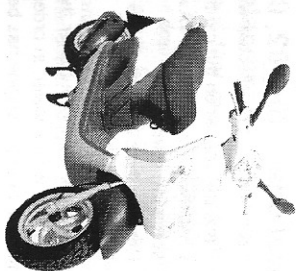


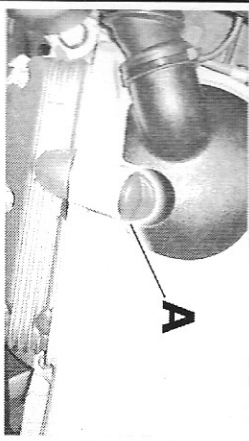
# FLY 150



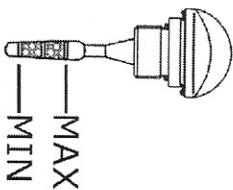
PIAGGIO



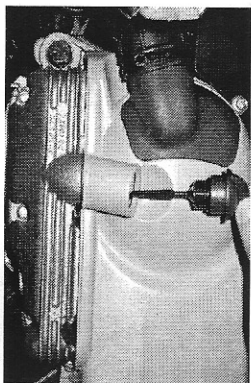
Chap. 04  
Maintenance



04\_01



04\_02



04\_03

### Engine oil level (04\_01)

Engine oil is used in 4-stroke engines in order to lubricate the timing gears, the bronze bushes and the thermal group. **An insufficient quantity of oil can cause serious damage to the engine itself.** In all 4T engines, the decay of the oil characteristics, as well as a certain level of consumption, should be considered normal. Consumption can particularly reflect the conditions of use (i.e. when driving at "full acceleration" all the time, oil consumption increases). In order to prevent any problems, it is advisable to check the oil level more frequently than indicated in the Scheduled Maintenance Table or before undertaking a long trip. The vehicle is equipped with an oil pressure light on the instrument panel.

### Level check (04\_02, 04\_03)

This operation must be effected **with the engine cold** and following the procedure below:

1. Place the vehicle on the central stand on level ground.
2. Unscrew the cap/dipstick «A», dry it with a clean rag and reinsert it, **completely screwing it in.**
3. Remove the cap/dipstick «A» again and make sure the level is between MAX and MIN; top up if necessary.

If the check is carried out after the vehicle has been used, and therefore with a hot engine, the level line will be lower; in order to carry out a correct check it is necessary to wait at least 10 minutes after the engine has been stopped, so as to get the correct level.

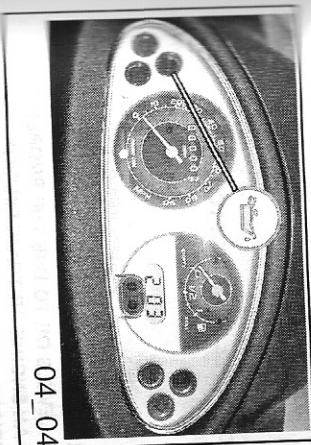
### Characteristic

#### Total engine oil

Capacity 0.26 gal (1 l).

### Oil top up

The oil should be topped up after having checked the level and in any case by adding oil **without ever exceeding the MAX level.** The restoration level between the MIN and MAX levels indicate a quantity of oil 13.52 oz. (~ 400 cc). Every 1900 miles (3000 Km) it is therefore necessary to check the engine oil level and top it up if necessary at an **Authorized**



04\_04

Piaggio

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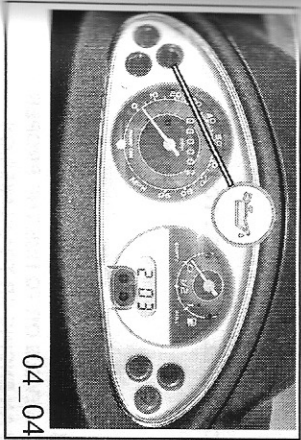
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Piaggio Service Centre.

### Warning light (insufficient oil pressure) (04\_04)

The vehicle is equipped with a warning light «H» that lights up when the key is turned to the «ON» position. However, this light should switch off once the engine has been started. If the warning light still lights while braking, at idle speed or while turning a corner, it is necessary to check the oil level and top up if required. If, after having topped up the oil, the warning light persists in still lights while braking, at idle speed or while turning a corner, it will be necessary to turn to an Authorized Piaggio Service Centre.

### Oil replacement

The oil and filter must be changed every 4000 miles (6000 km) and also at the first counterfoil by an **Authorized Piaggio service center**. The engine must be emptied of the oil from the oil drain plug «B» of the net filter on the flywheel side. To aid the oil removal loosen the plug/dipstick. Fill with 600-650cc of oil from plug «A» as a certain amount of oil remains in the circuit. Start the vehicle, let it idle for a few minutes and switch off: after 5 minutes check the level and if necessary top up without ever exceeding the Max level. The cartridge filter must be changed at every oil change. To top up and replace use new oil **Selenia HI Scooter 4 Tech**.



**CAUTION: RUNNING THE ENGINE WITH INSUFFICIENT OIL CAUSES RAPID WEAR OF MOVING PARTS AND CAN RESULT IN IRREPARABLE DAMAGE.**



**CAUTION: USED OIL IS HARMFUL FOR THE ENVIRONMENT. WE RECOMMEND TAKING THE MOTORCYCLE TO AN AUTHORIZED VESPA SERVICE CENTER FOR OIL CHANGES. OUR SERVICE CENTERS ARE PROPERLY EQUIPPED FOR THE DISPOSAL OF USED OIL RESPECTING THE ENVIRONMENT AND IS IN COMPLIANCE WITH THE LAW.**





**CAUTION:** EXCESSIVE RESETTING OF THE OIL LEVEL GIVES RISE TO INCORUSTATIONS AND VEHICLE MALFUNCTION.



#### LUBRICANTS

**WARNING:** PROPER VEHICLE LUBRICATION IS CRITICAL TO SAFE OPERATION. FAILURE TO MAINTAIN PROPER LUBRICANT LEVELS OR TO USE THE PROPER TYPE OF CLEAN, NEW LUBRICANT, CAN LEAD TO AN ENGINE OR TRANSMISSION SEIZURE WITH SUBSEQUENT ACCIDENT, SERIOUS INJURY OR DEATH.



**WARNING:** USE LATEX GLOVES FOR THE MAINTENANCE OPERATIONS THAT REQUIRE CONTACT WITH USED OIL. USED ENGINE OIL MAY CAUSE SKIN CANCER IF REPEATEDLY LEFT IN CONTACT WITH THE SKIN FOR PROLONGED PERIODS. ALTHOUGH THIS IS UNLIKELY UNLESS YOU HANDLE USED OIL ON A DAILY BASIS, IT IS ADVISABLE TO THOROUGHLY WASH YOUR HANDS WITH SOAP AND WATER AFTER HANDLING USED OIL. KEEP OIL AWAY FROM CHILDREN. DISPOSE OF OIL PROPERLY.



**CAUTION:** AVOID SPILLING OIL WHEN PUTTING IT IN YOUR VEHICLE. CLEAN UP ANY OIL SPILLED IMMEDIATELY AS OIL CAN DAMAGE THE FINISH OF YOUR VEHICLE. ADDITIONALLY, OIL ON THE TIRES CREATES AN EXTREMELY SLIPPERY, AND THEREFORE, DANGEROUS SITUATION.



**CAUTION:** IN CASE OF OIL LEAKAGE DO NOT RIDE YOUR VEHICLE. BEFORE USING THE VEHICLE, HAVE IT REPAIRED BY YOUR LOCAL VESPA DEALER OR VESPA AUTHORIZED SERVICE CENTER.



#### ENGINE

**WARNING:** THE ENGINE PRESSURE LOCAL VEHICLE SERIOUS



**CAUTION:** SPECIFIC CONDITIONS MILES (1



**WARNING:** WILL LEAVE WITH SLIGHT DEATH.

#### Recommend

SELENIUM  
Engine oil  
SYNTHETIC



**ENGINE OIL**

**WARNING:** IF THE ENGINE OIL PRESSURE WARNING LIGHT REMAINS ON (WHEN THE ENGINE IS RUNNING), OR IF IT COMES ON DURING THE NORMAL RUNNING OF THE ENGINE, THIS MEANS THAT THE OIL SYSTEM IS NOT DEVELOPING SUFFICIENT PRESSURE. IN THIS CASE, IMMEDIATELY STOP THE ENGINE AND CONTACT YOUR LOCAL VESPA DEALER OR AUTHORIZED VESPA SERVICE CENTER. FAILURE TO HEED THIS WARNING CAN LEAD TO ENGINE SEIZURE, UPSET, AND CAUSE SERIOUS INJURY OR EVEN DEATH.



**CAUTION:** PERFORM THESE MAINTENANCE OPERATIONS AT ONE-HALF OF THE SPECIFIED INTERVALS, IF YOUR VEHICLE IS USED OFTEN IN RAINY OR VERY DUSTY CONDITIONS, OR ON UNPAVED ROADS. CHECK THE ENGINE OIL LEVEL EVERY 312 MILES (500 KM) (CHECKING THE ENGINE OIL LEVEL AND TOPPING UP).



**WARNING:** USE ONLY THE RECOMMENDED TYPES OF OIL. USE OF INFERIOR OIL WILL LEAD TO REDUCED ENGINE LIFE, AND CAN LEAD TO AN ENGINE SEIZURE, WITH SUBSEQUENT UPSET, SERIOUS ACCIDENT, AND SERIOUS INJURY, OR EVEN DEATH.

**Recommended products**

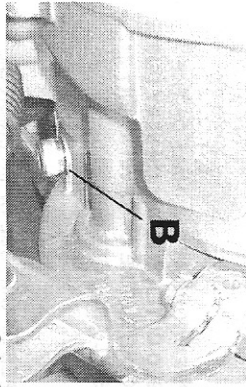
**SELENIA HI Scooter 4 TECH**

*Engine oil*

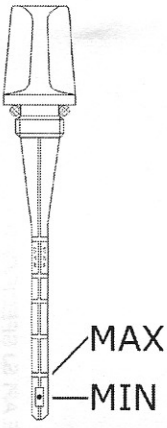
SYNTHETIC OIL SAE 5W/40 THAT PASSES THE API SJ SPECIFICATION



04\_05



04\_06



04\_07

### Hub oil level (04\_05, 04\_06, 04\_07)

Check that there is oil in the rear hub. Proceed as follows in order to check the hub oil level:

1. Place the vehicle on its central stand on a level surface.
2. Unscrew the oil bar «A», dry it with a clean cloth and reinsert it, **screwing it in completely**.
3. Unscrew the dipstick and check that the oil level reaches the first notch from the bottom.
4. Screw the bar back in, checking that it is tightly in place.

N.B.

