

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 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 Cruiser 500ie



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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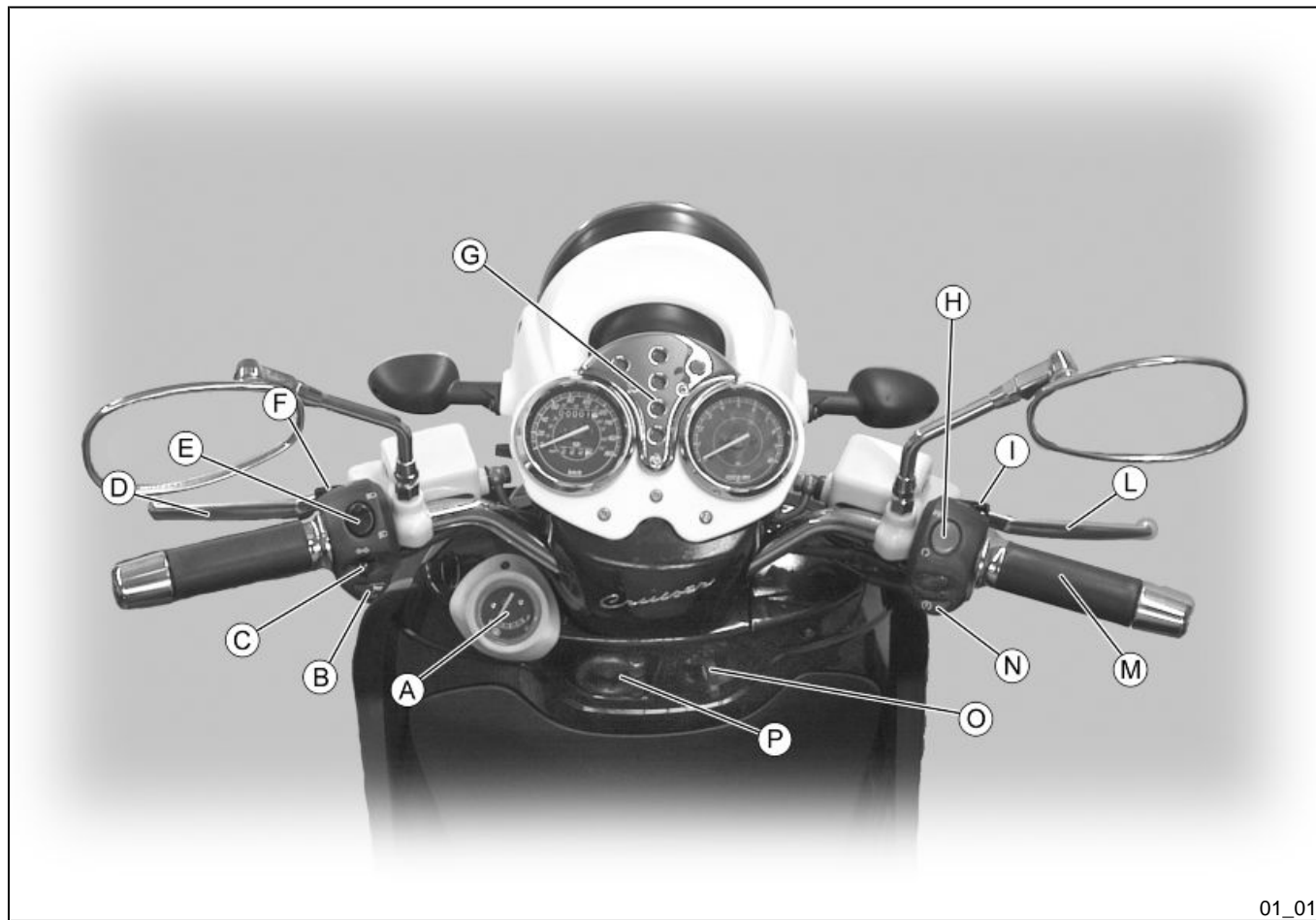
BEVERLY Cruiser 500ie



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**Chap. 01
Vehicle**



Dashboard (01_01)

A = Fuel gauge

B = Horn button

C = Turn indicator switch

D = Rear brake lever

E = Light switch

F = PASSING button

G = Instrument panel

H = Engine stop switch

I = Saddle electric opening switch

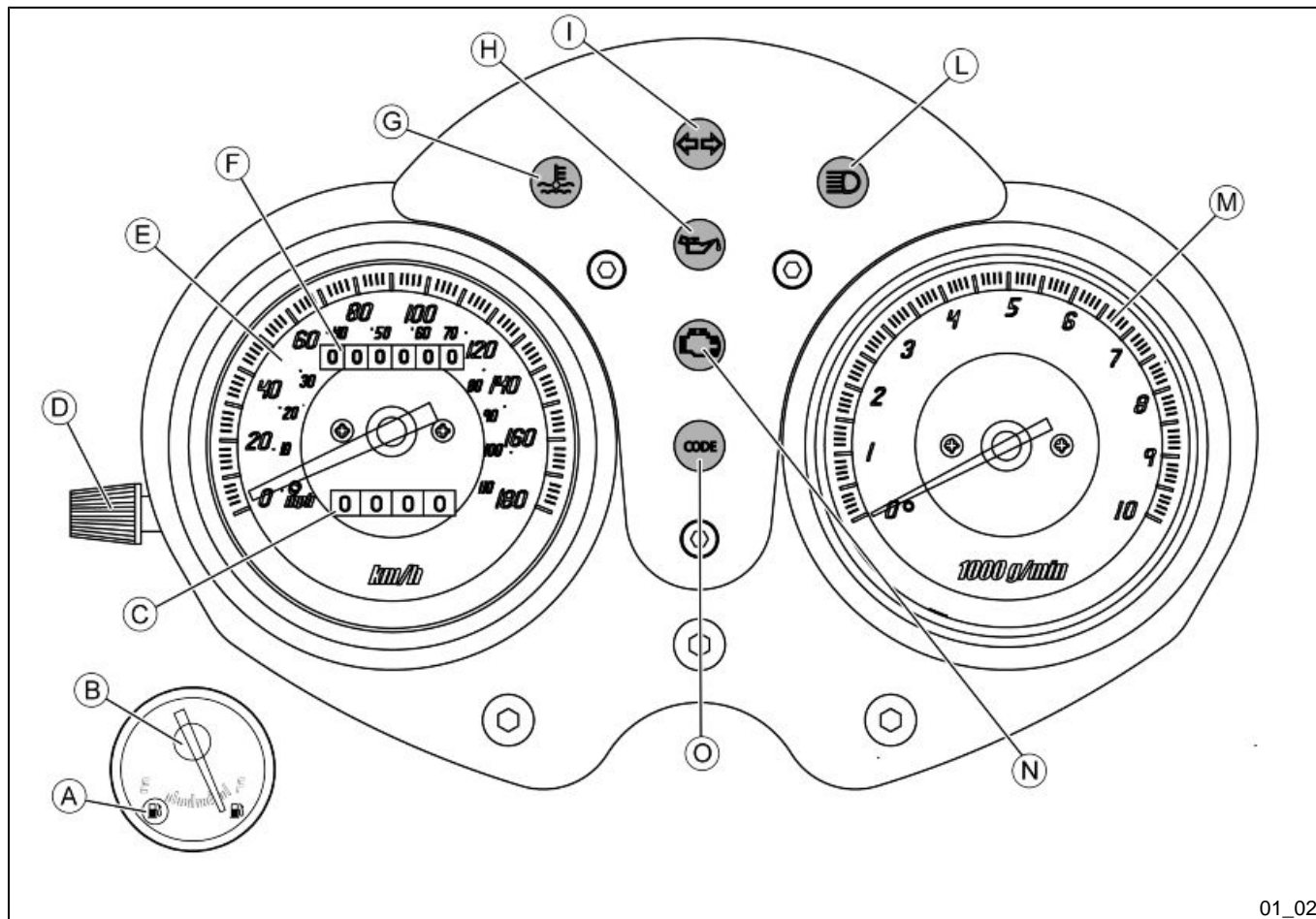
L = Front brake lever

M = Throttle grip

N = Starter button

O = Ignition key switch

P = Bag hook



Analogue instrument panel (01_02)

- A** = Low fuel warning light
- B** = Fuel gauge
- C** = Trip odometer
- D** = Trip odometer reset
- E** = Speedometer
- F** = Total Odometer
- G** = Water temperature warning light
- H** = Oil pressure warning light
- I** = Turn indicator warning light
- L** = High-beam warning light
- M** = Rpm indicator
- N** = Injection telltale light
- O** = Immobilizer LED

Key switch (01_03)

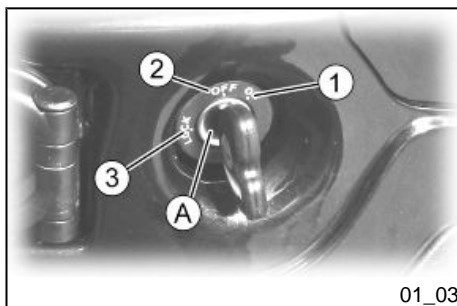
The key switch «A» is located on the front knee-guard panel near the bag hook.

