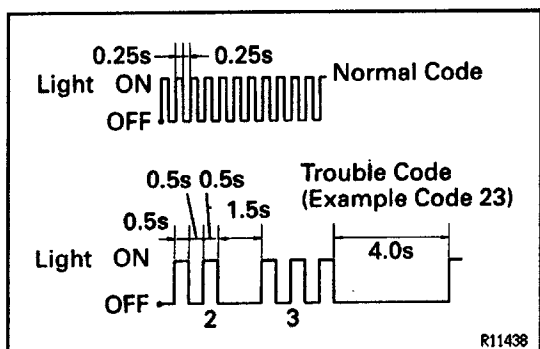


DIAGNOSIS SYSTEM DESCRIPTION

If a functional malfunction occurs, diagnosis system will identify the problem and ECU stores the codes for the trouble items.

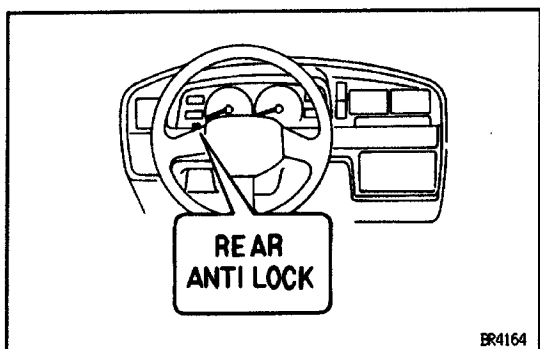
At the same time, the system informs the driver of a malfunction via the "REAR ANTILOCK" warning light in the combination meter.



By turning ON the ignition switch and disconnecting the service connector, the trouble can be identified by the number of blinks (diagnostic trouble code) of the warning light.

In event of 2 codes, that having the smallest number (code) will be identified 1st.

HINT: The warning light does not show the diagnostic trouble codes while the vehicle is running.



DIAGNOSIS SYSTEM INSPECTION

1. INSPECT BATTERY POSITIVE VOLTAGE

Inspect that the battery positive voltage is 10–14 V.

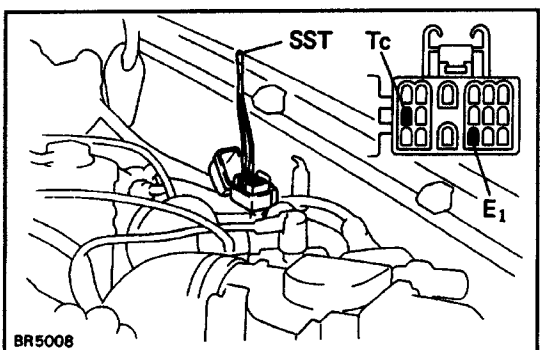
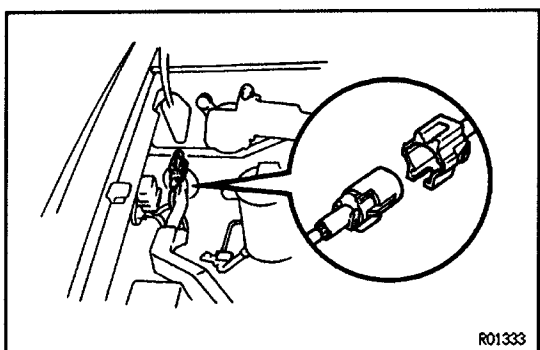
2. CHECK THAT WARNING LIGHT TURNS ON

- Turn the ignition switch ON.
- Check that the "REAR ANTI LOCK" warning light turns on for about 3 seconds.

If not, inspect and repair or replace the fuse, bulb and wire harness.

