



Sales division
Technical network leadership

WORKSHOP MANUAL



ludix *4T*

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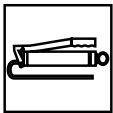
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PRODUCTS DANGER SYMBOLS USED

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 respiratory organs.	Avoid contact with skin and clothes. Wear gloves, safety glasses and appropriate clothing 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 flames or any heat source (barbecue, radiator, heating, etc.). Do not leave the product in the sun.
	Corrosive	The product can damage living tissues or other surfaces.	Avoid contact with skin and clothes. Wear gloves, safety glasses and appropriate clothing 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 dustbins, sinks or in the environment.	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 the 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. i.e.: 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**

Engine marking	XS1P37QMA-2
Type	4-stroke single-cylinder 2 valves per cylinder with chain driven overhead camshaft
Cooling	By a circulation of forced air by means of a turbine on the flywheel magneto
Bore x stroke	37 x 46 mm
Cubic capacity	49 cc
Max. power output	3 kW at 8300 rpm
Max. torque rating	3.7 Nm at 6500 rpm
Compression	9.5 bars at 550 rpm 7 bars Minimum
Fuel supply	Carburettor. KEIHIN NCV
Lubrication	Pressurised wet sump lubrication. Trochoid pump driven by a chain from the crankshaft
Transmission	By 2 variable pulleys and V-type belt
Clutch	Centrifugal automatic
Exhaust	Catalytic
Starter motor	By kick starter or electric starter
Spark plug	NGK CR6HSA Electrode gap: 0.6 - 0.7 mm
Magneto flywheel	80 W
Standards	Euro 2

■ Capacities

Relay box	0.1 l SAE 80W90 Minimum grade: API GL4 (0.09 l at oil change)
Crankcase	0.8 l SAE 5W40 Minimum grade: API SL/SJ (0.65 l at oil change)
Fuel tank	5.3 l

■ Chassis

Chassis	Tubular chassis
Front suspension	Upside down telescopic front fork Travel: 73 mm
Rear suspension	Combined spring and hydraulically-damped shock absorber Travel: 65 mm

■ Dimensions and weight

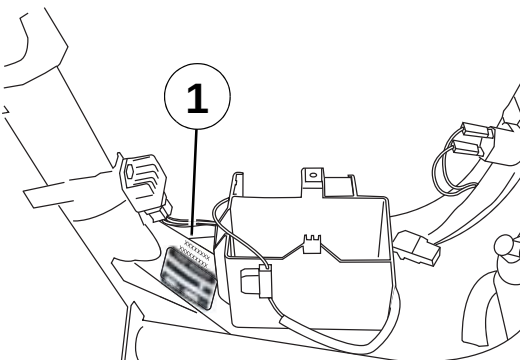
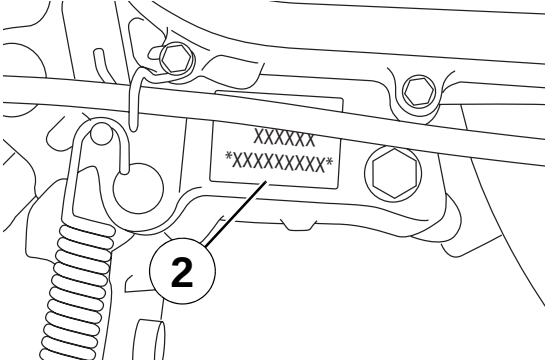
Overall length	1750 mm
Width at handlebar	670 mm
Height (without rear-view mirrors)	1080 mm
Wheelbase	1280 mm
Unladen weight	78 kg

■ Tyres

Front wheel rim	14 inch aluminium alloy
Front tyre	80/80 - 14
Front tyre pressure	2.5 bars
Rear wheel rim	14 inch aluminium alloy
Rear tyre	170/70 - 14
Rear tyre pressure	2.8 bars

■ Brakes

Front brake	Single disc type, hydraulic control Fixed calliper with 2 pistons
Disc diameter and thickness	190 mm - 3 mm
Rear brake	Single-cam drum type, controlled by cable
Brake drum diameter	110 mm
Brake lining thickness	4 mm

Chassis markings	Engine marking
	
(1) number and manufacturer's plate	Engine number (2)

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	2000	5000	10000	15000	20000
Heavy duty servicing	500	1000	2500	5000	7500	10000
Minimum servicing	1 months	6 months	12 months	24 months	36 months	48 months

■ To be checked at each service

Steering column play	V	V	V	V	V	V
Wheel bearing play	C	C	C	C	C	C
Throttle cable play	V	V	V	V	V	V
Operation of electrical equipment	V		V	V		V
Condition of the front brake hydraulic control	V	V	V	V	V	V
Brake fluid level	V	V	V	V	V	V
Front brake pad wear	C	C	C	C	C	C
Rear brake lining wear	C	C	C	C	C	C
Condition of petrol pipes	C	C	C	C	C	C
Tyre condition, pressure and wear	C	C	C	C	C	C
State of front suspension. State of rear suspension	V	V	V	V	V	V
Battery electrolyte level. Battery charge	V	V	V	V	V	V
Engine oil level	Every 1000 kms					
Headlight height adjustment	V	V	V	V	V	V
Tightness of nuts and bolts	V	V	V	V	V	V
Overall operation. Road test	V		V	V		V

V: Check, clean, adjust.

R: Change.

G: Check, clean, lubricate.

N: Clean.

C: Inspect and change if necessary.

* Depending on equipment.

Service operations	500	2000	5000	10000	15000	20000
Heavy duty servicing	500	1000	2500	5000	7500	10000
Minimum servicing	1 months	6 months	12 months	24 months	36 months	48 months

■ Service operations

Spark plug	V		R	R	R	R
Air filter				R		R
Intake silencer drain			N	N	N	N
Drive pulley bearings and guides			V	C	V	C
Transmission belt			R	R	R	R
Driven pulley caged needle bearing			G	G	G	G
Kick starter mechanism				G		G
Valve clearances		V	V	V	V	V
Setting the carburettor				V		V
Joints. (Central stand, Brake levers)			G	G	G	G
Petrol filter						R
Engine oil (+ clean strainer)	R	R	R	R	R	R
Relay box oil	R		R	R	R	R
Petrol pipe	Once every 5 years					
Brake fluid	Once every 2 years					

■ Time required for maintenance

Code	9100	9150	9300	9400	9500	9600
Servicing time in tenths of an hour (0.5 h = 30 mn)	1.3	2.2	3.3	4.0	3.3	4.2

V: Check, clean, adjust.

R: Change.

G: Check, clean, lubricate.

N: Clean.

C: Inspect and change if necessary.

* Depending on equipment.

■ 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/cm³). 0.5 litre can P/N 739733.

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 0.4 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.

* Depending on equipment.

■ New machine preparation

Check the tightness of the carburettor float chamber drain screw.

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.

SPECIAL IMPORTANT POINTS

■ 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 air pipe between the air pump and the exhaust is specific owing to its heat resistance properties.

Should it be changed, replace it with a genuine pipe.



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.

TIGHTENING TORQUES**■ Engine part**

Spark plug	12 Nm
Engine drain plug	20 Nm
Screen	15 Nm
Cylinder head • Nut • Screw	20 Nm 12 Nm
Camshaft gear cover	10 Nm
Camshaft gear	20 Nm
Valve clearance covers	15 Nm
Automatic tensioner	10 Nm
Automatic tensioner plug	8 Nm
Chain tensioner	10 Nm
Inlet manifold	10 Nm
Crankcase	12 Nm
RH casing cover	12 Nm
Freewheel	90 Nm
Oil pump	10 Nm
Transmission cover	10 Nm
Relay box cover	22 Nm
Relay box drain plug	10 Nm
Relay box filler cap	10 Nm
Starter motor	10 Nm
Rotor	50 Nm
Turbine	10 Nm
Stator	10 Nm
Engine speed sensor	10 Nm
Drive pulley	55 Nm
Driven pulley	55 Nm
Clutch plate and shoes	55 Nm

■ Body panels

Floor panel	4 Nm
Handlebar cover	1 Nm
Front shield panel	1 Nm
Rear shield	1 Nm
Side panels	1 Nm
Front mudguard	8 Nm

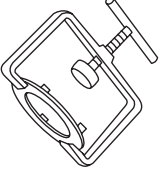
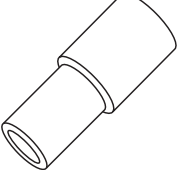
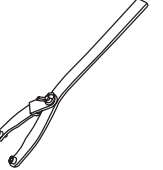
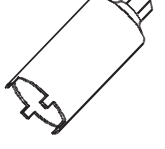
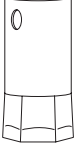
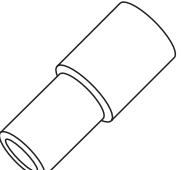
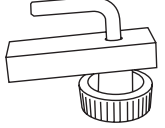
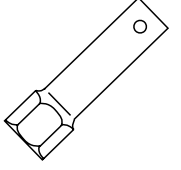
■ Cycle part

Front wheel spindle	65 Nm
Rear wheel spindle nut	110 Nm
Linkrod to engine pivot	50 Nm
Linkrod to frame pivot	50 Nm
Shock absorber top mount	45 Nm
Shock absorber bottom mount	22 Nm
Exhaust to cylinder head mounting nut	15 Nm
Exhaust to casing mounting bolt	20 Nm
Upper cone (in 2 operations)	40/23 Nm
Upper cone locknut	Hand tightened
Steering locknut	70 Nm
Front brake caliper	30 Nm
Front brake disc	22 Nm
Handle bar	40 Nm
Fuel tank	22 Nm
Luggage carrier	25 Nm

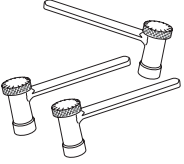
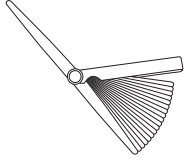
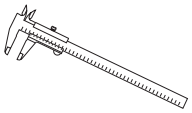
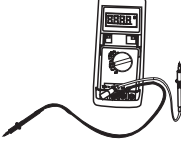
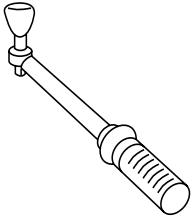
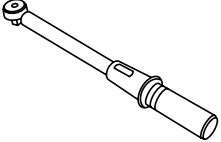
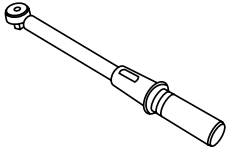
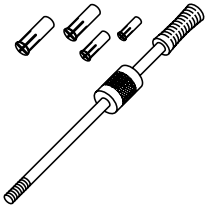
■ Standard

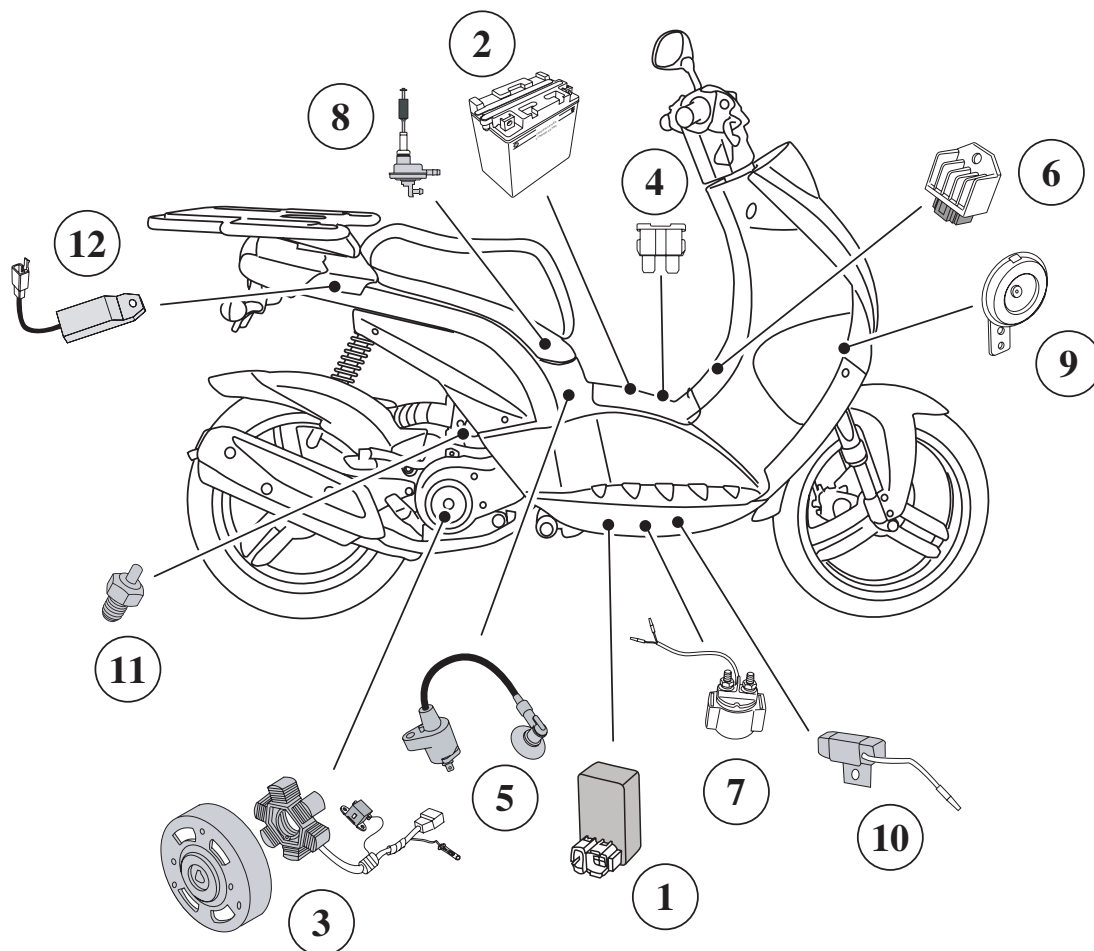
Nut and bolt 5 mm diameter	6 Nm
Nut and bolt 6 mm diameter	10 Nm
Nut and bolt 8 mm diameter	22 Nm
Nut and bolt 10 mm diameter	35 Nm

SPECIAL TOOLS

	Tool N°	Designation	Used with		Tool N°	Designation	Used with
	752127	Clutch compression tool			756607	Steering head cup push tool	
	752237	Adjustable pin wrench			757860	Steering tool	
	752361	39 mm pipe wrench			759788	Steering head cup push tool	
	755996				766062	Spark plug spanner	

STANDARD TOOLS

	Wrenches with interchangeable end fittings for valve clearance adjustment. Type: Marolotest P/N 500140		Set of shims
	Slide calipers		Multimeter
	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
	Automatic resetting type torque wrench 10 to 50 Nm Type: Facom J.208A50		Inertia extraction tool and sockets with internal grip

