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GEAR INDICATOR & SHIFT LIGHT

FIG.1

CONGRATULATIONS for choosing the most compact and reliable gear indicator & shift light, available on the market.

This instrument is equipped with 3 levels of **sensitivity/precision** to display which gear is on. The 3 levels are: 1) Instantaneous/ Good; 2) Standard / Excellent; 3) Average/ Absolute

The choice is automatic and is implemented during programming of the 5 RED RPM LED SHIFT LIGHT. If the leds are not programmed, the implemented level is Standard/ Excellent.

Installation: The instrument is provided with 2 M5 screw, nuts and silent blocks on the back side of the instrument (see Fig. 2). For a safety and definitive installation, use the screws found in the kit.

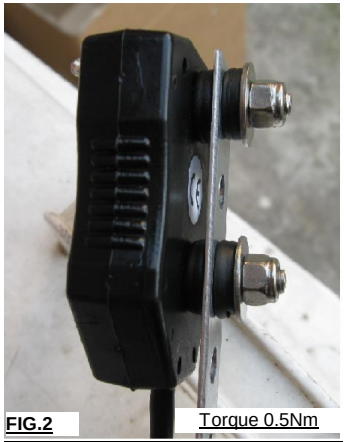
FIG.2 Torque 0.5Nm

Electrical connections: The instrument must be connected to the motorcycle electrical system following the electrical diagram indicated in Fig. 4.
The working is possible with an external power supply 12V and with the acquisition and processing of two electrical signals: RPM and speed.
Switch on GPGEAR, if while the wheel turn, the central sign "—" stop to flash the *speed signal* is OK. Otherwise check the blue (J4) wire connection.

START UP AND MAIN FUNCTIONS:
Start Up: The switched on of the instrument is automatic if there's power supply, BLACK cable (J6/0V) and RED cable (J5/+12V).
The instrument tests the display, the backlight and the 5 LED lighting. After the display shows the status of the instrument.

Turn off : When the external power supply is not present, the instrument automatically switches off.

Status: The status of the instrument is what is shown on the display during the functioning.

1) If the instrument is not programmed, the display visualizes a flashing "—"
2) If the instrument is programmed, the display visualize the notice GEAR and a fixed "—". Once running, the notice GEAR disappears and the "—" is replaced by the # of the engaged GEAR (1,2,3,4,5,6,7,8,9). If the motorcycle is put in neutral or the clutch lever is pulled, the display visualizes "—".
3) If the instrument has set up and active LED, the display visualizes a fixed "—" . The led switch on at RPM set.
4) If the instrument has set up but not active LED, the display visualizes LED and flashing "—". The LED do not switch on.
5) If the instrument has gear and led already set up, with active led, the display visualizes GEAR, LED and a fix "—". Once running, the notices GEAR and LED disappear and the "—" is replaced by the # of engaged gear(1,2,3,4,5,6,7,8,9). The led switch on at the RPM set up. If the motorcycle is put in neutral or turned off, or the clutch lever is pulled, the display visualizes "—" and after 3 seconds also GEAR and LED are visualized
6) If the instrument has gear and led already set up, but with no active led, the display visualizes GEAR and a fix "—" with flashing LED. Once running, GEAR and LED disappear and the "—"is replaced by the # of the engaged gear(1,2,3,4,5,6,7,8,9). The led do not switch on don't light. If the motorcycle is put in neutral or the clutch lever is pulled, the display visualizes "—" and after 3 seconds also fixed GEAR and flashing LED.

SETTING: To be able to set up, put cable J3 on mass (0V) and remove it when on the display there is the flashing section that you want.

