

PIAGGIO WOULD LIKE TO THANK YOU

for choosing one of its products. We have prepared this manual to help you to get the very best from your vehicle. Please read it carefully before riding the vehicle for the first time. It contains information, tips and precautions for using your vehicle. It also describes features, details and devices to assure you that you have made the right choice. We believe that if you follow our suggestions, you will soon get to know your new scooter and it will serve you well for a long time to come. This booklet forms an integral part of the vehicle; should the vehicle be sold, it must be transferred to the new owner.

Beverly 400 I.E.



The instructions given in this manual are intended to provide a clear, simple guide to using your vehicle; this booklet also details routine maintenance procedures and regular checks that should be carried out on the vehicle at an **authorised Dealer or Service Centre**. The booklet also contains instructions for simple repairs. Any operations not specifically described in this booklet require the use of special tools and/or particular technical knowledge: to carry out these operations, refer to any **authorised Dealer or Service Centres**.



Personal safety

Failure to completely observe these instructions will result in serious risk of personal injury.



Safeguarding the environment

Sections marked with this symbol indicate the correct use of the vehicle to prevent damaging the environment.



Vehicle intactness

The incomplete or non-observance of these regulations leads to the risk of serious damage to the vehicle and sometimes even the invalidity of the guarantee.

The signs that you see on this page are very important. They are used to highlight parts of the booklet that should be read with particular care. The different symbols are used to make each topic in the manual simple and quick to locate.

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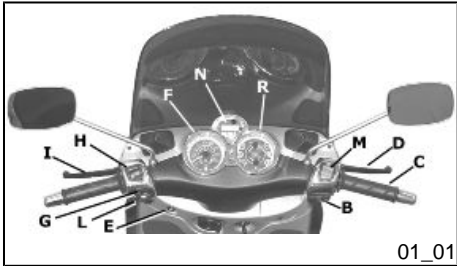
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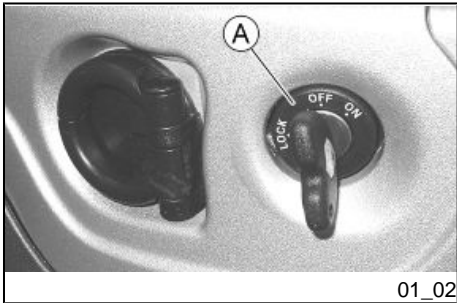
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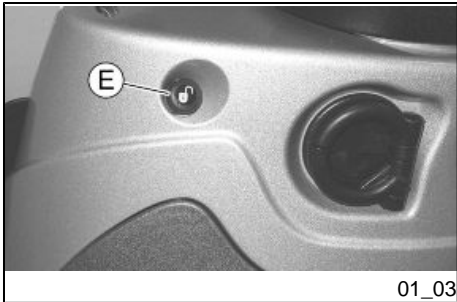
**Chap. 01
Vehicle**



01_01



01_02



01_03

Dashboard (01_01, 01_02, 01_03)

A = Key switch

B = Starter button

C = Throttle grip

D = Front brake lever

E = Electric seat opening button

F = Odometer and speedometer

G = Turn indicator switch

H = Light switch

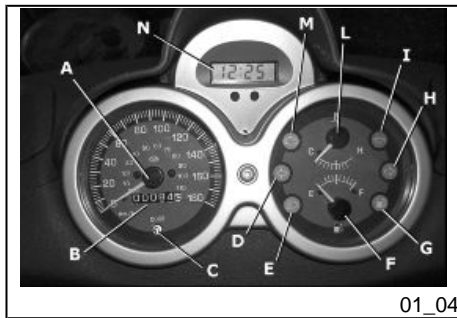
I = Rear brake lever

L = Horn button

M = RUN OFF (immobiliser) switch

N = Digital clock

R = Instrument and warning lights panel



Analogueinstrumentpanel (01_04)

A = Speedometer

B = Odometer

C = Immobiliser LED

D = Left turn indicator warning light

E = High-beam warning light

F = Fuel gauge

G = Low fuel warning light

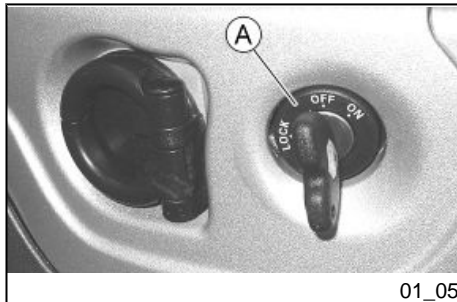
H = Right turn warning light

I = Low oil pressure warning light

L = Coolant temperature gauge

M = Motor management indicator light and injection system warning light

N = Digital clock



Keyswitch (01_05)

LOCK= Ignition barred, key can be removed, mechanical antitheft device activated.

OFF= Ignition barred, key can be removed, mechanical antitheft device deactivated.

ON= Prestarting position, key cannot be removed, mechanical antitheft device deactivated.

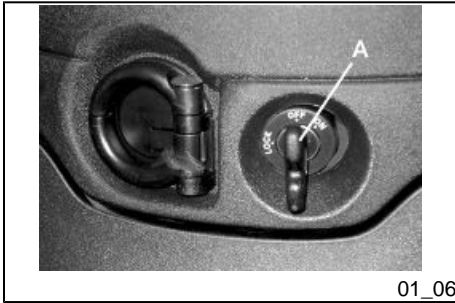
Locking the steering wheel

Turn the handlebar to the left (as far as it will go), turn the key to «**LOCK**» and remove the key.

CAUTION



DO NOT TURN THE KEY TO «LOCK» OR «KEY OFF» WHILE RIDING.



01_06

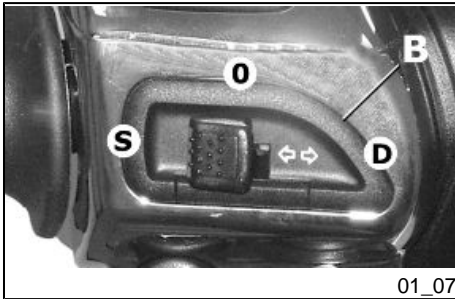
Releasing the steering wheel (01_06)

Reinsert the key and turn it to «**OFF**».

CAUTION



DO NOT TURN THE KEY TO «LOCK» OR «KEY OFF» WHILE RIDING.



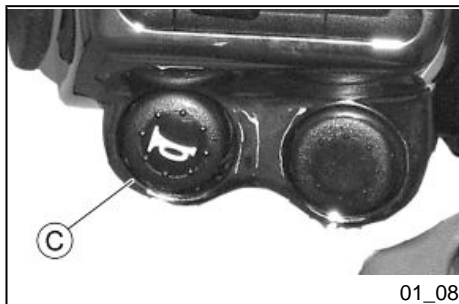
01_07

Switch direction indicators (01_07)

Lever towards «**S**» = Left turn indicator is switched on;

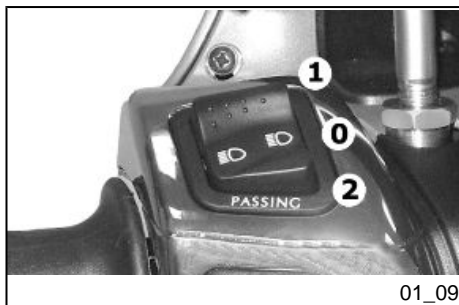
Lever towards «**D**» = Right turn indicator is switched on;

The lever returns automatically to position «**0**» and the turn indicator «**B**» remains on; press the lever to turn them off.



Hornbutton (01_08)

Push the «C» button to sound the horn.



Lightswitch (01_09)

0 = Low-beam light

1 = High beam light

2 = Passing (flashing)



Start-upbutton (01_10)

Starter button "G"



Enginestopbutton (01_11)

0 = OFF

1 = RUN

The immobilizersystem

In order to enhance theft protection, the vehicle is equipped with a «**PIAGGIO IMMOBILIZER**» electronic engine locking device that is activated automatically when the ignition switch is removed. Upon start-up, the «**PIAGGIO IMMOBILIZER**» system checks the starter key, and only if this key is recognised will the Immobiliser system allow the vehicle to be started.

Keys (01_12, 01_13, 01_14)

Two types of keys are supplied together with the vehicle. The red handgrip key «**A**» is the «**MASTER**» key. Only a single copy of this key is supplied, which is necessary to program all your other keys and for your dealer to perform some maintenance operations. For this reason it is advised that it be used only in exceptional circumstances. The black key «**B**» (single copy supplied) is used for normal operations such as:

- engine start up
- glove-box opening

Together with the keys comes a CODE CARD which is imprinted with the mechanical code of the keys.

WARNING

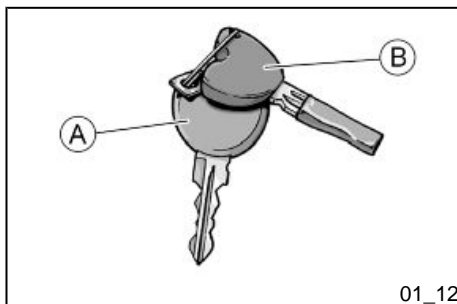


LOSING THE RED KEY PREVENTS ANY REPAIRS OF THE 'PIAGGIO IMMOBILIZER' SYSTEM AND THE ENGINE CONTROL UNIT.

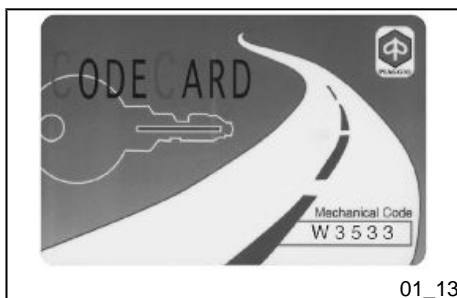
WARNING



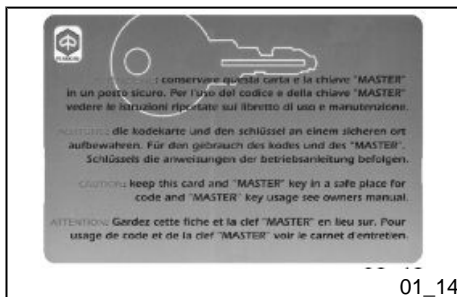
KEEP THE 'CODE CARD' AND THE RED HANDGRIP KEY IN A SAFE PLACE (NOT ON YOUR VEHICLE).



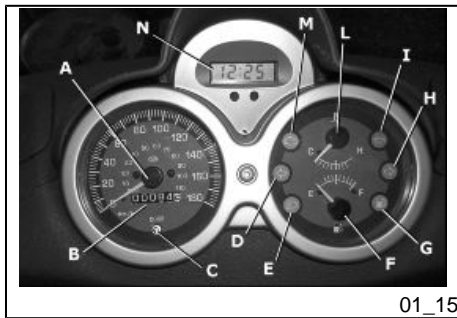
01_12



01_13



01_14



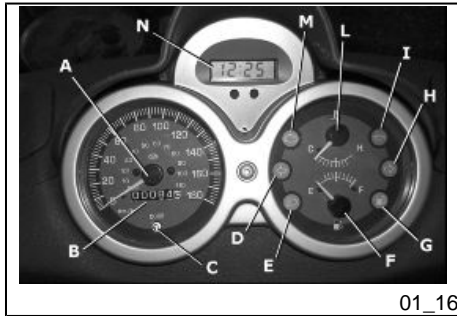
01_15

Immobilizer device enabled indicator (01_15)

Activation of the "PIAGGIO IMMOBILIZER" system is signalled by a flashing warning light "C" (see section "Analogue instrument panel").