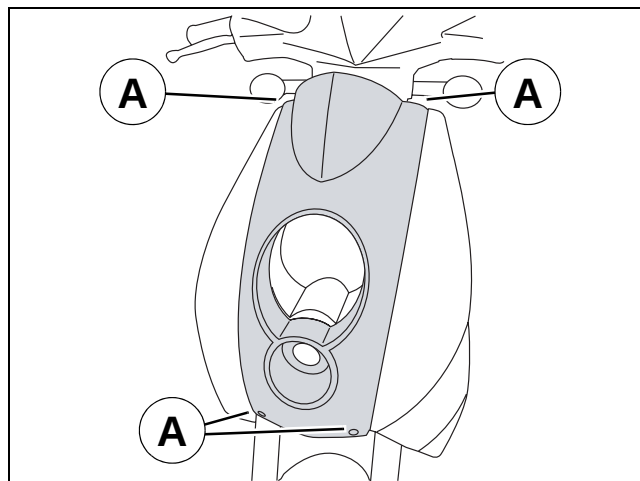
LOCATION OF COMPONENTS

1. CDI unit
2. Battery
3. Magneto flywheel
4. Fuse
5. HT coil
6. Regulator

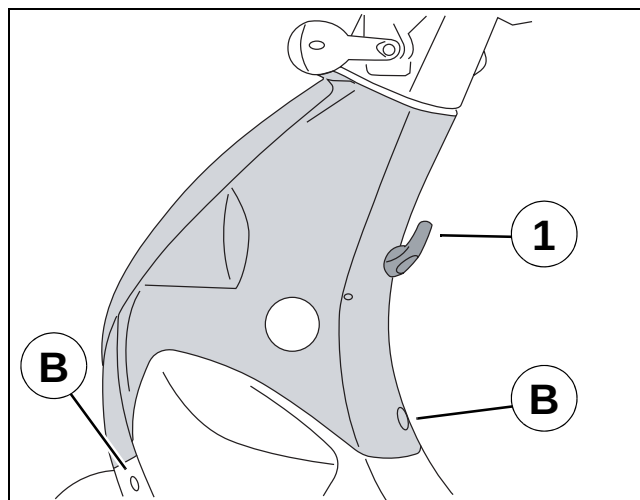
7. Starter motor relay
8. Switch "Reserve"
9. Horn
10. Starter resistor
11. Resistor warming carburator
12. Temperature control unit

BODY PANELS**■ Removal of the front shield panel****Procedure 1.**

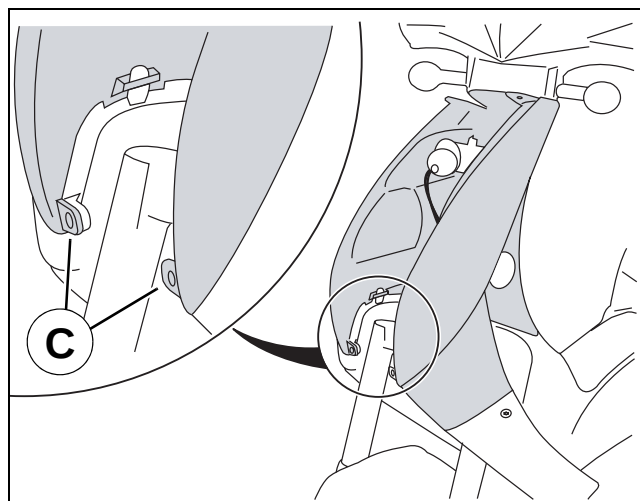
- Disconnect the speedometer driver control cable.
- Unclip the control cable from the front mudguard.
- Remove the front shield panel (4 screws) (A).
- Disconnect the headlight.
- Disconnect the instrument cluster.

**■ Removal of the rear shield panel****Procedure 2.**

- Remove the front shield panel. See: **Procedure 1** page 16.
- Remove the utility hanger (1).
- Remove the 3 screws (B) that secure the rear shield panel.



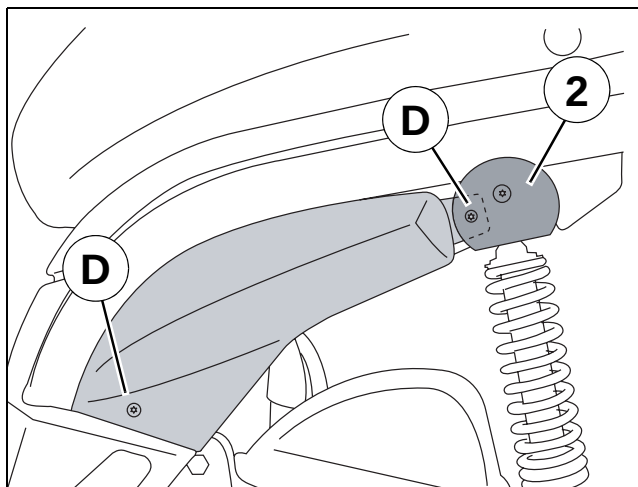
- Unclip the rear shield panel from the footboard (C).
- Remove the rear shield panel.



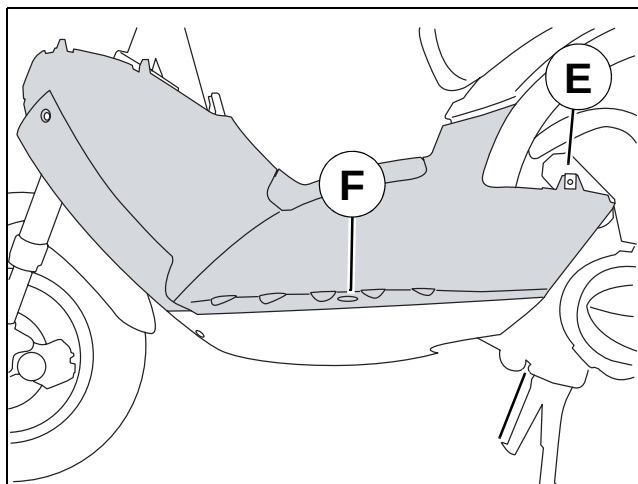
■ Removal of the footboard

Procedure 3.

- Remove the rear shield panel. See: **Procedure 2** page 16.
- Remove the shock absorber trim (2).
- Remove the side fairings (2 screws each) (D).

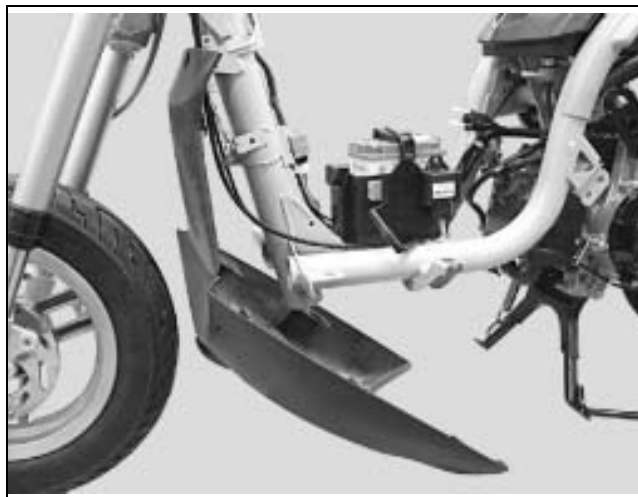


- Remove the 2 clips (E) in order to avoid scratching the frame.
- Remove the footboard (2 screws) (F).

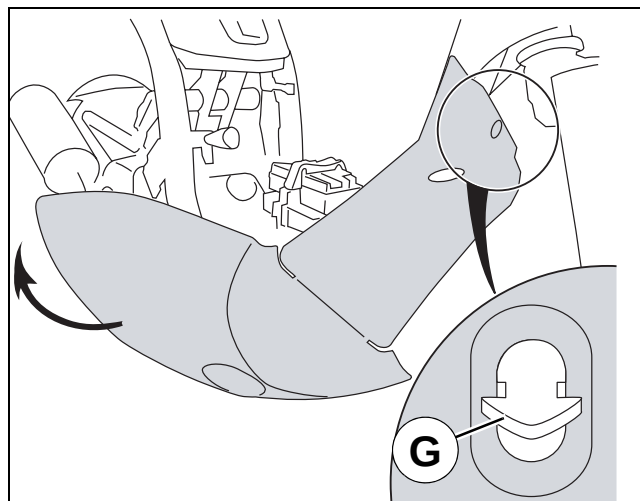


■ Removal of the under body panel

- Remove the footboard. See: **Procedure 3** page 17.
- Unclip the under body panel.



- Swivel the bottom panel to the right of the vehicle in order to unlock the front chassis fastener (G).



■ Removal of the fuel tank

Procedure 4.

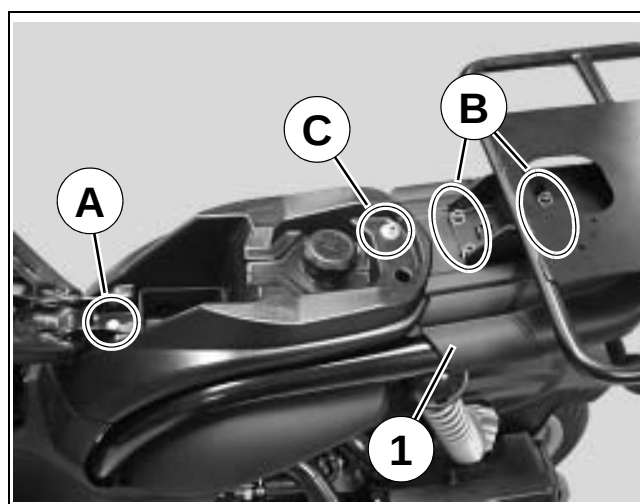
- Remove the saddle (1 screw) (A).

Tightening torque: 22 Nm.

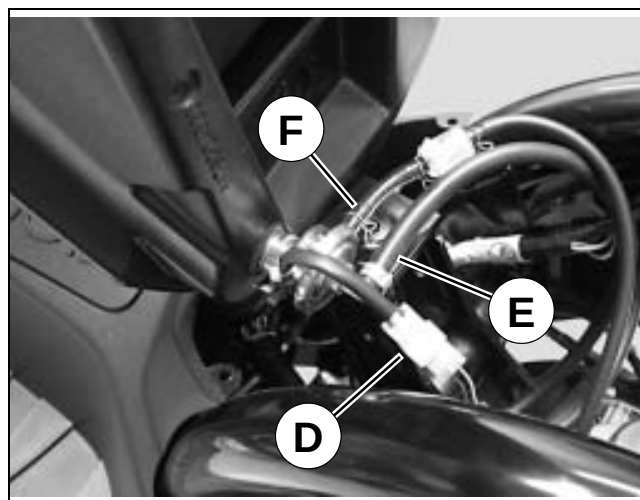
- Remove the luggage carrier (4 screws) (B).

Tightening torque: 25 Nm.

- Remove the plastic cover (1).
- Lift the fuel tank (1 nuts) (C).



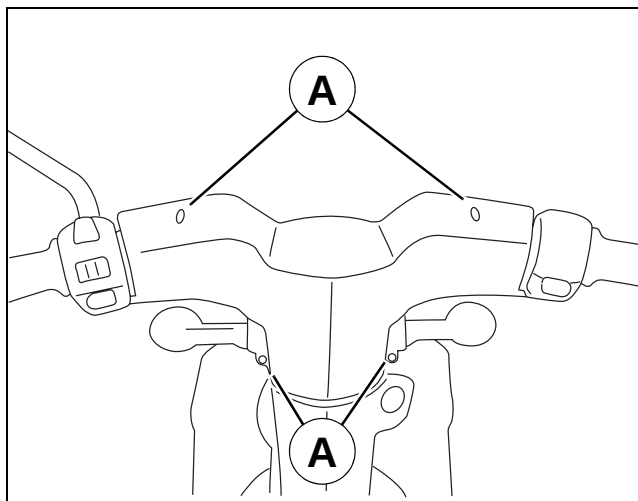
- Disconnect the fuel gauge (D).
- Disconnect the vacuum hose (E).
- Disconnect the fuel supply hose (F).



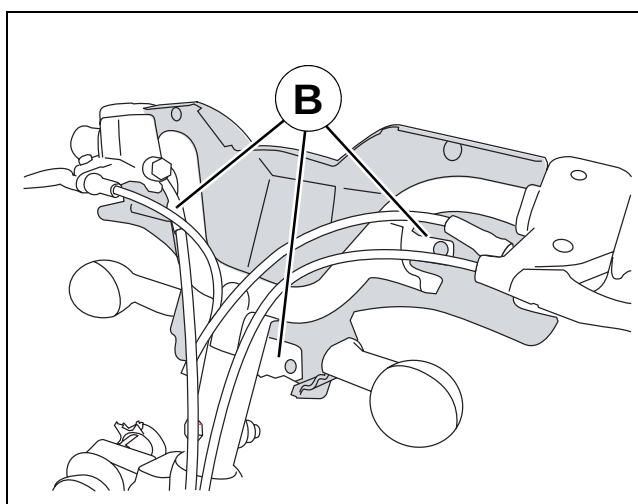
■ Removal of handlebar fairing

Procedure 5.

- Remove the handlebar front cover (4 screw) (A).



- Remove the rear handlebar fairing (3 screw) (B).



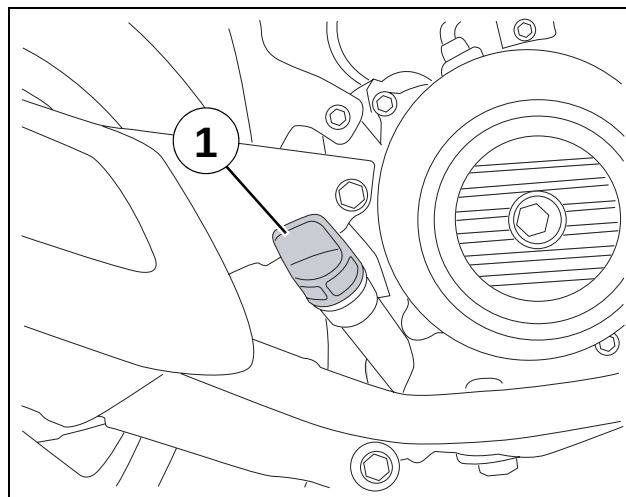
SERVICE OPERATIONS

■ Changing the engine oil



The engine must be drained when it is warm to allow the oil to run easier.
Wear gloves in order not to get burnt.

