



Sales division
Technical network leadership

TECHNICAL TRAINING



SPEEDFIGHT 

50 CC. 2 STROKE

P/N SF3.001.03/2009.GB

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PRESENTATION OF THE MACHINE

The segment on which "Speedfight3" has been marketed since its launch (SF1 1996-SF2 2000) has considerably changed and today represents approximately 20 % of sales of 50 cc scooters.

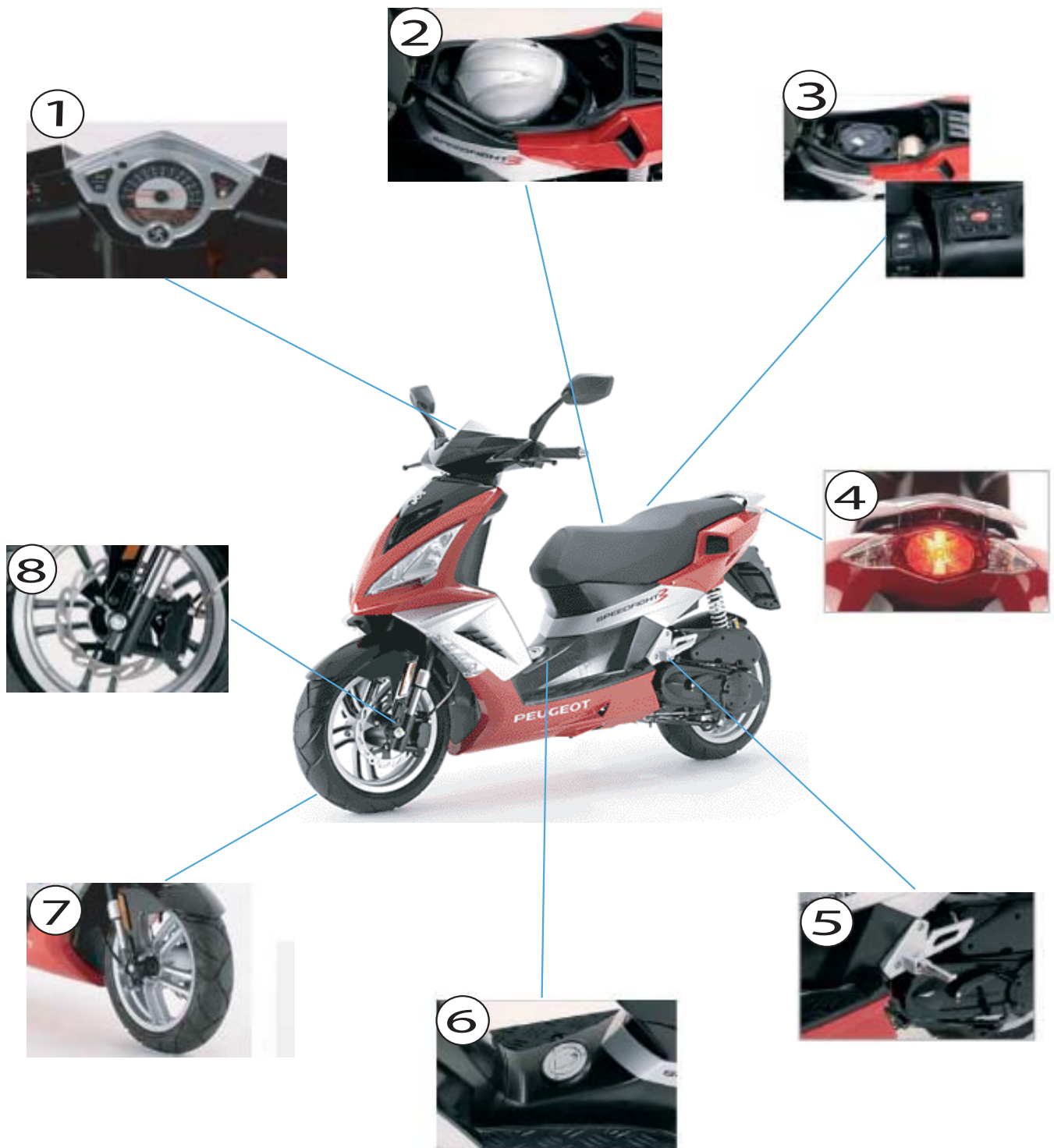
Change in customer profile over the the past 3 years.

- No driving license or banned drivers.
- Traffic and parking problem.
- Used instead of a 2nd car.

Typical Speedfight 3 customer.

- Young man aged 14/25 , interested in sports.
- A fan of vehicles with a touch of class, wanting to stand out from the crowd by owning the current top sporty model.

PRODUCT HIGHLIGHTS



1. Electronic dashboard with digital screen and rev counter.
2. Storage compartment under the saddle for full-face helmet opened from the ignition switch.
3. 12 V socket mounted in the storage compartment as standard to power an audio system available as an accessory.
4. Sporty rear aileron.
5. Folding aluminium footrests.
6. Lowered centre of gravity thanks to the under-floor fuel tank.
7. 13" wheels.
8. Impressive Ø32 hydraulic fork. Shurricane brake disks. Motorcycle-type dual piston radial brake calliper.

CHARACTERISTICS

| Engine marking | B1E40QBM (45 km/h version) | B1E40QMB (25 km/h version) |
|--------------------|--|----------------------------|
| Type | 2-stroke single-cylinder. Horizontal cylinder | |
| Cooling | By a circulation of forced air by means of a turbine on the flywheel magneto | |
| Bore x stroke | 39.94 x 39.8 mm | |
| Cubic capacity | 49 cc | |
| Max. power output | 3 kW at 7100 rpm | 1.5 kW at 4500 rpm |
| Max. torque rating | 5800 rpm | 3000 rpm |
| Compression | 6 bars at 700 rpm | |
| Ignition | ACPH | |
| Spark plug | NGK BR7HS | NGK BPR5HS |
| Magneto flywheel | 90 W | |
| Fuel supply | TK PZ Ø12 carburettor | |
| Starter motor | 85 W | |
| Lubrication | Separate lubrication by means of a DELL'ORTO or MIKUNI electric pump driven by the Oil Pump Control Ignition Unit (ACPH) | |
| Transmission | By 2 variable pulleys and V-type belt | |
| Clutch | Centrifugal automatic | |
| Exhaust | With catalytic system and pulsair valve | |
| Standards | Euro2 | |

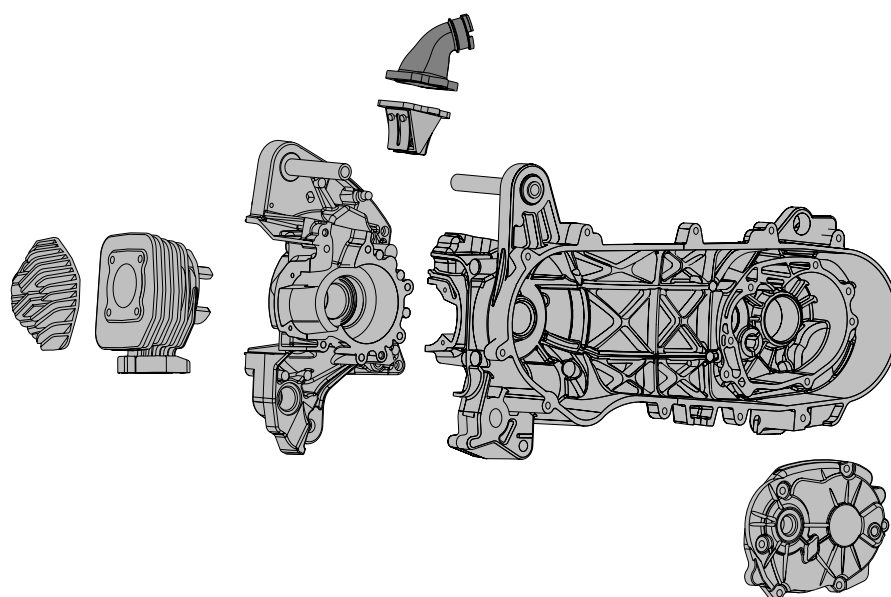
ENGINE

2-stroke single-cylinder. Air cooling.

Cast iron cylinder.

Direct intake via valves into the crankcase.

Cast aluminium alloy engine crankcase.



