Racetronic

G-Shift 20

Instruction Manual

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The G-Shift 20

The Racetronic G-Shift 20 unit is a highly accurate Microprocessor controlled sequential shift light system which uses embedded software to calculate the time period between ignition spark events and thus calculate engine RPM and the appropriate shift light response.

Designed as a driver aid to pre-warn of the need to up-shift to the next gear the Racetronic G-Shift 20 removes the need to continually glance at the tachometer to judge the next gear change. The G-Shift 20 maximises the drivers awareness of the next shift with 4 x sequential shift lights lighting progressively towards the final shift point.

Using a Racetronic digital shift light not only allows the driver to shift gears more accurately and gain a competitive edge, but augments safety by allowing the driver to keep attention to the track.

Compatibility

The G-Shift unit is designed for use with any single or twin coil inductive type ignition system. This unit is not compatible with CDi or multiple spark ignition systems. This product will work accurately on 4-stroke engines with 1, 2, 3, 4, 6, and 8 cylinders and trigger from 1000 rpm to 20,000 rpm on all engine types.

Installation

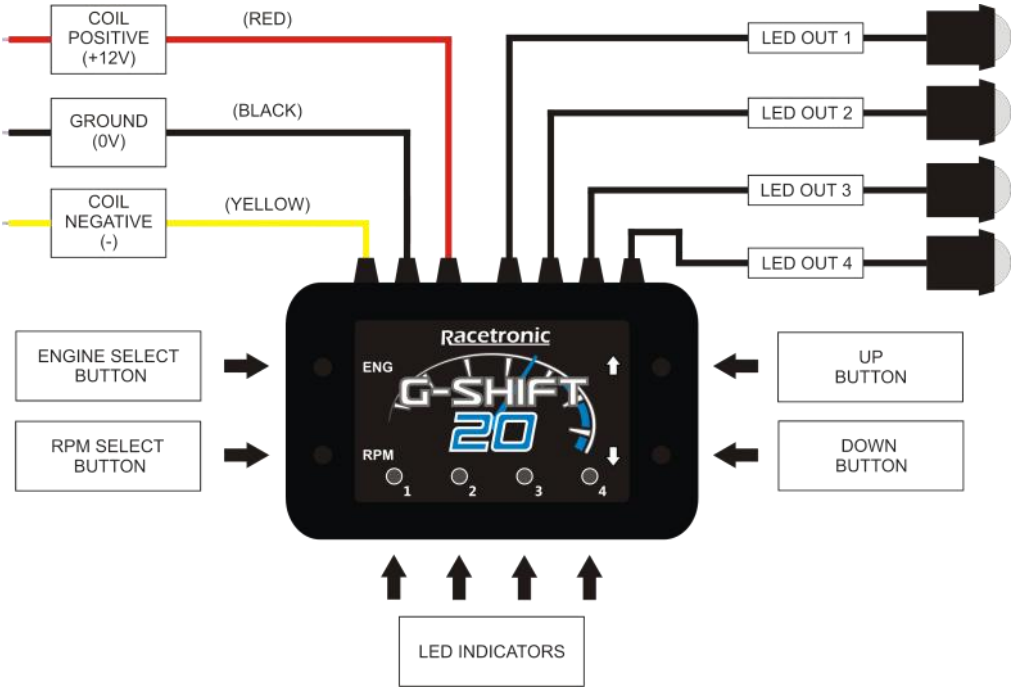
Caution. Installation should be performed by an experienced auto electrician or suitably qualified electrical personnel.

Tools required include:

- Wire Cutters
- Wire Strippers
- Crimping Tool
- 14mm Drill Bit
- Hand-held Drill

Wiring Diagram

Please follow the diagram below to correctly install the G-Shift 20 unit.



Red Wire : This wire should be connected to the (+) positive terminal of the ignition coil or from a 12V source switched by the ignition key.

Black Wire: This wire should be connected to the battery (-) terminal or to a reliable chassis ground.

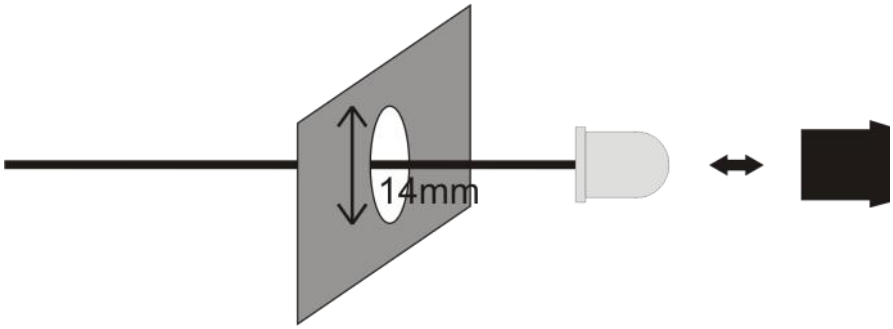
Yellow Wire: This wire should only be connected to the (-) negative terminal of the ignition coil. Please read the 'compatibility' section of this manual to be sure it is compatible with your vehicle.

