PEUGEOT

Sales division
Technical network leadership

WORKSHOP MANUAL

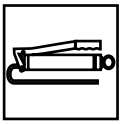
SATELIS
400 500

TABLE OF CONTENTS

PRODUCTS DANGER SYMBOLS USED

Protection of individuals and of the environment. .

	Möbius band	Recyclable	Means that the product or the package can be recycled. However, this does not guarantee that the product will be recycled
	Irritant	The product can irritate the skin, eyes and repiratory organs	Avoid contact with the skin and clothes. Wear gloves, safety glasses and appropriate clothes such as a cotton overall. Do not breath fumes. If in contact, wash thoroughly with water
	Flammable	The product is flammable	Keep it away from any flame or heat source (barbecue, radiator, heating device, etc.). Do not leave the product in the sun
	Corrosive	The product can damage living tissues or other surfaces	Avoid contact with the skin and clothes. Wear gloves, safety glasses and appropriate clothes such as a cotton overall. Do not breath fumes
	Explosive	The product can explode under certain circumstances (flame, heat, impact, friction)	Avoid impacts, friction, sparks and heat
	Hazardous to the environment	The product affects fauna and flora. Do not dump it in garbage cans, sinks or nature	The ideal solution is to bring this product to your nearest household waste recycling centre
	Toxic	The product can seriously affect health if it is inhaled, ingested or in contact with skin	Avoid direct contact with body even by inhalation. If you feel unwell, seek medical advice immediately
	Do not throw away into a garbage can	One of the product's component is toxic and can be hazardous to environment. For example: Used batteries	This symbol informs the consumer that the used product shall not be thrown away into a garbage can, but shall be brought back to the merchant or dropped at a specific collection point
	Compulsory gloves	Operation that can be dangerous for people	People's safety can be seriously affected if the recommendations are not fully respected

	People's safety	Operation that can be dangerous for people	People's safety can be seriously affected if the recommendations are not fully respected
	Important	Operation that can be hazardous to the vehicle	Indicate the specific procedures that shall be followed in order not to damage the vehicle
	Good operating condition of the vehicle	The operation must be carried out in strict compliance with the documents	Serious damage to the vehicle and in certain cases a cancellation of the warranty can be involved if the recommendations are not fully respected
	Note	Operation that can be difficult	Indicate a note which gives key information to make the procedure easier
	Lubricate	Lubricate the parts to be assembled	Indicate the specific procedures that shall be followed in order not to damage the vehicle
	Grease	Grease the parts to be assembled	Indicate the specific procedures that shall be followed in order not to damage the vehicle
	Glue	Glue the parts to be assembled	Indicate the specific procedures that shall be followed in order not to damage the vehicle
	New part	Use a new part	Indicate the specific procedures that shall be followed in order not to damage the vehicle

CHARACTERISTICS

■ Engine

	400 cc	500 cc
Marking	M564M	M563M
Type	4-stroke single-cylinder 4 valves per cylinder with chain driven overhead camshaft	
Cooling	Liquid	
Bore x stroke	85.8 x 69 mm	94 x 71 mm
Cubic capacity	398.9 cc	492.7 cc
Max. power output	24 kW at 7250 rpm	29 kW at 7500 rpm
Max. torque rating	5250 rpm	
Compression ratio	10.6 bars	
Lubrication	Trochoidal pump	
Transmission	By 2 variable pulleys and V-type belt	
Clutch	Centrifugal automatic	
Exhaust	Catalytic	
Starter motor	Mitsuba 900 W	
Spark plug	1 spark plug NGK CR7EKB Electrode gap 0.7-0.8 mm	2 spark plugs
Magneto flywheel	Mitsuba 350 W	
Fuel supply	Indirect electronic injection Magneti-Marelli	

■ Capacities

Engine oil	1.7 l SAE 5W40. Minimum grade: API SJ.
Relay box oil	0.25 l SAE 80W90. Minimum grade: API GL4.
Coolant	1.4 LPeugeot coolant part number 754614
Fork oil	200 cc per tube (Esso Univis 46 or Agip HLift 46)
Fuel tank	13.2 L

■ Chassis

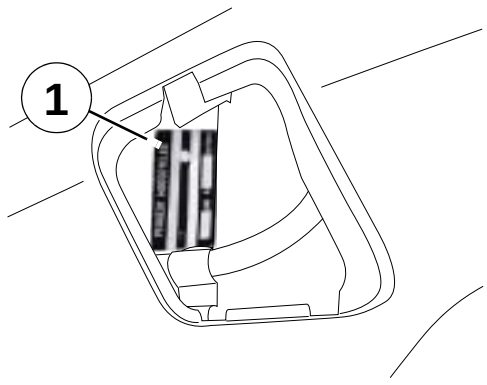
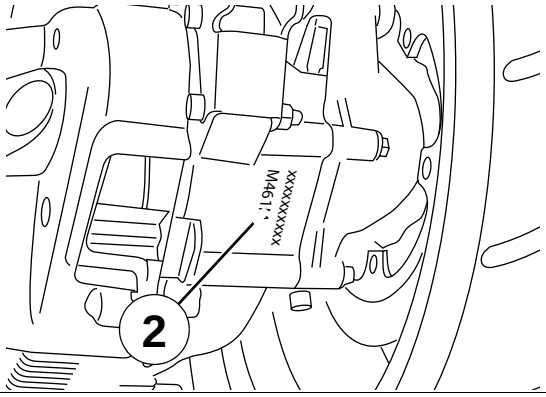
Chassis	Double cradle out of high-resistance steel tube
Front suspension	Hydraulic telescopic fork. Ø40 mm
Travel	110 mm
Rear suspension	2 adjustable combined spring hydraulic shock absorbers
Travel	90 mm

■ Dimensions and weight

Overall length	2168 mm
Width at handlebar	769 mm
Height. (without rear-view mirrors)	1140 mm
Wheelbase	1534 mm
Ground clearance	174 mm
Saddle height	784 mm
Unladen weight	218 kg.

■ Tyres

Front wheel rim	14 inch aluminium alloy
Front tyre	120/70 - 14
Front tyre pressure	2.2 bars
Rear wheel rim	14 inch aluminium alloy
Rear tyre	150/70 - 14
Rear tyre pressure	2.4 bars

Chassis markings	**Engine marking**
	
1. Manufacturer's plate. (Left side). - VIN number of the RH side of the vehicle	2. Engine number

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	1000 kms or 1 months	Every 5000 kms	Every 10000 kms	Every 20000 kms
Heavy duty servicing	**500 kms**	**Every 2500 kms**	**Every 5000 kms**	**Every 10000 kms**
■ Check				
Throttle cable play	C	C	C	C
Steering column play	C	C	C	C
Operation of electrical equipment	C	C	C	C
Condition of front and rear brake hydraulic controls	C	C	C	C
Condition of petrol pipes	C	C	C	C
Condition of oil pipes	C	C	C	C
Tyre pressures	C	C	C	C
Tyre condition, pressure and wear		C	C	C
Condition of the front suspension	C	C	C	C
Condition of the rear suspension	C	C	C	C
Brake fluid level	C	C	C	C
Battery electrolyte level*	C	C	C	C
Coolant level	C	C	C	C
Engine oil level		C		
Valve clearances				C
Transmission air filter			N	N
Intake silencer drain	N	N	N	N
Tightening the engine mounting and linkrod		C	C	C
Tightness of nuts and bolts	C	C	C	C
■ Change				
Spark plug			R	R
Inlet silencer/air filter			R	R
Front brake pads #.		C	C	C
Rear brake pads #.		C	C	C
Drive pulley bearings and guides #.			C	C
Transmission belt			R	R
Belt anti-flapping roller #.			C	C
Engine oil (+ clean strainer)	R		R	R
Engine oil filter	R		R	R
Relay box oil	R		C	C
Brake fluid and coolant	Once every 2 years			

Service operations	1000 kms or 1 months	Every 5000 kms	Every 10000 kms	Every 20000 kms
Heavy duty servicing	**500 kms**	**Every 2500 kms**	**Every 5000 kms**	**Every 10000 kms**
■ Check and lubricate				
Drive pulley/Movable face			C	C
Driven pulley: Movable face			C	C
Driven pulley caged needle bearing			G	G
■ Reading the ECU fault codes				
Injection and ABS/MBS* system	C	C	C	C
■ Test machine				
On road (at least 2 km)	C	C	C	C

■ Time required for maintenance

Code	**9100**	**9300**	**9400**	**9600**
Time required for maintenance	1.0	0.8	2.4	3.5

C: Check.

N: Clean.

R: Change.

G: Check and lubricate.

* Depending on equipment.

Change if necessary.

■ Battery preparation (Except battery without maintenance)*

Remove the battery.
Remove the 6 filler caps and the vent plug.
Fill all the battery cells with electrolyte to the upper level shown on the battery "UPPER LEVEL".
Electrolyte: (35 sulfuric acid = 1.28g/cm^3).1 litre can P/N 752740. 5 litre can P/N 752741.
Leave the battery to stand for around half an hour.
Top up if necessary.
Charge the battery for at least 2 hours with a current of 1.4 A.
Refit the battery and connect the vapour vent pipe.
Connect the red wire lug to the battery's + terminal, and the green wire lug to the battery's - terminal.
Then, the battery level should be topped up if necessary, after fully charging, using distilled water only.

■ Checks before handing over to the customer

Check the wheel nuts are tight.
Check nuts and bolts are tight.
Check brake adjustment and efficiency.
Check the tyre pressures cold.
Check operation of the lights, flashers, horn, and brake light.
Check the different warning lights work.
Carry out a road test.

* Depending on equipment.

SPECIAL IMPORTANT POINTS

■ Oil and fuel

This engine is designed to run on 95 or 98 unleaded fuel only.

Fuel pipes must absolutely be changed if there are any signs of wear, cracks, etc.

The clips are specific, they must always be changed each time they are removed and replaced with new genuine parts clips.

Petrol is highly inflammable, do not smoke in the working area and avoid proximity to flames or sparks.

Before carrying out any work, leave the engine to cool for at least 2 hours.

■ Starting up after overhauling the engine

When starting the engine hot or cold do not accelerate.

Check the coolant level in the header tank.

After road-testing the machine, check there are no fault codes left in the ECUs (using the diagnostic tool).

■ Electricity

All components of the electrical system are powered with 12 volts DC.

The battery must not be disconnected while the engine is running and the voltage must be at least 7 volts for the ECU to function and enable engine starting.

■ Special features

An immobiliser built in the ECU provides the antitheft function by means of a transponder.

The ECU has a diagnostic function which via the instrument cluster LED or the diagnostic tool, enables reading of the faults in the memory.

TIGHTENING TORQUES

■ Engine part

Drive pulley	17 m.daN
Driven pulley	9.6 m.daN
Clutch plate and shoes	7 m.daN
Belt anti-flapping roller	1.8 m.daN
Transmission cover; • 6 mm diameter screw • 8 mm diameter screw	 1.2 m.daN 2.4 m.daN
Relay box cover	2.5 m.daN
Relay box drain plug	1.5 m.daN
Flywheel magneto cover	1.2 m.daN
Stator	1 m.daN
Engine speed sensor	0.5 m.daN
Rotor	12 m.daN
Freewheel	1.4 m.daN
Starter motor	1.2 m.daN
Automatic tensioner	1.2 m.daN
Automatic tensioner plug	0.5 m.daN
Spark plug	1.2 m.daN
Decompressor valve balance weight	0.8 m.daN
Decompressor valve housing	3.2 m.daN
Chain tensioner	1.2 m.daN
Camshaft stop plat	0.5 m.daN
Cylinder head. (Guide pins)	Procedure
Cylinder head bolts and nuts	1.2 m.daN
Cylinder head cover	0.8 m.daN
Inlet manifold	1.2 m.daN
Engine temperature sensor	1.1 m.daN
Injection ECU	1.2 m.daN
Injection rail	0.3 m.daN
Oil pressure switch	1.2 m.daN
Oil pump	0.6 m.daN
Oil filter	1.4 m.daN
Oil pump cover	0.9 m.daN
Crankcase	1.2 m.daN
Conrod and crankshaft assembly gear	1.1 m.daN
Balancing shaft	2.8 m.daN
Engine drain plug	2.5 m.daN
Water pump cap	0.4 m.daN
Water pump impeller	0.5 m.daN
Cooling system bleeder screw	0.3 m.daN

■ Body panels

Front mudguard	0.8 to 1.2 m.daN
Handlebar cover	0.2 to 0.4 m.daN
Front shield panels	0.2 to 0.4 m.daN
Rear shield	0.2 to 0.4 m.daN
Bottom panel	0.2 to 0.4 m.daN
Floor panel	0.4 to 0.6 m.daN
Saddle storage compartment	0.8 to 1.2 m.daN
Rear panels	0.2 to 0.4 m.daN
Grab handle	2 to 2.5 m.daN
Rear mudguard	0.4 to 0.6 m.daN

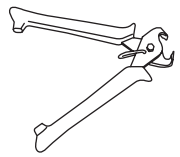
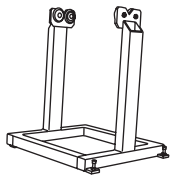
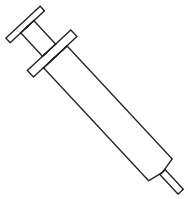
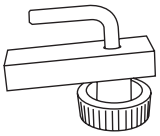
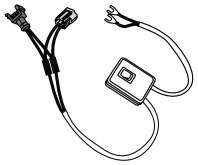
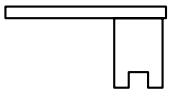
■ Cycle part.

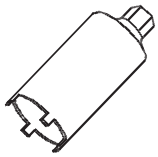
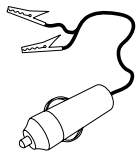
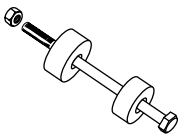
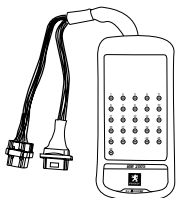
Front wheel spindle	6.5 m.daN
Rear wheel bolt	2.5 m.daN
Rear wheel spindle nut	13.5 m.daN
Linkrod to engine pivot	8 m.daN
Linkrod to frame pivot	8 m.daN
Linkrod connecting pin	8 m.daN
Linkage torque arms	3.8 m.daN
Shock absorber top mount	4.5 m.daN
Shock absorber bottom mount	4.5 m.daN
Exhaust to cylinder head mounting nut	2.2 m.daN
Exhaust to casing mounting bolt	2.2 m.daN
Exhaust system strap	1.8 m.daN
Exhaust clamp	1.8 m.daN
Centre stand holder	2.2 m.daN
Suspension arm	2.8 m.daN
Lambda sensor	4.5 m.daN
Upper cone (in 2 operations)	4/2.2 m.daN
Upper cone locknut	Hand tightened
Steering locknut	7.5 m.daN
Front brake caliper	2.5 m.daN
Rear brake caliper	2.5 m.daN
Front brake disc	3 m.daN
Rear brake disc	3 m.daN
Handle bar	4 m.daN

■ Standard

Nut and bolt 5 mm diameter	0.6 m.daN
Nut and bolt 6 mm diameter	1 m.daN
Nut and bolt 8 mm diameter	2.2 m.daN
Nut and bolt 10 mm diameter	3.5 m.daN
Nut and bolt 12 mm diameter	5.5 m.daN

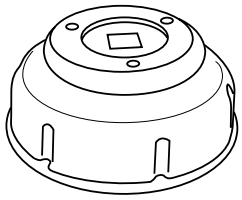
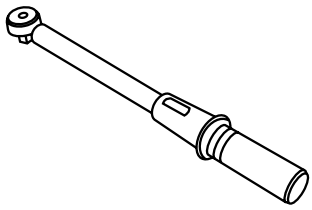
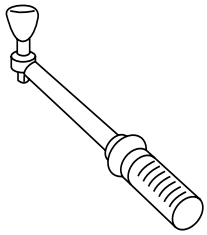
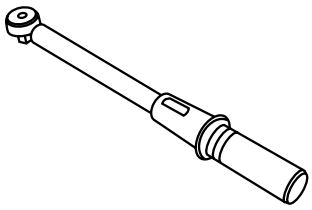
SPECIAL TOOLS

	Tool N°	Designation	Used with
	750539	Tie-wrap pliers	
	754278	Balance support with pins Ø15 and Ø17 mm	
	754306	Bleed syringe	
	755996	Hose clamp	
	756017	Fuel injector power supply harness	
	756715 (*)	Tank gauge spanner	

	Tool N°	Designation	Used with
	757860	Steering tool	
	757877	Pressure gauge	
	758358	TEP 2005	
	758585	Power supply cable tool	
	758810	Steeing head cup installation tool	
	758924	24 way terminal block	

(*) New or modified tool

■ Standard tools

	Oil filter notched cap wrench. Type: Facom D155		Automatic resetting type torque wrench. 10 to 50 Nm Type: Facom J.208A50
	Automatic resetting type torque wrench. 5 to 25 Nm Type: Facom R.306A25		Automatic resetting type torque wrench. 40 to 200 Nm Type: Facom S.208A200

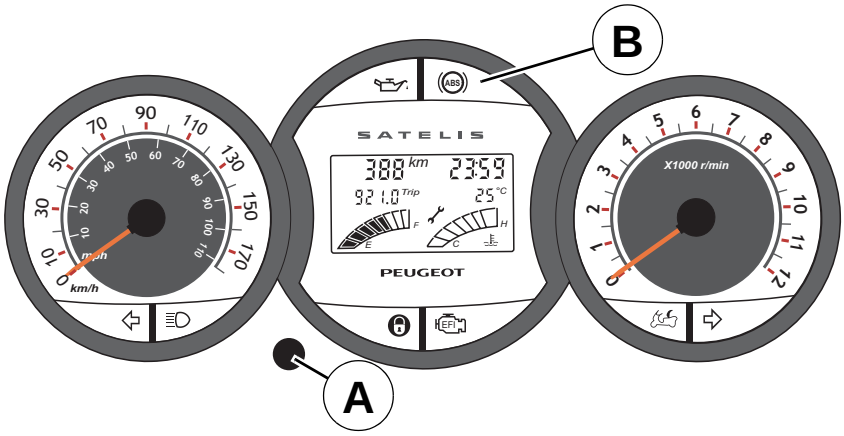
ELECTRONIC INSTRUMENT FUNCTIONING PRINCIPLE

■ Functions of the instrument panel

- Speedometer.
- Revolution counter.
- Tripmeter.
- Daily odometer.
- Digital clock.
- Fuel gauge.
- Outside temperature gauge.
- Engine temperature gauge.
- Battery voltage fault.
- Maintenance indicator.
- Flasher unit.

Instrument panel indicator lamps:

- Oil pressure.
- ABS/MBS or STOP
- Left direction indicator.
- High beam.
- Immobiliser state.
- Diagnosis of the ignition system.
- Opening the storage compartment.
- Right direction indicator.



(A) Control button.

Two versions are available:

1. Basic version featuring a STOP indicator light (B).
2. ABS/MBS version featuring an ABS indicator light (B)

■ Initializing the system

When preparing the vehicle, switch off the ignition and connect the battery. The system initializes itself when connecting the battery.

The battery must never be connected or disconnected when the ignition is switched on.

The instrument panel initializes itself every time the ignition is switched on:

- All warning lights are switched on.
- All elements of the multifunctional display are activated.
- The two hands (speedometer and revolution counter) move simultaneously from the minimum to the maximum and back.

If this is not the case, switch the ignition off, disconnect and re-connect the battery.

After initializing, the low oil, stoplight or ABS, injection diagnosis indicator lights remain on.

■ Analog functions (hands)

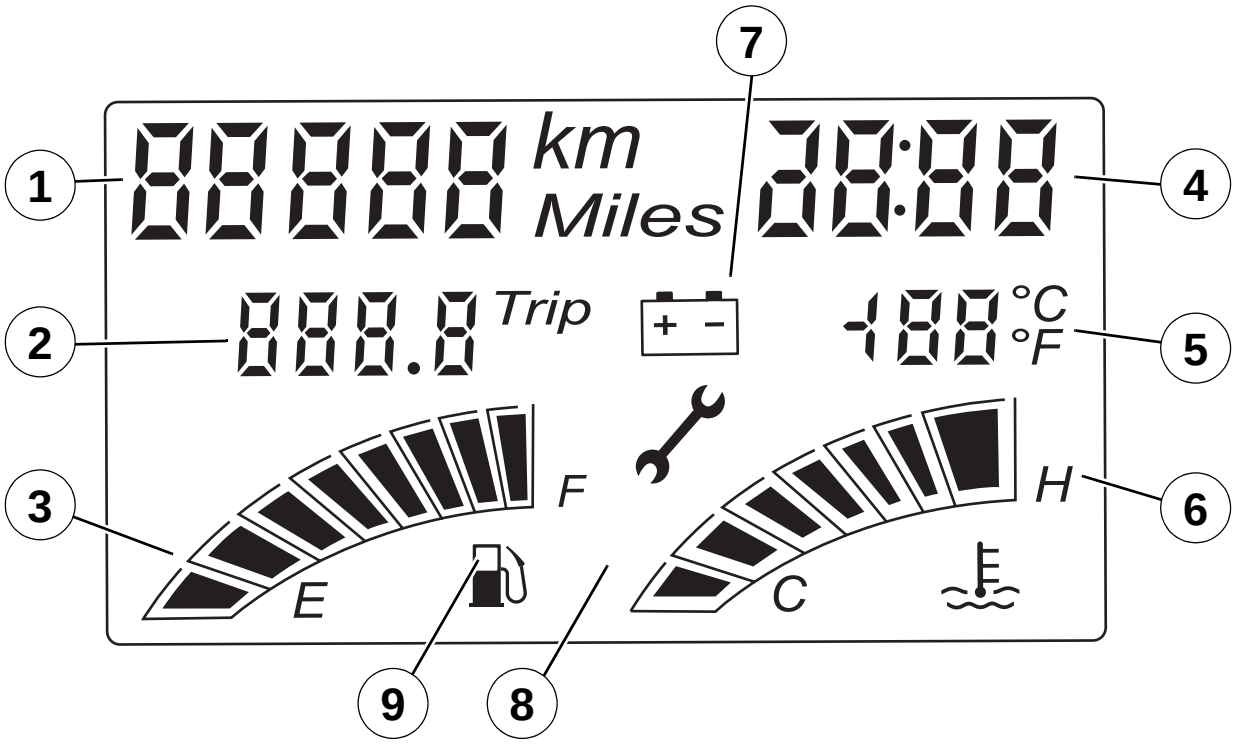
Speedometer.

Double-scale indication, kilometres/miles.
Vehicle without ABS/MBS: The signal is supplied by the speed sensor mounted on the front wheel.
Vehicle with ABS/MBS: The signal is sent by the ABS/MBS ECU.

Revolution counter.

Vehicle with Magneti Marelli ECU: 2 pulses per engine revolution.

■ Numeric functions (multifunctional display)



1. The tripmeter.
2. Daily odometer.
3. Fuel gauge.
4. Digital clock.
5. Outside temperature gauge.
6. Engine temperature gauge.
7. Battery voltage fault.
8. Maintenance indicator.
9. Empty tank indicator light.

Tripmeter.

The tripmeter displays and stores the number of kilometres travelled by the vehicle.

The machine total kilometres remains in the memory when the battery is disconnected.

Changing the distance unit (km or miles) is as follows

- The ignition is switched off, press the control button while switching on the ignition, the distance unit will flash.
- Select the unit by briefly pressing the control button, the distance unit changes from "km" to "miles" or inversely.
- Switch off ignition to confirm.

If the distance unit is kilometres, the outside temperature is displayed in °C.
If the distance unit is miles, the outside temperature is displayed in °F.

Daily odometer.

The tripmeter displays and stores the number of kilometers travelled during a given period.

The daily odometer uses the same unit of measurement as the tripmeter.

Resetting the daily odometer:

- Press the control button (several times briefly) until the figures of the daily odometer flash.
- Pressing the control button for more than 3 s allows you to reset the daily odometer.

Fuel gauge.

In the fuel reserve position, the two last segments are lit and flash.

When the fuel tank is empty, all segments are off and the pump flashes.

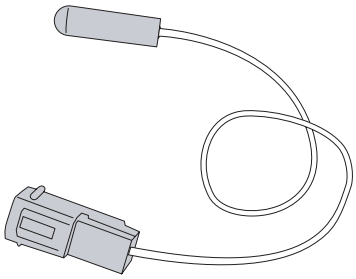
Fuel gauge self-diagnostic

All segments flash if the fuel gauge or its wiring is faulty. Open circuit (wire cut).

Digital clock.

Time setting:
Press the control button (several times briefly) until the figures of the clock flash.
Pressing the control button for more than 3 s make the the time characters flash.
Set the time by successive pushes on the control button.
Pressing the control button for more than 3 s will make the first character of the minutes flash.
Set the time by successive pushes on the control button.
Pressing the control button for more than 3 s will make the second characters of the minutes flash.
Set the time by successive pushes on the control button.
Pressing the control button for more than 3 s will allow you to confirm the time.

Outside temperature gauge.



Outside temperature sensor.

If the distance unit is kilometres, the outside temperature is displayed in °C.
If the distance unit is miles, the outside temperature is displayed in °F.

Engine temperature gauge.

Vehicle with Magneti Marelli ECU: the engine temperature sensor controls the temperature gauge.

When the engine temperature is too high, all segments are switched on and the last flashes. Temperature alarm. On the basic instrument panel, the stop warning light is on.
If the temperature information does not reach the instrument panel, all segments flash. Open circuit (wire cut).

Battery voltage fault.

The battery charge warning light flashes if the battery voltage goes below 11.2 volts and it stops flashing when the voltage passes again above 11.7 volts.
The battery charge warning light flashes and the stop warning light comes on (only basic instrument panel version) when the battery voltage is below 16 volts.

Maintenance indicator.

Maintenance function:
The maintenance indicator goes on 5000 kms after the last reset.
Maintenance reset:

- The ignition is switched off, press the control button while switching on the ignition, the distance unit will flash.
- Pressing the control button for more than 5s allows you to reset the maintenance indicator, and the "key" icon will go off.

■ Additional functions

Flasher unit.

The instrument panel is equipped with one flasher unit per side.

A buzzer reminds the driver of the direction indicators.

For the hazard warning lights, both flasher units operate.

The flasher unit is protected against accidental short-circuits.

The ignition must be turned on again to activate the hazard warning lights function.

The hazard warning lights can only operate with the ignition off if they were turned on before switching off the ignition.

The hazard warning lights are switched off automatically 1 hour after the ignition was switched off, to perserve the battery.

When a flasher bulb has failed the repeater light and the other flasher light flash more quickly to alert the rider of a failure.

Instrument panel indicator lamps.

Basic version:

To allow a better warning of the driver, the stop warning light will come on besides the specific alarm warning light in the following cases:

- Oil pressure fault.
- Engine temperature fault.
- Battery overvoltage faulr.

Lighting control.

