

PIAGGIO WOULD LIKE TO THANK YOU

for choosing one of its products. We have prepared this booklet to help you to get the very best from your scooter. Please read it carefully before riding the scooter for the first time. It contains information, tips and precautions for using your scooter. 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 vehicle and it will serve you well for a long time to come. This booklet forms an integral part of the scooter; should the scooter 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 scooter; 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 manual require the use of special tools and/or particular technical knowledge: to carry out these operations refer to any **authorised Dealer of 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 those parts of the booklet that should be read with particular care. As you can see, each sign consists of a different graphic symbol, making it quick and easy to locate the various topics.

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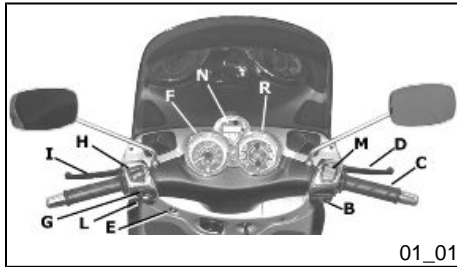
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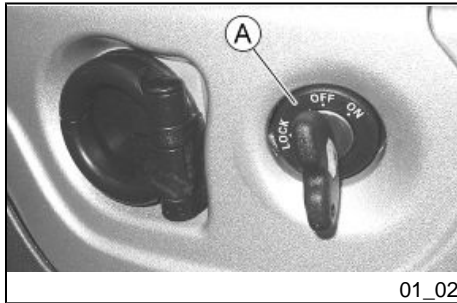
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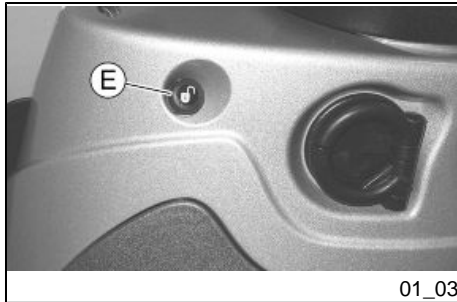
**Chap. 01
Vehicle**



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

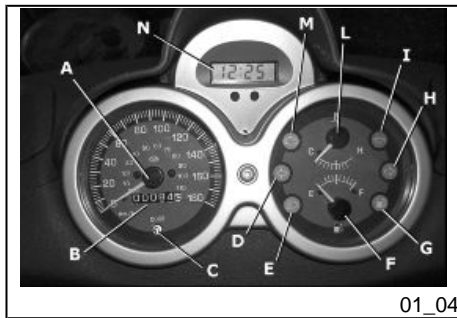
I = Rear brake lever

L = Horn button

M = RUN OFF (immobiliser) switch

N = Digital clock

R = Instrument and warning lights panel



Analogue instrument panel (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

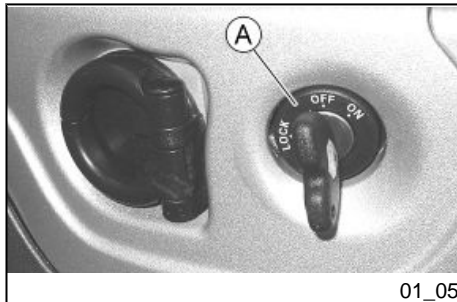
H = Right turn warning light

I = Low oil pressure warning light

L = Coolant temperature gauge

M = Motor management indicator light and injection system warning light

N = Digital clock



Key switch (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.

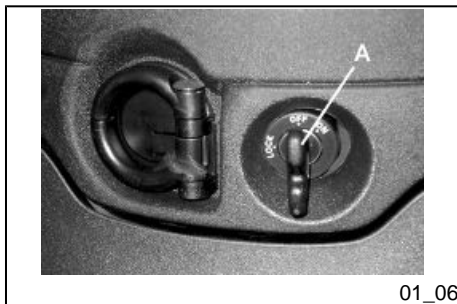
Locking the steering wheel

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 «OFF» WHILE RIDING.



01_06

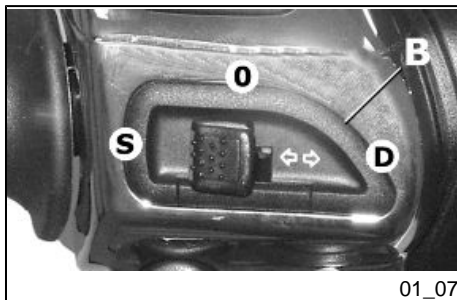
Releasing the steering wheel (01_06)

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

CAUTION



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



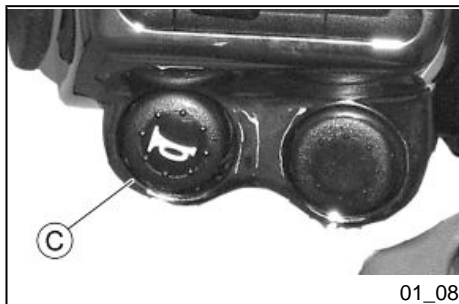
01_07

Switch direction indicators (01_07)

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

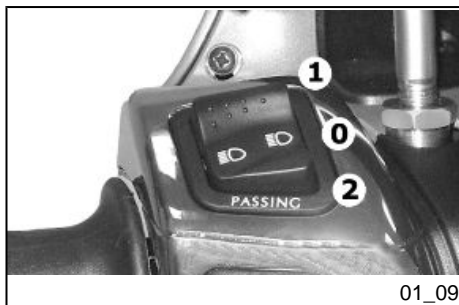
Lever towards "**D**" = Right turn indicator is switched on;

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



Horn button (01_08)

Push the «C» button to sound the horn.