CHARACTERISTICS

| | |
|---------------------------|--|
| Engine marking | B1E40MB |
| Type | 2-stroke single-cylinder. Horizontal liquid-cooled cylinder |
| Cooling | Cooling by pump driven water circulation driven by the rotor of the flywheel magneto |
| Bore x stroke | 39.94 x 39.8 mm |
| Cubic capacity | 49 cc |
| Max. power output | 3.8 kW at 7300 rpm |
| Max. torque rating | 6000 rpm |
| Compression | 6 bars at 700 rpm |
| Ignition | ACPH |
| Spark plug | NGK CR7EB |
| Magneto flywheel | 90 W |
| Fuel supply | TK PZ 15 carburettor |
| Starter motor | 85 W |
| Lubrication | Separate lubrication by means of a DELL'ORTO or MIKUNI electric pump driven by the Oil Pump Control Ignition Unit (ACPH) |
| Transmission | By 2 variable pulleys and V-type belt |
| Clutch | Centrifugal automatic |
| Exhaust | With catalytic system and pulsair valve |
| Standards | Euro 2 |

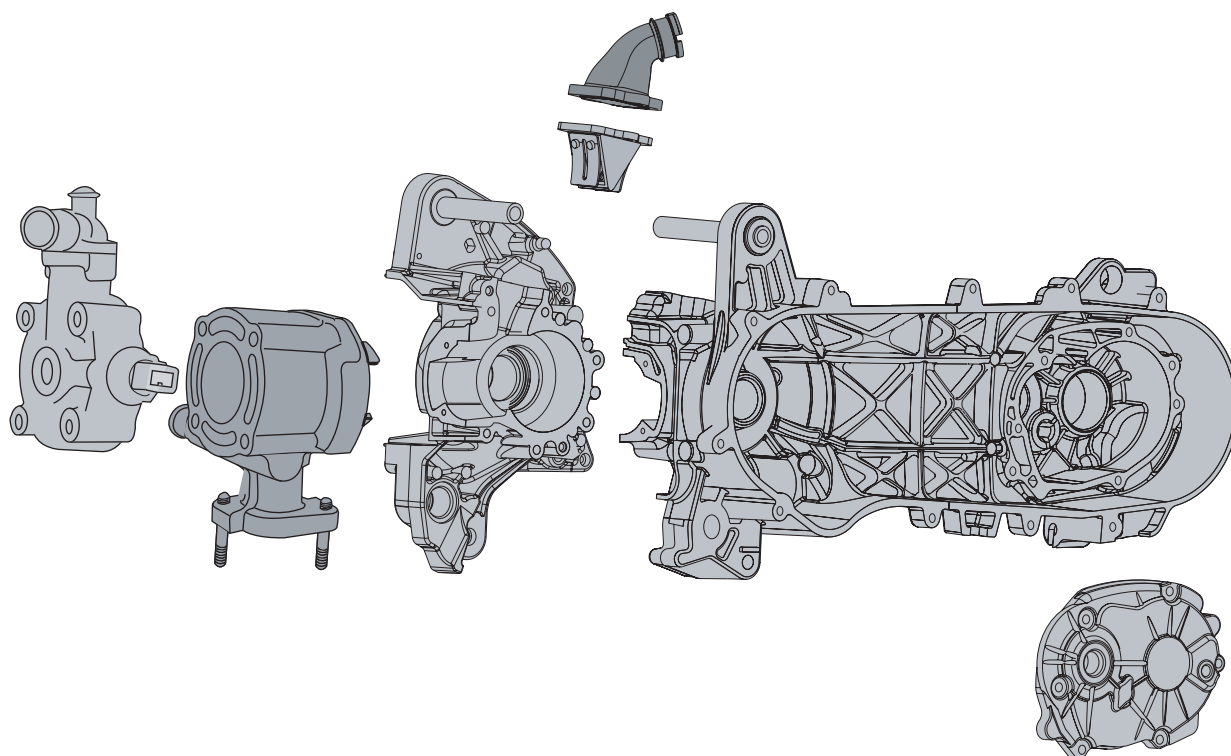
ENGINE

2-stroke single-cylinder. Horizontal liquid-cooled cylinder.

Cast iron cylinder.

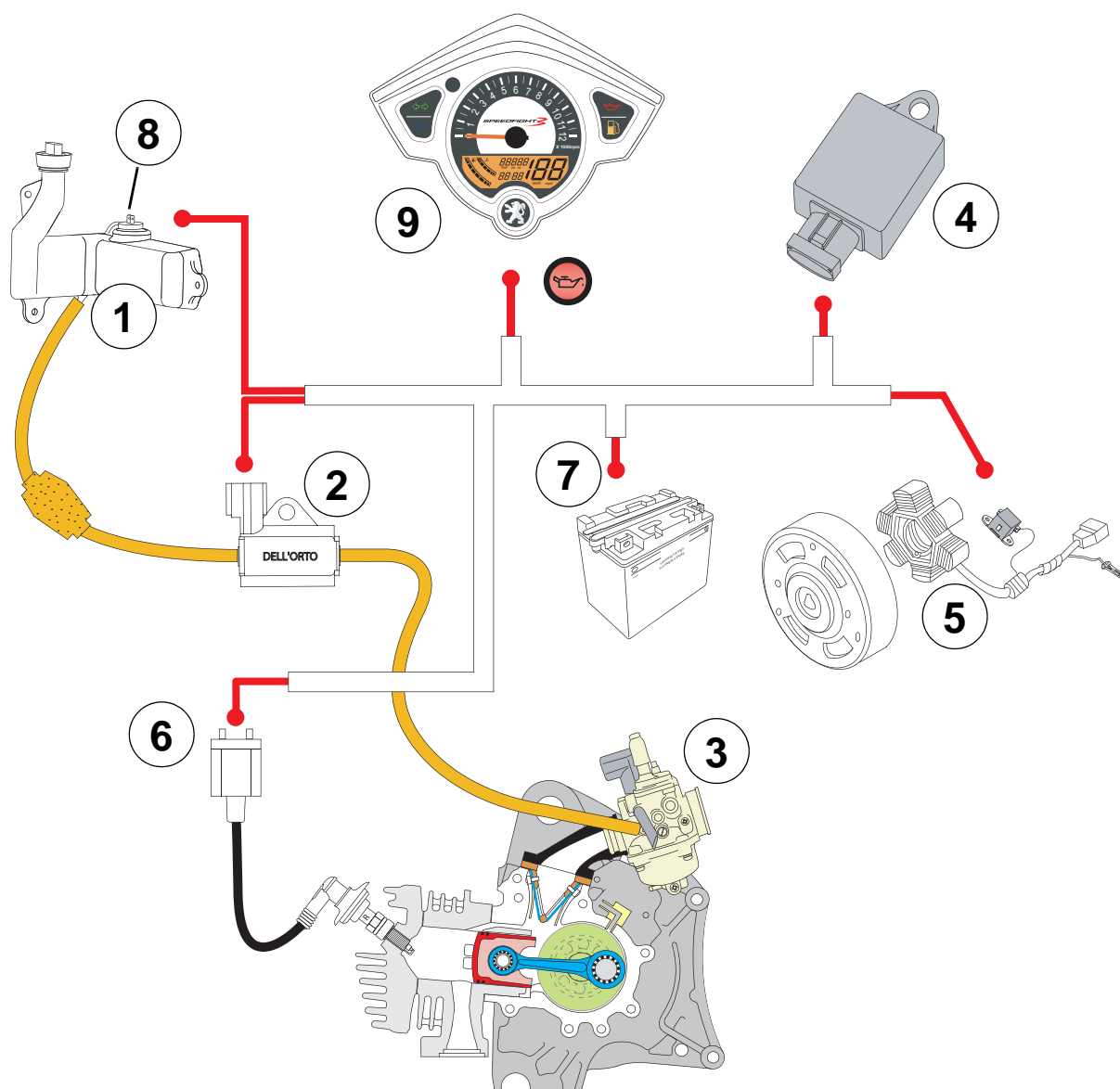
Direct intake via valves into the crankcase.

Cast aluminium alloy engine crankcase.



■ Lubrication/Ignition.

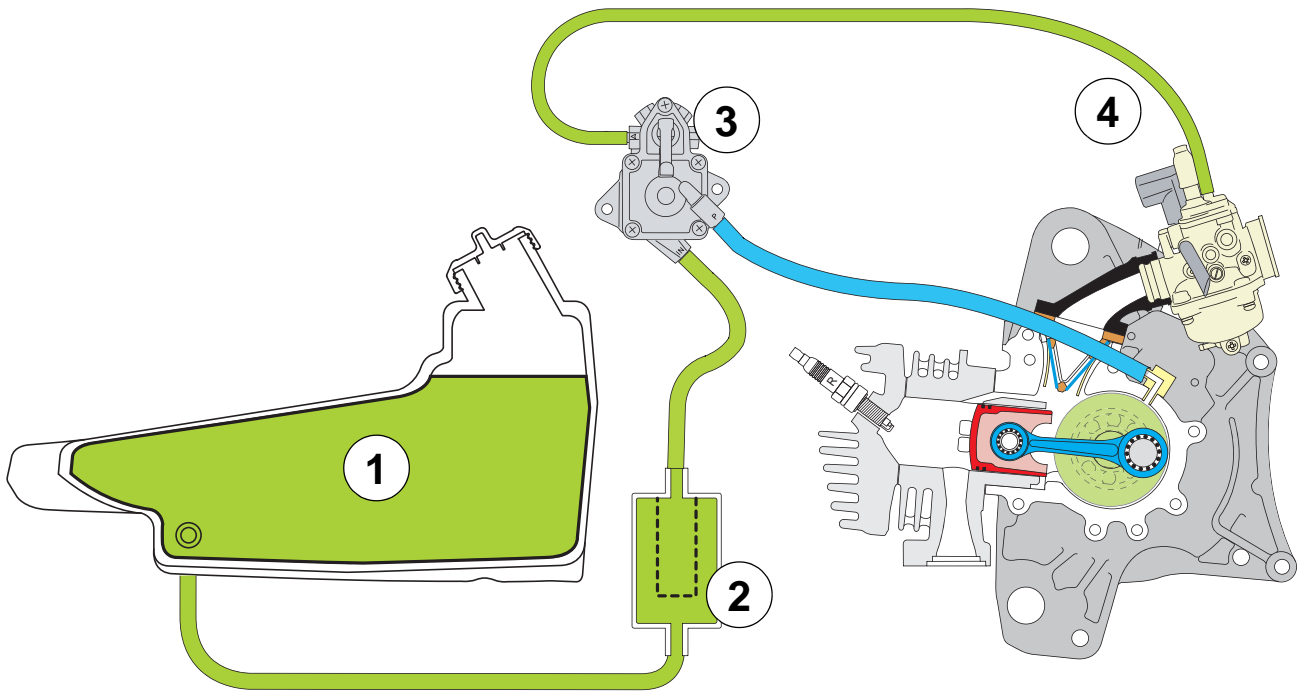
- Separate lubrication by an electric pump driven by the Oil Pump Control Ignition Unit.
- 1.1 l tank capacity.