In order to reduce battery discharge, the indicator LED turns off automatically after 48 hours of uninterrupted functioning.

Should the system fail, different LED flashing patterns will be provided by an **Authorised Piaggio-Gilera Service Centre** with information on the type of fault detected.



01_16

Operation (01_16)

Every time the starter key is removed in the "OFF" or "LOCK" position, the safety system activates the immobilizer system. Turning the key to "ON" disables the engine lock, provided that the safety system recognises the code transmitted by the key. If the code is not recognised, turn the key first to "OFF" and then to "ON"; if the lock cannot be disabled, try with the other key supplied (red-coloured). If the engine cannot be started, contact an **Authorised Piaggio Service Centre**, which is provided with the electronic equipment required to detect and repair the system. The immobilizer is also activated by shutting off the engine with the RUN OFF switch. This even occurs if the key is turned to ON.

When additional keys are required, please note that data storage (up to 3 keys max.) must be done on all keys, both new ones and existing ones. Take the key with the red grip and all the black keys supplied to an **Authorised Piaggio Service Centre**. The codes of keys not submitted for the new programming procedure are deleted from the memory. Any lost keys will therefore not be enabled to start the engine.

WARNING



EACH KEY HAS ITS OWN AND UNIQUE CODE, WHICH MUST BE STORED IN THE SYSTEM CONTROL UNIT MEMORY.

VIOLENT SHOCKS MAY AFFECT THE ELECTRONIC COMPONENTS OF THE KEY.

IF OWNERSHIP OF THE VEHICLE IS TRANSFERRED TO ANOTHER PERSON, THE KEY WITH THE RED GRIP (AS WELL AS THE OTHER KEYS) AND THE "CODE CARD" MUST BE ALSO TRANSFERRED TO THE NEW OWNER.

Programmingtheimmobilizersystem

Below is described the procedure to follow for programming the **PIAGGIO IMMOBILISER** system and/or for storing other key codes. The programming procedure should be carried out with the engine stop switch set to «**RUN**».

Procedurestart-redkey

Insert the red ignition key in the switch key (in "**OFF**" position) and turn it to "**ON**". After 1 - 3 seconds, turn the key to «**OFF** » again and pull it out.

Intermediatestep-blackkey

After pulling out the red key, insert the black key within 10 seconds and promptly turn it to "**ON**". After 1-3 seconds, turn the key to "**OFF**" again and pull it out. In this way, a maximum of 3 black keys can be programmed by repeating the above procedure keeping the indicated times.

Finalstep-redkey

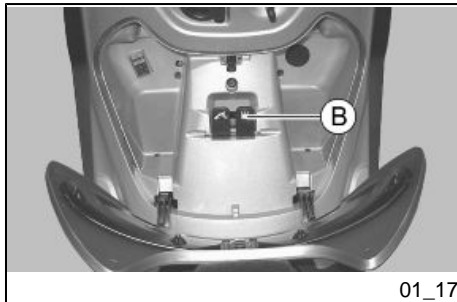
After pulling out the last black key, insert the red key again and turn it to "**ON**" (this operation should be performed within 10 seconds of pulling out the previous key). Leave it in this position for 1 to 3 seconds and return it to «**OFF**».

Properprogrammingcheck

Insert the red key disabling the transponder (i.e., tilt the key cap by 90°) and turn the key to "ON". Perform the engine starter operation. Ensure that the engine does not start. Insert the black key and repeat the start-up operation. Check that engine starts.

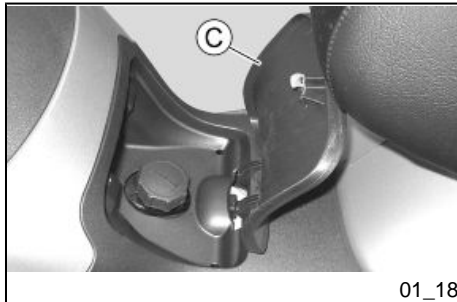
WARNING

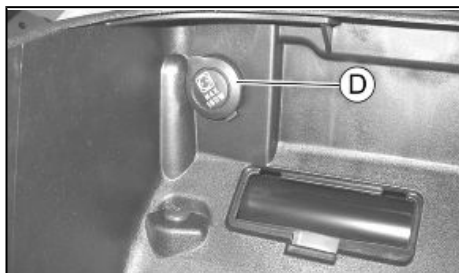
SHOULD THE ENGINE START WITH THE RED KEY (WITH TRANSPONDER OFF), OR IN THE EVENT OF WRONG OPERATION DURING PROGRAMMING, REPEAT THE PROCEDURE FROM THE BEGINNING.



Accessingthefueltank (01_17, 01_18)

Insert the key into the switch and press down until the glove box opens. In the event that the key switch is in «LOCK», turn the key to «OFF» or «ON» before pressing down. Press lever «B» and open the cover over the fuel tank cap «C».





01_19

Powersupplysocket (01_19)

There is a plug socket "D" inside the helmet compartment.

The plug socket may be used for external consumers (mobile phone, inspection light, etc.).

CAUTION



PROLONGED USE OF THE PLUG SOCKET MAY RESULT IN PARTIAL DISCHARGE OF THE BATTERY

Electric characteristic

Plug socket

12 V - 180 W MAX

Maximum power

180 W



01_20

The saddle (01_20, 01_21, 01_22, 01_23)

The saddle is supplied with a protection cover which may be used in case of rain. Lift the saddle and extract the cover from its housing. Fit it over the seat without pulling excessively to avoid tears and lower the seat again.

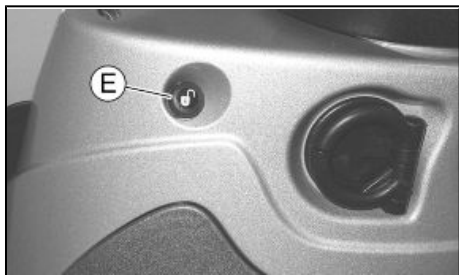
CAUTION



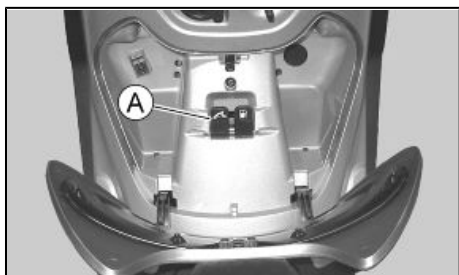
DON'T RIDE THE VEHICLE WITH THE PROTECTION COVER ON THE SADDLE .



01_21



01_22



01_23

Opening the saddle

With the key in position "OFF" or "ON" or with the engine on, you can electrically open the saddle by pressing button "E". If the electric opening does not work, use the emergency lever "A". When the key is set to "LOCK" the saddle cannot be opened.

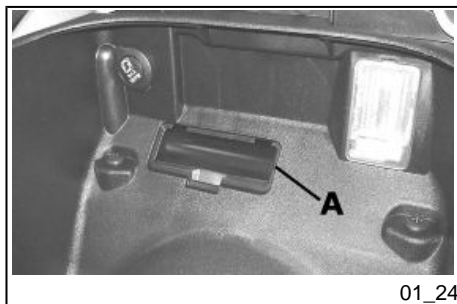
Identification (01_24, 01_25)

The identification registration numbers consist of a prefix stamped on the chassis and engine "B" respectively, followed by a number. These numbers must always be indicated on spare parts requests. To read the chassis number, remove the relevant port "A" in the helmet compartment. We recommend checking that the chassis registration number stamped on the scooter corresponds with that on the scooter's documents.

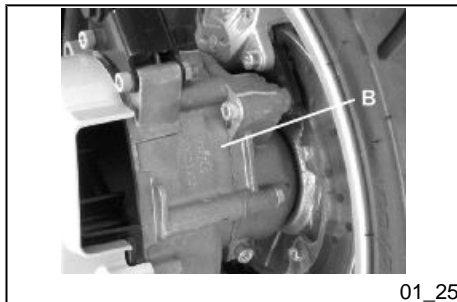
CAUTION



PLEASE REMIND THAT ALTERING IDENTIFICATION REGISTRATION NUMBERS CAN LEAD TO SERIOUS PENAL SANCTIONS (IMPOUNDING OF THE VEHICLE, ETC.).



01_24



01_25



01_26



01_27

HelmetAnti-theftDevice (01_26, 01_27)

Turn the key in anticlockwise direction and at the same time pulling out the retaining hook as far as it will go.

Insert the strap of the helmet inside the hook, then push the hook back inside the front rail of the luggage rack in order to avoid preventing starting.

CAUTION



IN ORDER TO AVOID ENDANGERING THE STABILITY WHEN RIDING, DO NOT RIDE THE SCOOTER WITH THE HELMET INSERTED INTO THE ANTITHEFT DEVICE.

N.B.

IN ORDER TO SIMPLIFY OPERATION WHILE INSERTING THE HOOK INTO THE RAIL, IT MAY BE NECESSARY - AS WHEN OPENING - TO TURN THE KEY IN ANTICLOCKWISE DIRECTION.

N.B.

THE SCOOTER IS EQUIPPED WITH A WATERPROOF BAG TO COVER THE HELMET WHEN IT IS FASTENED TO THE ANTITHEFT DEVICE TO BE USED IN THE EVENT OF RAIN.

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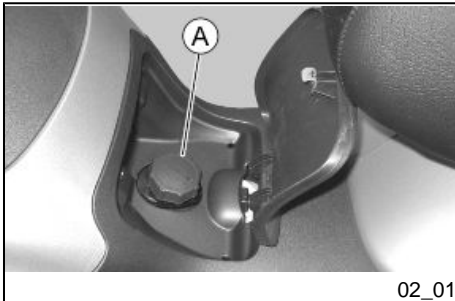


Chap. 02
Use

Checks

Before using the vehicle, check:

1. That the fuel tank is full.
2. Front and rear brake fluid level
3. That the tyres are properly inflated.
4. The functioning of the tail lights, the headlight, and the turn indicators.
5. The functioning of the front and rear brakes.
6. The oil level in the gearcase.
7. The engine oil level.
8. The coolant level.



Refuelling (02_01, 02_02)

Fuel: open the door as described in the section «Access to the gas tank» and turn the cap «A».

Recommended fuel:

Unleaded petrol (95 octane min.).

The fuel level is indicated on analogue instrument panel "F".