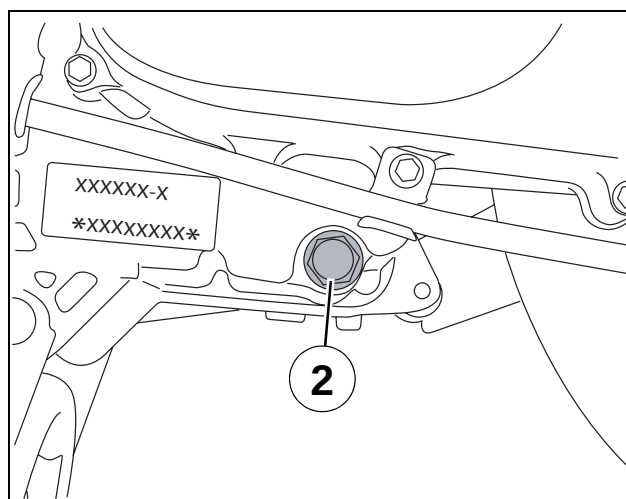
- Place the vehicle on its central stand on flat ground.
- Remove the engine's oil filler cap (1).



Remove the drainage cap and its seal (2) and allow the oil to drip into a recipient.



Replace the copper seal every time you change oil.

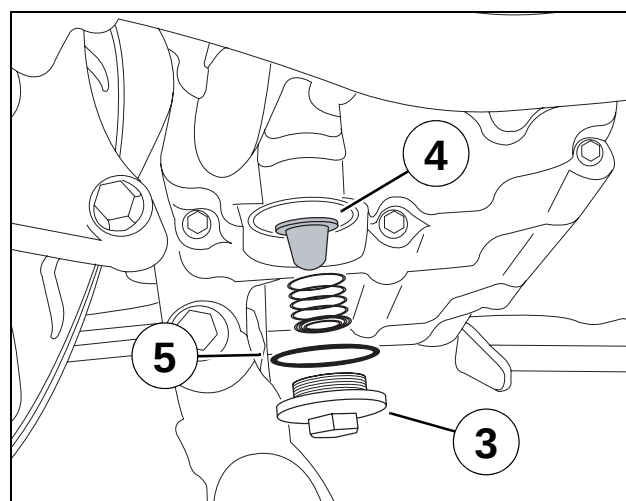


- Remove the strainer cap (3) and clean the strainer (4).



Every time oil is changed, the filter (4) must be cleaned and the O-ring changed (5).

- Put back the drainage cap and strainer cap, fitted with a new seal.



Tightening torques:

- Filler cap: **20 Nm.**
- Screen: **15 Nm.**
- Pour the required quantity of oil corresponding to the manufacturer's standards into the filler hole.

Quantity: **0.65 l.**

- Start the engine and let it run for a short while.
- Remove the engine's oil filler cap/gauge.
- Wipe dry the filler cap/gauge and fit it back but do not screw it into the filler hole.
- Remove the filler cap/gauge and check the oil level.

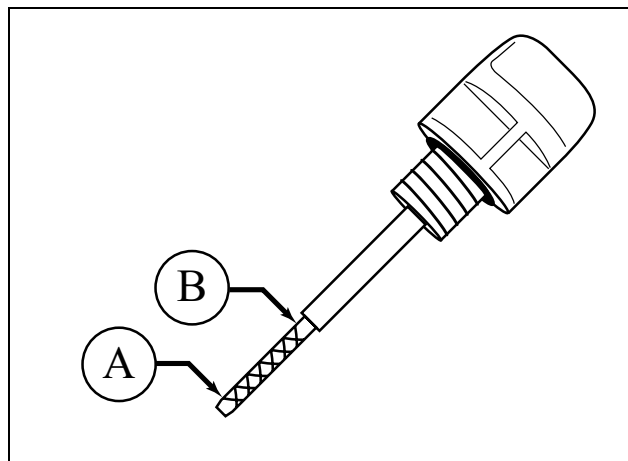
A. Minimum level.

B. Maximum level.

- Add oil if necessary.



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



■ Draining the relay box



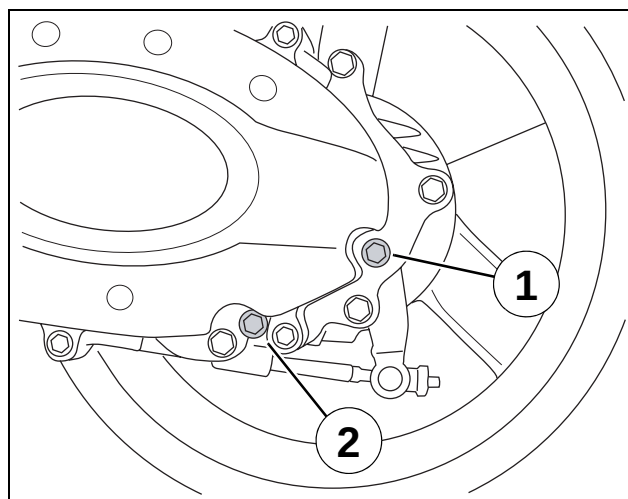
The gearbox must be drained when the engine is warm so that the oil will run easier.

Wear gloves in order not to get burnt.

- Place the vehicle on its central stand on flat ground.
- Remove the relay box filler cap (1).



Remove the drainage cap and its seal (2) and allow the oil to drip into a recipient.



- Insert the drain plug fitted with a new seal.

Tightening torque: 10 Nm.

- Pour the required quantity of oil corresponding to the manufacturer's standards into the filler hole.

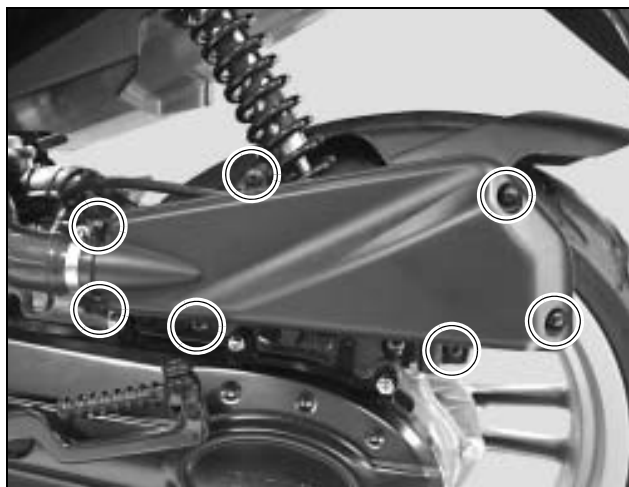
Quantity: 0.09 l.

- Fit the filler cap (1).

Tightening torque: 10 Nm.

■ Replacing the air filter

- Remove the air filter cover (7 bolts) and its seal.
- Remove the air filter.
- Clean inside the air filter box.



Reassembly

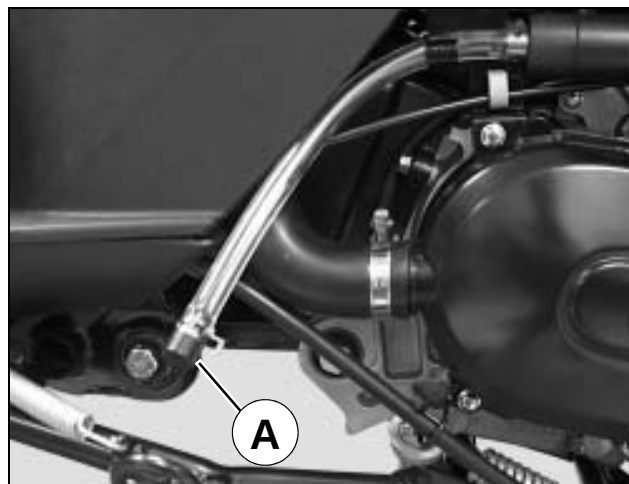
- Fit a new air filter.
- Fit the gasket.
- Install the air filter cover.



Check the condition of the seals and make sure they are properly positioned.



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



■ Removal of the spark plug

- Disconnect the suppressor (1).
- Remove the spark plug using tool P/N 766062.
- Measure the distance between the electrodes and correct it if necessary.

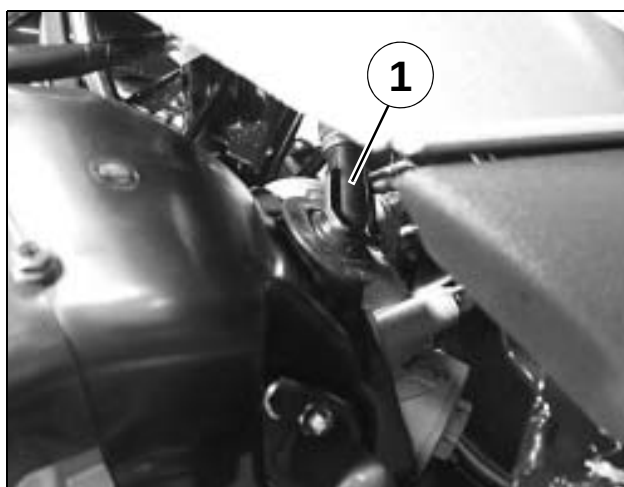
Electrode gap: 0.6 to 0.7 mm.



Essential precautions: When re-installing, screw in the spark plug (a few turns) by hand.

- Tighten the spark plug.

Tightening torque: 12 Nm.



■ Transmission

- Remove the transmission cover (10 screw).

Tightening torque: 10 Nm.



Remove the paper gasket and the two 2 centering pins.

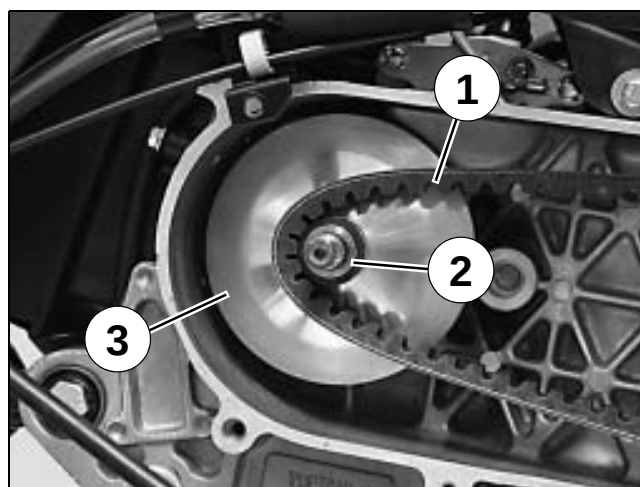


- Hold the fixed flange with tool P/N 752237.
- Remove the fixed flange nut and washer.
- Remove the fixed flange.

Tightening torque: 55 Nm.

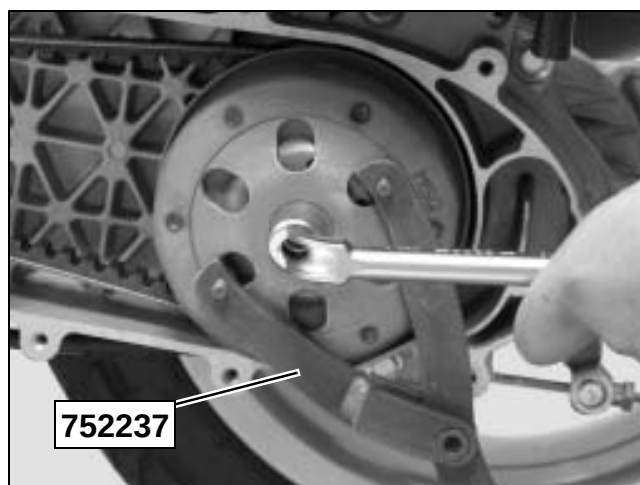


- Remove the belt (1).
- Remove the plastic spacer (2).
- Remove the drive pulley (3) together with the guide hud.



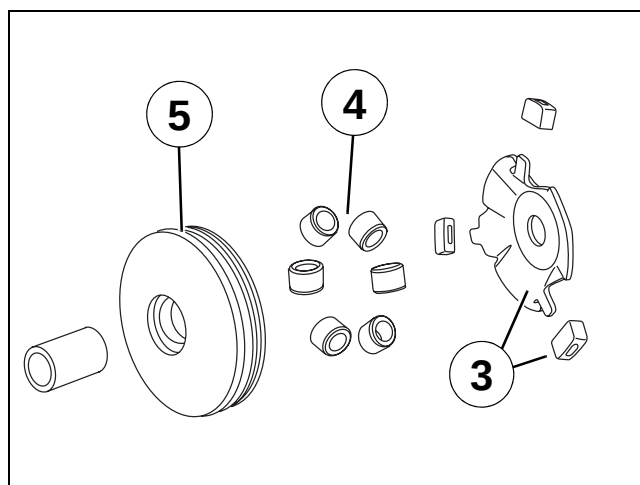
- Lock the clutch drum with the pin wrench P/N 752237.
- Remove the clutch drum and the clutch and drive pulley assembly.

Tightening torque: 55 Nm.

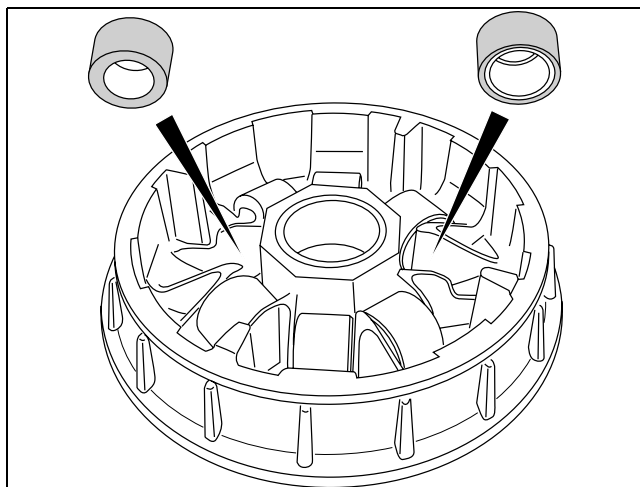


Checking the drive pulley

- Remove the holder (3) and its 4 plastic guides.
- Remove the moving flange (5) 6 bearings (4).
- The bearings must be changed if they show major signs of wear.
- The guides shall be replaced if they show signs of wear.



- When refitting, respect the way the rollers are installed.
- Grease the moving flange bore lightly (high temperature grease).

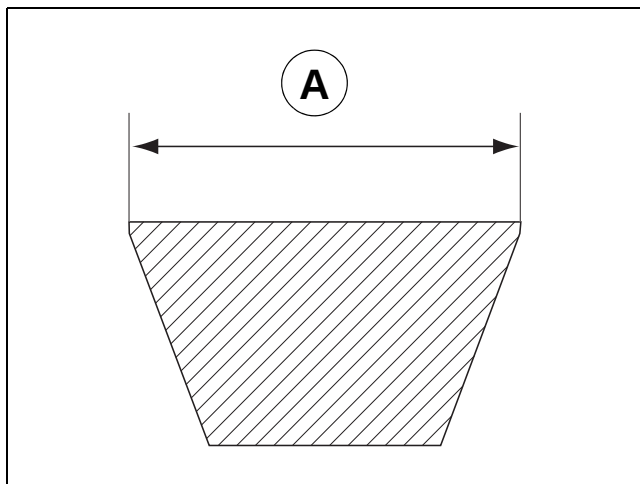


Checking the drive belt

- Measure the width of the belt (A).