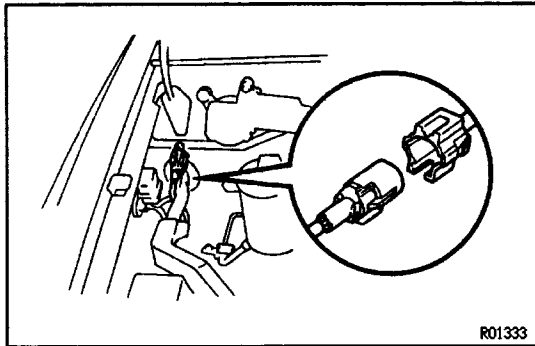
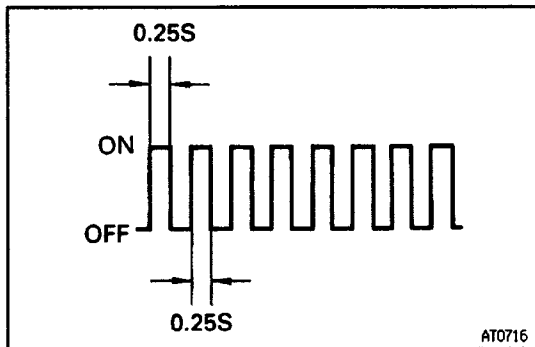
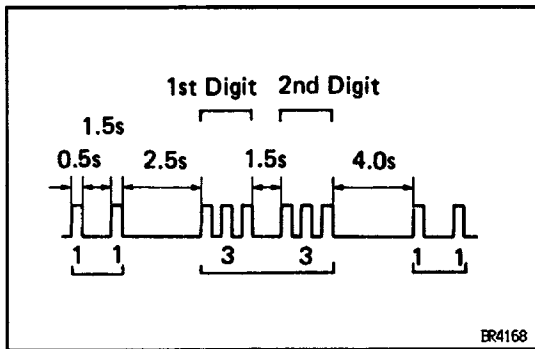
3. READ DIAGNOSTIC TROUBLE CODE

- Turn the ignition switch ON.
- Disconnect the service connector.



- Using SST, connect the terminal Tc and E1 of the data link connector 1.

SST 09843-18020



(d) In event of a malfunction, 4 seconds later the warning light will begin to blink. Read the number of blinks. (See DIAGNOSTIC TROUBLE CODE)

HINT: The 1st number of blinks will equal the 1st digit of a 2 digit diagnostic trouble code. After a 1.5 seconds

pause, the 2nd number of blinks will equal the 2nd number of a 2 digit code. If there are 2 or more codes, there will be a 2.5 seconds pause between each, and indication will begin after 4.0 seconds pause from the smaller value and continue in order to the larger value.

(e) If the system is operating normally (no malfunction), the warning light will blink 2 times per second.

(f) Repair the malfunctioning parts.

(g) After the malfunctioning parts have been repaired, clear the diagnostic trouble codes stored in the ECU.

(See page [BR-46](#))

HINT: If you disconnect the battery cable while repairing, all diagnostic trouble codes in the ECU will be erased.









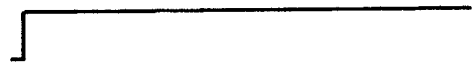
(h) Disconnect the terminal Tc and E1 of the data link connector 1.

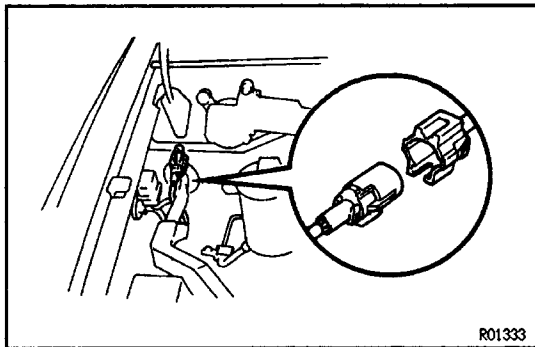
(i) Connect the service connector.

(j) Turn the ignition switch ON, and check that the "REAR ANTILOCK" warning light goes off after the warning light goes on for about 2 seconds.

DIAGNOSTIC TROUBLE CODE

HINT: Using SST 09843-18020, connect the terminals Tc and E1, and disconnect the service connector.