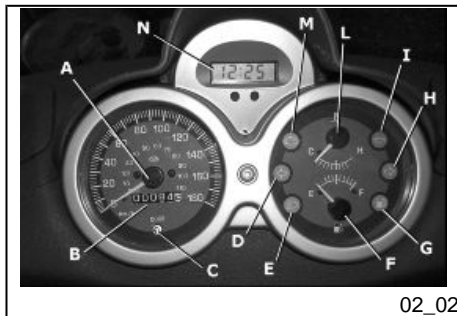
WARNING



SWITCH OFF THE ENGINE BEFORE REFUELLING WITH PETROL.

PETROL IS HIGHLY INFLAMMABLE.

DO NOT SMOKE AND KEEP NAKED FLAMES AT A DISTANCE: FIRE HAZARD.



02_02

DO NOT INHALE FUEL FUMES.

DO NOT ALLOW PETROL TO COME INTO CONTACT WITH HOT ENGINE OR ANY PLASTIC PARTS.

CAUTION



PETROL DAMAGES THE PLASTIC PARTS OF THE BODYWORK.

CAUTION



DO NOT USE THE VEHICLE TO THE COMPLETE EXHAUSTION OF THE FUEL; SHOULD THIS OCCUR, DO NOT ATTEMPT TO START THE ENGINE. TURN THE IGNITION SWITCH TO «OFF» AND TOP-UP THE TANK AS SOON AS POSSIBLE. FAILURE TO FOLLOW THESE GUIDELINES COULD DAMAGE THE FUEL PUMP AND/OR THE CATALYTIC CONVERTER.

Characteristic

Fuel tank capacity

~13,2 l (approximate value)



Shockabsorbersadjustment (02_03)

The preloading of the springs can be adjusted to 4 positions using the ring nut located in the lower part of the shock absorbers and the specific spanner supplied.

Minimum preloading

Position 1: driver only

Medium preloading

Position 2: driver and top-box

Medium preloading

Position 3: rider and passenger

Maximum preloading

Position 4: driver, passenger, and top-box.

The specific shock absorber wrench must be used to perform this operation. If there is too much resistance use the spark-plug wrench together with the shock absorber wrench.

CAUTION



RIDING THE VEHICLE WITH THE SPRING PRELOADING NOT CORRECTLY SET FOR THE RIDER AND POSSIBLE PASSENGER, COULD REDUCE THE COMFORT OF THE RIDE AND THE PRECISION OF THE STEERING.

WARNING



WE RECOMMEND WEARING GLOVES WHILE CARRYING OUT THIS OPERATION IN ORDER TO AVOID INJURIES.

WARNING

IT IS ABSOLUTELY FORBIDDEN TO ADJUST THE PRELOAD DIFFERENTLY ON THE TWO SHOCK ABSORBERS

Runningin (02_04)**WARNING**

DURING THE FIRST 1000 KM DO NOT RIDE THE VEHICLE OVER 80% OF ITS MAXIMUM SPEED. AVOID TWISTING THE THROTTLE GRIP FULLY OR KEEPING A CONSTANT SPEED ALONG LONG SECTIONS OF ROAD. AFTER THE FIRST 1000 KM, GRADUALLY INCREASE SPEED UNTIL REACHING THE MAXIMUM PERFORMANCE.



02_04

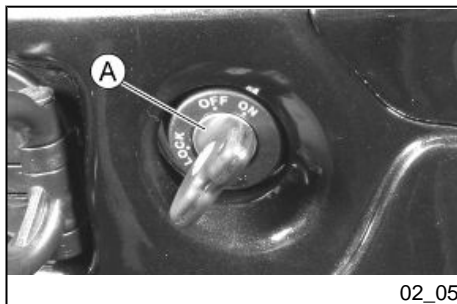
Startinguptheengine (02_05, 02_06)

The vehicle is equipped with an ignition prevention system controlled by the side stand.

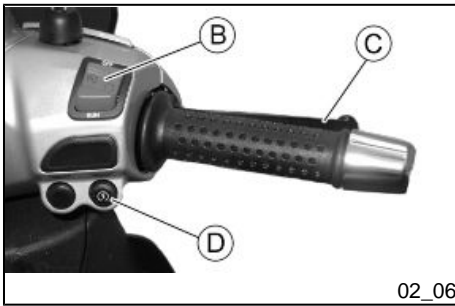
The engine cannot be started if the side stand is lowered.

If the engine is on, it will turn itself off if the side stand is lowered.

To start the engine it is necessary, before pressing the starter button, to pull and keep pulled the front or rear brake lever, which activates the appropriate switch allowing start-up.



02_05



1. Rest the vehicle on its centre-stand, ensuring the rear wheel is not touching the ground.
2. Keep the hand grip accelerator at the minimum.
3. Insert the key into the ignition switch «A» and turn it to «ON».
4. Make sure that the emergency stop switch «B» is in position «RUN» and the side stand is up and not engaged.
5. Pull lever «C» of the front or rear brake and then activate the starter button «D».

WARNING



THE AUTOMATIC TRANSMISSION MAKES THE REAR WHEEL TURN EVEN WHEN THE THROTTLE IS SLIGHTLY TWISTED. RELEASE THE BRAKE CAREFULLY AFTER STARTING, AND THEN ACCELERATE GRADUALLY.

CAUTION



DO NOT START-UP THE ENGINE IN CLOSED AREAS BECAUSE EXHAUST GASES ARE TOXIC.

Precautions

CAUTION



NEVER STRESS THE ENGINE AT LOW TEMPERATURES IN ORDER TO AVOID POSSIBLE DAMAGE. BE CAREFUL NEVER TO EXCEED THE MAXIMUM SPEED WHILE RUNNING DOWNHILL, IN ORDER TO AVOID DAMAGING THE ENGINE. IN ANY CASE, IN ORDER TO PRESERVE THE ENGINE FROM PROLONGED

OVERREVVING, THE REVOLUTION LIMITER WILL BE ACTIVATED IF THE ENGINE SPEED EXCEEDS THE ESTABLISHED THRESHOLD.

WARNING

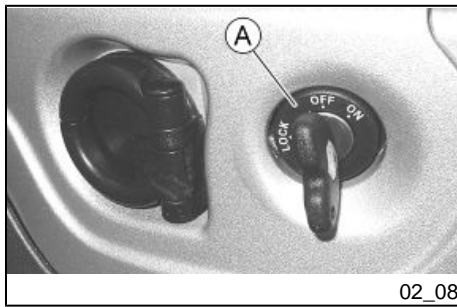


AFTER A LONG DISTANCE COVERED AT THE MAXIMUM SPEED, DO NOT STOP THE ENGINE IMMEDIATELY, BUT LET IT RUN AT IDLE FOR A FEW SECONDS.



Difficultstartup (02_07)

In the rare case of engine flooding, to facilitate start-up, it is possible to try to put the vehicle into action with the gas hand grip partially or completely open. It is however necessary, once the engine is started, to take your vehicle to an **Authorised Service Centre** to determine the cause of this problem and to re-establish the vehicle proper functioning.



Stopping the engine (02_08)

Turn the acceleration command knob right off, then rotate the switch key "A" to the "OFF" position (extractable key).

CAUTION



DUE TO THE HIGH TEMPERATURES THE CATALYTIC CONVERTER CAN REACH, ALWAYS TAKE CARE, WHEN PARKING THE VEHICLE, THAT THE EXHAUST DOES NOT COME INTO CONTACT WITH FLAMMABLE MATERIALS, TO AVOID SERIOUS BURNS.

CAUTION



DO NOT SHUT OFF THE ENGINE WHILE THE VEHICLE IS MOVING. UNBURNED FUEL COULD ENTER THE CATALYTIC CONVERTER AND BURN, CAUSING THE CONVERTER TO OVERHEAT AND POSSIBLY DESTROYING IT.

Stand (02_09)

CENTRE STAND

Push with your foot on the centre stand's fork "F" while lifting the vehicle backward, holding onto the handlebar.



02_09

SIDE STAND

Push with your foot on the fork of the stand "L" to bring it into the open position while lifting the scooter at the same time.

CAUTION



TAMPERING MAY CAUSE SERIOUS ENGINE MALFUNCTION.

WARNING



THE SIDE STAND CAUSES THE ENGINE TO TURN ITSELF OFF WHENEVER IT IS LOWERED.



02_10

Automatictransmission (02_10)

To ensure simple, pleasurable riding, the vehicle is equipped with automatic transmission with regulator and centrifugal clutch. The system is designed to provide the best performance (acceleration and consumption) while driving on both flat roads and uphill.

If you have to stop up a hill (traffic lights, traffic jam, etc.) **use only the brake to keep the vehicle still, leaving the engine running at idle speed. Using the engine to keep the vehicle still can cause the clutch to overheat, due to the friction of the clutch mechanism itself against the capstan.**

It is therefore recommended to avoid conditions of prolonged clutch slippage (other than those previously indicated) like driving uphill fully laden on steep slopes or starting off with driver and passenger at slopes greater than 25%.

Take the following precautions if the clutch overheats:

1. Do not continue riding in such conditions.
2. Let the clutch cool down with the engine at idle speed for a few minutes.



02_11

Safedriving (02_11)

Some simple tips are provided below that will enable you to use your vehicle on a daily basis, confidently and safely. Your skill and your mechanical knowledge are the basis of safe riding. We recommend trying out the vehicle in traffic-free zones in order to acquire a good knowledge of the vehicle it self.

1. Before riding off, remember to put on the helmet and fasten it correctly.
2. Reduce speed on rough roads and ride with care.
3. After riding on a long stretch of wet road without using the brakes, braking can be poor at the beginning. In these conditions, it is a good idea to apply the brakes from time to time.
4. Do not brake hard on wet, unsurfaced or slippery roads.
5. Avoid riding off by mounting the scooter when it is resting on its support. In any case, in order to avoid abrupt departures, the rear wheel should not be turning when it comes into contact with the ground.
6. If the vehicle is used on roads covered with sand, mud, snow mixed with salt, etc., clean the brake disc frequently with a mild detergent in order to prevent abrasive particles from building up inside the holes, which can result in early brake pad wear.

CAUTION



ALWAYS RIDE WITHIN YOUR LIMITS RIDING UNDER THE INFLUENCE OF ALCOHOL OR OTHER DRUGS AND CERTAIN MEDICINES IS EXTREMELY DANGEROUS.

CAUTION

ANY ELABORATION THAT MODIFIES THE VEHICLE'S PERFORMANCES, SUCH AS TAMPERING WITH ORIGINAL STRUCTURAL PARTS IS STRICTLY FORBIDDEN BY LAW, AND RENDERS THE VEHICLE NO LONGER CONFORMING TO THE APPROVED TYPE AND DANGEROUS FOR RIDING.

CAUTION

DO NOT ADJUST THE MIRRORS WHILE RIDING. THIS COULD CAUSE YOU TO LOOSE CONTROL OF THE VEHICLE.

