	A person who is passed as being qualified and has the required knowledge and skills to carry out a particular rule, regulation, instruction or procedure.
<b>Conductor rail</b>	A rail through which electricity is supplied to electric-powered trains.
<b>Controlled crossing</b>	Any of the following level crossings. <ul style="list-style-type: none"><li>• Manned crossing with barriers (MCB).</li><li>• Manned crossing with gates (MG).</li><li>• Remotely controlled crossing with barriers (RC).</li><li>• Barrier crossing with closed-circuit television (CCTV).</li><li>• Barrier crossing with obstacle detection (OD).</li></ul>
<b>Controlled evacuation</b>	The evacuation of passengers from a train after the signaller has confirmed that all lines have been protected.
<b>Coupled in multiple</b>	Traction units coupled to allow through controls by one driver.
<b>Coupled in tandem</b>	Each traction unit is separately controlled by its own driver, with through control of the automatic brake only.

## D

<b>Defective on-train equipment</b>	On-train equipment that: <ul style="list-style-type: none"><li>• is not performing its intended safetyfunction, either fully or partly</li><li>• is isolated</li><li>• is missing.</li></ul>
<b>Derailer</b>	A device at an exit from a siding or bay platform that derails an unauthorised movement.

<b>Detection</b>	An electrical or mechanical indication that points are set in the correct position.
<b>Detonator</b>	A small disc-shaped warning device, designed to be placed on the railhead for protection and emergency purposes. It explodes when a train passes over it.
<b>Detonator Protection</b>	Detonator protection consists of three detonators placed 20 metres (approx 20 yards) apart on the same rail with a possession limit board at the first detonator in the direction of travel.
<b>Driver only (or DO) train</b>	A train that is worked only by a driver and does not have a guard.
<b>Driver machine interface (DMI)</b>	The device used by a driver to interact with ERTMS onboard equipment. Typically a computer screen located in the driving cab.
<b>Driver's reminder appliance (DRA)</b>	A device in a driving cab that allows the driver to set a reminder that the signal ahead is at danger. While the DRA is set, the driver cannot take power.

## E

<b>Earthed</b>	The term 'earthed' when applied to the overhead line equipment which is normally live, means connected to the traction return running rail either directly or to a structure which is itself connected thereto.
<b>Electrified line</b>	A line that is electrified either by 25,000 volts AC overhead lines or by 750 volts DC conductor rails. Local instructions are issued for certain sections of route electrified by 1500 volts DC overhead lines.
<b>Emergency evacuation</b>	The evacuation of passengers from a train if the signaller states that protection cannot be given or the signaller cannot be contacted.

## Terms by alphabetical order

<b>Emergency protection</b>	The means of protecting a train by track circuit operating clips, hand danger signals and detonators when: <ul style="list-style-type: none"><li>• a driver or guard cannot contact the signaller, or</li><li>• the signaller cannot provide signal protection.</li></ul>
<b>End of authority</b>	The location to which a train is permitted to proceed. The boundary of a movement authority.
<b>Engineering Possession Reminder (EPR)</b>	A reminder applied by the signaller to one or more axle counter sections in advance of pre-planned engineering works in order to indicate the area affected. When removed from an axle counter section indicating occupied, this initiates an unconditional reset/restoration of the axle counter without aspect restriction.
<b>Engineering train</b>	Includes an on-track machine.
<b>ERTMS</b>	European rail traffic management system. A signalling system that uses in cab indications as opposed to external track borne signals.
<b>F</b>	
<b>Facing point lock</b>	Equipment that physically locks facing points so that they cannot move.
<b>Facing points</b>	Points where two routes diverge.
<b>Full supervision</b>	The normal movement used by ERTMS, an authority that gives comprehensive protection to all trains.



## G

- Goods line** A line that has not been signalled to the standard required for running passenger trains.
- Ground frame** A control point containing levers or switches to allow points in running lines and sidings, and any associated signals, to be operated locally. This local operation is only possible when the signaller at the controlling signal box gives a release. Also includes a ground-switch panel.

## H

- Hand points** Points that are worked manually by lever independent of any other signalling controls.
- Home signal** The first stop signal on the approach to a signal box on a line not signalled by the track circuit block system of signalling.

## I

- In service** A train is in service from the time it is ready to start its journey until the time it completes its journey. A vehicle is in service when it forms part of a train which is in service.
- Interlocking** A general term applied to equipment that controls setting and releasing signals and points to prevent an unsafe condition of the signalling system arising during the passage of trains.
- Intermediate block home signal** A stop signal that controls the exit from an intermediate block section. (Although an intermediate block home signal controls the entrance to an absolute block section, it is referred to as the intermediate block home signal).