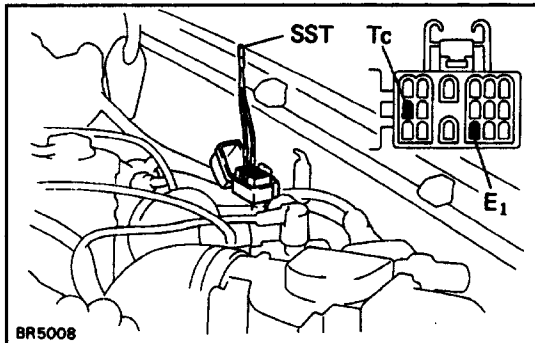
Code No.	Light Pattern	Diagnosis	Trouble Part
11	ON OFF 	Open circuit in solenoid relay circuit or solenoid circuit	<ul style="list-style-type: none"> • Solenoid • Solenoid relay • Wire harness and connector of solenoid and/or solenoid relay circuit
12		Short circuit in solenoid relay circuit	
25		Short circuit in solenoid circuit	
33		Open or short circuit in speed sensor circuit	<ul style="list-style-type: none"> • Speed sensor • Wire harness and connector of speed sensor circuit
41		Low battery positive voltage (9.5 V or lower)	<ul style="list-style-type: none"> • Battery
42		Abnormally high battery positive voltage (17 V or higher)	
43		Mechanical malfunction in deceleration sensor	<ul style="list-style-type: none"> • Deceleration sensor • Wire harness and connector of deceleration sensor circuit
44		Electrical malfunction in deceleration sensor circuit	
Always ON		Malfunction in ECU	<ul style="list-style-type: none"> • ECU



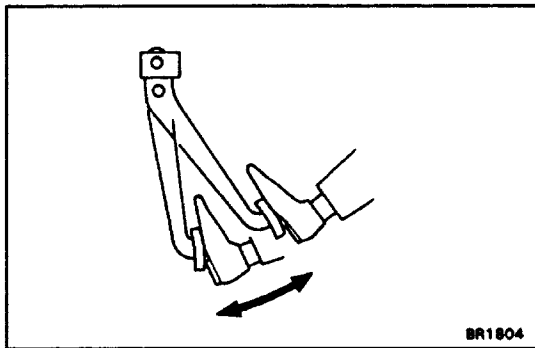
DIAGNOSTIC TROUBLE CODES CLEARING

CLEAR DIAGNOSTIC TROUBLE CODES

- (a) Turn the ignition switch ON.
 (b) Disconnect the service connector.
 HINT: Keep the vehicle stationary.

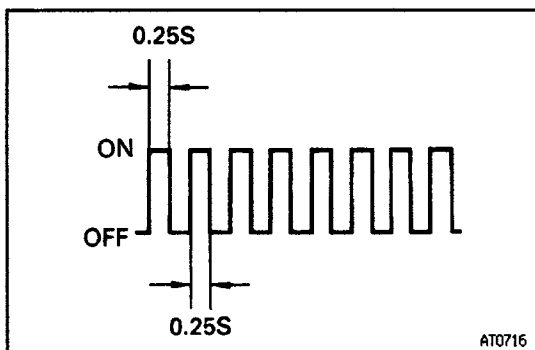


- (c) Using SST, connect the terminal Tc and E₁ of the data link connector 1.
 SST 09843-18020

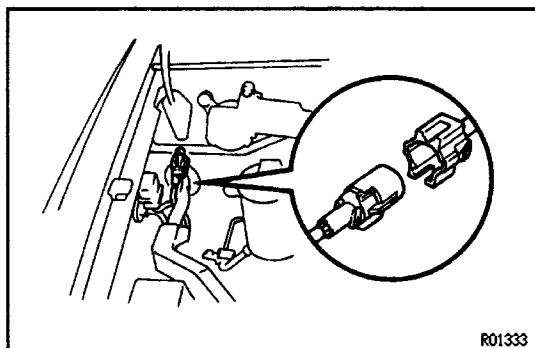


- (d) Clear the diagnostic trouble codes stored in ECU by depressing the brake pedal 8 or more times within 3 seconds.

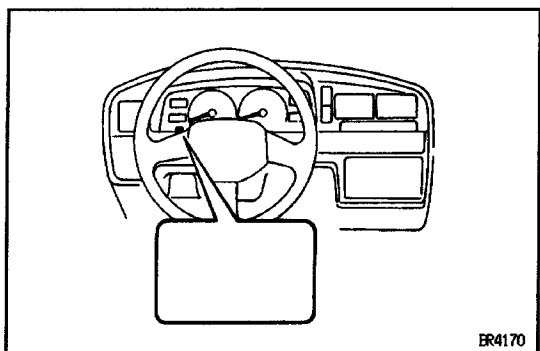
HINT: Cancellation can also be done by removing the REAR - ANTI LOCK fuse, but in this case, other memory systems will also be cancelled out.