THE NOTCHES ON THE HUB OIL LEVEL BAR, WITH THE EXCEPTION OF THAT INDICATING THE MAX LEVEL, REFER TO SOME OF THE MANUFACTURER'S OTHER MODELS AND HAVE NO SPECIFIC FUNCTION AS FAR AS REGARDS THIS VEHICLE.



CAUTION: USING THE VEHICLE'S HUB WITH INSUFFICIENT LUBRICATION OR WITH CONTAMINATED OR IMPROPER LUBRICANTS, ACCELERATES THE WEAR AND TEAR OF THE MOVING PARTS AND CAN CAUSE SERIOUS DAMAGE.



WARNING: THE OIL USED CONTAINS ENVIRONMENTALLY HARMFUL SUBSTANCES. FOR THE REPLACEMENT OF THE HUB OIL, WE RECOMMEND TURNING TO AN AUTHORIZED PIAGGIO SERVICE CENTRE THAT IS EQUIPPED FOR THE DISPOSAL OF USED OIL IN RESPECT OF NATURE AND LEGAL REGULATIONS.

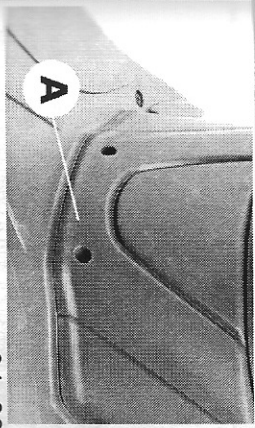
### Recommended products

TUTELA MATRYX

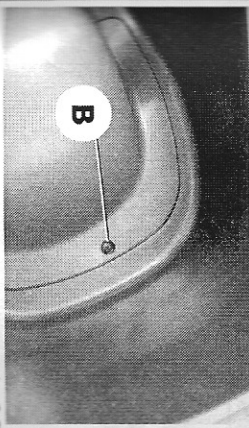
Rear hub oil

SAE 75W/85 Oil with API GL4 specifications

### Characteristic



04\_08



04\_09

Rear hub  
13.52 oz (

### HUB OIL

1. Remov
2. Unsc
3. Resc

### Sparg

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1. Remov
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spark plug  
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WARNING:  
THE ENG  
(6,000 km)  
CONFIR  
SYSTEM  
DAMAGE

Rear hub oil  
13.52 oz (400 cc.)

#### HUB OIL REPLACEMENT

1. Remove the dipstick.
2. Unscrew the screw «B» for draining the oil and let it completely drain.
3. Rescrew the screw and add the prescribed quantity and type of oil to the hub.

#### Spark plug dismantlement (04\_08, 04\_09, 04\_10)

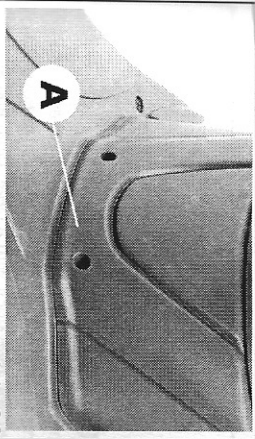
To inspect the spark plug the engine must be cold; proceed as follows:

1. Remove port «A» after releasing the relevant screws;
  2. Remove the carburetor cover «B» of the helmet compartment;
  3. Remove the spark plug cap;
  4. Pull port «C» upwards on the engine casing;
  5. Using the supplied spanner (provided with retain rubber cap), remove the spark plug.
- To reassemble, repeat the operations in the reverse order using the spanner both for the spark plug inlet and to tighten it into its seat, ensuring it is installed and tightened at the appropriate inclination.

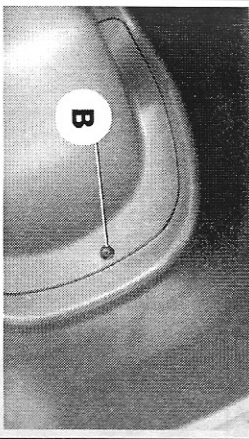
To reassemble the port, perform the operations for removal in the reverse order, ensuring the tooth is inserted in the central cover side.



**WARNING: THE SPARK PLUG DISMANTLEMENT SHOULD BE CARRIED OUT WHEN THE ENGINE IS COLD. THE SPARK PLUGS SHOULD BE CHECKED EVERY 4000 MILES (6,000 KM) AND REPLACED EVERY 8000 MILES (12,000 KM). THE USE OF NON CONFORMING ELECTRONIC JUNCTION BOXES AND ELECTRONIC IGNITION SYSTEMS, AND SPARK PLUGS OTHER THAN THOSE PRESCRIBED CAN SERIOUSLY DAMAGE THE ENGINE. IF THE SPARK PLUG MUST BE REMOVED FOLLOWING THE**



04\_08



04\_09





04\_10

ENGINE FLOODING (TO EJECT THE EXCESS OF FUEL AS PER SECTION "SAFE DRIVING"), KEEP THE LUG CONNECTED TO THE PLUG AND THE LATTER IN CONTACT WITH AN EARTH POINT AWAY FROM THE SPARK PLUG HOLE, TO PREVENT THE IGNITION OF THE EJECTED FUEL.



WARNING: THE USE OF SPARK PLUGS OTHER THAN THOSE PRESCRIBED, OR UNSCREENED SPARK PLUG HOODS CAN CAUSE DISTURBANCES IN THE ELECTRONIC SYSTEM.

#### Characteristic

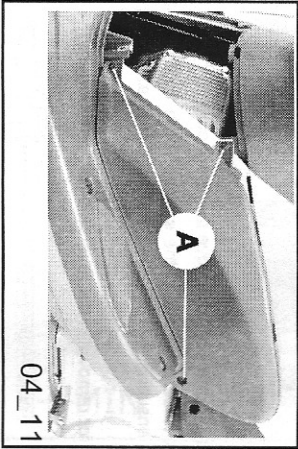
Spark plug  
CHAMPION RG6YC - NGK CR7EB

#### Air filter disassembly (04\_11, 04\_12)

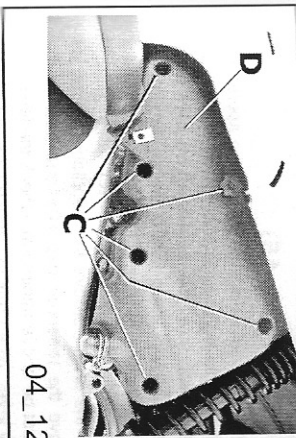
Remove the spark plug access port, then remove the side releasing the 3 screws «A». Remove the cleaner cap «D» after releasing the 6 fastening screws «C», then remove the filtering member, cleaning it with water and detergent, then dry it with a clean cloth and small jets of compressed air and immerse it in a 50% ratio mixture of Selenia Air Filter Oil and gasoline. Then press it between your hands without wringing it, leave it to drip and reassemble it.

#### CAUTION

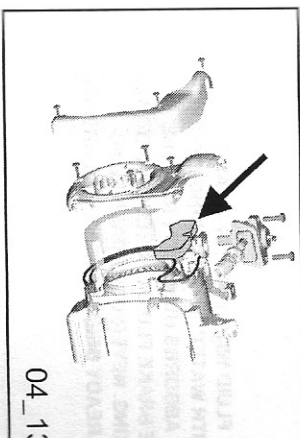
CAUTION: IF YOU USE THE VEHICLE ON DUSTY ROADS YOU NEED TO SERVICE THE AIR FILTER MORE FREQUENTLY TO AVOID DAMAGING THE ENGINE.



04\_11



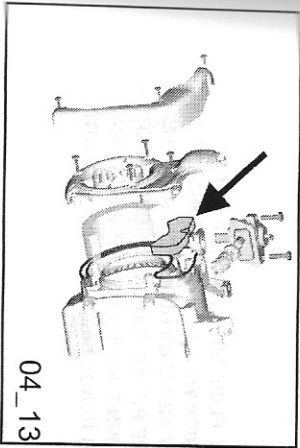
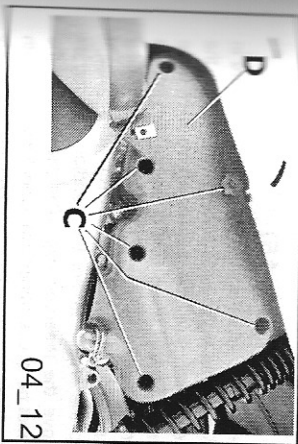
04\_12



04\_13

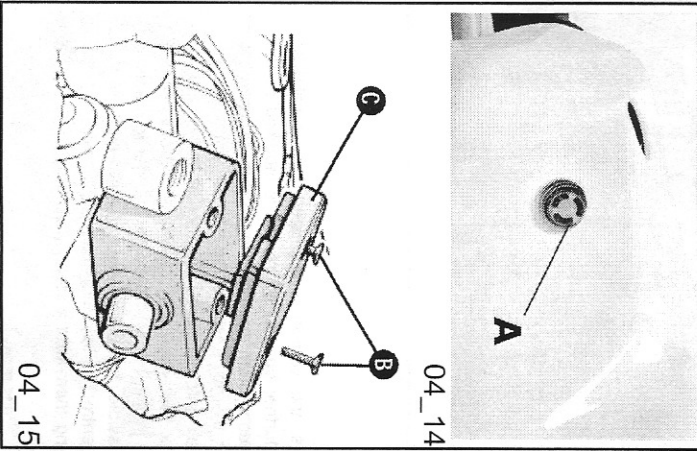
#### Seco

In order to convert the second-hand vehicle into a more modern one, the unburnt hydrocarbons (UHC) catalytic converter can be replaced by a Selenia Air Filter Oil and gasoline mixture. This mixture will exclude the function of the sponge compress



### Secondary air system (04\_13)

In order to reduce the emission of pollutants, the vehicle is equipped with a catalytic converter. In order to support the catalysis, a further quantity of oxygen is modified by the secondary air system (SAS). The aforementioned system enables oxygen to be supplied to the unburnt gases before the catalytic converter, thereby encouraging a better reaction in the catalytic converter itself. The air is introduced into the exhaust conduit on the head, opportunistically purified by the internal filter «A». The system is provided with a control valve that excludes the function in deceleration, in order to prevent abnormal noise. In order to preserve the function of the SAS system as well as possible, the filters should be cleaned every 2 years, at an **Authorized Piaggio Service Centre**. The cleaning consists in washing the sponge with water and neutral soap, then drying them with a clean cloth and small jets of compressed air.