- | | |
|-----------------------|--|
| 1. Oil tank. | 6. HT coil. |
| 2. Electric oil pump. | 7. Battery. |
| 3. Carburettor. | 8. Oil level indicator. |
| 4. ACPH. | 9. Low oil level and oil pump electric diagnostic warning light. |
| 5. Ignition sensor. | |

■ **Petrol circuits.**

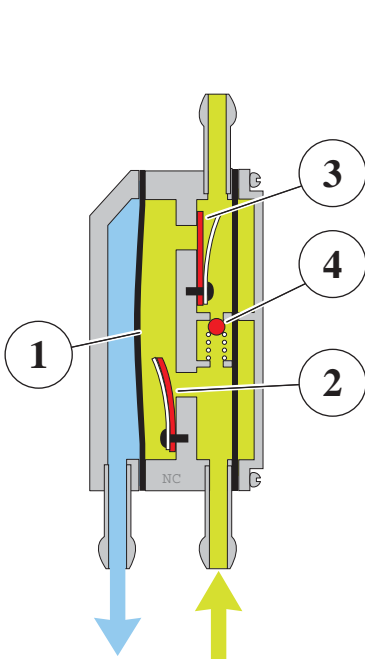
- 8 l tank capacity.



- 1. Fuel tank.
- 2. Petrol filter.

- 3. Vacuum pump.
- 4. Carburettor.

■ **Vacuum pump.**



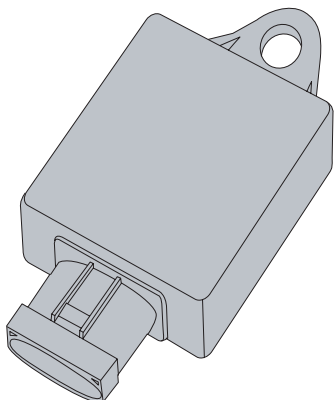
Operation.

Under the effect of pulses, the diaphragm (1) pumps in and out the fuel by means of reed valves (2) and (3).

Safety.

When the ball (4) lifts, fuel can flow into the pump when the needle valve closes inside the carburettor or when there is a boost pressure at the fuel pump outlet.

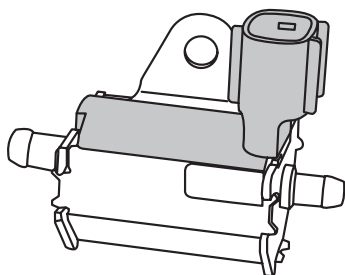
■ ACPH.



By processing the data received by the ignition sensor, the control unit provides the following functions:

- Ignition.
- Calculated quantity of injected oil.
- Diagnostic of the system by lighting the oil warning light on the instrument panel.
- Protection of the engine in case of oil pump failure by ignition cut-off.

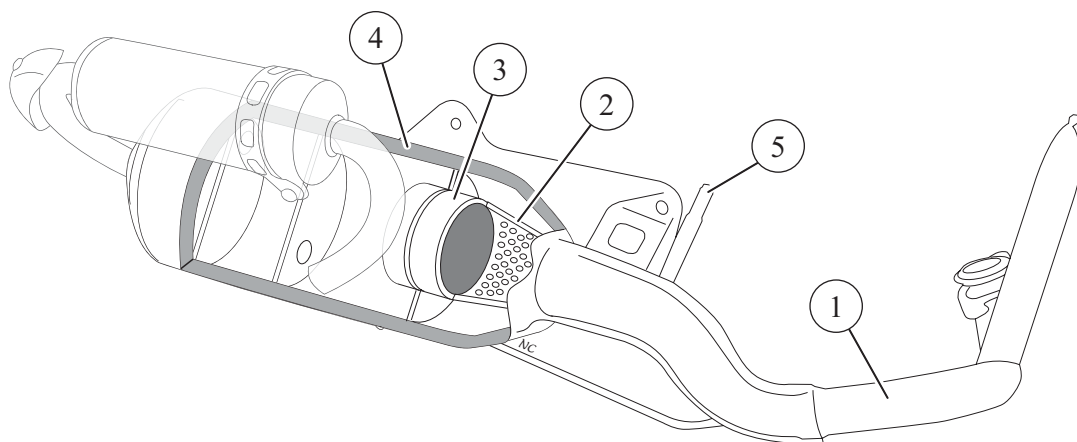
■ Electric oil pump.



The oil pump which is governed by the control unit sends oil to the carburettor's venturi.

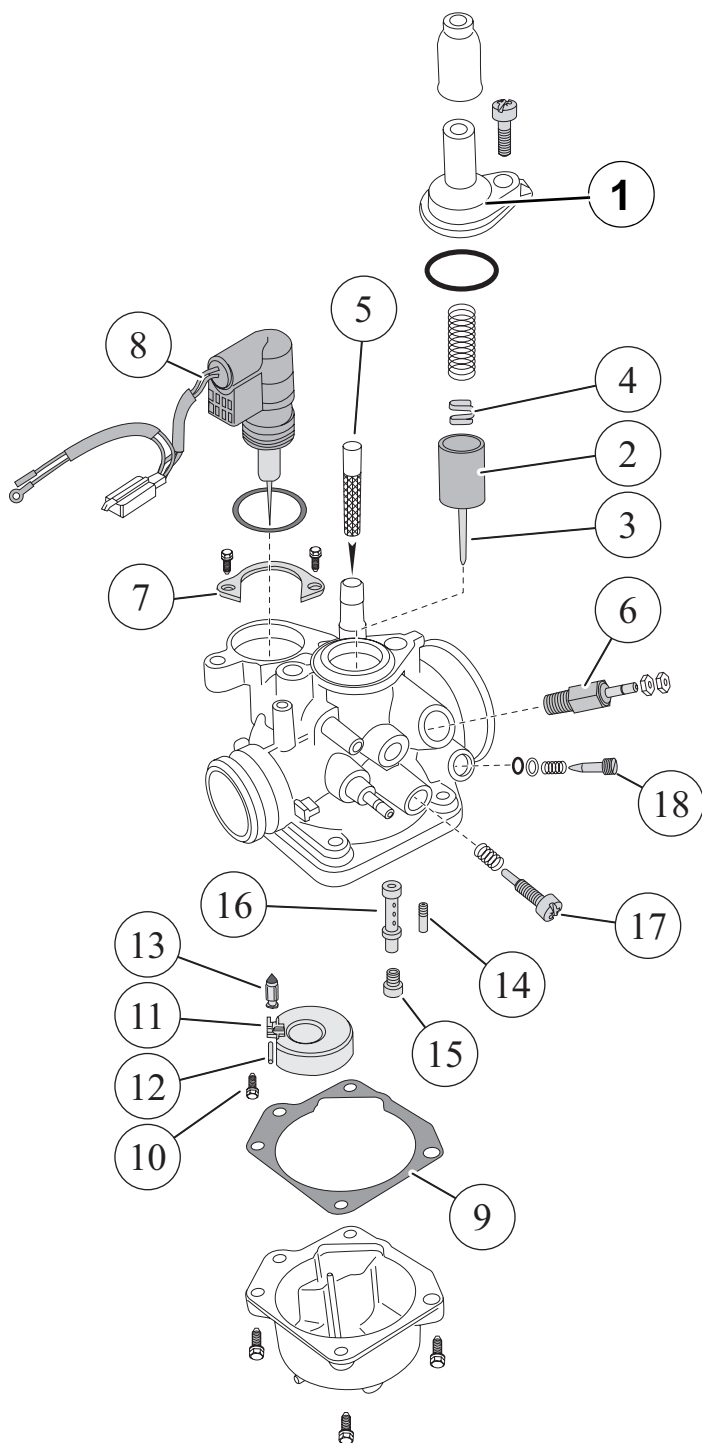
The flow depends on the engine's running speed.

■ Exhaust.



