

Piaggio would like to thank you

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

X7 EVO 300ie e 125ie



The instructions given in this booklet 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 Centres**. The booklet also contains instructions for simple repairs. Any operations not specifically described in this booklet require the use of special tools and/or particular technical knowledge: to carry out these operations, refer to any **authorised Dealer or Service Centres**.



Personal safety

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



Safeguarding the environment

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



Vehicle intactness

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

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

INDEX

VEHICLE.....	7	Automatic transmission.....	34
Dashboard.....	9	Safe driving.....	35
Analogue instrument panel.....	11	MAINTENANCE.....	37
Clock.....	11	Engine oil level.....	38
Key switch.....	12	Engine oil level check.....	38
Locking the steering wheel.....	12	Engine oil top-up.....	40
Releasing the steering wheel.....	13	Warning light (insufficient oil pressure).....	40
Switch direction indicators.....	13	Engine oil change.....	40
Horn button.....	14	Hub oil level.....	42
Light switch.....	14	Tyres.....	44
Start-up button.....	15	Spark plug dismantlement.....	45
Engine stop button.....	15	Removing the air filter.....	46
The immobilizer system.....	15	Air filter cleaning.....	47
Keys.....	16	Cooling fluid level.....	48
Immobilizer device enabled indicator led.....	17	Checking the brake oil level.....	49
Operation.....	17	Braking system fluid top up.....	50
Programming the immobilizer system.....	18	Battery.....	51
Accessing the fuel tank.....	19	Use of a new battery.....	52
Opening the saddle.....	21	Long periods of inactivity.....	52
Identification.....	21	Fuses.....	53
Rear top box opening.....	23	Front light group.....	57
Bag clip.....	23	Headlight adjustment.....	59
USE.....	25	Rear optical unit.....	60
Checks.....	26	Number plate light.....	62
Refuelling.....	26	Rear-view mirrors.....	62
Tyre pressure.....	28	Front and rear disc brake.....	63
Shock absorbers adjustment.....	29	Puncture.....	64
Running in.....	30	Periods of inactivity.....	65
Starting up the engine.....	31	Cleaning the vehicle.....	65
Precautions.....	32	TECHNICAL DATA.....	71
Difficult start up.....	33	Toolkit.....	77
Stopping the engine.....	33	SPARE PARTS AND ACCESSORIES.....	79
Stand.....	34	Warnings.....	80

SCHEDULED MAINTENANCE.....	83
Scheduled servicing table.....	84

X7 EVO 300ie e 125ie



Chap. 01
Vehicle



01_01

Dashboard (01_01)