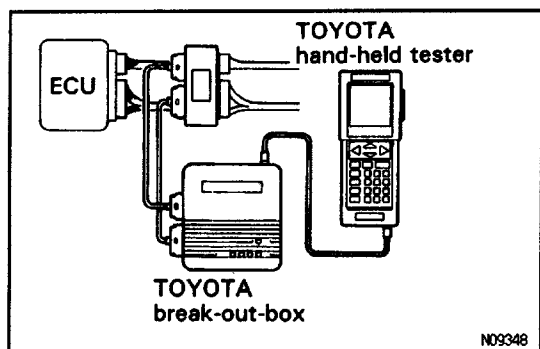
- (e) Check that the warning light shows the normal code. If the warning light still shows the diagnostic trouble codes, check the cause and repair or replace the trouble parts, then clear the diagnostic trouble codes again.



- (f) Connect the service connector.
 (g) Disconnect the terminal Tc and E₁ of the data link connector 1.



(h) Check that the warning light goes off.



ECU TERMINAL VALUES MEASUREMENT USING TOYOTA BREAK-OUT-BOX AND TOYOTA HAND-HELD TESTER

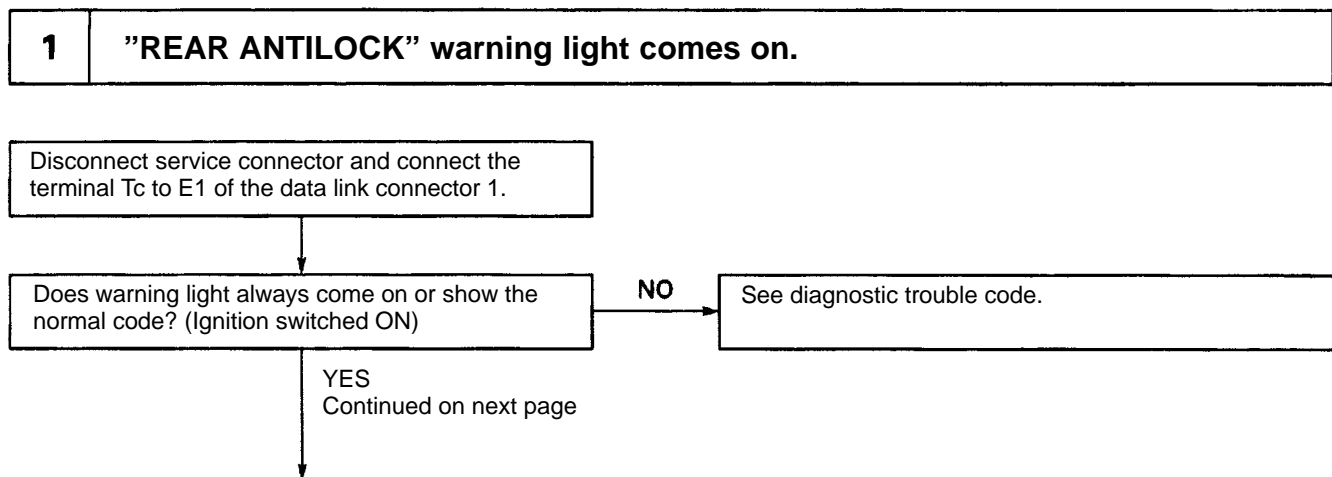
1. Hookup the TOYOTA hand-held tester and TOYOTA break-out-box to the vehicle.
2. Read the ECU input/output values by following the prompts on the tester screen.

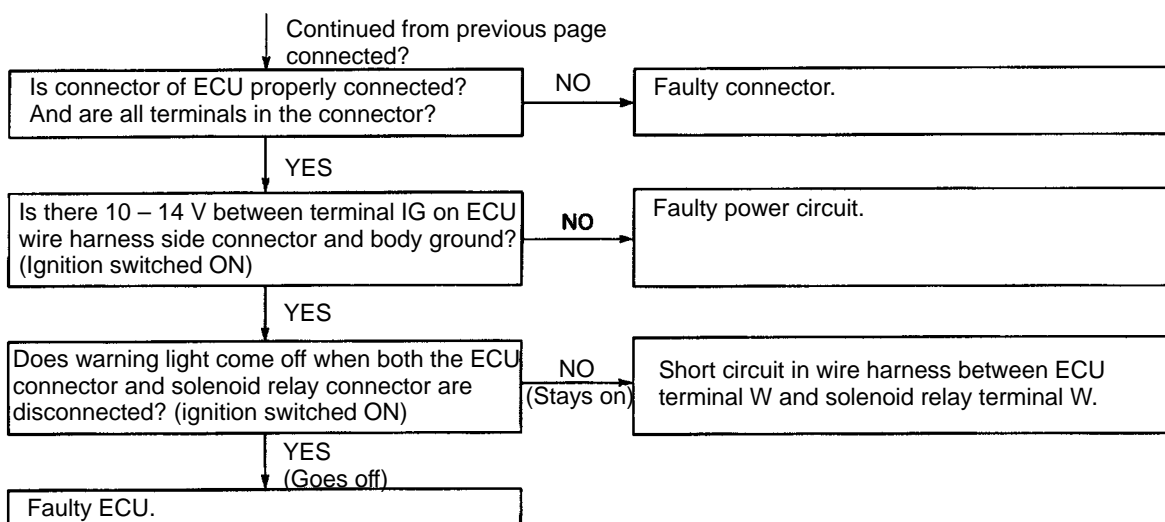
HINT: TOYOTA hand-held tester has a "Snapshot" function. This records the measured values and is effective in the diagnosis of intermittent problems.