### Checking the brake fluid level (04\_14, 04\_15)

The brake fluid reservoir is equipped with a sight glass «A» (located behind the aperture in the front right hand side of the handlebar fairing). The sight glass shows the level in the reservoir. With sight glass «A» completely covered with fluid, the level is above MIN. If the level drops, even slightly, the fluid level is considered MIN. If no fluid is visible through the sight glass, the fluid level is below MIN. The brake fluid level may fall due to wear of brake pads. Take the scooter to an **Authorized Piaggio/Vespa Service Center** for a general check-up of the brakes. If you need to top up the level, remove the handlebar fairing as described unscrew the two screws «B», remove the reservoir cap «C» and pour in the required quantity of fluid (the brake fluid level must be above minimum). Check the level with the handlebars straight and the scooter perfectly level. When refilling, make sure to properly tighten the two screws «B» of the brake fluid reservoir cap.



**WARNING: AVOID CONTACT OF THE BRAKE FLUID WITH EYES, SKIN, AND CLOTHING. IN CASE OF CONTACT, RINSE WITH WATER. THE BRAKING CIRCUIT FLUID IS HYGROSCOPIC, THAT IS TO SAY IT ABSORBS HUMIDITY FROM THE SURROUNDING AIR. IF THE HUMIDITY IN THE BRAKE FLUID EXCEEDS A CERTAIN VALUE, IT WILL LEAD TO INEFFICIENT BRAKING. NEVER USE BRAKE FLUID CONTAINED IN CONTAINERS THAT HAVE ALREADY BEEN OPENED, OR PARTIALLY USED.**



**CAUTION: ONLY USE DOT 4 CLASSIFIED BRAKE FLUIDS. THE BRAKE CIRCUIT FLUID HAS A STRONG CORROSIVE POWER: DO NOT LET IT COME INTO CONTACT WITH THE PAINTED PARTS.**



**CAUTION: ALWAYS USE SYNTHETIC BRAKE FLUID (IDENTIFIED BY THE MARKING (O) ON THE CONTAINER). MINERAL TYPE BRAKE FLUID WILL DAMAGE THE RUBBER SEALS ON THE BRAKE CIRCUIT AND MUST NOT BE USED ON ANY ACCOUNT.**

N.B.



BRAKE FLUID TENDS TO ABSORB MOISTURE FROM THE AIR. IF THE BRAKE FLUID IN THE CIRCUIT CONTAINS EXCESS MOISTURE, BRAKING EFFICIENCY WILL BE IMPAIRED.



CAUTION: IN NORMAL CLIMATIC CONDITIONS IT IS ADVISABLE TO REPLACE THE BRAKE FLUID EVERY 2 YEAR. NEVER USE BRAKE FLUID CONTAINED IN ALREADY OPEN OR PARTIALLY USED CONTAINERS.



WARNING: PAY SPECIAL ATTENTION TO THE BRAKE DISC AND FRICTION MATERIAL, MAKING SURE THAT THEY ARE NEITHER DIRTY OR OIL, ESPECIALLY AFTER MAINTENANCE OPERATIONS OR INSPECTIONS. CHECK THE BRAKE LINE, MAKE SURE THAT IT IS NOT TWISTED, CRIMPED, OR LEAKING.

KEEP AWAY FROM CHILDREN.

DISPOSE OF USED BRAKE FLUID PROPERLY. SEE THE GENERAL WARNINGS ON PAGE 5 (BRAKE FLUID).



WARNING: IF THE "FEEL" OR POSITION OF THE BRAKE LEVER CHANGES, THIS MAY BE DUE TO SOME PROBLEM IN THE HYDRAULIC BRAKE SYSTEM. IF YOU HAVE ANY DOUBT REGARDING THE PERFECT FUNCTIONING OF YOUR BRAKE SYSTEM, OR IF THE NORMAL PRE-RIDE CHECKS INDICATE ANY DISCREPANCY, CONTACT YOUR LOCAL PIAGGIO DEALER OR AUTHORIZED PIAGGIO SERVICE CENTER BEFORE RIDING.



WARNING: THE BRAKES ARE EXTREMELY IMPORTANT FOR YOUR SAFETY. DO NOT USE THE VEHICLE IF THE BRAKES DO NOT WORK PERFECTLY. ALWAYS CHECK THE BRAKE EFFICIENCY BEFORE RIDING.

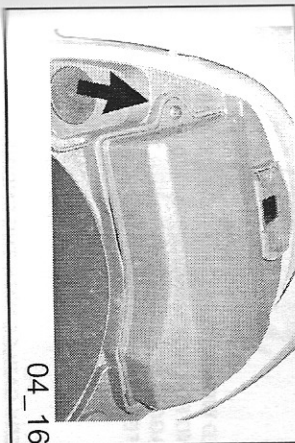
**WARNING:** WET CONDITIONS SERIOUSLY DEGRADE THE PERFORMANCE OF YOUR BRAKES. WHEN THE ROAD IS WET FROM RAIN, YOU SHOULD PLAN TO USE DOUBLE THE NORMAL STOPPING DISTANCES SINCE BOTH THE BRAKES THEMSELVES AND THE TRACTION OF THE TIRES ON THE ROAD ARE REDUCED BY THE PRESENCE OF WATER. WATER ON THE BRAKES FROM WASHING YOUR VEHICLE, OR SPLASHED UP FROM WET ROADS, OR CROSSING PUDDLES OR DITCHES, CAN WET THE BRAKES SUFFICIENTLY TO GREATLY REDUCE THEIR EFFECTIVENESS. WHENEVER THE BRAKES HAVE BECOME WET, ALWAYS DRY THEM BY GENTLY APPLYING THE BRAKES, REPEATEDLY, UNTIL THE HEAT CAUSES THE BRAKES TO DRY, AND FULL BRAKE FUNCTION IS RESTORED. FAILURE TO FOLLOW THIS PROCEDURE CAN LEAD TO LOSS OF BRAKE EFFECTIVENESS AND A SERIOUS ACCIDENT.



**WARNING:** DO NOT RIDE YOUR VEHICLE WITH WORN OR MALFUNCTIONING BRAKES! THE BRAKES ARE THE MOST IMPORTANT SAFETY SYSTEM OF YOUR VEHICLE. USING THE MOTOR-SCOOTER WITH BRAKES THAT ARE ANYTHING LESS THAN PERFECT IS VERY LIKELY TO LEAD TO A COLLISION OR UPSET, WITH CONSEQUENT RISK OF SERIOUS INJURY OR DEATH.

CHECK THE BRAKE PAD WEAR, AS SHOWN ON PAR. «CHECKING THE BRAKE PAD WEAR». HAVE YOUR BRAKES SERVICED BY YOUR LOCAL PIAGGIO DEALER OR AUTHORIZED PIAGGIO SERVICE CENTER.

IN TEMPERATE CLIMATES, BRAKE FLUID SHOULD BE CHANGED EVERY TWO YEARS. DO NOT USE FLUID FROM PREVIOUSLY OPENED OR PART-EMPTY CONTAINERS.



## Batterie

To access:

1. Release the battery cover latch.
2. Open the battery cover.
3. Remove the battery cover.

Your battery:



DEAD BATTERY  
DISPOSAL  
REGULATIONS



WARNING:  
EYES, SKIN,  
CLOTHING

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battery

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• Electro

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## Battery (04\_16)

To access the battery, proceed as follows:

1. Rest the vehicle on the central stand
2. Open the seat as described above, see section «Keys»
3. Remove the battery cover by unscrewing the screw

Your battery must be carefully inspected and regularly serviced to perform its best.

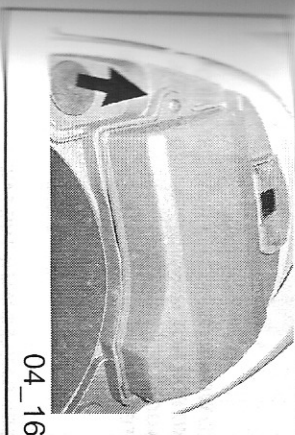


**DEAD BATTERIES CAN HARM THE ENVIRONMENT. THE COLLECTION AND DISPOSAL SHOULD BE CARRIED OUT IN COMPLIANCE WITH CURRENT REGULATIONS.**



**WARNING: THE ELECTROLYTE CONTAINS SULPHURIC ACID. AVOID CONTACT WITH EYES, SKIN AND CLOTHES. IN THE CASE OF ACCIDENTAL CONTACT, RINSE WITH PLENTY OF WATER AND CONSULT A DOCTOR.**

04\_16

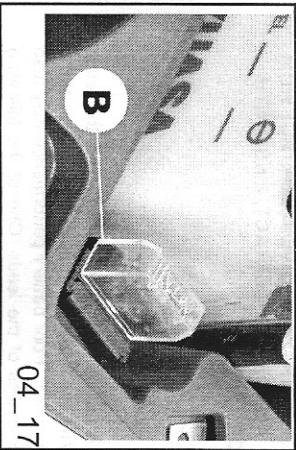


## Long periods of inactivity


Battery performance will decrease if the vehicle is not used for a long time. This is the result of a natural phenomenon of battery discharging and due to possible residual absorption of the vehicle, due to components with constant power supply. Poor battery performance may also be due to environmental conditions and the cleanliness of the leads. One of the following processes should be effected to avoid difficult starting and/or irreparable damage to the battery:


- **At least once a month** start the engine and run it slightly above idle speed, for 10-15 minutes. This keeps all the engine components, as well as the battery, in good working order.
- Store the vehicle (as described in the «Periods of inactivity» section) and remove the battery. The battery must be clean, completely charged and stored in a dry and wellventilated area. Recharge **at least once every two months**.





04\_17

  
CAUTION: THE BATTERY MUST BE CHARGED WITH A CURRENT EQUAL TO 1/10 OF THE RATED CAPACITY OF THE BATTERY AND FOR NOT LONGER THAN 10 HOURS. TAKE THE VEHICLE TO AN AUTHORIZED PIAGGIO SERVICE CENTER FOR THIS OPERATION. WHEN REMOUNTING THE BATTERY MAKE SURE THE TERMINALS ARE CORRECTLY CONNECTED TO THE LEADS.

  
CAUTION: DO NOT DISCONNECT THE BATTERY CABLES WITH THE ENGINE RUNNING. THIS CAN CAUSE IRREPARABLE DAMAGE TO THE VEHICLE ELECTRONIC CENTRAL POWER UNIT.

**Fuses (04\_17, 04\_18)**

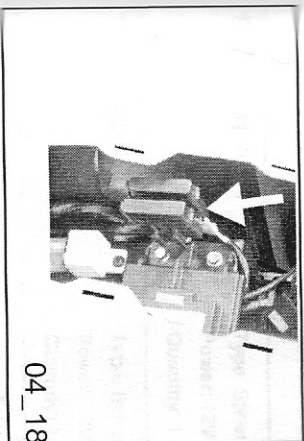
The electrical system is protected by a 15A fuse «B», located next to the battery, and by four 7.5A fuses underneath the horn cover.



WARNING: MODIFICATIONS OR REPAIRS TO THE ELECTRIC SYSTEM CARRIED OUT INCORRECTLY OR WITHOUT TAKING NOTE OF THE SYSTEM'S TECHNICAL CHARACTERISTICS, CAN CAUSE FUNCTION ANOMALIES AND FIRE HAZARD.