WARNING

IN ORDER TO PREVENT ANY ACCIDENTS RIDE VERY CAREFULLY AFTER ADDING ACCESSORIES AND WHILE CARRYING LUGGAGE. THE ADDITION OF ACCESSORIES AND LUGGAGE CAN REDUCE YOUR SCOOTER STABILITY AND PERFORMANCE, AS WELL AS THE LEVEL OF SAFETY DURING USE. NEVER DRIVE THE SCOOTER EQUIPPED WITH ACCESSORIES AT A SPEED HIGHER THAN 100 km/h (see section "SPARE PARTS AND ACCESSORIES")

Beverly 400 I.E.



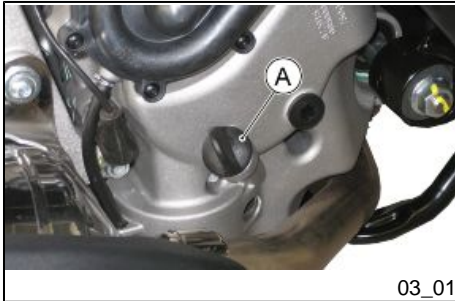
PIAGGIO®



**Chap. 03
Maintenance**

Engineoillevel

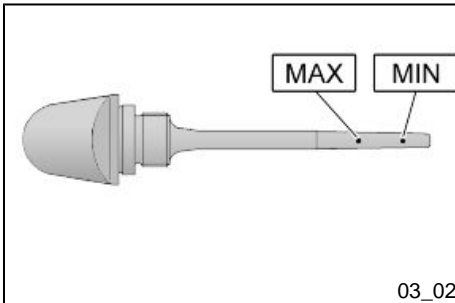
In 4T engines, the engine oil is used to lubricate the distribution elements, the bench bearings and the thermal group. **An insufficient quantity of oil can cause serious damage to the engine.** In all four-stroke engines, a loss of efficiency in oil performance and consumption should be considered 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, we recommend checking the oil level any time you use the vehicle. The vehicle is, however, equipped with an oil pressure warning light on the instrument panel.**



Engineoillevelcheck (03_01, 03_02)

Every time the vehicle is used, visually inspect the level of the engine oil when the engine is cold (after **completely unscrewing** the oil cap/dipstick). The oil level should be somewhere between the MAX and MIN index marks on the level rod; «A»; while the oil is being checked, the vehicle must be resting on its centre stand on an even, horizontal surface.

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



Engineoiltop-up

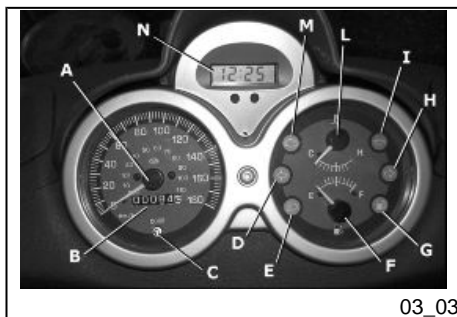
Always check the oil level before carrying out top ups in order to avoid **exceeding the MAX. level**. Getting an oil level between the **MIN** and **MAX** index marks requires ~ 400 cc of oil. An oil check-up and top-up should be carried out every 5000 Km by authorised personnel at any **Authorised Piaggio-Gilera Service Centre**.

Warninglight(insufficientoilpressure) (03_03)

The scooter is equipped with a warning light "I" that lights up when the key is turned to the "ON" position.

However, this light should switch off once the engine has been started.

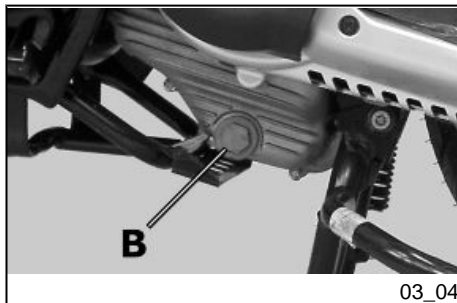
If the light comes on during braking, at idling speed or while turning a corner, it is necessary to check the oil level and top-up if required. If after having topped up the oil, the warning light still turns on while braking, at idle speed or while turning a corner, it will be necessary to turn to an Authorised Service Centre.



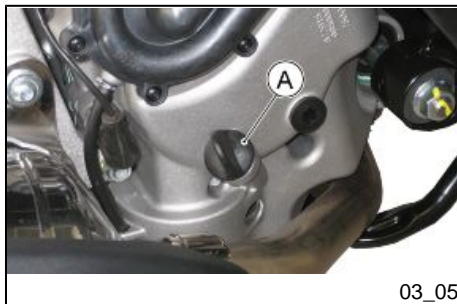
03_03

Engineoilchange (03_04, 03_05, 03_06)

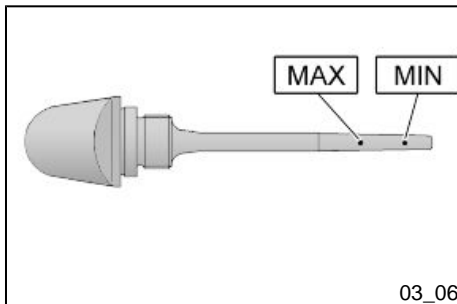
The engine oil and filter must be replaced every 10,000 km at an **Authorised Piaggio-Gilera Service Centre**. The engine should be emptied by draining the oil via the drainage tap «B» of the mesh filter on the transmission side. In order to facilitate oil drainage, loosen the cap/dipstick «A». Unscrew and remove the oil cartridge filter. Install a new oil filter taking care to lubricate the sealing O-rings with engine oil. Since a certain quantity of oil still remains in the circuit, add approx. 1500 cc of oil through cap "A". Then start up the scooter, leave it running for a few minutes and switch it off: after five minutes, check the level and if necessary top up **without exceeding the MAX. level**. The cartridge filter must be replaced at every oil change. For top-ups and oil changes, use new oil of the recommended type.



03_04



03_05



03_06

CAUTION

RUNNING THE ENGINE WITH INSUFFICIENT LUBRICATION OR WITH INADEQUATE LUBRICANTS ACCELERATES THE WEAR AND TEAR OF THE MOVING PARTS AND CAN CAUSE IRRETRIEVABLE DAMAGE.

TOPPING UP THE ENGINE WITH AN EXCESSIVE AMOUNT OF OIL MAY CAUSE MALFUNCTION AND/OR A DROP IN PERFORMANCE OF THE VEHICLE.

USING OILS OTHER THAN THOSE RECOMMENDED CAN SHORTEN THE LIFE OF THE ENGINE.

CAUTION

USED OILS CONTAIN SUBSTANCES HARMFUL TO THE ENVIRONMENT. FOR OIL REPLACEMENT, CONTACT AN AUTHORISED SERVICE CENTRE WHICH IS EQUIPPED TO DISPOSE OF USED OILS IN AN ENVIRONMENTALLY FRIENDLY AND LEGAL WAY.

Recommended products

eni i-Ride PG 5W-40

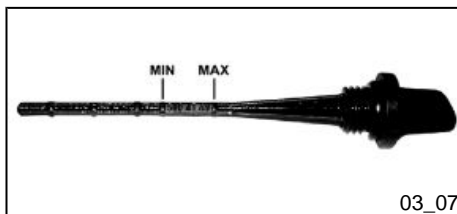
*Synthetic based lubricant for high-performance four-stroke engines.
JASO MA, MA2 - API SL - ACEA A3*

Huboillevel (03_07, 03_08, 03_09)

Check the oil in the rear hub.

To check the rear hub oil level, proceed as follows:

1. Park the scooter on level ground and rest it on its centre stand.
2. Unscrew the oil dipstick «A», dry it with a clean cloth. Reinsert it and **screw it tightly into place.**
3. Pull out the dipstick and check that the oil level is between the MIN and MAX reference marks. If the oil level is below the MIN notch, top up with the required amount of hub oil.
4. Screw the dipstick back in, checking that it is locked in place.



The notches on the hub oil level dipstick, apart from that indicating the **MAX** level, refer to other models from the manufacturer and have no specific function for this model.

CAUTION



RIDING THE VEHICLE WITH INSUFFICIENT HUB LUBRICATION OR WITH CONTAMINATED OR IMPROPER LUBRICANTS ACCELERATES THE WEAR AND TEAR OF THE MOVING PARTS AND CAN CAUSE SERIOUS DAMAGE.

CAUTION

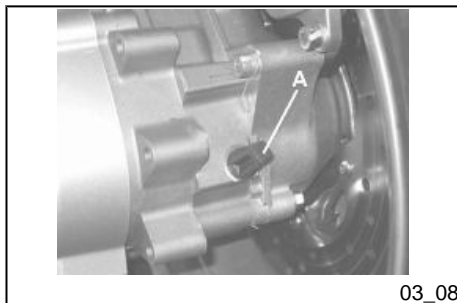


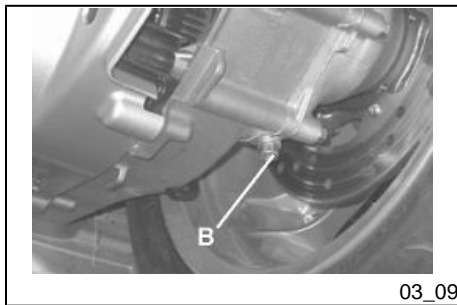
USED OIL CAN HARM THE ENVIRONMENT. COLLECTION AND DISPOSAL SHOULD BE CARRIED OUT IN COMPLIANCE WITH REGULATIONS IN FORCE.

CAUTION



AN EXCESSIVE QUANTITY OF OIL CAN LEAD TO SPILL OVER, WHICH MAY CAUSE THE ENGINE AND THE WHEEL TO GET DIRTY.





03_09

CAUTION

UPON REPLACING HUB OIL, AVOID THE OIL COMING INTO CONTACT WITH THE REAR BRAKE DISC.

CAUTION

FOR OIL REPLACEMENT, CONTACT ANY AUTHORISED SERVICE CENTRE AS THEY ARE EQUIPPED TO DISPOSE OF USED OILS IN AN ENVIRONMENTALLY FRIENDLY AND LEGAL WAY.

Recommended products

AGIP GEAR SAE 80W-90

Lubricant for gearboxes and transmissions.

API GL-4

Characteristic

Quantity:

approx. 250 cc

Tyres (03_10)

Check periodically (roughly every 500 km) the tyre pressure. The tyres are equipped with wear indicators; the tyres must be changed as soon as these indicators become visible on the surface. Also check that the tyres do not show signs of splitting at the side or irregular tread wear; should this occur, take your vehicle to an authorised workshop or a workshop equipped for replacement.

CAUTION

TYRE PRESSURE SHOULD BE CHECKED WHEN TYRES ARE COLD. INCORRECT TYRE PRESSURE CAUSES ABNORMAL TYRE WEAR AND MAKES RIDING DANGEROUS.

TYRES MUST BE REPLACED WHEN THE TREAD REACHES THE WEAR LIMITS SET FORTH BY LAW.