SWITCH POSITIONS

ON «1»: Ready to start position, non-extractable key, mechanical antitheft device disabled.

OFF «2»: Ignition disabled, extractable key, mechanical antitheft device disabled.

LOCK «3»: Ignition disabled, extractable key, mechanical antitheft device enabled.



01_03

When shifting from "OFF" to "ON", the water temperature warning light "G" and the injection warning light "N" come on for 3-4 seconds signalling that the fault indication warning light works properly.

Locking the steering wheel

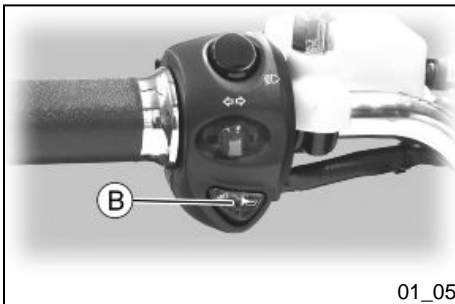
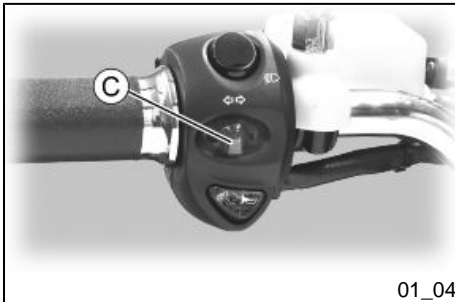
Turn the handlebar to the left as far as it will go, turn the key to position «LOCK» and remove the key.

Releasing the steering wheel

Reinsert the key and turn it to «OFF».

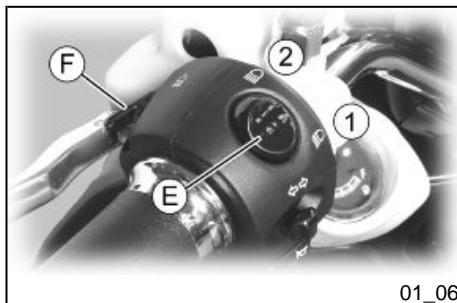
Switch direction indicators (01_04)

Move the switch «C» to the left to indicate a left turn; Move the switch «C» to the right to indicate a right turn; Press the central part of the switch «C» to deactivate the turn indicators.



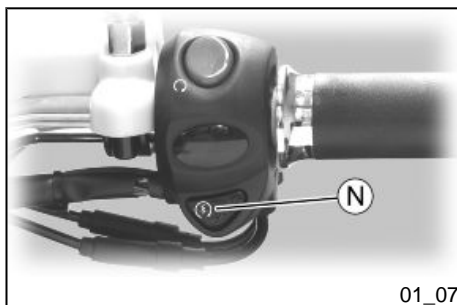
Horn button (01_05)

Push the button «B» to sound the horn.



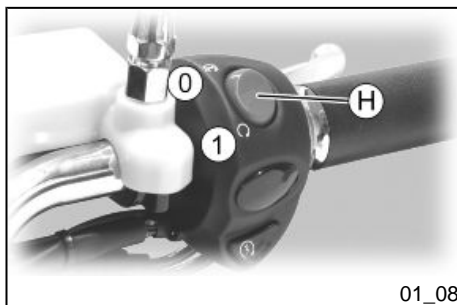
Light switch (01_06)

When the light switch «E» is set to «1», the low-beam light is on. When set to «2», the high-beam light is activated. Push the button «F» and the high-beam light is flashed.



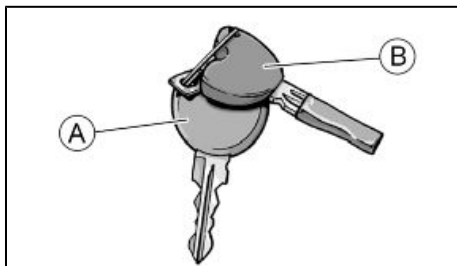
Start-up button (01_07)

To start the engine, pull either brake lever and press the button «N».



Engine stop button (01_08)

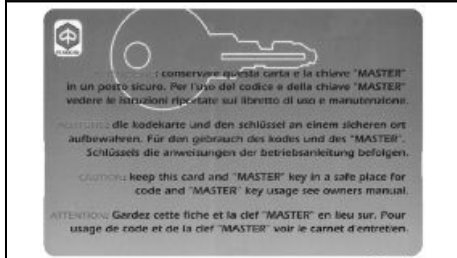
The engine can be started when the emergency cut-off switch «H» is set to «1» **RUN**; if the emergency cut-off switch «H» is set to «0» **OFF**, the engine cannot be started or it shuts off if already running.



01_09



01_10



01_11

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_09, 01_10, 01_11)

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

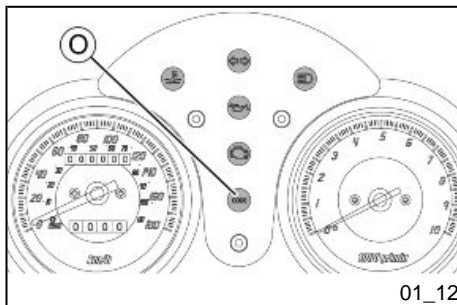


LOSING THE RED KEY PREVENTS ANY REPAIRS OF THE "PIAGGIO IMMOBILIZER" SYSTEM AND THE ENGINE CONTROL UNIT.

WARNING



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



Immobilizerdevice enabled indicator led (01_12)

Activation of the «PIAGGIO IMMOBILIZER» system is signalled by a flashing «O» warning light.

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 provide the **Authorised Service Centre** with information on the type of fault detected.

Operation

Every time the starter key is extracted from either the «OFF» or «LOCK» position, the protection system activates the engine lock. Turning the key to «ON», with the emergency cut-off switch set to «ON» and the side stand up, 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 Service Centre**, which is provided with the electronic equipment required to detect and repair the system. The immobilizer is also activated when the emergency cut-off switch stops the engine or the side stand is lowered. This happens even if the starter key is in «ON». When supplementary keys are required, remember that the programming (up to a maximum of three keys) must be performed on all the keys whether they are new or already in your possession. Take the red-handgrip key and all the black keys supplied to an **Authorised 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

The procedure for programming the «**PIAGGIO IMMOBILIZER**» system and/or for storing other key codes is described below.

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 7 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

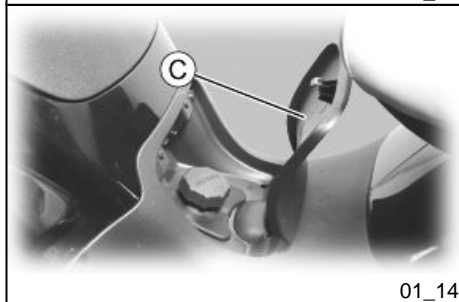
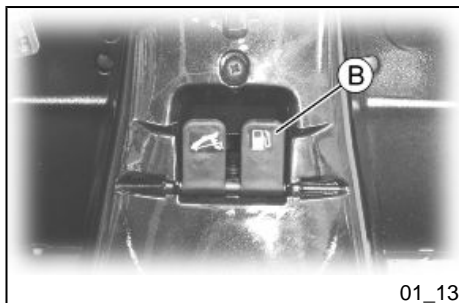
Insert the red key disabling the transponder (i.e., tilt the key cap by 90°) and turn the key to "**ON**". Perform the engine start-up operation. Ensure that the engine does not start. Insert the black key and repeat the start-up operation. Check that engine starts.

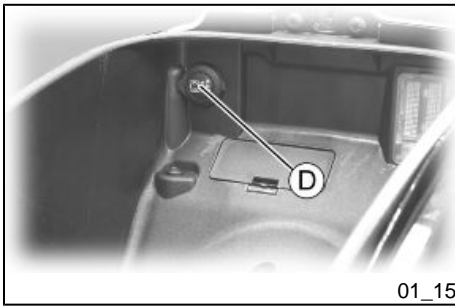
WARNING

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_13, 01_14)

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_15

Power supply socket (01_15)

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

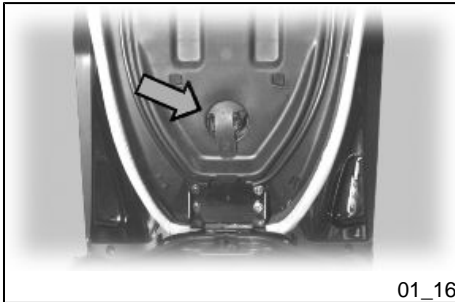


PROLONGED USE OF THE PLUG SOCKET MAY RESULT IN PARTIAL DISCHARGE OF THE BATTERY

Electric characteristic

Plug socket

12 V - 180 W MAX



01_16

The saddle (01_16, 01_17)

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.