**CAUTION**

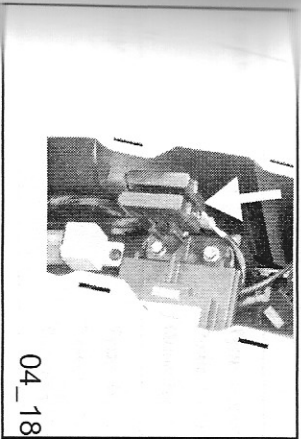
IF A FUSE BLOWS AGAIN AFTER YOU REPLACE IT, TAKE THE VEHICLE TO AN AUTHORIZED PIAGGIO SERVICE CENTER TO FIND OUT WHAT IS CAUSING THE FAULT. DO NOT EVER TRY TO CLOSE THE CIRCUIT WITH MATERIAL OTHER THAN THE FUSE..



04\_18

**FUSES**

Specification	Desc./Quantity
Main fuse	Capacity: 15A Protected circuits: All electrical circuits and services excluding the ignition system Location: Battery compartment
Fuse no. 1	Capacity: 7.5A Protected circuits: High beam light bulb and warning light Location: Under cover of horn shield
Fuse no. 2	Capacity: 7.5A Protected circuits: Dipped light bulb Location: Under cover of horn shield



## FUSES

Specification	Desc./Quantity
---------------	----------------

### Main fuse

**Capacity:** 15A  
**Protected circuits:** All circuits and services excluding the ignition system  
**Location:** Battery compartment

### Fuse no. 1

**Capacity:** 7.5A  
**Protected circuits:** High beam light bulb and warning light  
**Location:** Under cover on front shield

### Fuse no. 2

**Capacity:** 7.5A  
**Protected circuits:** Dipped beam light bulb  
**Location:** Under cover on front

	shield
Fuse no. 3	<b>Capacity:</b> 7.5A <b>Protected circuits:</b> Horn - Fuel level indicator and warning light - Oil pressure warning light <b>Location:</b> Under cover on front shield

Fuse no. 4	<b>Capacity:</b> 7.5A <b>Protected circuits:</b> Instrument lights - Parking lights - License plate light - Brake light - Electric starter motor <b>Location:</b> Under cover on front shield
------------	---

LIGHT BULB TABLE

Specification	Desc./Quantity
Dipped beam light bulb	<b>Type:</b> Halogen (H4) <b>Power:</b> 12V- 55/60W <b>Quantity:</b> 1
Front parking light bulb	<b>Type:</b> All glass <b>Power:</b> 12V - 5W <b>Quantity:</b> 1

Front turn signal light	<b>Type:</b> Spherical <b>Power:</b> 12V-10W <b>Quantity:</b> 1 right+ 1 left
Rear turn signal light	<b>Type:</b> Spherical <b>Power:</b> 12V - 10W <b>Quantity:</b> 1 right+ 1 left

Stop and rear parking light	<b>Type:</b> Spherical <b>Power:</b> 12V - 5W /21W <b>Quantity:</b> 1
Decorative lights	<b>Type:</b> Spherical <b>Power:</b> 12V - 5W <b>Quantity:</b> 1 right + 1 left

License plate light	<b>Type:</b> All glass <b>Power:</b> 12V - 5W <b>Quantity:</b> 1
Instrument lighting light bulb	<b>Type:</b> All glass <b>Power:</b> 12V - 1.2W <b>Quantity:</b> 4
Instrument warning light	<b>Type:</b> All glass <b>Power:</b> 1.2W <b>Quantity:</b> 3



Front turn signal light

Type: Spherical  
Power: 12V-10W  
Quantity: 1 right+ 1 left

Rear turn signal light

Type: Spherical  
Power: 12V - 10W  
Quantity: 1 right+ 1 left

Stop and rear parking light

Type: Spherical  
Power: 12V - 5W /21W  
Quantity: 1

Decorative lights

Type: Spherical  
Power: 12V - 5W  
Quantity: 1 right + 1 left

License plate light

Type: All glass  
Power: 12V - 5W  
Quantity: 1

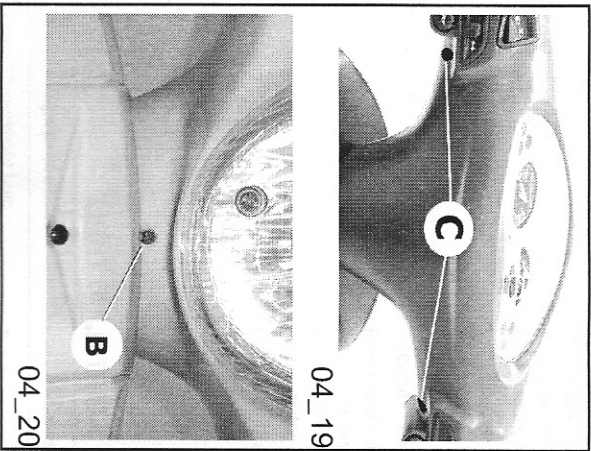
Instrument lighting light bulb

Type: All glass  
Power: 12V - 1,2W  
Quantity: 4

Instrument warning light

Type: All glass  
Power: 1,2W  
Quantity: 3  
Power: 2W

Quantity: 2



### Front light group (04\_19, 04\_20)

To access the headlight lamps, it is necessary to remove the front part of the handlebar covering, following these instructions:

- 1) Disassemble the rear-view mirrors: to carry out this operation, following the instructions given under the paragraph «Adjusting the rear-view mirrors».
- 2) Unscrew the 3 screws supporting the handlebar covering: the front centre one, «B», and the two rear ones, «C». Now it is possible to remove the handlebar covering.
- 3) Remove the handlebar covering to gain access to the headlight and lamps.

#### WARNING

IF THE INNER SURFACE OF THE LIGHT MISTS UP, THIS IS NOT DUE TO A FAULT BUT IS CONNECTED WITH THE LEVEL OF HUMIDITY OR LOW TEMPERATURE.

THIS PHENOMENON WILL DISAPPEAR WHEN THE LIGHT IS TURNED ON.

THE PRESENCE OF DRIPS MAY INDICATE A LEAK. CONTACT A PIAGGIO SERVICE CENTER.

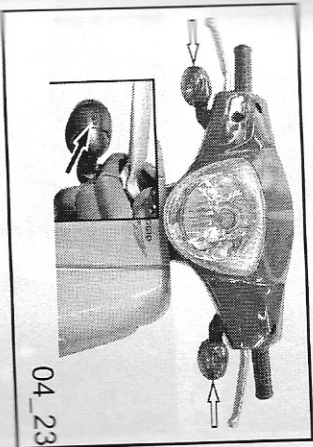
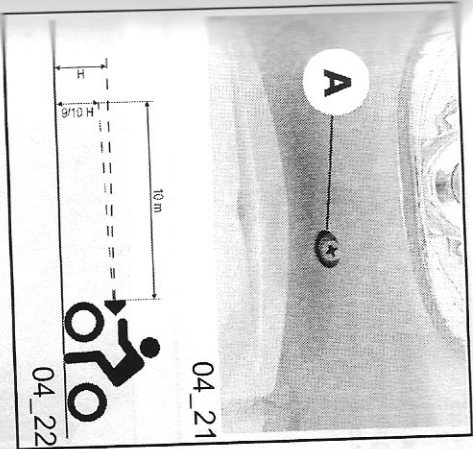


THE HIGH BEAM AND DIPPED BEAM BULBS ARE HALOGEN: DO NOT TOUCH THEM WITH YOUR FINGERS, THIS CAN DAMAGE THEM.

### Headlight adjustment (04\_21, 04\_22)

Proceed as follows:

1. put the vehicle in normal use conditions, with the tires inflated to the required pressure, on flat ground at a distance of 10 m. from a white screen in semi-darkness. Make sure the vehicle axis is at right angles to the screen.



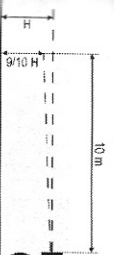
2. turn the screw to the right if the light is too low, to the left if it is too high.
3. if it is necessary, repeat the operation.

N.B.

THE PROCEEDING CONCERN THE HEADLIGHTS OF THE VEHICLE. THE HEADLIGHTS OF THE VEHICLE REQUIRE NO ADJUSTMENT.

Front  
To replace the headlight bulb, remove the screw from the back of the headlight cover.

A



04\_21

04\_22



2. turn on the headlight and make sure that the upper edge of the beam projected on the screen is not more than 9/10 of the height from the ground of the center of the light and is not less than 7/10;
3. if it is not, adjust the light using screw « A »

N.B.

THE PROCEDURE DESCRIBED ABOVE COMPLIES WITH THE "EURONORM" CONCERNING THE MAX. AND MIN. HEIGHT OF THE LIGHT BEAM OF A ROAD VEHICLE. PLEASE CHECK WITH THE LOCAL AUTHORITIES FOR WHAT REQUIREMENTS MUST BE FULFILLED IN EVERY SINGLE COUNTRY WHERE THE VEHICLE IS TO BE USED.

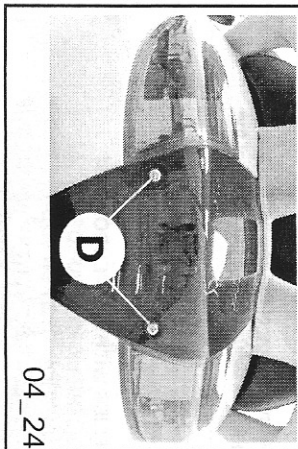
### Front direction indicators (04\_23)

To replace the front direction indicator bulbs, remove the headlight releasing its fastening screw, remove the lamp holder from its seat, slightly press the bulb, turn it by about 30° and remove it. Repeat the operations in the reverse order for reassembly.



04\_23

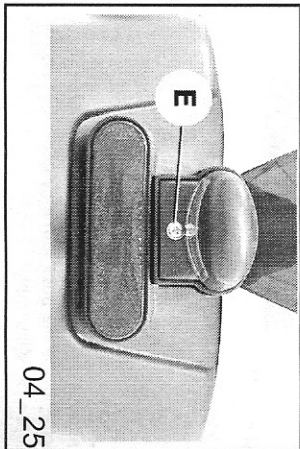




04\_24

### Rear lights (04\_24)

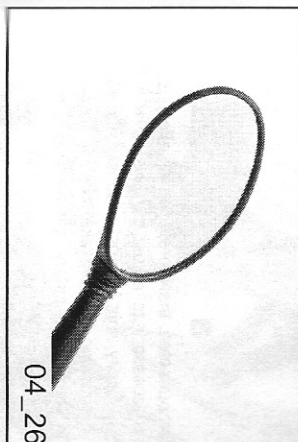
To access the read headlight bulb, remove the 2 fastening screws «D». In this way you can also access the direction indicator bulbs. Slightly press the bulb, turn it by about 30° and remove it. Repeat the operations in the reverse order for reassembly.