The instrument panel controls the lighting of the vehicle. When the ignition is switched on, the parking lights go on. The headlight goes on when the engine is started (Depending on the position of the dip beam/high beam switch).

In the high beam position, both dip beam and high beam are on simultaneously.

The headlight remains on as long as the vehicle runs, even if the engine stalled, and remains on 7 s after the vehicle stopped running.

The headlight remains on for 3 s after the ignition was switched off, when the wehicle is stopped.

ABS/MBS system control.

The ABS/MBS ECU remains powered as long as the vehicle runs, even if the engine stalled.

Incident.

Revolution counter and speedometer hands are not synchronized when switching the ignition on.

- Turn off the ignition.
- Disconnect and re-connect the battery.

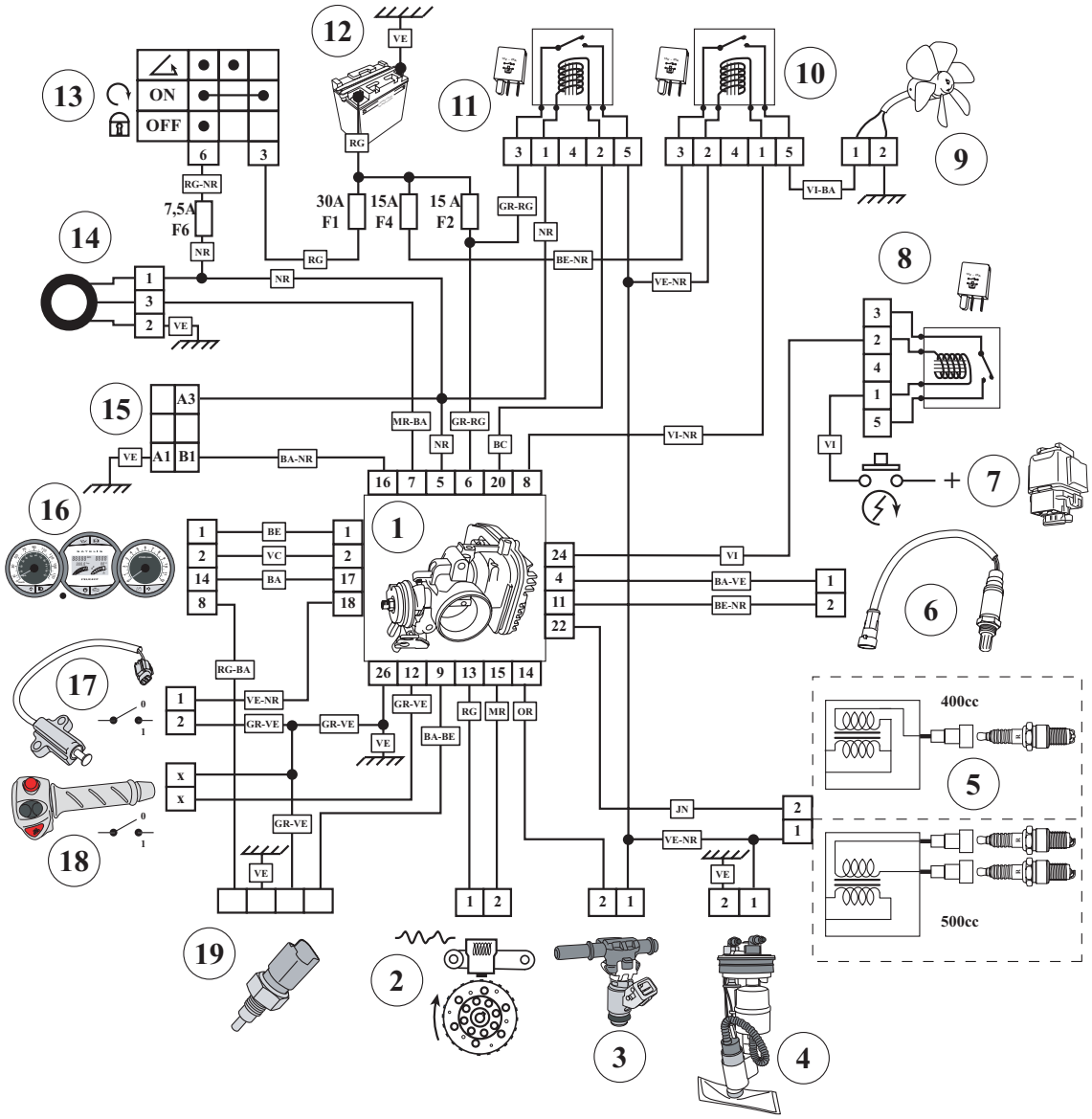
The engine speed displayed is the double of the actual speed. Faulty detection of the measuring system.

Vehicle with Magneti Marelli system. Temperature sensor circuit not detected.

- Check the engine temperature sensor circuit.
- Turn off the ignition.
- Disconnect and re-connect the battery.

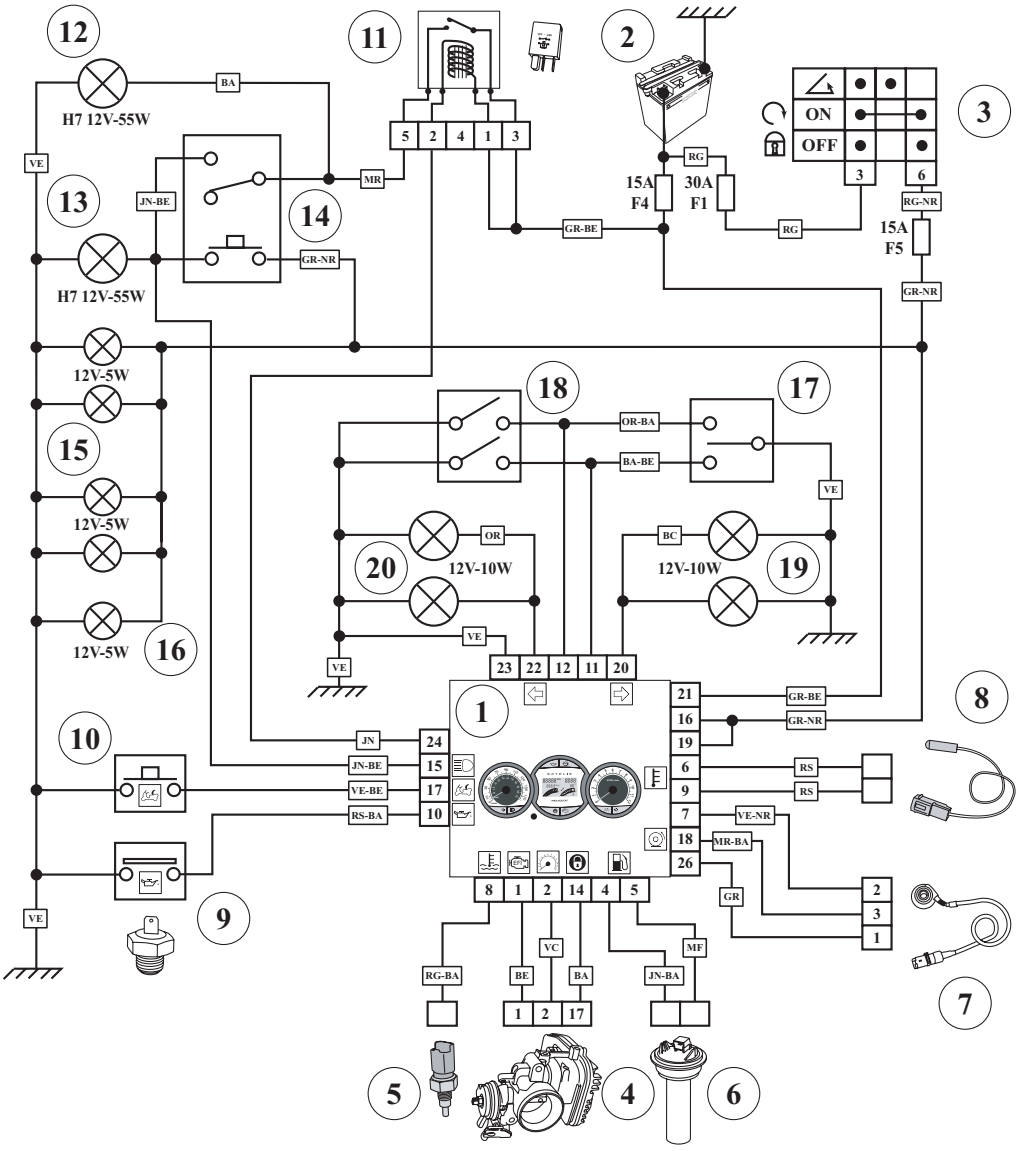
ELECTRICITY

■ 4 stroke indirect injection system functional diagram



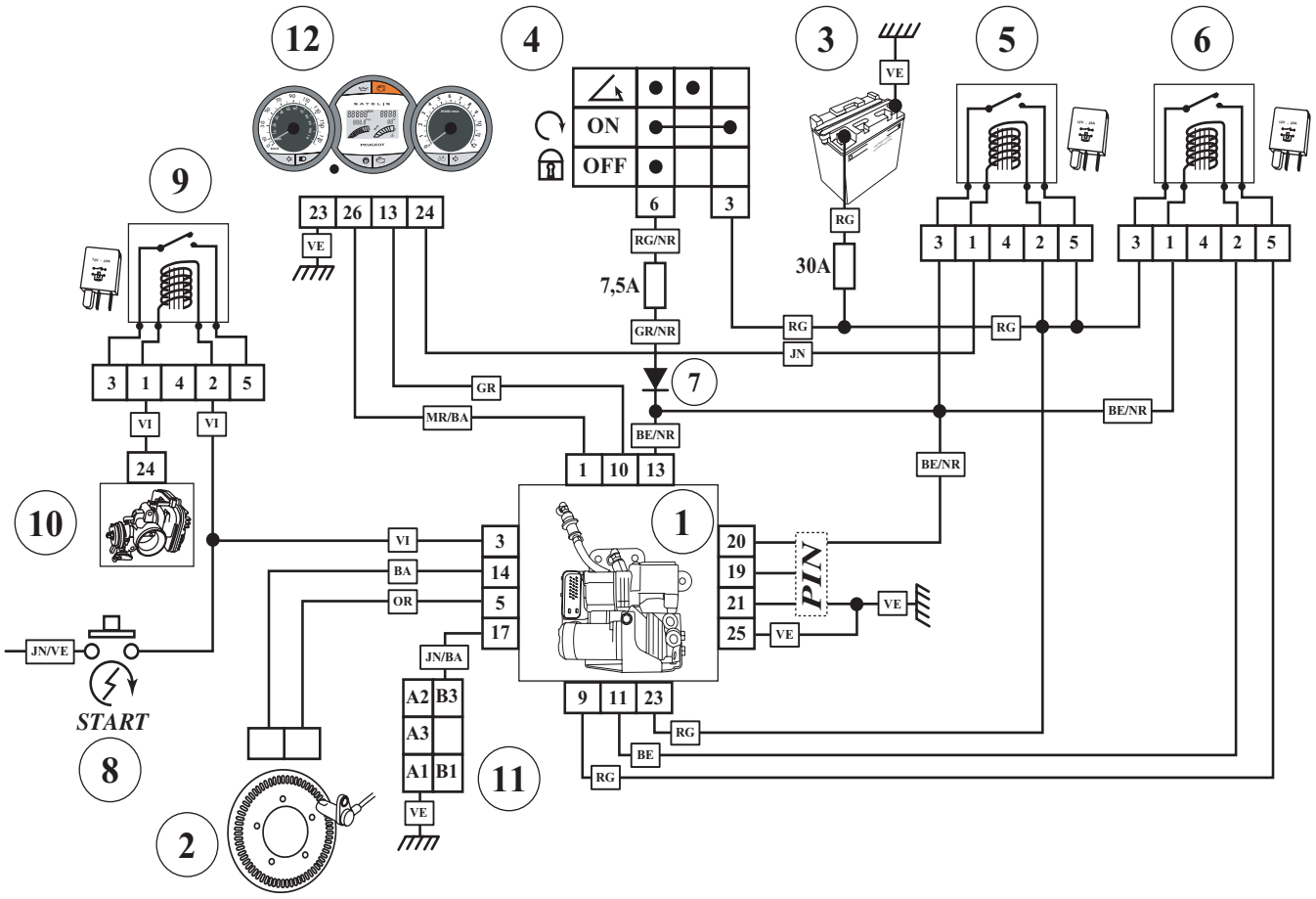
1. Injection ECU.
2. Engine speed and position sensor.
3. Petrol injector.
4. Fuel pump.
5. Ignition coil.
6. Lambda sensor.
7. Starter motor switch.
8. Starter motor relay.
9. Cooling fan.
10. Fan relay.
11. Injection relay.
12. Battery.
13. Ignition switch.
14. Transponder antenna.
15. Diagnostic plug.
16. Instrument panel.
17. Kickstand switch.
18. Emergency stop switch.
19. Engine temperature sensor.

■ Schematic diagram of the instrument panel and of the lighting



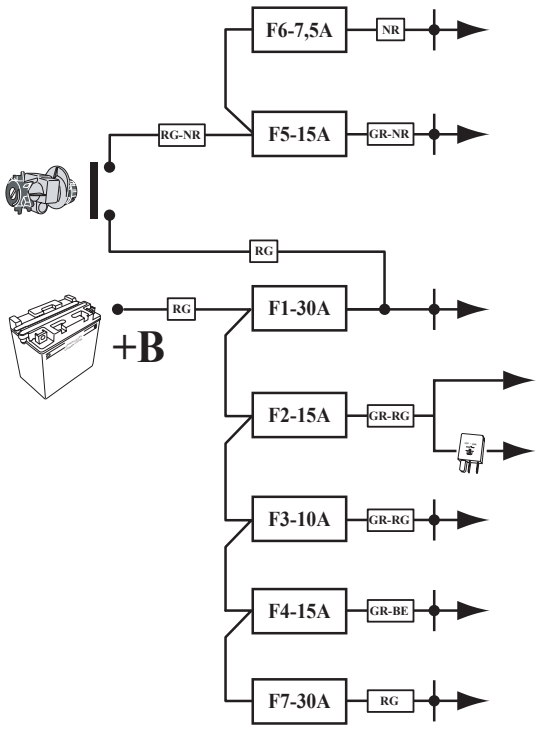
1. Instrument panel.
2. Battery.
3. Ignition switch.
4. Immobilizer.
5. Injection ECU.
6. Fuel gauge.
7. Speed sensor.
8. Outside temperature sensor.
9. Oil pressure switch.
10. Saddle opening contact switch.
11. Lighting relay.
12. Dip beam.
13. High beam.
14. Dip switch (main/low headlight).
15. "Side light" bulbs.
16. Number plate light.
17. Direction indicator switch.
18. Hazard warning lights switch.
19. RH direction indicators.
20. LH direction indicators.

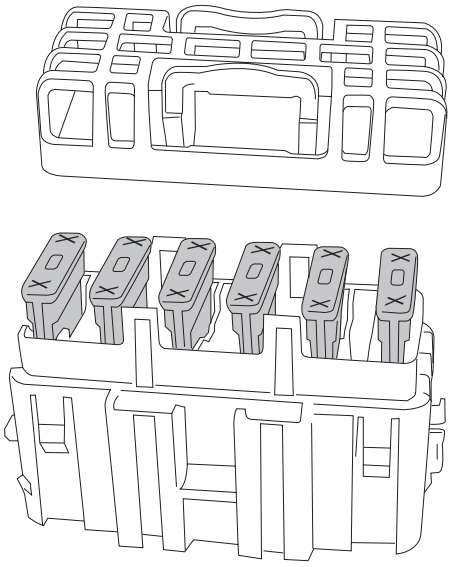
■ ABS/MBS system schematic diagram



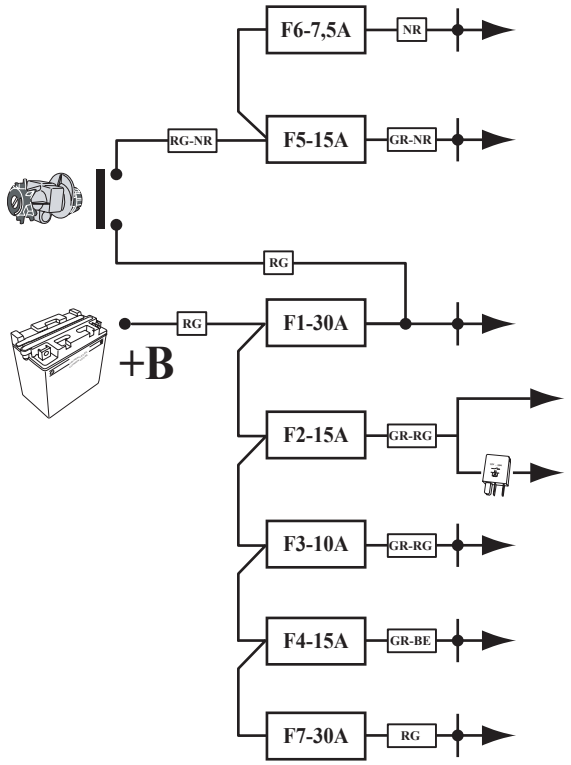
1. Pressure control unit.
2. Speed sensor and pulse wheel.
3. Battery.
4. Ignition switch.
5. Power supply relay.
6. ABS/MBS relay.
7. ABS diode.
8. Starter motor switch.
9. Starter motor relay.
10. Injection ECU.
11. Diagnostic plug.
12. Instrument panel (diagnostic lamp, machine speed).

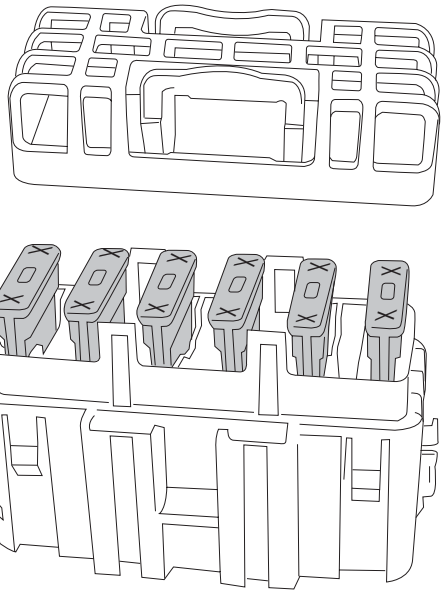
■ Fuses and energy distribution





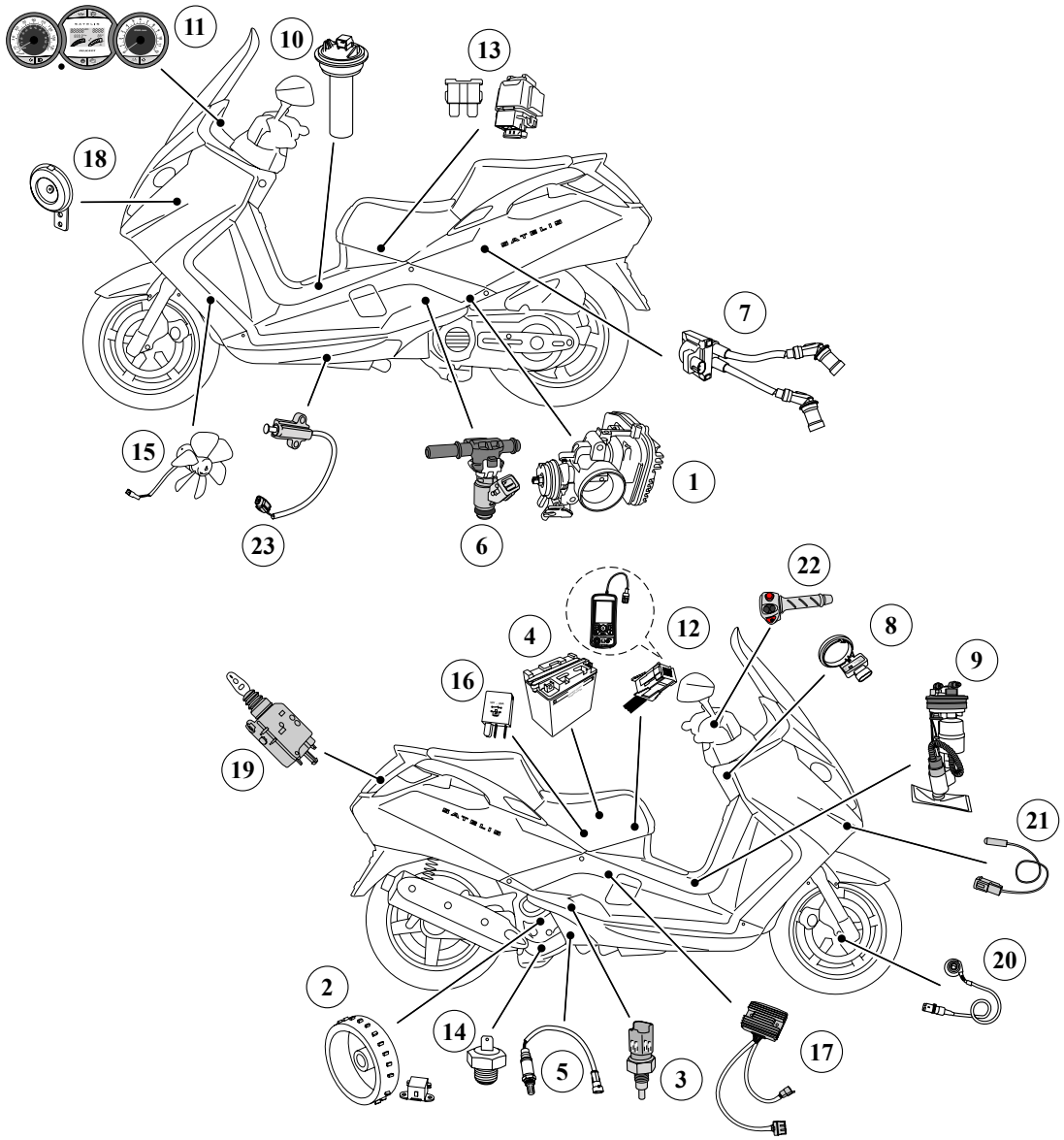
	Satelis 400/500cc
F1 **30A**	Regulator. Ignition switch.
F2 **45A**	Fan relay. Injection ECU. **Power supply relay:** Fan relay. HT coil. Petrol injector. Fuel pump. Lambda sensor.
F3 **40A**	Accessory socket. Saddle opening module (option).
F4 **45A**	Instrument panel. Lighting relay. Starter motor relay control relay.
F5 **5A**	Instrument panel. Dip switch (main/low headlight). Horn. Number plate light. Sidelight. Stop light contact switch. Saddle opening module (option)





	Satelis 400/500cc
F6 **7.5A**	Injection ECU. Transponder antenna. Diagnostic plug. Injection relay. ABS diode.
F7 **30A**	Pressure control unit. ABS relay. Power supply relay. ABS.

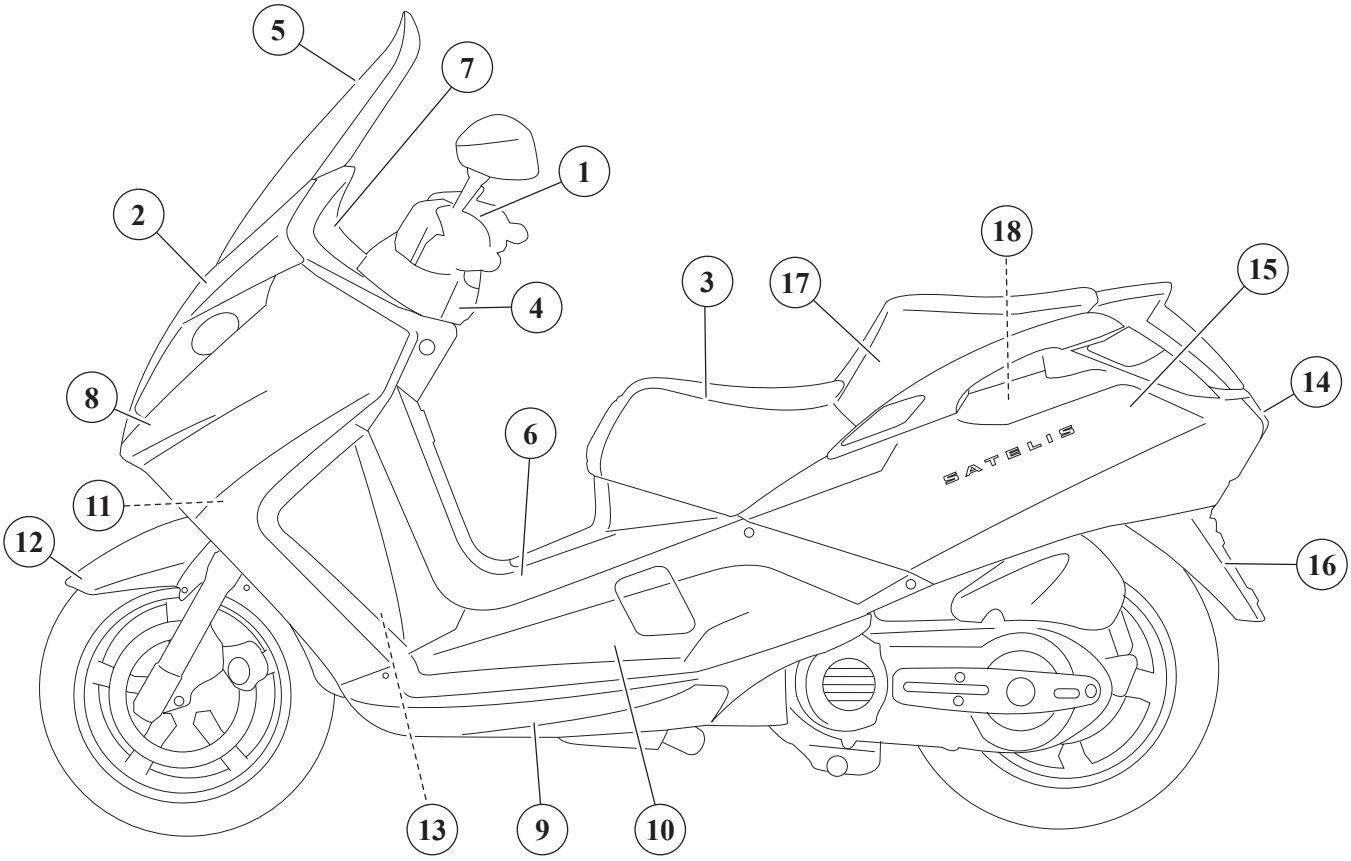
LOCATION OF COMPONENTS



1. Injection ECU.
2. Engine speed and position sensor.
3. Engine temperature sensor.
4. Battery.
5. Lambda sensor.
6. Petrol injector.
7. Ignition coil.
8. Transponder antenna.
9. Fuel pump.
10. Fuel gauge.
11. Diagnostic lights.
12. Diagnostic plug.
13. Starter motor relay/Fuses.
14. Oil pressure switch.
15. Motor-driven fan.
16. Lighting relay/Fan relay/Power supply relay/Starter motor relay control relay/ABS relay.
17. Voltage regulator.
18. Horn.
19. Saddle lock.
20. Machine speed sensor.
21. Outside temperature sensor.
22. Emergency stop switch.
23. Kickstand switch.