1. Exhaust pipe.
2. Catalyser cone.
3. Catalytic block.
4. Heat insulation.
5. Injected air intake.

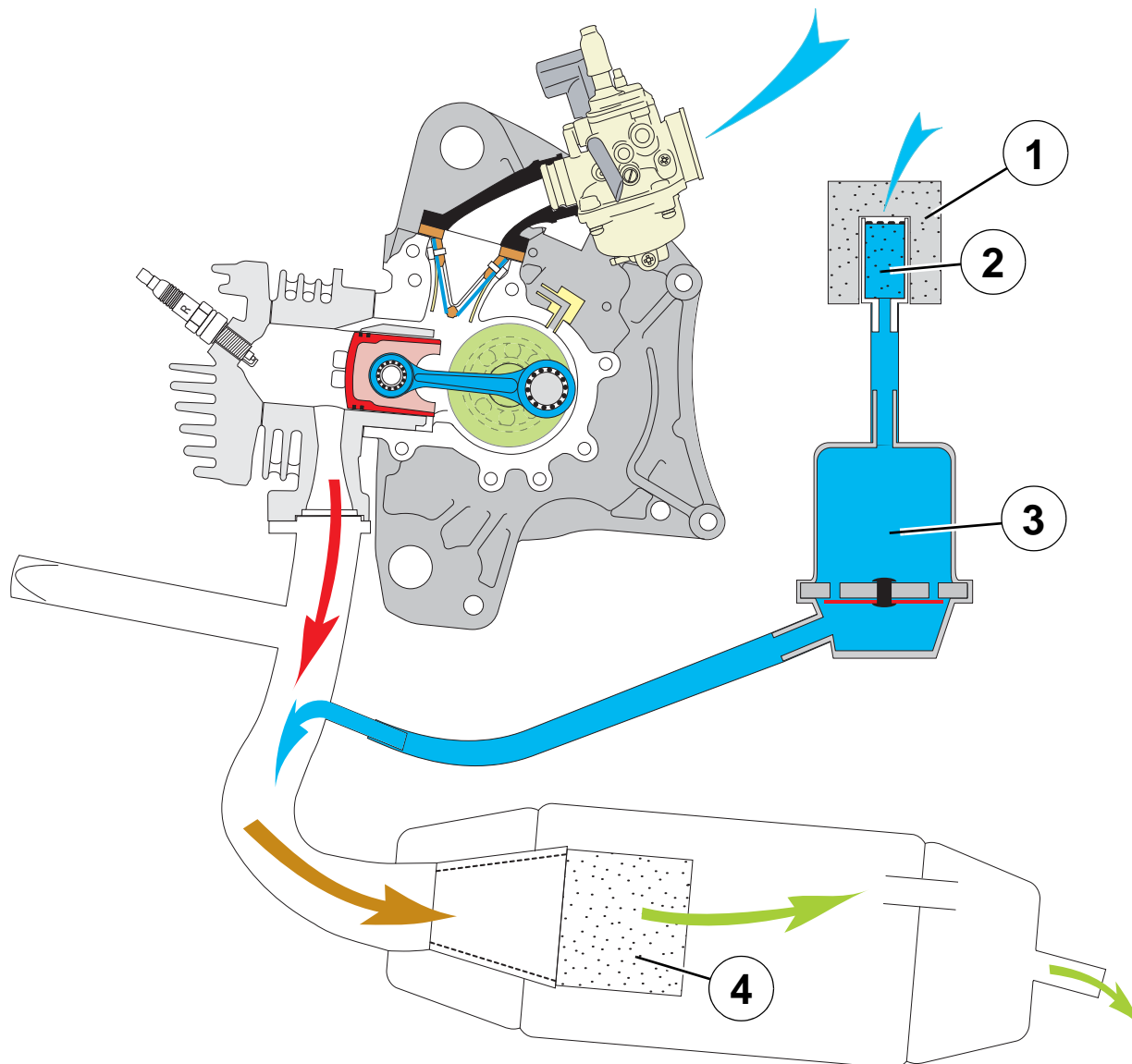
■ Carburettor.



1. Carburettor chamber cap.
2. Piston.
3. Needle.
4. Clips.
5. Petrol filter.
6. Heater element (LC).
7. Starter clamping plate.
8. Choke.
9. Float chamber gasket.
10. Float pin screw.
11. Float.
12. Float pin.
13. Needle valve.
14. Idle jet.
15. Main jet.
16. Venturi.
17. Idle screw.
18. Mixture screw.

■ Pollutant emission control system.

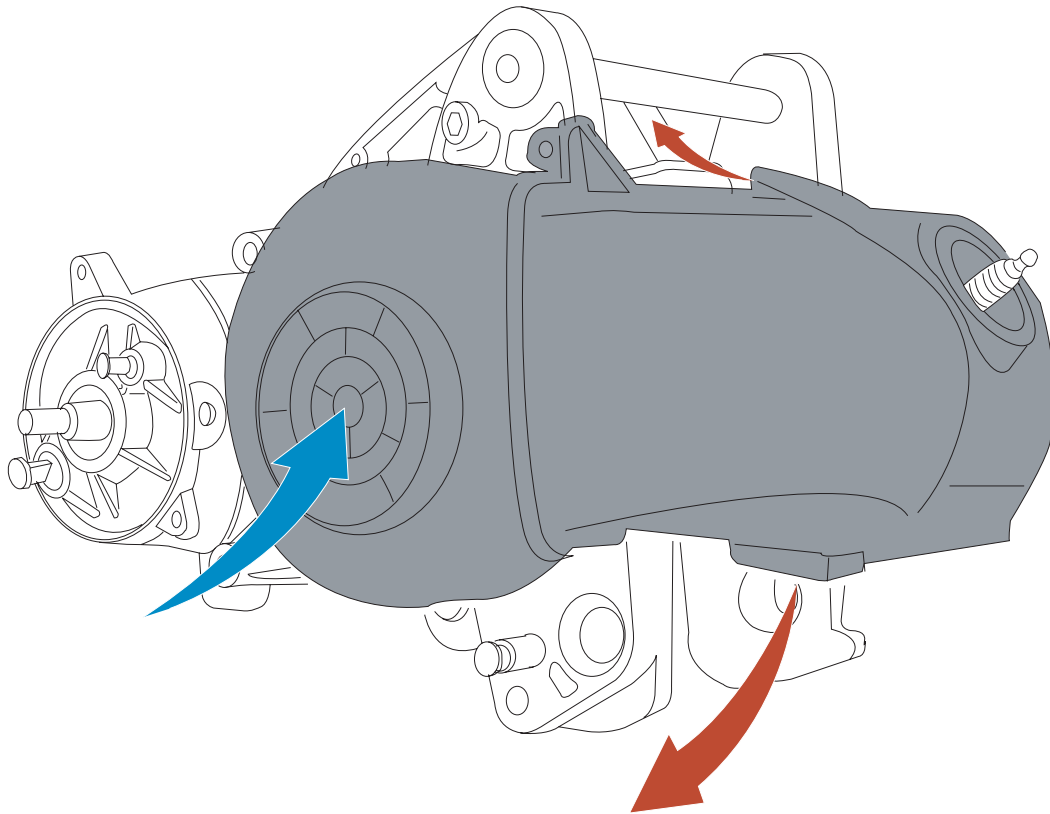
This is a valve system, mounted on the exhaust pipe which uses the vacuum created in the primary pipe by the passage of the exhaust gases to suck in fresh air, thus improving post-combustion and therefore reducing the amount of pollutant released.



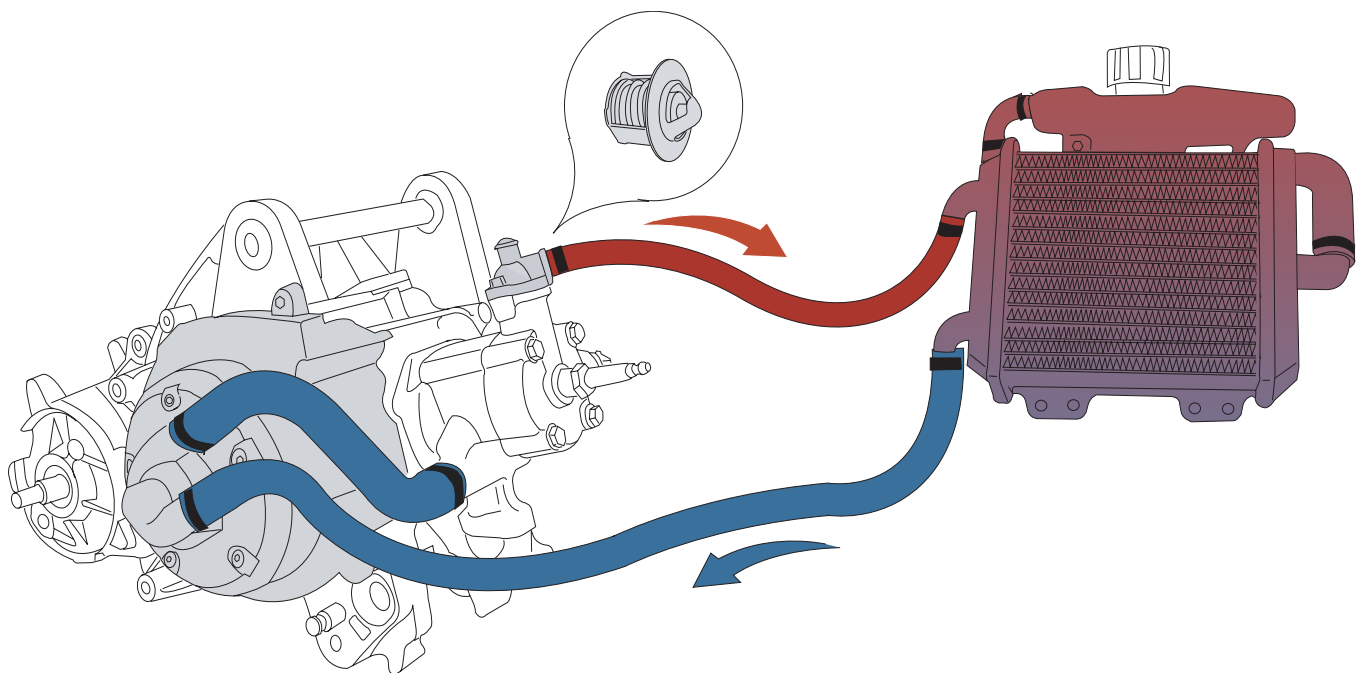
1. Silencer.
2. Primary filter.
3. Pulsair reed valve.
4. Catalytic block.