Light switch (01_09)

0 = Low-beam light

1 = High beam light

2 = Passing (flashing)



Start-up button (01_10)

Starter button "G"



Engine stop button (01_11)

0 = OFF

1 = RUN

The immobilizer system

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

Keys (01_12, 01_13, 01_14)

Two types of keys come 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

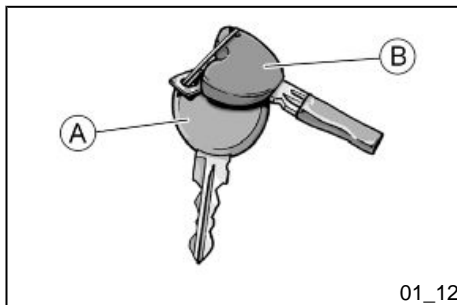


LOSING THE RED KEY PREVENTS ANY REPAIRS OF THE 'PIAGGIO IMMOBILIZER' SYSTEM AND THE ENGINE CONTROL UNIT.

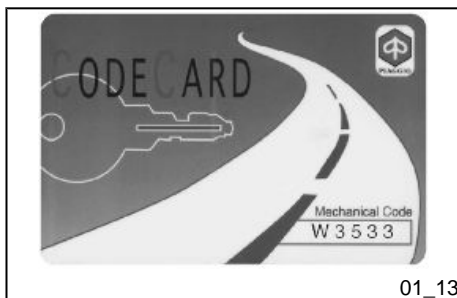
WARNING



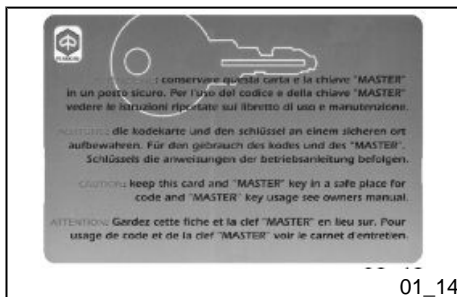
KEEP THE 'CODE CARD' AND THE RED HANDGRIP KEY IN A SAFE PLACE (NOT ON YOUR VEHICLE).



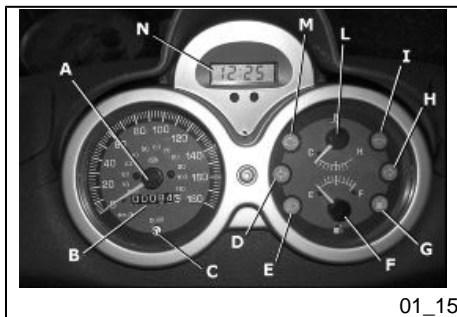
01_12



01_13



01_14



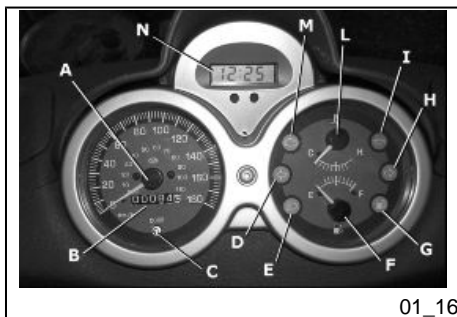
01_15

Immobilizerdevice enabled indicator led (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 immobiliser is also activated in the engine is switched off with the RUN OFF switch. This happens even if the starter key is in position "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 storage 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 BY THE SYSTEM CONTROL UNIT.

VIOLENT SHOCKS MAY AFFECT THE ELECTRONIC COMPONENTS OF THE KEY.

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

Programming the immobilizer system

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

Procedure start - red key

Insert the red-handgrip 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.

Intermediate step - black key

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.

Final step - red key

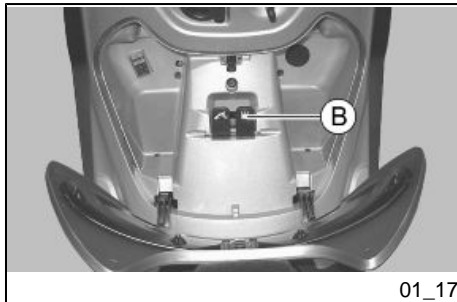
After pulling out the last black key, insert the red key again and turn it to "**ON**" (this operation should be performed within 10 seconds of pulling out the previous key). Leave it in this position for 1 to 3 seconds and return it to the «**OFF**» position.

Proper programming check

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

WARNING

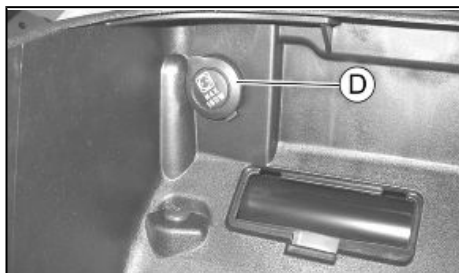
SHOULD THE ENGINE START WITH THE RED KEY (WITH TRANSPONDER OFF), OR IN THE EVENT OF WRONG OPERATION DURING PROGRAMMING, REPEAT THE PROCEDURE FROM THE BEGINNING.



Accessing the fuel tank (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

Power supply socket (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.

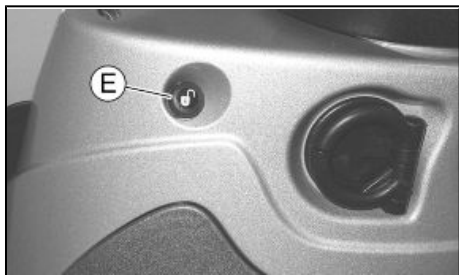
CAUTION



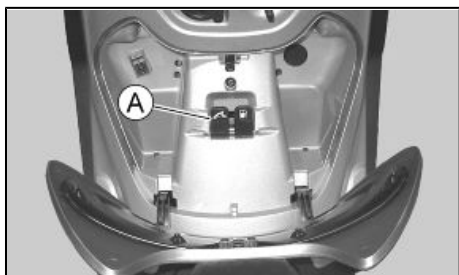
DO NOT USE THE VEHICLE WITHOUT THE PROTECTION COVER.