Minimum width: 17.2 mm.

- Make sure the belt is not cracked.

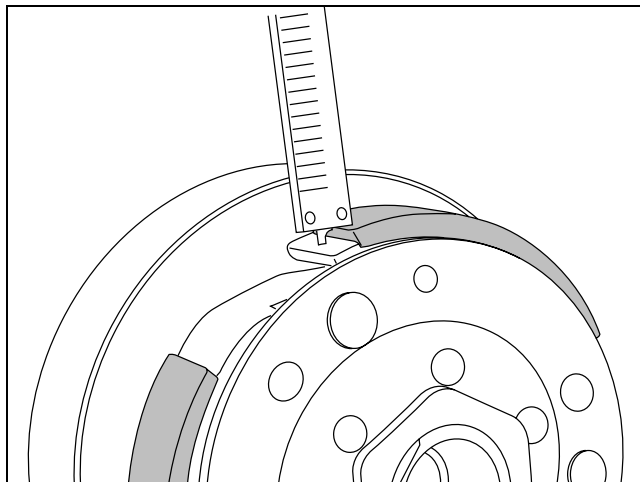


Checking the clutch linings

- Using the depth calliper, measure the thickness of the clutch linings.

Mini. thickness: 2 mm.

- Make sure surface of the plates in contact with the belt does not show any cracks or signs of abnormal wear.

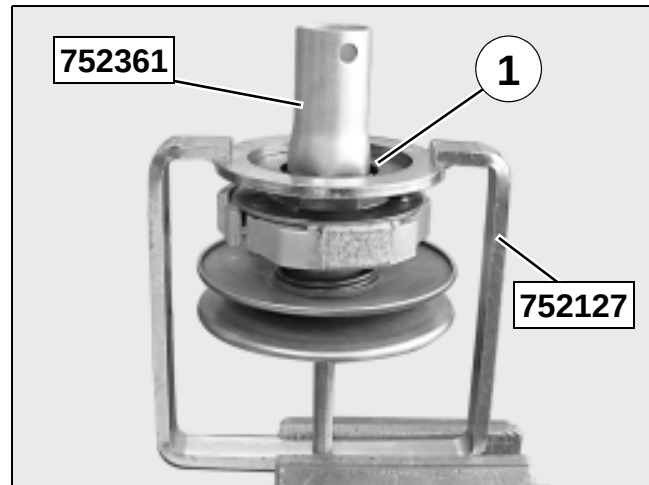


Replacing the clutch lining assembly

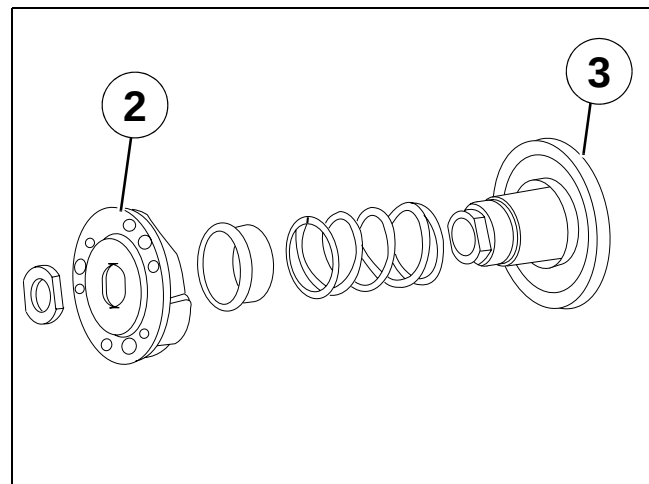
- Compress the clutch drive pulley and driven pulley assembly with the tool P/N 752127 clamped in the jaws of a vice.
- Remove nut (1) using spanner P/N 752361.

Tightening torque: 55 Nm.

- Slacken tool P/N 752127.



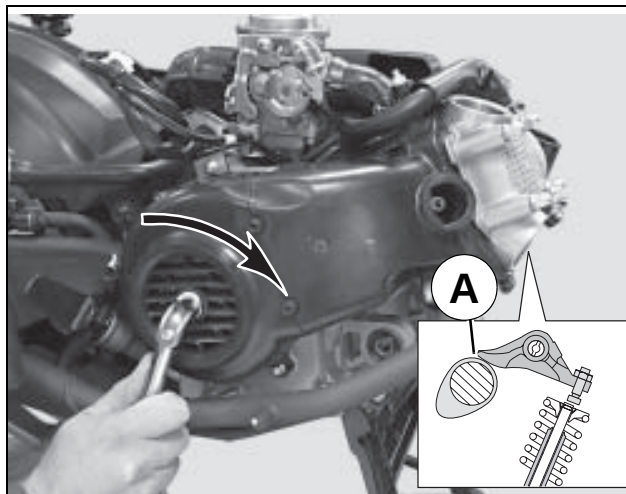
- Remove the clutch lining assembly (2).
- When re-installing the driven pulley, lubricate the needle bearing (3).



■ Installing the valve clearance

- Remove the power unit (See page 50).
- Remove the valve clearance adjustment covers.

	Apply the correct tightening torque to the valve clearance adjustment covers. Tightening torque: 15 Nm.
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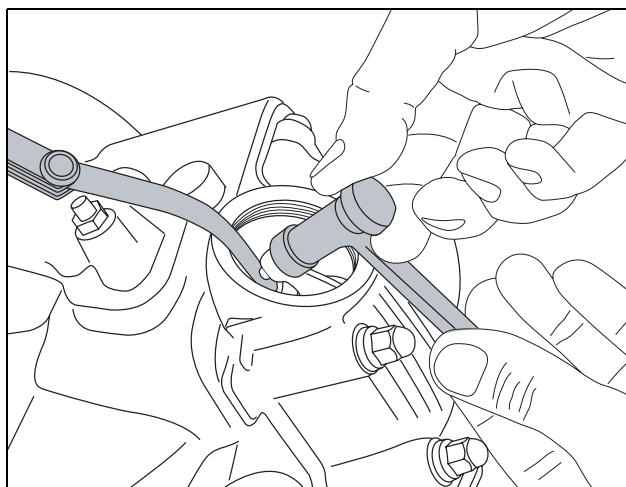
- Rotate the engine by hand in the operating direction in order to bring the rocker pads on the back of the cams (A).
- Using the set of feeler gauges, measure the clearance of each valve.
- Clearances:
 - **Intake: 0.05 mm ± 0.02 mm.**
 - **Exhaust: 0.10 mm ± 0.02 mm.**



- If the clearance is not correct, adjust by means of the cam follower screw.
- Use a wrench to adjust the valve clearance. Type: Marolotest, P/N 500140.

Checking the valve clearance.

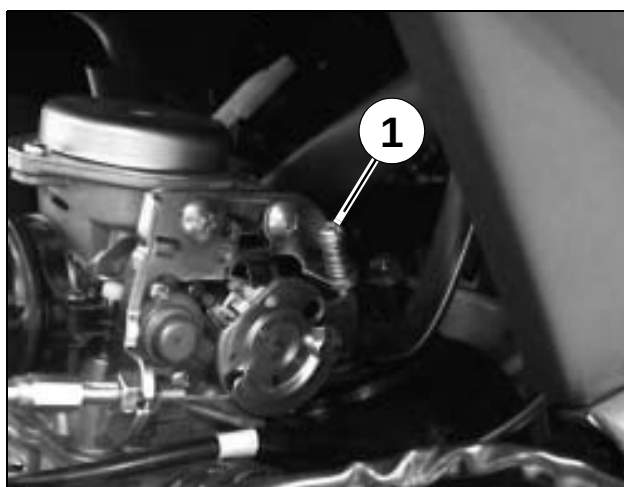
- At the intake a 0.10 mm feeler gauge shouldn't go.
- At the exhaust a 0.15 mm feeler gauge shouldn't go.
- On the contrary, if the feeler gauge goes, reset the clearances.



■ Idle setting

- The engine must be at its operating temperature.
- Switch off the engine.
- Park the vehicle on its stand.
- Check the operating clearance in the throttle.
- Start the engine.
- Screw or unscrew the engine speed adjuster screw (1) to alter the idle speed.
- The rear wheel should not turn.

Idle setting: 2000 to 2200 rpm.

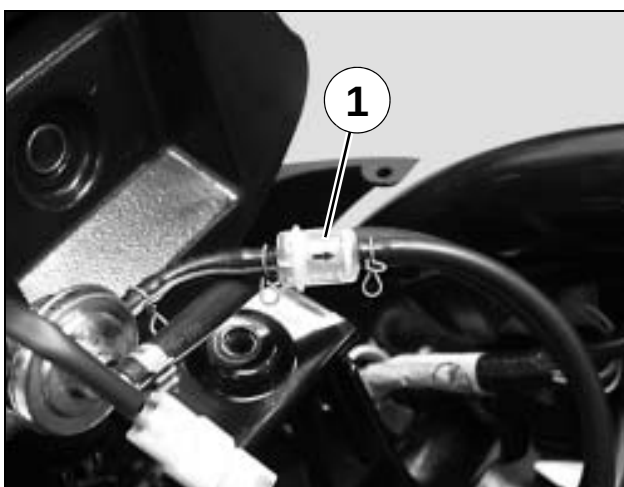


■ Removal of the fuel filter

- Remove the fuel tank. See: **Procedure 3** page 18.
- Remove the fuel filter (1).



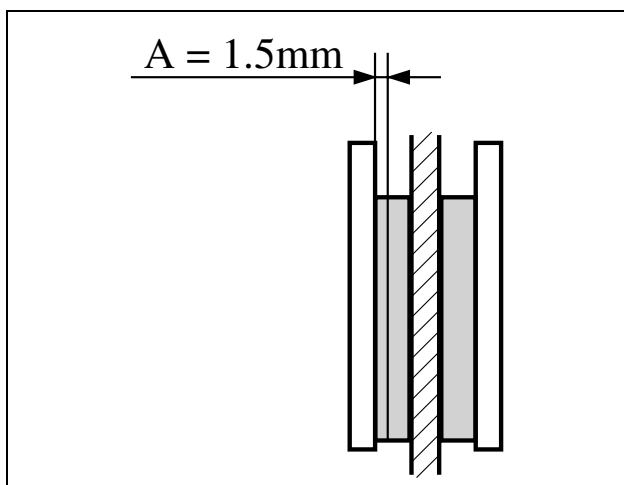
Respect the direction of mounting of the filter shown by an arrow indicating the direction of flow of the fuel.



■ Brake inspection

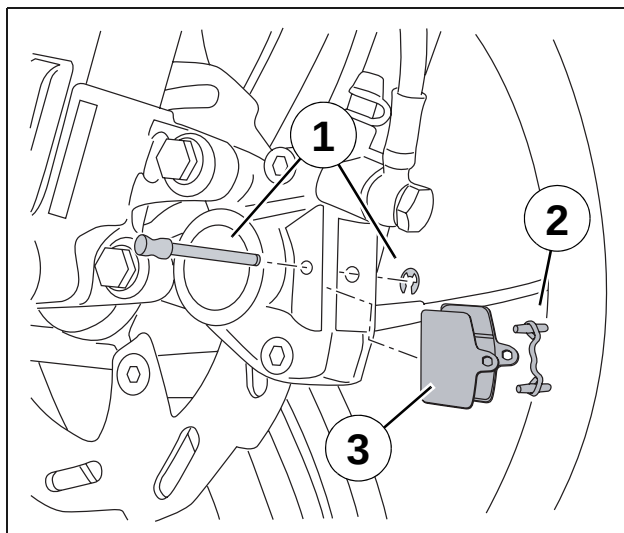
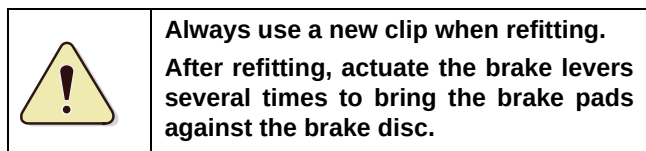
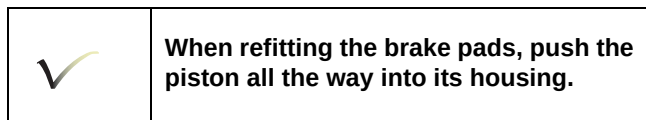
- If one of the 2 brake pads is worn down to the minimum dimensions (A), the 2 brake pads must be changed.

A. Mini. thickness: 1.5 mm.



■ Replacing the brake pads

- Remove the brake pad clips and pin (1).
- Remove the brake pad spring (2).
- Remove the brake pads (3).

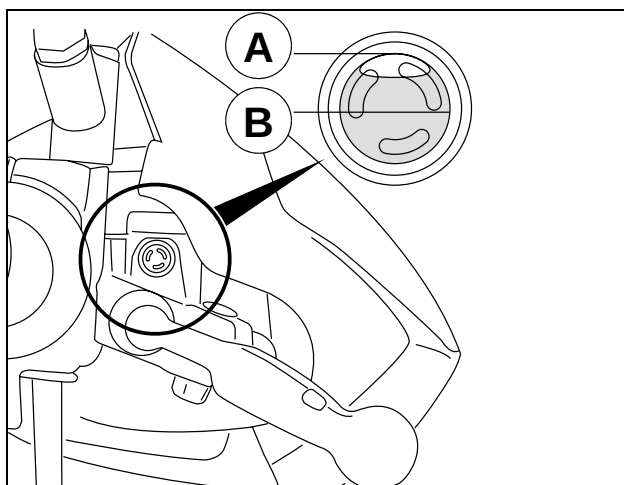


■ Checking the brake fluid level

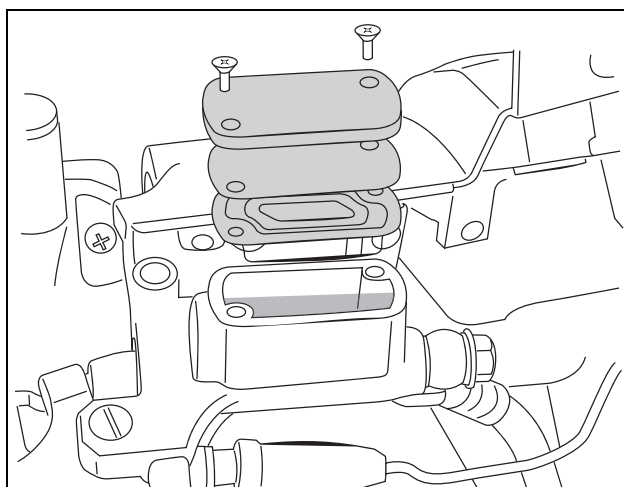
- Position the handlebars so that the master cylinder will be horizontal.
- Check the brake fluid level and if necessary top up in the master cylinder.