■ **Cooling system.**

By a circulation of forced air by means of a turbine on the flywheel magneto.



Cooling by pump driven water circulation driven by the rotor of the flywheel magneto.
1.3 l capacity.

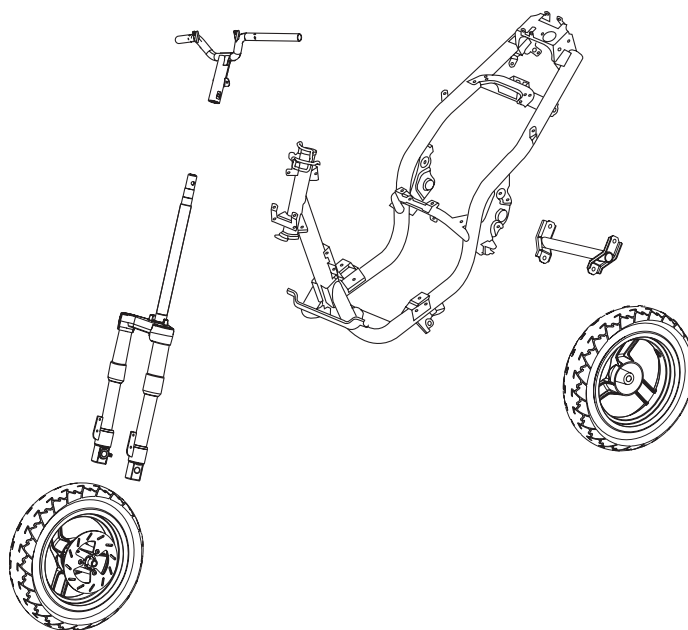


CYCLE PART**■ Chassis.**

| | |
|----------------------------|--|
| Chassis | Steel tube |
| Front suspension | Semi-hydraulic Ø 32 mm fork composed of two springs and a cartridge Travel: 75 mm |
| Rear suspension | Combined spring and hydraulically-damped shock absorber. Travel: 68 mm |
| Front tyre | 130/60 - 13 |
| Rear tyre | 130/60 - 13 |
| Front tyre pressure | 1.8 bars |
| Rear tyre pressure | 2 bars |

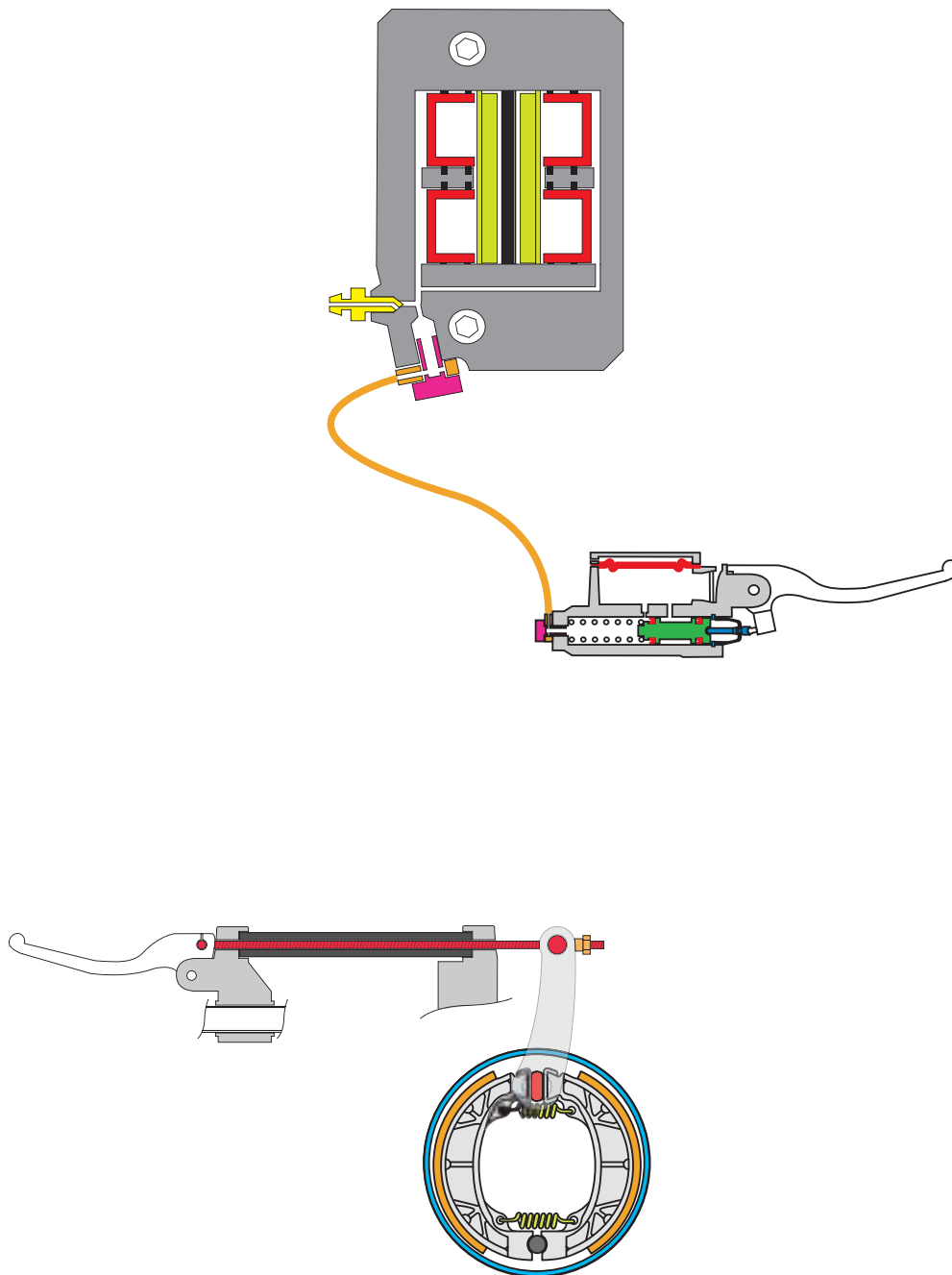
■ Dimensions and weight.

| | |
|---|------------------------|
| Length | 1895 mm |
| Width | 700 mm |
| Height (without rear-view mirrors) | 1120 mm |
| Saddle height | 800 mm |
| Wheelbase | 1290 mm |
| Weight | 100 kg (LC) 97 kg (AC) |

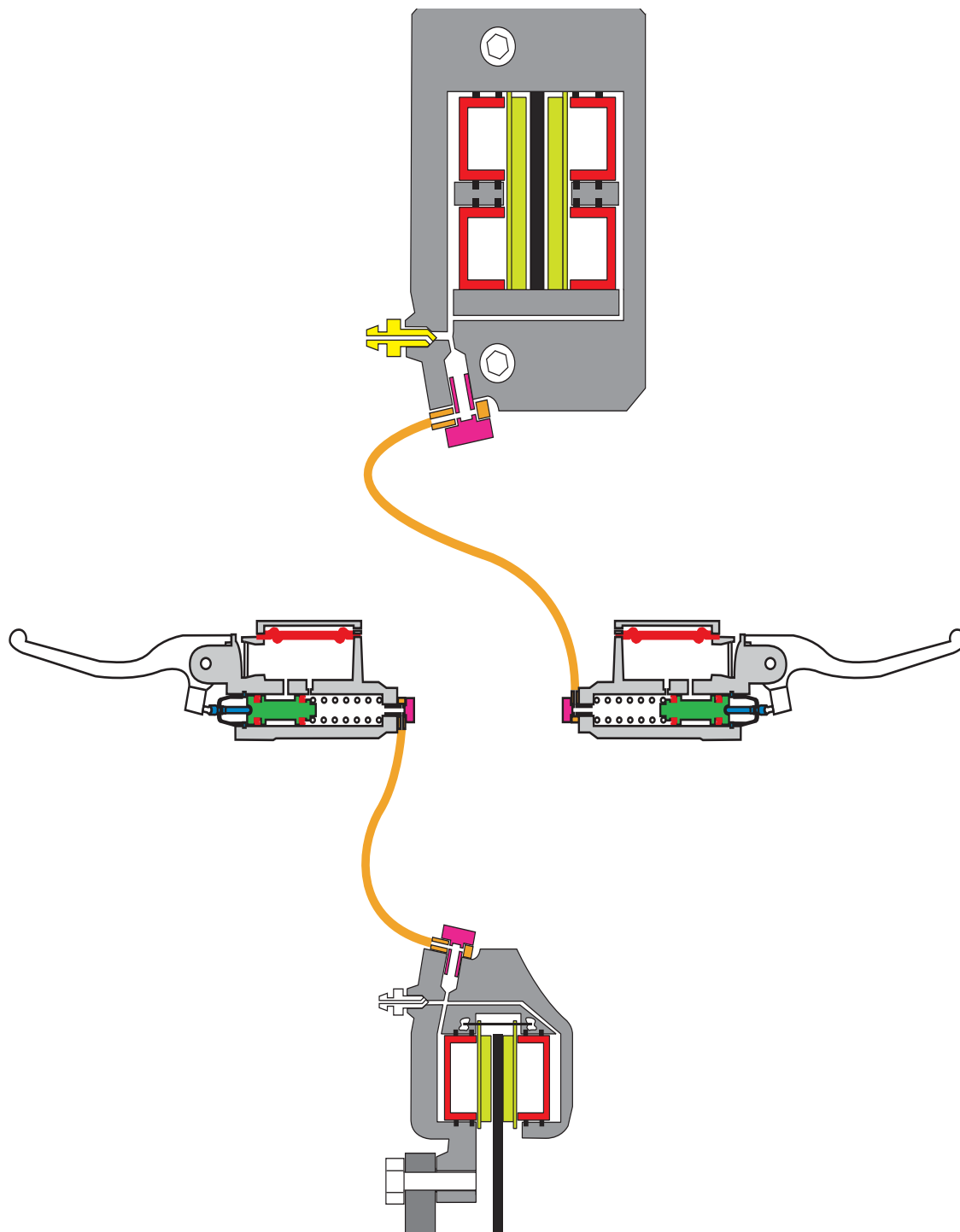


■ Brakes.

