



# MANUALS AND METHODS

SALES DIVISION  
TECHNICAL NETWORK LEADERSHIP

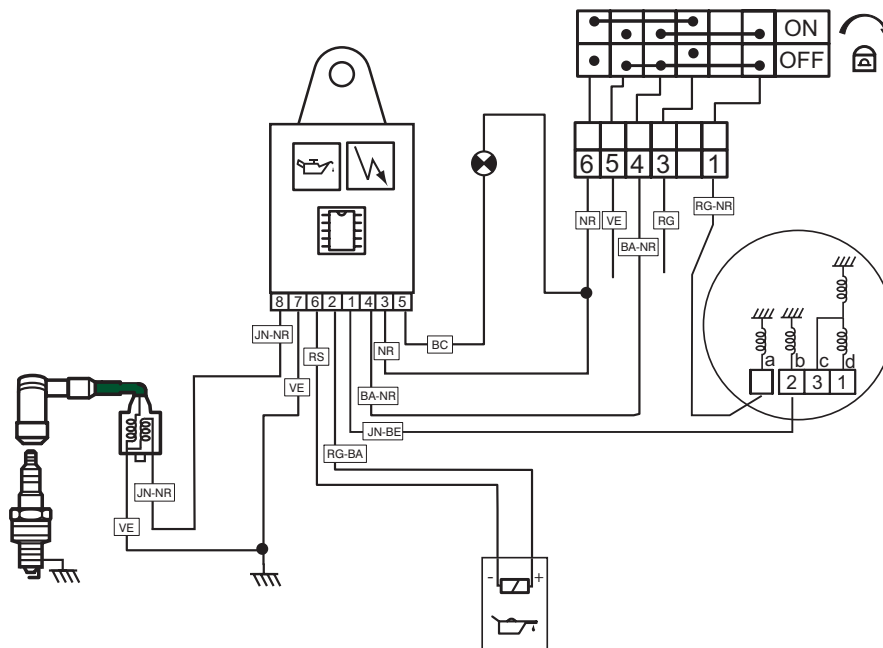
## NEW OIL PUMP CONTROL UNIT WITH BUILT-IN CDI. ACPH.

A new oil pump control unit with built-in CDI is installed on new carburettor equipped scooters.

This new unit features two distinctive functions:

1. It controls the oil pump according to the engine's operating requirements. It is governed by the engine speed. It is provided with a diagnostic function which checks the correct operation of the oil pump and stops the engine if the oil pump is defective.
2. Ignition control (CDI). It is governed by the engine speed.

ACPH system schematic diagram:



	Dealership	Spare parts	Mechanic 1	Mechanic 2	Mechanic 3
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### Functioning:

The ACPH system operates with or without a battery.

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#### **The low oil warning light has two functions.**



- Low oil warning light.
- Oil pump control unit diagnostic indicator light.

**If there is a problem with the oil pump supply line, the engine will be stopped by the ACPH control unit as soon as it reverts to its idling speed.**

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#### **With the battery:**

The light comes on when the ignition is turned on to check it is operational and comes off as soon as the engine starts if there is no incident.

It blinks in case the oil pump supply line is shut off or short circuited. The engine is stopped as soon as it is running at idling speed and can start again only if the incident has disappeared.

#### **Without the battery:**

When starting the engine the indicator light goes on for 3s and goes off if there is no incident.

It blinks in case the oil pump supply line is shut off or short circuited.

The engine is stopped as soon as it is running at idling speed and can start again only if the incident has disappeared.

### Diagnostic:

The diagnosis of the system is provided by the control unit. The rider is warned by the diagnostic indicator light.

The indicator remains on:

- No signal from the engine speed sensor (no more ignition, no more lubrication, engine stopped).

The indicator lights blinks:

- Problem with the oil pump supply (engine stops as soon as it is running again at idling speed).

Particular cases:

- No power supply to the control unit (the engine will not start, no ignition).
- The flywheel magneto wire is cut (the engine will not start, no ignition).
- The wire to the ignition coil is cut (the engine will not start, no ignition).



**If the engine stops while riding, check first the ACPH function by means of the diagnostic indicator light.**

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### Oil circuit bleed procedure:

#### **With the battery:**

Check the level in the oil tank.