04\_25

### License plate light (04\_25)

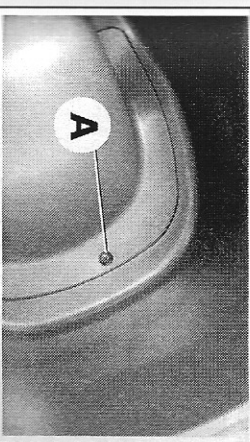
Remove the support, by unscrewing the screws «A»



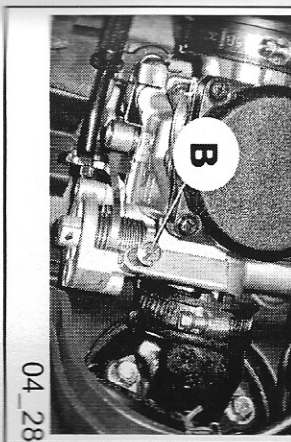
04\_26

### Rear-

Mirrors & remove



04\_27



04\_28

### Idle a

Proceed

1. Put th the sadd

2. Unscr

3. Start obtained

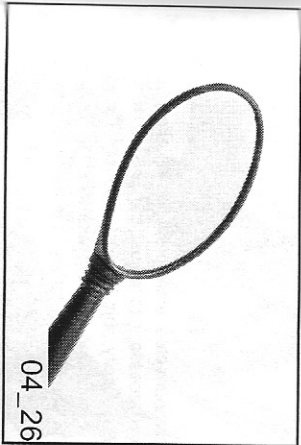
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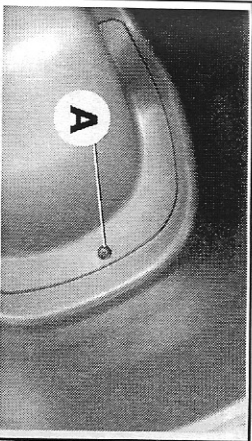
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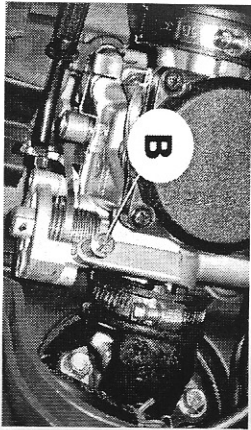
04\_26

### Rear-view mirrors (04\_26)

Mirrors can be adjusted by manually moving their base to obtain the desired inclination. To remove the rearview mirror, turn the support rod in counter clockwise direction.



04\_27



04\_28

### Idle adjustment (04\_27, 04\_28)

Proceed as follows:

1. Put the vehicle on its center stand and lift the saddle (as described in the section "Opening the saddle to access the helmet compartment").
2. Unscrew the set screw «A» and remove the cover of the carburetor.
3. Start the engine, then rotate screw «B» in or out to adjust the idle until the correct idle is obtained without letting the rear wheel be put into motion by the engine.

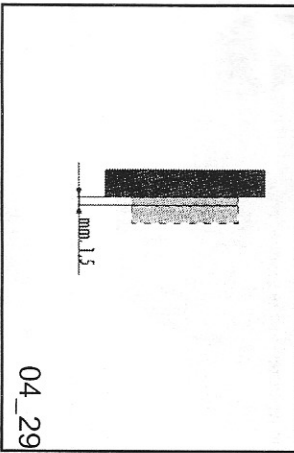
If it is difficult to adjust contact a **PIAGGIO Dealer or Authorized Service Center** to have the CO adjusted to the minimum.



**THE IDLE CAN ONLY BE ADJUSTED WHEN THE ENGINE IS WARMED UP. BEFORE STARTING MAKE SURE THE THROTTLE HAS THE RIGHT PLAY. IF THE PLAY OF THE THROTTLE TRANSMISSION NEEDS TO BE ADJUSTED, YOU SHOULD CONTACT A PIAGGIO DEALER OR AUTHORIZED SERVICE CENTER.**

### Characteristic

**Engine idle**  
around 1600-1700 rpm



### Front disc brake (04\_29)

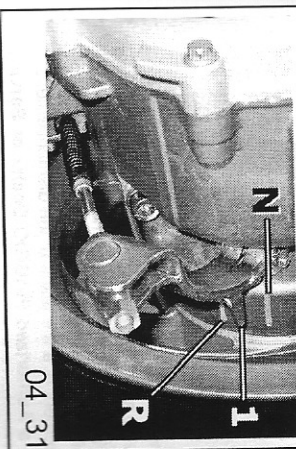
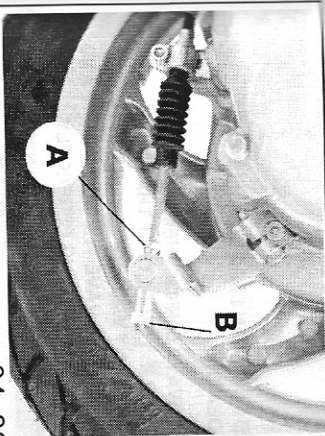
The brake disc and lining wear is automatically compensated, therefore it has no effect on the function of the brakes. For this reason it is not necessary to adjust the brakes. If, when activating the brake lever, you notice excessive elasticity, this is most probably due to the presence of air in the circuit or to the irregular functioning of the brake itself. In this case, given the fundamental role that the brakes play in your driving safety, it is necessary to take the vehicle to an **Authorized Piaggio Dealer or Service Centre**.

N.B.

THE BRAKING ACTION SHOULD BEGIN AFTER ABOUT 1/3 OF THE BRAKE LEVER STROKE.



**WARNING:** CHECK THE BRAKE PADS AFTER THE FIRST 625 MILES (1,000 KM) AND EVERY 4,000 MILES (6,000 KM) THEREAFTER. IF THE THICKNESS OF ONE OR BOTH PADS IS IN THE REGION OF 0.06 IN (1.5 MM), BOTH PADS MUST BE CHANGED. THIS OPERATION SHOULD BE CARRIED OUT BY AN AUTHORIZED PIAGGIO SERVICE CENTER. FIT ONLY GENUINE ORIGINAL PIAGGIO REPLACEMENT PADS. NON GENUINE PADS MIGHT NOT WORK PERFECTLY RESULTING TO BRAKE FAILURES AND A SERIOUS RISK OF INJURIES OR EVEN DEATH.



### Rear d

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**WARNING:** FOR THIS DOUBT R CASE YO CONTACT

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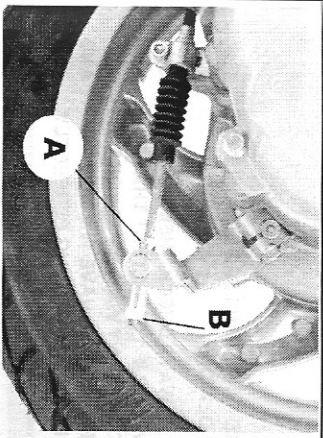
**WARNING:** BRAKE F TOOTH ( YOUR L



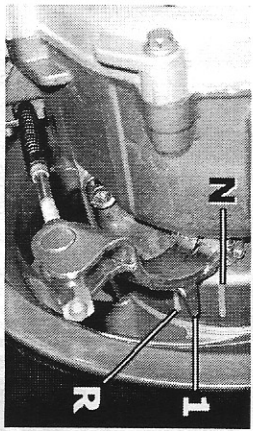
### Rear drum brake (04\_30, 04\_31)

Adjust register nut «B» and slacken locknut «A» as shown in figure. When adjusting the rear brake remember that the rear wheel must turn freely when the lever is in the rest position. When you have finished adjusting the brake, tighten locknut «A».

- Measure the distance covered by the lever before the brake starts its braking action. The idle stroke at the end of the brake lever must be likewise, about 3/8" (10 mm).
- Apply the brake repeatedly and make sure that the wheel turns freely after the lever has been released.
- Ride the vehicle, ensuring that the rear brake is working properly.



04\_30



04\_31

**WARNING: THE BRAKES ARE THE PARTS THAT MOST ENSURE YOUR SAFETY AND FOR THIS REASON THEY MUST ALWAYS BE IN PERFECT WORKING ORDER. IF IN DOUBT REGARDING THE PERFECT FUNCTIONING OF THE BRAKING SYSTEM AND IN CASE YOU ARE NOT ABLE TO CARRY OUT THE USUAL CHECKING OPERATIONS, CONTACT YOUR LOCAL PIAGGIO DEALER.**

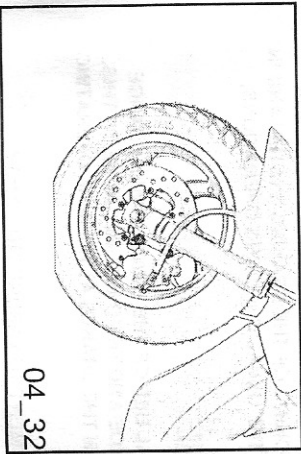
N.B.

HEAT THAT IS GENERATED DURING NORMAL USE OF THE BRAKES WILL CHANGE THE CLEARANCE BETWEEN THE BRAKE SHOE AND THE DRUM. BECAUSE OF THIS, YOU SHOULD CHECK THE CLEARANCE WITH THE BRAKES AT NORMAL OPERATING TEMPERATURE.

- TEST THE BRAKES AFTER ANY ADJUSTMENT TO ENSURE THAT THEY FUNCTION PROPERLY.



**WARNING: IF THE ADJUSTER CAN BE SCREWED COMPLETELY ON TO THE REAR BRAKE ROD, OR THE INDICATOR POINTER (1) POINTS BEYOND THE REFERENCE TOOTH (R), THE BRAKE SHOES ARE WORN OUT. IN THIS CASE, PLEASE CONTACT YOUR LOCAL PIAGGIO DEALER.**



**WARNING:** RIDING WITH WORN REAR BRAKE PADS CAN LEAD TO AN UPSET, SERIOUS ACCIDENT, AND INJURY OR EVEN DEATH.

**CAUTION:** AFTER SERVICING THE BRAKES, ALWAYS CHECK THEM FOR FUNCTION. IF THE STROKE OF THE LEVER IS EXCESSIVE, OR IF YOU DETECT THAT THE EFFECTIVENESS OF THE BRAKES IS REDUCED IN ANY WAY, HAVE YOUR VEHICLE SERVICED BY YOUR LOCAL PIAGIO DEALER. HE WILL HAVE THE EQUIPMENT AND KNOWLEDGE TO ENSURE THAT THE REAR BRAKE IS WORKING PERFECTLY.