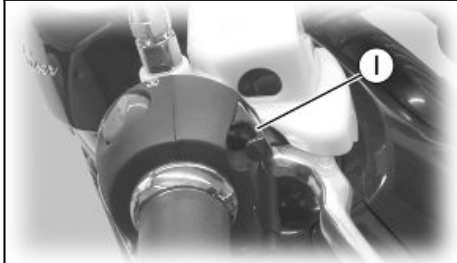
Opening the saddle (01_18, 01_19)

With the key set to «OFF» or «ON», or with engine on, the saddle can be opened by means of an electrical device by pressing button «I». If the electric opening does not

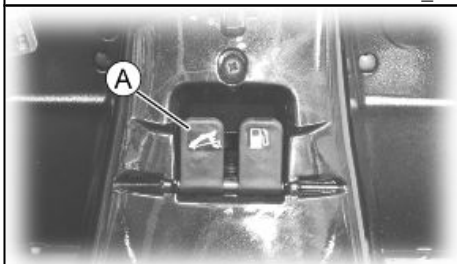
work, use the emergency lever "A". When the key is set to «**LOCK**» the saddle cannot be opened.



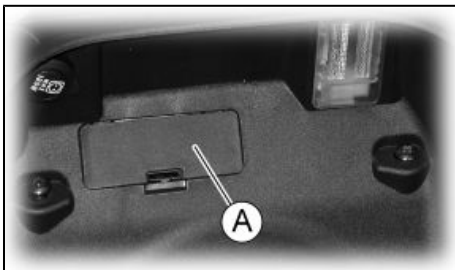
01_17



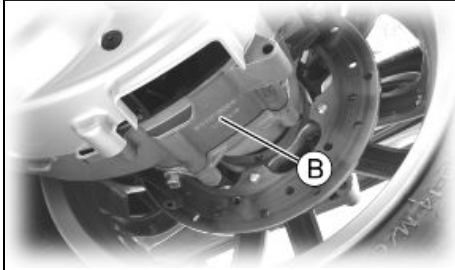
01_18



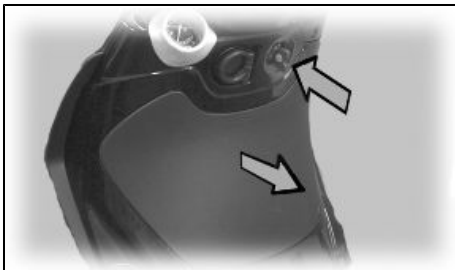
01_19



01_20



01_21



01_22

Identification (01_20, 01_21)

Identification registration numbers are made up of a prefix and a number stamped on the chassis and on the engine. These numbers must always be quoted when ordering spare parts. We recommend checking that the chassis registration number stamped on the vehicle corresponds with that on the vehicle documentation.

CAUTION



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

Chassis number

To read the chassis number, remove the lid «A» in the helmet compartment.

Engine number

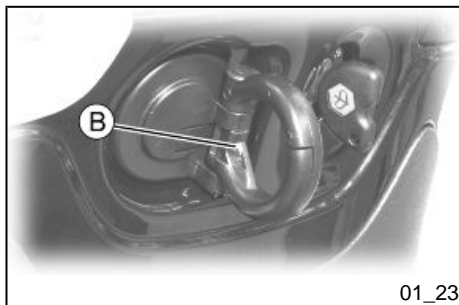
The engine number «B» is stamped near the rear left shock absorber lower support.

Rear top box opening (01_22)

Insert the key into the switch and press down until the glove compartment opens. In the event that the switch is in «LOCK», turn the key to «OFF» or «ON» before pressing it.

Bag clip (01_23)

To use the retractile bag hook «**B**» mounted on the knee-guard panel, pull it slightly towards the back part of the vehicle.



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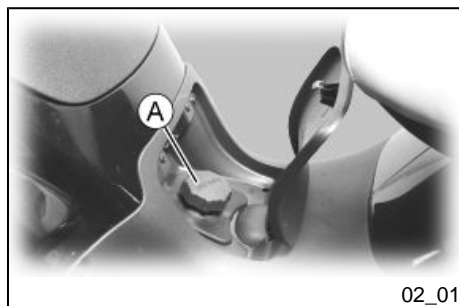


**Chap. 02
Use**

Checks

Before using the vehicle, check:

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



Refuelling (02_01)

Reach the fuel tank and unscrew the cap «A».

Use premium unleaded petrol, with minimum octane rating of 95.

A specific gauge on the instrument panel indicates the fuel level.

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.

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 (reserve)**

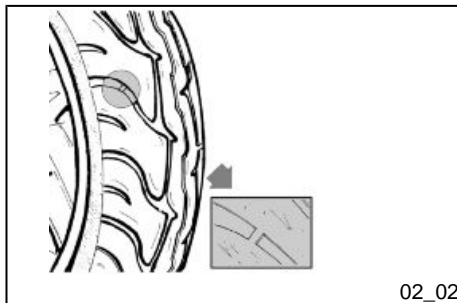
~ 13.2 l (~3 l)

Tyre pressure (02_02)

Check the tyre pressure and wear periodically (roughly every 500 km).

The tyres are equipped with wear indicators, according to which the tyres should be changed before these indicators come to the surface of the tread.

Also check that the tyres do not show signs of splitting at the side or irregular tread wear; if this occurs, go to an authorised workshop or at least to a workshop equipped to perform the 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.

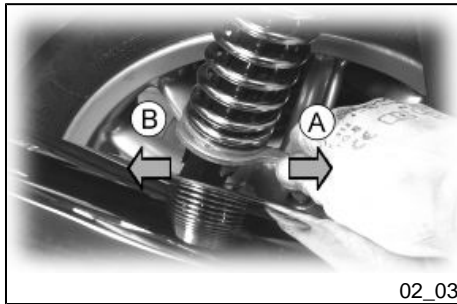
Characteristic

Front tyre pressure (with passenger)

2.2 bar (-)

Rear tyre pressure (with passenger)

2.2 bar (2.3 bar)



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.

Position 1: minimum preload: driver only

Position 2: medium preloading: driver only

Position 3: medium preloading: rider and passenger

Position 4: maximum preloading: driver, passenger, and luggage.

In order to carry out this operation you will need to use the specific spanner in the kit. Spring preloading increases by turning the ring nut towards «**A**», but decreases if the ring nut is turned towards «**B**».

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

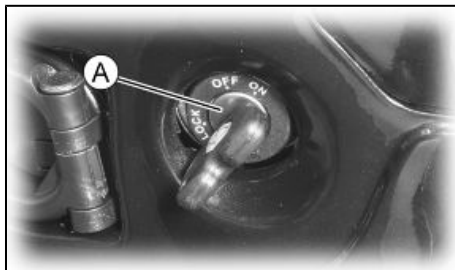
WE RECOMMEND WEARING GLOVES WHILE CARRYING OUT THIS OPERATION IN ORDER TO AVOID INJURIES.

WARNING

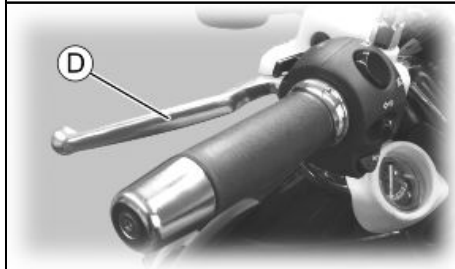
WE STRONGLY RECOMMEND NOT TO ADJUST BOTH SHOCK ABSORBERS WITH DIFFERENT PRELOADING

Running in**WARNING**

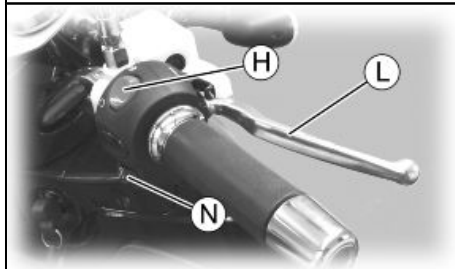
DURING THE FIRST 1000 KM DO NOT RIDE THE VEHICLE OVER 80% OF ITS MAXIMUM SPEED. AVOID TWISTING THE THROTTLE GRIP FULLY OR KEEPING A CONSTANT SPEED ALONG LONG SECTIONS OF ROAD. AFTER THE FIRST 1000 KM, GRADUALLY INCREASE SPEED UNTIL REACHING THE MAXIMUM PERFORMANCE.