01_21



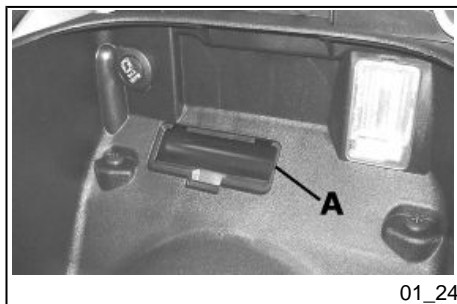
01_22



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.



01_24

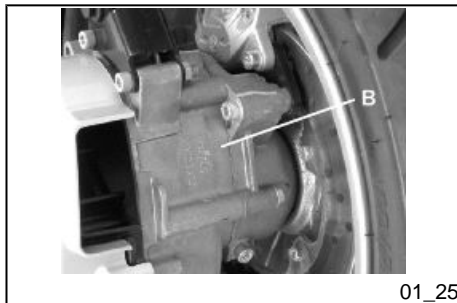
Identification (01_24, 01_25)

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



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



01_25



01_26



01_27

Helmet Anti-theft Device (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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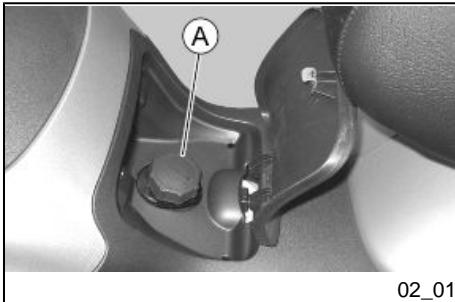


**Chap. 02
Use**

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".

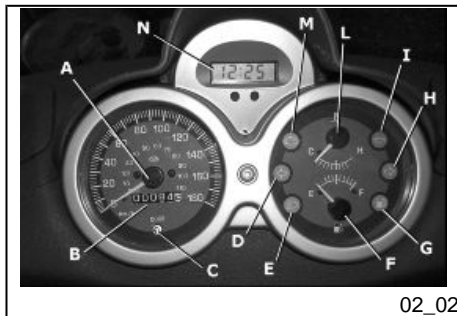
WARNING



SWITCH OFF THE ENGINE BEFORE REFUELLING WITH PETROL.

PETROL IS HIGHLY INFLAMMABLE.

DO NOT SMOKE AND KEEP OPEN 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; IN THE EVENT THAT THIS SHOULD OCCUR, DO NOT ATTEMPT TO START THE ENGINE. TURN THE KEY 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)



Shock absorbers adjustment (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

WE STRONGLY RECOMMEND NOT TO ADJUST BOTH SHOCK ABSORBERS WITH DIFFERENT PRELOADING

Running in (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

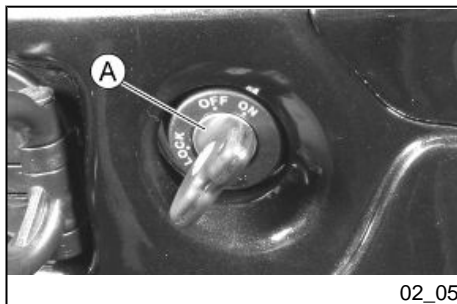
Starting up the engine (02_05, 02_06)

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

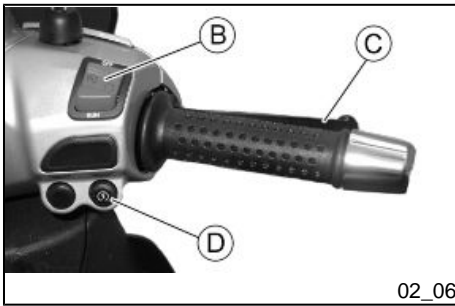
The engine cannot be started if the side stand is lowered.

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 to position «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 EX-

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

WARNING

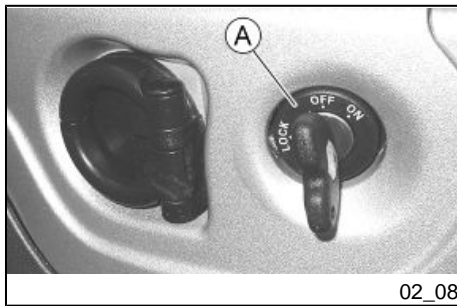


AFTER A LONG DISTANCE COVERED AT THE MAXIMUM SPEED, DO NOT STOP THE ENGINE IMMEDIATELY, BUT LET IT RUN AT IDLE FOR A FEW SECONDS.



Difficult start up (02_07)

In the rare case of flooding the engine, 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 SCOOTER, THAT THE EXHAUST DOES NOT COME INTO CONTACT WITH FLAMMABLE MATERIALS, TO AVOID SERIOUS BURNS.

CAUTION



DO NOT SWITCH OFF THE ENGINE WHILE THE VEHICLE IS MOVING. UN-BURNED FUEL COULD ENTER THE CATALYTIC CONVERTER AND BURN, CAUSING IT 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

Automatic transmission (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 riding on both flat roads and uphill.

If you have to stop on an uphill slope (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 clutch bell.**

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 with steepness greater than 25%.

Observe 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

Safe driving (02_11)

Some simple tips are provided below that will enable you to use your vehicle on a daily basis in greater safety and peace of mind. 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 itself.

1. Before riding off, remember to put on your helmet and fasten it correctly.
2. Reduce speed on rough roads and drive with care.
3. After riding on a long stretch of wet road without using the brakes, braking can be poor at the beginning. Given these conditions, it is a good idea to operate the brakes from time to time.
4. Do not brake hard on wet, dirt or slippery road surfaces.
5. Avoid riding off by mounting the scooter when resting on the support. In any case, the rear wheel should not be turning when it comes into contact with the ground, in order to avoid abrupt departures.
6. When riding along roads covered by sand, mud, snow mixed with salt, etc. we recommend cleaning the brake disc frequently with a non-corrosive detergent in order to prevent corrosive particles from building up in the holes, which may cause early brake pad wear.