| Speedfight3 AC | |
|--|--|
| Front brake | Rear brake |
| Single disc type, hydraulic control | cable-controlled, single cam drum type |
| Front disc diameter 215 mm, thickness 3.5 mm | Brake drum diameter: 110 mm |
| Dual piston radial calliper | Brake lining thickness |

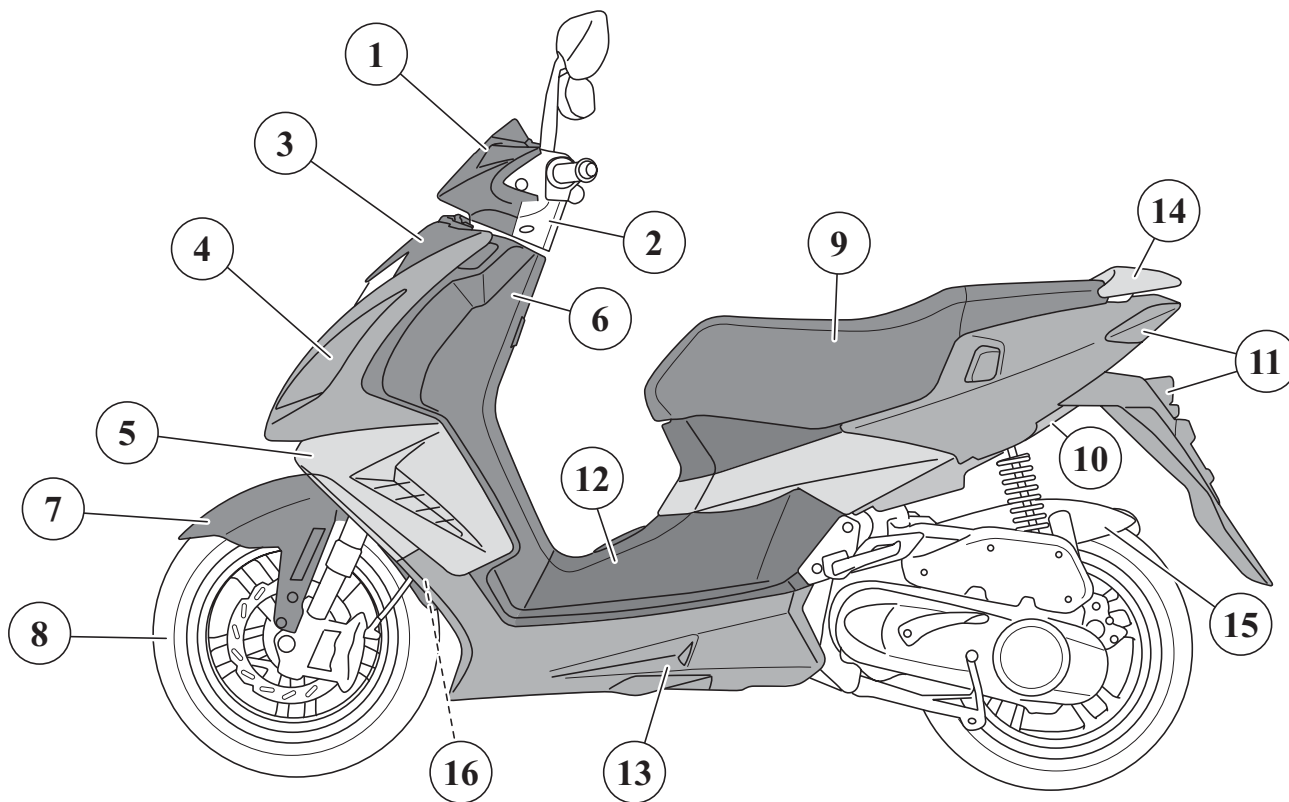


| Speedfight3 LC | |
|--|---|
| Front brake | Rear brake |
| Single disc type, hydraulic control | |
| Front disc diameter 215 mm, thickness 3.5 mm | Rear disc diameter 196 mm, thickness 3.5 mm |
| Dual piston radial calliper | Fixed calliper with 2 pistons |



BODY PANELS

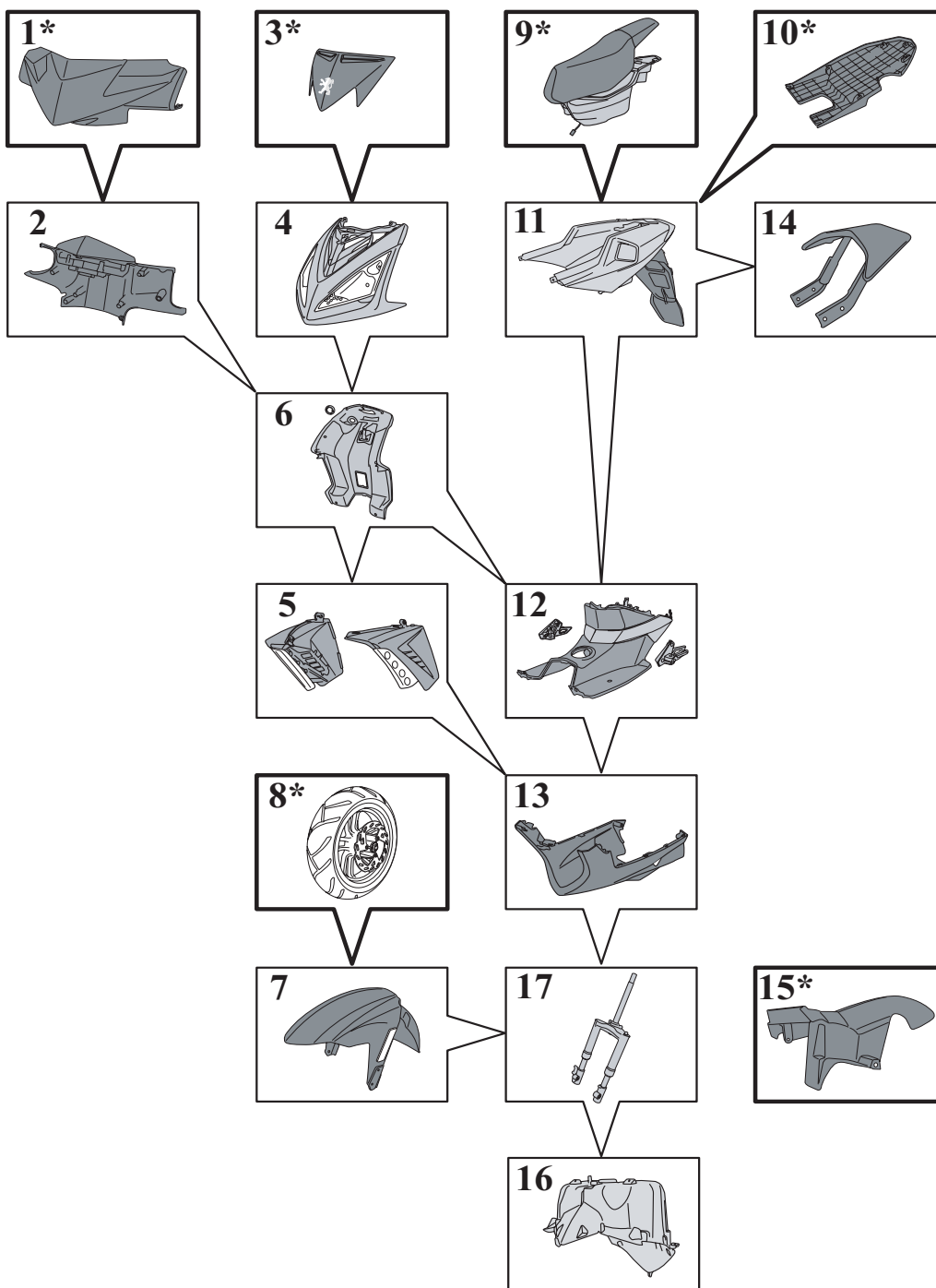
■ Description



1. Handlebar front fairing.
2. Handlebar rear fairing.
3. Front top cover panel.
4. Legshield top panel.
5. Front lower legshields.
6. Rear shield.
7. Front mudguard.
8. Front wheel.

9. Saddle and storage compartment.
10. Lower fairing.
11. Rear panels.
12. Footboard.
13. Bottom panel.
14. Grab handle.
15. Rear mudguard.
16. Mudguard.