02_04



02_05



02_06

Starting up the engine (02_04, 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.

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 «H» is set to «RUN» and the side stand is up and not engaged.
5. Pull either the front, «L», or rear, «D», break lever and then press the starter button «N».

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



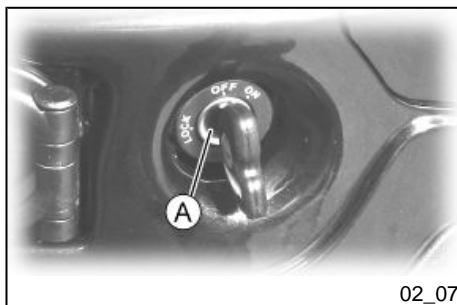
DO NOT START-UP THE ENGINE IN CLOSED AREAS BECAUSE EXHAUST GASES ARE TOXIC.

Difficult start up

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_07)

Fully untwist the throttle grip, then rotate the key in the switch «A » to «KEY OFF» (extractable key).



02_07

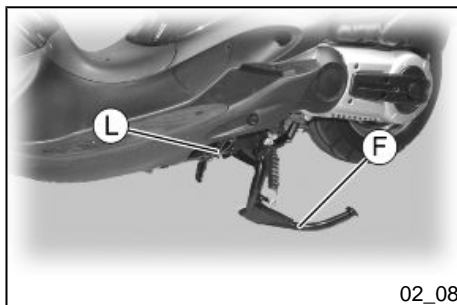
Stand (02_08)

Centre stand

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

Side stand

Push with your foot on the stand's prong «L» until it releases into position, while lowering the vehicle onto the stand.



02_08

WARNING

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

WARNING

TAMPERING MAY CAUSE SERIOUS ENGINE MALFUNCTION.

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. UNBURNED FUEL COULD ENTER THE CATALYTIC CONVERTER AND BURN, CAUSING IT TO OVERHEAT AND POSSIBLY DESTROYING IT.

Automatic transmission

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.

Safe driving

Some simple tips are provided below that will enable you to use your scooter on a daily basis in greater safety and peace of mind. Your skill and your mechanical knowledge are the basis of a safe ride. 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 ride with care.
3. After riding on a long stretch of wet road without using the brakes, the braking effect is initially lower. 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 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. If riding over roads affected by sand, mud, snow mixed with salt, etc. We advise you to frequently clean the brake disc with a mild detergent to prevent the accumula-

tion of abrasive elements inside the eyelets leading to premature wear on the brake pads.

CAUTION



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

CAUTION



IN ORDER TO PREVENT ANY ACCIDENTS RIDE VERY CAREFULLY WHEN ADDING ACCESSORIES AND CARRYING LUGGAGE. THE ADDITION OF ACCESSORIES AND BAGGAGE CAN REDUCE THE STABILITY AND PERFORMANCE OF THE SCOOTER, AS WELL AS DECREASE THE LEVEL OF SAFETY DURING ITS USE. NEVER RIDE THE SCOOTER WITH ADDED ACCESSORIES FASTER THAN 130 km/h. WITHOUT THESE ACCESSORIES THE VEHICLE MAY BE DRIVEN AT A HIGHER SPEED WITHIN THE LEGAL LIMITS. IF THERE SHOULD BE NON-PIAGGO 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.

CAUTION



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

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.

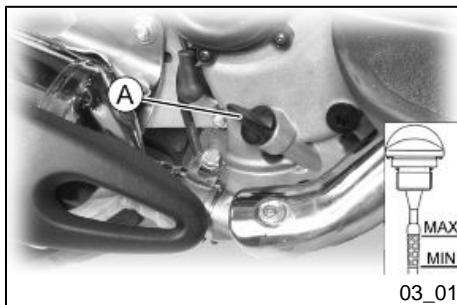
BEVERLY Cruiser 500ie



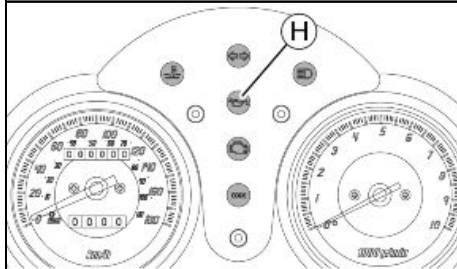
PIAGGIO®



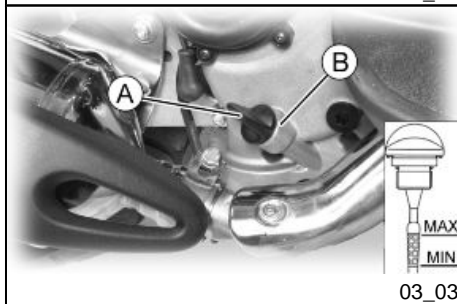
**Chap. 03
Maintenance**



03_01



03_02



03_03

Engine oil level

In 4-stroke engines, engine oil is used to lubricate the distribution elements, the bushes 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). The replacement frequencies provided for by the maintenance programme are defined, depending on the total contents of oil in the engine and average consumption measured following standardised methods.

In order to prevent any problems, we recommend checking oil level more frequently than indicated in the Scheduled Maintenance table or before setting off on long journeys. The scooter is, however, equipped with an oil pressure warning light on the instrument panel.

Engine oil level check (03_01)

Every time the scooter is used, a visual check should be made on the level of the engine oil when the engine is cold. The oil level should be somewhere between the **MAX** and **MIN** index marks on the level bar; the check must be made with the scooter upright, resting on the centre stand and on a flat surface.

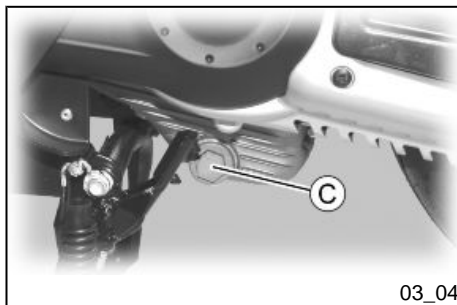
If the check is carried out after the vehicle has been used, and therefore with a hot engine, the level line will be lower; in order to carry out a correct check it is necessary to wait at least 10 minutes after the engine has been stopped, so as to get the correct level.

Engine oil top-up

Always check oil level before topping-up and add oil **without exceeding the MAX level**. Getting an oil level between the **MIN** and **MAX** levels requires ~ 400 cm³ of oil. Take your vehicle to an **Authorised Service Centre** to have the engine oil checked and if necessary, topped-up as indicated in the scheduled maintenance table.

Warning light (insufficient oil pressure) (03_02)

The scooter is equipped with a warning light «H» that lights up when the key is turned to «ON».



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.

Engine oil change (03_03, 03_04)

The oil and the filter must be changed as indicated in the scheduled maintenance table at an **Authorised Service Centre**. The engine should be emptied by draining the oil through the drainage plug «**C**» of the mesh filter on the transmission side. In order to facilitate oil drainage, loosen the cap/dipstick «**A**». Since a certain quantity of oil still remains in the circuit, engine oil must be poured in through plug «**B**». 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.

WARNING



EXCESSIVE OIL LEVEL AT TOP-UPS CAN LEAD TO SCALE FORMATION AND VEHICLE MALFUNCTIONING.

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**

Engine oil

SAE 5W-40, API SL, ACEA A3, JASO MA Synthetic oil

Characteristic**Engine oil (at oil and filter change)**

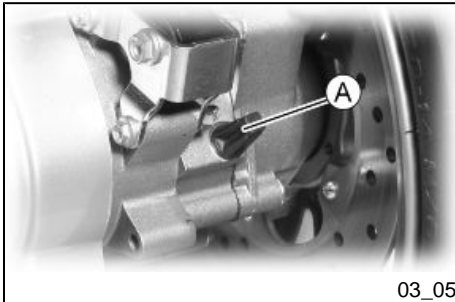
1.7 l

Hub oil level (03_05, 03_06)

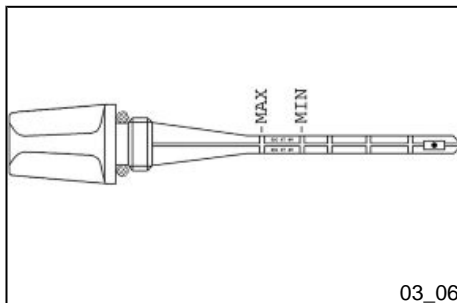
Check the oil in the rear hub.

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.



03_05



03_06

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 CURRENT REGULATIONS.