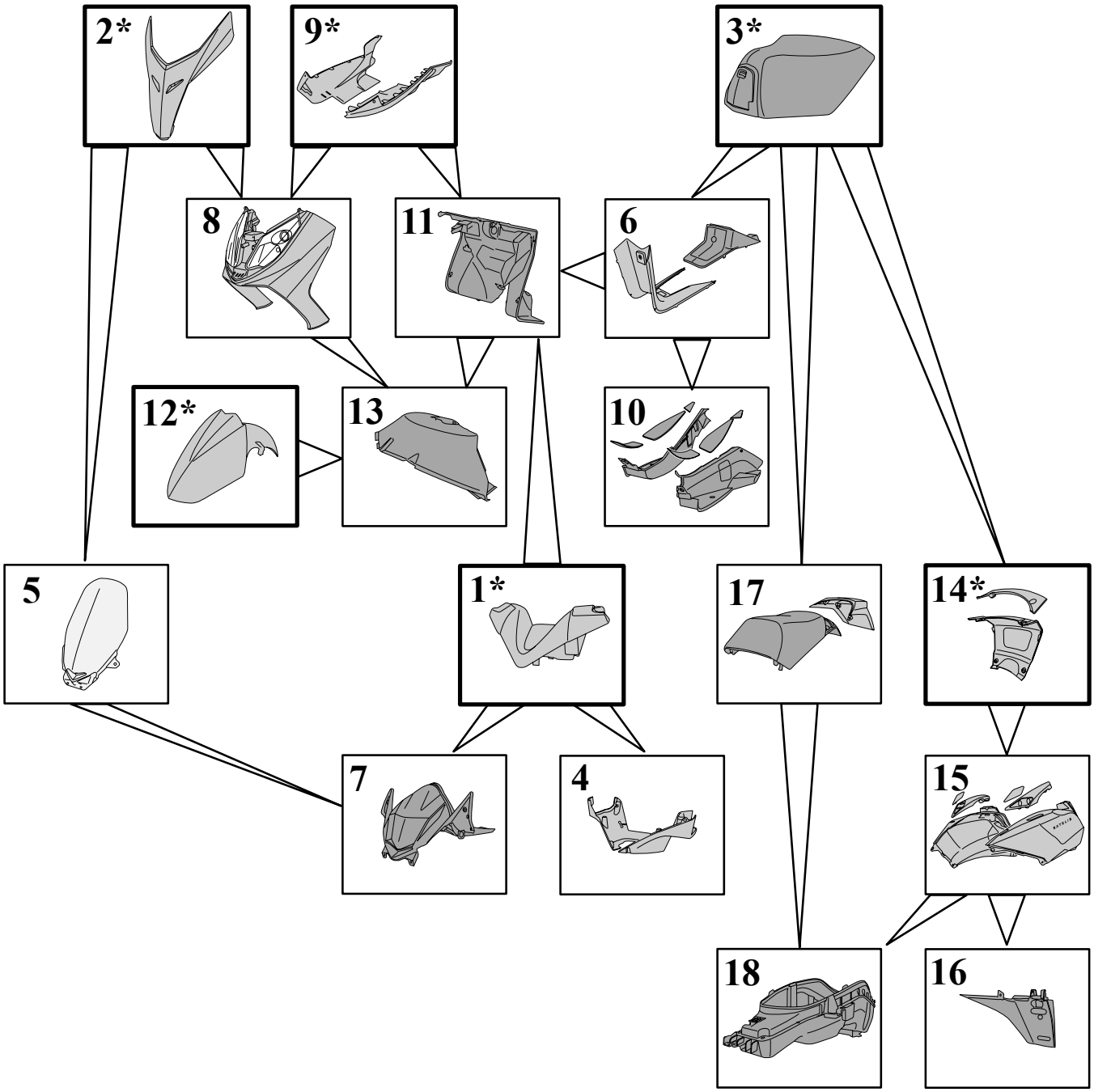
BODY PANELS

■ Location of body components



1. Upper handlebar cover.
2. Front top cover panel.
3. Rider saddle.
4. Lower handlebar cover.
5. Wind protector.
6. Tank streamlining.
7. Counter panel.
8. Front shield panels.
9. Bottom panel.
10. Footboard.
11. Rear shield.
12. Front mudguard.
13. Mudguard.
14. Rear cover.
15. Side panels.
16. Mudflap.
17. Passenger backseat.
18. Helmet compartment.

■ Body component sequence of disassembly



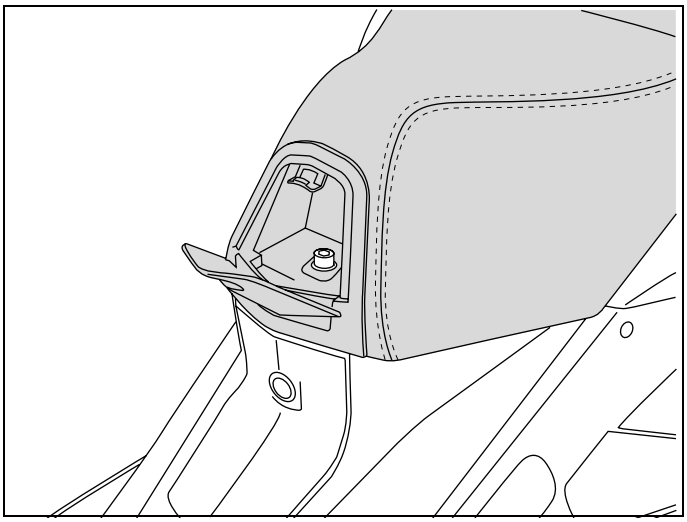
* This item may be removed on its own.

■ Removal of the rider's saddle

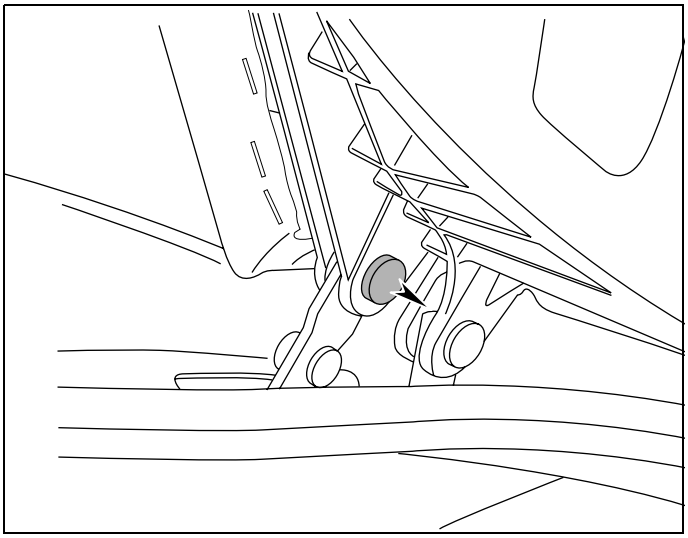
■ Removal of the passenger's saddle

Procedure 1.

- Open the saddle cover storage compartment.
- Remove:
  - The screw.
  - The saddle cover.
  - The rider's saddle.

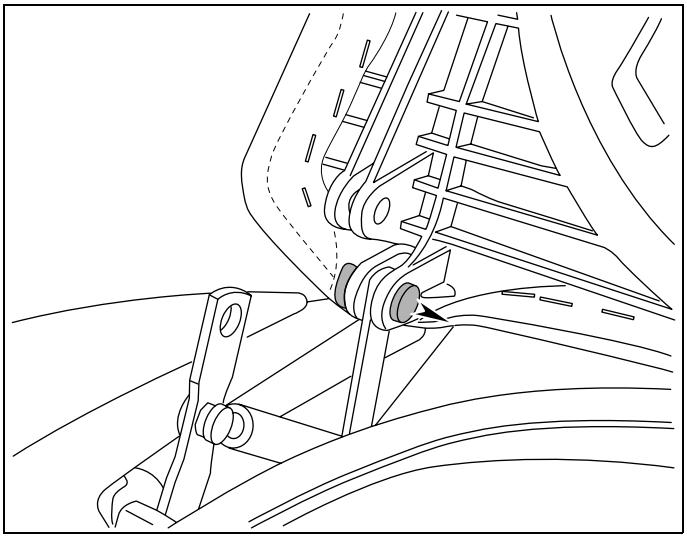


- Open the passenger's saddle.
- Remove:
  - The 2 upper pivot clips.
  - The 2 pivot pins.



- Flip up the seat to the front of the vehicle.
- Remove:
  - The 2 lower pivot clips.
  - The 2 pivot pins.

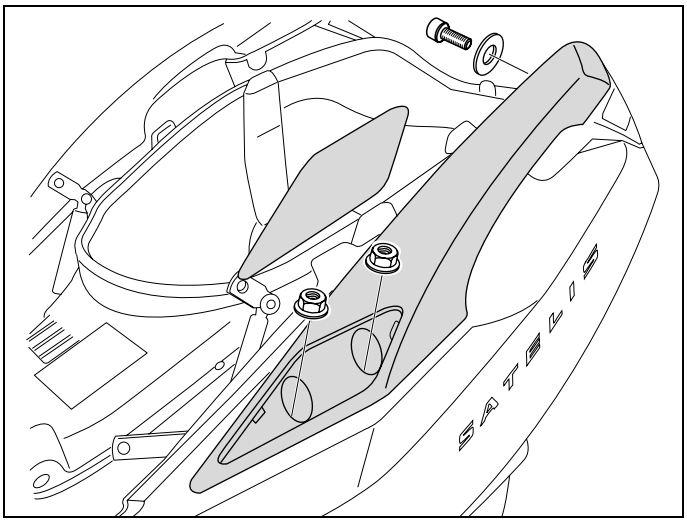
- Remove the passenger seat.



■ Removal of a RH or LH grab handle

Procedure 2.

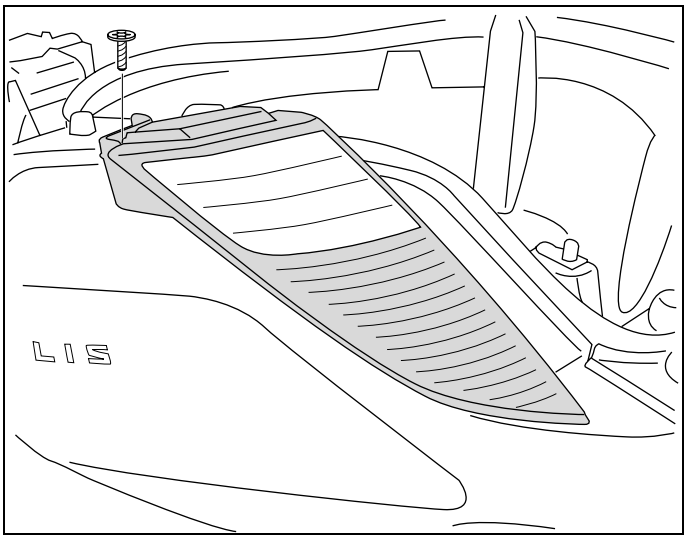
- Remove the grab handle trim.
- Remove the 2 nuts and the screw that secure the handle.
- Remove the grab handle.



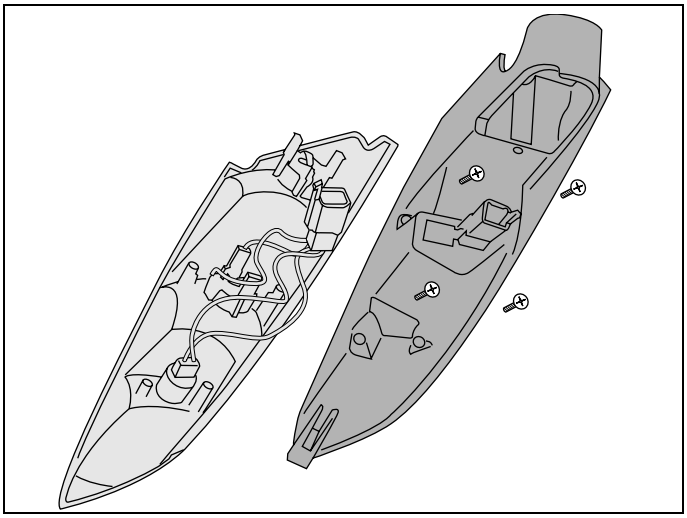
■ Removal of a RH or LH taillight

■ Removal of a taillight bulb

- Remove the grab handle. See: Procedure 2. Page: 31.
- Remove the taillight. (1 screw).



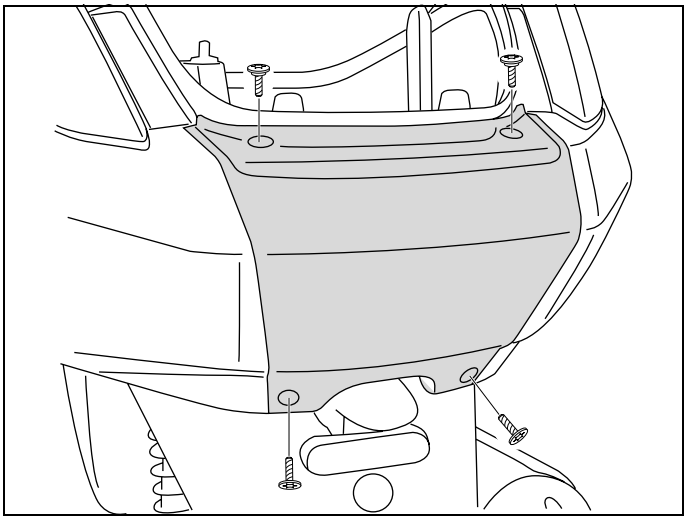
- Remove the 4 screws from the taillight unit.
- Separate the 2 parts in order to reach the bulbs.



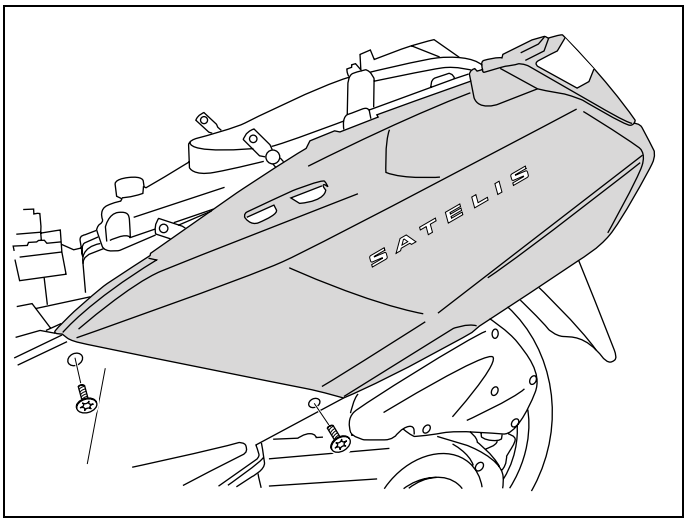
■ Removal of a RH or LH side cover

Procedure 3.

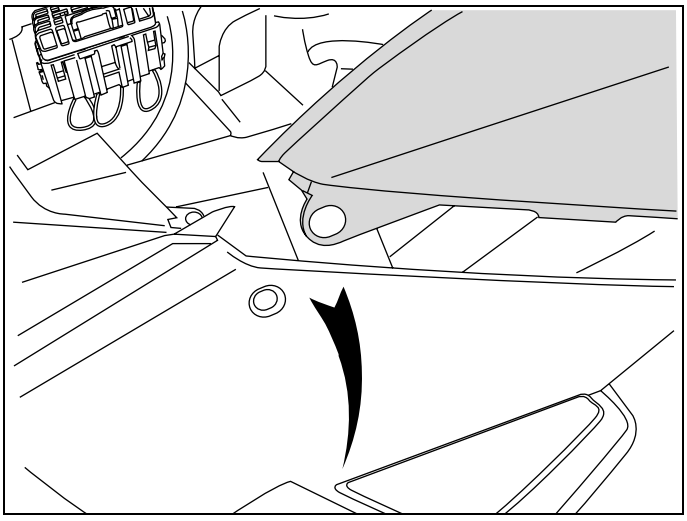
- Remove:
- The rider's saddle. See: Procedure 1. Page: 30.
- The grab handles. See: Procedure 2. Page: 31.
  - Remove the rear cover and its trim. (4 screw).



- Remove the 2 screws that secure the side cover linkage and the footboard.



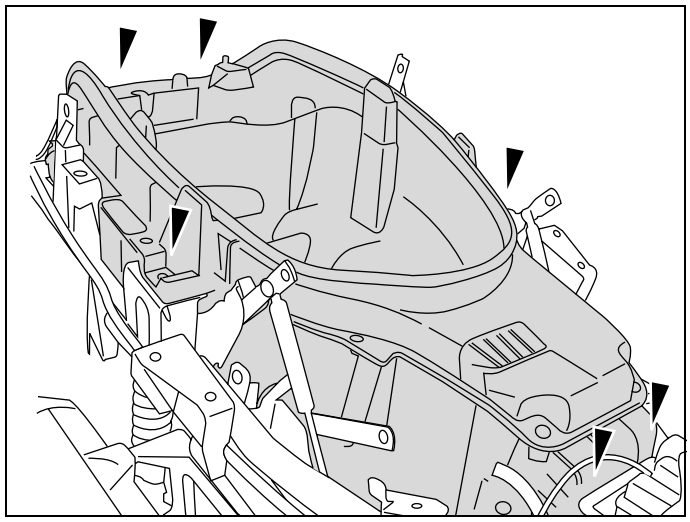
- Push aside the footboard in order to clear the side cover holder eyelet.
- Remove the side cover.
- Disconnect the taillight.

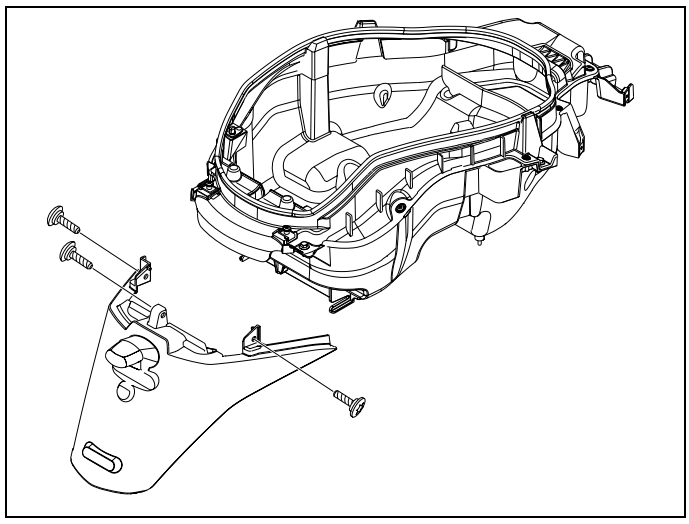


■ Removal of the storage compartment

Procedure 4.

- Remove the side fairings. See: Procedure 3. Page: 32.
- Disconnect the plate light and the saddle opening contact switch.
- Remove the storage compartment. (4 screws and 2 nuts).



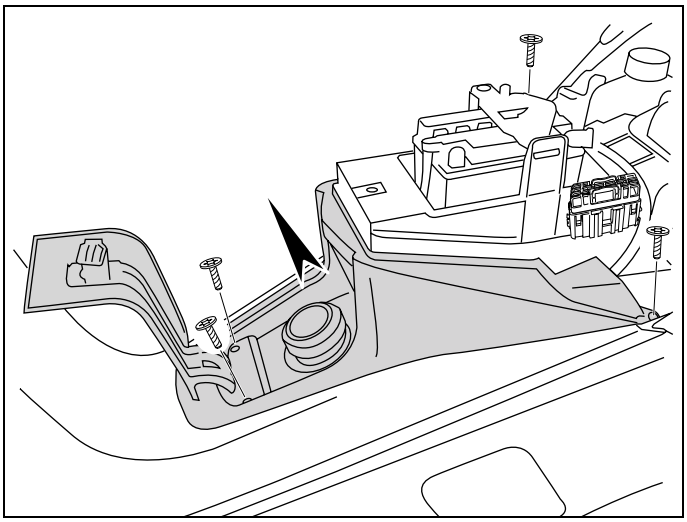


When dismantling the splash guard, fit the screws with standard thread lock.

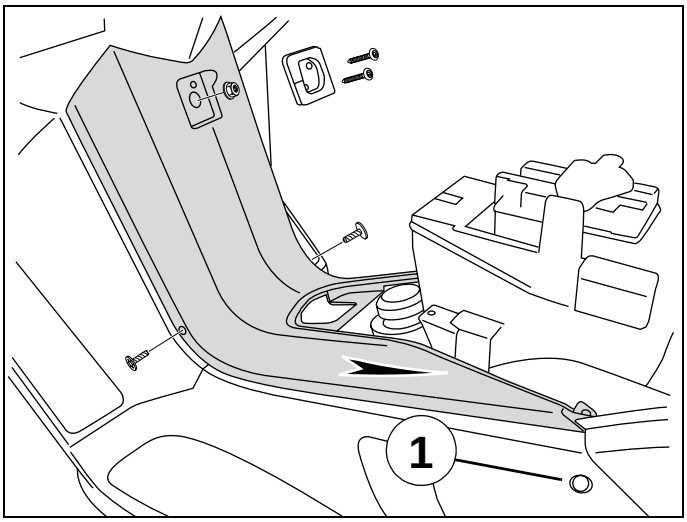
■ Removal of the tank covers

Procedure 5.

- The rider's saddle. See: Procedure 1. Page: 30.
- Open the tank filler cap door.
- Remove the 4 screws that secure the rear panel.
- Remove the upper fairing.



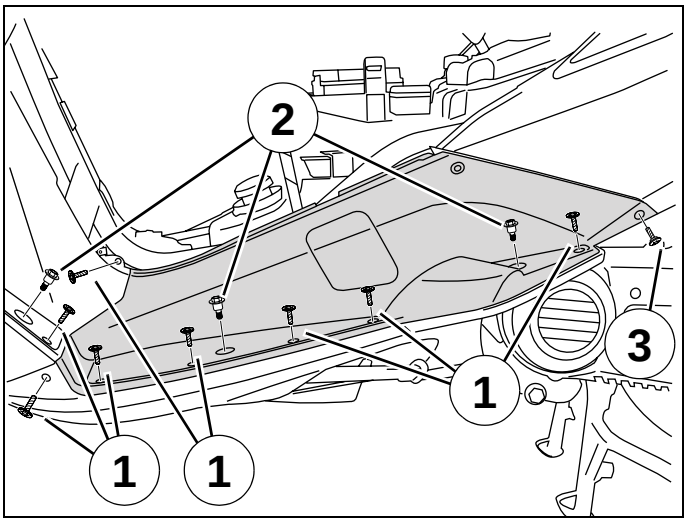
- Remove the utility hanger. (2 screw).
- Remove 1 nut and 2 screws that secure the lower fairing.
- Remove the screw that secures the rear cover / footboard on each side of the vehicle. (1)
- Push slightly aside the cover / footboard assembly and remover the fuel tank cover panel by sliding it backwards.



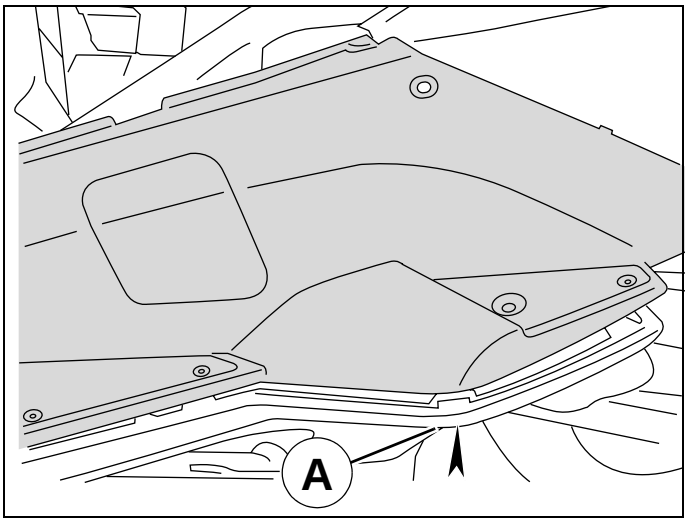
■ Removal of a RH or LH footboard

Procedure 6.

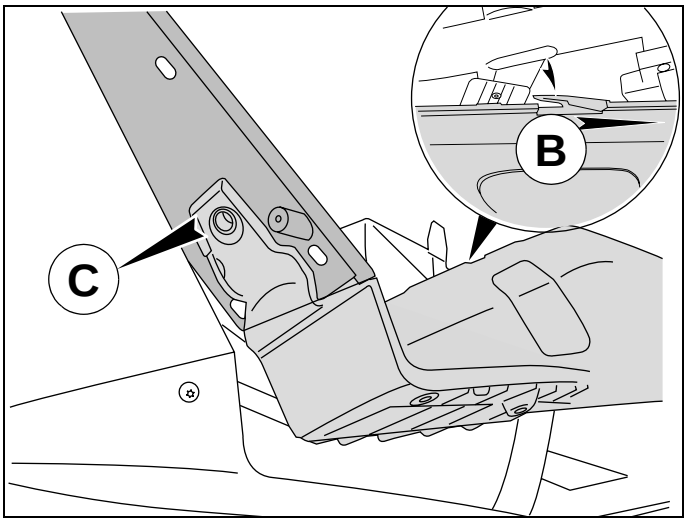
- Remove the tank cover panel. See: Procedure 5. Page: 34.
- Remove the footboard mat.
- On each side remove:
  - 8 plastic screws. (1)
  - 3 washer head screws. Ø6 mm. (2)
  - 1 washer head screw. Ø5 mm. (3)



- Press on the underbody panel in order to separate it from the footboard. (A)



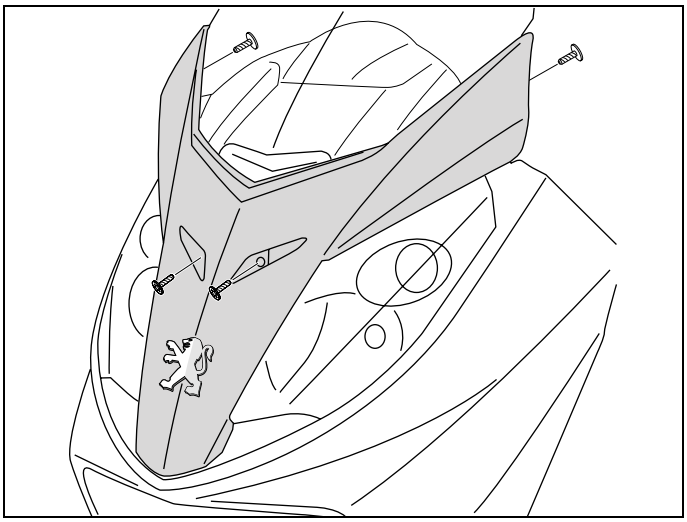
- Separate the footboard from the rear fairing and bracket that anchors it to the body. (B)
- Separate the front of the footboard which is linked to the rear part of the leg shield panel. (C)



■ Removal of the front top cover panel

Procedure 7.