CAUTION



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

CAUTION

ANY CHANGES TO THE VEHICLE PERFORMANCE AS WELL AS ALTERATIONS TO 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.



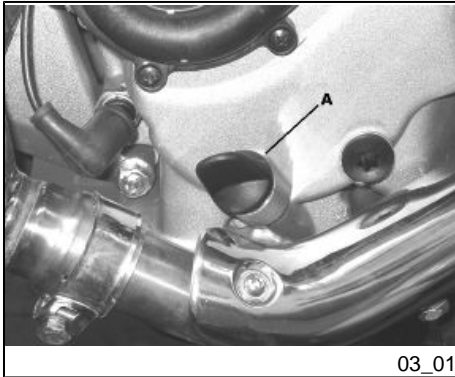
PIAGGIO®



**Chap. 03
Maintenance**

Engine oil level

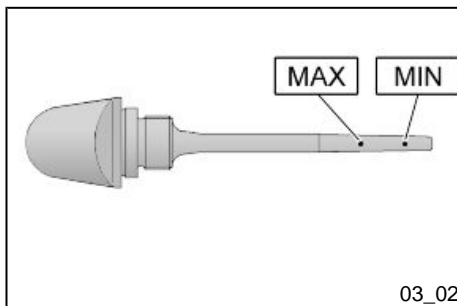
In 4T engines, the engine oil is used to lubricate the distribution elements, the bench bearings and the thermal group. **An insufficient quantity of oil can cause serious damage to the engine.** In all four-stroke engines, a loss of efficiency in oil performance and consumption should be considered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



Engine oil level check (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»; during the oil check, 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 line 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.



03_02

Engine oil top-up

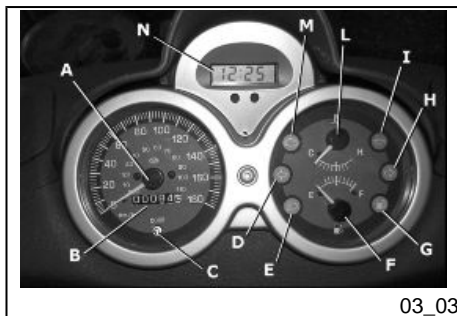
Always check the oil level before carrying out top ups in order to avoid **exceeding the MAX. level**. Getting an oil level between the **MIN** and **MAX** index marks requires ~ 400 cc of oil. An oil check-up and top-up should be carried out every 5000 Km by authorised personnel at any **Authorised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

Warning light (insufficient oil pressure) (03_03)

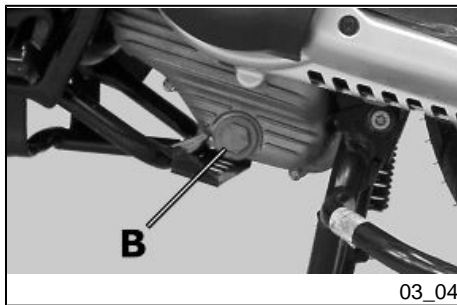
The scooter is equipped with a warning light "I" that lights up when the key is turned to the "ON" position.

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



03_04

Engine oil change (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.

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

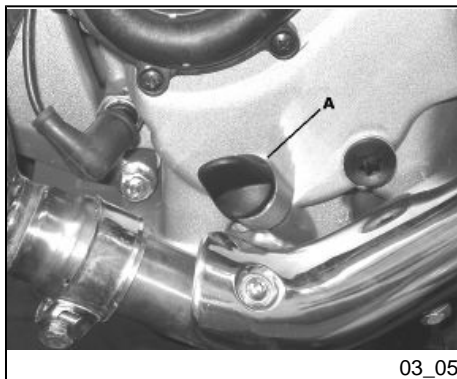


USED OILS CONTAIN SUBSTANCES HARMFUL TO THE ENVIRONMENT. FOR OIL REPLACEMENT, CONTACT AN AUTHORISED SERVICE CENTRE, WHICH IS EQUIPPED TO DISPOSE OF USED OILS IN AN ENVIRONMENTALLY FRIENDLY AND LEGAL WAY.

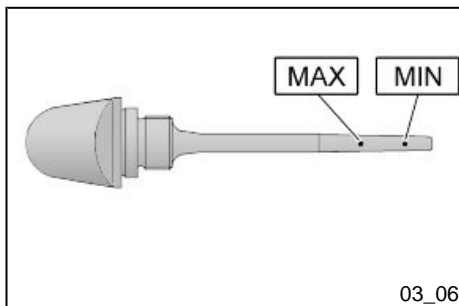
Recommended products

AGIP CITY HI TEC 4T

Four-stroke engine oil



03_05



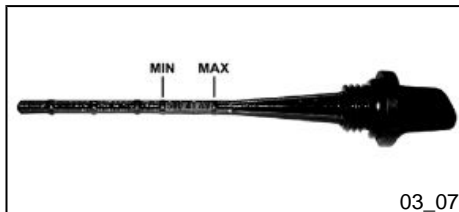
Lubricating oil for flexible shafts (throttle control)

Hub oil level (03_07, 03_08, 03_09)

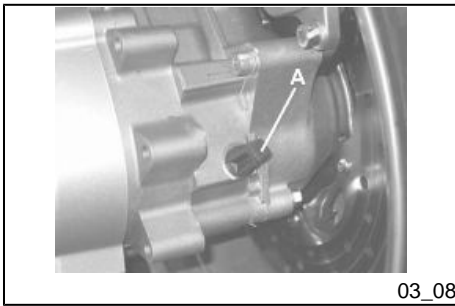
Check the oil in the rear hub.