A = Ignition key-switch

B = Bag hook

C = Horn button

D = Turn indicator switch

E = Rear brake lever

F = Light switch + PASSING

G = Analogue instrument panel

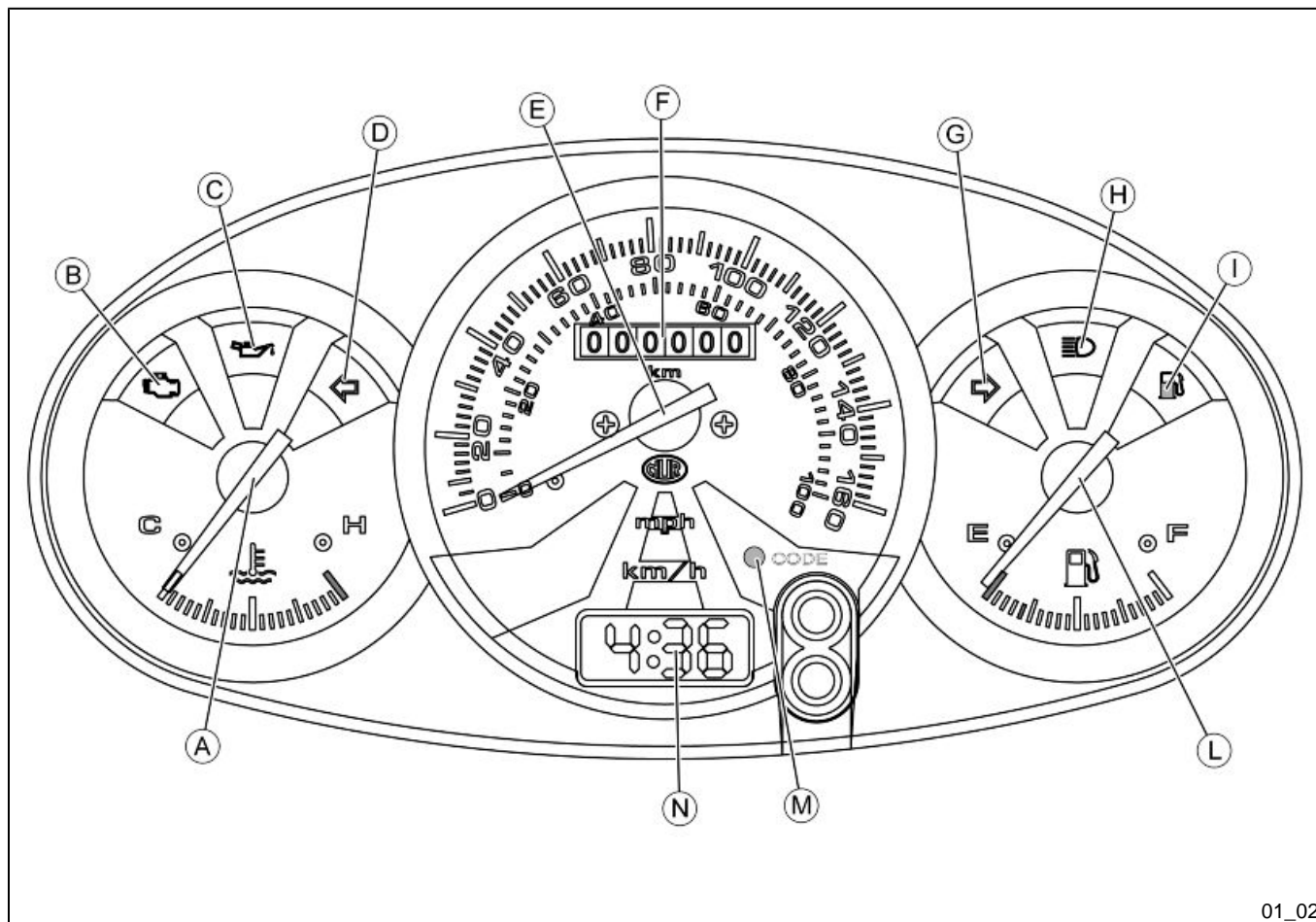
H = Emergency cut-off switch - RUN/OFF

I = Front brake lever

L = Throttle grip

A = Starter button

N = Fuel cover opening button



Analogue instrument panel (01_02)

A = Coolant temperature gauge

B = Engine control telltale light and injection system failure warning light

F = Low oil pressure warning light

D = Left turn indicator warning light

E = Speedometer with twin scale (km/h and mph)

F = Odometer

G = Right turn indicator warning light

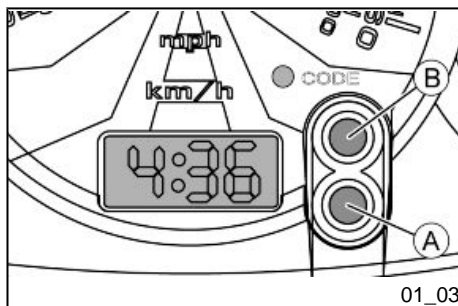
H = High-beam warning light

I = Low fuel warning light

L = Fuel gauge

M = Immobilizer LED

N = Digital clock



Clock (01_03)

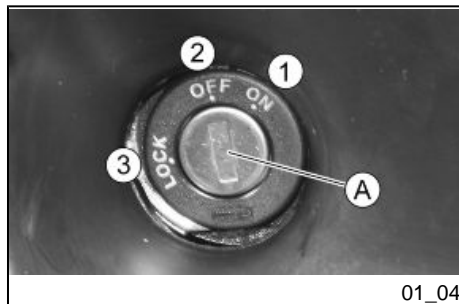
Located in the instrument panel, it displays hours and minutes with 1 to 12-hour time, AM or PM.

Operate the function selection button «**B**» and month, day and seconds are also displayed besides hours and minutes.

To adjust the different functions, select the desired function with button «**A**» and adjust with button «**B**». The time counter can be reset by pressing button «**A**» with the clock in the seconds function.

Key switch (01_04)

Ignition key «A» is located on the front leg shield back plate 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.



Locking the steering wheel (01_05)

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



01_06

Releasing the steering wheel (01_06)

Reinsert the key and turn it to «OFF».