A. Maximum level.

B. Minimum level.



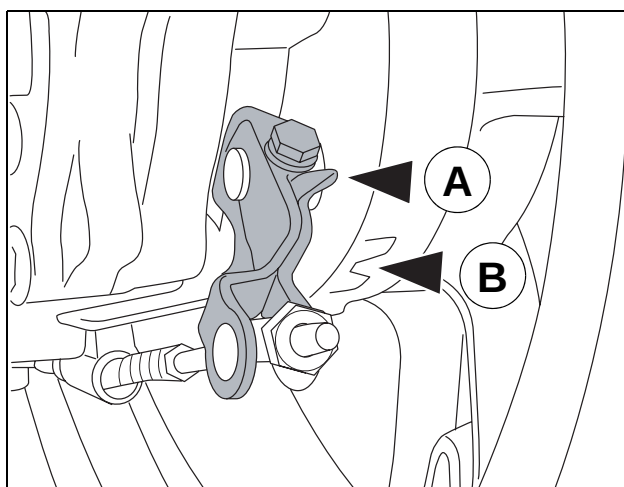
- Remove the cover and the diaphragm from the master cylinder (2 screws).
- Add brake fluid until it reaches the maximum level.



■ Rear brake linings

Check:

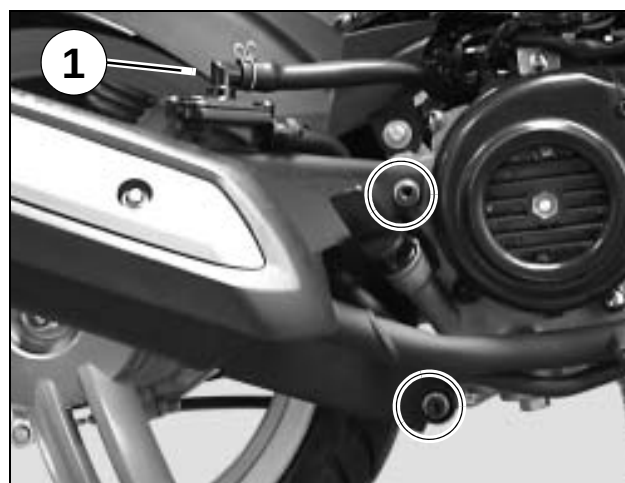
- Actuate the brake control lever and check the position of the wear mark on the cam tierod (A) compared to the mark (B) on the engine housing.
- If the cam tierod mark is lined up with or passes the wear mark on the engine housing, the brake lining must be replaced.



Disassembly:

- Disconnect the air hose from the exhaust (1).
- Remove the 2 screws from the exhaust.

Tightening torque: 20 Nm.



- Remove the 2 screws that secure the muffler.

Tightening torque: 15 Nm.

- Remove the exhaust assembly.



Use a new exhaust gasket.

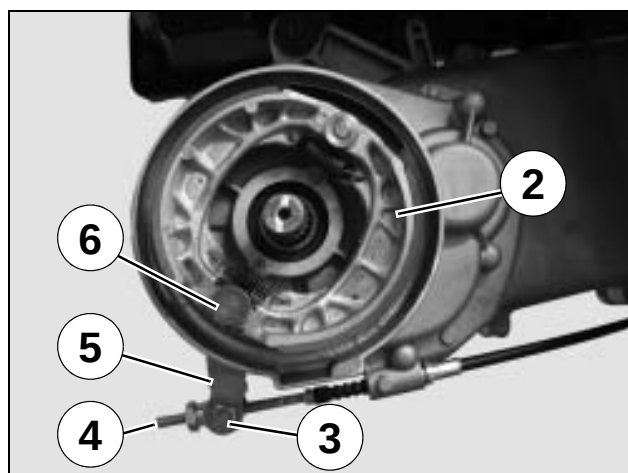
- Remove the wheel spindle nut and washer.

Tightening torque: 110 Nm.

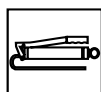


When re-installing, use a new nut.

- Remove the brake linings (2).
- Remove the adjusting nut, the barrel (3) and the brake control cable (4).
- Remove the brake arm (5), the brake cam (6) and the spring (7).



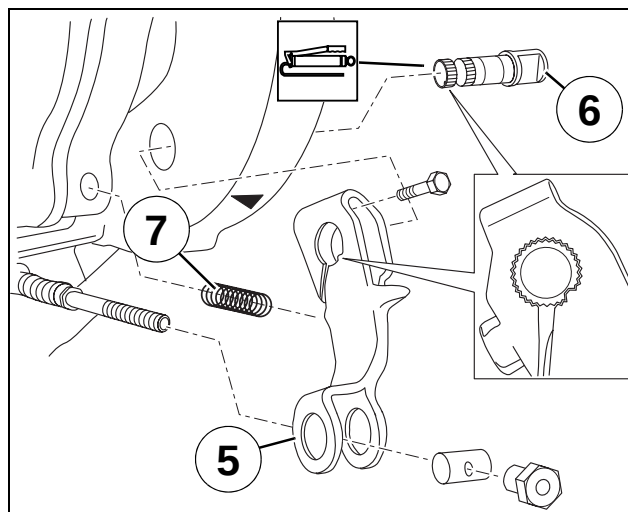
Reassembly



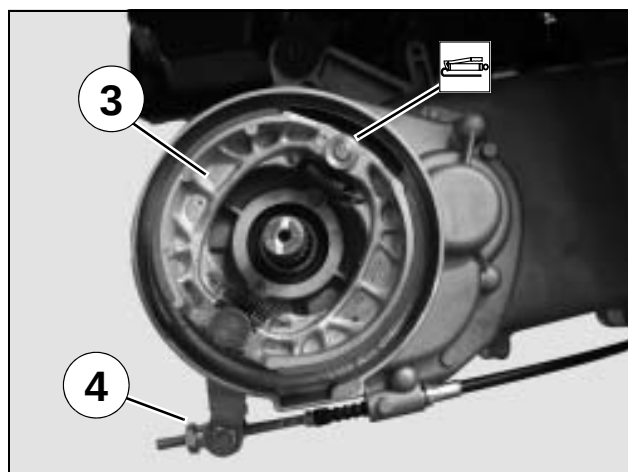
Lubricate the brake cam spindle and fit it into the casing.

- Fit the brake arm (5) by aligning it with the brake cam axis (6).

Tightening torque: 8 Nm.

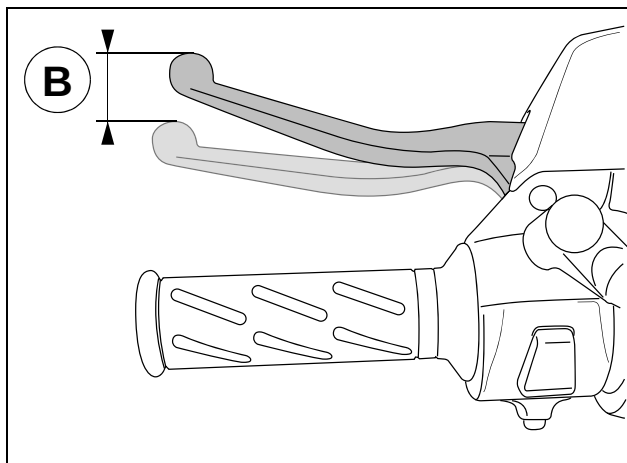


- Slightly lubricate the brake cam and pin.
- Install the brake linings (3).
- Install the spring (7).
- Install the brake control cable, the barrel and the adjusting nut (4).
- Refit the other items in the reverse order to disassembly.



- Measure the free travel of the rear brake control lever.
- Adjust the lever free travel using the adjusting nut.

B. Brake control free travel: 10 to 20 mm.



MISCELLANEOUS OPERATIONS

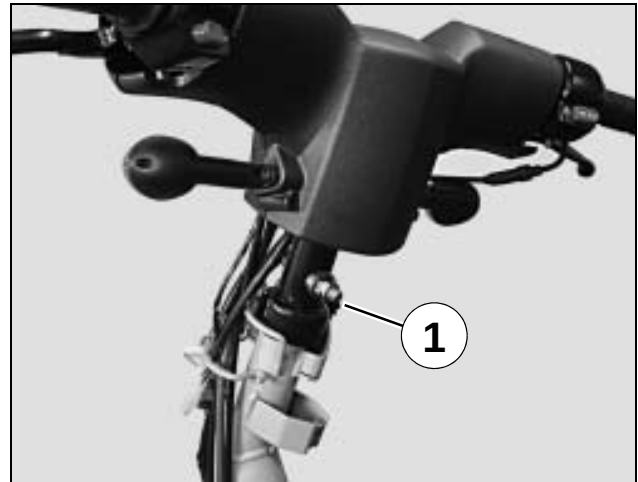
■ Removal of the fork

■ Replacing the bearings of the steering system

- Remove the rear shield panel. See: **Procedure 2** page 16.
- Suspend or immobilize the machine securely.
- Remove the front brake caliper from the fork tube (2 screws).

Tightening torque: 30 Nm.

- Remove the front mudguard (3 screws).
- Remove the front wheel.



Tightening torque: 65 Nm.

	When re-installing, use a new gasket.
--	---

- Remove the handlebars from the fork tube (1 screw and 1 nut) (1).

Tightening torque: 40 Nm.

	When re-installing, use a new gasket.
--	---

- Using tool P/N 757860 remove the steering locknut.
- Remove:
 - The brake washer.
 - The nut.
 - The rubber washer.
 - the adjustable cone.
- Remove the fork.
- Remove the caged ball bearings.



- Using a drift, remove the steering head cups.

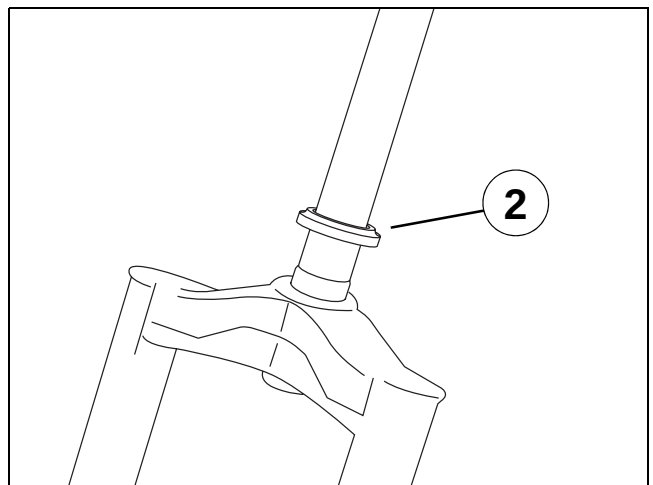


- Using a drift, remove the steering headset cone.



Reassembly

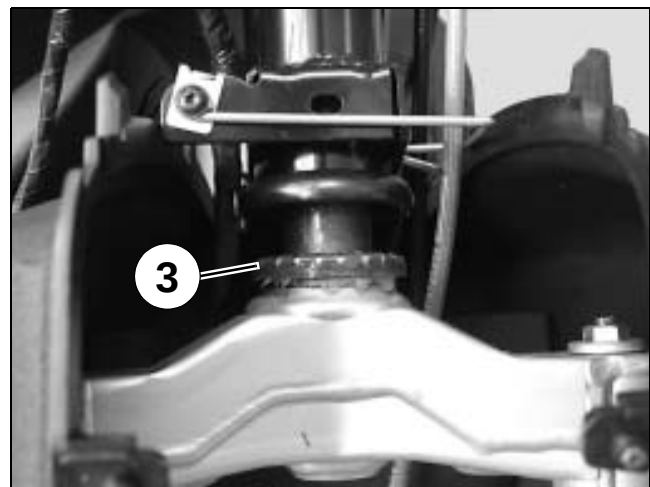
- Fit a new steering head cone (2).



- Using push tool P/N 756607, fit a new upper cup into the steering tube.
- Using push tool P/N 759788, fit a lower cup into the steering tube.



- Grease the cup bearing races.
- Install new ball cage bearings (3).
- Fit the fork into the steering column.



- Install new ball cage bearings (4).

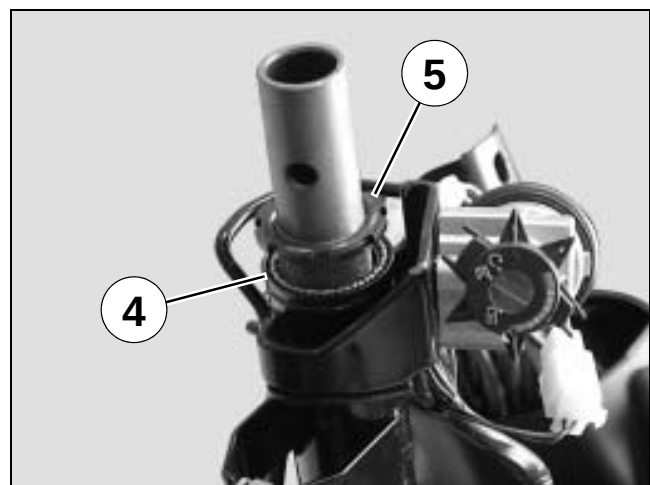
■ Steering system tightening method

- Install the adjustable cone and tighten it (5).

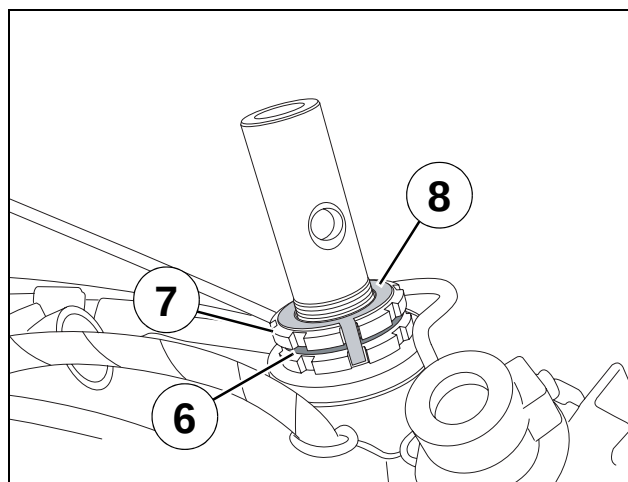
Tightening torque: 40 Nm.

- Loosen and then retighten the adjustable cone.

Tightening torque: 23 Nm.