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

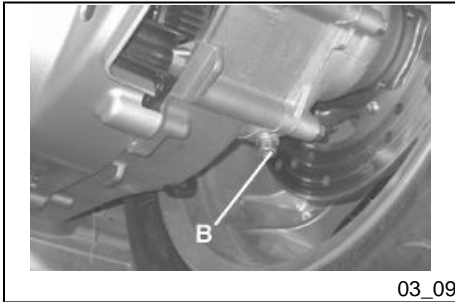
1. Park the scooter on level ground and rest it on its centre stand.
2. Unscrew the oil dipstick «A», dry it with a clean cloth. Reinsert it and **screw it tightly into place.**
3. Pull out the dipstick and check that the oil level is between the MIN and MAX reference marks. If the oil level is below 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.



03_08



03_09

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 CURRENT REGULATIONS.

CAUTION

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

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 ROTRA 80W-90

Rear hub oil

SAE 80W/90 Oil that exceeds the requirements of API GL3 specifications

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 MANDATORY TO ADOPT EXCLUSIVELY "S" CLASS TYRES, WHICH GUARANTEE CORRECT VEHICLE PERFORMANCE AT THE DIFFERENT SCOOTER SPEEDS. USING ANY OTHER TYRE MAY RESULT IN VEHICLE INSTABILITY. IT IS ADVISABLE TO USE TYRE TYPES RECOMMENDED 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

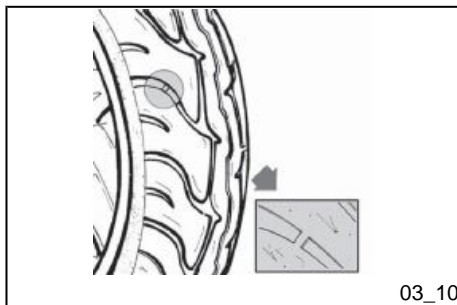
Front tyre

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

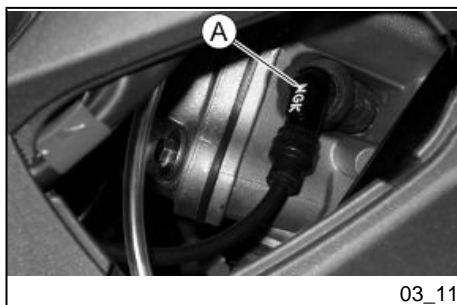
REAR TYRE

Rear tyre

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



03_10



03_11

Spark plug dismantlement (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.

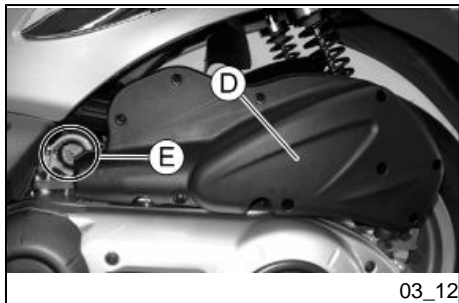
THE USE OF SPARK PLUGS OTHER THAN THE INDICATED TYPE OR OF SHIELDLESS SPARK PLUG CAPS CAN CAUSE ELECTRICAL SYSTEM FAILURES.

Characteristic**Spark plug**

- NGK CR7EKB
- Champion RG6YC

Electrode gap

0.7-0.8 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 SERVICE 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**

Oil for air filter sponge

Mineral oil with specific additives for increased adhesiveness

Air filter cleaning

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

CAUTION

IF THE VEHICLE IS USED ON DUSTY ROADS, IT IS NECESSARY TO SERVICE THE AIR FILTER MORE OFTEN TO AVOID DAMAGING THE ENGINE.

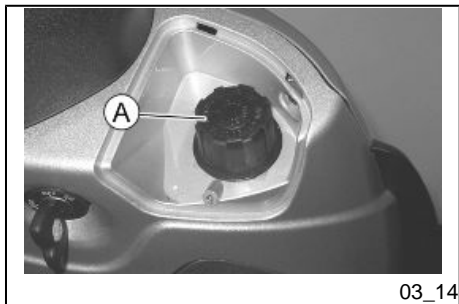
Recommended products**AGIP FILTER OIL**

Oil for air filter sponge

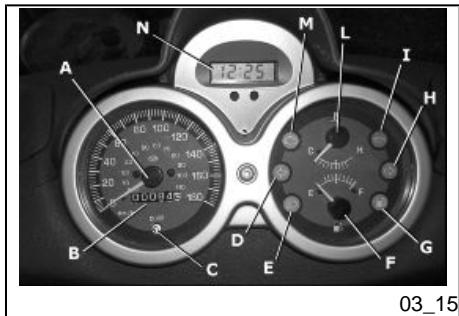
Mineral oil with specific additives for increased adhesiveness



03_13



03_14



03_15

Cooling fluid level (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**.

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.

WARNING



IN ORDER TO AVOID HARMFUL FLUID LEAKS WHILE RIDING, IT IS IMPORTANT TO MAKE SURE THAT THE LEVEL NEVER EXCEEDS THE MAXIMUM VALUE.

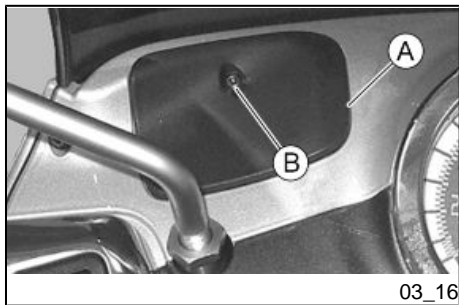
IN ORDER TO GUARANTEE THE PROPER FUNCTION OF THE ENGINE, IT IS NECESSARY TO KEEP THE RADIATOR GRILLE CLEAN.