**N.B.**

FOR OPTIMAL EFFICIENCY, THE BRAKES SHOULD START TO ACT AFTER APPROX. 3/8" IN (10 MM), OF LEVER MOVEMENT.

### Puncture (04\_32)

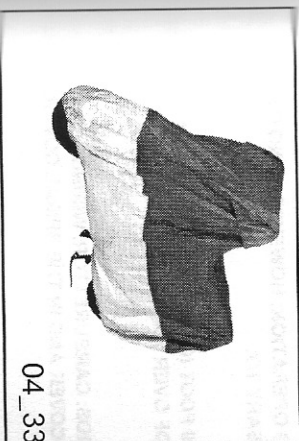
The vehicle is equipped with Tubeless tires (without inner tube). In the case of a puncture the deflation is very slow, translating into greater driving safety, unlike that which takes place for a tire with air chamber. In the case of a puncture you may carry out an emergency repair with the use of an "inflate and repair" type cylinder. For a definitive repair turn to an **Authorized PIAGIO Dealer or Service Centre**. The replacement of a tire leads to the dismantlement of the relative wheel. For these operations turn to a **Authorized PIAGIO Dealer or Service Centre**.

**N.B.**

FOR THE USE OF THE CYLINDER FOLLOW ALL THE INSTRUCTIONS ON THE PACKAGING.



**WARNING:** THE WHEELS, COMPLETE WITH TIRES, SHOULD ALWAYS BE BALANCED. USING THE VEHICLE WITH A LOW PRESSURE TIRE OR WITH AN INCORRECT BALANCE CAN LEAD TO DANGEROUS STEERING VIBRATIONS.



**WARNING:** EXCEPT TO MORE LIKE YOU WILL RESULT IN PROPERLY

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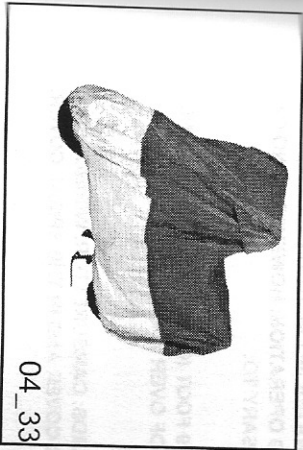


**WARNING: DO NOT RIDE YOUR SCOOTER WITH A LEAKING OR REPAIRED TIRE EXCEPT TO MOVE TO SAFETY. "A LEAKING, PATCHED, OR REPAIRED TIRE IS MUCH MORE LIKELY TO FAIL SUDDENLY THAT A SOUND TIRE. IF THIS HAPPENS TO YOU, YOU WILL LOSE CONTROL OF YOUR SCOOTER, AND SURELY CRASH, WITH RESULTING SERIOUS INJURY OR DEATH. RIDE YOUR SCOOTER WITH ONLY SOUND, PROPERLY INFLATED TIRES."**

### Periods of inactivity (04\_33)

We recommend carrying out the following operations:

1. Clean the vehicle thoroughly and then cover it with a canvas;
2. With engine off and piston at the bottom dead centre, remove the spark plug, fill with 1+2 cc oil (larger amounts are dangerous for the engine itself). Actuate the start-up button 1-2 times for about 1 second, letting the engine perform a few revolutions, then replace the spark plug;
3. Use up all the vehicle's fuel: spread antirust grease on the unpainted metal parts; keep the wheels lifted above the ground by resting the framework on two wooden wedges;
4. As far as regards the battery, follow the instructions in paragraph «Battery»



### Recommended products

#### SELENIA HI Scooter 4 Tech

*Lubrication oil for flex transmission (acceleration command)*  
Oil for 4 stroke engines

### Cleaning the vehicle

Use a low pressure water jet in order to soften the dirt and mud deposited on the painted surfaces. Once softened, mud and dirt should be removed with a soft sponge for bodywork



soaked in a lot of water and shampoo (2-4% of shampoo in water). Then rinse with plenty of water, and dry with shammy leather. For the engine outside, use petroleum and clean cloths. Petroleum is harmful for the paint. Polishing with silicone wax should always be preceded by washing.

DETERGENT PRODUCTS CAN POLLUTE WATER. THE VEHICLE SHOULD BE WASHED AT WASHING STATIONS EQUIPPED WITH SUITABLE DEVICES FOR THE PURIFICATION OF THE WASHING WATER.



**CAUTION:** THE USE OF A HIGH-PRESSURE WATER JET IS STRONGLY DISCOURAGED FOR ANY ENGINE CLEANING OPERATION; HOWEVER, IF NO OTHER MEANS ARE AVAILABLE, IT IS THEN NECESSARY TO:

- ONLY USE THE FAN JET.
- NOT PLACE THE JET NOZZLE WITHIN 1.9 FOOT (60 CM) FROM THE ENGINE.
- NOT USE WATER AT A TEMPERATURE OF OVER 104 °F (40°C).
- NOT USE THE JET AT HIGH PRESSURE.
- NOT USE STEAM WASHING.
- NOT DIRECT THE JET DIRECTLY TOWARDS: CARBURETTOR, WIRINGS, COOLING SLITS IN THE TRANSMISSION COVER AND IN THE SPIRAL COVER.



**CAUTION:** THE VEHICLE SHOULD NEVER BE WASHED IN DIRECT SUNLIGHT, ESPECIALLY DURING THE SUMMER WHEN THE BODYWORK IS STILL HOT, AS THE SHAMPOO CAN DAMAGE THE PAINTWORK IF IT DRIES BEFORE BEING RINSED OFF. NEVER USE CLOTHS SOAKED IN PETROL, DIESEL OIL OR PETROLEUM FOR CLEANING THE PAINTED OR PLASTIC SURFACES, IN ORDER TO PREVENT THE LOSS OF THEIR SHINE OR THE ALTERATION OF THE MECHANICAL CHARACTERISTICS. USING SILICONE-BASED WAX CAN DAMAGE THE PAINTED SURFACES, BASED ON THE VEHICLE COLOUR (SATIN COLOURS). TURN TO AN AUTHORISED VESPA/PIAGGIO SERVICE CENTRE FOR FURTHER INFORMATION ON THIS MATTER.



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#### DIFFICULT STARTING

Possible Cause	Operation
Filter, carburetor jets blocked or dirty, fuel filter, fuel hoses blocked, damaged fuel pump	Contact an Authorized Service Center
No fuel in the tank	Refuel
Dead battery	Charge the battery

CAUTION: IN ORDER TO MAINTAIN THE SILENCER CORRECT NEATNESS AND BRIGHTNESS, IT IS ADVISABLE TO USE A SPECIFIC PRODUCT FOR CHROME TERMINALS.

PIAGGIO RECOMMENDS AND DISTRIBUTES A SPECIFIC PASTE FOR STAINLESS SILENCERS POLISHING. THIS PASTE CAN BE ORDERED WITH THE CODE 602683M IN ONE'S OWN DISTRIBUTORS NET.



CAUTION: WHEN CLEANING THE WINDSHIELD (IF INSTALLED):

- ONLY USE A SOFT CLOTH AND WARM WATER WITH A MILD DETERGENT
- DO NOT ALLOW ANY ALCALINE OR STRONG ACID DEANER, GASOLINE, BRAKE FLUID OR ANY OTHER SOLVENT TO CONTACT THE WINDSHIELD.

REPLACE WINDSHIELD IF BECOMES SCRATCHED SO AS TO INTERFERE WITH VIEW.



CAUTION: WHEN CLEANING THE SADDLE ONLY USE WATER AND DETERGENT.

## **DIFFICULT STARTING**

Possible Cause	Operation
Filter, carburetor jets blocked or dirty, fuel filter, fuel hoses blocked, damaged fuel pump	Contact an Authorized Piaggio Service Center
No fuel in the tank	Refuel
Dead battery	Charge the battery

**IRREGULAR FIRING**

Possible Cause	Operation
----------------	-----------

No spark on spark plug

Danger: high voltage. This inspection should be carried out by a skilled mechanic. Check the spark plug gap 0.028 ± 0.0031 in (0.7 ± 0.8 mm). Check the electrodes for fouling (clean with a proprietary spark plug cleaner and a wire brush). Check the ceramic insulator for cracks or breakage. Change the spark plug if necessary. If the spark plug is in good condition, contact an Authorized Piaggio Service Center.

**POOR COMPRESSION**

Possible Cause	Operation
----------------	-----------

Spark plug thread damaged; head bolts insufficiently torqued; worn piston rings. Contact an Authorized Piaggio Service Center

**HIGH FUEL CONSUMPTION AND POOR PERFORMANCE**

Possible Cause	Operation
----------------	-----------

Dirty air filter. Excessive build-up of deposits in the exhaust system.

Clean with water and neutral detergent and lubricate as described on section «Rear spark plug and air filter» an Piaggio Service Center

**POOL BRAKING ACTION**

Possible Cause	Operation
----------------	-----------

Oil on brake drum or disc. Worn brake pads/shoes

Turn to an Authorized Piaggio Service Center

Rear brake incorrectly adjusted. Air in front brake circuit.

Adjust Contact an Authorized Piaggio Service Center

**POOR SUSPENSION**

Possible Cause	Operation
----------------	-----------

Oil leak; worn stroke end bumpers; worn shock absorber attachment points

Contact an Authorized Piaggio Service Center

**IRREGULAR OPERATION OF AUTOMATICAL TRANSMISSION**

Possible Cause	Operation
----------------	-----------



Dirty air filter. Excessive build-up of deposits in the exhaust system.	Clean with water and neutral detergent and lubricate as described on section «Removing spark plug and air filter». Contact an <b>Piaggio Service Center</b>
---	---

### POOL BRAKING ACTION

Possible Cause	Operation
Oil on brake drum or disc. Worn brake pads/shoes	Turn to an <b>Authorized Piaggio Help Point</b> .
Rear brake incorrectly adjusted. Air in front brake circuit.	Adjust Contact an <b>Authorized Piaggio Service Center</b>

### POOR SUSPENSION

Possible Cause	Operation
Oil leak, worn stroke end bumpers, worn shock absorbed attachment points	Contact an <b>Authorized Piaggio Service Center</b>

### IRREGULAR OPERATION OF AUTOMATIC TRANSMISSION

Possible Cause	Operation
----------------	-----------

Worn roller case or drive belt	Contact an Authorized Piaggio Service Center
--------------------------------	--

**NOISY EXHAUST**

Possible Cause	Operation
Compression hose damaged/disconnected or secondary valve damaged	Contact an Authorized Piaggio Service Center