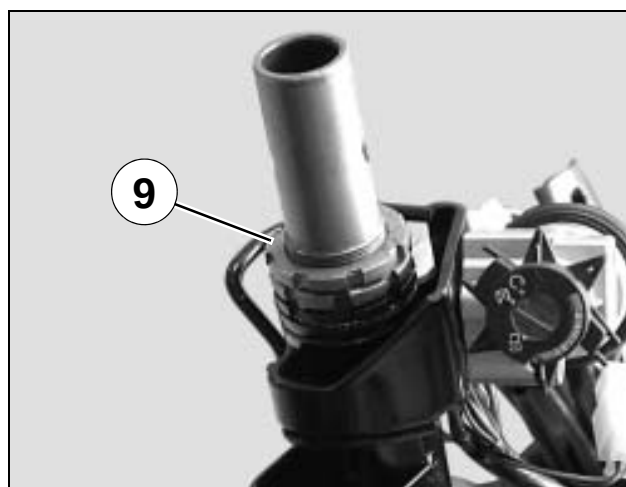
- Install the rubber washer (6).
- Fit and finger tighten the nut (7) so that its notches are aligned with those of the nut.
- Fit the lock washer (8) in the notches of the locknut and adjustable cone.



- Use the tool ref. 757860 to tighten the steering locknut (9).

Tightening torque: 70 Nm.

- Refit the other items in the reverse order to disassembly.



■ Wheel bearing replacement

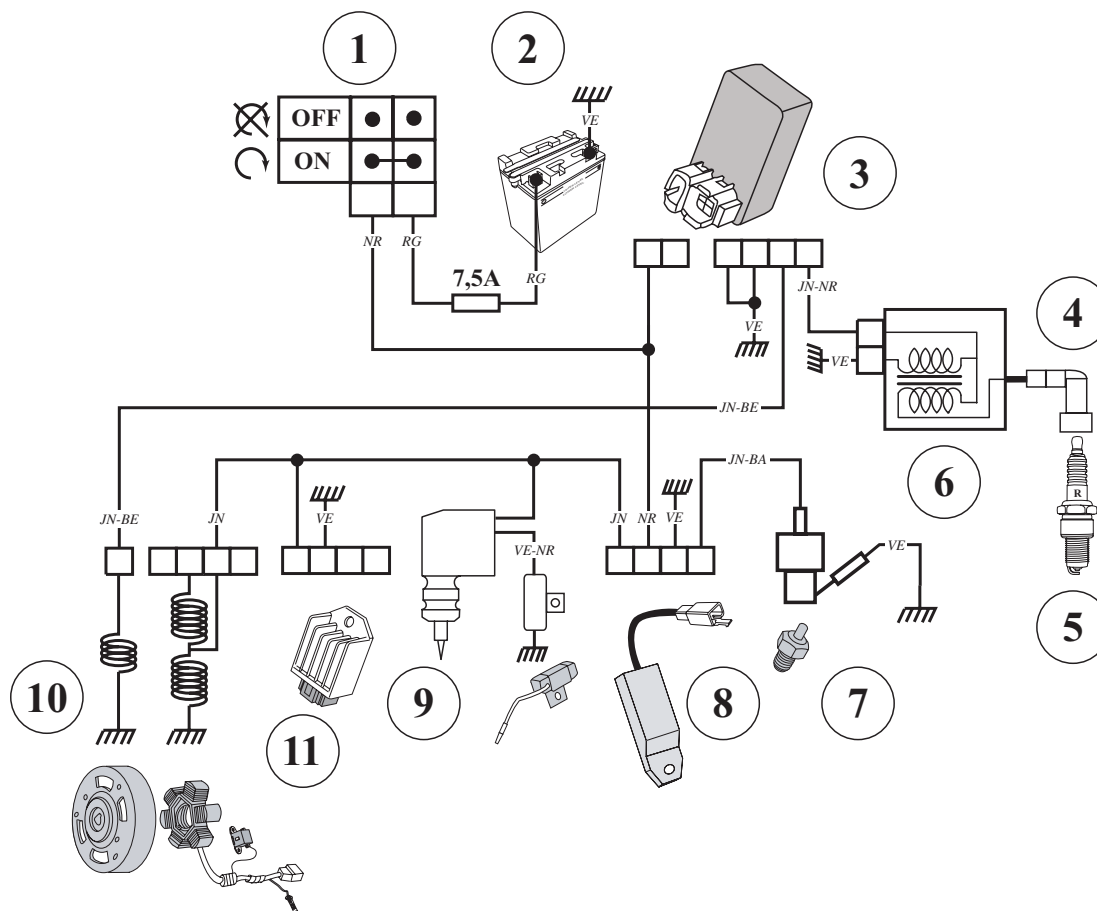
- Remove the wheel.
- Use an inertia extractor to remove the bearings.
- Remove the spacer.

Reassembly

- Use a drift driver to fit the first bearing.
- Fit the spacer.
- Insert the wheel spindle to guide the spacer with the bearings.
- Use a drift driver to fit the second bearing.



**Use new bearings when refitting.
Fit the bearings, pressing against the outer cage.**

ELECTRICITY**■ Ignition principle schematic/Carburetor heater**

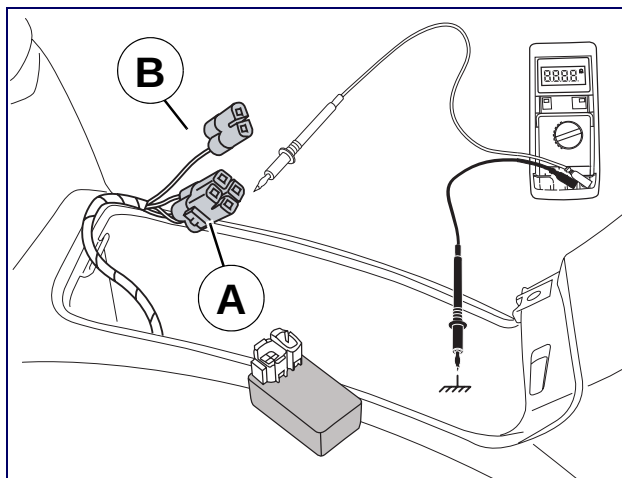
- | | |
|----------------------|--------------------------------|
| 1. Ignition switch | 7. Resistor warming carburator |
| 2. Battery | 8. Temperature control unit |
| 3. CDI unit | 9. Choke |
| 4. Spark plug socket | 10. Magneto flywheel |
| 5. Spark plug | 11. Regulator |
| 6. HT coil | |

■ Checking the ignition system

- Remove the battery access door.
- Disconnect and remove the battery.
- Remove the battery bracket.

Disconnect the ignition unit and take the measurements on the harness side.

- If the values are correct, replace the ignition module.
- If the values are incorrect, check:
 - The harness.
 - The ignition switch.
 - The ignition sensor.
 - The high voltage coil.



Component	Connector	Wire colours	Standard values
Ground	A	Green To the ground	$R=0\Omega$
Ignition sensor	A	Yellow/blue To the ground	$R=115\ \Omega^{\pm 20\%}$
Battery positive power	B	Black To the ground	Ignition on: $U=12V$ Ignition off: $U=0V$
HT coil: Primary Secondary	A	Yellow/black and Green High tension wire and Gren	$R=0.2\ \Omega^{\pm 20\%}$ $R=3\ K\Omega^{\pm 20\%}$
Spark plug socket			$R=5\ K\Omega^{\pm 20\%}$

■ Checking the carburettor heating circuit

- Power supply range of the carburettor heating resistor: between $10^{\pm 2}$ and $20^{\pm 2}$ °C.

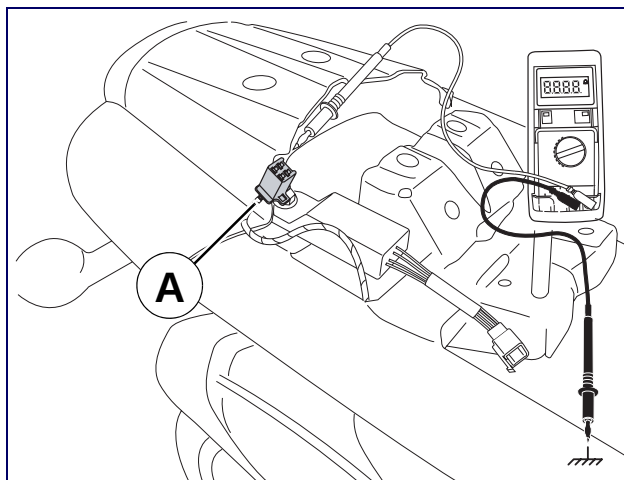
- Remove the luggage carrier (4 screws).

Tightening torque: 25 Nm.

- Remove the plastic cover.

Disconnect the temperature control unit and take the measurements on the harness side.

- If the values are correct, replace the temperature control unit.
- If the values are incorrect, check:
 - The harness.
 - The ignition switch.
 - The carburettor heating resistor.
 - Regulator .
 - The magneto.



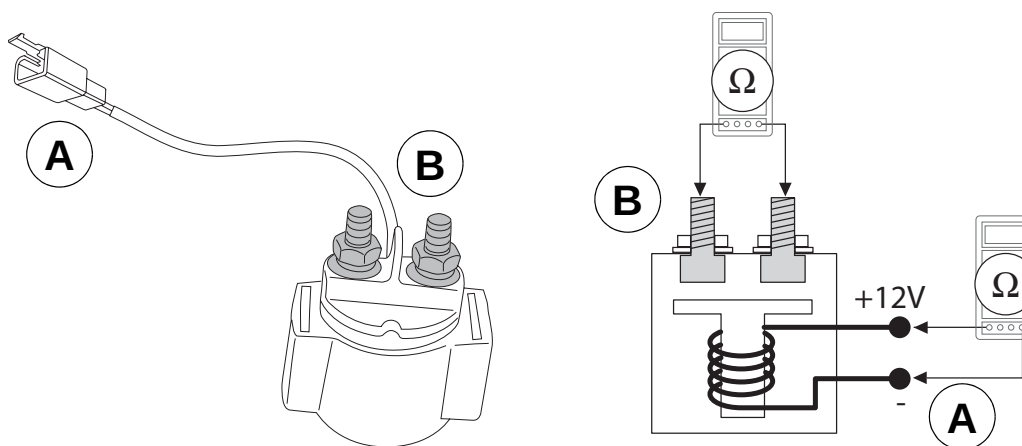
Component	Connector	Wire colours	Standard values
Ground	A	Green To the ground	$R=0\Omega$
Resistor warming carburator	A	Yellow/white To the ground	$R=8.5\ \Omega^{\pm 20\%}$
Battery positive power	A	Black To the ground	Ignition on: $U=12V$ Ignition off: $U=0V$
Regulated alternating current	A	Yellow	The engine is running: $U=13.5V$

■ Regulator/Starter motor relay/Ignition unit/Starter resistor/HT coil

- Remove the battery access door.
- Disconnect and remove the battery.
- Remove the battery bracket.

- Disconnect and remove the electrical components.
 - The ignition unit, starter relay and lighting resistance are attached to a removable holder.
 - The regulator and high tension coil are attached to the chassis.

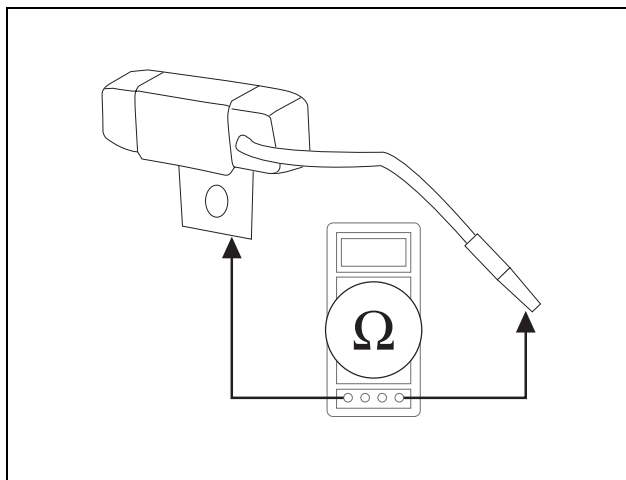
■ Checking the starter motor relay



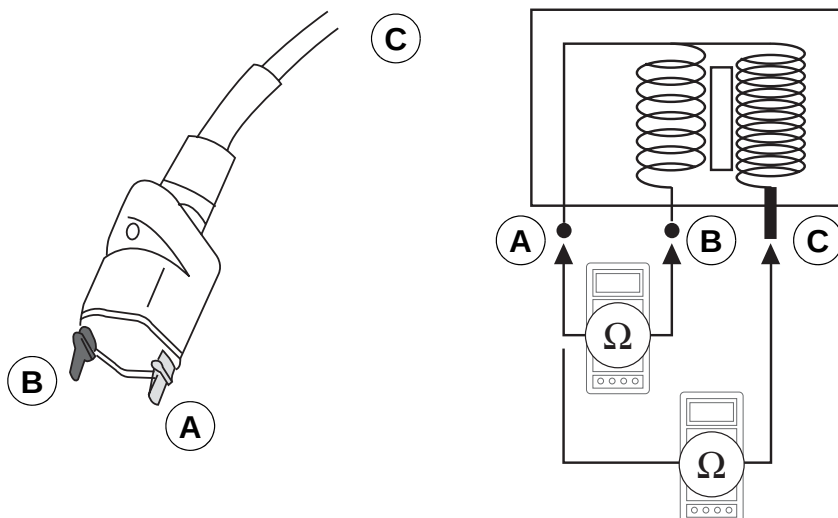
Condition	Operation	Measurement	Standard values
Disconnect and remove the starter motor relay.	Apply a voltage of 12 V to the A terminals on the relay. The relay must trip.	Between terminals A	$R=3.6 \Omega^{\pm 10\%}$
		Between terminals B	$R=\infty \Omega$
		Between terminals B	$R=0 \Omega$

■ Checking the starter resistance

- Resistance: $12\ \Omega \pm 10\%$



■ Checking the high tension coil



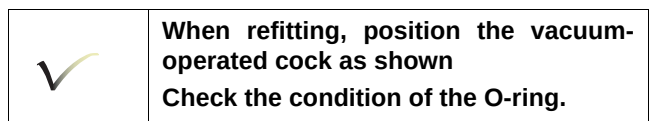
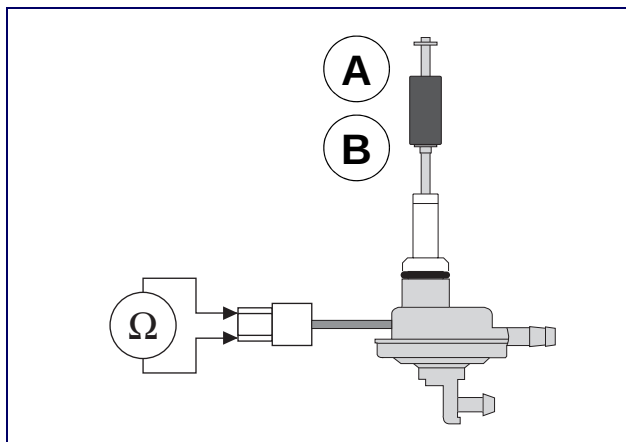
Condition	Measurement	Standard values
Disconnect the high voltage coil. Disconnect the suppressor.	Between terminals A and B	$R=0.2\ \Omega \pm 20\%$
	Between terminals B and C	$R=3\ k\Omega \pm 20\%$

■ Vacuum-operated cock

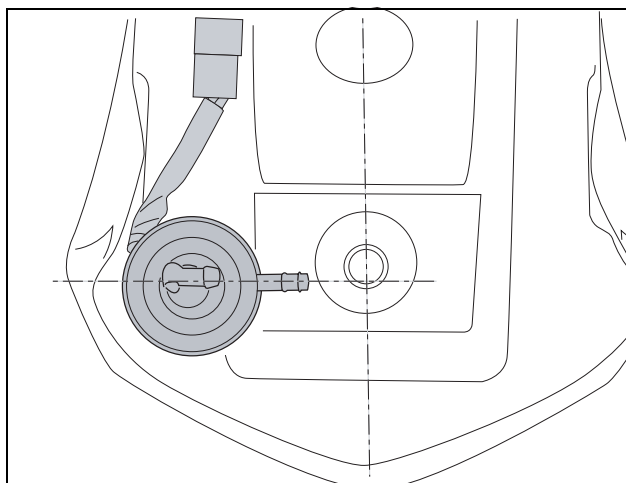
- Remove the fuel tank. See: **Procedure 3** page 18.
- Remove the vacuum-operated cock.