## Terms by alphabetical order

### **Intermediate block section**

The line between the section signal and the intermediate block home signal worked by the same signal box in the same direction of travel.

### **Intermediate point to a possession**

A location other than the limits at the ends of the possession where an engineering train can enter or leave the possession to:

- an open line
- a siding not under possession.

### **Isolated**

Electrical equipment is isolated when it is disconnected from all sources of electricity supply in a secure way.

### **Isolation**

Isolation is the action of causing electrical sections or sub-sections of the OLE or CRE to be isolated. For AC it includes the entire process of switching off, securing, testing and earthing and issue of the overhead line permit. For DC it includes the entire process of switching off, securing and testing and issue of the conductor rail permit.

## **J**

### **Journey**

The route from the starting point of a train (siding, platform line or other place) to its planned destination (siding, platform line or other place), or where:

- is required to reverse before continuing to its destination
- vehicles are attached or detached
- it is terminated short of its destination

Any light locomotive movement, empty coaching stock movement or short distance shunting movement is a separate journey from the associated train movement.

**Junction signal** A signal that controls more than one running route and can display an indication of route.

## L

**Level crossing** Any manned, automatic, controlled, or open crossing shown in Table A of the Sectional Appendix.

**Lever** Includes a switch, button or workstation control.

**Live** Connected to an electrical supply.

**LOWS** Lookout operated warning system. A lineside warning system, used to warn personnel on or near the line about an approaching train. It is operated by a lookout.

## M

**Main aspect** The following aspects of a colour light signal:

- red
- yellow
- two yellows
- flashing yellow
- two flashing yellows
- green.

**Maintenance depot** A location defined in a train operator's Contingency Plan with the facilities to repair or replace specified items of defective on-train equipment.

**Manned level crossing** A level crossing that is operated locally by a signaller or crossing keeper (MCB or LC).

**Mechanical points** Points that are mechanically operated without any other form of power operation.

**Movement authority** Permission for a train to run to a specific location as a signalled move.

## Terms by alphabetical order

### N

**No-block line** A line on which the signaller does not monitor the condition of the block section.

### O

**On sight** A type of movement authority used by ERTMS that allows entry into an occupied section. The driver will be presented with a maximum speed and must ensure that the train is stopped short of any obstruction.

**One-train working** Method of signalling on a single line, with or without a train staff, where only one train at a time is permitted.

**On-track plant** A road-rail vehicle (RRV) or rail mounted maintenance machine (RMMM) also known as 'in possession only' vehicles.

**Open level crossing** An unmanned level crossing that has no barriers, gates or road traffic signals. It has a 'Give Way' sign on each road approach.

**Operations control** The term used for Network Rail Operations Control Offices.

**Out of service (train)** A train is out of service between the time that it completes its journey and the time it is ready to start another journey.

**Out of service (vehicle)** A vehicle is out of service when it forms part of a train that is out of service, or when it has been detached from a train in a depot, siding, platform line or other authorised place. The detraining of passengers does not in itself mean a train has been taken out of service.

**Overhead line equipment** Wires and associated equipment, suspended over or adjacent to the railway line for supplying electricity to electric trains.

**Overlap** The distance beyond a stop signal up to which the line must be clear before the previous signal can show a proceed aspect.

## P

**Passenger service** A train that is in service carrying passengers.

**Permissible speed** The maximum permitted speed as shown in the Sectional Appendix.

**Pilotman** A person who has been appointed to manage the passage of trains over a single line during a failure of equipment, during repairs or due to an obstruction.

**PoSA** Proceed-on-sight authority. A signal used for controlling movements into a section affected by a failure of signalling equipment.

**Possession Limit Board (PLB)** A double-sided board, red on both sides, with a red light (which may be steady or flashing). The board also has the word STOP printed on both sides.

**Power-operated doors** Doors on a train where the opening and closing are controlled by the driver or guard.

**Power-operated points** Points that are operated by means other than mechanically.

**Protection** Ways of making sure that a line is protected. This includes keeping signals at danger, placing detonators on the line, using a track circuit operating clip and showing a hand danger signal.

## R

**Reminder appliance** A device or control used to remind the signaller that a particular lever, button or switch must not be operated at all, or used only under certain conditions.

## Terms by alphabetical order

<b>Repeater (in a signal box)</b>	A dial or indicator in a manual signal box that shows the position of a signal arm and whether the signal lamp is lit.
<b>Right-side failure</b>	A failure that does not reduce the protection given by signalling equipment.
<b>Rolling stock technician</b>	A person who is authorised and has the necessary technical competence to examine or repair specified items of equipment forming part of a train or vehicle.
<b>Route setting position</b>	Location on a signalling control panel or workstation from which a route can be set or closed.
<b>Running line</b>	A line as shown in Table A of the Sectional Appendix as a passenger line or as a non-passenger line.
<b>Run through (of points)</b>	An incident where a movement runs through a trailing set of points that are not set in the correct position for the movement.