CAUTION



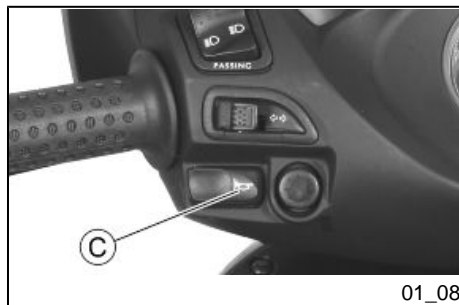
DO NOT TURN THE KEY TO «LOCK» OR «KEY OFF» WHILE RIDING.



01_07

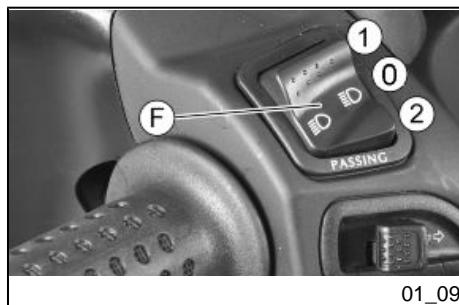
Switch direction indicators (01_07)

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



Horn button (01_08)

Push the «C» button to sound the horn.



Light switch (01_09)

When the light switch «F» is set to «0», the low-beam light is on. When set to «1», the high-beam light is activated. If the light switch «F» is pressed when set to «2», the high-beam light is activated. The switch goes back to «0» automatically.



Start-up button (01_10)

To start the engine, pull either brake lever and then push the button «**M**».

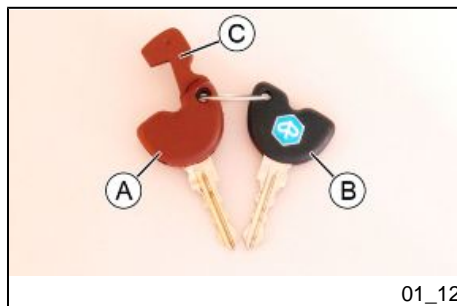


Engine stop button (01_11)

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.

The immobilizer system

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



01_12

Keys (01_12, 01_13, 01_14)

Two types of keys are supplied together with the vehicle.

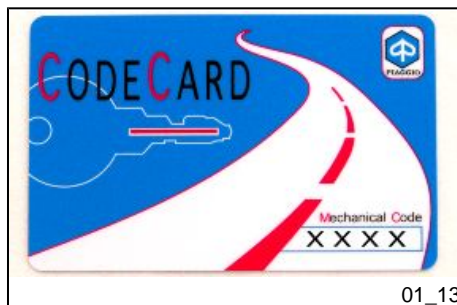
Key «A» is the «MASTER» key.

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 key «B» (single copy supplied) is used for regular operations such as:

- Engine start-up.

Together with the two keys, you will be given a CODE CARD bearing the same code imprinted onto the two keys.



01_13

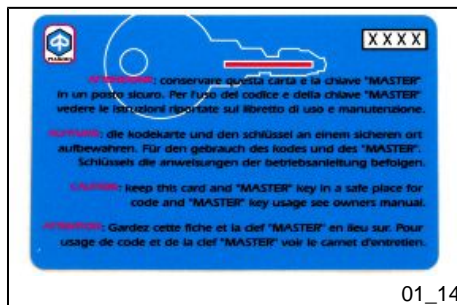


LOSING THE MASTER KEY PREVENTS ANY FURTHER REPAIR OF THE "PIAGGIO IMMOBILISER" SYSTEM AND OF THE ENGINE CONTROL UNIT.

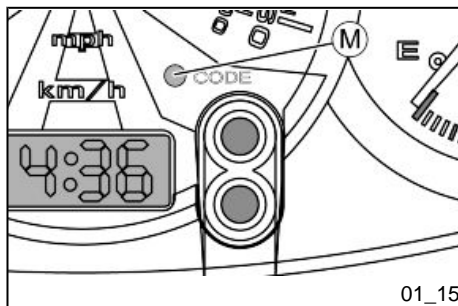
WARNING



KEEP THE "CODE CARD" AND THE MASTER KEY IN A SAFE PLACE (NOT IN THE VEHICLE).