Checking the fuel reserve contact

- A. **Full fuel tank:** $\infty \Omega$.
- B. **Empty fuel tank:** 0Ω .



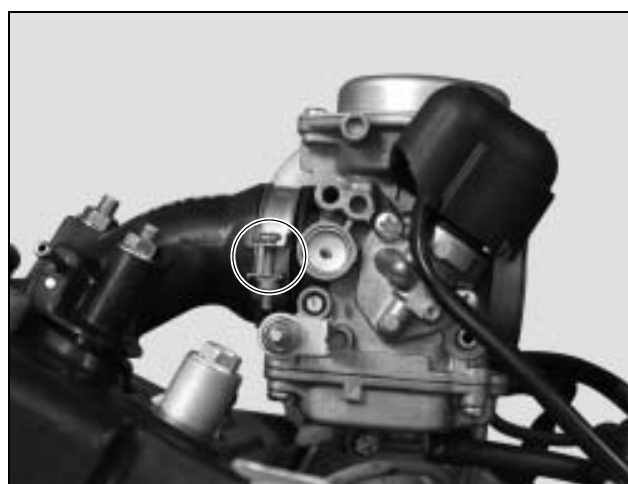
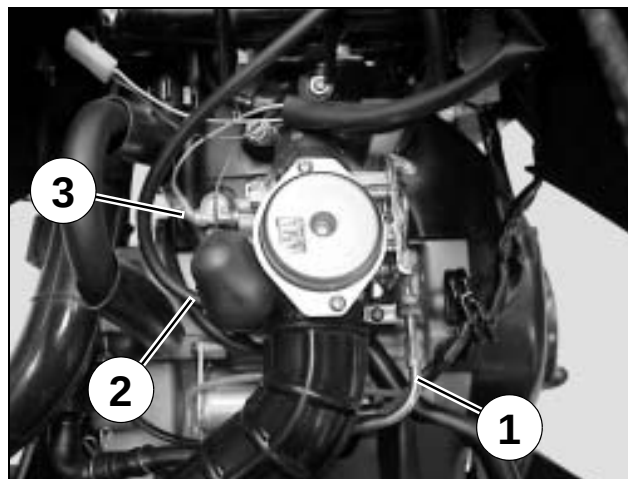
When refitting, position the vacuum-operated cock as shown
Check the condition of the O-ring.



FUEL SYSTEM

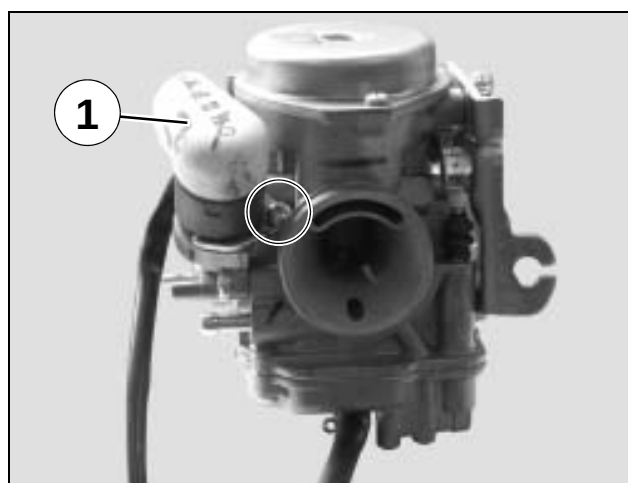
■ Removal of the carburettor

- Remove the side fairings.
- Remove the fuel tank. See: **Procedure 3** page 18.
- Disconnect:
 - The throttle control (1).
 - The fuel inlet pipe (2).
- Disconnect the carburettor heater (3).
- Remove the intake silencer (1 collar and 2 screws).
- Disconnect the electric choke.
- Loosen the collar.
- Remove the carburettor.



Removal of the choke

- Remove the choke cap.
- Remove the screw and the holder plate.
- Locate the position of the choke (1) and then remove it.



Removal of the starter holder and its gasket

- Remove the choke holder and its gasket (2 screws).



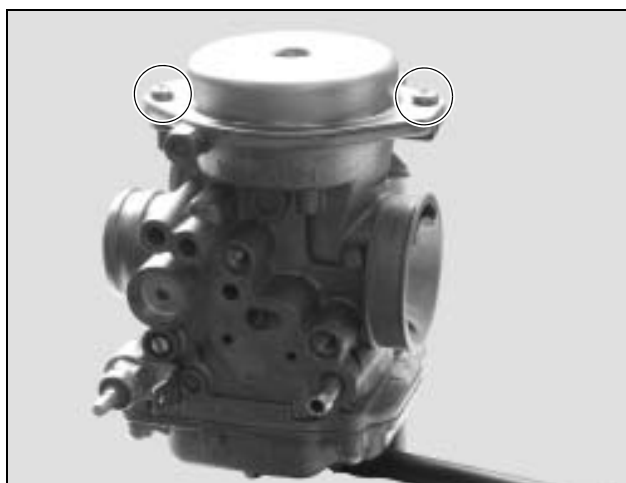
Check the condition of the O-ring.

Removal of the throttle valve

- Remove the chamber cap (2 screws).
- Remove the spring.
- Remove the needle, valve and membrane assembly.



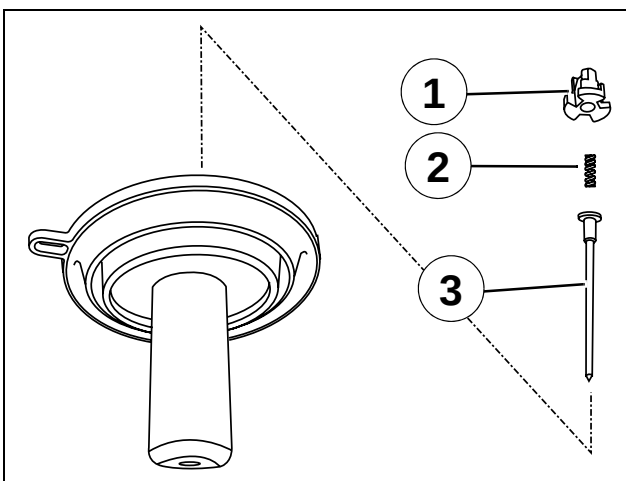
Check that the membrane is in good condition.



- Remove the needle stop (1).
- Remove the spring (2).
- Remove the needle (3).



The height of the needle is factory set and cannot be modified.

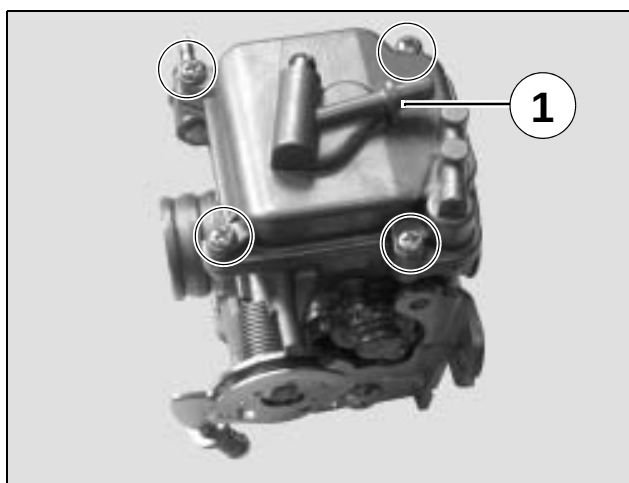


Removal of the float, needle valve and jets

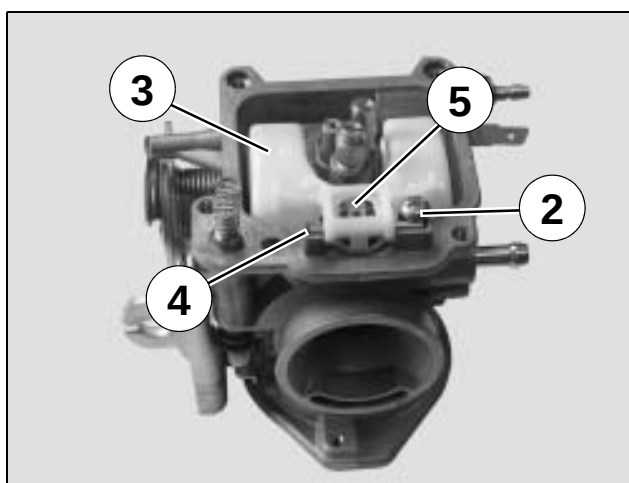
- Remove the float chamber and its O-ring (4 screws).



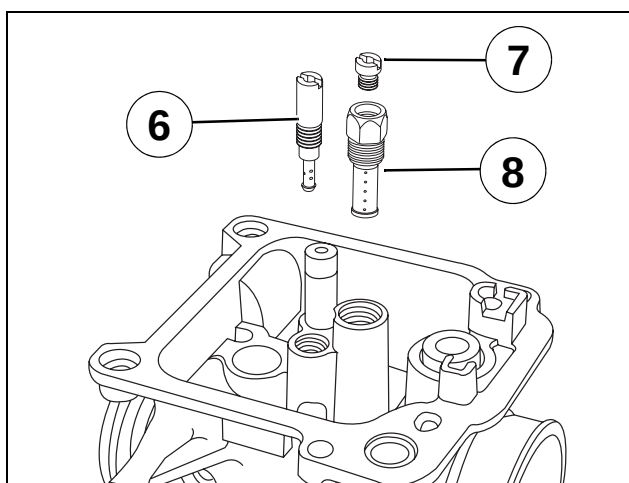
Check the condition of the float chamber O-ring.



- Loosen the float pin clamping screw (2).
- Remove the float (3), its pin (4) and the needle valve (5).

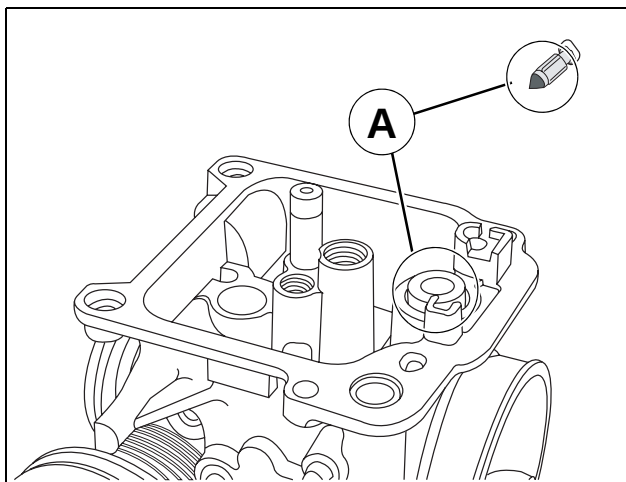


- Remove the idle jet (6).
- Remove the main jet (7).
- Remove the needle well (8).





Check the condition of the needle valve and the needle valve seat (A).

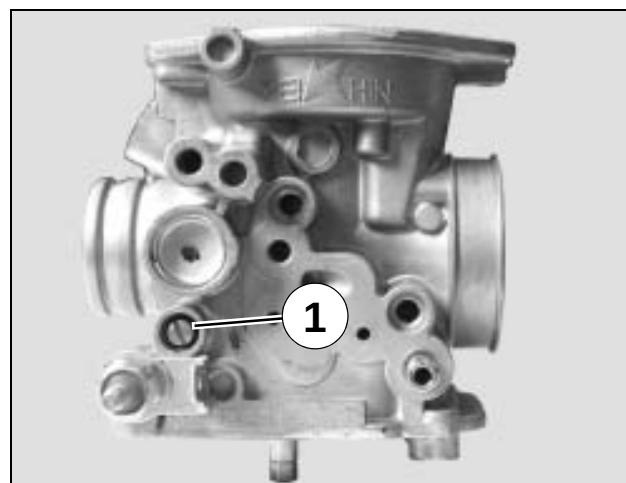


Removal of the mixture screw

- Turn clockwise the mixture control screw (1) while counting the number of turns until it is screwed home.



When re-fitting, this operation allows you to put it back to its initial adjustment position.



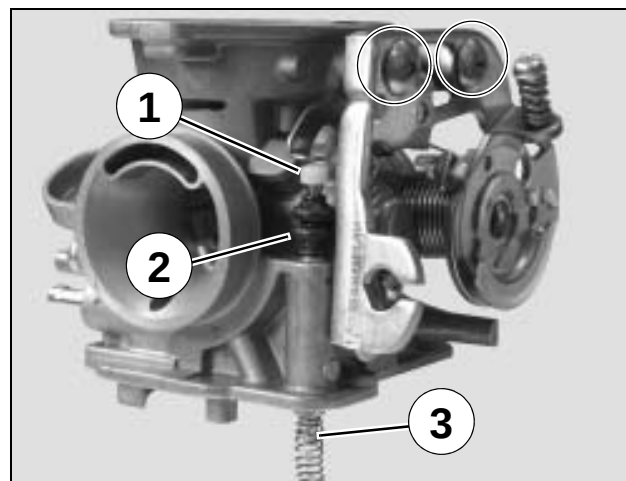
Removal of the pick-up pump

- Remove the 2 screws from the sheathing holder plate.
- Remove the bushing (1) and the protective rubber (2).