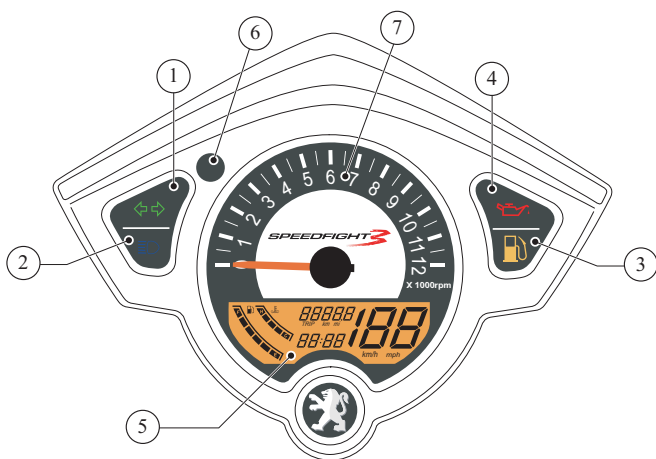
■ Body component sequence of disassembly.



- | | |
|------------------------------------|--------------------|
| 1. Handlebar front fairing. | 10. Lower fairing. |
| 2. Handlebar rear fairing. | 11. Rear panels. |
| 3. Front top cover panel. | 12. Footboard. |
| 4. Legshield top panel. | 13. Bottom panel. |
| 5. Front lower legshields. | 14. Grab handle. |
| 6. Rear shield. | 15. Rear mudguard. |
| 7. Front mudguard. | 16. Mudguard. |
| 8. Front wheel. | 17. Fork. |
| 9. Saddle and storage compartment. | |

* This item may be removed on its own.

INSTRUMENT PANEL



1. Direction indicator warning light.
2. Main beam control.
3. Warning light "reserve".
4. Low oil level and oil pump electric diagnostic warning light.
5. Multi-function display.
6. Display control knob.
7. Revolution counter.

When the ignition is witched on, the tell-tale lights go on for 3 seconds to check they are functioning correctly.

■ **Multi-function display.**



When the ignition is turned on, the different functioning tests are carried out automatically for 3 seconds.
Test of the display unit segments (time 3s) by displaying all of the display elements.

■ **Engine temperature gauge.**

When the ignition is switched on, the instrument panel checks that the engine temperature sensor is present and displays the engine temperature ideogram.



When the engine temperature is too high, all segments are switched on and the last flashes. The ideogram of the display blinks.

■ Self-diagnostic of the temperature gauge.

After switching on the ignition. If the temperature gauge circuit is cut or short circuited, the indicator LEDs go on and off one after the other as long as the defect remains.

If $R > 23000 \Omega$ or $R < 4 \Omega$.

■ Fuel gauge self-diagnostic.

If the fuel gauge circuit is cut or short-circuited, the indicator LEDs come one briefly one after the other, as long as the fault remains. If $R > 101 \Omega$ or $R < 3 \Omega$.

■ Revolution counter.

Speed sensor-controlled analog tachometer.

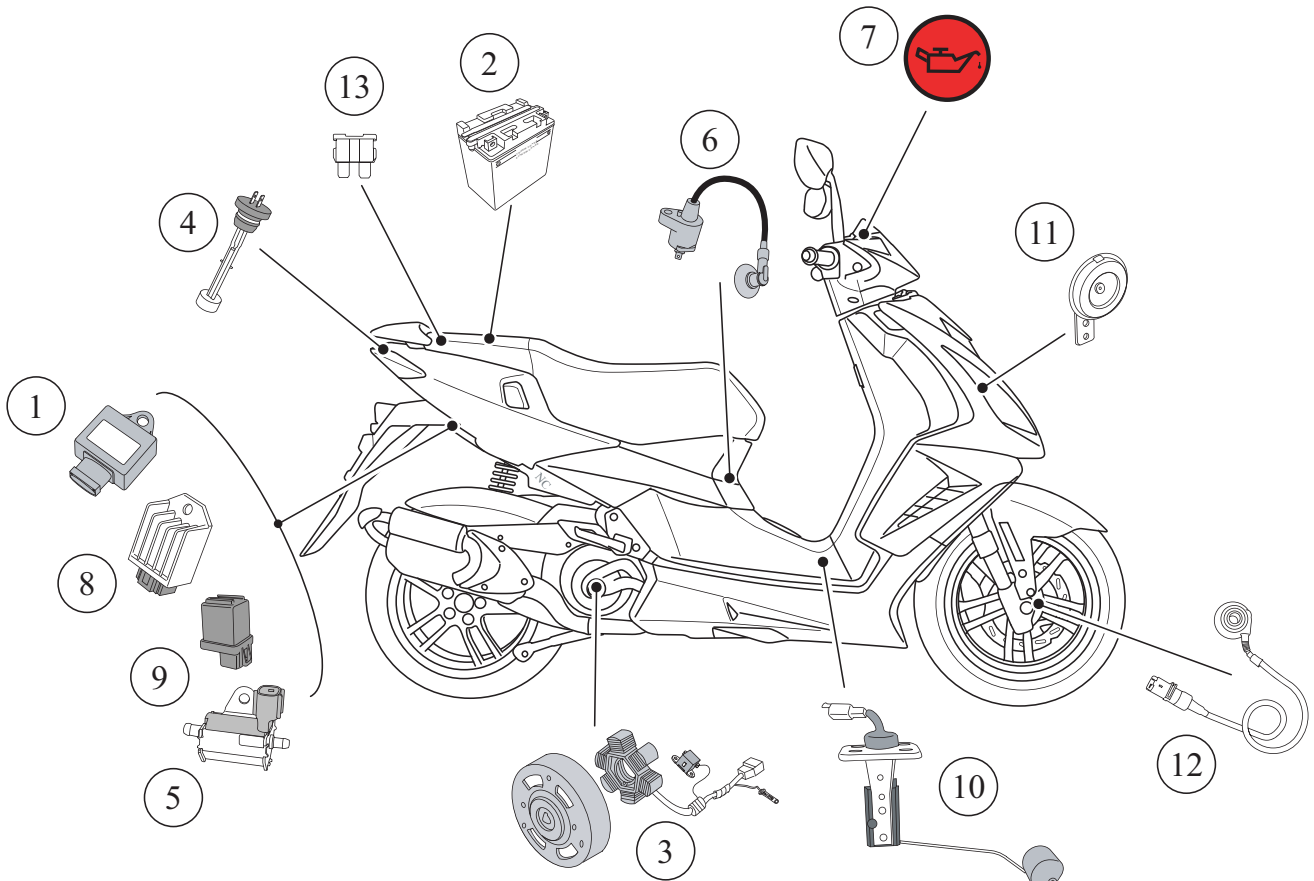
When the ignition is switched on, the needle sweeps across the dial and returns to zero.

The tachometer will not indicate any value if the speed is lower than 1000 rpm.

■ Incidents and remedial measures.

If the rev counter needle is unstable, or suddenly drops, check the engine speed sensor gap: 0.7 mm.