Disconnect the oil inlet hose from the carburettor.

Provide a basin in order to collect the oil when draining.

Ignition off.

Disconnect the oil pump.

Turn on the ignition.

Connect the oil pump in order to start the procedure.

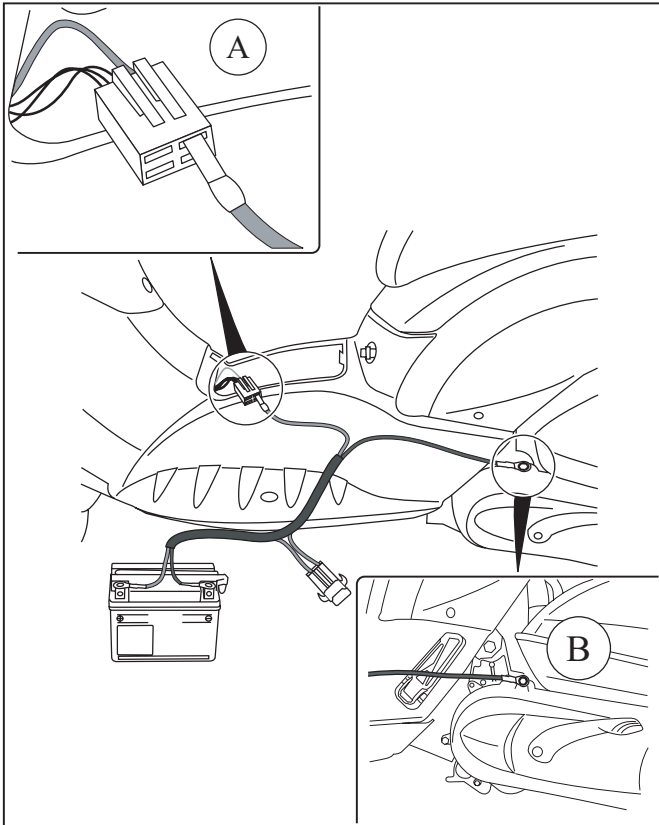
Once the procedure is finished, turn the ignition off.

Reconnect the oil inlet hose to the carburettor.



**When bleeding make sure the oil drips regularly and that there are no more air bubbles in the hose. If not, repeat the operation.**

#### Without the battery:



Prepare a fully charged battery.

Check the level in the oil tank.

Disconnect the oil inlet hose from the carburettor.

Provide a bassin in order to collect the oil when draining.

Disconnect the oil pump.

Disconnect the voltage regulator.

Connect the red wire of the supply wiring harness **P/N 757854** to the red wire of the regulator's connector (A).

Connect the green wire of the power wiring harness to the crankcase grounding screw (A).

Connect the 2 wires of the power wiring harness to the battery (red to the + and green to the -).

Connect the oil pump in order to start the procedure.

Once the procedure is finished, disconnect the battery and the supply wiring harness.

Reconnect the voltage regulator.

Reconnect the oil inlet hose to the carburettor.



**When bleeding make sure the oil drips regularly and that there are no more air bubbles in the hose. If not, repeat the operation.**

#### Incidents and remedial measures:

The indicator lights goes on when switching on the ignition.

- The vehicle will not start and the diagnostic indicator light blinks when the starter motor is actuated. Check: the oil pump supply.
- The vehicle will not start and the diagnostic indicator light goes on. Check: the engine speed sensor.

The indicator light goes off when switching on the ignition.

- The vehicle will not start and the diagnostic indicator light is off. Check: The supply of the ACPH control unit, supply from the flywheel magneto, output to the ignition coil.
- The vehicle stops when running at idling speed and the diagnostic indicator light blinks. Check: the oil pump supply.



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**If the oil pump supply problem disappears before the engine reverts to idling speed, the indicator light keeps blinking and the vehicle will stop once it reverts to its idling speed. To start the engine, the problem must disappear and the ignition must be switched off.**

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- The vehicle stops and the diagnostic indicator light is on. Check: the engine speed sensor, supply from the flywheel magneto, output to the ignition coil.
- The vehicle stops and the diagnostic indicator light is off. Check: The supply of the ACPH control unit.