Check the condition of the bushing and the rubber protection.

- Remove the piston (3).



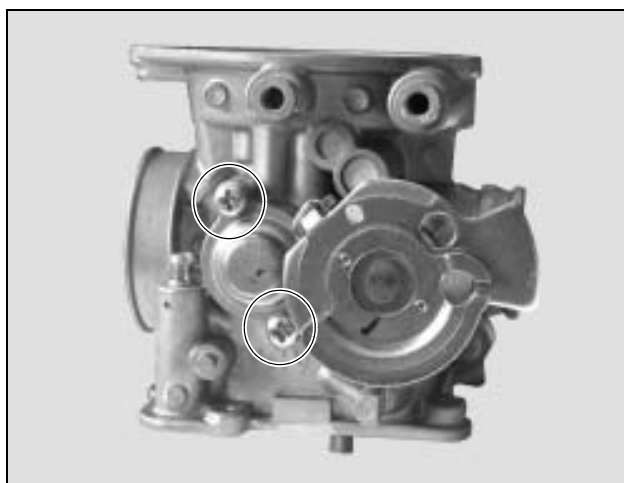
Removal of the pick-up pump suction valve

- Remove the jet.
- Remove the spring.
- Remove the ball.

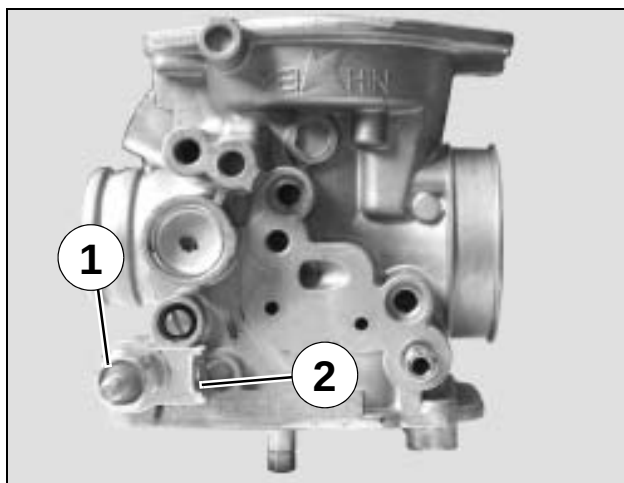
Removal of the deceleration enrichment device

- Remove the cover (2 screws).
- Remove the spring.
- Remove the membrane.
- Remove the O ring.

	Check that the membrane is in good condition. Check the condition of the O-ring.
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Removal of the carburetor heater

- Remove the carburetor warming resistor (1).
- Remove the heater earthing connection (2).



- Clean the carburettor body with Biosane cleanser ref. 754748 or use an ultrasonic cleaning tank.
- Blow into every jet and duct of the carburettor body with compressed air.

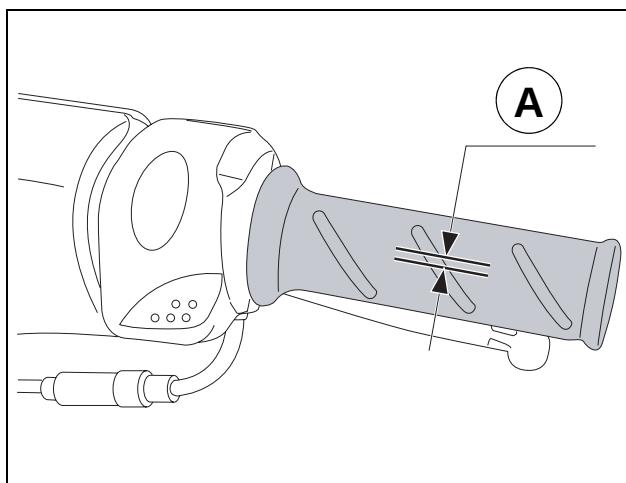
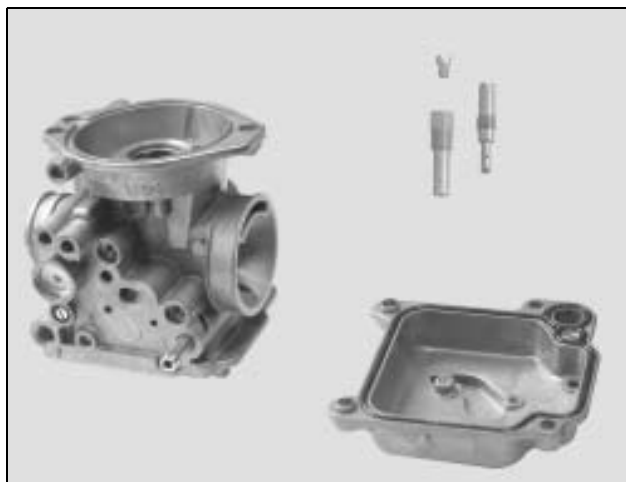


Do not use any metal tool which can damage the ducts of these items.

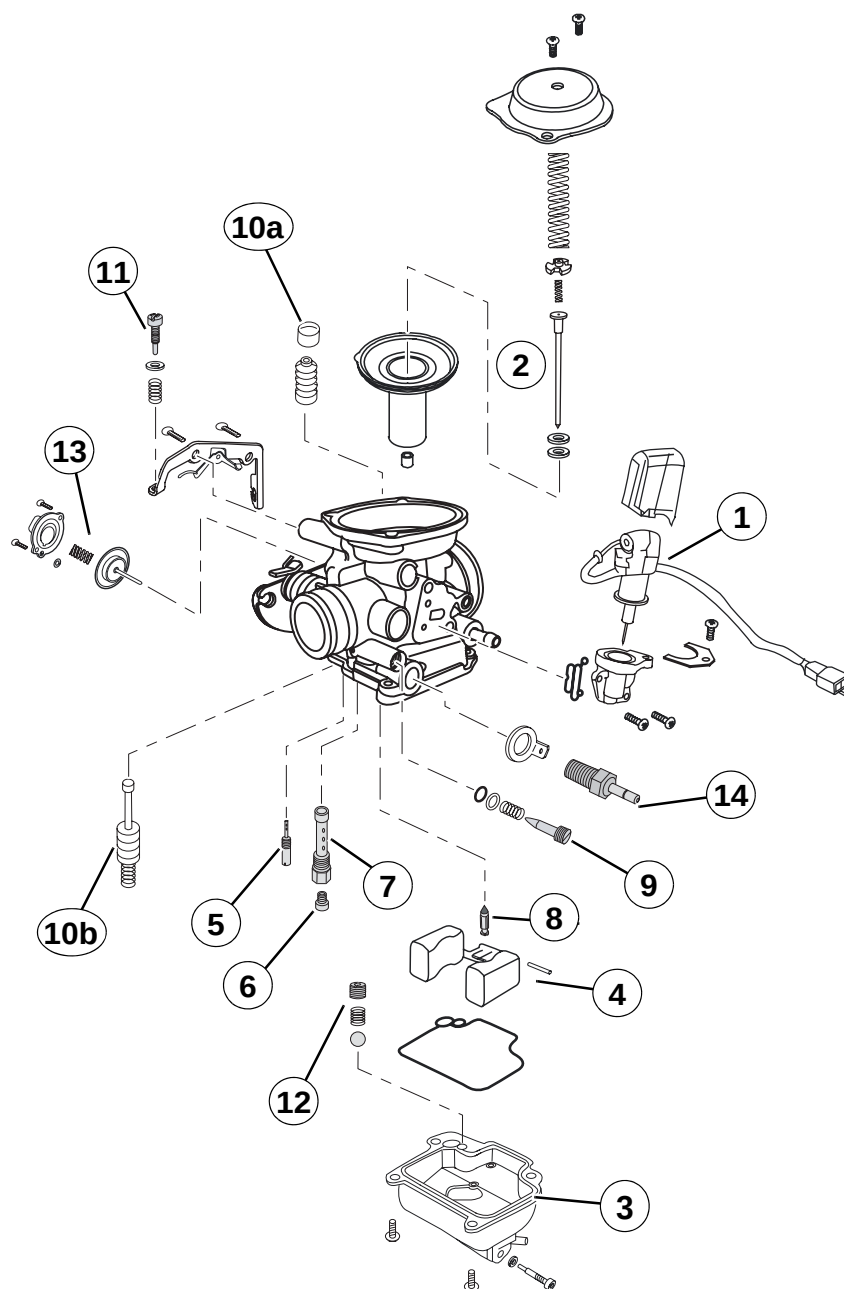
- Re-install all the other components and, if necessary, when starting the engine, readjust according to the values indicated on the technical data card.

- When refitting the carburettor, adjust the throttle tensioner to obtain a clearance on the handlebar of:

A. 4 to 6 mm.



■ The carburettor and its components



- | | |
|------------------|-------------------------------------|
| 1. Choke. | 9. Mixture screw. |
| 2. Piston. | 10. Pick-up pump (10a and 10b). |
| 3. Sump. | 11. Idle screw. |
| 4. Float. | 12. Pick-up pump suction valve. |
| 5. Idle jet. | 13. Deceleration enrichment device. |
| 6. Main jet. | 14. Carburetor heater. |
| 7. Needle well. | |
| 8. Needle valve. | |

POWER UNIT

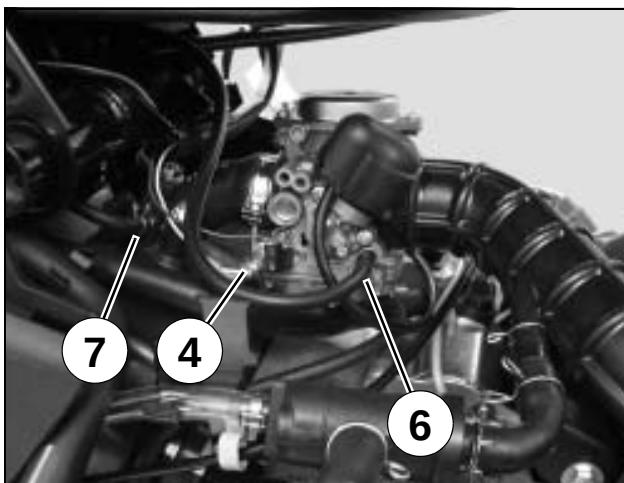
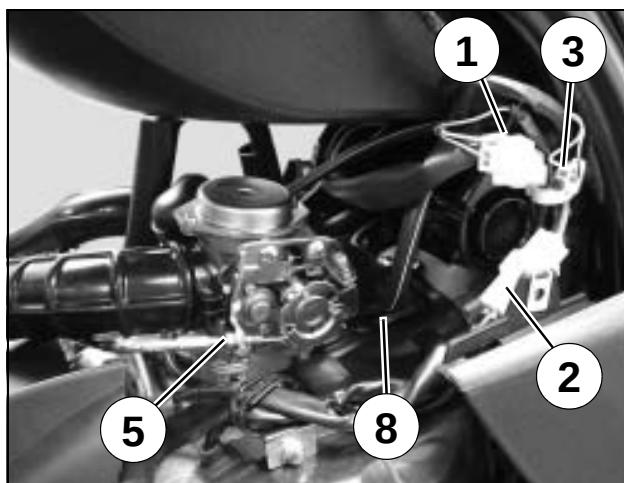
■ Removal of the power unit

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

For removal of the cylinder head, cylinder and piston, see the workshop manual.

- 50 cc engine. 2 valves. SYM.

- Disconnect the battery.
- Remove the side fairings. See:
Procedure 3 page 17.
- Disconnect:
 - The magneto (1).
 - The starter motor (2).
 - The choke (3).
 - The carburettor heater (4).
 - The suppressor.
- Disconnect:
 - The throttle control (5).
 - The fuel inlet pipe (6).
 - The vacuum pressure hose (7) (Pulsair).
 - The vacuum pressure hose (8) (Petrol tap).



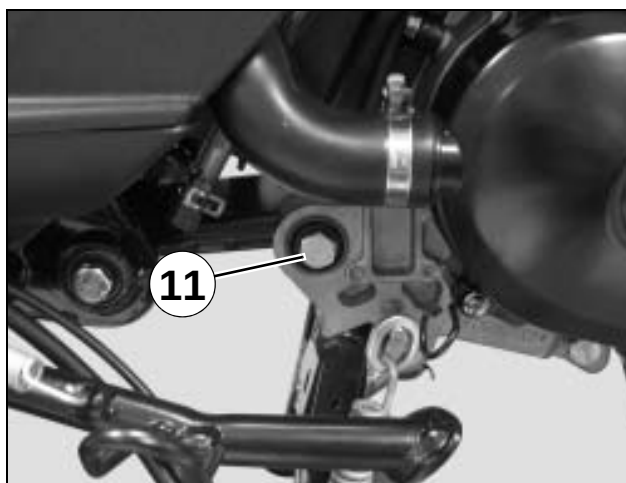
- The pulsair reed valve hose (9).
- The rear brake control cable (10).



- Remove the linkrod-to-engine connecting pin (11).

Tightening torque: 50 Nm.

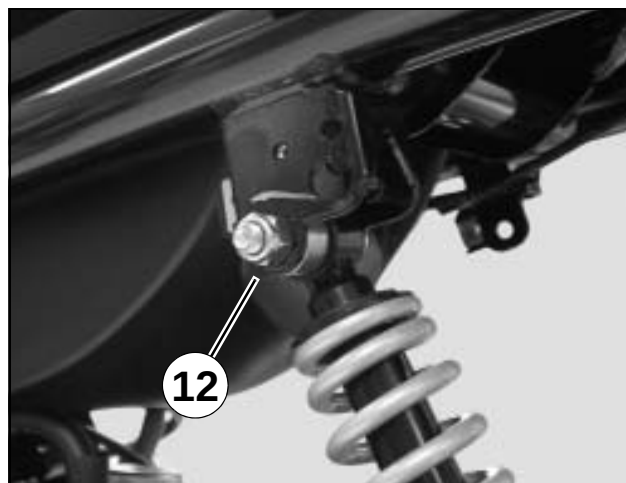
N	When re-installing, use a new nut.
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- Remove the shock absorber upper mount (12).

Tightening torque: 45 Nm.

- Lift the rear of the machine.
- Remove the power propulsion unit from the frame.
- Remove the covers from the power unit.







P/N MA0027GB

In our permanent concern to make improvements PEUGEOT MOTOCYCLES reserves the right to suppress, modify, or add any reference mentioned.

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