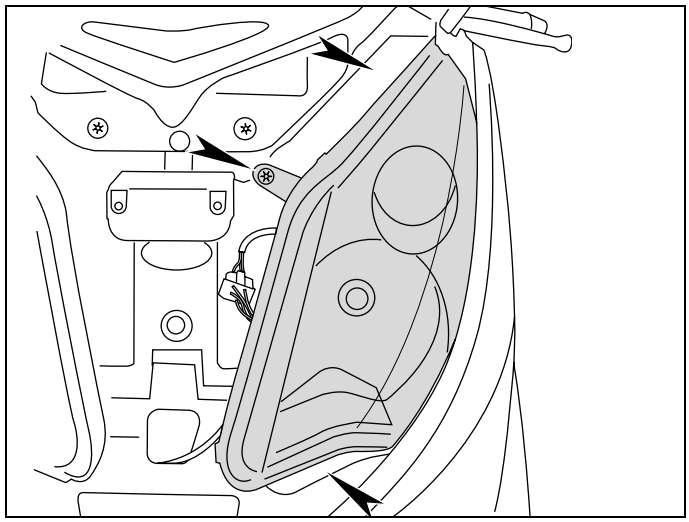
- Remove the front top cover panel. (4 screw).



■ Removal of the headlight and sidelight assemblies

■ Removal of the headlight bulbs

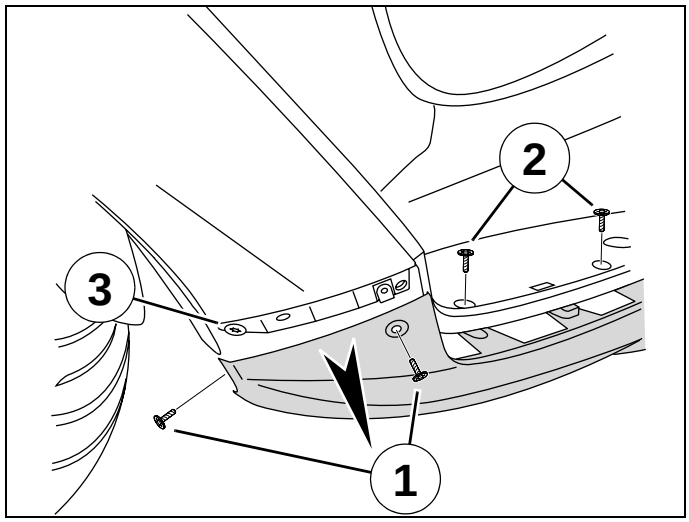
- Remove the front top cover panel. See: Procedure 7. Page: 35
- To reach the bulbs, remove the headlight. (3 screw)



■ Removal of the front shield panel

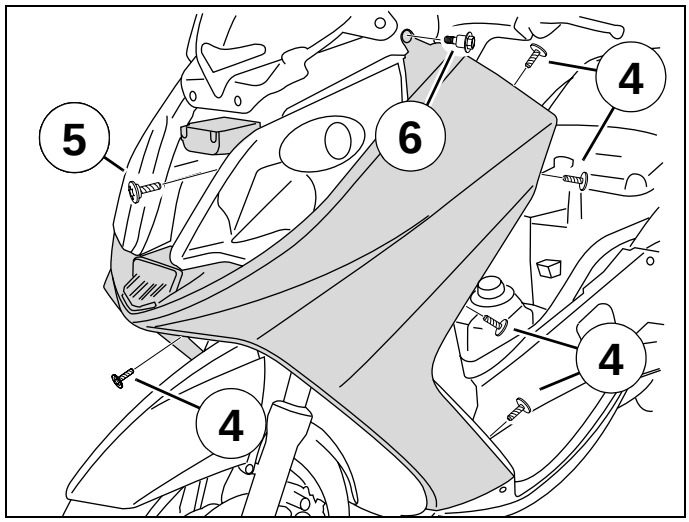
Procedure 8.

- Remove the front top cover panel. See: Procedure 7. Page: 35
- On each side remove:
  - 2 plastic screws that secure the front leg shield to the underbody cover. (1)
  - 2 plastic screws that secure the footboard to the underbody cover. (2)
- Push aside the underbody cover to reach the screw that secures the front shield panel. (3)



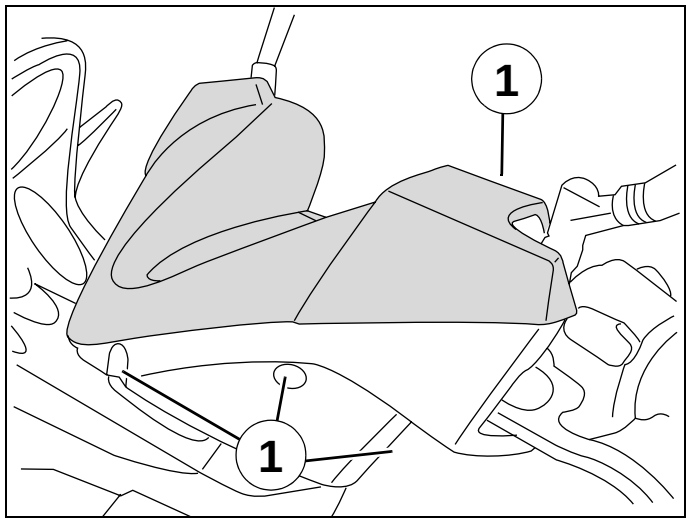
- On each side remove:
  - 5 plastic screws. (4)
  - 1 washer head screw. Ø6 mm. (5)
  - 1 washer head screw. Ø5 mm. (6)

- Disconnect the headlights.
- Remove the front shield panel.

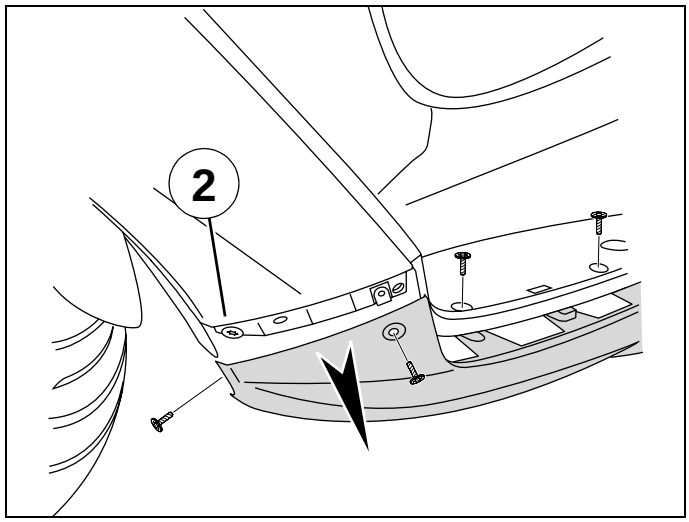


■ Removal of the rear shield panel

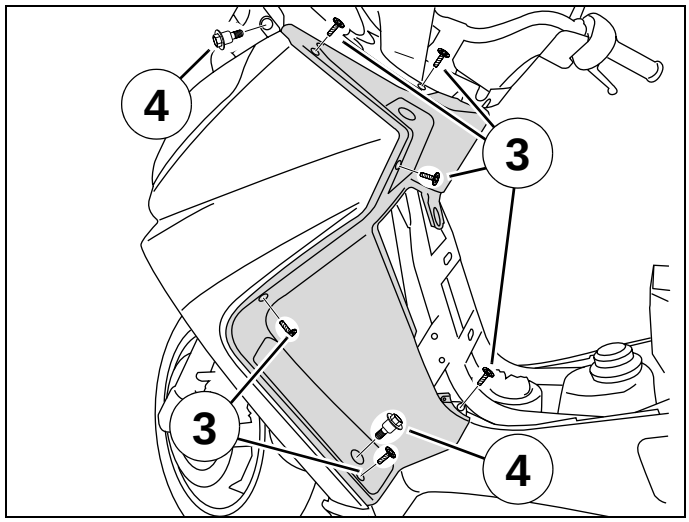
- Remove the ignition key.
- Remove the tank cover panel. See: Procedure 5. Page: 34
- Remove the front top cover panel. See: Procedure 7. Page: 35
- Remove:
  - The ignition switch trim.
  - The handlebar upper fairing (8 screw) (1).



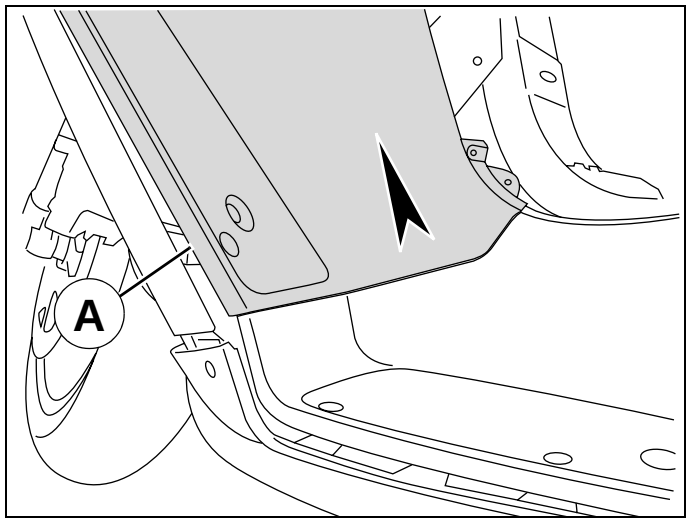
- On each side remove:
  - 2 plastic screws that secure the front leg shield to the underbody cover.
  - 2 plastic screws that secure the footboard to the underbody cover.
- Push aside the underbody cover to reach the screw that secures the front shield panel. (2)



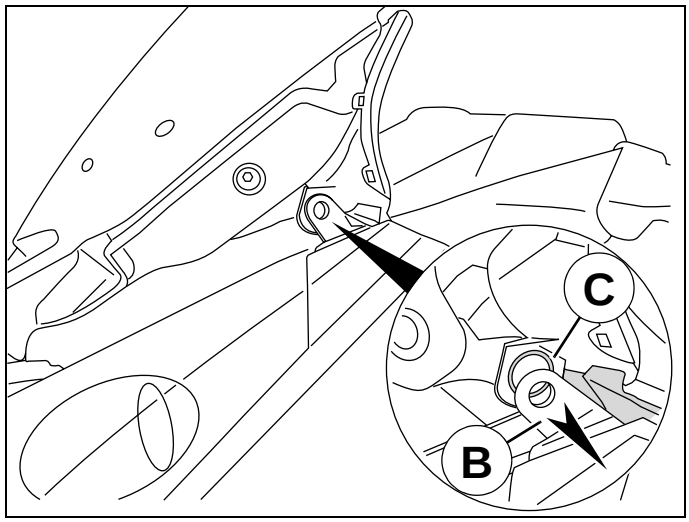
- On each side remove:
  - 6 plastic screws. (3)
  - 2 washer head screws. Ø6 mm. (4)



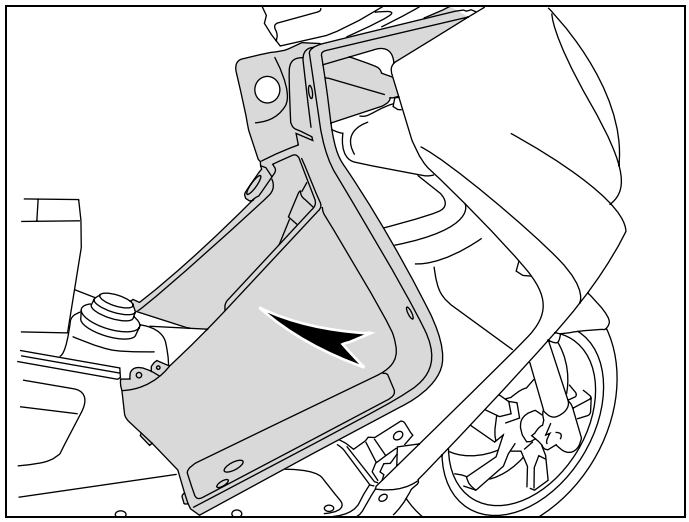
- Separate the front shield panel from the rear shield panel in order to reach the bracket that connects the rear shield panel to the footboard. (A)
- Pull upwards the lower part of the shield panel in order to separate it from the footboard.



- Relove the eyelet (B) from the shield panel and the eyelet (C) from the instrument cluster fairing in order free the rear shield panel.



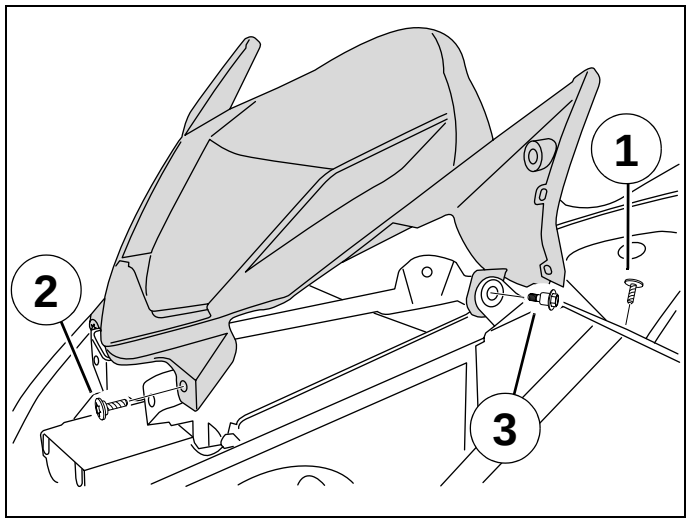
- Topple the rear shield panel while separating it from the footboards in order to reach the header tank and the accessory plug.
- Remove the header tank. (Right side).
- Disconnect the accessory plug. (Left side).
- Remove the rear shield panel.



■ Removal of the instrument cluster

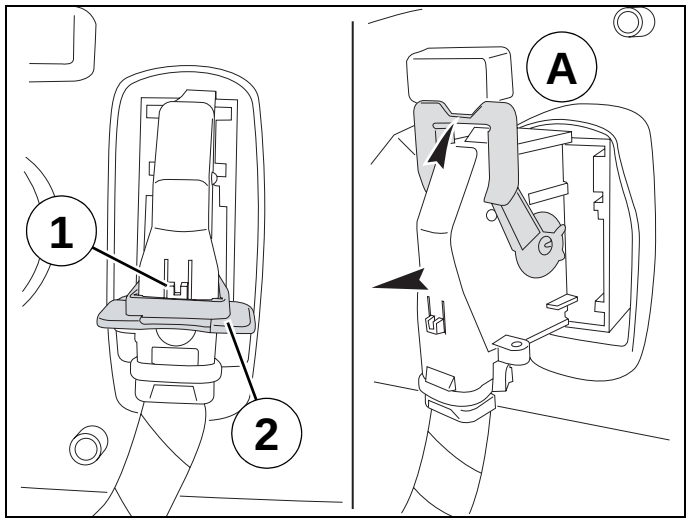
- Remove:
- The front top cover panel. See: Procedure 7. Page: 35
  - The wind deflector.
  - The handlebar upper fairing.

- On each side remove:
  - 1 plastic screw. (1)
  - 1 washer head screw. Ø5 mm. (2)
  - 1 washer head screw. Ø6 mm. (3)



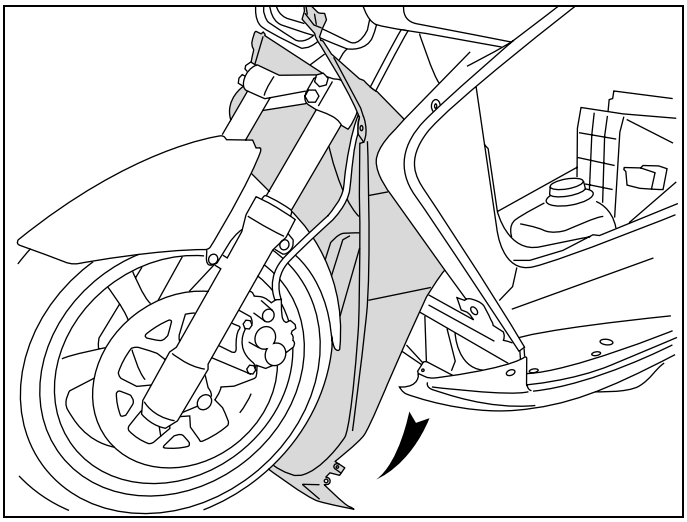
- Press the locking system (1) to actuate the positioning lever (2) of the instrument cluster's connector.
- Push the lever all the up (A) in order to remove the connector from the instrument cluster.
- Remove the instrument cluster fairing.

Note: When connecting, the lever must be pushed all the way to (A) in order not to damage the connector.



■ Removal of the dirt shield

- Remove the front shield panel. See: Procedure 8. Page: 36.
- Remove the center screw which secures the dirt shield to the underbody cover.
- Disconnect the speed sensor.
- Pull the speed sensor control out of the dirt cover.
- Lift the front of the vehicle while making sure the wheel is in line with the vehicle.
- Remove the dirt cover by sliding it behind the wheel as shown.

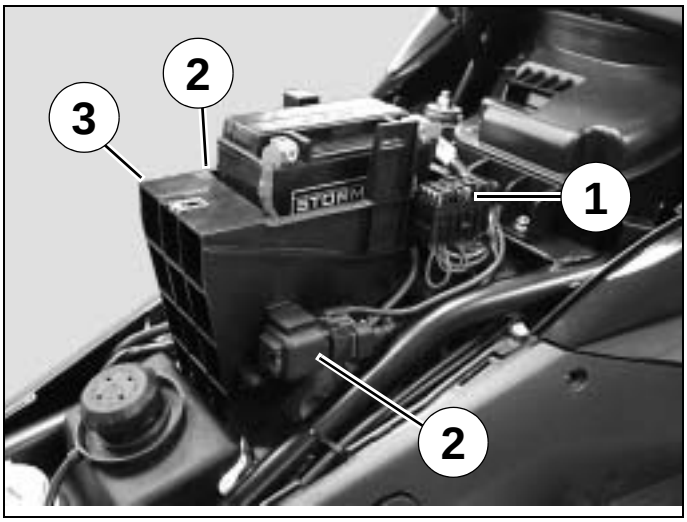


When removing the dirt cover make sure it doesn't rub against the radiator.

■ Removal of the battery holder

Procedure 9.

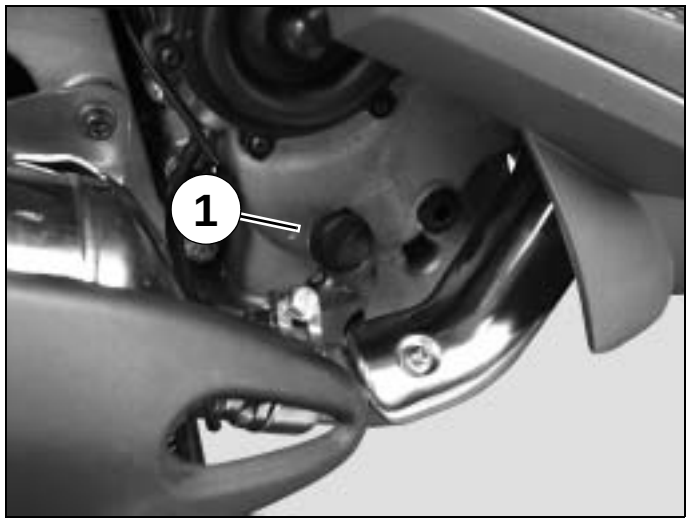
- Remove the tank cover panel. See: Procedure 5. Page: 34.
- Disconnect and remove the battery.
- Unclip from the battery holder:
  - The fuses. (1)
  - The relays. (2)
  - The diagnosis plug.(3)
- Remove the battery bracket. (2 screws and 1 nuts).



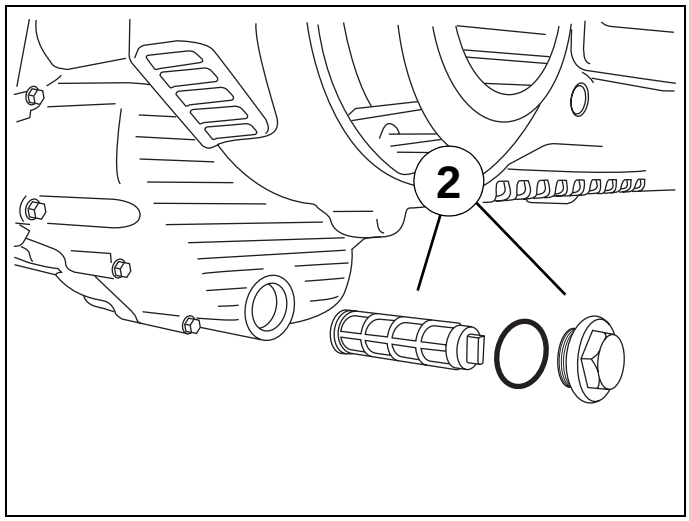
SERVICE OPERATIONS

■ Changing the engine oil and replacing the oil filter

- Remove the engine's oil filler cap. (1)



- Remove the cap and the filter to drain oil from the engine. (2) (Check the condition of the O-ring and change it if necessary).



- Using a facom D155 type oil filter notched cap wrench, remove the oil filter.

Drain the engine when it is warm.
Wear gloves in order not to get burnt.

- Lubricate the rubber seal of a new oil filter.
- Using a facom D155 type oil filter notched cap wrench, install the oil filter.

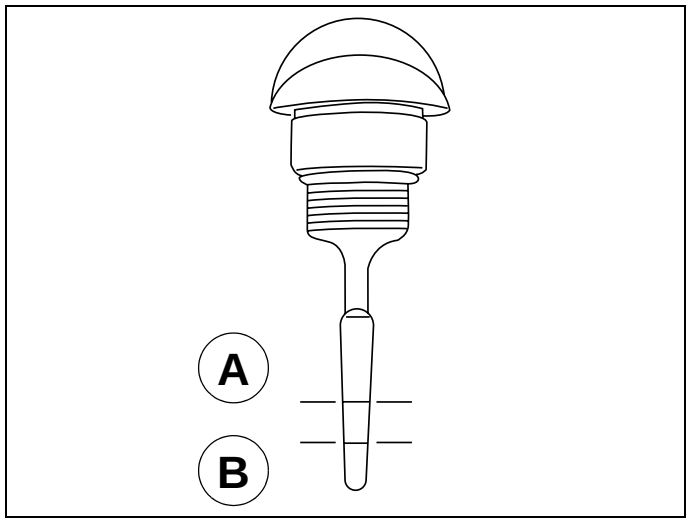
Tightening torque: 1.4 m.daN.

- Fit the drain plug.

Tightening torque: 2.5 m.daN.

- Fill the engine with 1.7 L motor oil through the filler hole.
- Fit the filler cap.
- Start the engine, let it run for a few minutes and then stop it.
- Remove the filler cap and wipe up the oil.
- Fit and screw the cap home.
- Remove the engine's oil filler cap.
- Check the oil level by using the marks on the filler cap.

A. Oil level high.
B. Oil level low.

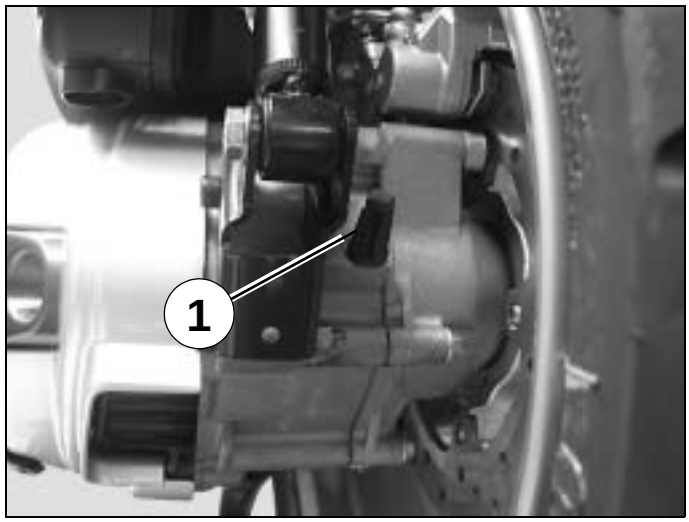


- Add oil if necessaire.

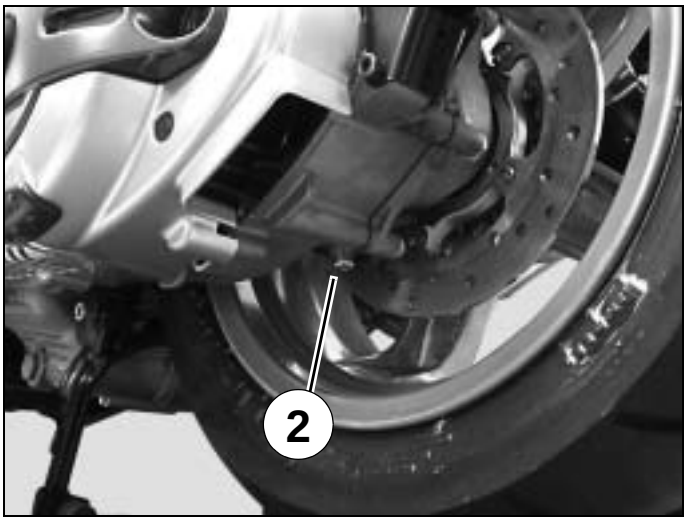
Note: Check the level with the machine parked on its centre stand, on level ground.

■ Draining the relay box.

- Remove the relay box filler cap. (1)

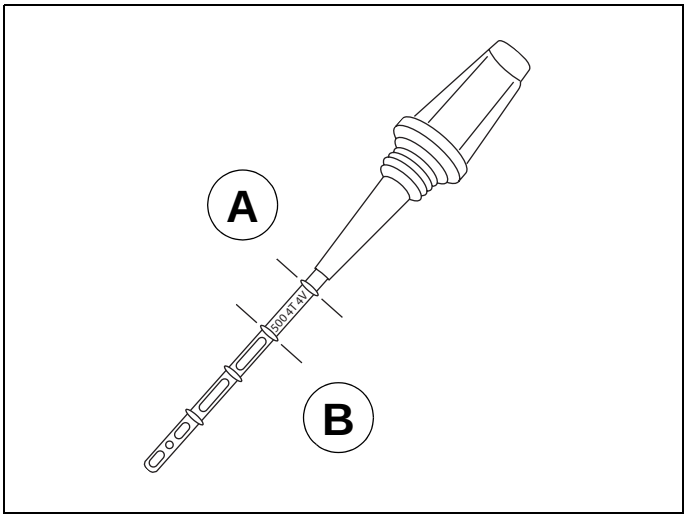


- Drain the relay box oil through the drain plug hole. (2)



- Fit the drain plug.