1) **LED-On/Off:** Touch the J3 with the GND (0V) and release it when the display visualizes "PROG". This toggles the LEDs.
2) **GEAR:** Put the motorcycle on the rear stand and start the engine. Touch J3 with the GND (0V) of the bike. when "GEAR PROG" is displayed, release J3. "1" starts to flash. Engage 1st gear and release the clutch. "1" stops flashing, rev engine over 3000 rpm. When "2" starts to flash engage 2nd gear and release the clutch and rev engine over 3000 rpm. Repeat operation until the last gear (ex. 6°). When display visualizes the next # (for example 7), pull the clutch and stop the rear wheel. PROG — OK flashes and visualize the Status. The instrument can memorize up to 9 gears. *If the bike has got mechanical speed takeover, install a GPCRONO magnetic speed sensor (SA01-A13) on the rear wheel of the bike. Align the tip of the sensor with the fixing bolts** of the sprocket. Clearance between bolts and sensor tip has to be between 0.5 - 1,2 mm (as shown in fig. 3) **fixing bolts must be in ferrous-magnetic material ex: 8.8. do not use stainless steel or light alloy bolts. If the bike mounts magnetic sensor on the front wheel, gear programming has to be done on the road.
3) **LED:** Start up and rev engine to 4000rpm +/- 300rpm. Touch J3 with the GND (0V) and, when display visualizes "PROG LED", release it. Maintain 4000rpm until "PROG LED" stops flashing .Rev the engine to the Standard/Excellence level (RPMott) and let the engine idle. Wait until display visualizes a flashing "PROG — OK" and the status. The sensitivity/precision of the gear indicator is now set up and the 5 red led are programmed and active. The led light up from RPMott-2500rpm until RPMott-500. When you reach programmed gear shift light, all 5 leds flashes at the same time.
4) **RESET** Touch J3 with the GND (0V) and, when display visualizes "PROG — OK", release it. The instrument resets memorized gears and rpm leds. To re-program gears, IT IS NOT NECESSARY reset. If you change the motorcycle, we recommend to reset the instrument.
5) **EXIT:** If the cable J3 touches incorrectly GND (0V), wait until the instrument visualizes the status before remove the J3 from mass. If you, incorrectly, get into gear prog or in led prog, run the engine idle and brake the rear wheel. The instrument automatically quits programming mode wihout changing memorized settings.

If the setting will not be success because of wrong sequence or signal interruption (RPM, speed, 0V o +12V),the display does not visualize "PROG — OK"and the instrument exits from the present routine maintaining the memory at the previous set ups.


FIG.3

Warning: We recommend installing the gear indicator as shown in fig.2 using 0.5Nm torque wrench in order to prevent shell breaking.

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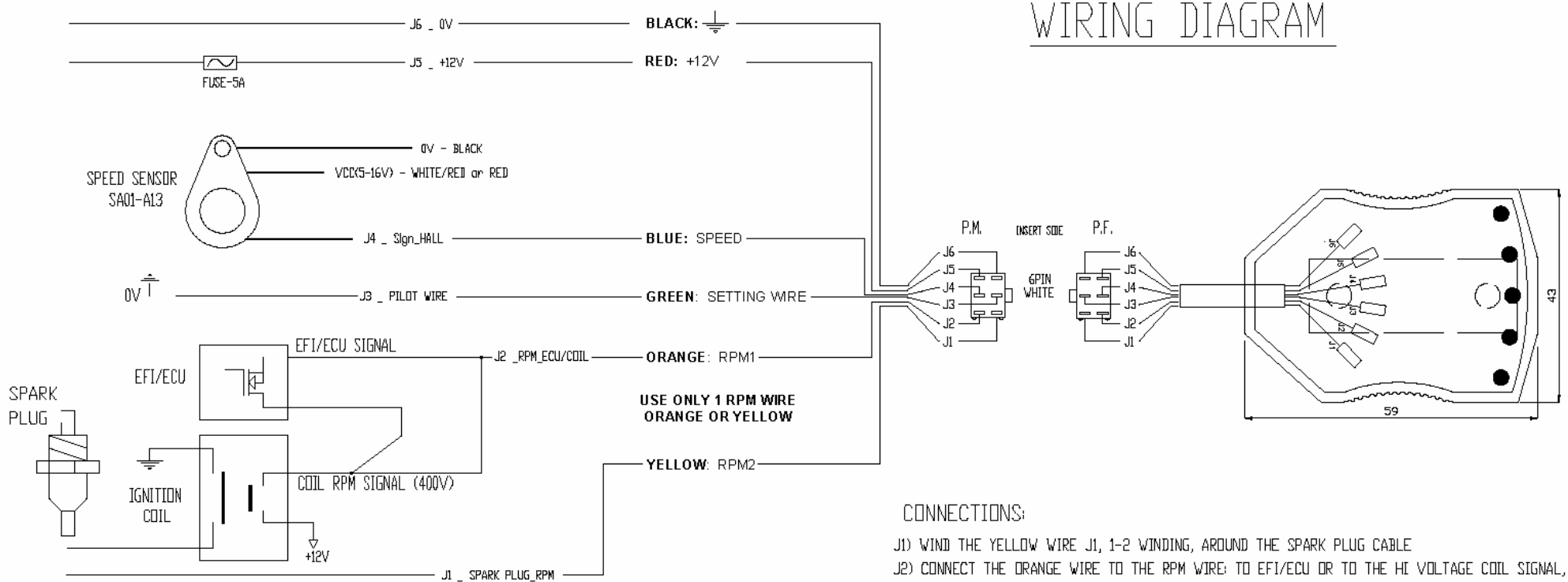
WIRING DIAGRAM