01_14



Immobilizer device enabled indicator led (01_15)

The activation of the «**PIAGGIO IMMOBILIZER**» system is signalled by a flashing indicator «**M**». 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

Each time the ignition key «**B**» is removed while in the «**OFF**» or «**LOCK**» positions, the protection system activates the engine lock. Turning the ignition key «**B**» 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 ignition key «**B**» first to «**OFF**» and then back to «**ON**» again; if lock persists, try again using the «**A**» MASTER key. 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.

When the supplementary starter keys are required, remember that the all the keys, whether new or existing, should be programmed.

Contact an **Authorised Service Centre** and bring the «**A**» MASTER key and all «**B**» starter keys that you own.

The codes of starter keys not submitted for the new programming procedure are deleted from the memory. Any lost starter keys will therefore not be enabled to start the engine.

WARNING

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

VIOLENT SHOCKS MAY AFFECT THE ELECTRONIC COMPONENTS OF THE KEY.

IF THE VEHICLE IS SOLD, THE MASTER-HANDGRIP KEY (AS WELL AS THE OTHER STARTER KEYS) AND THE «CODE CARD» MUST ALSO BE TRANSFERRED TO THE NEW OWNER.

Programming the immobilizer system (01_16)

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

START PROCEDURE

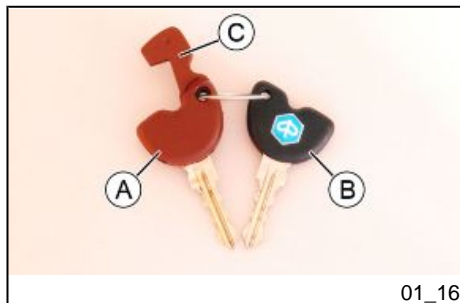
Insert the «**MASTER**» key «**A**» into the ignition switch (in «**OFF**») and turn it to «**ON**». After 1 - 3 seconds, turn the key to «**OFF** » again and pull it out.

INTERMEDIATE STAGE

After extracting the «**MASTER**» key «**A**», insert, within ten seconds, the key that is going to be programmed «**B**» and turn it immediately to «**ON**». After 1-3 seconds, turn the key to «**OFF**» again and pull it out. In this way, a maximum of 3 keys can be programmed by repeating the above procedure and keeping the indicated times.

FINAL STAGE

After extracting the key to be programmed «**B**», insert the «MASTER» key «**A**» again and turn it to «**ON**» (perform this operation within the 10 seconds following the extraction of the previous key). Leave it in this position for 1 to 3 seconds and return it to «**OFF**».



CORRECT PROGRAMMING CHECK PHASE

Insert the «MASTER» key «**A**» disabling the transponder «**C**» (i.e., by tilting the key cap by 90°), and turn the key to «**ON**». Perform the engine starter operation. Ensure that the engine does not start. Insert the programmed key «**B**» and repeat the starter operation. Check that engine starts.

WARNING



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

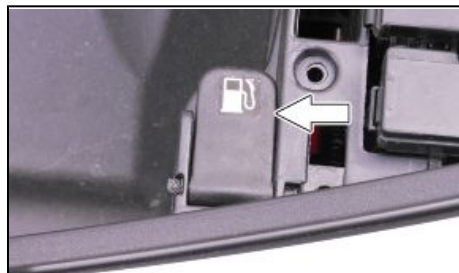
Accessing the fuel tank (01_17, 01_18, 01_19)

Set the start-up switch to «**ON**» or «**OFF**» and press the fuel tank port opening button «**N**». The tank port will open allowing access to the fuel tank cap.





01_18



01_19

In case of lack of electrical supply, under the seat there is a lever to mechanically open the cover.

Opening the saddle (01_20, 01_21)

Push the key switch when it is in the «ON» or «OFF» position.



01_20



01_21

The helmet compartment can hold a Jet-type helmet and an integral helmet, arranged as shown in the figure.

Identification (01_22, 01_23)

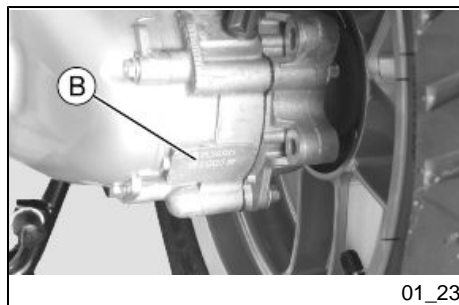
Identification registration numbers are made up of a prefix and a number embossed on the chassis and on the engine. These numbers must always be quoted when ordering spare parts. We recommend checking that the chassis registration number stamped on the vehicle corresponds with that on the vehicle documentation.