CAUTION



AN EXCESSIVE QUANTITY OF OIL CAN LEAD TO LEAKAGE, 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**Transmission oil**

250 cm³

**Tyres (03_07)**

Check tyre pressure and wear periodically as indicated in the scheduled maintenance table. Tyres feature wear indicators; replace tyres as soon as these indicators become visible on the tyre tread. Also check that the tyres do not show signs of splitting at the side or irregular tread wear; if this occurs, go to an authorised workshop or at least to a workshop equipped to perform the 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 (with passenger)

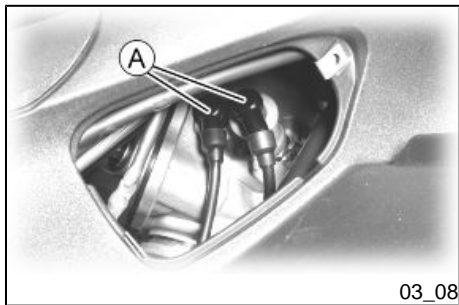
2.2 bar (-)

Rear tyre pressure (with passenger)

2.2 bar (2.3 bar)

TYRES

Front tyre	Pirelli 110/70 16" GTS 23 M/C - 52S TUBELESS
Rear tyre	Pirelli 150/70 14" GTS 24 M/C - 66S TUBELESS



Spark plug dismantlement (03_08)

This engine has two spark plugs. To remove them, proceed as follows:

1. Remove the access cover over the spark plugs on the left-hand side of the scooter and reach into the spark plugs with your hand;
2. Disconnect the caps «A» of the spark plug HV wire;
3. Unscrew the spark plugs using the spark plug wrench supplied;
4. When refitting, place the spark plugs 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 caps «A» fully over the spark plugs

CAUTION



SPARK PLUGS MUST BE REMOVED WHEN THE ENGINE IS COLD. SPARK PLUGS MAINTENANCE OPERATIONS ARE DESCRIBED IN THE SCHEDULED MAINTENANCE TABLE. USING NON-CONFORMING ELECTRONIC CENTRAL UNITS AND 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

Electrode gap

0.7 ÷ 0.9 mm

Removing the air filter (03_09)

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 CONTROLS OF THE AIR FILTER TO AVOID DAMAGING THE ENGINE.

CAUTION



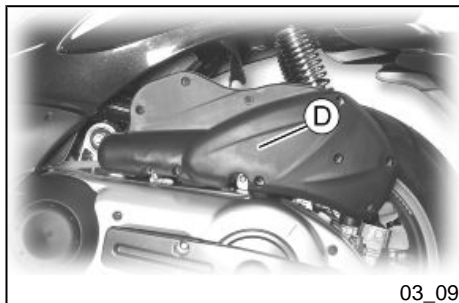
IN ORDER NOT TO DAMAGE THE VEHICLE PLASTIC COVERS CONTACT AN AUTHORISED SERVICE CENTRE TO HAVE THE AIR FILTER CLEANED.

Recommended products

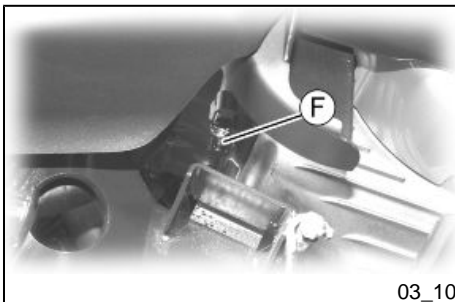
AGIP FILTER OIL

Oil for air filter sponge

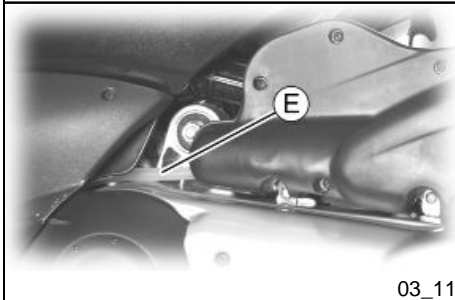
Mineral oil with specific additives for increased adhesiveness



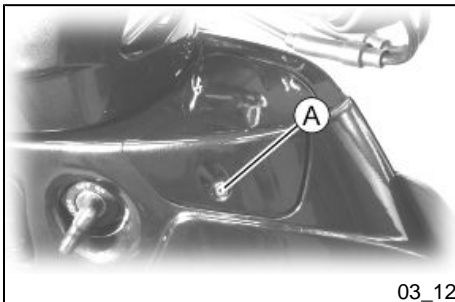
03_09



03_10



03_11



03_12

Air filter cleaning (03_10, 03_11)

Periodically check the exhaust blow-by and condensate pipe in area "E" and empty it into a suitable container.

Position the scooter on the centre stand and remove cover "F", without removing any other components, working from underneath the scooter and noting that it is located behind the shoulder of the transmission air intake.

Collect the old oil in a suitable container and do not dispose of it in the environment. Carry out the operation on the cold engine in order to avoid burns caused by coming into contact with 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.

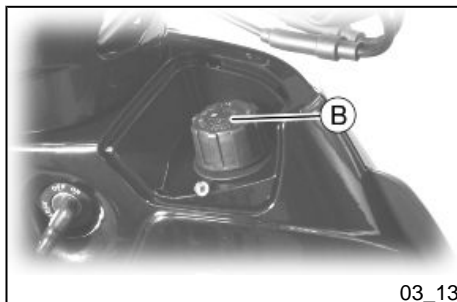
Cooling fluid level (03_12, 03_13, 03_14)

Engine cooling is carried out by a forced-circulation coolant system. The cooling circuit holds approx. 1.7 litres of coolant consisting of a mixture of 50% de-ionised water and 50% glycol ethylene-based antifreeze solution with corrosion inhibitors.

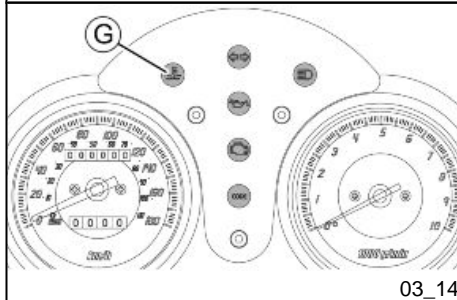
The liquid supplied with the scooter is already mixed and ready for use.

For proper functioning of the engine, ensure that the temperature of the coolant is not too high. If the warning light «G» placed in the instrument panel lights up, stop the engine, cool it down and check the coolant level; if the level is OK, contact an **Au-
thorised Service Centre**.

Check coolant when the engine is cold as indicated in the scheduled maintenance table, following the steps below.



03_13



03_14

- a) Place the scooter in a vertical position on the stand.
- b) Unscrew the fixing screw «A» and remove the cover.
- c) Remove the expansion tank cover "B", turning in anticlockwise direction.
- d) Look inside the expansion tank; a scale in the plastic indicates the maximum and minimum level of the coolant.
- e) Top up the cooling fluid if the fluid level is below the minimum level margin 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 essential to have the cooling system checked at an **Authorised Service Centre**.

Replace coolant as indicated in the scheduled maintenance table.

Take your vehicle to an **Authorised Service Centre** for this operation.

CAUTION



THE RECOMMENDED COOLANT MUST BE USED FOR TOP-UPS TO AVOID DAMAGING THE ENGINE.

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

IN ORDER TO AVOID BURNS, DO NOT UNSCREW THE EXPANSION TANK CAP 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**SPECIAL AGIP PERMANENT fluid***coolant*

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

**Checking the brake oil level (03_15)**

The front and rear brake fluid reservoirs are both positioned on the handlebars. Proceed as follows:

1. Rest the scooter on its centre-stand with the handlebars perfectly horizontal;
2. Check fluid level through the related warning light «A».

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 an **Authorised Service Centre or Dealer** in order to have a thorough inspection of the braking system carried out.

Braking system fluid top up (03_16, 03_17)

Instructions refer to one braking system only, but they are valid for both.

Remove the rear-view mirror undoing the nut «**A**» and remove the plastic cover «**B**». Unscrew the two screws «**C**», remove the fuel tank cap and the intermediate rubber membrane, and top-up the brake fluid level only with the recommend brake fluid type and without exceeding the maximum level.

Under standard climatic conditions, replace coolant as indicated in the scheduled maintenance table. This operation must be carried out by trained technicians; take your scooter to an **authorised Service Centre or Dealer**.