Recommended products

AGIP PERMANENT SPEZIAL

coolant

Monoethylene glycol-based antifreeze fluid, CUNA NC 956-16



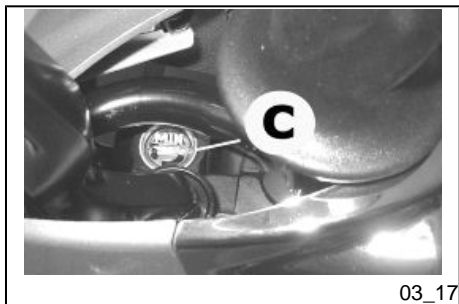
03_16

Checking the brake oil level (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

Braking system fluid top up

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 CLASS BRAKE FLUIDS. COOLING SYSTEM FLUIDS ARE HIGHLY CORROSIVE. MAKE SURE THAT IT DOES NOT COME INTO CONTACT WITH THE PAINTWORK

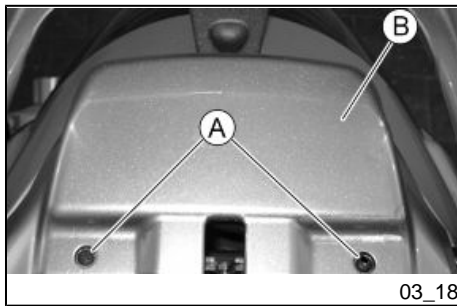
CAUTION

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

FMVSS DOT 4 Synthetic fluid



03_18

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 PERMANENT DAMAGE TO THE VEHICLE ELECTRONIC CONTROL UNIT.

WARNING

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

WARNING



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



03_19

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



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

Checking the electrolyte level

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 scooter'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 THE CASE OF ACCIDENTAL CONTACT, RINSE WITH ABUNDANT OF WATER AND CONSULT A DOCTOR.

Long periods of inactivity

Battery performance will decrease if the vehicle is not used for a long time. This is the result of the natural phenomenon of battery discharging plus residual absorption by vehicle components with constant power consumption. Poor battery performance may also be due to environmental conditions and the cleanness 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 PERMANENT DAMAGE TO THE VEHICLE ELECTRONIC CONTROL UNIT.

WARNING

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

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 characteristics 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 ERRORS IN FUNCTIONING 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

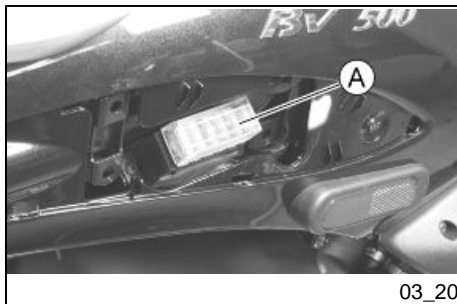
Protected circuits: Light switch, front and rear light bulbs, license plate bulb, instrument panel lighting

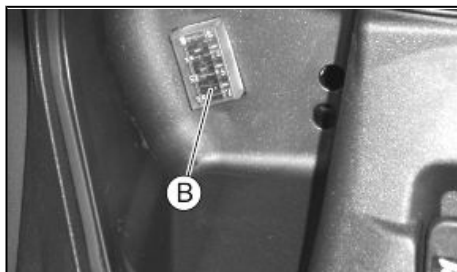
Immobilizer LED, radio/intercom fitting, anti-theft system

Position on fuse box: 10

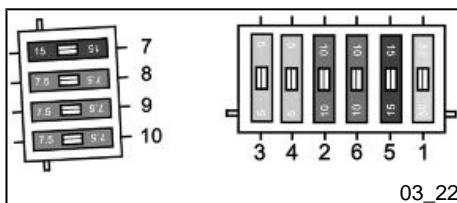
Fuse: 7.5A

Protected circuits: Immobilizer LED, radio/intercom fitting, anti-theft system





03_21



03_22

LIGHT BULB TABLE

High-beam light bulb	<p>Type: HALOGEN (H7)</p> <p>Power: 12V - 55W</p> <p>Quantity: 1</p>
Low-beam bulb	<p>Type: HALOGEN (H1)</p> <p>Power: 12V - 55W</p> <p>Quantity: 1</p>

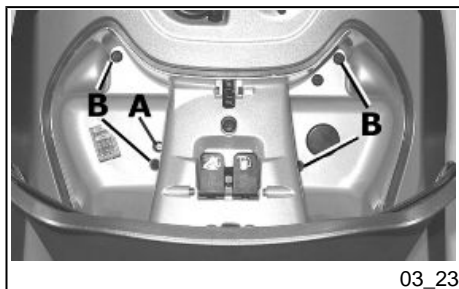
Front tail light bulb	Type: ALL GLASS Power: 12V - 5W Quantity: 2
Instrument panel bulb	Type: ALL GLASS Power: 12V - 2W Quantity: 5
Front turn indicator bulb	Type: Spherical Power: 12V - 10W Quantity: 1 RHS + 1 LHS
Helmet compartment light bulb	Type: CYLINDRIC Power: 12V - 5W Quantity: 1
Rear turn indicator 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 light bulb

Type: ALL GLASS

Power: 12V - 5W

Quantity: 1



03_23

Front light group (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



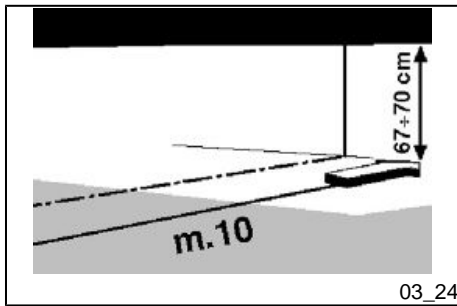
HIGH AND LOW BEAM LIGHT ARE OF THE HALOGEN TYPE: DO NOT TOUCH WITH YOUR FINGERS TO AVOID DAMAGING THEIR FUNCTION.

N.B.

IF MISTING IS NOTICED ON THE INSIDE OF THE HEADLAMP GLASS, THIS DOES NOT INDICATE A FAULT AND IS RELATED TO THE 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 PIAGGIO AFTER-SALES SERVICE NETWORK.