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**

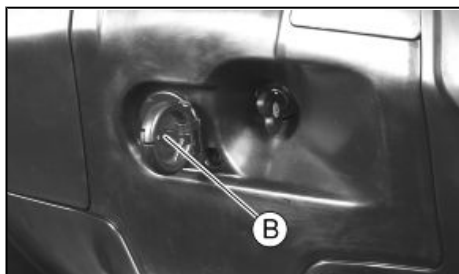
The engine number «B» is stamped near the rear left shock absorber lower support.



01_24

Rear top box opening (01_24)

Pull the fuel tank port to access the case.



01_25

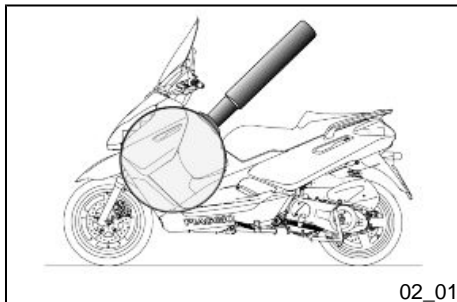
Bag clip (01_25)

To use the retractable bag hook «B» mounted on the leg shield back plate, pull it slightly towards the back of the vehicle.

X7 EVO 300ie e 125ie



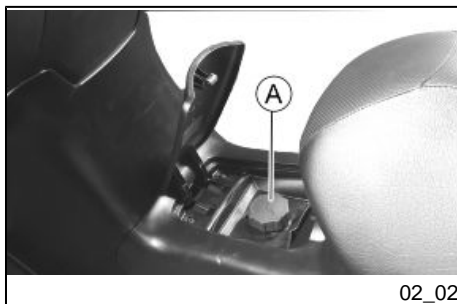
Chap. 02
Use



Checks (02_01)

Before using the vehicle, check:

1. That there is enough fuel in the fuel tank.
2. That the fluid level for front and rear brakes is correct.
3. That tyres are properly inflated.
4. The correct functioning of daylight running lights, headlamp, turn indicators, stop light and license plate light.
5. The correct functioning of front and rear brakes.
6. The oil level in the gearcase.
7. Engine oil level.
8. The coolant level.



Refuelling (02_02)

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 NAKED 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

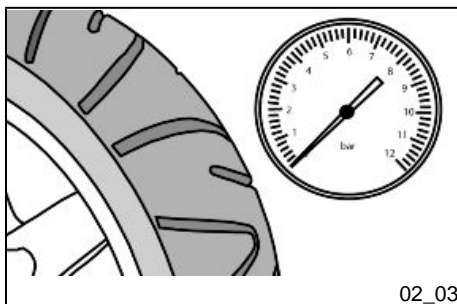


DO NOT USE THE VEHICLE TO THE COMPLETE EXHAUSTION OF THE FUEL; SHOULD THIS OCCUR, DO NOT ATTEMPT TO START THE ENGINE. TURN THE IGNITION SWITCH TO «OFF» AND TOP-UP THE TANK AS SOON AS POSSIBLE. FAILURE TO FOLLOW THESE GUIDELINES COULD DAMAGE THE FUEL PUMP AND/OR THE CATALYTIC CONVERTER.

FUEL TANK CAPACITY

Fuel tank (reserve)

~12 ± 0.5 l (~2.5 l)



Tyre pressure (02_03)

Check tyre pressure and wear periodically (roughly every 500 km). 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 sides or irregular tread wear; if this occurs go to an authorised workshop or at least to a workshop equipped to replace tyres.

CAUTION



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

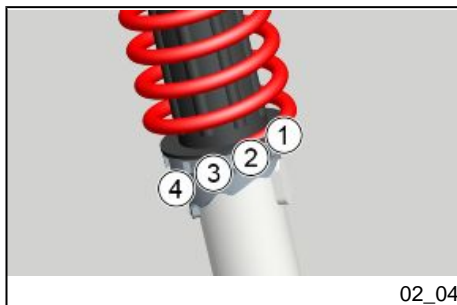
TYRES MUST BE REPLACED WHEN THE TREAD REACHES THE WEAR LIMITS SET FORTH BY LAW.