LOCATION OF COMPONENTS

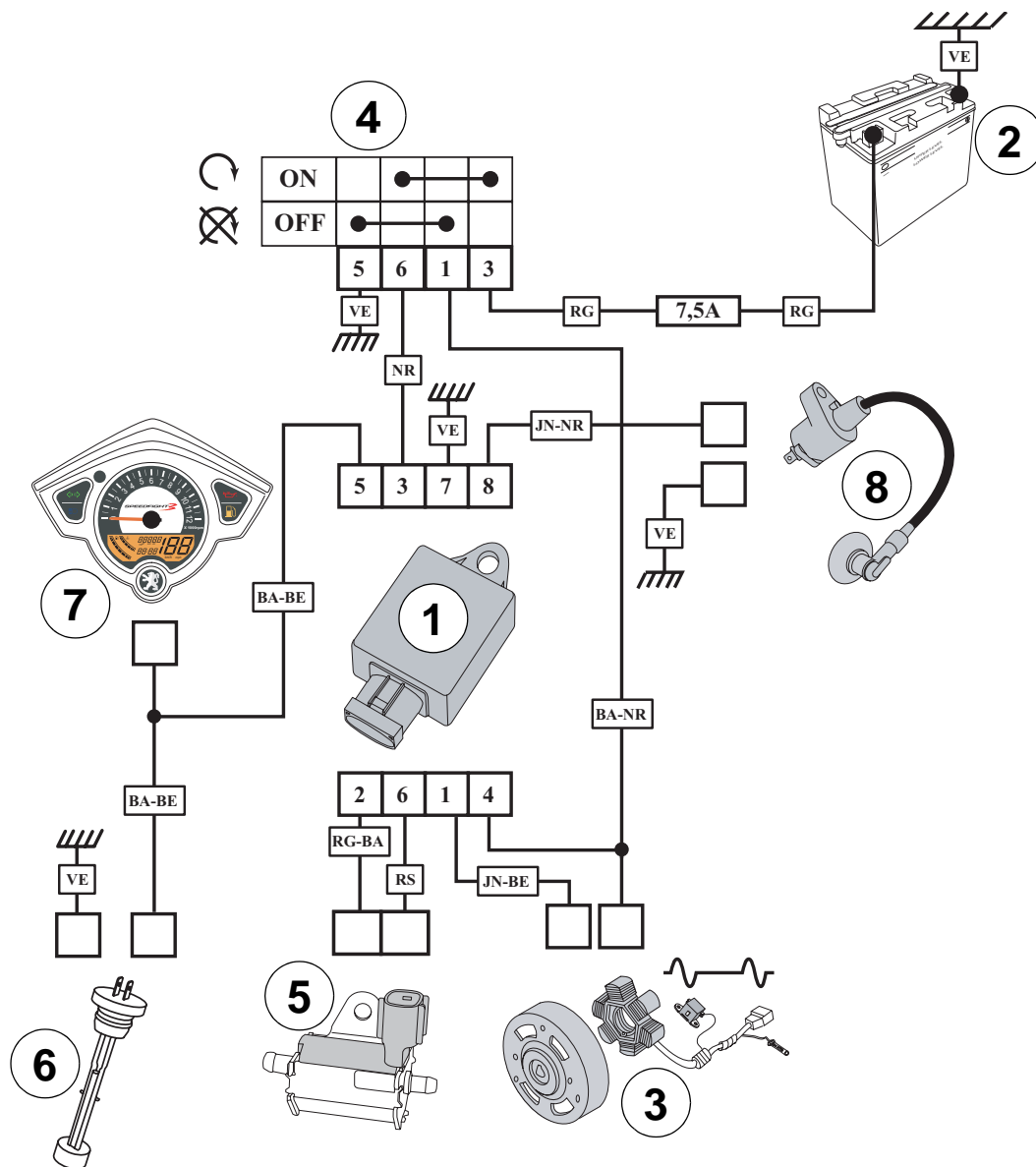


- 1. ACPH.
- 2. Battery.
- 3. Magneto flywheel.
- 4. Oil level indicator.
- 5. Oil pump.
- 6. HT coil.

- 7. Low oil level warning light.
- 8. Regulator.
- 9. Starter motor relay.
- 10. Fuel gauge.
- 11. Horn.
- 12. Speed sensor.

WIRING DIAGRAM

■ Ignition/Oil pump cable. (ACPH)



- | | |
|------------------------------------|---------------------------------|
| 1. ACPH (Ignition/Oil pump cable). | 5. Oil pump. |
| 2. Battery. | 6. Oil level indicator. |
| 3. Ignition sensor. | 7. Low oil level warning light. |
| 4. Ignition switch. | 8. Ignition coil. |

SERVICE SCHEDULE AND COMMISSIONING

Heavy duty servicing is for vehicles used under "harsh" conditions: door-to-door deliveries, intensive urban use (courier), short journeys with engine cold, dusty areas, ambient temperature over 30°C.

| Service operations | 500 kms or 1 months | Every 10000 kms | Every 20000 kms |
|-----------------------------|---------------------|-----------------------|------------------------|
| Heavy duty servicing | 500 kms | Every 5000 kms | Every 10000 kms |

■ To be checked at each service.

| | | | |
|--|---|---|---|
| Steering column play. | V | V | V |
| Wheel bearing play. | C | C | C |
| Throttle cable play. | V | V | V |
| Operation of electrical equipment. | V | V | V |
| Condition of front and rear brake hydraulic controls ^a . | C | C | C |
| Brake fluid level. | V | V | V |
| Brake pad wear. | C | C | C |
| Rear brake lining wear ^a . | C | C | C |
| Condition of petrol pipes. | C | C | C |
| Condition of oil pipes. | C | C | C |
| Tyre condition, pressure and wear. | C | C | C |
| Condition of the front suspension. Condition of the rear suspension. | C | C | C |
| Battery electrolyte level. Battery charge. | V | V | V |
| Coolant level ^a . | V | V | V |
| 2 stroke engine oil level. | V | V | V |
| Headlight height adjustment. | V | V | V |
| Tightness of nuts and bolts. | V | V | V |
| Overall operation. Road test. | V | V | V |

V: Check, clean, adjust.

R: Change.

G: Check, clean, lubricate.

N: Clean.

C: Inspect and change if necessary.

* Depending on equipment.

a. Depending on model

| Service operations | 500 kms or 1 months | Every 10000 kms | Every 20000 kms |
|-----------------------------|---------------------|-----------------------|------------------------|
| Heavy duty servicing | 500 kms | Every 5000 kms | Every 10000 kms |

■ **Service operations.**

| | | | |
|---|--|----------------------|-----|
| Spark plug. Fluid cooling system: To be replaced once every 5000 kms | | R | R |
| Air filter. | | R | R |
| Drive pulley bearings and guides. | | R | R |
| Transmission belt. | | R | R |
| Driven pulley caged needle bearing. | | G | G |
| Kick starter mechanism. | | G | G |
| Check and remove carbon. (Cylinder head, Exhaust port) ^b Replace the piston and piston segments. | | N+C | N+R |
| Setting the carburettor | | V | V |
| Joints. (Central stand, Brake levers). | | G | G |
| Petrol filter. | | | R |
| Petrol pipe. | | R Once every 5 years | |
| Coolant. | | R Once every 5 years | |
| Brake fluid. | | R Once every 2 years | |

■ **Time required for maintenance**

| Code | 9100 | 9400 | 9600 |
|--|------|------|------|
| Servicing time in tenths of an hour (0.5 h = 30 min) | 0.8 | 3.1 | 4.1 |

b. The need to remove carbon may be determined by checking the quantity of carbon in the cylinder exhaust port.

V: Check, clean, adjust.

R: Change.

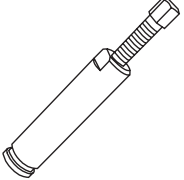
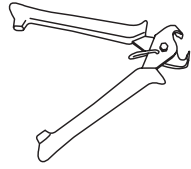
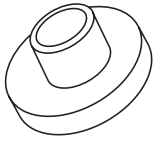
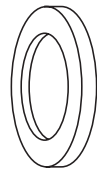
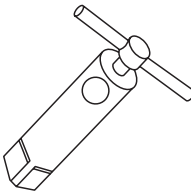
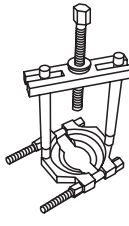
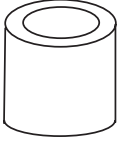
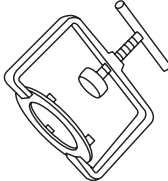
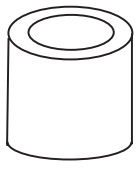
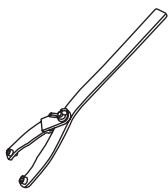
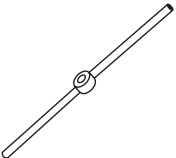
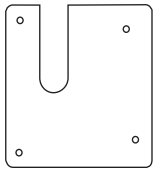
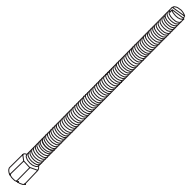
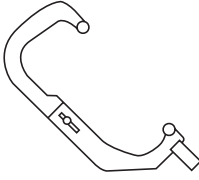
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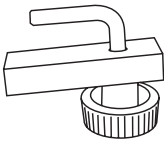
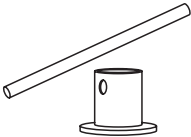
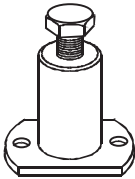
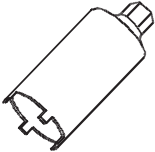
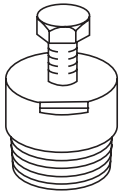
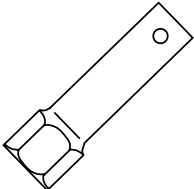
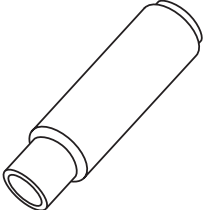
N: Clean.

C: Inspect and change if necessary.

* Depending on equipment.

SPECIAL TOOLS

| | Tool N° | Designation | Used with | | Tool N° | Designation | Used with |
|---|---------|-----------------------------------|------------------|--|---------|-------------------------------|-----------|
|  | 64706 | Casing extractor and opening tool | 754006 750069 |  | 750539 | Tie-wrap pliers | |
|  | 64710 | Shouldered centering tool | 64706 |  | 750808 | Thrust washer | 64706 |
|  | 64765 | Engine mount | 755982 |  | 755585 | Bearing extractor tool | |
|  | 68007 | Protective end-piece small model | 755985 |  | 752127 | Clutch compression tool | 756725 |
|  | 69098 | Protective end-piece large model | 64706 |  | 752237 | Adjustable pin wrench | |
|  | 69104 | Pin nut | 750069 |  | 754006 | Modified casing opening plate | 64706 |
|  | 750069 | Pin Ø10 pitch 125 | 69104 |  | 755982 | Engine mount adapter | 64765 |

| | Tool N° | Designation | Used with | | Tool N° | Designation | Used with |
|---|---------|------------------------------|-----------|--|---------|--------------------|-----------|
|  | 755996 | Hose clamp | |  | 756725 | 38 mm pipe wrench | 752127 |
|  | 755983 | Casing opening tool | 68007 |  | 757860 | Steering tool | |
|  | 755985 | Flywheel puller | 68007 |  | 766062 | Spark plug spanner | |
|  | 756668 | Crank assembly lip seal tool | | | | | |





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Peugeot Motocycles is constantly improving its vehicles. It therefore reserves the right to remove, modify or add any reference mentioned in this manual.

DC/APV 07/2009 (non contractual pictures)