Tightening torque: 1.5 m.daN.



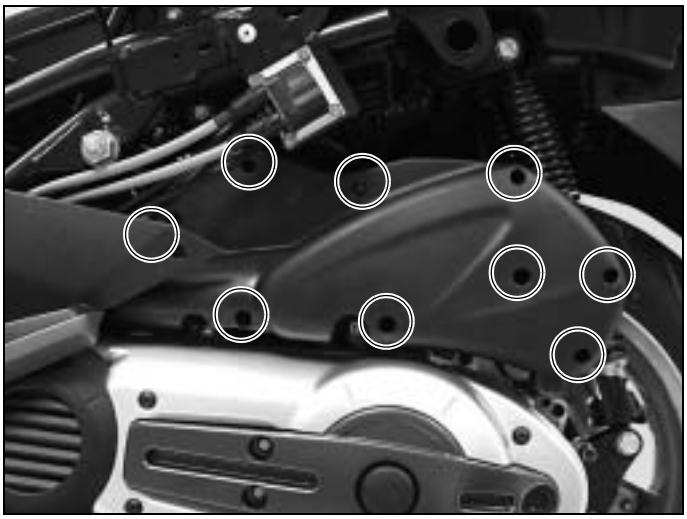
- Fill the relay box with 0.25 L oil through the filler hole.
- Fit and screw the cap home.
- Remove the relay box filler cap.
- Check the oil level by using the marks on the filler cap.

  A. Oil level high.
  B. Oil level low.

- Add oil if necessaire.

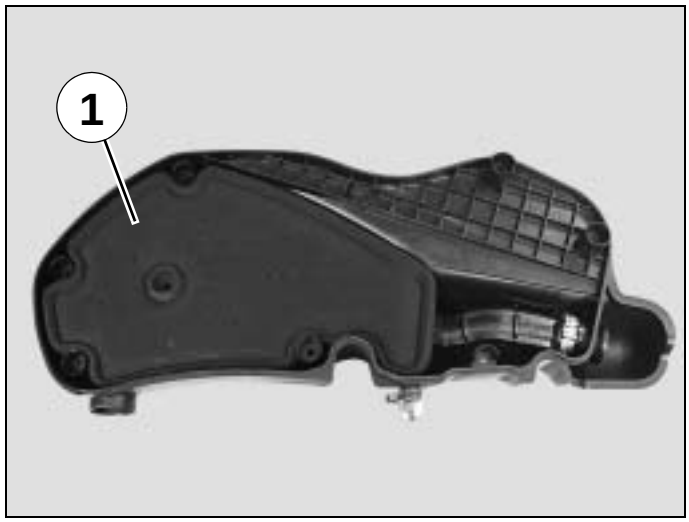
Note: Check the level with the machine parked on its centre stand, on level ground.

■ Replacing the air filter

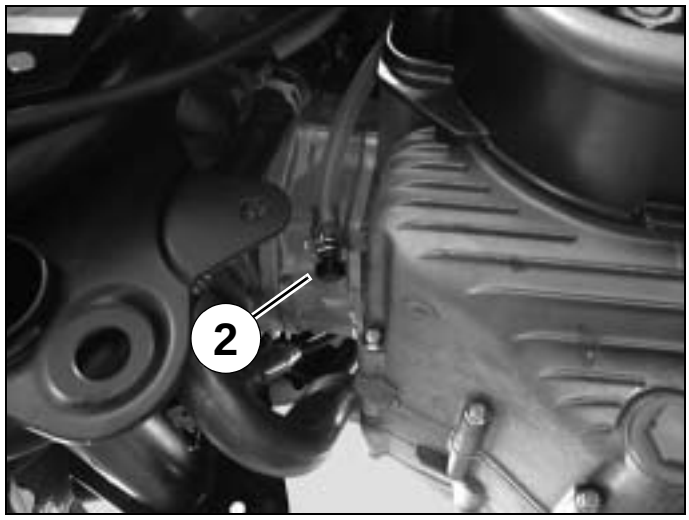


- Remove the LH side fairing. See: Procedure 3. Page: 32.
- Remove the air filter cover (9 bolts) and its seal.

- Remove the air filter. (1)
- Clean or change the filter according to the maintenance recommendations.
- Lubricate the air filter with a special oil for air filters and squeeze out the excess oil.



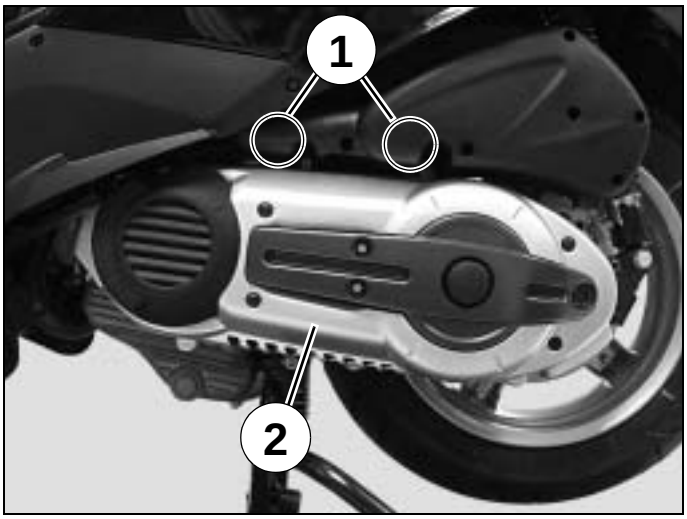
- Remove the inlet silencer drain plug to let humidity and oil drip out. (2)



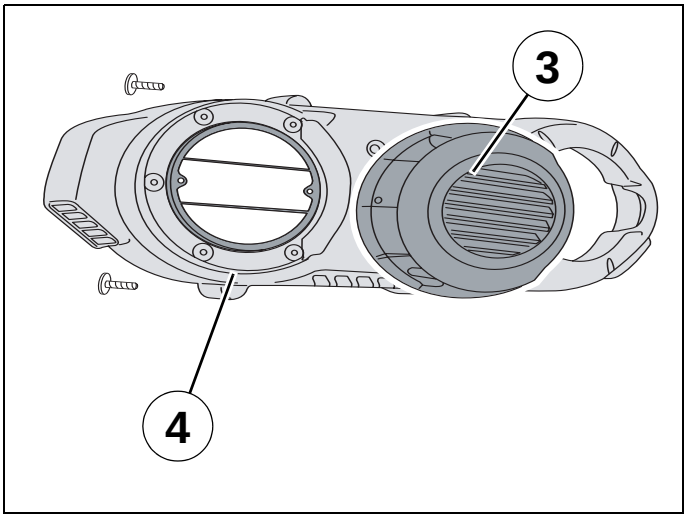
■ Removal of the transmission air filter

■ Replacing the rollers and the drive belt

- Remove the bottom panel (Left side).
- Remove the 2 air filter box fixing bolts (1).
- Remove the transmission cover trim. (2) (4 screw)



- Remove the transmission cover hood. (3) (3 screw)
- Remove the transmission air filter. (4)
- Blow the air filter with compressed air.



- Remove the transmission cover. (Refer to the workshop manual: 400/500cc engine. 4 valves. Reference: 759533.

■ Removal of the spark plug

Note:

400cc engine: 1 spark plug

500cc engine: 2 spark plugs

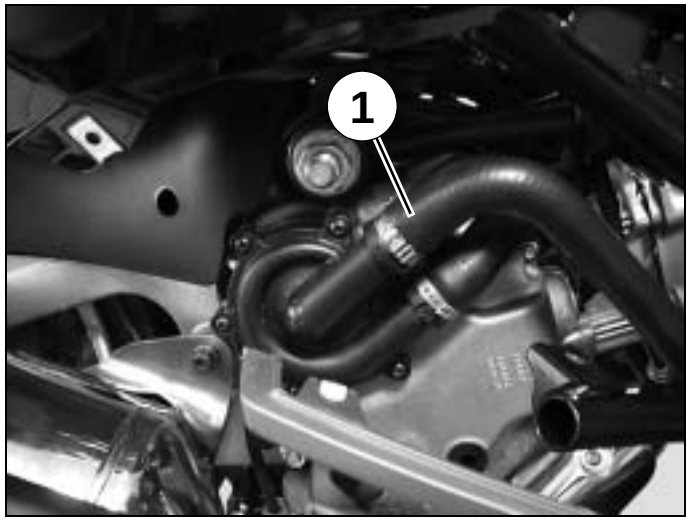
- Remove the access door. (Left side)
- Disconnect the suppressor.
- Remove the spark plug.

Essential precautions: When re-installing, srew in the spark plug (a few turns) by hand. For torquing, use a spark plug wrench equipped with a dial.

- Tighten the spark plug.

Tightening torque: 1.2 m.daN.

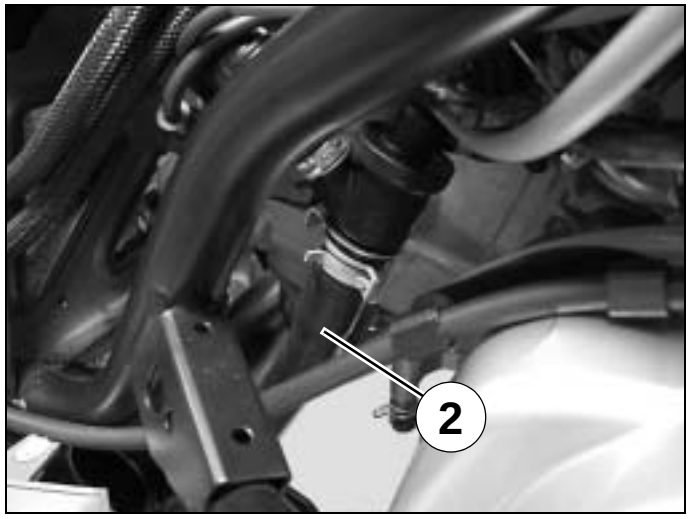
■ Draining the cooling circuit



Note: The cooling system is drained when the engine is cold.

- Remove the footboards. See: Procedure 6. Page: 34.
- Remove the header tank cap.

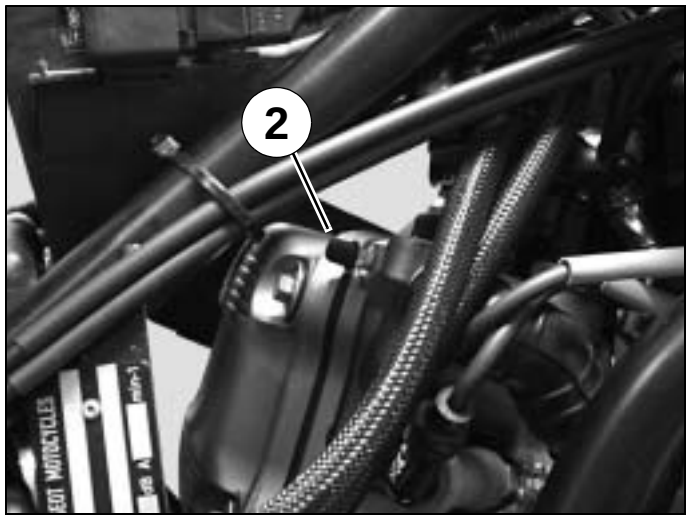
- Disconnect the water pump and cylinder head hoses. (1 and 2)



Filling the cooling system.

- Connect the hoses.
- Fill the circuit with 1.4 L of coolant.
- Loosen the bleeder screw (2) to remove air contained in the engine.
- Close the bleeder screw.

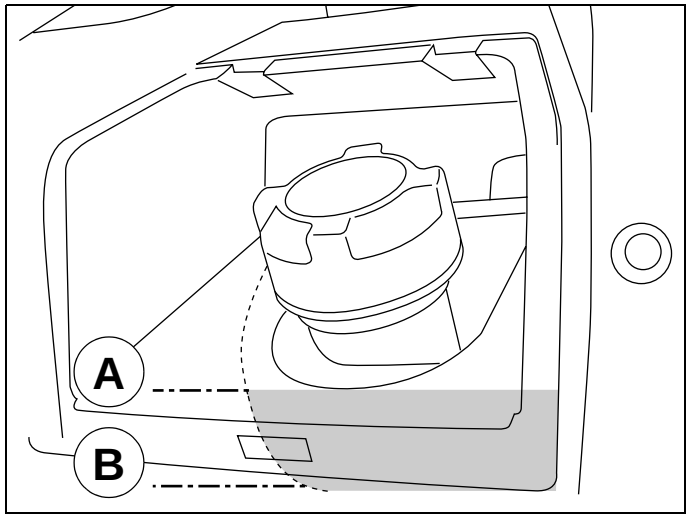
Tightening torque: 0.3 m.daN.



- Start the engine and accelerate in order to warm it up.
- Stop the engine once it reaches its operating temperature. Approximately 90°C

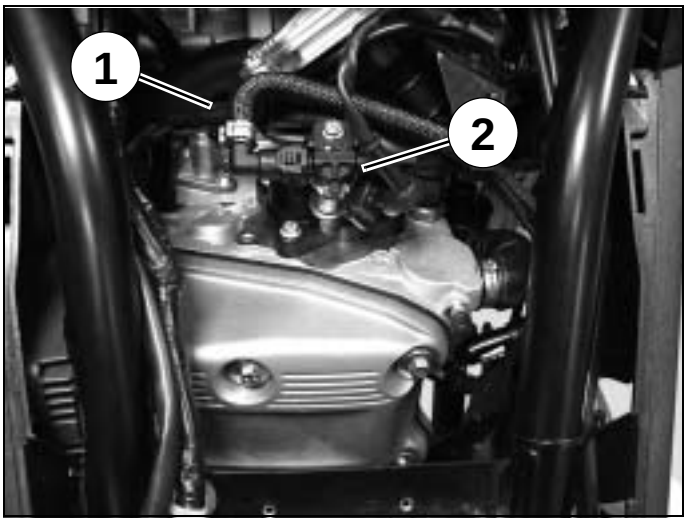
- Check the coolant level in the header tank.
- If necessary add coolant in the header tank

A. Maximum level.
B. Minimum level.



Note: Check the level with the machine parked on its centre stand, on level ground.

■ Installing the valve clearance



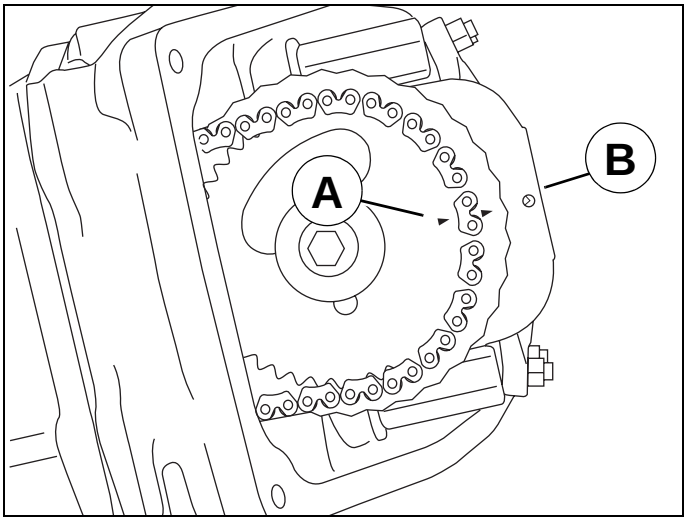
- Remove the bottom panel. (13 screw)
- Remove the transmission cover trim. (4 screw)
- Remove the access doors
- Remove the battery bracket. See: Procedure 9. Page: 40.
- Disconnect the lambda sensor. (1)
- Remove the exhaust assembly
- Remove the fuel injector without disconnecting the supply hose. (2)

Tightening torque: 0.8 m.daN.

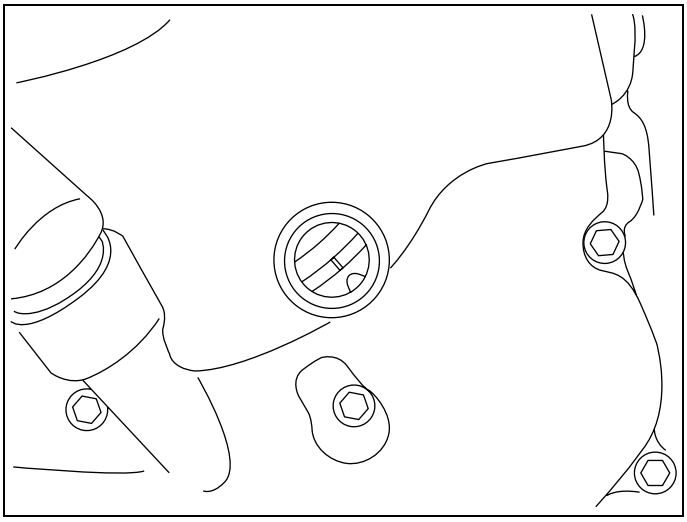
- Remove the rocker cover. (6 screw).

Tightening torque: 0.8 m.daN.

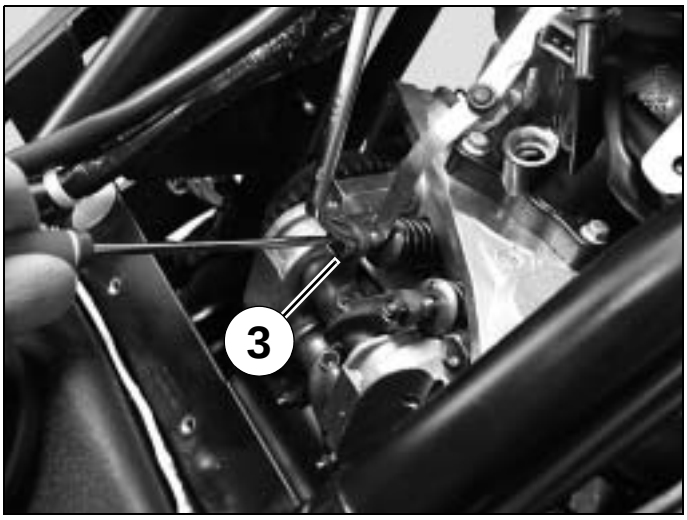
- Rotate the engine by hand in the operating direction in order to align the (A) mark on the pinion with the mark on the cylinder head. (B)



Note: With a 500 cc engine equipped with an automatic decompressor valve, use the flywheel magneto mark.



- Loosen the lock nut of the rocker adjustment screw. (3)
- By means of feeler gauges, adjust the clearance of every valve by acting on the rocker set screw.

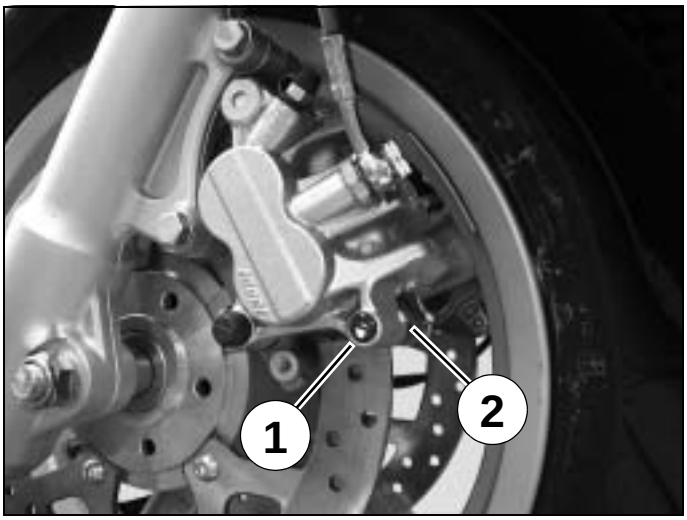


Clearances:

- 15/100 at the intake
- 15/100 at the exhaust

- Immobilize the rocker set screw.
- Tighten the locknut without altering the adjustment.
- Check the adjustment.

■ Replacing the brake pads



Front brake.

Note: This operation shall be carried out on each side. Do not push back the pistons if the 2 calipers have been removed.

- Remove the brake pad pin cap. (1)
- Remove the brake pad pin. (2)
- Remove the brake pads.

Mini. thickness: 1.5 mm.

- When refitting the brake pads, push the pistons all the way into their housing.

After refitting, actuate the brake levers several times to bring the brake pads against the brake disc.

- Carry out the same operation for the RH side

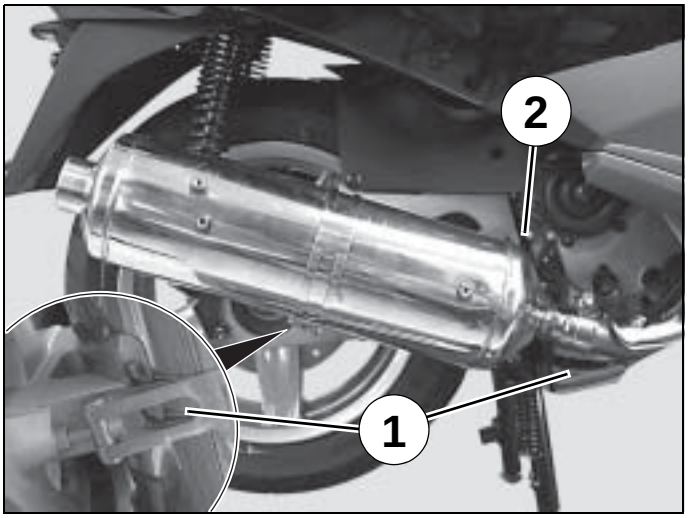
Rear brake.

- Remove the exhaust muffler trim. (3 screw)

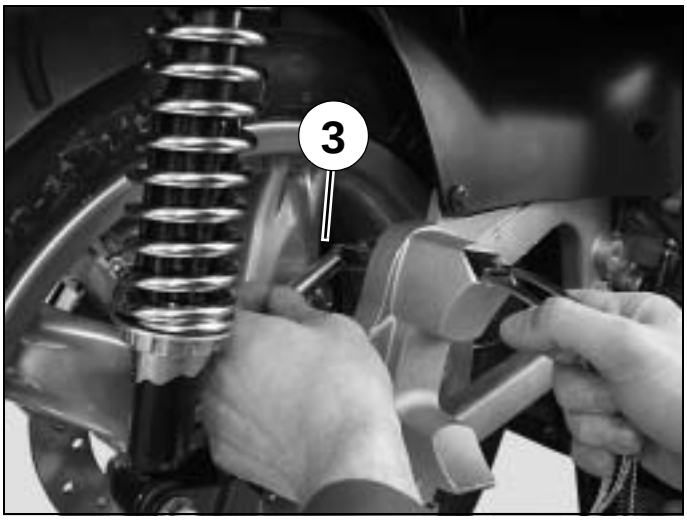
- Remove the heat shield. (3 screw)

- Loosen the collars. (1)
- Remove the upper fixing bolts. (2)
- Remove the exhaust.

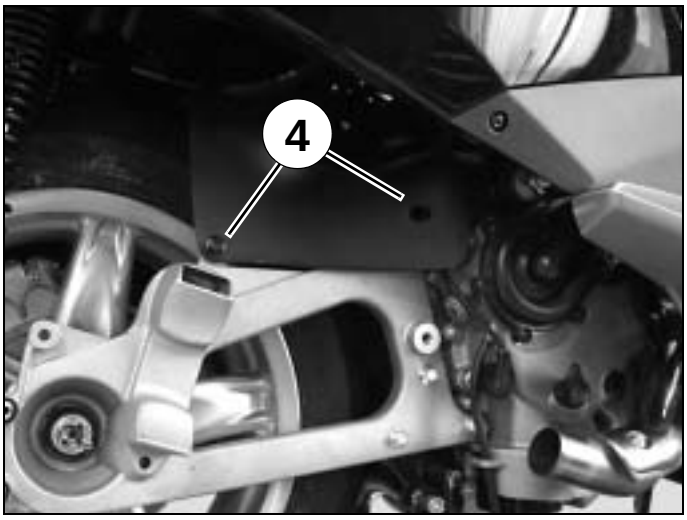
Tightening torque: 1 m.daN.



- Remove the collar retaining pin. (3)
- Remove the collar.



- Remove the 2 lower fixing bolts (4) from the mudflap.

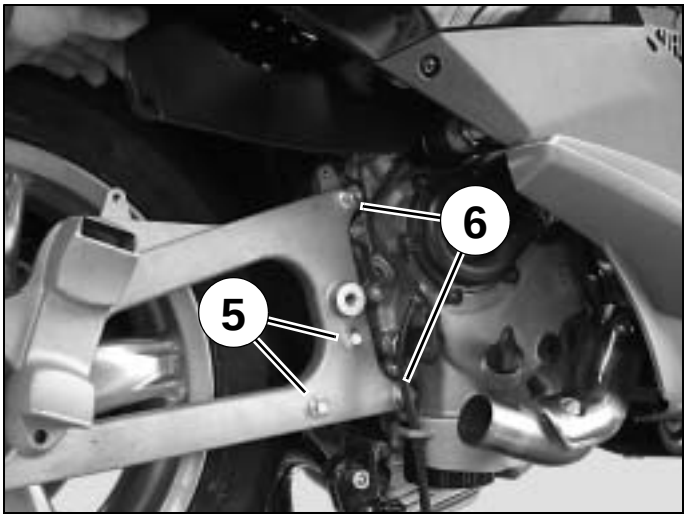


- Remove the 2 screws that secure the stand support. (5)

Tightening torque: 2.2 m.daN.

- Remove the 2 nuts that secure the arm. (6)

Tightening torque: 2.8 m.daN.



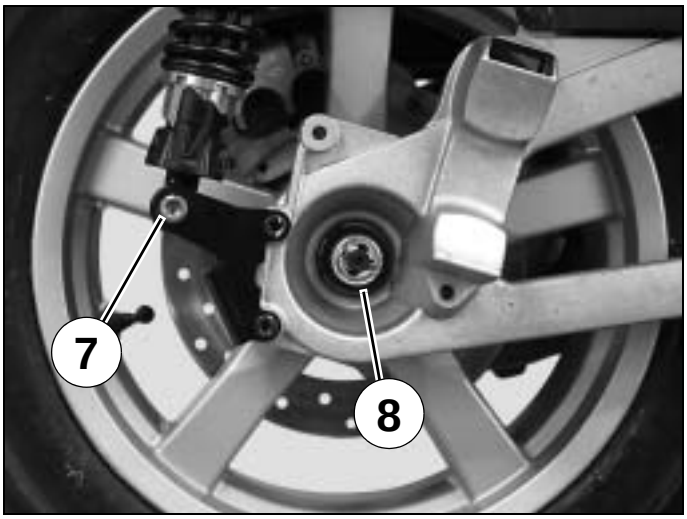
- Remove the shock absorber lower mount (7).

Tightening torque: 4.5 m.daN.