CAUTION

IT IS NECESSARY TO ADOPT EXCLUSIVELY "S" CLASS TYRES, WHICH GUARANTEE THE CHARACTERISTICS REQUIRED FOR THE SPEED THAT MAY BE REACHED BY THE SCOOTER. USING ANY OTHER TYRE MAY RESULT IN INSTABILITY. IT IS RECOMMENDED TO USE THE TYRES SELECTED BY PIAGGIO.

Characteristic**Front tyre pressure**

2.2 bar

Rear tyre pressure

2.2 bar with driver only

Rear tyre pressure

2.3 bar with passenger.

FRONT TYRE

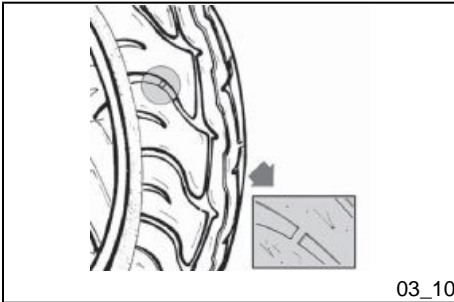
Front tyre

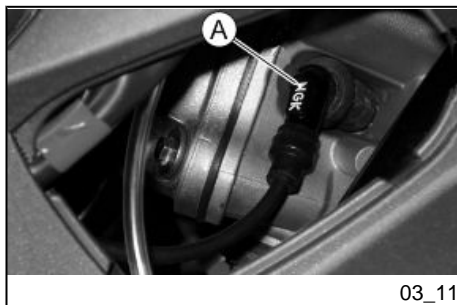
Pirelli 110/70 16" GTS 23 M/C -
52S TUBELESS

REAR TYRE

Rear tyre

Pirelli 150/70 14" GTS 24 M/C -
66S TUBELESS





Sparkplugdismantlement (03_11)

Proceed as follows:

1. Remove the access cover over the spark plug on the left-hand side of the scooter and reach into the spark plug with your hand.
2. Disconnect spark plug HV wire cap «A» ;
3. Unscrew the spark plug using the spark plug wrench supplied;
4. When refitting, place the spark plug into the hole at the required angle and tighten by hand until it is finger tight;
5. Use the wrench only for final tightening of the spark plug;
6. Place hood "A" fully over the spark plug.



THE SPARK PLUG MUST BE REMOVED WHEN THE ENGINE IS COLD. THE MEASURES ON THE SPARK PLUG ARE DESCRIBED IN THE TABLE OF SCHEDULED MAINTENANCE. THE USE OF ELECTRONIC CENTRAL UNITS AND OF NON-COMPLIANT ELECTRONIC IGNITIONS OR SPARK PLUGS OTHER THAN THOSE PRESCRIBED MAY SERIOUSLY DAMAGE THE ENGINE.

N.B.

USE OF SPARK PLUGS OTHER THAN THE INDICATED TYPE OR UNSHIELDED SPARK PLUG CAPS CAN LEAD TO FAULTS IN THE VEHICLE 'S ELECTRICAL SYSTEM.

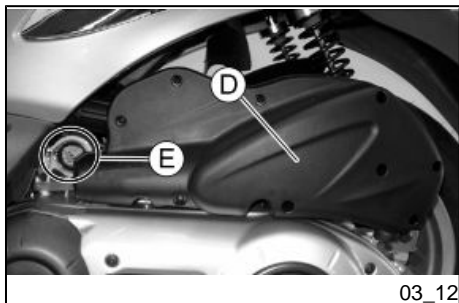
Characteristic

Spark plug

- NGK CR7EKB
- Champion RG6YC

Electrode gap

0.7 to 0.8 mm



Removing the air filter (03_12)

Proceed as follows:

- Loosen the clamping screws and remove the air filter cover "D";
- Remove the filter element and clean it with water and shampoo; then dry it with a clean cloth and slight blows of compressed air. Finally, immerse it in a mixture containing 50% oil of the recommended type and 50% petrol.

Then gently squeeze the filter element between your hands, allow it to drip and then refit it.

CAUTION



IF THE VEHICLE IS USED ON DUSTY ROADS IT IS NECESSARY TO CARRY OUT MAINTENANCE CHECKS OF THE AIR FILTER MORE OFTEN TO AVOID DAMAGING THE ENGINE.

CAUTION



IN ORDER NOT TO DAMAGE THE VEHICLE PLASTIC COVERS CONTACT AN AUTHORISED SERVICE CENTRE TO HAVE THE AIR FILTER CLEANED.

Recommended products

AGIP FILTER OIL

Special product for the treatment of foam filters.

-

Airfiltercleaning

1. Wash the sponge with water and mild soap.
2. Dry it with a clean cloth and short blasts of compressed air.
3. Impregnate the sponge with a mixture of 50% petrol and 50% specified oil.
4. Gently squeeze the filtering element, let it drip dry and then refit it.

CAUTION



IF THE VEHICLE IS USED ON DUSTY ROADS IT IS NECESSARY TO CARRY OUT MAINTENANCE CHECKS OF THE AIR FILTER MORE OFTEN TO AVOID DAMAGING THE ENGINE.

Recommended products

AGIP FILTER OIL

Special product for the treatment of foam filters.

-

Coolingfluidlevel (03_13, 03_14, 03_15)

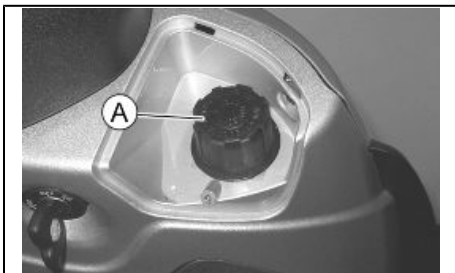
The engine cooling system is of the forced liquid circulation type. The coolant circuit contains approx. 1.8 litres of coolant consisting of a mixture of 50% demineralised water and glycol ethylene-based antifreeze solution with corrosion inhibitors.

The liquid supplied with the scooter is already mixed and ready for use.

For proper functioning of the engine, ensure that the temperature of the coolant remains in the middle zone of gauge "L" on the instrument panel. If the needle of the gauge enters the red zone, switch off the engine, allow to cool down and check the coolant level; if the result is normal, turn to an **Authorised Piaggio Service Centre**.



03_13



03_14

The fluid level must be checked every 10,000 kilometres with a cold engine, in the way shown below:

- Place the scooter in a vertical position on the stand. Remove the cover by pulling out the screw as shown in the figure.
- Remove the expansion tank cover "A", turning in anticlockwise direction.
- Look inside the expansion tank; a mark on the plastic part indicates the maximum and minimum reference of the expansion tank.
- Top up, if necessary, if the fluid level is below the MIN level on the scale inside the expansion tank.

The fluid level must always be between MIN and MAX level

If the fluid is near the minimum level, proceed with the top-up operation to be carried out when the engine is cold. If it is necessary to top up the coolant frequently, or if the expansion tank is completely dry, you should look for the cause in the cooling system. It is therefore indispensable to have the cooling system checked at an **Authorised Piaggio Service Centre**.

The coolant should be replaced every 2 years. For this operation, please contact an **authorised Piaggio service centre**.

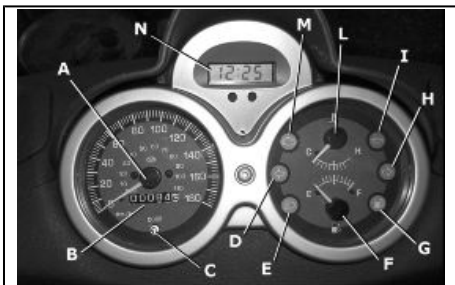
N.B.

IF DURING A NON-DEMANDING RIDE THE COOLANT WARNING LIGHT COMES ON, SHUT OFF THE ENGINE AND ALLOW IT TO COOL DOWN. THEN CHECK THE COOLANT LEVEL; IF THE LEVEL IS NOT CORRECT, CONTACT AN AUTHORISED SERVICE CENTRE.

WARNING



TO AVOID THE RISK OF SCALDING, DO NOT UNSCREW THE EXPANSION TANK COVER WHILE THE ENGINE IS STILL HOT.



03_15

WARNING

TO PREVENT AVOID HARMFUL FLUID LEAKAGE WHILE RIDING, ENSURE THAT THE LEVEL NEVER EXCEEDS THE MAXIMUM VALUE.

TO ENSURE CORRECT ENGINE OPERATION, KEEP THE RADIATOR GRILLE CLEAN.

Recommended products

AGIP PERMANENT SPEZIAL

Ethylene glycol-based antifreeze fluid with organic inhibition additives. Red, ready to use.

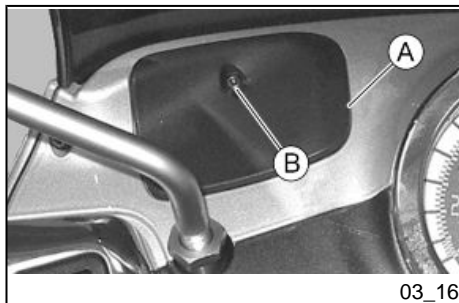
ASTM D 3306 - ASTM D 4656 - ASTM D 4985 - CUNA NC 956-16

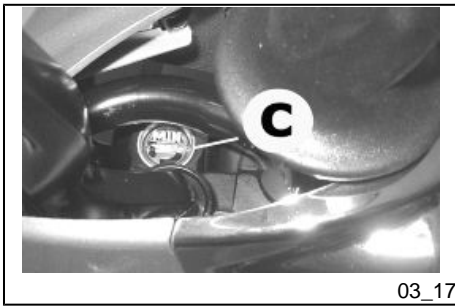
Checkingthebrakeoillevel (03_16, 03_17)

The brake fluid tanks of the front and rear brakes are located on the pumps under the covers on the handlebar. Proceed as follows:

1. Place the scooter on its centre stand and make sure the handlebar is centred;
2. Remove cover "A" by removing the respective retaining screw "B";
3. Check the fluid level through the respective sight glass "C".

A certain lowering of the level is caused by wear on the pads. Should the level appear to be below the minimum mark, please contact your nearest **PIAGGIO Dealer or Authorised Service Centre** in order to have a thorough inspection of the brake system carried out.





03_17

Brakingsystemfluidtopup

Proceed as follows:

Remove tank covers "A" and loosen the two screws and top up the brake fluid level using only the prescribed brake fluid and without exceeding the maximum level.

Under normal climatic conditions, the brake fluid must be replaced every 20,000 km or every two years, whichever comes first. This operation must be carried out by trained technicians; please contact your nearest **PIAGGIO Dealer or Authorised Service Centre**.

WARNING



ONLY USE DOT 4-CLASSIFIED BRAKE FLUID. BRAKE CIRCUIT FLUID IS VERY CORROSIVE; MAKE SURE THAT IT DOES NOT COME INTO CONTACT WITH THE PAINTWORK.