TYRE INFLATION PRESSURE

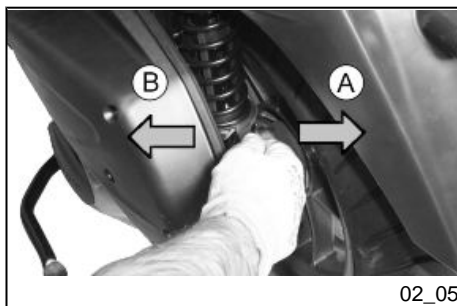
Front tyre pressure (with passenger)	2 bar (2 bar)
Rear tyre pressure (with passenger)	2.2 bar (2.5 bar)

TYRES

Front tyre	Tubeless, 120/70-14" 55P
Rear tyre	Tubeless, 140/60 - 13" 63P



02_04



02_05

Shock absorbers adjustment (02_04, 02_05)

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

Position 1: minimum preload: rider only

Position 2 medium preloading: rider only

Position 3 medium preloading: rider and passenger

Position 4: maximum preloading: rider, 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.

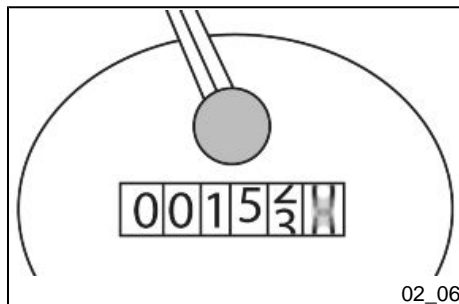
WARNING



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

WARNING

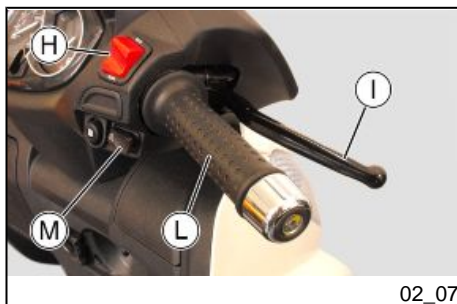
IT IS ABSOLUTELY FORBIDDEN TO ADJUST THE PRELOAD DIFFERENTLY ON THE TWO SHOCK ABSORBERS

**Running in (02_06)**

DURING THE FIRST 1000 KM DO NOT RIDE THE VEHICLE OVER 80% OF ITS MAX. SPEED. AVOID OPENING THE THROTTLE GRIP COMPLETELY OR KEEPING A CONSTANT SPEED ALONG LONG SECTIONS OF ROAD. AFTER THE FIRST 1000 KM INCREASE SPEED PROGRESSIVELY, IF POSSIBLE, UNTIL THE MAXIMUM PERFORMANCE IS OBTAINED.

CAUTION

IN ORDER TO AVOID DAMAGING THE VEHICLE, PLEASE COMPLY WITH THE RULES LISTED ABOVE.



02_07

Starting up the engine (02_07, 02_08, 02_09)

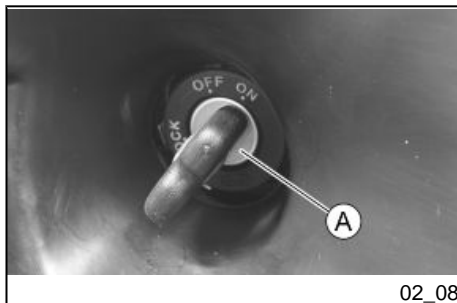
The vehicle is supplied with an ignition cut-off system, activated by the emergency cut-off switch. The engine cannot be started if the ignition cut-off switch is in the **OFF** position.

A running engine automatically shuts off when the ignition cut-off switch is set to **OFF**.

The vehicle is equipped with automatic transmission with direct drive, so that starting is effected by turning the throttle grip to idle speed; to start-off from stationary position, progressively twist the throttle grip. The vehicle is equipped with an electrical fuel pump that switches on automatically as soon as the engine is started.

In order to start the vehicle:

1. Rest the vehicle on its centre stand, ensuring the rear wheel is not touching the ground.
2. Keep the throttle grip «L» completely untwisted.
3. Insert the key into the ignition switch «A» and turn it to **ON**.
4. Make sure that switch «H» is set to **RUN**.
5. Pull the front brake lever «I» or the rear brake lever «E», then press the starter button «M».

