

CARTEK

AUTOMOTIVE ELECTRONICS

GEAR INDICATOR + SHIFT-LIGHT



INTRODUCTION

The DIGITAL GEAR INDICATOR from CARTEK is microprocessor controlled and can be installed on any vehicle with an engine rpm/tacho signal and a road speed signal.

The GEAR INDICATOR displays the selected gear by performing a comparison of the engine speed and the road speed. Gears from 1 - 7 can be displayed as well as a 5 sequence shift light. The colour of the back lighting can also be selected.

INSTALLATION

The GEAR INDICATOR should be positioned so that it can be seen clearly by the driver. Once the ideal position has been found for installation of the unit it can be fixed using the special adhesive or the screws supplied, which you will find in the box.

The GEAR INDICATOR has 5 wires: RED positive (+12v), BROWN negative (GND), BLUE tacho signal (RPM), GREEN road speed signal (Km/h), WHITE only used during setup.

The RED wire should be connected to a switched IGN 12Volts, the BROWN wire should be 'earthed' to the chassis, the BLUE wire should be connected to the same wire which feeds the RPM signal to the vehicle's tachometer and the GREEN wire should be connected to the same wire which feeds the SPEED signal to the vehicle's speedometer. The end of the WHITE wire must be isolated using insulating tape except during the set up phase of the unit.

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SETUP

The GEAR INDICATOR is completely automatic, it is only necessary to carry out the following set-up procedure during installation. There are 3 functions to set-up 1-Sequential shift light, 2-Backlight colour, 3-Gear indicator.

- To go into setup mode, turn on the ignition and start the engine.
- Remove any insulation from the end of the WHITE wire and hold it to chassis earth until SETUP is displayed then lift away from earth. The GEAR INDICATOR will then sequence between the 3 functions. To select the relevant function touch the WHITE wire to earth again when the GEAR INDICATOR is displaying the correct function.

Sequential Shift Light

To choose the Sequential Shift Light setting touch the WHITE wire to earth when the two outer green LEDs will begin to flash.

- At this point you have to set the engine revs for the lower RPM of the sequence. Take the revs to the level that you wish the unit to register as a first level, even for an instant. For example if you wish to set 6000rpm, carefully accelerate until the revs reach 6000rpm then immediately reduce the revs. The SEQUENTIAL SHIFT-LIGHT will record the maximum rpm reached during this phase and store it to the first LED sequence.
- "Earth" the calibration wire again, the green LEDs will stop flashing and red one will now begin to flash.
- At this point you have to set the engine revs for the upper RPM of the sequence. Take the revs to the level that you wish the unit to register as a final level, even for an instant. For example if you wish to set 7000rpm, carefully accelerate until the revs reach 7000rpm then reduce the revs. The SEQUENTIAL SHIFT-LIGHT will register the maximum rpm reached during this phase and store it to the final LED sequence.
- Once again "earth" the calibration wire, the red LED will go off. The SEQUENTIAL SHIFT-LIGHT will now calculate all intermediate LED levels of the sequence.
- Re-insulate the end of the WHITE wire. The unit has now been calibrated and is ready for use.

Backlight Colour

On choosing the Backlight Colour setting the GEAR INDICATOR will sequence through a choice of colours. When the preferred colour is displaying touch the WHITE wire to earth to select that colour.

Gear Indicator

On Choosing the Gear Indicator setting the word GEARTRONIC will flash in the lower window.

Start the engine and when the GEAR INDICATOR displays '1' drive the wheels of the vehicle at a constant speed until the display changes to '2'. At this point shift up to second gear and again drive the wheels at a constant speed until the display changes to '3'. Continue this process until all gears have been measured and the display is flashing the highest gear number +1. At this time slow the wheels down to stop and wait until the gear number stops flashing. The GEAR INDICATOR will then complete the gear calculations and store them to memory. If successful the GEAR INDICATOR will flash two dots. If ERROR1 is displayed then this is because the GEAR INDICATOR is not receiving a Road Speed signal so check the GREEN wire connection.

If ERROR2 is displayed then this is because the GEAR INDICATOR is not receiving a RPM signal so check the BLUE wire connection.

If any of the gear number are missing from the display then repeat the setting procedure but try using a higher engine speed as this will improve accuracy of the calculation.

NOTE. Gear Indication is a calculated value and this can only be done when the engine is running and the vehicle is moving. When the engine or vehicle is stationary the GEAR INDICATOR will display '0'.

Once setting up has been completed the end of the WHITE wire must be insulated to prevent accidentally entering setup mode.

Any of the setting functions can be repeated at any time.