## S

<b>Section signal</b>	A stop signal that controls the entrance to a block section or intermediate block section ahead.
<b>Semi-automatic signal</b>	A signal normally operated by the passage of trains, but can also be controlled from the signal box or from a ground frame, or by a person operating a signal post replacement switch.
<b>Shunt entry board</b>	A lineside indicator board that indicates the entry of a shunt route on ERTMS cab signalled lines where lineside signals are not provided.
<b>Shunting movement</b>	Any movement of a train or vehicle other than a train passing normally along a running line.

<b>Shunting signal</b>	A signal that is provided for shunting purposes only.
<b>Siding</b>	A line on which vehicles are marshalled, stabled, loaded, unloaded or serviced clear of a running line.
<b>Signal post replacement key</b>	The key used to operate a signal post replacement switch.
<b>Signal post replacement switch</b>	A switch on the post of an automatic or semi-automatic colour light signal that can be operated by a key to turn it to, and keep it at, danger.
<b>Single line</b>	One line is available for movements in both directions.
<b>Station</b>	Terminal, depot, yard or halt.
<b>Station limits</b>	The line between the home signal and the section signal worked by the same signal box and in the same direction of travel. This does not apply on a track circuit block line.
<b>Stop signal</b>	A signal that can show a stop aspect or indication.
<b>Subsidiary signal</b>	A semaphore signal used for controlling shunting movements and movements onto occupied tracks. It is always positioned below the main semaphore arm with which it is associated.
<b>Switched off</b>	Electrical equipment that is disconnected and separated from all sources of supply.

## T

<b>Tail lamp</b>	Includes an illuminated built-in red light or blind.
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## Terms by alphabetical order

<b>TASS</b>	Tilt authorisation and speed supervision. A system on tilting trains that controls: <ul style="list-style-type: none"><li>• the operation of the tilt system</li><li>• the speed of the train on routes where enhanced permissible speeds apply on TASS fitted lines.</li></ul>
<b>Token</b>	Any single line token, staff or tablet.
<b>TOWS</b>	Train operated warning system. An audible warning system at locations listed in the Sectional Appendix. When switched on, it is used to warn personnel on or near the line about an approaching train.
<b>TPWS</b>	Train protection and warning system. A system by which a train is stopped by an automatic application of the brakes when activated by lineside equipment.
<b>Track circuit</b>	A method of detecting the presence of a train or vehicle on a line. An electrical device, using the rails as an electrical circuit, detects the absence of a train or vehicle. If these rules refer to track circuits, this also includes detection by axle counters unless specially excluded.
<b>Track circuit actuator</b>	Equipment provided on certain trains to improve the operation of track circuits.
<b>Track circuit block</b>	A method of signalling trains in a section of line using track circuits or other means of automatic train absence detection and without using block instruments.
<b>Track circuit operating clip</b>	A device which, in an emergency can be placed on top of each running rail to operate the track circuit and protect an obstruction.
<b>Track circuit operating device (T-COD)</b>	A special device that can be placed on the line to provide protection by operating the track circuit, to hold a signal at danger.



<b>Traction unit</b>	Locomotive, multiple unit, self-propelled rail vehicle or road-rail vehicle operating in rail mode.
<b>Trailing points</b>	Points where two routes converge.
<b>Train</b>	This includes light locomotive, self-propelled rail vehicle or road-rail vehicle in rail mode.
<b>Traincrew</b>	Driver and guard.
<b>Train-operated points</b>	Points that are continuously driven to one position such that facing movements always pass through them in the same direction. Trains themselves operate the points in the trailing reverse direction.
<b>Train operator</b>	The company responsible for operating a train.
<b>Train signalling regulations</b>	Instructions for use by the signaller that give details of the rules, regulations and instructions relating to each different kind of signalling system.
<b>Transition</b>	The process of the onboard ERTMS signaling system transferring from one signalling system to another. This process has to be acknowledged by the driver.
<b>Trap points</b>	Facing points at an exit from a siding or converging route that derail an unauthorised movement, so protecting the adjacent line.

## U

<b>Uncontrolled evacuation</b>	The self evacuation of passengers from a train, which is not initiated by the driver or guard.
<b>Unworked points</b>	Points that are not operated from a signal box or ground frame.

## Terms by alphabetical order

### W

**Worked points** Points that are operated from a signal box or ground frame.

**Wrong-side failure** A failure that reduces or removes the protection given by signalling equipment.

### Y

**Your employer** The company, or subsidiary of a larger organisation for whom you work.





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