- Remove the pin, the nut retainer and the wheel nut. (8)

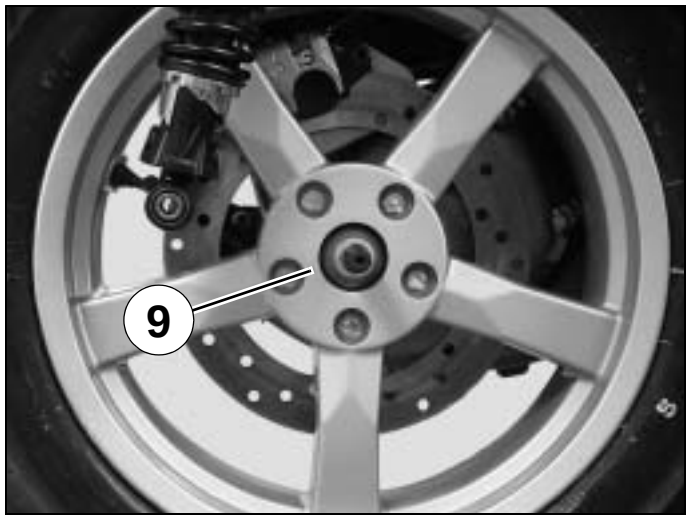
Tightening torque: 13.5 m.daN.

- Remove the suspension arm.



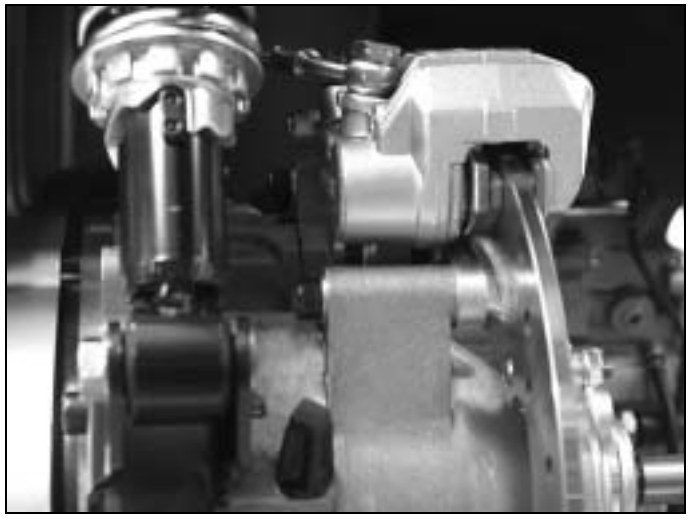
- Remove the spacer. (9)
- Remove the wheel. (5 screw)

Tightening torque: 2.5 m.daN.



- Remove the calliper. (2 screw).

Tightening torque: 2.5 m.daN.

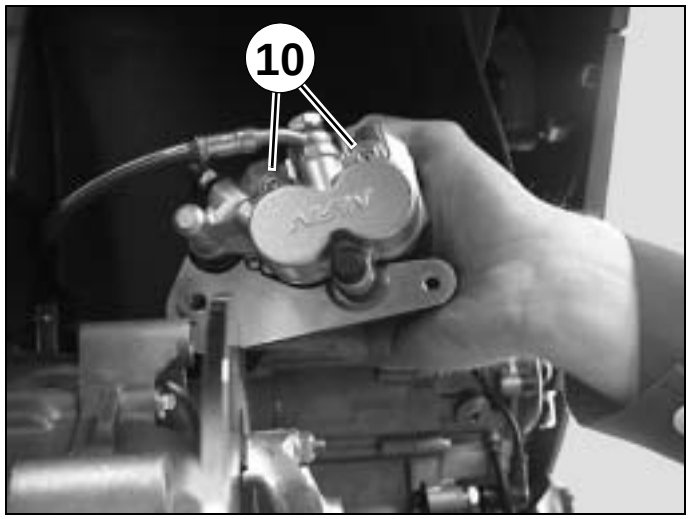


- Remove the 2 spindles (10).
- Remove the brake pads.

Mini. thickness: 1.5 mm.

- When refitting the brake pads, push the pistons all the way into their housing.

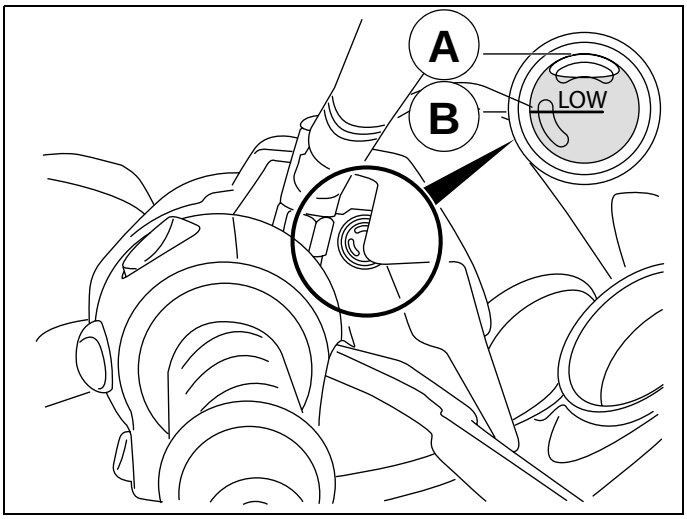
Note: After refitting, actuate the brake levers several times to bring the brake pads against the brake disc.



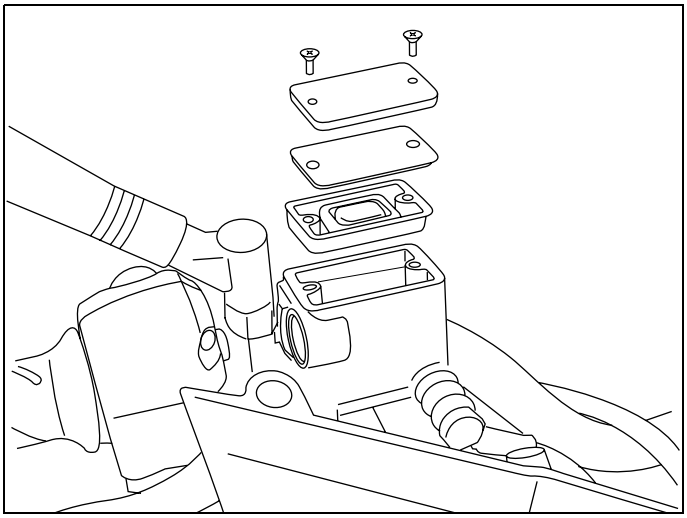
■ Checking the brake fluid level

- Position the handlebars so that the master cylinder will be horizontal.
- Check the brake fluid level and if necessary top up in the master cylinder.

A. Maximum brake fluid level.
B. Minimum brake fluid level.



- Remove the handlebar upper fairing. (8 screw)
- Remove the cover and the diaphragm from the master cylinder. (2 screw)
- Add brake fluid until it reaches the maximum level.



SERVICING THE ABS/MBS SYSTEM

■ Reminder

The ABS/MBS features 3 distinctive functions:

1. Combined front and rear braking system controlled by the LH brake lever.
2. Braking assistance system provided on the front wheel.
3. Anti-locking system provided on the front wheel.

Before servicing the system, carry out a diagnosis using the diagnostic tool and print out a parameter report.

If fault codes appear, repair as required.

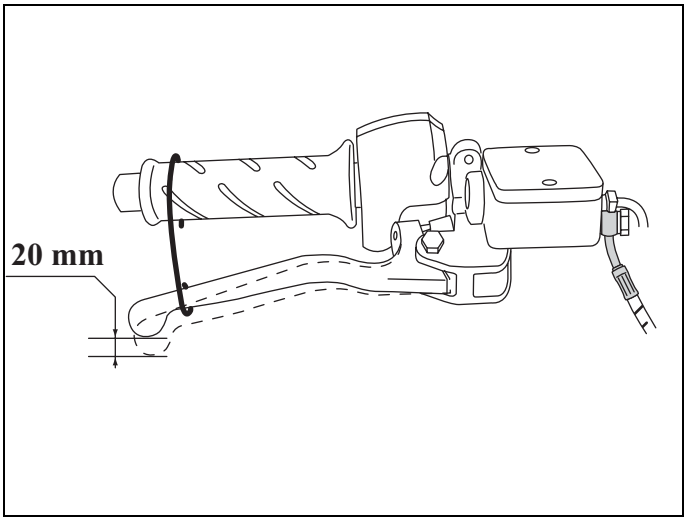
The diagnostic light of the system only goes off when the machine reaches 5 km/h.

The rider brakes with the left lever (integral braking), and the right lever (braking on the front wheel only) becomes an emergency brake.

For diagnosing the ABS/MBS system, see document: ABS/MBS braking system functioning principle. Reference: 759568.

■ Removal of the brake modulator

- Remove the front shield panel. See: Procedure 8. Page: 36
- Remove the handlebar upper fairing. (8 screw)
- Remove the mudguard.



Plastic parts must be protected from brake fluid splashes.

Hold the brake levers at 20 mm from the rest position using plastic straps. This operation allows you to close the circuits and to avoid emptying the hydraulic controls when disconnecting the modulator.

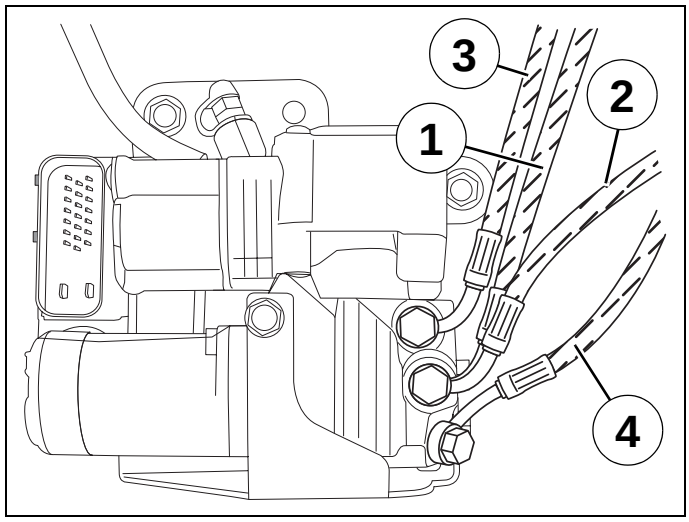
Do not remove the master cylinder covers.

- Disconnect the modulator.
- Disconnect the hydraulic controls.
- Remove the brake modulator. (2 nuts)

Place a pan under the modulator so that the brake fluid will drip into it.

The modulator shall not be open, the manufacturer is the only one allowed to service this component.

■ Re-installing the modulator



Note: The modulator is already filled with brake fluid when delivered. In order not to lose any brake fluid when connecting the modulator, remove the caps and connect the hydraulic hoses one after the other.

- Place the modulator in its support.

Tightening torque: 2.2 m.daN.

- Position the hydraulic controls in the indicated order:
  - The hydraulic control coming from the LH master cylinder. (1)
  - The hydraulic control going to the rear brake calliper. (2). Place it over the hydraulic control. (1)
  - The hydraulic control coming from the RH master cylinder. (3)
  - The hydraulic control going to the front brake calliper. (4)

Tightening torque: 2.8 m.daN.

Note: Change the copper seals each time they are removed.

- Connect the modulator.
- Bleed the hydraulic system according to the required procedure.

■ Bleed procedure

Reminder:

- The rear brake hydraulic system is drained using the LH lever.
- The front brake hydraulic system is drained using the RH lever.
- The front and rear brake systems are drained the usual way.
- The brake assistance circuit is drained by actuating the modulator pump by means of the diagnostic tool.

Note:

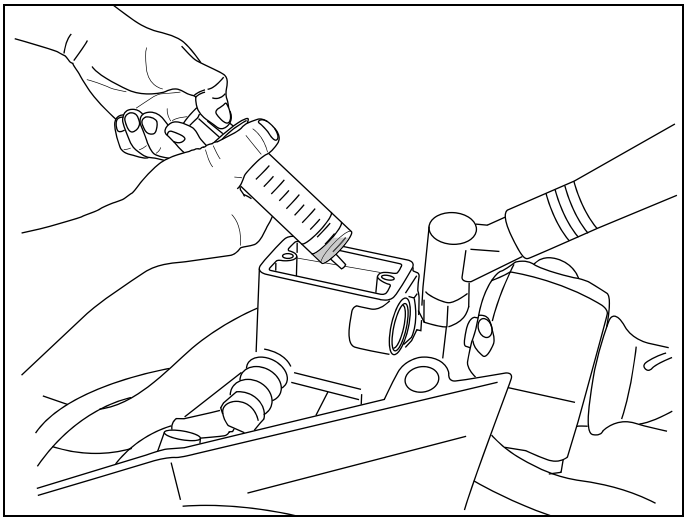
- Plastic parts must be protected from brake fluid splashes.
- Remove the hook or plastic strap in order to free the control lever.

Equipment required:

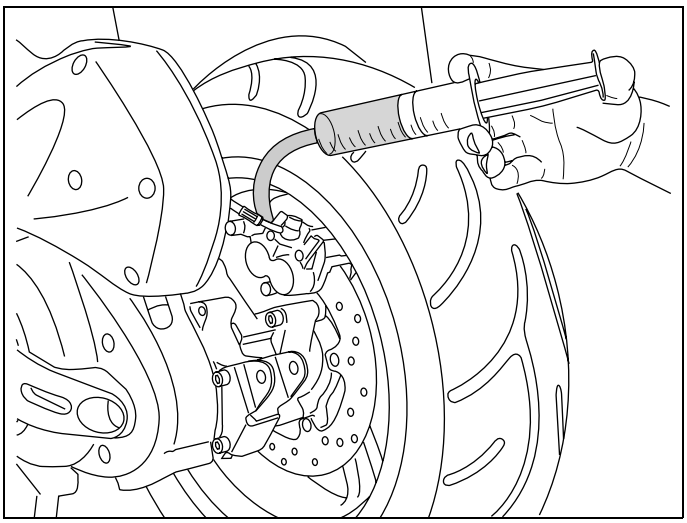
- 500 ml brake fluid of minimum grade: DOT4.
- Bleed syringe. P/N: 754306.
- Transparent pipe.
- 2 additional 100 ml reservoirs..

Draining the rear brake circuit.

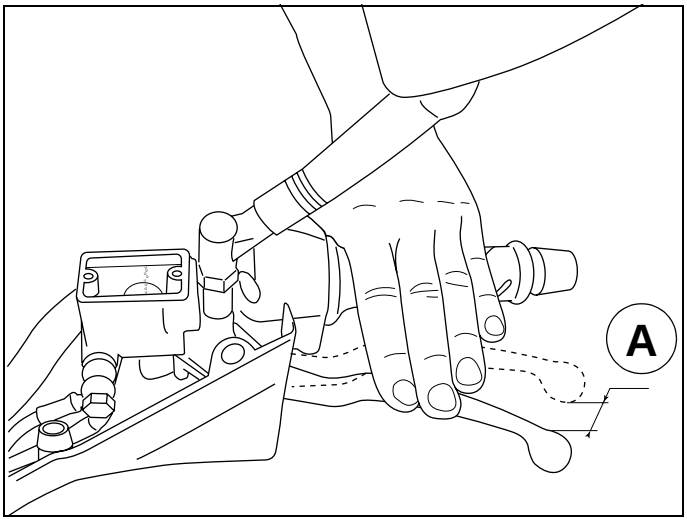
- Remove the cover from the LH master cylinder.
- Using the syringe, empty the LH master cylinder.
- Position the handlebars so that the master cylinder is in its uppermost position, in order to expell the air bubbles from the circuit.



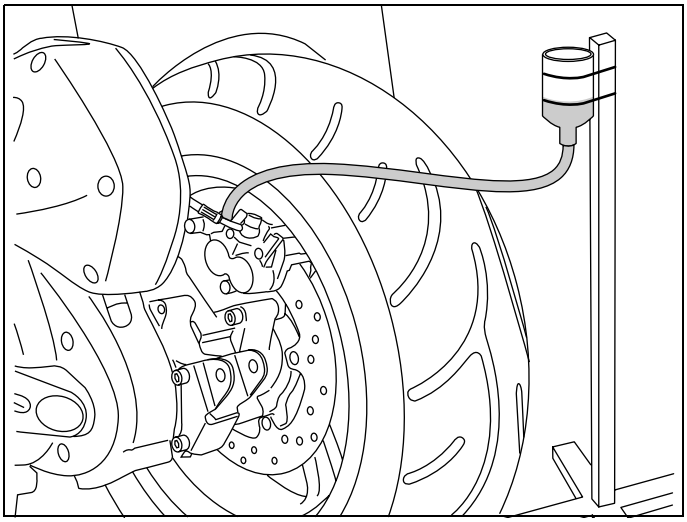
- Fill the syringe equippd with a transparent pipe with brake fluid.
- Connect the syringe to the bleed screw of the rear calliper.
- Open the bleed screw by 1 to 2 turns.
- Inject the brake fluid slowly into the circuit until the level inside the reservoir is halfway up.
- Close the bleeder screw.



- Slowly actuate the brake control lever by displacing it 2 cm (A) maximum from its rest position until no more bubbles can be seen coming up through the master cylinder.
- This operation can take a few minutes.

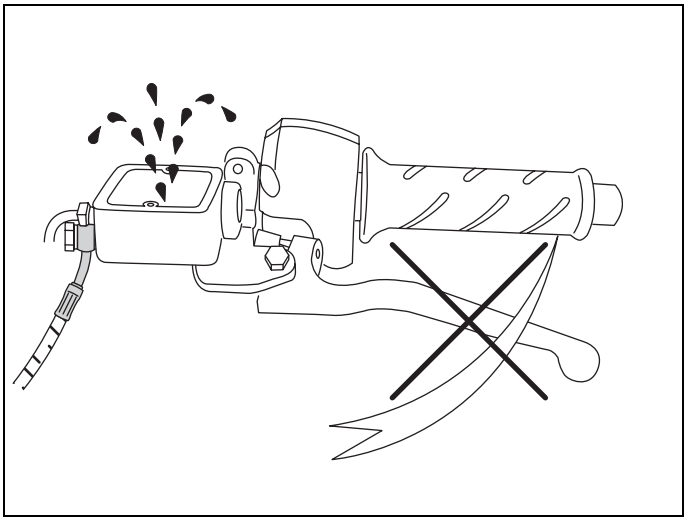


- Connect a reservoir containing brake fluid to the rear brake calliper bleed screw using a transparent pipe.. The reservoir must be kept higher than the brake calliper to easily check that the air bubbles are being expelled.
- Open the bleed screw by 1 to 2 turns.



- Actuate the LH brake lever in an even way and without undue haste while topping up with brake fluid in the master cylinder.

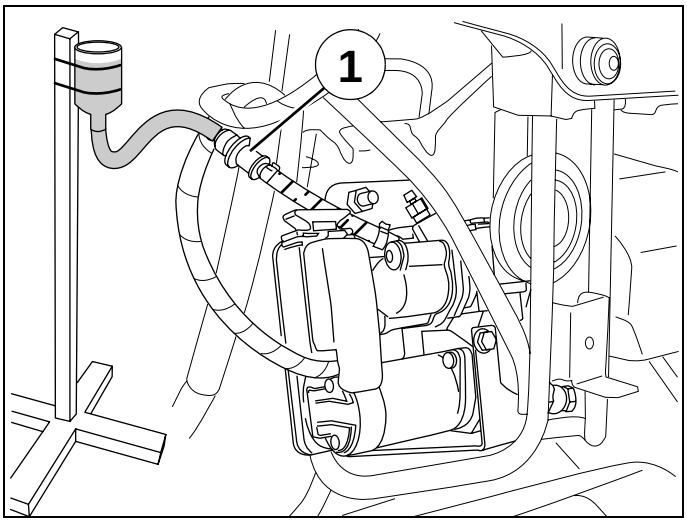
Note: Don't lean over the master cylinder when bleeding the circuit in order not to get splashed by brake fluid.



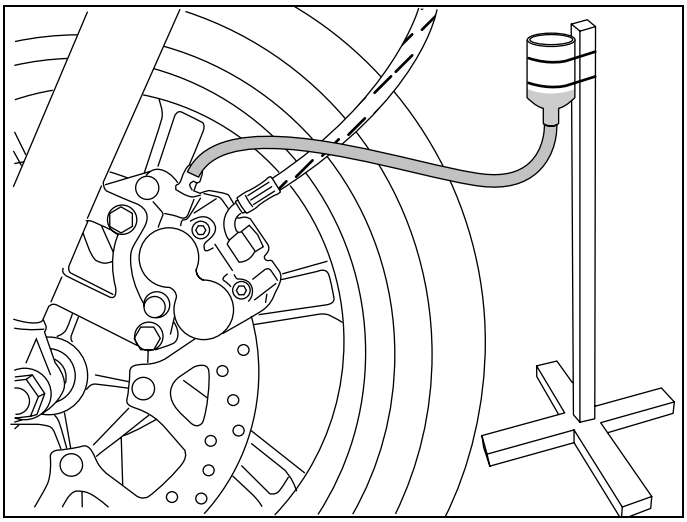
- Stop the operation when no more bubbles are expelled from the calliper bleeder screw.
- Close the caliper bleed screw.
- Check the firmness of the lever without roughly squeezing the lever to avoid the brake fluid from splashing out.
- Otherwise, repeat the operation from the beginning.
- Check the brake fluid level and if necessary top up in the master cylinder, and re-fit the master cylinder cover.

Bleeding the assistance circuit.

Note: Before servicing the assistance system you must absolutely be sure that the battery is perfectly charged, as a considerable voltage drop would immediately turn off the assistance pump.



- Connect the additional reservoir equipped with a transparent pipe to the modulator's reservoir screw plug (1) and fill
- Open the screw plug by 2 or 3 turns.

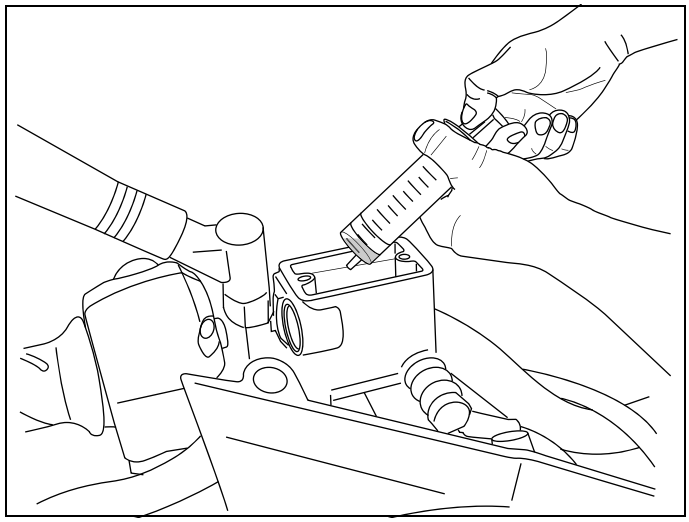


- Connect the reservoir containing brake fluid to the front brake calliper bleed screw using a transparent pipe. The reservoir must be kept higher than the brake calliper to easily check that the air bubbles are being expelled.
- Open the bleed screw by 1 to 2 turns.
- Turn on the ignition.
- Connect the diagnostic tool and actuate the modulator pump.
- Regularly add brake fluid in the additional reservoir.
- Stop the operation when there are no more bubbles in the transparent pipe.
- Close the bleeder screw.

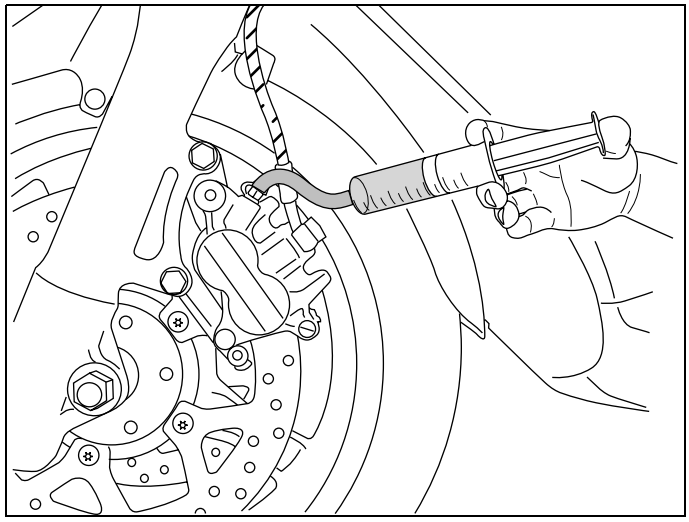
As a precautionary measure, the pump shall not continuously operate for more than 2 minutes.

Draining the front brake circuit.

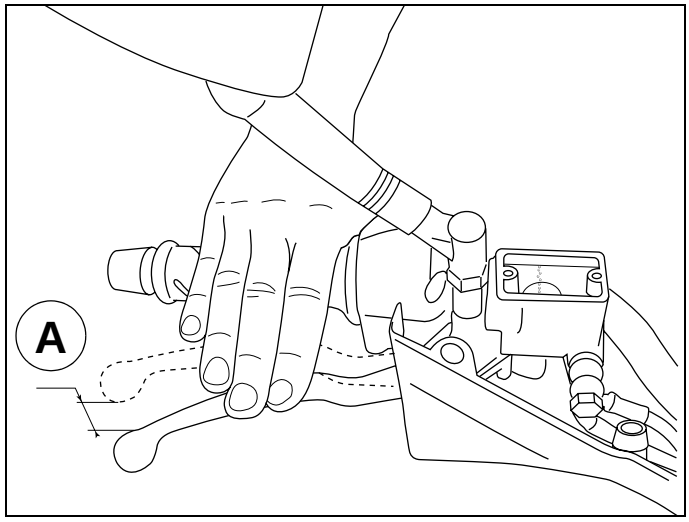
- Remove the cover from the RH master cylinder.
- Using the syringe, empty the RH master cylinder.
- Position the handlebars so that the master cylinder is in its uppermost position, in order to expell the air bubbles from the circuit.



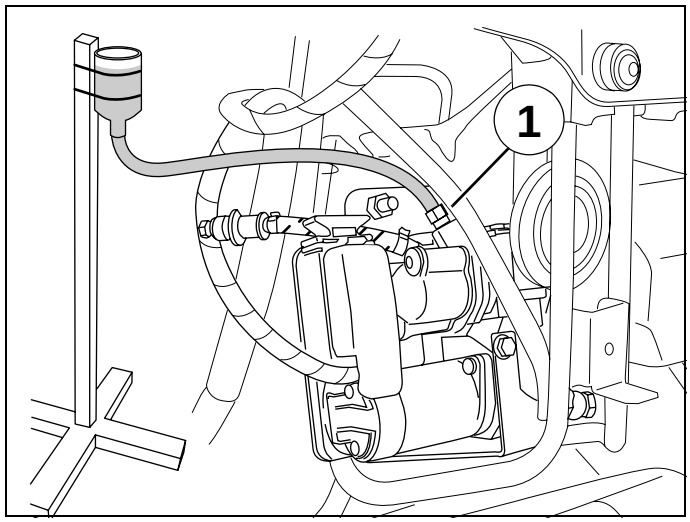
- Fill the syringe equippd with a transparent pipe with brake fluid.
- Connect the syringe to the bleed screw of the front calliper.
- Open the bleed screw by 1 to 2 turns.
- Inject the brake fluid slowly into the circuit until the level inside the reservoir is halfway up.
- Close the bleeder screw.