LED Out: This wire should be connected to the supplied LED shift light by mating the two connectors.

Mounting The LED's

The 10mm LED shift lights come supplied with panel mount bezels. To install using the bezels first drill 14mm holes in the required locations, the LED's should now be threaded through the hole and clipped into the bezle before the bezel/LED unit is pushed back firmly into the hole.

Care must be taken then the unit is pushed back by the bezel and not the LED.



Mounting The Unit

The G-Shift unit should be mounted in the interior of the vehicle away from moisture and kept clear from rotating parts or excessive heat. Care must be taken that buttons cannot be pushed or held in by interference from close objects.

Setting Up

The G-Shift unit should be fully installed before setup is performed. At this point it should be double checked that the unit has been wired correctly.

With the engine off turn the ignition key to power the ignition system but do not start the engine. Look at the unit when this is done to make sure it responds by flashing its indicator LED's in sequence from right to left. This ensures that the unit has been wired correctly to receive power from the vehicle.

Engine Type

The unit now needs to be set to the correct engine type . With the engine still off and the ignition power on, hold down the engine select button (ENG) on the left side of the unit, the indication LED's will now display the current engine type.

2 CYLINDER ENGINE

6 CYLINDER ENGINE

This is read by summing the numbers displayed on the indicator LED's. If a single led is lit the unit is set to operate on an engine with that number of cylinders. If more than one LED is lit, the cylinder number is the sum of all numbers displayed.

To change the engine type the up/down buttons can be pressed to cycle through the available engine types. The LED's will indicate the new setting. Take note that changing the engine type will automatically reset the trigger points back to their factory settings.

Shift Point

Out of the box the unit is set to trigger from 6k 6.2k 6.4k and 6.6k RPM, it is advised to test the response of the unit at this limit before a higher limit is set. If the shift light triggers successfully at these settings the shift light can now be set at the desired trigger point.

First hold down the RPM button on the left hand side of the unit. Whilst this button is held press the up/down buttons to move the shift point up and down in 100-RPM increments. The unit will indicate the trigger level has moved by scrolling its LED's from left to right.

Single or Twin Coil Operation

This unit is compatible with single and twin coil ignition systems. For a twin coil system this unit should be installed in the same way as for a single coil except the yellow ignition wire from the unit only needs to be connected to one coil negative terminal. Under no circumstances should both coils be wired to the inputs of the G-Shift unit.

To put the G-Shift 20 unit into twin coil compatibility mode power the unit and hold down both the up and down buttons simultaneously. The unit will now light LED's 1 or 2 to indicate how many coils it is currently setup for.

To change mode simply press the (ENG) button for single coil or the (RPM) button for twin coil. The LED will change to indicate the new mode of operation. When the mode has been set release the up and down buttons and continue to use the unit as normal.

Resetting

Resetting the G-Shift unit can be done easily by holding down the 'up' button as the unit power is applied. When the unit has been reset all indication buttons will be lit and the up button should be released.

Default settings are: 4 cylinder Engine Type
Shift Light 1 = 6000RPM
Shift Light 2 = 6200RPM
Shift Light 3 = 6400RPM
Shift Light 4 = 6600RPM
Single Coil Mode

Maintenance

This G-Shift unit has been designed to operate over a long period of time with a minimum of maintenance, there are no user serviceable parts inside. Should your Racetronic unit product become defective it can be returned to Racetronic for service, or if under warranty repaired or replaced free of charge

Protecting The Environment

Separate collection. This unit must not be disposed of with normal household waste.

Should you find one day that your Racetronic product needs replacement, or it is of no further use to you, do not dispose of it with household waste. Make this product available for separate collection.

Separate collection of used products and packaging allows materials to be recycled and used again. Re-use of recycled materials helps prevent environmental pollution and reduced the demand for raw materials

Local regulations may provide for separate collection of electrical products from the house hold, at municipal waste sites or by the retailer where you purchased the new product

Guarantee

Racetronic are confident of the quality of its products and offers a 1 year guarantee. If a Racetronic product becomes defective due to faulty materials, workmanship within 12 months from the date of purchase, Racetronic guarantees to replace defective parts, repair products subject to fair wear and tear or to replace such products to ensure minimum inconvenience to the customer unless:

- The product has been subjected to misuse or neglect.
- The product has sustained damage through foreign objects, substances or accidents.
- Repairs have been attempted by persons other than Racetronic service staff.
- The unit has been used for non intended purposes.