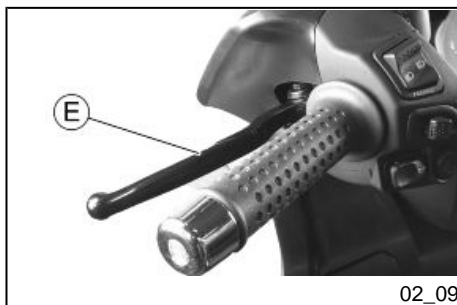


02_08

WARNING



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



02_09

CAUTION

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

CAUTION

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

Precautions**CAUTION**

NEVER STRESS THE ENGINE AT LOW TEMPERATURES IN ORDER TO AVOID POSSIBLE DAMAGE. BE CAREFUL NEVER TO EXCEED THE MAXIMUM SPEED WHILE RUNNING DOWNHILL, IN ORDER TO AVOID DAMAGING THE ENGINE. IN ANY CASE, IN ORDER TO PRESERVE THE ENGINE FROM PROLONGED OVERREVVING, THE REVOLUTION LIMITER WILL BE ACTIVATED IF THE ENGINE SPEED EXCEEDS THE ESTABLISHED THRESHOLD.

WARNING

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

Difficult start up (02_10)

In the rare case of a flooded engine, and in order to facilitate start-up, try putting the vehicle into motion with the throttle grip partially 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.



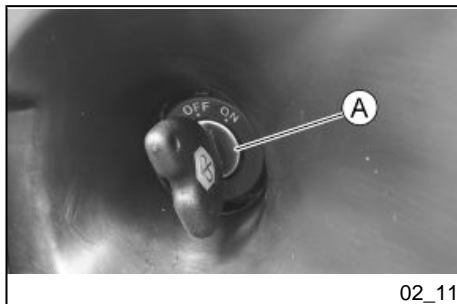
02_10

Stopping the engine (02_11)

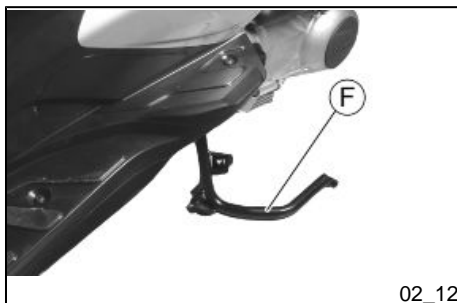
Fully untwist the throttle grip, then rotate the key in the switch «A » to «**KEY OFF**» (extractable key).

CAUTION

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



02_11



Stand (02_12)

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

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 driving on both flat roads and uphill.

If you have to stop on an uphill slope (traffic lights, traffic jam, etc.) **only use the brake to keep the vehicle still, leaving the motor running at idling speed. Using the engine to keep the vehicle still can cause the clutch to overheat, due to the friction of the clutch mechanism itself against the capstan.**

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

Take the following precautions if the clutch overheats:

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



02_13

Safe driving (02_13)

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

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, braking can be poor at the beginning. Under 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 MEDICINES IS EXTREMELY DANGEROUS.

CAUTION



IN ORDER TO PREVENT ANY ACCIDENTS RIDE VERY CAREFULLY AFTER ADDING ACCESSORIES AND WHILE CARRYING LUGGAGE. ADDING ACCE-

SORIES AND LUGGAGE CAN REDUCE THE VEHICLE'S STABILITY, PERFORMANCE AND SAFETY DURING USE.

WARNING



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

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

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

CAUTION



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

CAUTION



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

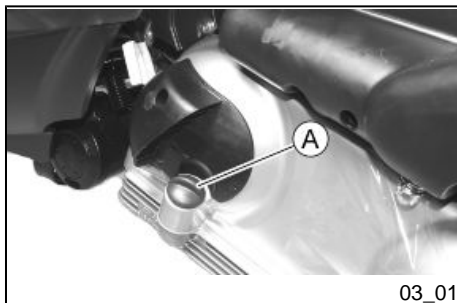
X7 EVO 300ie e 125ie



Chap. 03
Maintenance

Engine oil level

Four stroke engine oil is used in the engines in order to lubricate the distribution bodies, the bench bearings and the thermal group. **An insufficient quantity of oil can cause serious damage to the engine itself.** 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 the oil level more frequently than indicated in the Scheduled Maintenance table or before setting off on long journeys. The vehicle is however equipped with an oil pressure warning light on the instrument panel.**