Please refer to the TOYOTA hand – held tester / TOYOTA break-out-box operators manual for further details.

TROUBLESHOOTING

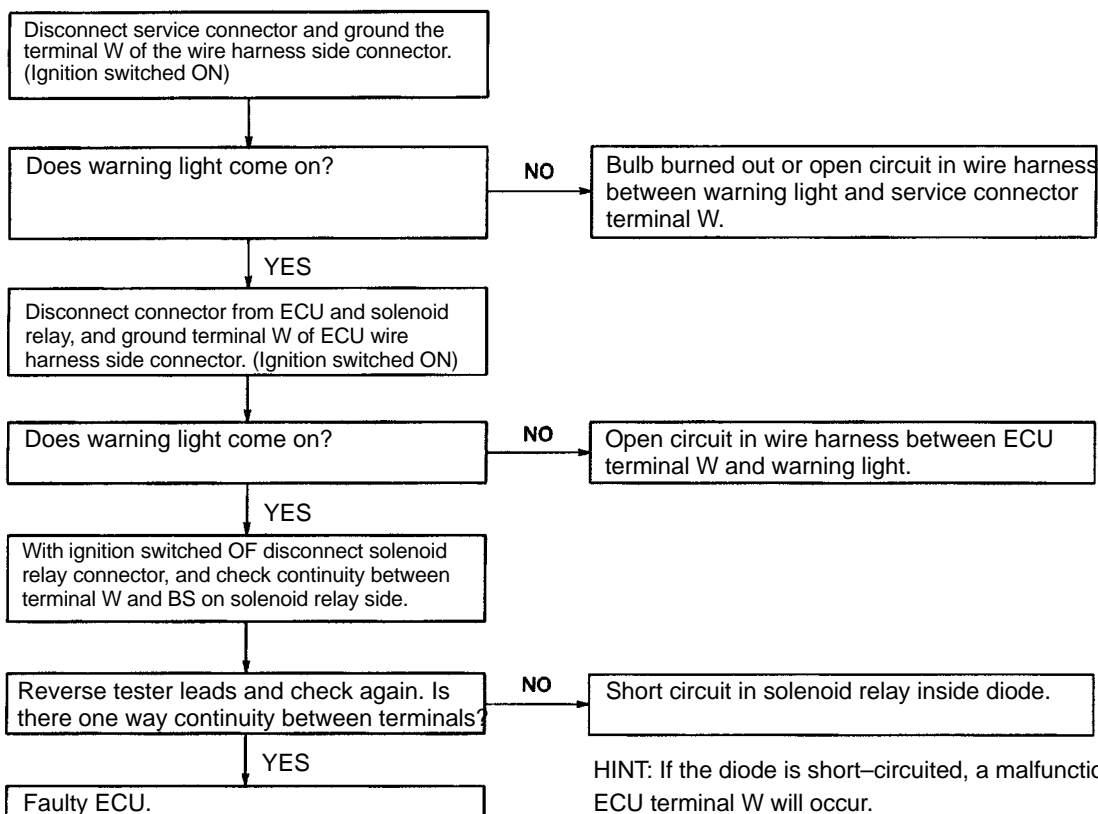
Problem		No.
"REAR ANTILOCK" warning light	Always comes on after ignition switched ON.	1
	Does not come on for about 3 seconds after ignition switched ON.	2
	Comes on and off.	3
	Comes on while running.	1
Brake working	Brakes pull.	4
	Braking inefficient.	4
	Rear-Wheel Anti-Lock Brake System operates during normal braking.	4
	Rear-Wheel Anti-Lock Brake System operates just before stopping during normal braking.	4
	Brake pedal pulsates abnormally while Rear-Wheel Anti-Lock Brake System is operating.	4
	Skidding noise occurs while Rear-Wheel Anti-Lock Brake System working. (Rear-Wheel Anti-Lock Brake System works inefficiently)	5





2

"REAR ANTILOCK" warning light does not come on for about 2 seconds after ignition switched ON.