CONNECTIONS:

J1) WIND THE YELLOW WIRE J1, 1-2 WINDING, AROUND THE SPARK PLUG CABLE

J2) CONNECT THE ORANGE WIRE TO THE RPM WIRE: TO EFI/ECU OR TO THE HI VOLTAGE COIL SIGNAL, OR TO THE RPM SIGNAL UNDER DASH-BOARD (SEE THE ELETTRIC CONNECTION LIST)

J3) USE THE GREEN WIRE TO SET GPGEAR. INSULATE IT AFTER SETTING

J4) CONNECT THE BLUE WIRE TO THE SPEED SENSOR SIGNAL

J5) CONNECT THE RED WIRE TO A 12V UNDERKEY OR TO THE BATTERY POSITIVE POLE. IF YOU CHOSE THE BATTERY CONNECTION, INSERT A 5A FUSE

J6) CONNECT THE BLACK WIRE TO THE BATERY NEGATIVE POLE OR TO THE FRAME.

WARNINGS:

- USE ONLY 1 RPM SINAL CABLE: OR THE YELLOW ONE (J1) OR THE ORANGE ONE (J2). NEVER USE ORANGE AND YELLOW TOGHETER

- THE RPM SPARK PLUG SIGNAL, J1-YELLOW WIRE, CAPT THE RPM SIGNAL FROM SPARK PLUG CABLE WITHOUT DIRECT CONNECTION
  IF THE RPM SIGNAL IS NOT GOOD, USE RESISTANCE SPARK PLUG (TYPE NGKBR9EG) AND/OR SHIELDE PIPES (5khom)
  IF THE SIGNAL IS NOT ANOUGH, WIND 1-3 WINDING AROUND SPARK PLUG CABLE.

- THE ORANGE WIRE, J2, CAN BE CONNECTED OR TO THE EFI/ECU DIGITAL RPM OUTPUT WIRE OR TO THE HI VOLTAGE COIL INPUT WIRE

- IF THE RED WIRE , J5, IS CONNECTED TO THE BATTERY, INTERPOSE A 5A FUSE NEAR THE BATTERY.

- IF THE MOTORCYCLE HAS NOT BATTERY, SUPPLY THE INSTRUMENT WITH A 12V BATTERY.
  CONNECT RED(J5) TO THE POSITIVE POLE. CONNECT THE BLACK WIRE(J6) TO THE NEGATIVE POLE AND TO THE MOTORCYCLE FRAME TOO.

Part nr:	Code	Object description:	Drawing nr:	Mass kg:	Quan
Customer:			Order:		

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Description:
GPGEAR CONNECTIONS
SIZE: 43x59x16mm (BxHxW)

Fig. 4

Drawing nr: GPGEAR11_CONN_ENG
Designed by: L.G. 10/11/08
Checked by:
Approved by:
Release Description:

Material:	Process:	Roughness &shape tolerance:	Measure:	Toll.Dim.:
--	--		mm	±0.02

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