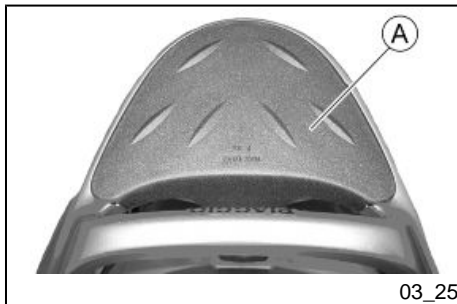


03_24

Headlight adjustment (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_25

Rear optical unit (03_25, 03_26, 03_27, 03_28, 03_29)

To remove the rear light assembly, proceed as follows:

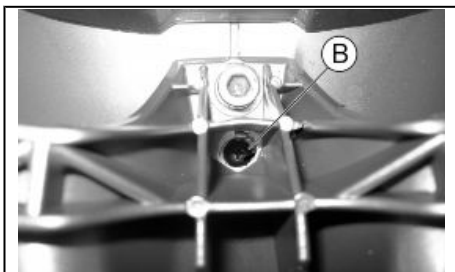
1. Remove the plastic cover "A" from the rear luggage rack, then remove the two lateral screws of the lower part of the luggage rack proper.
2. Remove screw "B"
3. Remove screws "C" and the lateral panels of the side, paying attention not to damage the retaining straps.
4. Remove the two screws "D" of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

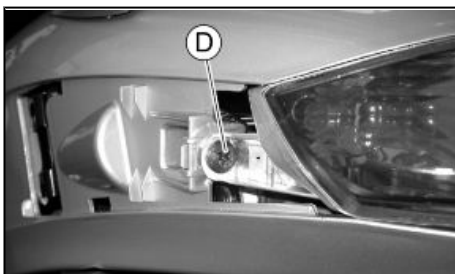
To reassemble, repeat the operation in the reverse order.



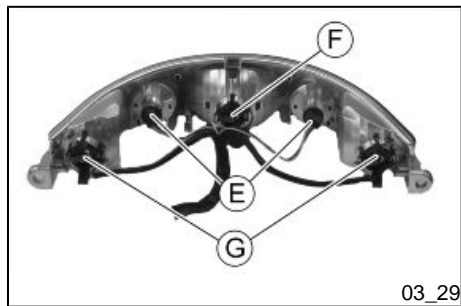
03_26



03_27

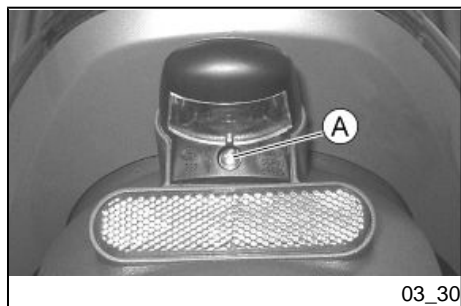


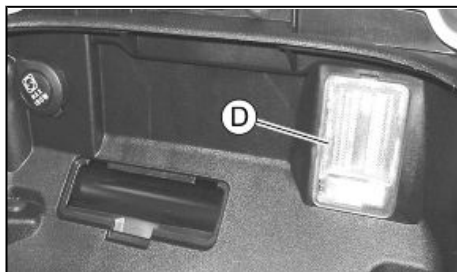
03_28



Number plate light (03_30)

Remove the support by removing screw "A"





03_31

Helmet compartment lighting bulb (03_31)

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

Front and rear disc brake

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



THE BRAKING ACTION 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 BRAKE SYSTEM DURING OPERATION, IT IS ADVISABLE TO HAVE THE BRAKE SYS-

TEM CHECKED BY A PIAGGIO DEALER OR AUTHORISED SERVICE CENTRE. AFTER REPLACING THE BRAKE PADS, DO NOT USE THE SCOOTER BEFORE HAVING USED THE BRAKE LEVER SEVERAL TIMES IN ORDER TO ALLOW THE PISTONS 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 DURATION 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, contrary to the situation with a tyre with inner tube, the tyre deflates more slowly, resulting in a greater steering safety. In the event of a puncture, it is admissible to make an emergency repair 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

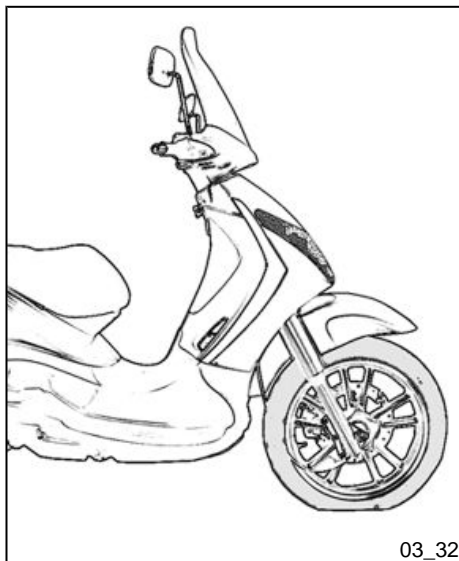


TO USE THE "INFLATE AND REPAIR" SPRAY PROPERLY FOLLOW THE INSTRUCTIONS ON THE PACKAGING.

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.



03_32



03_33

Periods of inactivity (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, fill with $1\div 2$ cm³ of oil (adding more than this quantity is dangerous for the engine). 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 unpainted 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

AGIP CITY HI TEC 4T

Oil to lubricate flexible transmissions (throttle control)

Oil for 4-stroke engines

Cleaning the vehicle

In order to soften the dirt and mud deposited on the painted surfaces, use a low pressure jet of water. Once softened, mud and dirt must be removed with a soft sponge for bodywork soaked in lots of water and "shampoo" (2-4% of car shampoo in water). Then rinse abundantly with water, and dry with a shammy cloth. For the outside of the engine, use petroleum, a brush and clean cloths. Petroleum 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

PER IL LAVAGGIO DEL MOTORE E DEL VEICOLO É SCONSIGLIATO L'UTILIZZO DELL'IDROPULITRICE; NEL CASO CHE NON SIA POSSIBILE EFFETTUARE TALE OPERAZIONE IN UN ALTRO MODO, É NECESSARIO:

- **USARE SOLAMENTE IL GETTO A VENTAGLIO.**
- **NON AVVICINARE LA LANCIA A MENO DI 2 FT (60 CM).**
- **NON USARE ACQUA A TEMPERATURE SUPERIORI A 100° F (40°C).**
- **NON UTILIZZARE IL GETTO AD ALTA PRESSIONE.**
- **NON UTILIZZARE IL LAVAGGIO A VAPORE.**
- **NON INDIRIZZARE IL GETTO DIRETTAMENTE VERSO: IL MOTORE, I CABLAGGI ELETTRICI, LE FERITOIE DI RAFFREDDAMENTO DEL COPERCHIO TRASMISSIONE E DEL COPERCHIO CHIOCCIOLA.**

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 THE 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 PROBLEM

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
-------------------	---------------------------------

Cylinder head loose, piston gas rings worn.	Contact an Authorised Service Centre .
Valve stuck	Contact an Authorised Service Centre .

HIGH CONSUMPTION AND LOW PERFORMANCE

Air filter blocked or dirty.	Clean with water and shampoo and impregnate with petrol and specific oil (section «Removing the air filter»)
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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 SUSPENSIONS

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

IRREGULAR AUTOMATIC TRANSMISSION

Variator rollers and/or driving 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
Technical data**



04_01

ENGINE TECHNICAL DATA

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

Cubic 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 muffler	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.
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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
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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 activated by the handlebar left-side lever.
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Front wheel	16"x3.00" front alloy rim
-------------	---------------------------

Rear wheel	14"x4.50" alloy rim
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Front tyre	Pirelli 110/70 16" GTS 23 M/C - 52S TUBELESS
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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 sheet steel.
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

Kit equipment

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
Spare parts 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, IN ORDER TO CHOOSE AND MOUNT THE ACCESSORIES CORRECTLY, TO CONTACT AN AUTHORISED DEALER OR SERVICE CENTRE. 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 SHOULD BE 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 REDUCED FURTHER.

WARNING

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

MAINLY NEAR THE BRAKE PIPES, TRANSMISSIONS AND/OR ELECTRIC CABLES, AN INCORRECT INSTALLATION OR REMOVAL OF THE ANTI-THEFT 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
Programmed
maintenance**

Scheduled maintenance table

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

To this end, a series of checks and maintenance operations (at the owner's expense) have been suggested, which are included in the summary table 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 times, even if the stated mileage has not yet been reached. Carrying out scheduled services on time is necessary to ensure your warranty remains valid. For any further information concerning Warranty procedures and "Scheduled Maintenance", please refer to the "Warranty Booklet".

EVERY 2 YEARS

Coolant - change

Brake fluid - change

AFTER 1,000 KM

Safety locks - check

Throttle lever - adjustment

Engine oil - change

Electrical system and battery - check

Coolant level - check

Brake fluid level - check

Engine oil - replacement

Brake pads - check condition and wear

Tyre pressure and wear - check

Vehicle and brake test - road test

Hub oil - change

Steering - Check

**AFTER 5,000 KM; 25,000 KM; 35,000 KM; 55,000 KM;
65,000 KM**

Engine oil - level check/ top-up

Brake pads - check condition and wear

Centre stand - lubrication

AFTER 10,000 KM; 50,000 KM; 70,000 KM

Safety locks - check

Driving belt - replacement

Throttle lever - adjustment

Air filter - clean

Engine oil - change

Electrical system and battery - check

Coolant level - check

Brake fluid level - check

Engine oil - replacement

Brake pads - check condition and wear

Sliding block / variable speed rollers - change

Tyre pressure and wear - check

Vehicle and brake test - road test

Hub oil - check

Suspensions - check

Steering - Check

Centre stand - lubrication

Spark plugs - replacement

AFTER 15,000 KM; 45,000 KM; 75,000 KM

Engine oil - level check/ top-up

Brake pads - check condition and wear

Centre stand - lubrication

**AFTER 20,000 KM; 40,000 KM; 60,000 KM AND 80,000
KM**

Spark plugs - replacement
Driving belt - replacement
Throttle lever - adjustment
Air filter - check
Engine oil - change
Valve clearance - check
Electrical system and battery - check
Coolant level - check
Engine oil - replacement
Brake pads - check condition and wear
Sliding block / variable speed rollers - change
Tyre pressure and wear - check
Vehicle and brake test - road test
Hub oil - change
Suspensions - check
Steering - Check
Centre stand - lubrication
Brake fluid level - check

30,000 KM

Safety locks - check

Driving Belt - replacement

Throttle lever - adjustment

Air filter - cleaning

Engine oil - change

Electrical system and battery - check

Coolant level - check

Brake fluid level - check

Engine oil - replacement

Hub oil - check

Brake pads - check condition and wear

Sliding block / variable speed rollers - change

Tyre pressure and wear - check

Vehicle and brake test - road test

Suspensions - check

Steering - Check

Centre stand - lubrication

Spark plugs - replacement

RECOMMENDED PRODUCTS TABLE

Product	Description	Specifications
AGIP ROTRA 80W-90	Rear hub oil	SAE 80W/90 Oil that exceeds the requirements of API GL3 specifications
AGIP CITY HI TEC 4T	Oil to lubricate flexible transmissions (throttle control)	Oil for 4-stroke engines
AGIP FILTER OIL	Oil for air filter sponge	Mineral oil with specific additives for increased adhesiveness
AGIP GP 330	Grease for brake levers, throttle	White calcium complex soap-based spray grease with NLGI 2; ISO-L-XBCIB2
AGIP CITY HI TEC 4T	Engine oil	SAE 5W-40, API SL, ACEA A3, JASO MA Synthetic oil
AGIP BRAKE 4	Brake fluid	FMVSS DOT 4 Synthetic fluid
AGIP PERMANENT SPEZIAL	coolant	Monoethylene glycol-based antifreeze fluid, CUNA NC 956-16

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