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



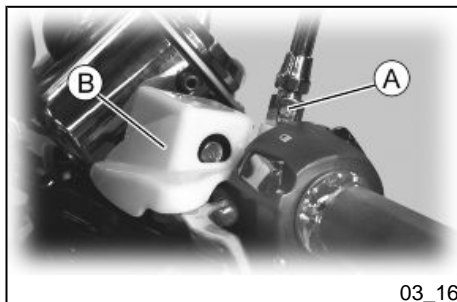
AVOID CONTACT OF BRAKE FLUID WITH EYES, SKIN, AND CLOTHING. IN CASE OF CONTACT, RINSE WITH WATER. THE BRAKING CIRCUIT FLUID IS HYGROSCOPIC, THAT IS, IT ABSORBS HUMIDITY FROM THE SURROUNDING AIR. IF THE HUMIDITY IN THE BRAKING FLUID EXCEEDS A CERTAIN VALUE, IT WILL LEAD TO INEFFICIENT BRAKING. NEVER USE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

Recommended products

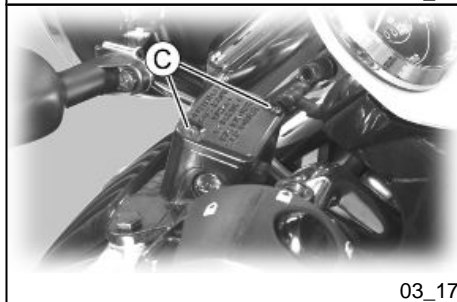
AGIP BRAKE 4

Brake fluid

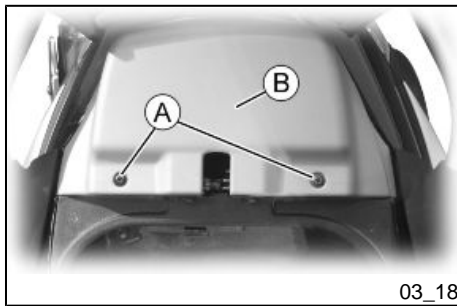
FMVSS DOT 4 Synthetic fluid



03_16



03_17



Battery (03_18)

To access the battery, proceed as follows:

1. rest the scooter on its centre stand.
2. open the saddle
3. Remove retainer "A" and cover "B".
4. release the battery retaining ring.

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.

Characteristic

Battery

SEALED 12V / 12Ah BATTERY

Use of a new battery

Position the battery in its housing and connect the positive lead «+» first and then the negative one «-». Check the voltage

CAUTION



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

Long periods of inactivity (03_19)

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:

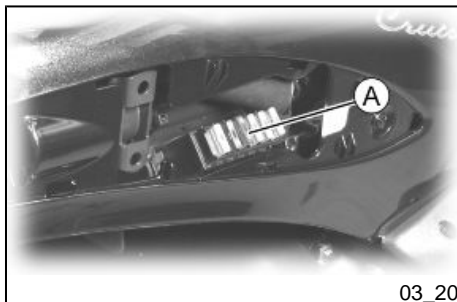
- **At least once a month** start the engine and run it slightly above idle speed for 10-15 minutes. This keeps all the engine components, as well as the battery, in good working order.

- 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**.

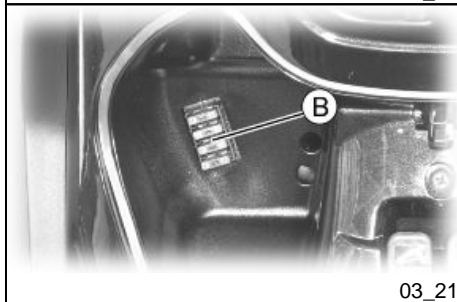
CAUTION

THE BATTERY MUST BE CHARGED WITH A CURRENT EQUAL TO 1/10 OF THE RATED CAPACITY OF THE BATTERY AND FOR NOT LONGER THAN 10 HOURS.





03_20



03_21

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.

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

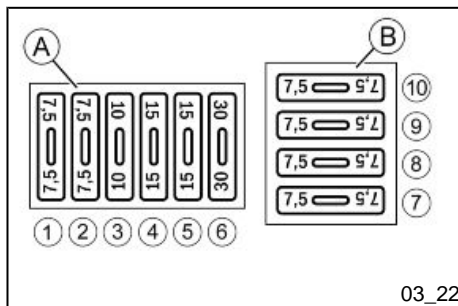


BEFORE REPLACING THE BLOWN FUSE, FIND AND SOLVE THE FAILURE THAT CAUSED IT TO BLOW. NEVER TRY TO REPLACE THE FUSE WITH ANY OTHER MATERIAL (E.G., A PIECE OF ELECTRIC WIRE).

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

Fuse No. 1

Capacity:7.5 A

Protected circuits:Injection electronic control unit

Fuse No. 2

Capacity:7.5 A

Protected circuits:Turn signal control device, immobilizer.

Fuse No. 3

Capacity:10 A

Protected circuits:Injection loads.

Fuse No. 4

Capacity:15A

Protected circuits:Saddle opening, 12V-180W socket, helmet compartment lighting, electrical fan, antitheft device.

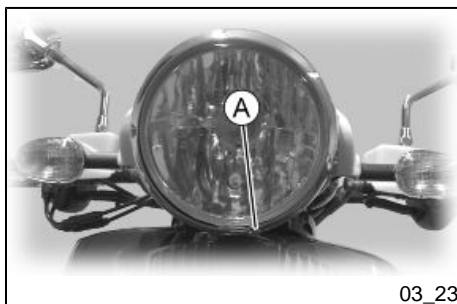
Fuse No. 5	Capacity: 15A Protected circuits: High-beam light, low-beam light.
Fuse No. 6	Capacity: 30 A Protected circuits: Battery recharge circuit, protected circuits by fuses 7; 8; 9 and 10.
Fuse No. 7	Capacity: 7.5 A Protected circuits: Turn indicators, wiring for antitheft device, instrument panel, fuel gauge.
Fuse No. 8	Capacity: 7.5 A Protected circuits: Injection load remote control, electrical fan remote control, immobilizer, injection ECU.
Fuse No. 9	Capacity: 7.5 A Protected circuits: Instrument panel lightning, horn, tail lights, license plate light.
Fuse No. 10	Capacity: 7.5 A Protected circuits: High-beam light remote control, low-beam light remote control, star-tup circuit, stop light.

LIST OF BULBS

High-/low-beam bulb	<p>Type: Halogen (H4)</p> <p>Quantity: 1</p> <p>Power: 12V - 55/60W</p>
Front tail light bulb	<p>Type: All glass</p> <p>Quantity: 1</p> <p>Power: 12V - 5W</p>
Turn indicator bulbs	<p>Type: Spherical</p> <p>Quantity: 4</p> <p>Power: 12V - 10W</p>
Rear tail light bulb	<p>Type: All glass</p> <p>Quantity: 2</p> <p>Power: 12V - 3W</p>
Stop light bulb	<p>Type: Spherical</p> <p>Quantity: 1</p> <p>Power: 12V - 10W</p>
Instrument panel lighting bulb	<p>Type: All glass</p> <p>Quantity: 4 for instrument panel; 1 for fuel gauge</p> <p>Power: 12V - 1.2W</p>

Helmet compartment lighting bulb **Type:** Cylindrical
Quantity: 1
Power: 12V - 5W

License plate light bulb **Type:** All glass
Quantity: 1
Power: 12V - 5W

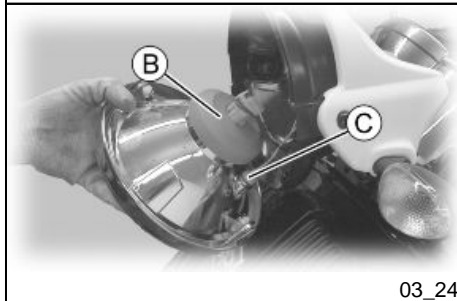


Front light group (03_23, 03_24)

To access the bulbs, undo the screw «A» and remove the headlight assembly collecting the shim washer and the washer.

To replace the high-/low-beam headlight bulb «B», detach the connector, remove the rubber protection, release the retaining clip and take out the bulb.

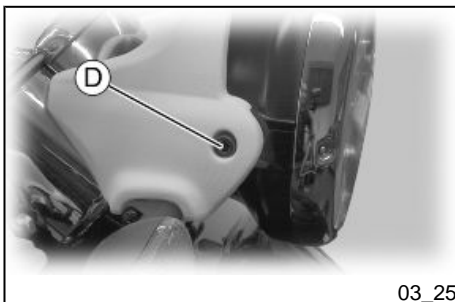
To replace the tail light bulb «C», take out the rubber bulb holder and slide off the bulb.



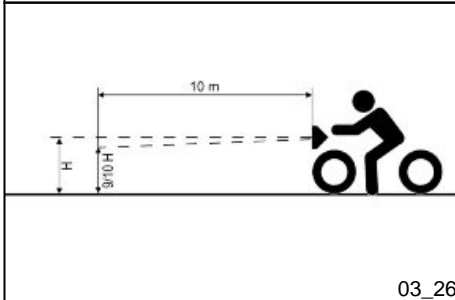
Headlight adjustment (03_25, 03_26)

In order to carry out the vertical adjustment of the light beam:

1. Place the vehicle, in running order and with the tyres inflated to the prescribed pressure, on a flat surface 10 m away from a half-lit white screen, and make sure that the longitudinal axis of the scooter is perpendicular to the screen.
2. Turn on the headlight and check that the borderline of the beam projected on the screen is not higher than 9/10 or lower than 7/10 of the height of the centre of the headlight from the ground.
3. Otherwise, loosen the screws «D» and rotate the light until the optimal orientation is obtained.



