

Installation and programming manual for **Microshift™**

Microshift is a microprocessor controlled shift light programmed to light up powerful when the engine of a motorcycle or car reaches a certain number of revolutions (shift point).

Warning

We do not take any responsibility for damages done to people, motor vehicles and similar caused by the installation and/or use of Microshift shift light in motorcycles, cars and other motor vehicles.

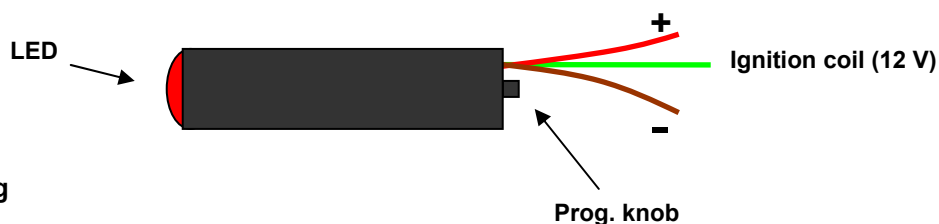
Installation

- 1) Microshift is provided with 3 wires: One red, one brown and one green wire.
 - Connect the red wire (+) to a wire that is normally carrying voltage (12 Volt) when the ignition is in ON position. It is recommended to mount a safety fuse (1 Amp) in series with the red wire.
 - Connect the brown wire (-) to frame or other type of ground.
 - The green wire shall not be connected at this point.
- 2) Turn the ignition to ON position, wait 2 seconds and push in the programming knob at the rear end of Microshift shortly (less than 1 second).
Microshift is now reset.
Turn the ignition to OFF position again.
- 3) The green wire must now be connected to the primary side of one of the ignition coils (or the ignition coil if only one present). This is how Microshift gets its ignition pulses.

Connect the green wire to one of the two wires leading to the ignition coil at the supply voltage side (12 volt, thin wires) – **That is NOT to the ignition cables (Thick wires, High voltage!)**

There is no general standard for colour codes for the wires to the ignition coil. Consequently it is necessary to measure on which of the two wires the ignition pulses are or just try as it is described in section 4) below.

- 4) Start the engine.
When the green wire is connected to the correct wire of the two supply side wires, the LED of Microshift will light up constantly.
Microshift is now correctly connected.
- 5) Now Microshift can be mounted with the enclosed Velcro. Place Microshift at a spot visual for the driver during driving.



Programming

- 1) Start the engine.
Bring up the revs to ½ of the desired number of revolutions (shift point) and then push the programming button at the rear end of Microshift shortly (less than 1 second).
The LED will light up shortly to signal that the programming has been done.

Example: The engine is brought to 5.000 RPM and the programming knob is pushed, shift point is now 10.000 RPM. The number of revolutions should be kept at a constant level during programming.

Microshift is now programmed.

- 2) Whenever the ignition is turned to ON position, Microshift will always flash shortly (prove of function).
- 3) When the programmed shift point is reached, Microshift will light up constantly.
- 4) To change for a new shift point just repeat Programming 1) again.

Option – Early warning

If needed, Microshift can be programmed to *flash* when 90% of the number of revolutions for the shift point has been reached. If shift point for example has been programmed to 10.000 RPM, Microshift will work like this:

9.000 RPM (= 90%):	Microshift flashes fast
10.000 RPM (= 100%):	Microshift lights up constantly

This function can be selected on and off by pushing down the programming knob for minimum 5 seconds with the engine running at idling speed.

By the time of delivery this function is not activated (off).

Trouble-shooting

1) *Microshift lights up or flashes at other number of revolutions than the one programmed.*

If Microshift is lighting up/flashing at other number of revolutions than the programmed shift point, the built-in filtering function can be activated.

Procedure:

- Switch off the ignition
- Push down the programming knob
- Switch on the ignition again
- Release the programming knob after 3 flashes
- Test Microshift again

- If the erroneous flashes continues, repeat the above described procedure but this time count 6 flashes

Be aware that the more flashes selected in this filtering function, the longer the reaction time of Microshift will be. For further information contact the distributor/manufacturer.

2) *Microshift seems to light too soon compared to the tachometer.*

During our tests of Microshift in various vehicles we have observed that some OEM mounted tachometers are substantially delayed compared to the real number of revolutions. Therefore it could appear as if Microshift lights up too soon compared to the programmed shift point.

If Microshift has been correctly installed, Microshift will have a measurement accuracy of less than 1%.

This problem will be more noticeable for mechanical tachometers.

Warning

Conscious looking into the LED for any length of time will lead to permanent damage of the retina. The protecting eyelid conclusion reflex is inoperative when you stare consciously, so the eye no longer moves and an overheating of the retina emerges.

Specifications

Size	L=53 mm, Ø=16 mm
Material	Black plastic
Protective class	IP66 (housing)
LED type	Red Super-Flux LED 7,62mm, 70°
Light intensity	4000 milli candella
Supply voltage	10-15 Volt
Power consumption	Max. 120 mA
Working area	1-12 cylinders