ENGEAR

GEAR INDICATOR – SHIFT LIGHT

Installation and instruction manual.

1- Installation of Engear

ENGEAR works on motorbikes and cars fitted with electronic RPM counter and electronic Speedometer, Install *ENGEAR* with the provided adhesive in a visible location near the instrument panel, in order to have the best visibility of the Shift Light try to put it with the most direct angle to the eyes of the driver.

2- Wires connection

In order to find out the engaged gear *ENGEAR* needs continuous signals from the RPM and Speed outputs of the vehicle, make sure to respect the connections as follows; for all the most common motorcycles look at the connection sheet provided in the package or check for updates on the website www.starlane.com
Engear cable comes with a plug allowing the connection to the optional Plug&Play adaptors available for some bike models and listed on the web page.
If you don't have any Plug&Play adaptor, remove the plug from Engear by cutting the wires and proceed with the connections shown:

PINK = Ignition switched 12V
BROWN = GROUND connection to the harness
GREEN = SPEED pulse
YELLOW = RPM pulse (Engine Revolution)
GREY = Neutral Light (if not connected Engear displays gear 0 while receiving a ratio different from the teached gears)
WHITE = Setup (not connected)

3- Setup of the Shift Light

To set up the Shift Light RPM threshold:

a- Connect the White wire to Ground for 10 seconds till Engear Displays " F ".
b- Release the White wire, the " F " blinks.
c- Run the engine (on the stand or on the street), for at least 2 seconds, to the RPM you want the Shift Light intervention and stop the engine to let it reach 0 RPM, it's important you stop only the engine but don't power off the system in this moment.

ENGEAR has recorded the maximum RPM reached before the engine stop. To disable the Shift Light repeat the sequence a-b and, while the "F" is blinking connect the White wire to Ground till the "F" disappears.

4- Teaching the number of gears and gear learning

In order to let *ENGEAR* recognize the gears you'll need to let it know the number of gears of your engine and teach it running the bike on the stand (if the Speed sensor is reading the rear wheel speed) or on the street (if the Speed sensor is reading from the front wheel).

a- Connect the White wire to Ground for 20 seconds till *ENGEAR* Displays " P ".
b- Release the White wire, the " P " blinks.
c- Touch the Ground with the White wire as many times as the number of gears you want to teach (maximum available 9, on a standard motorcycle should be 6) and wait 5 seconds till *ENGEAR* indicates the " 1 " blinking.

Now you can let Engear learn each gear:

d- While the " 1 " is blinking engage the 1st gear, release completely the clutch and run the engine to 4000-8000 RPM for a few seconds till *ENGEAR* displays " 2 ",repeat this operation till you have reached the last gear; on some bikes (like Yamaha R1 2001) could be necessary run till 10.000 RPM in order to have the perfect gear learning. The gear learning will be finished as the last gear (ex. the 6) will stop blinking and will be fix.

Note: Because during the gear learning on the stand it's necessary to keep a stable ratio, it's suggested to press a little bit the rear brake lever in order to reduce the chain oscillations.

You are now ready to enjoy you *ENGEAR*.

5- Product notes

a- Remember that *ENGEAR* calculates continuously the ratio between RPM and SPEED and any intervention on the clutch can change the ratio and let it display a non correct gear.
b- The display brightness is auto regulated by a light sensor at the right of the shift light.
c- The system is completely water resistant
d- Use a soft cloth wetted with water to clean the surfaces of your *ENGEAR*. Using alcohol or aggressive detergents might turn the transparent areas opaque.
e- *ENGEAR* is not approved for road use.

Any update to the present manual is available on the website www.starlane.com
Engear is covered by a 24 month warranty against manufacturing defects.

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