CAUTION



AVOID CONTACT OF BRAKE FLUID WITH EYES, SKIN, AND CLOTHING. IN CASE OF CONTACT, RINSE WITH WATER. THE BRAKING CIRCUIT FLUID IS

HYGROSCOPIC, THAT IS, IT ABSORBS HUMIDITY FROM THE SURROUNDING AIR. IF THE HUMIDITY IN THE BRAKING FLUID EXCEEDS A CERTAIN VALUE, IT WILL LEAD TO INEFFICIENT BRAKING. NEVER USE BRAKING FLUID KEPT IN CONTAINERS THAT HAVE ALREADY BEEN OPENED, OR PARTIALLY USED.

Recommended products

AGIP BRAKE 4

Brake fluid.

Synthetic fluid SAE J 1703 -FMVSS 116 - DOT 3/4 - ISO 4925 - CUNA NC 956 DOT 4

Battery (03_18, 03_19)

To access the battery, proceed as follows:

1. Place the scooter on its centre stand;
2. Lift the seat, paying attention to the points mentioned above.
3. Remove retainer "A" and cover "B".
4. Release the elastic strap "C".

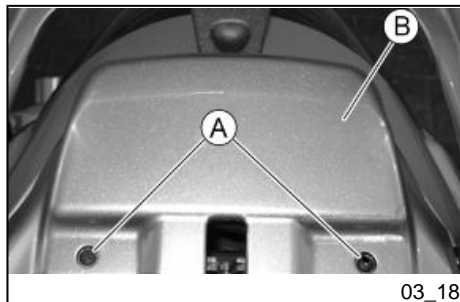
The battery is the electrical device that requires the most frequent inspections and diligent maintenance.

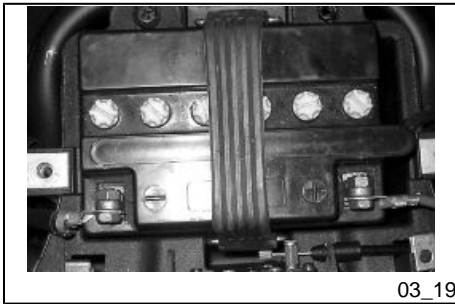
The main points of maintenance to be observed are as follows:

WARNING



DO NOT DISCONNECT THE BATTERY CABLES WITH THE ENGINE RUNNING, THIS CAN CAUSE IRREPARABLE DAMAGE TO THE VEHICLE'S ELECTRONIC CONTROL UNIT.



**WARNING**

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

WARNING

USED BATTERIES ARE HARMFUL FOR THE ENVIRONMENT. COLLECTION AND DISPOSAL SHOULD BE CARRIED OUT IN COMPLIANCE WITH REGULATIONS IN FORCE.

Electric characteristic**Battery**

12V - 12 Ah

Use of a new battery

Make sure that the terminals are connected correctly.

CAUTION

DO NOT REVERSE THE POLARITY: RISK OF SHORT CIRCUIT AND DAMAGE TO THE ELECTRICAL SYSTEM.

WARNING

USED BATTERIES ARE HARMFUL FOR THE ENVIRONMENT. COLLECTION AND DISPOSAL SHOULD BE CARRIED OUT IN COMPLIANCE WITH REGULATIONS IN FORCE.

Checkingtheelectrolytelevel

The electrolyte level, which should be checked regularly, must always be at the maximum level. To reach this level, use only distilled water. Should it become necessary to top up the battery with water too frequently, check the vehicle's electrical system because the battery is being overloaded, causing it to lose power quickly.

CAUTION

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

Long periods of inactivity

Battery performance will be poor if the vehicle is not used for a long time. This is the result of the natural phenomenon of battery discharging, and may be due to residual absorption by vehicle components with constant power consumption. Poor battery performance may also be due to environmental conditions and the cleanliness of the poles. In order to avoid difficult starts and/or irreversible damage to the battery, follow any of these steps:

- **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.

- Take your vehicle to a garage (as indicated in the «Vehicle not used for extended periods» section) to have the battery removed. Have the battery cleaned, charged fully and stored in a dry, ventilated place. Recharge **at least once every two months**.

N.B.

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. CONTACT AN AUTHORISED SERVICE CENTRE TO CARRY OUT THIS OPERATION SAFELY. WHEN REFITTING THE BATTERY MAKE SURE THE LEADS ARE CORRECTLY CONNECTED TO THE TERMINALS.

WARNING



DO NOT DISCONNECT THE BATTERY CABLES WITH THE ENGINE RUNNING, THIS CAN CAUSE IRREPARABLE DAMAGE TO THE VEHICLE'S ELECTRONIC CONTROL UNIT.

WARNING



USED BATTERIES ARE HARMFUL FOR THE ENVIRONMENT. COLLECTION AND DISPOSAL SHOULD BE CARRIED OUT IN COMPLIANCE WITH REGULATIONS IN FORCE.

Fuses (03_20, 03_21, 03_22)

The electrical system is equipped with:

1. Six protective fuses «A» located inside the side panel on the right-hand side;
2. Four protective fuses «B» located inside the compartment on the upper left-hand side.

The chart shows the position and specifications of the fuses in the vehicle.

CAUTION



BEFORE REPLACING A BLOWN FUSE, FIND AND SOLVE THE FAILURE THAT CAUSED IT TO BLOW. NEVER TRY TO REPLACE THE FUSE WITH ANY OTHER MATERIAL (E.G., A PIECE OF ELECTRIC WIRE).

CAUTION



MODIFICATIONS OR REPAIRS TO THE ELECTRICAL SYSTEM, PERFORMED INCORRECTLY OR WITHOUT STRICT ATTENTION TO THE TECHNICAL SPECIFICATIONS OF THE SYSTEM CAN CAUSE MALFUNCTIONING AND RISK OF FIRE.

FUSES

General

Position on fuse box: 1

Fuse: 30A

Protected circuits: General

Electronic control unit remote control switch **Position on fuse box:** 2
Fuse: 10A
Protected circuits: Electronic control unit remote control switch

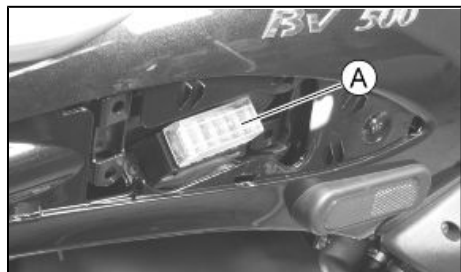
Basic power supply to control unit, immobilizer **Position on fuse box:** 3
Fuse: 5A
Protected circuits: Basic power supply to control unit, immobilizer

Control unit live **Position on fuse box:** 4
Fuse: 5A
Protected circuits: Control unit live

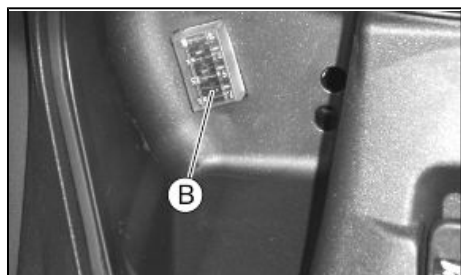
Outlet 12V-180W, button for helmet compartment lighting, bulb for helmet compartment lighting, contacts for key switch, actuator for seat opening, electrical button opening **Position on fuse box:** 5
Fuse: 15A
Protected circuits: Outlet 12V-180W, button for helmet compartment lighting, bulb for helmet compartment lighting, contacts for key switch, actuator for saddle opening, electrical button opening

Light remote control **Position on fuse box:** 6
Fuse: 10A
Protected circuits: Light remote control

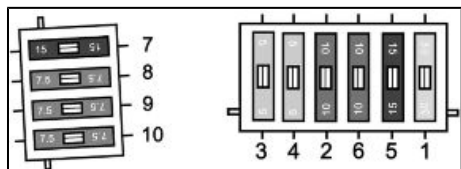
Light flash, fitting for accessories, horn	Position on fuse box: 7 Fuse: 15A Protected circuits: Light flash, fitting for accessories, horn
Stop lights, preparation for radio and anti-theft device, damper, instrument panel live	Position on fuse box: 8 Fuse: 7.5A Protected circuits: Stop lights, preparation for radio and anti-theft device, damper, instrument panel live
Light switch, front and rear light bulbs, license plate bulb, instrument panel lighting	Position on fuse box: 9 Fuse: 7.5A Protected circuits: Light switch, front and rear light bulbs, license plate bulb, instrument panel lighting
Immobilizer LED, radio/intercom fitting, anti-theft system	Position on fuse box: 10 Fuse: 7.5A Protected circuits: Immobilizer LED, radio/intercom fitting, anti-theft system



03_20



03_21

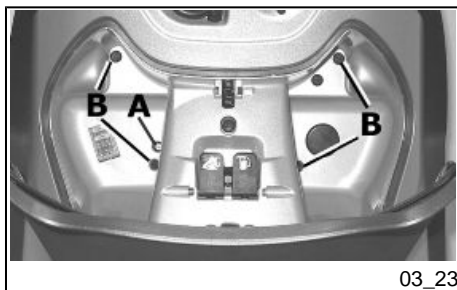


03_22

LIGHT BULB TABLE

High-beam light bulb	Type: HALOGEN (H7) Power: 12V - 55W Quantity: 1
Low beam bulb	Type: HALOGEN (H1) Power: 12V - 55W Quantity: 1
Front tail light bulb	Type: ALL GLASS Power: 12V - 5W Quantity: 2
Instrument panel bulb	Type: ALL GLASS Power: 12V - 2W Quantity: 5
Front turn indicator light bulb	Type: Spherical Power: 12V - 10W Quantity: 1 RHS + 1 LHS
Helmet compartment light bulb	Type: CYLINDRIC Power: 12V - 5W Quantity: 1
Rear turn indicator light bulb	Type: Spherical

	Power: 12V - 10W Quantity: 1 RHS + 1 LHS
Taillight bulb	Type: SPHERICAL Power: 12V - 3W Quantity: 2
Stop light bulb	Type: ALL GLASS Power: 12V - 10W Quantity: 1
License plate bulb	Type: ALL GLASS Power: 12V - 5W Quantity: 1



Frontlightgroup (03_23)

To remove the rear light assembly, proceed as follows:

1. Remove the four screws "B".
2. Remove the light assembly from its seat and proceed to replace the blown bulb.

To reassemble, repeat the operation in the reverse order.

WARNING



HIGH- AND LOW-BEAM BULBS ARE HALOGEN TYPE: DO NOT TOUCH THEM WITH YOUR FINGERS TO AVOID DAMAGING THEIR FUNCTION.

N.B.

IF MISTING IS NOTICED ON THE INSIDE OF THE HEADLAMP GLASS, THIS DOES NOT INDICATE A FAULT AND IS ATTRIBUTABLE TO HUMIDITY AND/OR TO LOW TEMPERATURES.

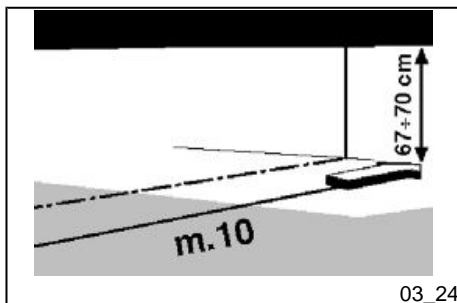
THE PHENOMENON SHOULD QUICKLY DISAPPEAR WHEN THE LIGHT IS SWITCHED ON.