**THE STAND WON'T RETURN TO CLOSED POSITION**

Possible Cause	Operation
Soiled	Clean and lubricate

# FLY 150

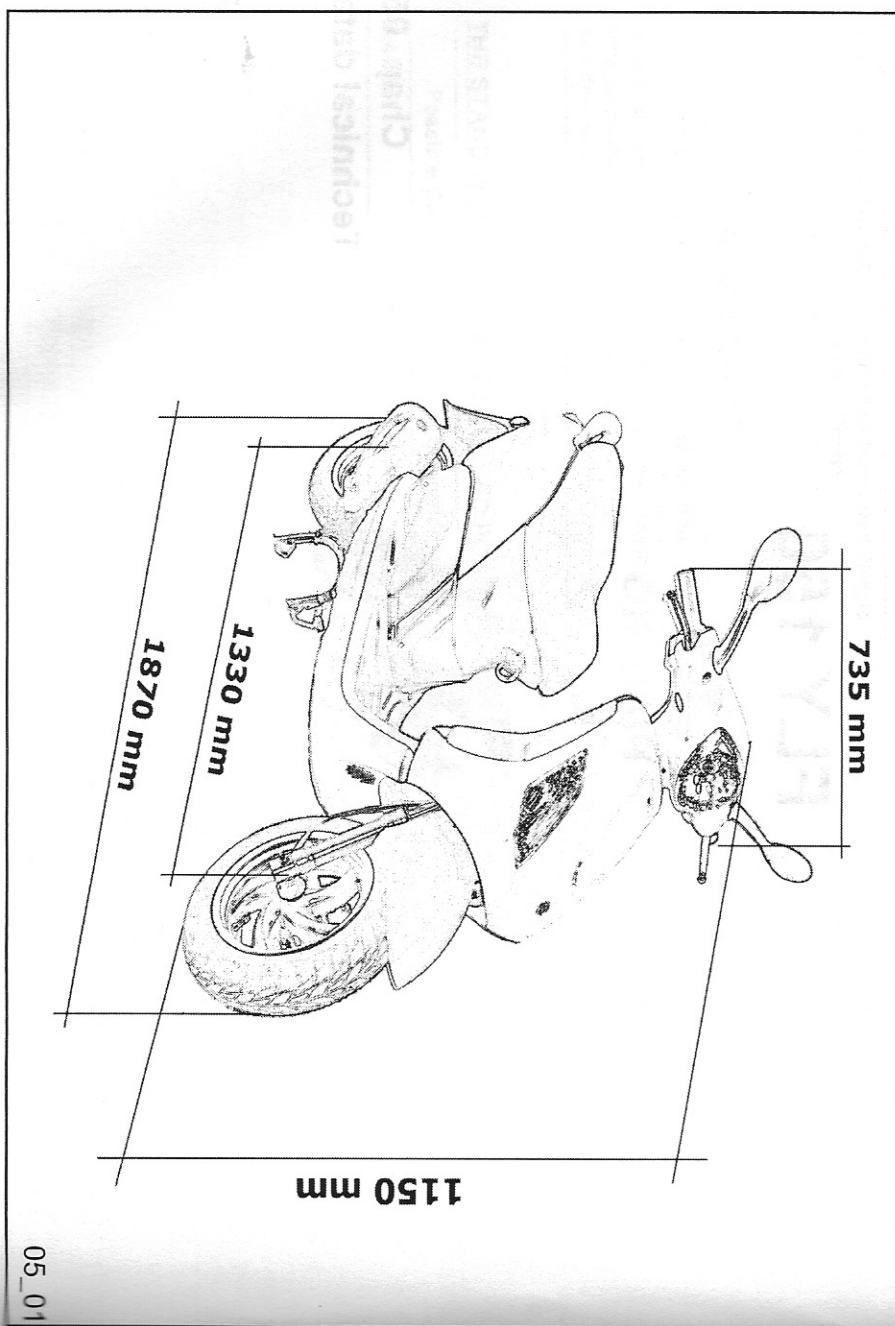


PIAGGIO



Chap. 05  
Technical data



**DATA 150**

Specification	Desc./Quantit.
Engine	Leader Piaggio engine, cylinder
Engine size	149,58 cm <sup>3</sup>
Compression ratio	10.5 : 1
Max power	11,6 CV a 7750 rpm
Max torque	10,0 Nm a 7000 rpm
Spark plug	CHAMPION RGCYC - NCR7EB
Keihin carburetor	CVEK-26
Valve clearance	inlet: 0,10 mm - outlet: 0,15 mm
Length	73,62 inch (1870 mm)
Width	28,9 inch (735 mm)
Wheelbase	52,36 inch (1330mm)
Maximum height	45,27 inch (1150 mm)
Fuel	Unleaded
Fuel tank capacity:	1,95 gal (7,4 l)
Fuel reserve	0,40 gal (1,5 l)
Timing system	Single head camshaft (4) with 2 valves
Cooling	Cooling with forced fluid circulation

## DATA 150

Specification	Desc./Quantity
Engine	Leader Piaggio engine, 4S, single cylinder
Engine size	149,58 cm <sup>3</sup>
Compression ratio	10,5 : 1
Max power	11,6 CV a 7750 rpm
Max torque	10,0 Nm a 7000 rpm
Spark plug	CHAMPION RG6YC - NGK CR7EB
Keihin carburetor	CVEK-26
Valve clearance	inlet: 0,10 mm - outlet: 0,15 mm
Length	73,62 inch (1870 mm)
Width	28,9 inch (735 mm)
Wheelbase	52,36 inch (1330mm)
Maximum height	45,27 inch (1150 mm)
Fuel	Unleaded
Fuel tank capacity:	1,95 gal (7,4 l)
Fuel reserve	0,40 gal (1,5 l).
Timing system	Single head camshaft (SOHC) with 2 valves
Cooling	Cooling with forced fluid circulation

Lubrication	Wet casing
Start up	Electrical
Gears	Automatic speed change gear CVT with servo system
Chassis	Steel pipes with pressed sheet metal stiffening
Clutch	Dry automatic centrifugal clutch
Front suspension	Hydraulic telescopic fork with Ø 32, 76 mm stroke
Rear suspension	Hydraulic single shock absorber with 4 position spring preload, 64 mm stroke
Front brake	Disc (200 mm Ø) with hydraulic control (lever on the handlebar right end) and floating caliper
Rear brake	Drum Ø 140 mm
Front wheel rim	Die-cast, aluminum alloy 3,50 x 12"
Rear wheel rim	Die-cast, aluminum alloy: 3,00 x 12"
Front tire	Tubeless: 120/70-12"
Rear tire	Tubeless: 120/70-12"
Saddle height	30.9 inch (785 mm)
Curbside weight	246.4 lb (112 Kg)



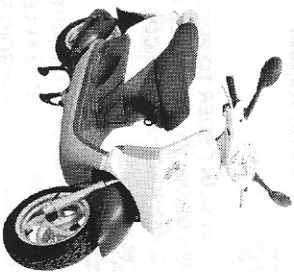
### Toolkit

Wrenches: a socket wrench (16 mm), a double screwdriver, a 13 mm flat spanner, a spanner for shock absorbers. The tools are located under the saddle, in a special container.

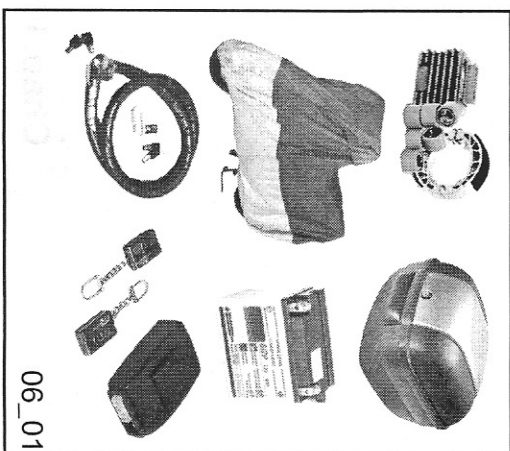
# FLY 150



PIAGGIO



Chap. 06  
Spare parts and  
accessories



## Warnings (06\_01)



**WARNING:** PIAGGIO MARKETS ITS OWN LINE OF ACCESSORIES THAT ARE THEREFORE ALSO RECOGNIZED AND GUARANTEED IN RELATION TO THEIR USE. IT IS THEREFORE INDISPENSABLE TO TURN TO AN AUTHORIZED VESPA/PIAGGIO DEALER OR SERVICE CENTRE. IN ORDER TO SELECT THEM AND HAVE THEM CORRECTLY ASSEMBLED. THE USE OF NON ORIGINAL ACCESSORIES AND/OR THOSE NOT CORRESPONDING TO THE PRODUCT MODEL CAN COMPROMISE THE STABILITY AND FUNCTION OF THE VEHICLE, LEADING TO CONSEQUENT DANGEROUS DRIVING AND RELATIVE RISK TO THE DRIVER.



**WARNING:** IN ORDER TO PREVENT ANY ACCIDENTS USE THE MAXIMUM PRUDENCE WHEN DRIVING THE VEHICLE WITH ACCESSORIES AND ANOMALOUS LOADS. AS THIS CAN REDUCE THE SCOOTER'S STABILITY, PERFORMANCE AND SAFETY.



**CAUTION:** IN ORDER TO MAINTAIN THE SILENCER CORRECT NEATNESS AND BRIGHTNESS, IT IS ADVISABLE TO USE A SPECIFIC PRODUCT FOR CHROMATE TERMINALS. VESPA/PIAGGIO RECOMMENDS AND DISTRIBUTES A SPECIFIC PASTE FOR STAINLESS SILENCERS POLISHING. THIS PASTE CAN BE ORDERED WITH THE CODE 602683M IN ONE'S OWN DISTRIBUTORS NET.



**WARNING:** NEVER DRIVE THE SCOOTER FITTED WITH ACCESSORIES (TRUNK AND/OR WINDSCREEN) AT A SPEED OF OVER 62 MPH (100 KM/H). THE VEHICLE CAN BE DRIVEN AT A HIGHER SPEED WITHOUT THE AFOREMENTIONED ACCESSORIES WITHIN THE LIMITS ESTABLISHED BY LAW. IF NON ORIGINAL PIAGGIO ACCESSORIES ARE INSTALLED ON THE SCOOTER, THERE IS AN ANOMALOUS LOAD. THE SCOOTER IS NOT IN OPTIMAL GENERAL CONDITIONS AND WHEN THE ATMOSPHERIC CONDITIONS DO NOT ALLOW IT, THE SPEED SHOULD BE FURTHER REDUCED.





CAUTION: WE RECOMMEND THE USE OF ORIGINAL VESPA/PIAGGIO SPARE PARTS, THE ONLY PARTS THAT OFFER THE SAME QUALITY GUARANTEE AS THE ORIGINAL PARTS ASSEMBLED ON THE VEHICLE. IT SHOULD BE REMEMBERED THAT THE USE OF NON ORIGINAL SPARE PARTS CAUSES THE GUARANTEE TO BECOME INVALID.