HINT: If the diode is short-circuited, a malfunction at ECU terminal W will occur.

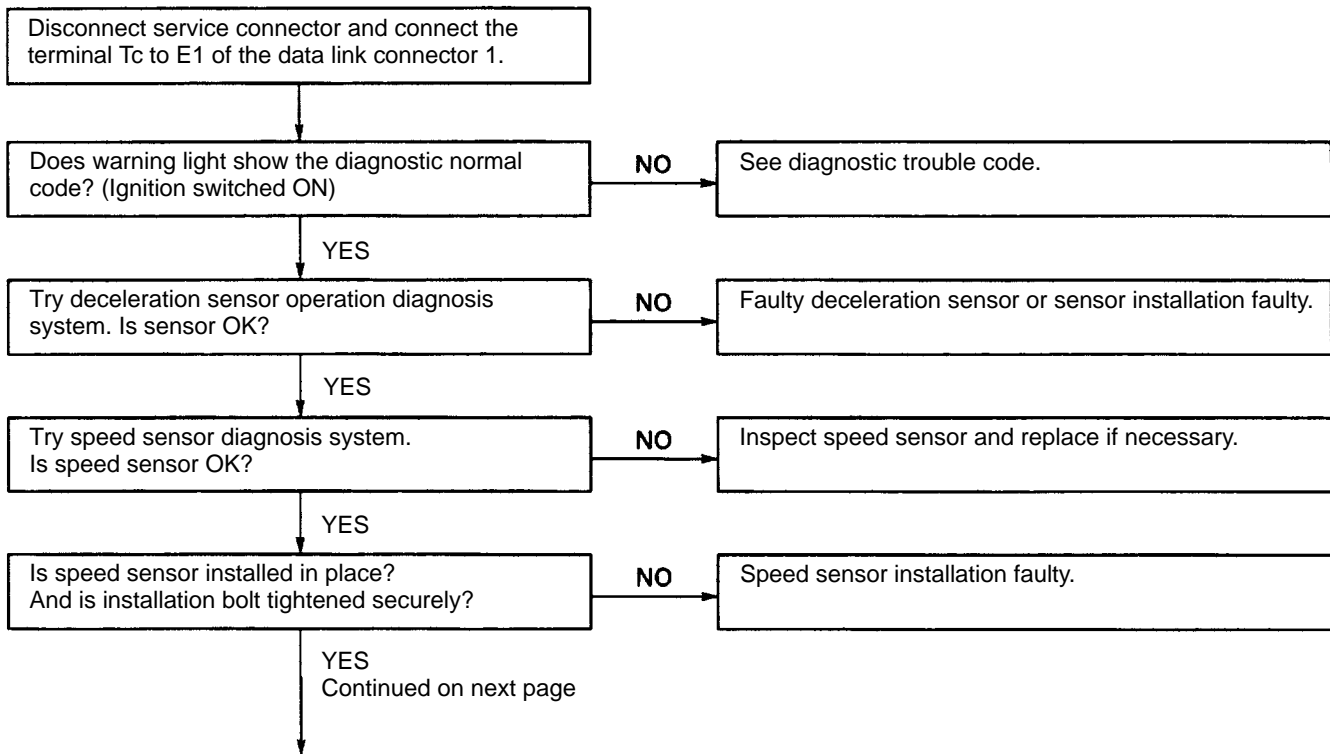
When inspecting the terminal, connect the ECU connector and disconnect solenoid relay connector. Then turn the ignition switched ON, and check that the warning light goes on. If it does, the ECU terminal is OK.