THE PRESENCE OF DROPS OF WATER, ON THE OTHER HAND, COULD INDICATE THAT WATER IS INFILTRATING. CONTACT THE AFTER-SALES SERVICE NETWORK.

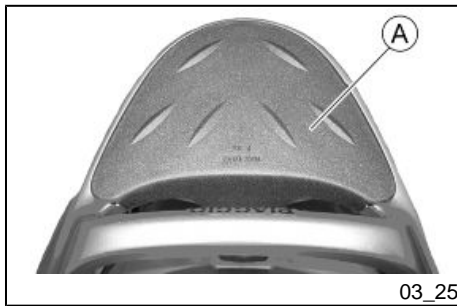
Headlightadjustment (03_24)

Proceed as follows:

1. Place the scooter in riding condition, unloaded, with the tyres correctly inflated, on a flat piece of ground at a distance of 10 m from a white screen situated in a shaded area, making sure that the scooter is perpendicular to the screen;
2. Draw a horizontal line on the screen at a height of 67 to 70 cm from the ground;
3. Switch on the headlight at low beam and check that the horizontal borderline of the projected light beam between the dark and light area is not higher than the horizontal line drawn on the screen;
4. If this is not the case, regulate the headlight by turning screw "A".



03_24



Rearopticalunit (03_25, 03_26, 03_27, 03_28, 03_29)

To remove the rear light assembly, proceed as follows:

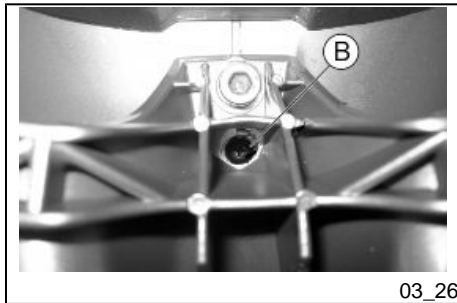
1. Remove the plastic cover "A" from the rear luggage rack, then remove the two lateral screws of the lower part of the luggage rack proper.
2. Remove screw "B"
3. Remove screws "C" and the lateral panels of the side, paying attention not to damage the retaining straps.
4. Remove the two screws "D" of the light assembly being tested and remove it.

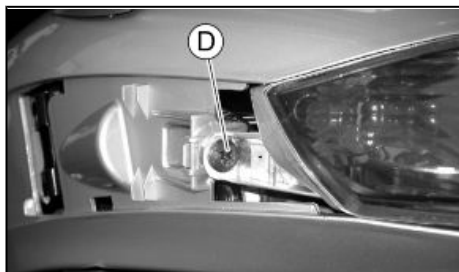
You thus gain access to the rear light bulb "E", the stop light bulb "F" and turn indicator bulbs "G".

Release the spring and take out the bulbs.

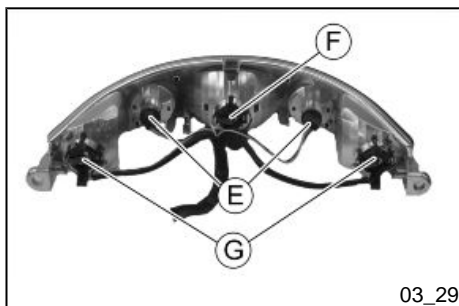
To replace the rear light bulbs "E", pull out the rubber lamp holder from its seat.

To reassemble, repeat the operation in the reverse order.

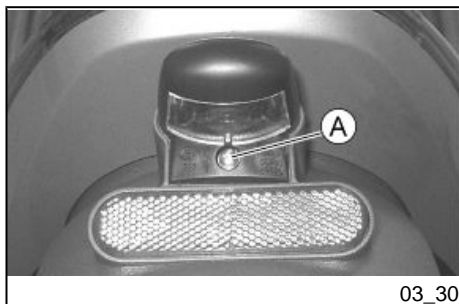




03_28



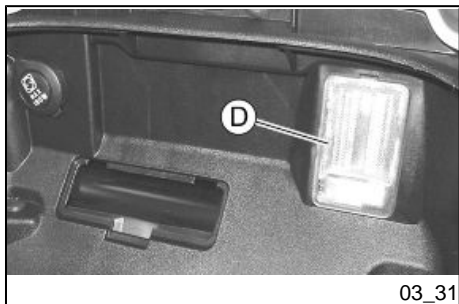
03_29



03_30

Numberplatelight (03_30)

Remove the support by removing screw "A"



Helmetcompartmentlightingbulb (03_31)

Open the helmet compartment, take out the pressure mounted transparent cover "D" and replace the bulb.

Frontandrear discbrake

The brake disc and pad wear is automatically compensated, therefore it has no effect on the functioning of the front and rear brakes. For this reason it is not necessary to adjust the brakes. An excessively elastic brake lever stroke may indicate the presence of air in the braking circuit or a failure in the braking system. In this case, mainly due to the importance of brakes to guarantee safe riding conditions, the vehicle should be taken to an **Authorised Service Centre or Dealer**.

CAUTION



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

CAUTION

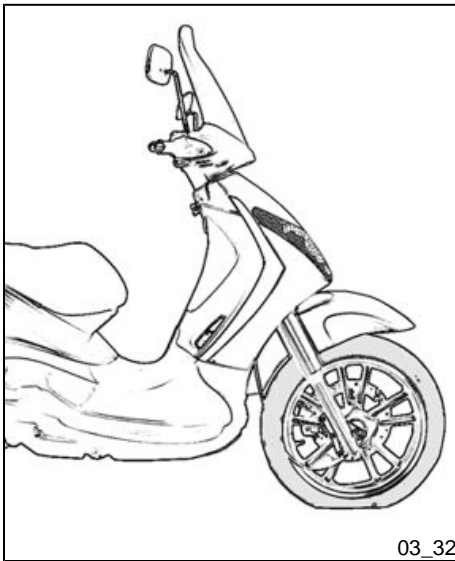


HAVE THE BRAKE PADS CHECKED BY THE DEALER ACCORDING TO THE CHECKS SPECIFIED IN THE SCHEDULED MAINTENANCE TABLE. HOWEVER, IN THE EVENT OF NOISES COMING FROM THE FRONT AND/OR REAR BRAK-

ING SYSTEM DURING OPERATION, IT IS ADVISABLE TO HAVE THE BRAKING SYSTEM CHECKED BY AN AUTHORISED SERVICE CENTRE OR DEALER. AFTER REPLACING THE BRAKE PADS, DO NOT USE THE SCOOTER UNTIL YOU HAVE OPERATED THE BRAKE LEVER SEVERAL TIMES IN ORDER TO ALLOW THE PLUNGERS TO SETTLE AND THE LEVER STROKE TO BE SET TO THE CORRECT POSITION.

CAUTION

THE PRESENCE OF SAND, MUD, SNOW MIXED WITH SALT, ETC. ON THE ROAD, CAN DRASTICALLY REDUCE THE LIFE OF THE BRAKE PADS. IN ORDER TO AVOID THIS, WE RECOMMEND WASHING THE VEHICLE FREQUENTLY WHEN RIDING IN THESE ROAD CONDITIONS.



Puncture (03_32)

The vehicle is equipped with Tubeless tyres (without inner tube). In the event of a puncture, Tubeless tyres - unlike tyres with inner tubes - go flat very slowly, resulting in a greater steering safety. In the event of a puncture, an emergency repair can be carried out using an "inflate and repair" spray can. For a final repair, take your vehicle to an **Authorised Service Centre or Dealer**. The replacement of a tyre involves removing the wheel in question. Take your vehicle to an **Authorised Service Centre or Dealer** for these operations.

CAUTION



TO USE THE "INFLATE AND REPAIR" SPRAY CAN PROPERLY, FOLLOW THE INSTRUCTIONS ON THE PACKAGING.

WARNING



THE WHEELS FITTED WITH TYRES SHOULD ALWAYS BE BALANCED. RIDING THE VEHICLE WITH VERY LOW TYRE PRESSURE OR WITH INCORRECTLY BALANCED TYRES CAN LEAD TO DANGEROUS STEERING VIBRATIONS.

delveicolo (03_33)

We recommend carrying out the following operations:

1. Clean the scooter thoroughly and then cover it with a canvas;
2. With engine off and piston at the bottom dead centre, remove the spark plug, add 1÷2 cm³ of oil through its hole (larger amounts are dangerous for the engine itself). Operate the starter button 1-2 times for roughly 1 second to turn the engine over slowly, then insert the spark plug again;
3. Drain all the fuel from the scooter; spread antirust grease on the uncoated metal parts; keep the wheels lifted above the ground by resting the chassis on two wooden wedges;
4. As regards the battery, follow the instructions in the «Battery» section.

Recommended products**eni i-Ride PG 5W-40**

Synthetic based lubricant for high-performance four-stroke engines.

JASO MA, MA2 - API SL - ACEA A3

Cleaningthevehicle

Use a low pressure jet of water to soften the caked dirt and mud deposited on the painted surfaces. Once softened, sponge off mud and dirt using a car body sponge soaked in a car body shampoo and water solution (2-4% of car shampoo in water). Then rinse with abundant water, and dry with a shammy cloth. For the engine exterior, use petrol, a brush and clean cloths. Petrol can damage paintwork. Remember that any polishing with silicone wax must always be preceded by washing.



CAUTION

DETERGENTS CAN POLLUTE WATER. THE VEHICLE MUST BE WASHED AT A WASH STATION EQUIPPED WITH A SPECIAL WATER PURIFICATION SYSTEM.

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 A FANLIKE SPRAY JET.**
- **DO NOT HOLD THE NOZZLE NEARER THAN 2 FT (60 CM) FROM THE VEHICLE.**
- **DO NOT USE WATER AT TEMPERATURES OVER 100°F (40°C).**
- **DO NOT USE HIGH-PRESSURE WATER JETS.**
- **DO NOT STEAM WASH.**
- **DO NOT AIM THE JET AT: THE ENGINE, THE WIRING, THE COOLING SLITS ON THE TRANSMISSION OR SCROLL COVERS.**

CAUTION

NEVER WASH THE SCOOTER IN DIRECT SUNLIGHT, ESPECIALLY IN SUMMER WHEN THE BODYWORK IS STILL HOT AS THE SHAMPOO COULD DAMAGE THE PAINTWORK IF IT DRIES BEFORE BEING RINSED OFF. NEVER USE CLOTHS SOAKED IN ALCOHOL, PETROL, DIESEL OIL OR KEROSENE FOR CLEANING THE PAINTED OR PLASTIC SURFACES, IN ORDER NOT TO DAMAGE THE LUSTRE FINISH OR ALTER THEIR MECHANICAL PROPERTIES. USING SILICONE-BASED WAX CAN DAMAGE THE PAINTED SURFACES, DEPENDING ON THE VEHICLE COLOUR (SATIN COLOURS). FOR FURTHER

INFORMATION ON THIS MATTER, CONTACT AN AUTHORISED SERVICE CENTRE.