- Slowly actuate the brake control lever by displacing it 2 cm (A) maximum from its rest position until no more bubbles can be seen coming up through the master cylinder.
- This operation can take a few minutes.



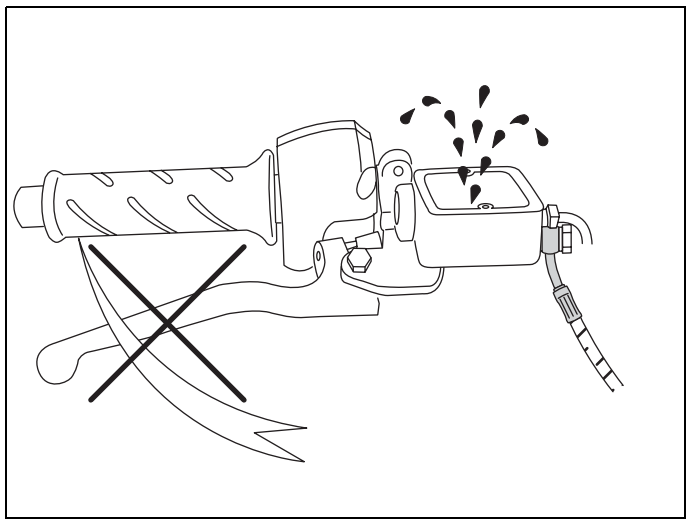
- Connect the reservoir containing brake fluid to the modulator bleed screw (1) using a transparent pipe. The reservoir must be kept higher than the modulator to easily check that the air bubbles are being expelled.
- Open the bleed screw by 1 to 2 turns.



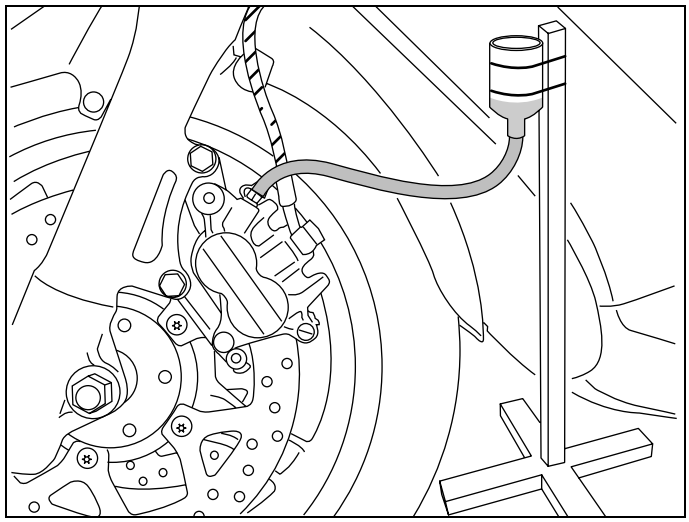
- Actuate the RH brake lever in an even way and without undue haste while topping up with brake fluid in the master cylinder.

Note: Don't lean over the master cylinder when bleeding the circuit in order not to get splashed by brake fluid.

- Stop the operation when no more bubbles are expelled from the modulator.
- Close the bleeder screw.



- Connect the reservoir containing brake fluid to the front brake calliper bleed screw using a transparent pipe. The reservoir must be kept higher than the brake calliper to easily check that the air bubbles are being expelled.
- Open the bleed screw by 1 to 2 turns.
- Actuate the RH brake lever in an even way and without undue haste while topping up with brake fluid in the master cylinder.
- Stop the operation when no more bubbles are expelled from the calliper bleeder screw.
- Close the caliper bleed screw.
- Check the firmness of the lever.
- Otherwise, repeat the operation from the beginning.
- Check the brake fluid level and if necessary top up in the master cylinder, and re-fit the master cylinder cover.



Integral braking system static test.

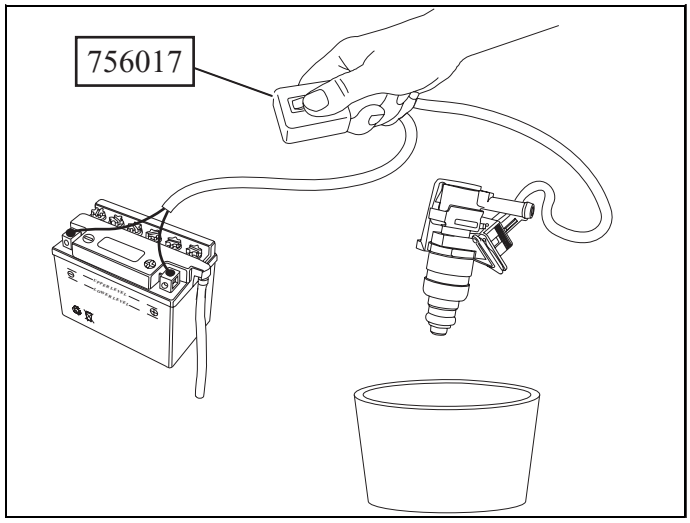
- Wedge the machine frame so that the front wheel is not in contact with the floor.
- Turn on the ignition.
- Turn the front wheel at over 5 km/h, and operate one of the brake levers to check that the high pressure pump operates with both levers.
- Check by actuating the LH control lever: the front wheel stops.
- If not, repeat the operation: Bleeding the assistance circuit.

MISCELLANEOUS OPERATIONS

■ Procedure for reducing the fuel circuit pressure.

Procedure 10.

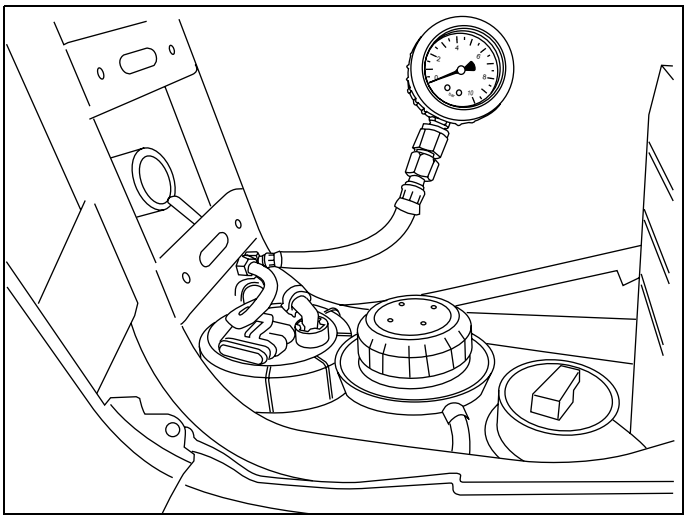
- Remove the battery bracket. See: Procedure 9. Page: 40.
- Disconnect the fuel injector.
- Remove the fuel injector without disconnecting the supply hose.
- Connect the fuel injector power supply harness tool P/N 756017 to the fuel injector and the battery.
- Place the injector above a pan.
- Actuate the contact switch of the tool 3 times for 5 seconds while respecting a released time of 5 seconds between each action, in order to drop the pressure inside the supply hose of the fuel manifold.



The pressurised jet of fuel may be dangerous for the skin, do not expose the hands to the jet of fuel when opening the injector.

■ Checking fuel pressure

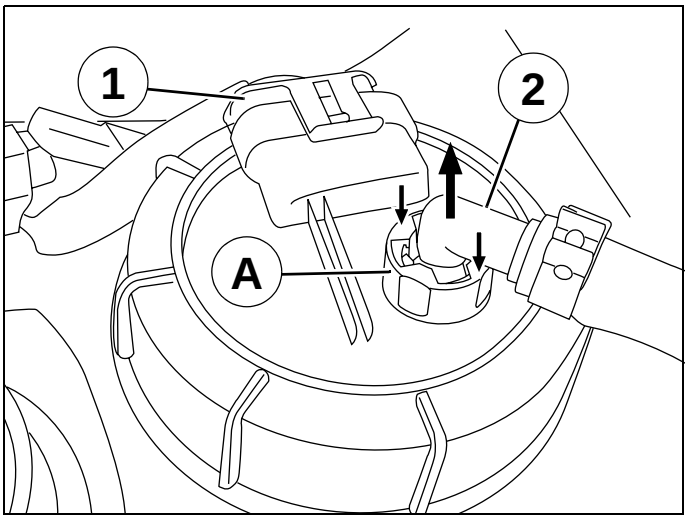
- Carry out the procedure for lowering the pressure in the fuel system. See: Gamme 10. Page: 64.
- Disconnect the fuel supply hose.
- Insert the pressure gauge P/N 757877 between the gauge well and the supply hose
- Always use hose clamps that are in good condition.
- Turn the ignition on 3 times to bleed the fuel system.
- With the engine stopped, check the fuel pressure which must be 2.5 bars when switching on the fuel pump.



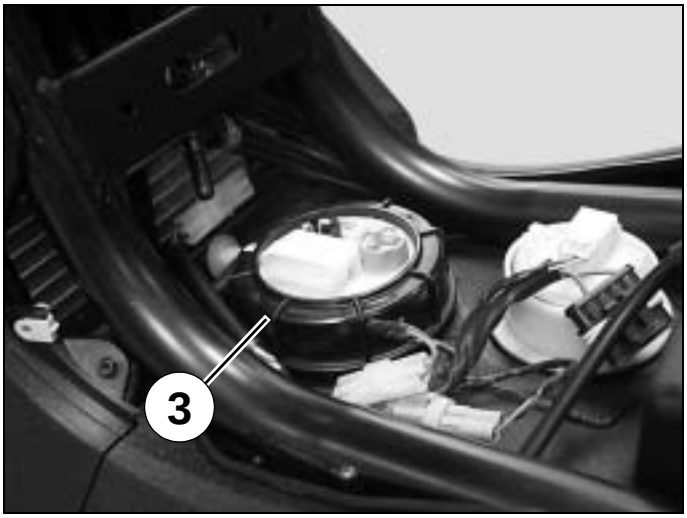
Before disconnecting the pressure gauges, lower the fuel pressure in the fuel system.
Always reinstall the hoses with new hose clamps.

■ Removal of the fuel pump

- Carry out the procedure for lowering the pressure in the fuel system. See: Procedure 10. Page: 64.
- Disconnect the fuel pump. (1)
- Disconnect the fuel pipe by pressing against the ring (A) to remove the quick disconnect coupler (2).



- Loosen by hand the pump locking ring. (3)
- Remove the fuel pump.

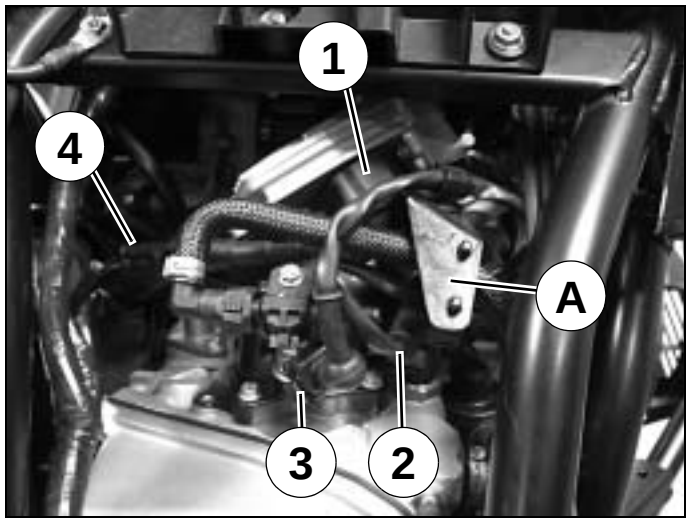


■ Removal of the fuel gauge.

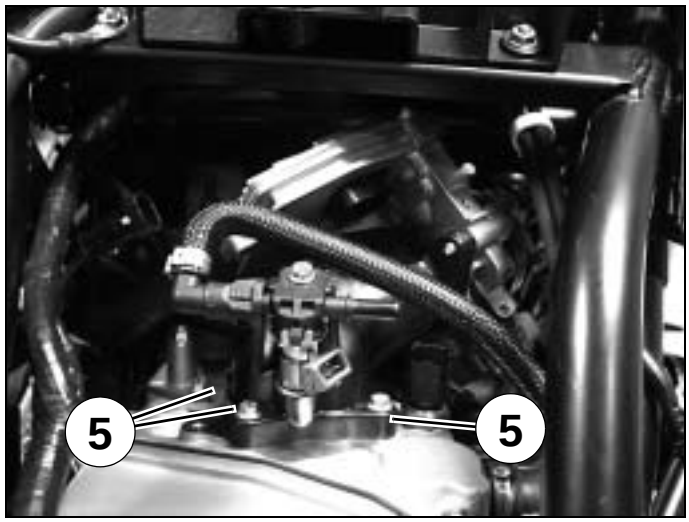
- Remove the tank cover panel. See: Procedure 5. Page: 34.
- Disconnect the fuel gauge.
- Using tool P/N 756715, remove the fuel gauge.

■ Removal of the throttle box

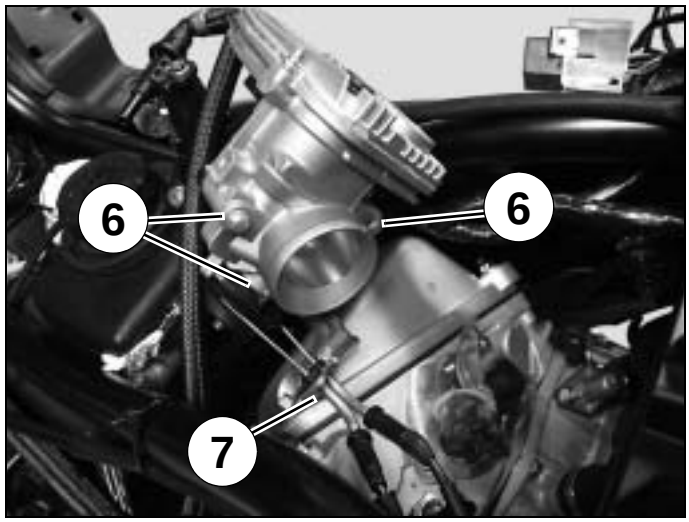
- Remove the battery bracket. See: Procedure 9. Page: 40.
- Remove the LH footboard. See: Procedure 6. Page: 34.
- Remove the screw that secures the wiring harness clamp and the fuel hose anchor bracket. (A)
- Disconnect:
  - The throttle box.
  - The temperature sensor.
  - The fuel injector.
  - The lambda sensor.



- Remove the inlet coupling 3 fixing bolts. (5)



- Remove the 3 screws that secure the throttle box. (6)
- Disconnect the throttle control cables. (7)
- Remove the throttle box.

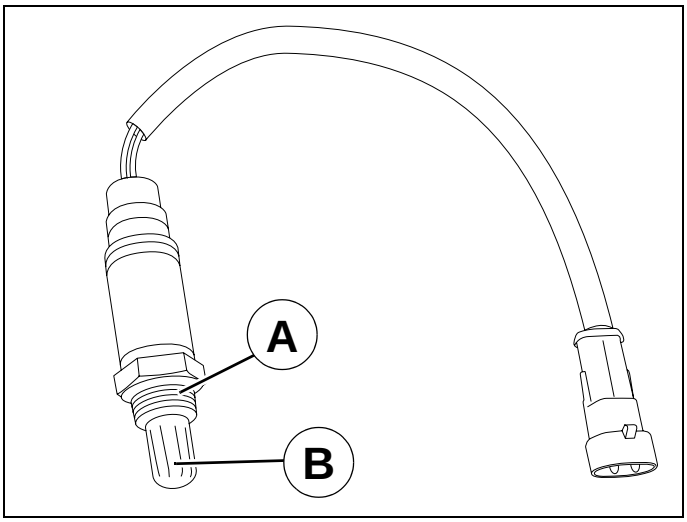


■ Removal of the lambda sensor

- Remove the RH fairing. See: Procedure 3. Page: 32.
- Disconnect the lambda sensor.
- Using a box-end wrench, remove the lambda sensor.

Tightening torque: 2.5 m.daN

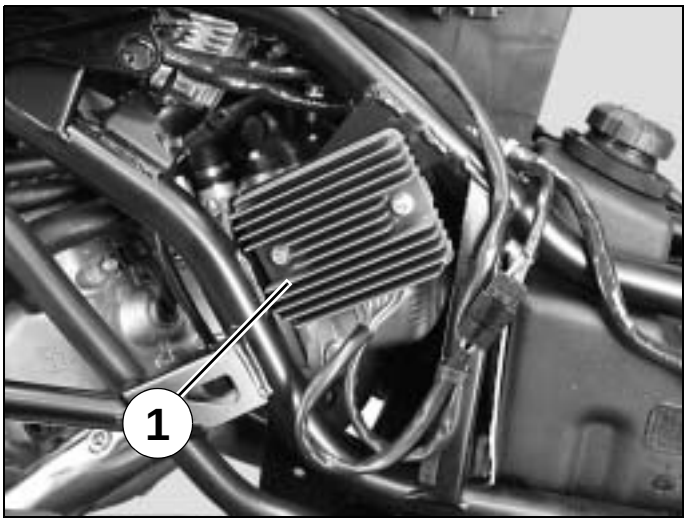
Note: When reinstalling, lubricate the threads (A) of the sensor with graphite grease.



In order not to damage the Lambda sensor, never lubricate or clean the end piece (B) which is exposed to the exhaust gas.

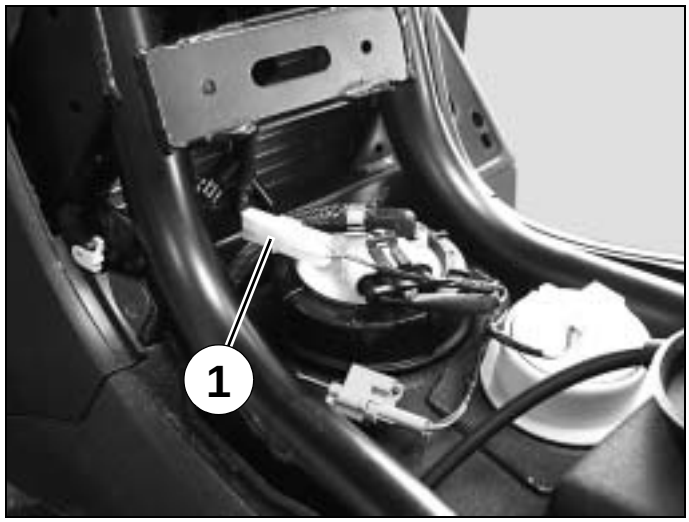
■ Removal of the regulator

- Remove the RH footboard. See: Procedure 6. Page: 34.
- Disconnect and remove the regulator. (1)

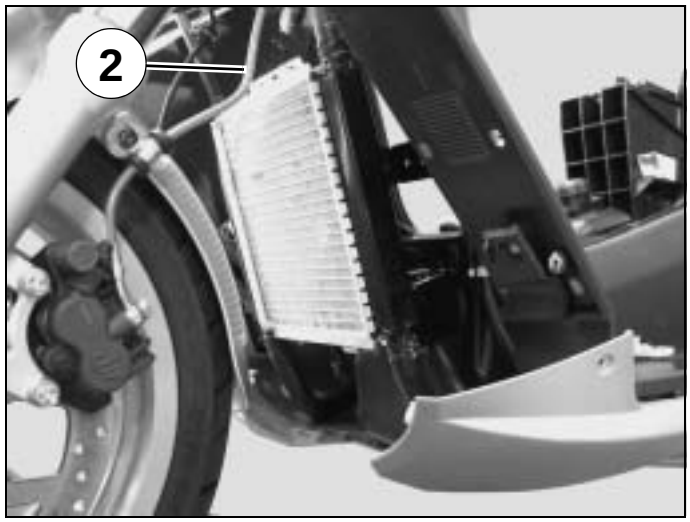


■ Removal of the radiator

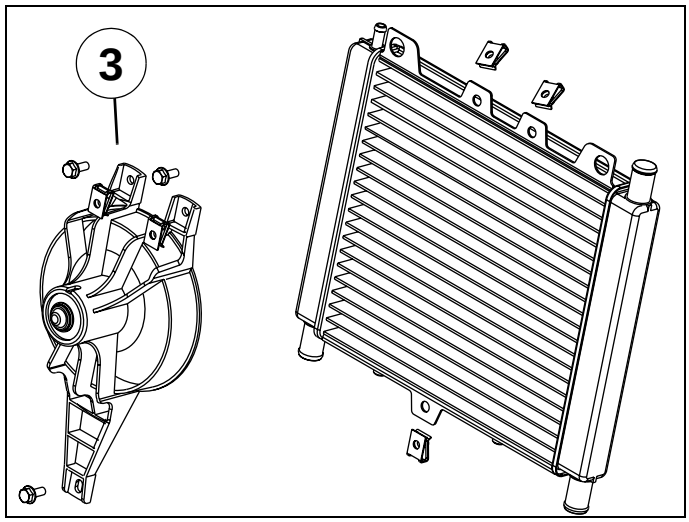
- Remove the tank cover panel. See: Procedure 5. Page: 34.
- Disconnect the fan. (1)



- Remove the front shield panel. See: Procedure 8. Page: 36.
- Remove the mudguard.
- Remove the footboard linking cross member.
- Remove the upper fixing bolts. (2)
- Drain the cooling circuit.
- Disconnect the 4 hoses of the radiator's cooling circuit.
- Remove the radiator.

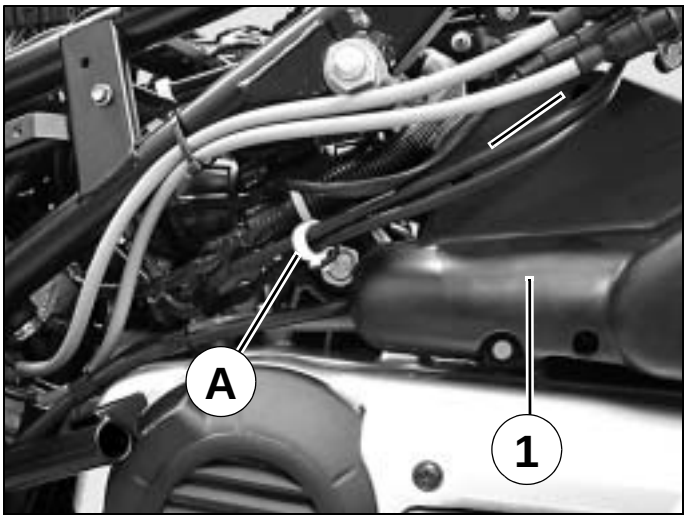


- Remove the fan. (3). (3 screw)



■ Removal of the engine mounting assembly

- Remove the storage compartment. See: Procedure 4. Page: 33.
- Remove the footboards. See: Procedure 6. Page: 34.
- Suspend the rear of the machine.
- Remove the intake silencer. (1) (2 clips and 3 screws).
- Remove the sheath holder. (A)

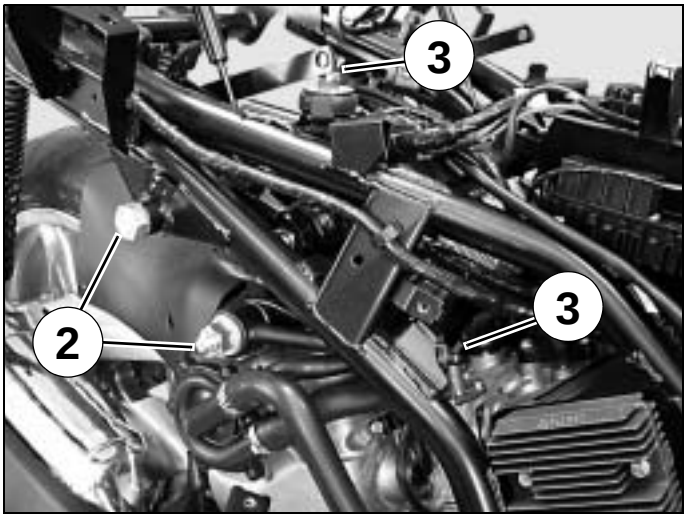


- Loosen the 2 nuts. (2)

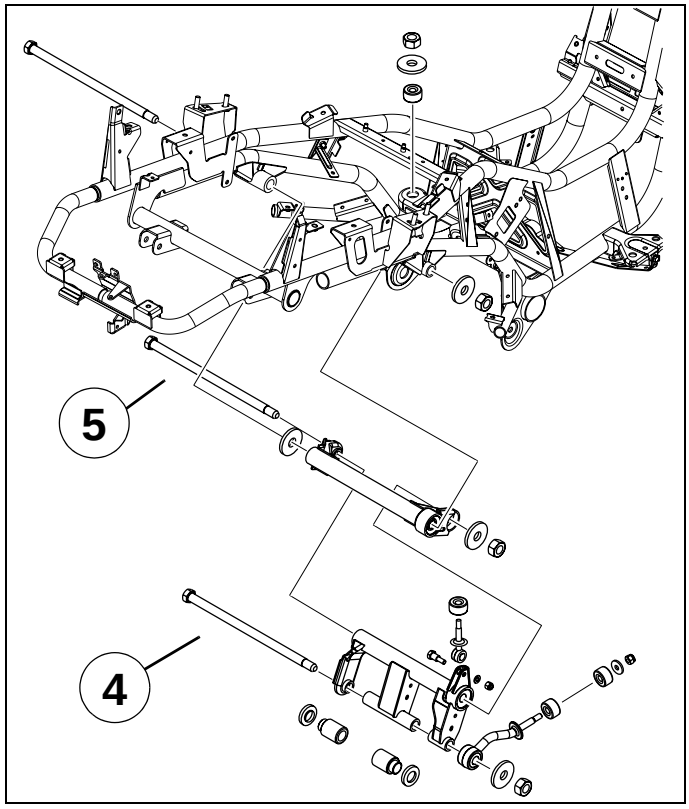
Tightening torque: 9.5 m.daN.

- Remove the 2 nuts from the torque rods. (3)

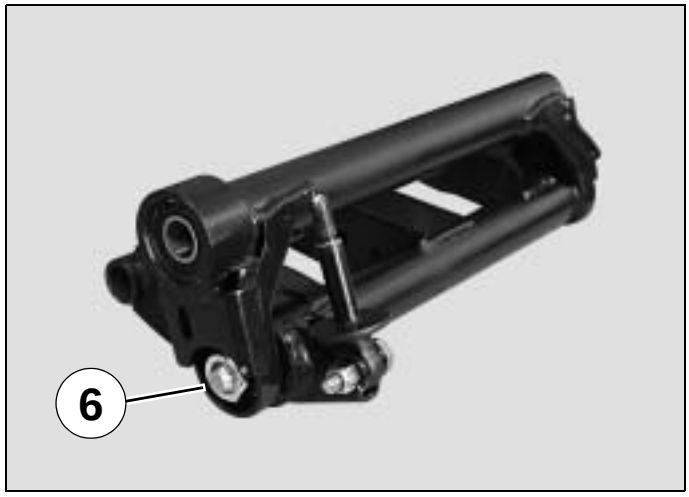
Tightening torque: 3.6 m.daN.