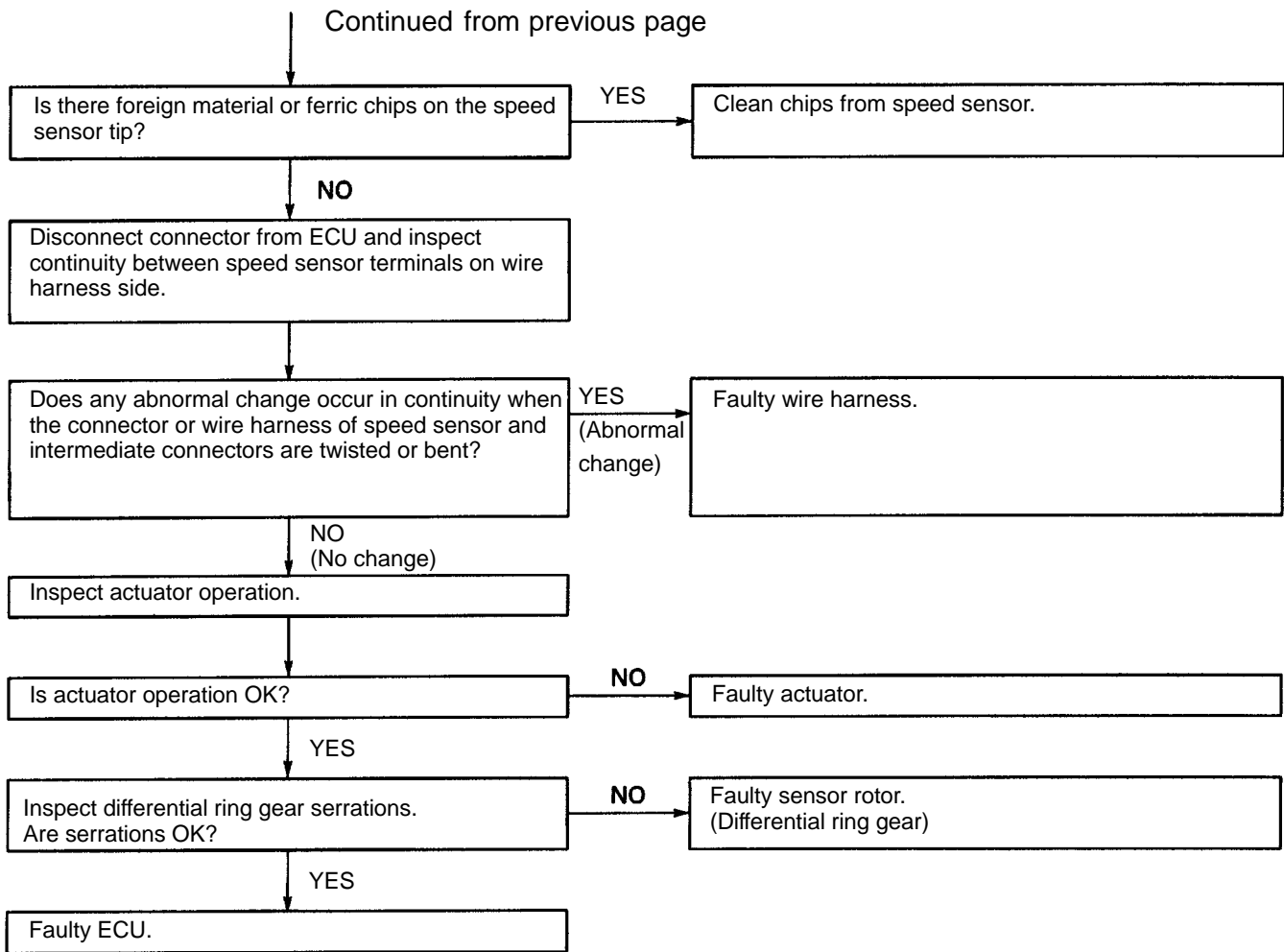
3 "REAR ANTILOCK" warning light comes on and off.

- Short circuit in wire harness between ECU terminal TS and data link connector 1 terminal.
- Short circuit in wire harness between ECU terminal TC and data link connector 1 terminal.

4

- **Braking inefficient.**
- **Rear-Wheel Anti-Lock Brake System operates during normal braking.**
- **Rear-Wheel Anti-Lock Brake System operates just before stopping during normal braking.**
- **Brake pedal pulsates abnormally while Rear-Wheel Anti-Lock Brake System working.**





5 Rear-Wheel Anti-Lock Brake System works inefficiently.