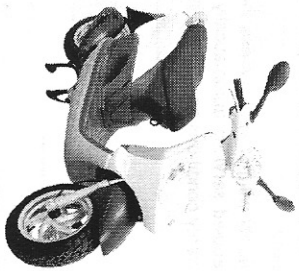
6 Spare parts and accessories

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Scheduled  
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PIAGGIO®



Chap. 07  
Scheduled  
maintenance

Scheduled servicing table

Proper servicing of your motorscooter is necessary for it to achieve its normal life time, and to maintain its performance. Piaggio engineers have therefore developed a series of inspections and maintenance operations, as summarized in the service checksheets in the following pages. Any problem that you encounter should be immediately discussed with your local Piaggio Dealer or an Authorized Piaggio Service Center. Don't wait until the next scheduled service. Although you may carry out some of the scheduled service operation yourself, for your warranty to remain valid, you must provide proof that these operations have been performed. Also, you must use only lubricants, consumables and components which are equivalent in every way to those specified by Piaggio.

Service the scooter at the prescribed times, even if you have not yet covered the specified mileage.

Warranty will not apply unless the Scheduled Services, are carried out. Failure to carry out scheduled services automatically invalidates your warranty. For more information regarding Warranty conditions and Scheduled Maintenance requirements, refer to the Warranty booklet.

EVERY 2 YEARS

Action

Brake oil - Replacement

EVERY 1900 MILES (3000 KM)

Action

Engine Oil - Level Check/TOP up

AT 625 MILES (1000 KM) OR 4 MONTHS

Action

Engine Oil - Replacement

Hub Oil - Replacement

Petrol filter - Check

Idle speed (°) - Adjust

Acceleration command - Adjustment

Steering - Adjustment

Brake command levers - Greasing

Brake pads - Check Condition + Wear

Brake oil level - Check

Safety locks - Check

Electric System and Battery - Check

Tires - pressure and wear - Check

On-the-road vehicle and braking - System tests

(\*) See CO regulation in the «Adjusting the engine idle» section

AT 16000 MILES (24000 KM) AND 32000 MILES (51200 KM)

KM)

Action



# **AT 625 MILES (1000 KM) OR 4 MONTHS**

Action
Engine Oil - Replacement
Hub Oil - Replacement
Petrol filter - Check
Idle speed (°) - Adjust
Acceleration command - Adjustment
Steering - Adjustment
Brake command levers - Greasing
Brake pads - Check Condition + Wear
Brake oil level - Check
Safety locks - Check
Electric System and Battery - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(°) See CO regulation in the «Adjusting the engine idle» section

## **AT 16000 MILES (24000 KM) AND 32000 MILES (48000 KM)**

Action
--------

Engine Oil - Replacement
Hub Oil - Replacement
Air Filter - Replacement
Oil filter - Replacement
Petrol filter - Check
Spark plug - Check
Idle speed (°) - Adjust
Acceleration command - Adjustment
Varistor rollers - Replacement
Transmission Belt - Replacement
Cylinder cooling system - Check/Clean
Speedometer cable - Grease
Steering - Adjustment
Brake command levers - Greasing
Brake pads - Check Condition + Wear
Brake oil level - Check
Trasmissions - Lubrificate
Safety locks - Check
Suspension - Check
Electric System and Battery - Check
Headlight - Adjustment

Secondary air filter
Stand roller - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(°) See CO regulation in the «Adjusting the engine idle» section

**AT MILES 4000 (6000KM) OR 12 MONTH, A 1  
MILES (18000 KM) AND AT 36000 (54000**

#### Action

Engine Oil - Replacement
Hub Oil - Replacement
Spark plug/spark gap - Replacement
Air Filter - Cleaning
Oil filter - Replacement
Petrol filter - Check
Valve Play - Check
Varistor rollers - Change
Transmission Belt - Replacement
Brake pads - Check Condition + Wear
Braking circuit hose - Replacement
Brake fluid level - Check

Secondary air filter
Stand roller - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(\*) See CO regulation in the «Adjusting the engine idle» section

**AT MILES 4000 (6000KM) OR 12 MONTH, AT 12000  
MILES (18000 KM) AND AT 36000 (54000 KM)**

### Action

Engine Oil - Replacement
Hub Oil - Replacement
Spark plug/spark gap - Replacement
Air Filter - Cleaning
Oil filter - Replacement
Petrol filter - Check
Valve Play - Check
Variator rollers - Change
Transmission Belt - Replacement
Brake pads - Check Condition + Wear
Braking circuit hose - Replacement
Brake fluid level - Check



Electrical system and battery - Check
Headlight - Adjustment
Tires - pressure and wear - Check
Vehicle and brake test - Road Test

**AT 8000 MILES (12000 KM) OR 24 MONTHS AND  
40000 MILES (60000 KM)**

Action
Engine Oil - Replacement
Hub Oil - Level Check
Air Filter - Replacement
Oil filter - Replacement
Petrol filter - Check
Spark plug - Check
Idle speed (°) - Adjust
Acceleration command - Adjustment
Varistor rollers - Replacement
Transmission Belt - Replacement
Speedometer cable - Grease
Steering - Adjustment
Brake command levers - Greasing

Brake pads - Check Condition + Wear
Brake oil level - Check
Transmissions - Lubrificate
Safety locks - Check
Suspension - Check
Electric System and Battery - Check
Headlight - Adjustment
Stand roller - Check
Secondary air filter
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(°) See CO regulation in the «Adjusting the engine idle» section

**AT 20000 MILES (30000 KM), AT 28000 MILES  
AND 44000 MILES (66000 KM)**

Action
Engine Oil - Replacement
Hub Oil Level - Check
Spark Plug / Electrodes distance - Check
Air Filter - Replacement
Oil filter - Replacement

Brake pads - Check Condition + Wear
Brake oil level - Check
Trasmissions - Lubrificate
Safety locks - Check
Suspension - Check
Electric System and Battery - Check
Headlight - Adjustment
Stand roller - Check
Secondary air filter
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(\*) See CO regulation in the «Adjusting the engine idle» section

**AT 20000 MILES (30000 KM). AT 28000 MILES (42000 KM) AND 44000 MILES (66000 KM)**

**Action**

Engine Oil - Replacement
Hub Oil Level - Check
Spark Plug / Electrodes distance - Check
Air Filter - Replacement
Oil filter - Replacement

Petrol filter - Check
Varistor rollers - Replacement
Transmission Belt - Replacement
Brake pads - Check Condition + Wear
Brake oil level - Check
Electric System and Battery - Check
Stand roller - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

### AT 24000 MILES (36000 KM)

Action
Engine Oil - Replacement
Hub Oil - Replacement
Spark plug - Check
Air Filter - Replacement
Oil filter - Replacement
Petrol filter - Check
Valve Play - Check
Idle speed (*) - Adjust
Acceleration command - Adjustment

Varistor rollers - Replacement
Transmission Belt - Replacement
Speedometer cable - Grease
Steering - Adjustment
Brake command levers - Greasing
Brake pads - Check Condition + Wear
Brake oil level - Check
Flex. Brake Press. Tub. - Replacement
Transmissions - Lubrificate
Safety locks - Check
Suspension - Check
Electric System and Battery - Check
Headlight - Adjustment
Secondary air filter
Stand roller - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(\*) See CO regulation in the «Adjusting the engine idle» section



Varistor rollers - Replacement
Transmission Belt - Replacement
Speedometer cable - Grease
Steering - Adjustment
Brake command levers - Greasing
Brake pads - Check Condition + Wear
Brake oil level - Check
Flex. Brake Press. Tub. - Replacement
Transmissions - Lubrificate
Safety locks - Check
Suspension - Check
Electric System and Battery - Check
Headlight - Adjustment
Secondary air filter
Stand roller - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(\*) See CO regulation in the «Adjusting the engine idle» section

**AT 48000 MILES (72000 KM)****Action**

Engine Oil - Replacement

Hub Oil - Replacement

Spark plug - Check

Air Filter - Replacement

Oil filter - Replacement

Petrol filter - Check

Valve Play - Check

Idle speed (°) - Adjust

Acceleration command - Adjustment

Variator rollers - Replacement

Transmission Belt - Replacement

Cylinder cooling system - Check/Clean

Speedometer cable - Grease

Steering - Adjustment

Brake command levers - Greasing

Brake pads - Check Condition + Wear

Brake oil level - Check

Flex: Brake Press. Tub. - Replacement

Transmissions - Lubrificate

Safety locks - Check
Suspension - Check
Electric System and Battery - Check
Headlight - Adjustment
Secondary air filter
Stand roller - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(°) See CO regulation in the «Adjusting the engine idle» bench

**TABLE OF RECOMMENDED OILS**

Product	
TUTELA MATRYX MOTO RIDER	Oil for rear 1
SELENIA HI Scooter 4 Tech	Oil for flexible acceleration
SELENIA AIR FILTER OIL	Air filter spray
TUTELA TP 1	Grease (lube)
SELENIA HI Scooter 4 Tech	Engine oil
JOTA 3 FS	Speedometer

Safety locks - Check
Suspension - Check
Electric System and Battery - Check
Headlight - Adjustment
Secondary air filter
Stand roller - Check
Tires - pressure and wear - Check
On-the-road vehicle and braking - System tests

(?) See CO regulation in the «Adjusting the engine idle» section

### TABLE OF RECOMMENDED PRODUCTS

Product	Description	Specifications
TUTELA MATRYX MOTO RIDER	Oil for rear hub	Oil synthetic multidegree SAE 75W/85 API GL4
SELENIA HI Scooter 4 Tech	Oil for flexible transmission lubrication (brake, acceleration control, km counter)	Oil for four stroke motors
SELENIA AIR FILTER OIL	Air filter sponge	Mineral oil with specific additive for increasing the adhesiveness ISO VG 150
TUTELA TP 1	Grease (brake/acceleration command levers)	Compound calcium soap grease NGLI 1-2
SELENIA HI Scooter 4 Tech	Engine oil	Synthetic oil SAE 5W/40 that passes the API SG specification
JOTA 3 FS	Speedometer transmission	Lithium soap grease NLGI 3



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PIAGGIO



Chap. 08

Selènia Moto Rider



## Selènia Moto Rider (08\_01)

PIAGGIO runs with

Selènia Moto Rider Hi-Scooter 2Tech

Selènia Moto Rider Hi-Scooter 4Tech

These fully synthetic lubricants are the result of Selenia Hi-Tech research in collaboration with Piaggio Engineering and are specifically formulated for the new generation, 2 and 4-stroke Piaggio engines.

Selènia Moto Rider products enhance the characteristics of the engine and ensure outstanding performance, warranting the utmost protection.

Selènia Moto Rider is completed with a comprehensive range of complementary products in keeping with the latest engine evolution, including Tutela Matryx Moto Rider transmission oil.

You can find Selènia Moto Rider by the Piaggio service network and at the best specialized sales outlets.



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