03_25

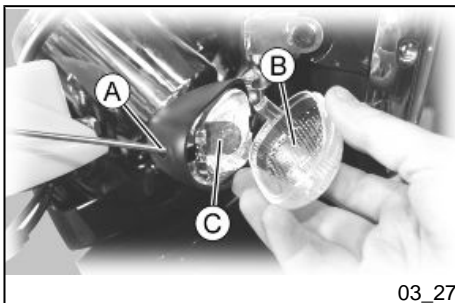


03_26

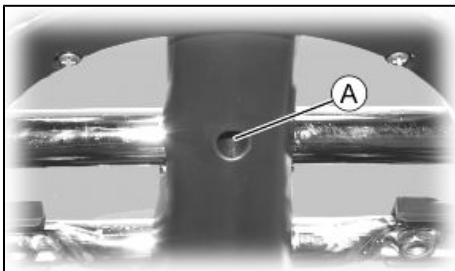
Front direction indicators (03_27)

To replace the bulb:

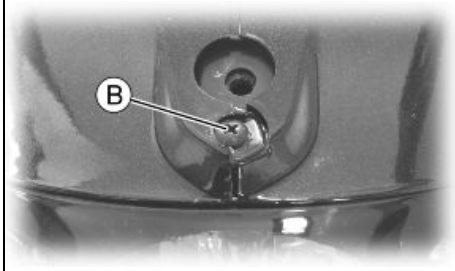
1. Unscrew and remove the screw «A».
2. Remove the protective glass «B» with caution so as not to break the fitting tab.
3. Press the bulb «C» slightly and rotate it anticlockwise.
4. Take out the bulb from its fitting.
5. Fit a new bulb of equal type making sure the two guiding pins slide into their slots in the bulb holder.



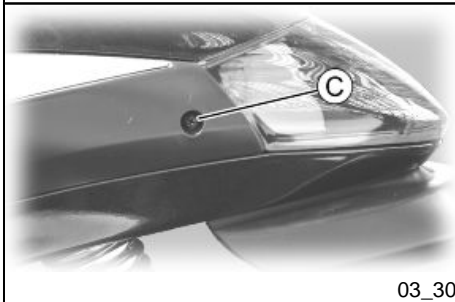
03_27



03_28



03_29



03_30

Rear optical unit (03_28, 03_29, 03_30, 03_31, 03_32)

To access the bulbs:

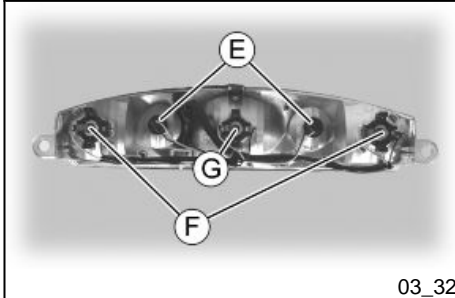
1. Remove the battery cover.
2. Remove the luggage rack plastic cover by acting on the screw «A» and unscrew the three fixing screws of the luggage rack.
3. Remove screw «B».
4. Remove side fairings by undoing screws «C» paying attention not to damage the retaining straps.
5. Remove both screws «B » and take out the rear light unit.

To replace the tail light bulbs «E», take out the rubber bulb holder from its fitting and slide off the bulb.

To replace turn indicator bulbs «F» and the stop light bulb «G», take out the bulb holder pressing the plastic tongues and turning the bulb anticlockwise.



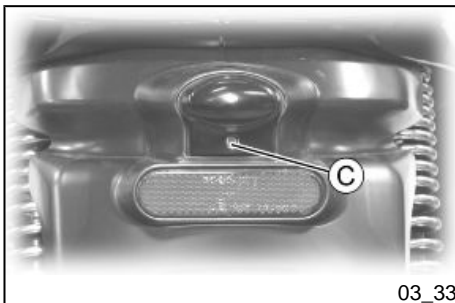
03_31



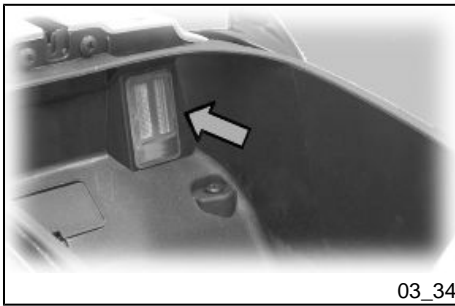
03_32

Number plate light (03_33)

Remove the screw «C», then take out the bulb holder.



03_33



03_34

Helmet compartment lighting bulb (03_34)

Open the helmet compartment, take out the snap-on transparent glass and replace the bulb.



03_35

Rear-view mirrors (03_35)

Adjust the mirrors by applying slight pressure to the side of the mirror to move it to the desired position.



03_36

Front and rear disc brake (03_36)

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 SYSTEM CHECKED BY A PIAGGIO DEALER OR AUTHORISED SERVICE CENTRE. 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 DURATION OF THE BRAKE PADS. IN ORDER TO AVOID THIS, WE RECOMMEND WASHING THE VEHICLE FREQUENTLY WHEN RIDING IN THESE ROAD CONDITIONS.

Puncture

The vehicle is equipped with Tubeless tyres (without inner tubes). 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. A flat tyre can be repaired with an emergency «inflate and repair» spray. For a final repair, take your vehicle to an **Authorised Service Centre or Dealer**. The replacement of a type 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.



Periods of inactivity (03_37)

We recommend carrying out the following operations:

1. Clean the scooter thoroughly and then cover it with a canvas;
2. With the engine off and the piston in the bottom dead centre position, remove the spark plug, and pour into its hole 1 to 2 cc of the recommended oil. Operate the starter button 1-2 times for roughly 1 second to turn the engine over slowly, then insert the spark plug again;
3. Ensure that the **fuel tank is at least half full (in order to ensure the total immersion of the fuel pump)**; 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. Any polishing with silicon 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.

WARNING



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

- **ONLY USE THE FAN JET.**
- **DO NOT PLACE THE NOZZLE CLOSER THAN 60 CM.**
- **DO NOT USE WATER AT TEMPERATURES OVER 40°C.**
- **DO NOT USE HIGH-PRESSURE WATER JETS.**
- **DO NOT STEAM WASH.**
- **DO NOT DIRECT THE JET AT: THE CARBURETTOR, THE ELECTRIC CABLES, THE SLOT DIFFUSERS IN THE TRANSMISSION COVER AND THE SCROLL COVER.**

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 SCOOTER COLOUR (SATIN COLOURS). FOR FURTHER INFORMATION ON THIS MATTER, CONTACT AN AUTHORISED SERVICE CENTRE .

WARNING

IN ORDER TO MAINTAIN PROPER CLEANING AND BRILLIANCE OF THE MUFFLER, WE RECOMMEND THE USE OF A PRODUCT SPECIFICALLY FOR CHROME-PLATED SURFACES

USE A SPECIFIC PASTE, ORDERED UNDER CODE 602683M FROM OUR DEALER NETWORK, TO POLISH STAINLESS STEEL MUFFLERS.

STARTING FAILURE

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

STARTING DIFFICULTIES (SEE SECTION «START-UP PROBLEMS»)

Lack of fuel in tank.	Refuelling
Injection system fault	Contact an Authorised Service Centre
Fuel pump fault	Contact an Authorised Service Centre
Battery flat	Recharge the battery.