- Remove the linkrod-to-engine connecting pin. (4)
- Remove the linkrod-to-frame connecting pin. (5)



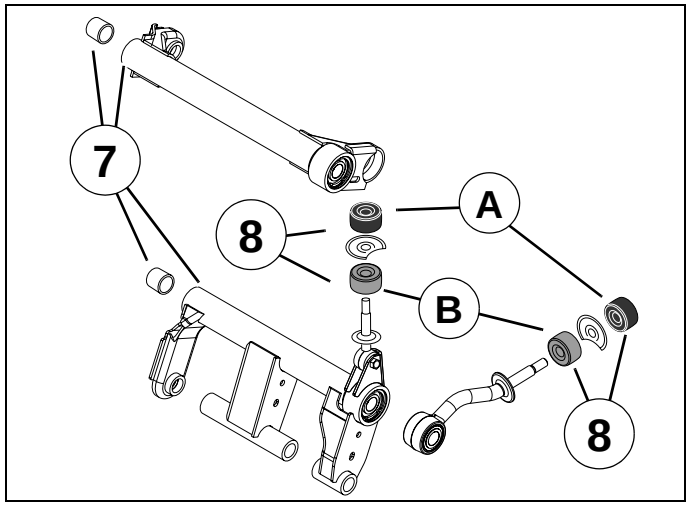
- Remove the linkrod connecting pin. (6)



- Check the condition of the spacers and needle bearings. (7)
- Make sure that the silent block is not cracked. (8)

Note: We recommend greasing all needle bearings when refitting these parts.

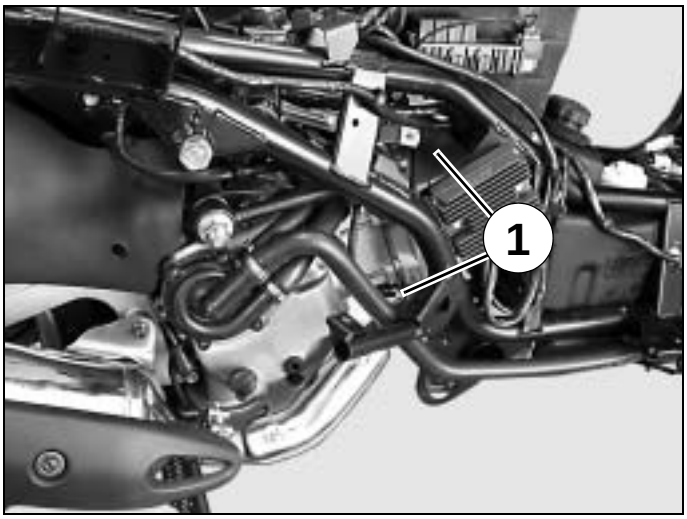
- When re-installing, fit the rubber bushings with the colours shown:
  A. Black
  B. Grey



■ Removal of the engine

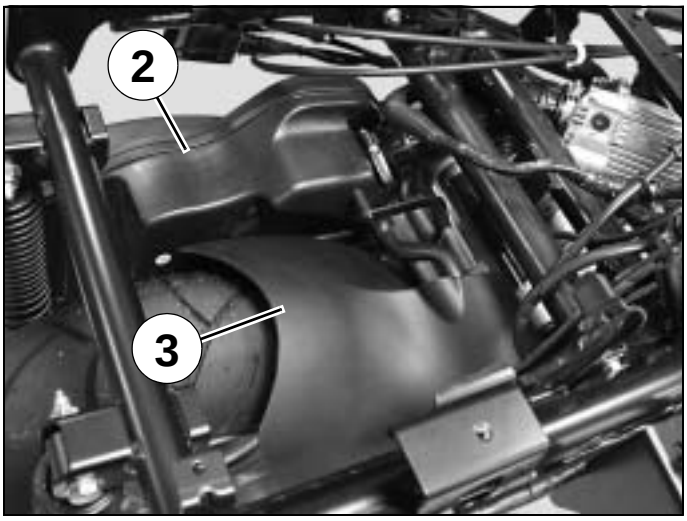
Note: To remove the cylinder head, remove the power propulsion unit.

For removal of the cylinder head, cylinder and piston, see the workshop manual: 4 stroke engine. 4 valves. Reference: 759533.

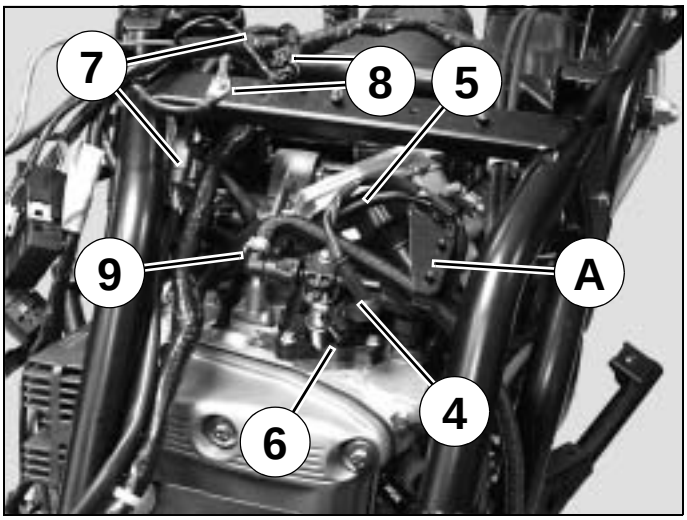


- Remove the storage compartment. See: Procedure 4. Page: 33.
- Remove the footboards. See: Procedure 6. Page: 34.
- Remove the bottom panel.
- Remove the battery bracket. See: Procedure 9. Page: 40.

- Disconnect the lambda sensor. (1)
- Remove the exhaust assembly.



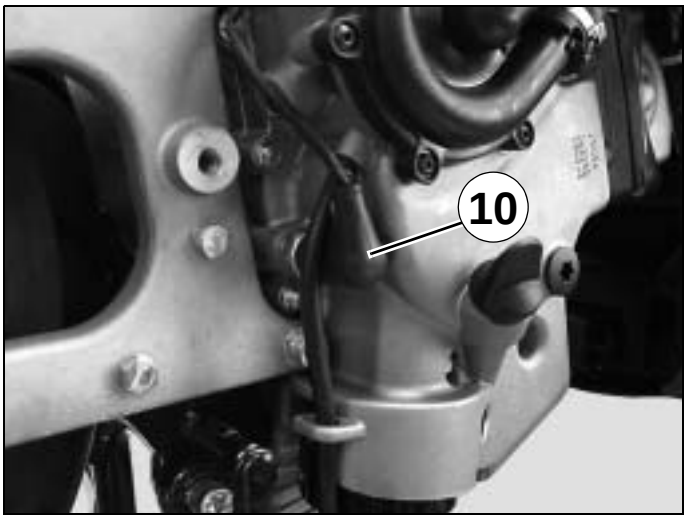
- Remove the intake silencer. (2)
- Remove the rear mudguard. (3)



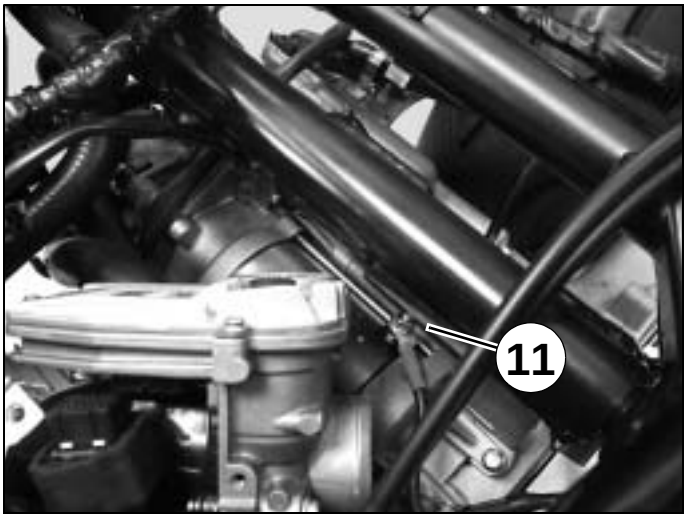
- Remove the screw that secures the wiring harness clamp and the fuel hose anchor bracket. (A)

- Disconnect:
  - The fuel injector. (4)
  - The throttle box. (5)
  - The temperature sensor. (6)
  - The magneto. (7)
  - The engine ground. (8)
  - The suppressor.
- Disconnect the injector fuel feed hose. (9)

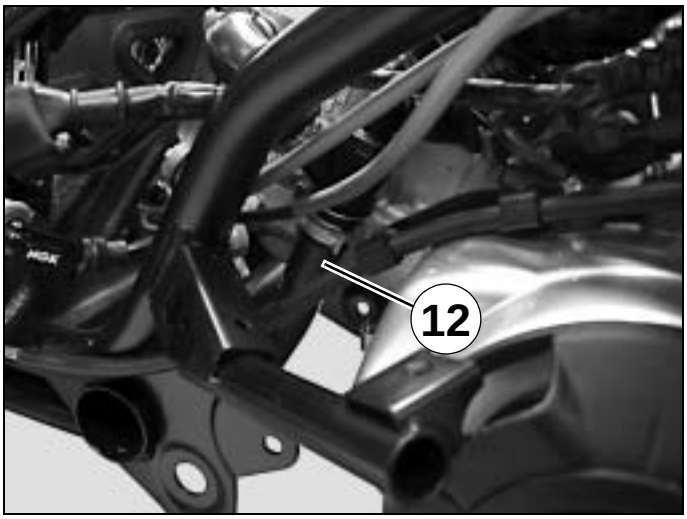
- Disconnect:
- Oil pressure switch. (10)



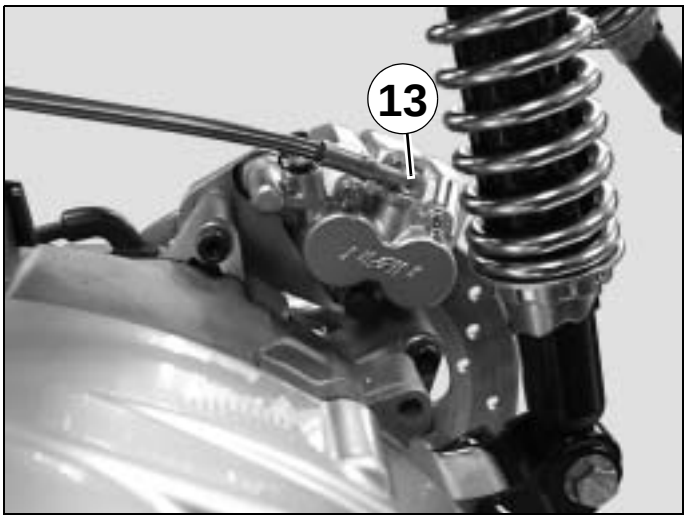
- Disconnect:
  • The starter motor. (11)



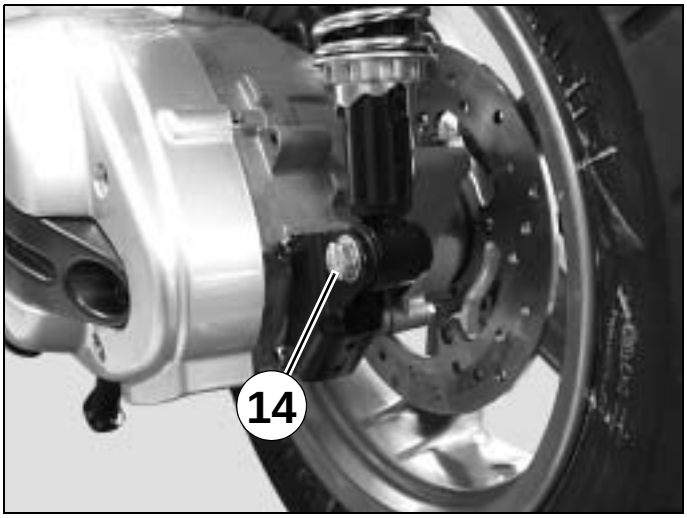
- Disconnect the lower pump from the coolant pump to drain the cooling system.
- Disconnect the cylinder head hose. (12)



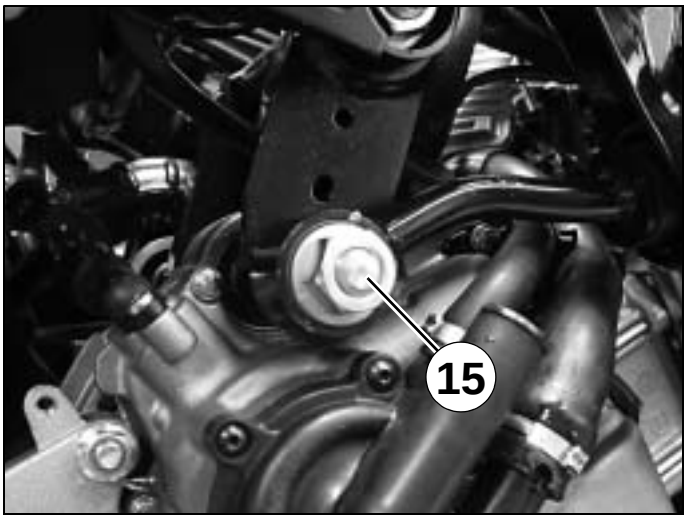
- Remove the suspension arm.
- Remove the wheel.
- Remove the calliper. (13)
- Re-install the wheel.



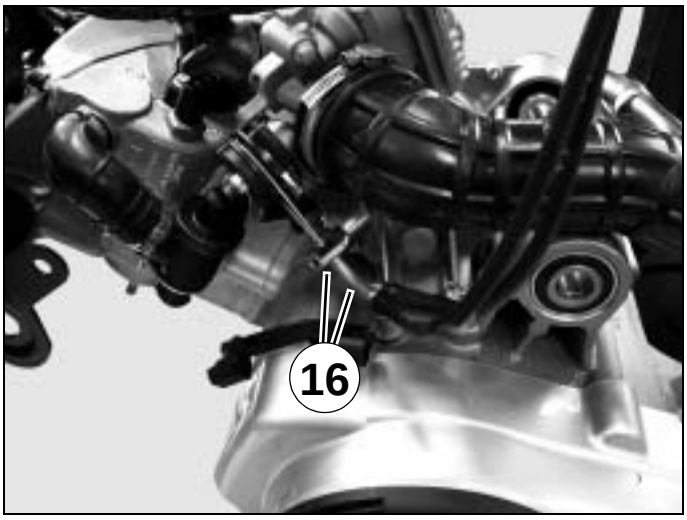
- Suspend the rear of the machine.
- Remove the shock absorber lower mount (14).



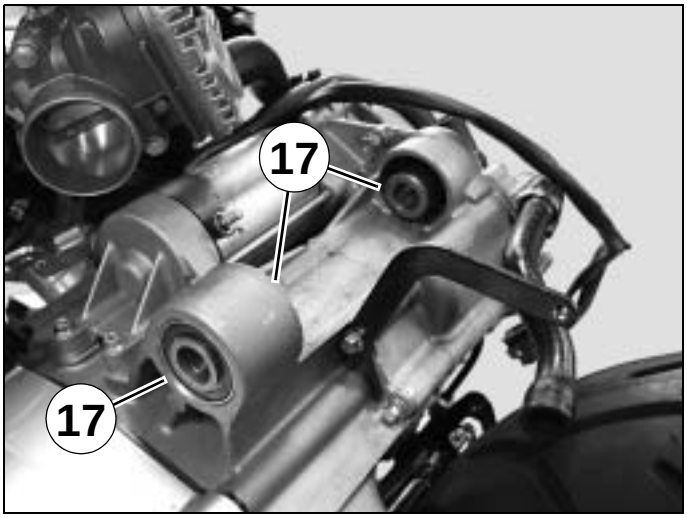
- Remove the linkrod-to-engine connecting pin. (15)



- Lift the rear of the machine.
- Disconnect the throttle control cables. (16)
- Remove the engine.



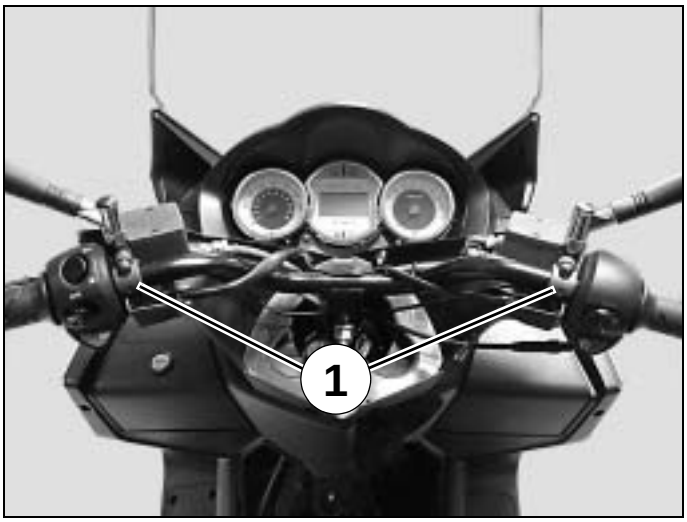
- Remove the 4 spacers. (17)



■ Removal of the fork.

■ Replacing the steering head cups.

- Remove the handlebar upper fairing (8 screw).
- Remove the braking units on the handlebars. 1
- Remove the nut and screw that secure the handlebars.
- Remove the handlebars from the fork tube.

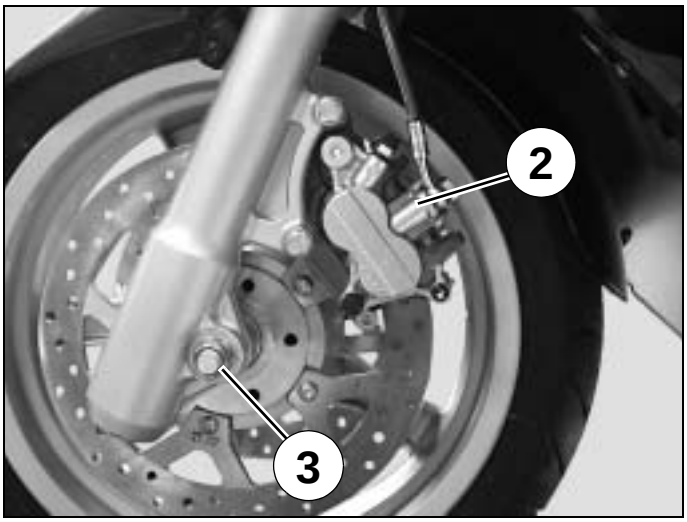


- Remove the front brake caliper from the fork tube. (Left-hand side 2)

Tightening torque: 2.5 m.daN.

- Remove the nut. (3)

Tightening torque: 6.5 m.daN.

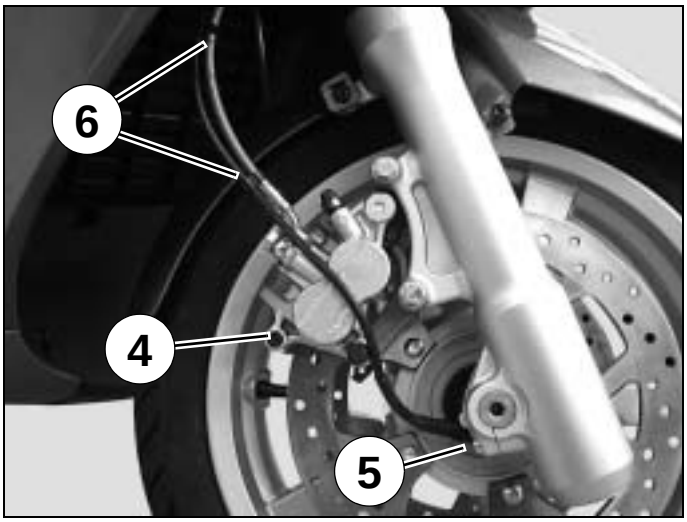


- Remove the front brake caliper from the fork tube. (Right-hand side 4)

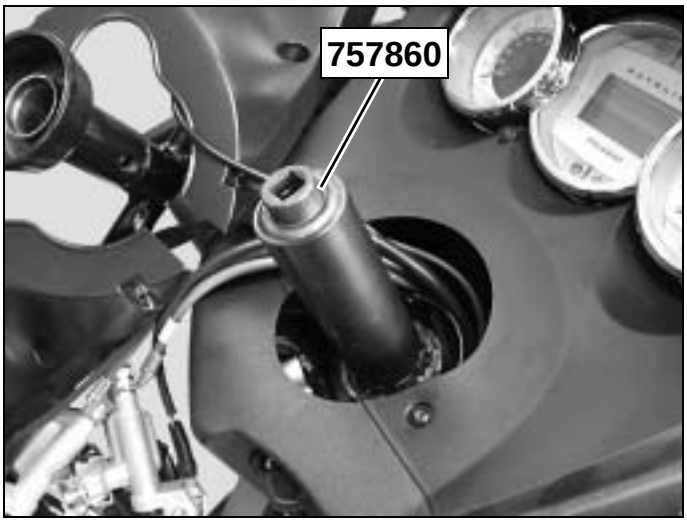
Tightening torque: 2.5 m.daN.

- Loosen the wheel spindle clamping screw. (5)
- Remove the wheel spindle.
- Remove the front wheel.
- Remove the brake control cable grommet and the speed sensor located under the fork triple clamp.
- Remove the front mudguard.

Note: When re-installing, respect the way the speedometer drive cable is routed and the position of the 3 clips. (6)



- Using tool P/N 757860 remove the steering locknut.
- Remove:
  - the lock washer.
  - the adjustable cone locknut.
  - the rubber washer.
  - the adjustable cone.

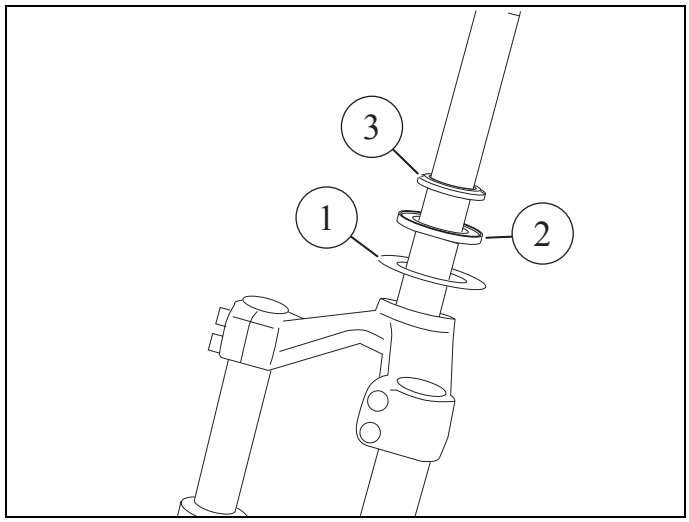


- Remove the fork.
- Remove the balls.

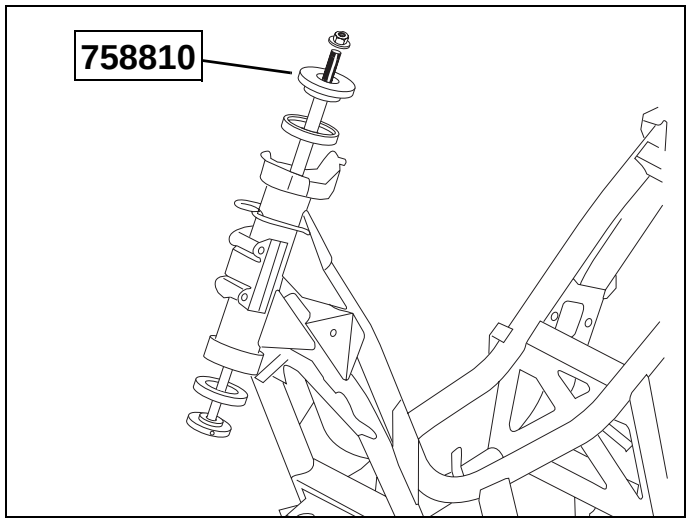
- Using a drift, remove the steering head cups.

- Using a chisel, pry the steering head cup off by pressing the tool behind the dust cover.

- Install the following new parts:
  - The plain washer. (1)
  - The dust cover. (2)
  - The fork cone. (3)



- Install new steering head cups using tool P/N 758810.



■ Steering system tightening method.

- Grease the cup bearing races.
- Fit the caged ball bearings. (1 and 2).
- Fit the fork into the steering column.
- Install the adjustable cone and tighten it. (3)

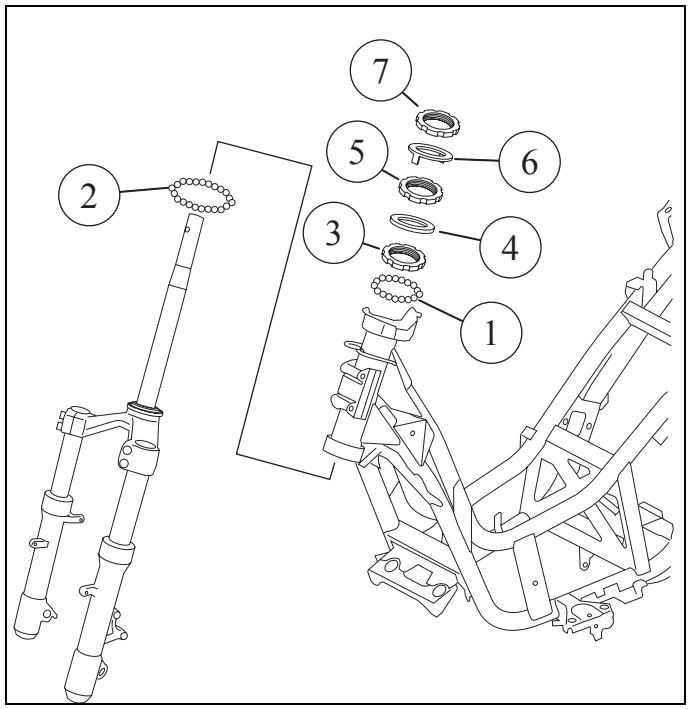
Tightening torque: 4 m.daN.

- Loosen and then retighten the adjustable cone.

Tightening torque: 2.2 m.daN.

- Install the rubber washer. (4)
- Finger tighten the adjustable cone locknut (5) so that its notches are aligned with those of the adjustable cone.
- Fit the lock washer (6) in the notches of the locknut and adjustable cone.
- Install the steering head locknut and tighten it

Tightening torque: 7.5 m.daN.



CERTIFICATION
SYSTEMES QUALITE

ISO 9001
Certificat n° SQ/0766-3

P/N. 759562