STARTING FAILURE

Emergency switch in «OFF»	Set the switch back to « ON »
Fuse blown	Replace the blown fuse and have the vehicle checked by an Authorised Service Centre.

IGNITION PROBLEMS

Faulty spark plug	Contact an Authorised Service Centre.
Faulty ignition / injection control unit.	Contact an Authorised Service Centre.
Faulty coil. Due to the presence of high voltage, this check should only be carried out by an expert.	Contact an Authorised Service Centre.

LACK OF COMPRESSION

Loose spark plug.	Screw in the spark plug tightly
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Cylinder head loose, piston gas rings worn.	Contact an Authorised Service Centre .
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Valve stuck	Contact an Authorised Service Centre .
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HIGH CONSUMPTION AND LOW PERFORMANCE

Air filter blocked or dirty.	Clean with water and shampoo and impregnate with petrol and specific oil («Air filter removal» section)
------------------------------	---------------------------------------------------------------------------------------------------------

INSUFFICIENT BRAKING

Greasy disc. Worn pads. Faulty braking system. Presence of air in the front and rear brake circuit.	Contact an Authorised Service Centre .
-----------------------------------------------------------------------------------------------------	-----------------------------------------------

INEFFICIENT SUSPENSION

Shock absorber fault, oil leak, end buffers damaged; shock absorber preloading incorrectly set	Contact an Authorised Service Centre .
------------------------------------------------------------------------------------------------	-----------------------------------------------

AUTOMATIC TRANSMISSION PROBLEMS

CVT rollers and/or drive belt
damaged

Contact an **Authorised Service
Centre.**

STAND DOES NOT RETURN TO POSITION

Presence of dirt

Clean and grease

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**Chap. 04
Technicaldata**



04_01

ENGINE TECHNICAL DATA

Version (400)	400
Engine	Single-cylinder, four-stroke, four valves, single overhead camshaft, chain driven on the flywheel side

Engine capacity	399 cm ³
Bore x stroke	85.8 X 69 mm
Compression ratio	10.6 ± 0.5: 1
Idle speed	1500 ± 100 rpm
Maximum torque (to the crankshaft)	37.6 Nm at 5500 rpm
Maximum power (at the crankshaft)	25 kW at 7500 rpm
Electronic ignition	inductive, high efficiency integrated with the injection system, with variable timing and separate HV coil.
Ignition advance (before TDC)	Variable advance controlled by the injection control unit
Fuel supply	38 Ø mm throttle body and single injector
Lubrication	Engine lubrication with trochoidal pump (inside the crankcase), oil filter and pressure adjustment by-pass.
Cooling	Forced fluid circulation, with engine driven pump; 3-way thermostat to pump intake.
Transmission	Automatic expandable pulley speed variator, V belt, dry self-ventilating automatic centrifugal clutch, gear reduction unit and transmission casing with forced air circulation cooling.
Spark plug	<ul style="list-style-type: none"> • NGK CR7EKB

- Champion RG6YC

Valve clearance	intake: 0.15 mm discharge (when cold): 0.15 mm (when cold)
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Exhaust silencer	Absorption-type exhaust muffler with catalytic converter.
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Engine oil (empty)	1.7 lt.
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Engine oil (at oil and filter change)	1.5 lt.
---------------------------------------	---------

Rear hub oil	250 cc
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TECHNICAL DATA

Overall width	770 mm
---------------	--------

Overall length	2215 mm
----------------	---------

Overall height	1305 mm
----------------	---------

Wheelbase	1550 mm
-----------	---------

Front brake	Ø 260 disc brake (left-hand side of vehicle), with hydraulic control operated from the right-hand brake lever on the handlebar.
-------------	---------------------------------------------------------------------------------------------------------------------------------

Rear brake	Ø 240-mm disc brake with hydraulic control operated by the handlebar left-side lever.
------------	---------------------------------------------------------------------------------------

Front wheel	16"x3.00" front alloy rim
-------------	---------------------------

Rear wheel	14"x4.50" alloy rim
------------	---------------------

Front tyre	Pirelli 110/70 16" GTS 23 M/C - 52S TUBELESS
------------	----------------------------------------------

Rear tyre	Pirelli 150/70 14" GTS 24 M/C - 66S TUBELESS
Front suspension	Hydraulic telescopic fork with stem diameter 41 mm.
Rear suspension	engine in relation to the rocker forks with two double-acting hydraulic shock absorbers and setting of the preload in 4 positions.
Chassis	Tubular and steel sheets.
dry weight	189 kg
Maximum load	Maximum load 189 Kg.
Fuel tank capacity	~13,2 l (approximate value)
Reserve	approx. 3 litres (approximate value)
Cooling system	Capacity: approx. 1.7 l

Toolkit

One box spanner; one lever for box spanner; one twin screwdriver; one hexagonal wrench (mm 6); one special wrench for adjusting the rear shock absorbers. The tools are stored in the helmet compartment.

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Chap. 05
Spareparts and
accessories



Warnings (05_01)

WARNING



TO PREVENT ACCIDENTS AND TO GUARANTEE PROPER STABILITY, PERFORMANCE AND SAFETY, RIDE THE VEHICLE VERY CAREFULLY WHEN IT IS FITTED WITH ACCESSORIES OR WITH UNUSUAL LOADS.

WARNING



IT IS ALSO RECOMMENDED THAT ORIGINAL PIAGGIO SPARE PARTS BE USED, AS THESE ARE THE ONLY ONES OFFERING YOU THE SAME QUALITY GUARANTEE AS THOSE INITIALLY FITTED ON THE SCOOTER. THE USE OF NON-ORIGINAL SPARE PARTS RENDERS THE WARRANTY VOID.

WARNING



PIAGGIO MARKETS ITS OWN LINE OF ACCESSORIES THAT ARE RECOGNISED AND GUARANTEED FOR USE. IT IS THEREFORE ESSENTIAL TO CONTACT AN AUTHORISED DEALER OR SERVICE CENTRE IN ORDER TO CHOOSE AND FIT ACCESSORIES CORRECTLY. THE USE OF NON-ORIGINAL ACCESSORIES MAY AFFECT THE STABILITY AND OPERATION OF YOUR VEHICLE AND REDUCE SAFETY LEVELS WITH POTENTIAL RISKS FOR THE RIDER.

WARNING

NEVER RIDE THE SCOOTER EQUIPPED WITH ACCESSORIES (TOP BOX AND/OR WINDSHIELD) AT A SPEED HIGHER THAN 100 km/h.

THE SCOOTER CAN BE RIDDEN AT A HIGHER SPEED WITHOUT THE ACCESSORIES MENTIONED BEFORE WITHIN THE LIMITS ESTABLISHED BY LAW.

IF THERE ARE ANY NON-PIAGGIO ACCESSORIES INSTALLED, OR AN ABNORMAL LOAD, OR IF THE SCOOTER IS NOT IN A GENERALLY GOOD CONDITION, OR WHENEVER WEATHER CONDITIONS DEMAND IT, SPEED SHOULD BE FURTHER REDUCED.

WARNING

BE EXTREMELY CAREFUL WHEN INSTALLING AND REMOVING THE MECHANICAL ANTITHEFT DEVICE ON THE VEHICLE (U-SHAPED PADLOCK, DISC BLOCK, ETC.).

MAINLY NEAR THE BRAKE PIPES, TRANSMISSIONS AND/OR ELECTRIC CABLES, AN INCORRECT INSTALLATION OR REMOVAL OF THE ANTITHEFT DEVICE AS WELL AS LEAVING IT ON BEFORE STARTING THE VEHICLE CAN SERIOUSLY DAMAGE ITS COMPONENTS, COMPROMISE THE CORRECT FUNCTIONING OF THE VEHICLE AND USERS' SAFETY.

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Chap. 06
Scheduled maintenance



06_01

Scheduled servicing table (06_01)

Adequate maintenance is fundamental to ensure long-lasting, optimum operation and performance of your vehicle.

For this purpose, PIAGGIO offers a set of checks and maintenance services (for payment) which are included in the summary table shown on the following page. Any minor faults should be reported without delay to an **Authorised Service Centre or Dealer** without waiting until the next scheduled service to solve it.

All scheduled maintenance services must be carried out at the specified intervals, even if the stated mileage has not yet been reached. Punctual scooter servicing is essential to ensure your warranty remains valid. For any further information concerning Warranty procedures and 'Scheduled Maintenance', please refer to the 'Warranty Booklet'.

MAINTENANCE TABLE

Km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Driven pulley roller casing			L		L		L		L		L		L		L		L
Safety fasteners	I		I				I				I				I		
Ignition spark plug			R		R		R		R		R		R		R		R
Centre stand bracket		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Driving belt			R		R		R		R		R		R		R		R
Throttle control	A		A		A		A		A		A		A		A		A
Air filter			I		I		I		I		I		I		I		I
Oil filter	R		R		R		R		R		R		R		R		R
Valve clearance					A				A				A				A
Electrical system and battery	I		I		I		I		I		I		I		I		I

Km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Coolant level *	I		I		I		I		I		I		I		I		I
Brake fluid *	I		I		I		I		I		I		I		I		I
Engine oil	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Hub oil	R		I		R		I		R		I		R		I		R
Brake pads	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Sliding shoes / CVT rollers			R		R		R		R		R		R		R		R
Tyre pressure and wear	I		I		I		I		I		I		I		I		I
Vehicle road test	I		I		I		I		I		I		I		I		I
Suspension	I		I		I		I		I		I		I		I		I
Steering	I		I		I		I		I		I		I		I		I

I: INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE, IF NECESSARY C: CLEAN, R: REPLACE, A: ADJUST, L: LUBRICATE

** Replace every 2 years*

RECOMMENDED PRODUCTS TABLE

Product	Description	Specifications
AGIP GEAR SAE 80W-90	Lubricant for gearboxes and transmissions.	API GL-4
eni i-Ride PG 5W-40	Synthetic based lubricant for high-performance four-stroke engines.	JASO MA, MA2 - API SL - ACEA A3
AGIP FILTER OIL	Special product for the treatment of foam filters.	-

Product	Description	Specifications
AGIP GP 330	Water repellent stringy calcium spray grease.	R.I.D./A.D.R. 2 10°b) 2 R.I.Na. 2.42 - I.A.T.A. 2 - I.M.D.G. class 2 UN 1950 Page 9022 EM 25-89
AGIP BRAKE 4	Brake fluid.	Synthetic fluid SAE J 1703 - FMVSS 116 - DOT 3/4 - ISO 4925 - CUNA NC 956 DOT 4
AGIP PERMANENT SPEZIAL	Ethylene glycol-based antifreeze fluid with organic inhibition additives. Red, ready to use.	ASTM D 3306 - ASTM D 4656 - ASTM D 4985 - CUNA NC 956-16

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Not all versions/models shown in this publication are available in all countries. The availability of each model should be checked at the official PIAGGIO sales network.

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