**** IMPORTANT: DO NOT USE THE SCOOTER 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. THE FAILURE TO FOLLOW THESE GUIDELINES COULD CAUSE DAMAGE TO THE FUEL PUMP AND/OR THE CATALYTIC CONVERTER.***

IGNITION PROBLEM

Faulty spark plug	Contact an Authorised Service Centre
Faulty ignition / injection control unit. 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

Loosen 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

Clogged or dirty air filter	Try to blow out with compressed air, otherwise replace the 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

Variators and/or transmission belt damaged	Contact an Authorised Service Centre
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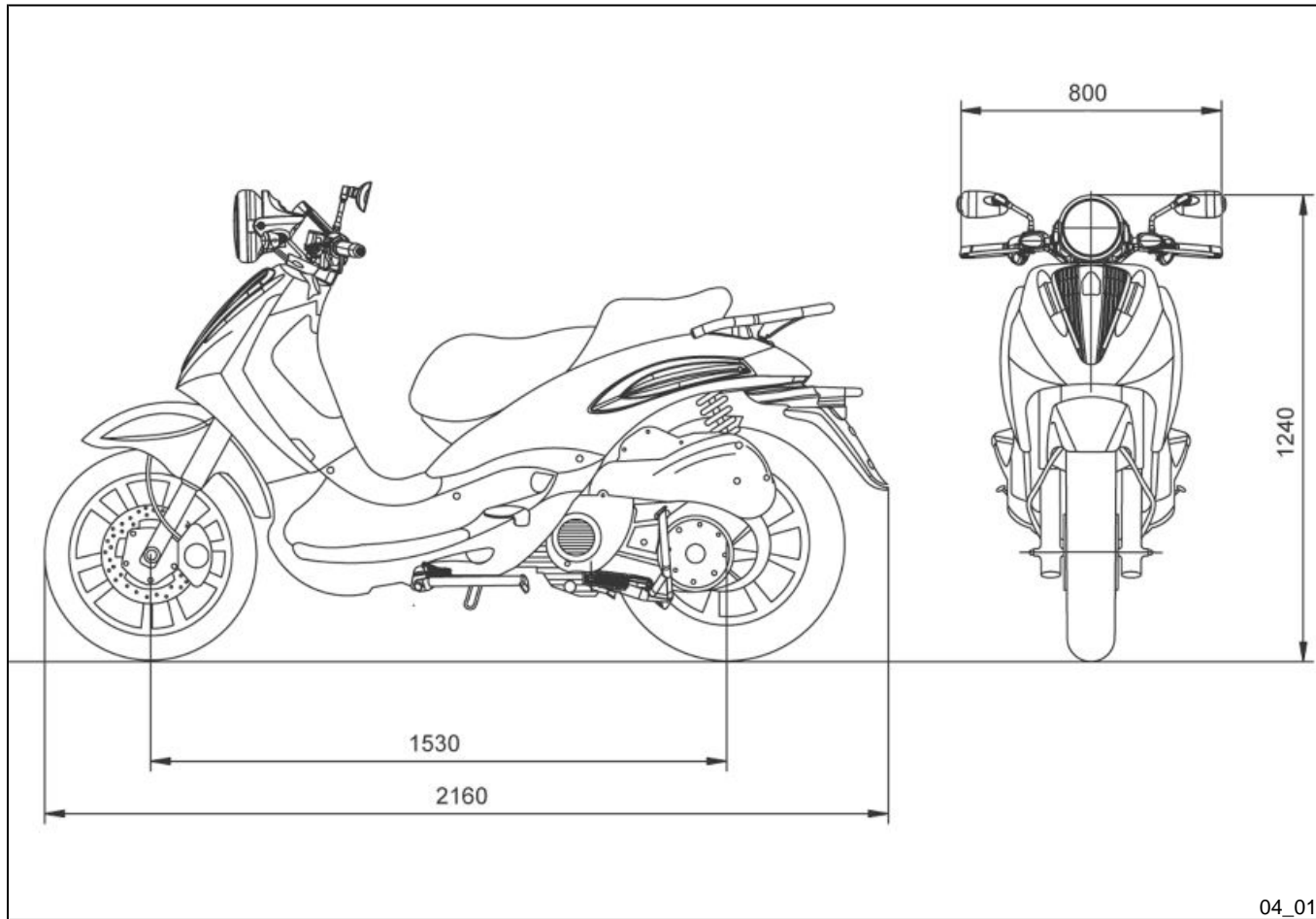
BEVERLY Cruiser 500ie



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**Chap. 04
Technical data**



ENGINE TECHNICAL DATA

Type	Single-cylinder, 4-stroke with double spark plug
Cubic capacity	493 cm ³
Bore x Stroke	94 x 71 mm
Compression ratio	10.5 ± 0.5 : 1
Engine idle speed	1,500 ± 100 rpm
Timing system	Four valves, single overhead camshaft, chain driven.
Valve clearance	Inlet: 0.15 mm Outlet: 0.15 mm
MAX. power	29 kW at 7,500 rpm
MAX torque	44 Nm at 5,200 rpm
Transmission	Automatic expandable pulley variator with torque server, V belt, automatic clutch.
Final reduction	Gear reduction unit in oil bath.
Lubrication	Engine lubrication with trochoidal pump (inside the crankcase), oil filter and pressure adjustment by-pass.
Cooling	Forced coolant circulation system.
Start-up	Electric
Ignition	High efficiency electronic inductive ignition, integrated with the

	injection system, with variable advance and separate HV coil.
Ignition advance	Three-dimensional map managed by control unit
Spark plug	NGK CR7EKB
Alternative spark plug	-
Fuel supply	Electronic injection with electric fuel pump.
Fuel	Unleaded petrol (95 RON)
exhaust muffler	Absorption-type exhaust muffler with catalytic converter and lambda probe.
Emission regulations	EURO 3

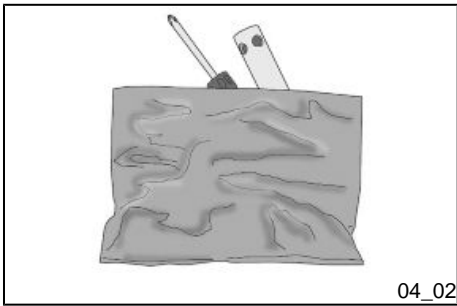
VEHICLE TECHNICAL DATA

Chassis	Tubular and sheet steel.
Front suspension	Hydraulic telescopic fork with Ø 41 mm stem.
Rear suspension	Two double-acting shock absorbers, adjustable to four positions at preloading.
Front brake	Ø 260 mm double disc brake with hydraulic control activated by the handlebar right-hand lever.
Rear brake	Ø 240 disc brake with hydraulic control activated by the handlebar left-hand lever. The system is

	controlled by a distribution pressure valve.
Wheel rim type	Light alloy rims.
Front rim	16" x 3.00
Rear rim	14" x 4.50
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 tyre pressure (with passenger)	2.2 bar (-)
Rear tyre pressure (with passenger)	2.2 bar (2.3 bar)
Kerb weight	199 ± 5 kg
Maximum weight allowed	390 kg
Battery	SEALED 12V / 12Ah BATTERY

CAPACITY

Engine oil (with filter)	1.7 l
Transmission oil	250 cm ³
Cooling system fluid	~ 1.8 l
Fuel tank (reserve)	~ 13.2 l (~3 l)



04_02

Kit equipment (04_02)

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

BEVERLY Cruiser 500ie



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**Chap. 05
Spare parts and
accessories**

Warnings

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



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



IN ORDER TO PREVENT ANY ACCIDENTS RIDE VERY CAREFULLY WHEN ADDING ACCESSORIES AND CARRYING LUGGAGE. ADDING ACCESSORIES AND BAGGAGE CAN REDUCE YOUR SCOOTER STABILITY AND PERFORM-

ANCE, AS WELL AS DECREASE THE LEVEL OF SAFETY DURING USE. NEVER RIDE THE SCOOTER WITH ADDED ACCESSORIES FASTER THAN 130 Km/h. THIS MAXIMUM SPEED LIMIT CAN BE FURTHER REDUCED DUE TO THE USE OF NON-PIAGGIO ACCESSORIES, AN ABNORMAL LOAD, WORN TYRES, AND SCOOTER, STREET AND WEATHER GENERAL CONDITIONS.

BEVERLY Cruiser 500ie



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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 - clean

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 GP 330	Grease for brake control levers, throttle, stand	White calcium complex soap-based spray grease with NLGI 2; ISO-L-XBCIB2
AGIP CITY HI TEC 4T	Oil to lubricate flexible transmissions (throttle control)	Oil for 4-stroke engines
AGIP BRAKE 4	Brake fluid	FMVSS DOT 4 Synthetic fluid
SPECIAL AGIP PERMANENT fluid	coolant	Monoethylene glycol-based antifreeze fluid, CUNA NC 956-16

Product	Description	Specifications
AGIP FILTER OIL	Oil for air filter sponge	Mineral oil with specific additives for increased adhesiveness
AUTOSOL METAL POLISH	Muffler cleaning paste	Specific product for cleaning and polishing stainless steel mufflers.
AGIP CITY HI TEC 4T	Engine oil	SAE 5W-40, API SL, ACEA A3, JASO MA Synthetic oil
AGIP GREASE SM 2	Grease for the tone wheel revolving ring	Soap-based lithium grease containing NLGI 2 Molybdenum disulphide; ISO-L-XBCHB2, DIN KF2K-20
AGIP GREASE PV2	Grease for the steering bearings, pin seats and swinging arm	White anhydrous-calcium based grease to protect roller bearings; temperature range between -20 C and +120 C; NLGI 2; ISO-L-XBCIB2.

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PIAGGIO & C. S.p.A. - After-Sales

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