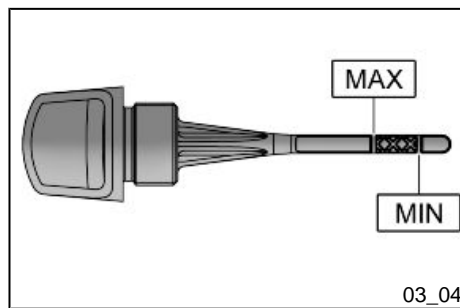
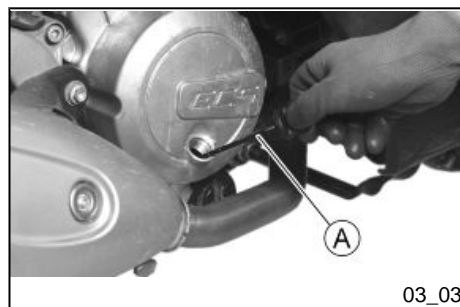
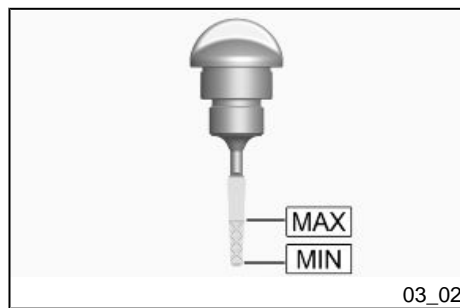


03_01

Engine oil level check (03_01, 03_02, 03_03, 03_04)

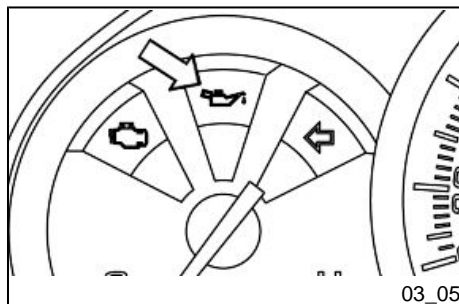
Every time the vehicle is used, visually inspect the level of the engine oil when the engine is cold (after **completely unscrewing** the oil cap/dipstick). The oil level should be somewhere between the MAX and MIN index marks on the level rod; «A»; while the oil is being checked, the vehicle must be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

If the check is carried out after the vehicle has been used, and therefore with a hot engine, the level 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.



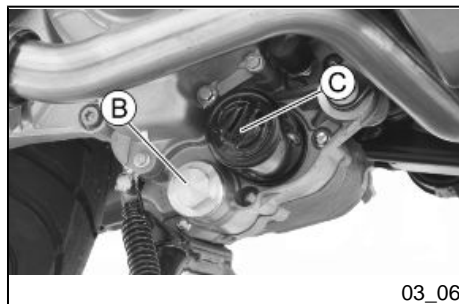
Engine oil top-up

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 ~ 200 cm³ (125ie) or ~ 400 cm³ (300ie) 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_05)

The vehicle is equipped with a warning light that comes on when the key is turned to «ON». However, this light should come off once the engine has been started. **If the light comes on while braking, at idle speed or while turning a corner, it is necessary to check the oil level and top it up if required. If after having topped-up the oil, the warning light still comes on while braking, at idle speed or while turning a corner, it will be necessary to take your vehicle to an Authorised Service Centre.**



Engine oil change (03_06)

Have oil changed and the cartridge filter «C» replaced as indicated in the scheduled maintenance table at an **Authorised Service Centre**. The engine should be emptied by draining the oil through drainage plug «B» of the mesh filter on the flywheel side. In order to facilitate the oil drainage, loosen the cap/dipstick. Since a certain quantity of oil still remains in the circuit, add approx. 950 ÷ 1000 cm³ of oil through the cap «A». Then start the engine, leave it running for a few minutes and shut it off: after 5 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 changes, use new oil of the recommended type.

WARNING

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

WARNING

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

CAUTION

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

CAUTION

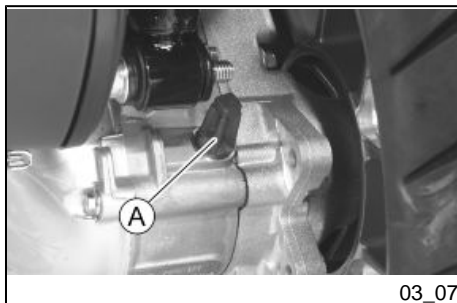
USING OILS OTHER THAN THOSE RECOMMENDED CAN SHORTEN THE LIFE OF THE ENGINE.

Recommended products

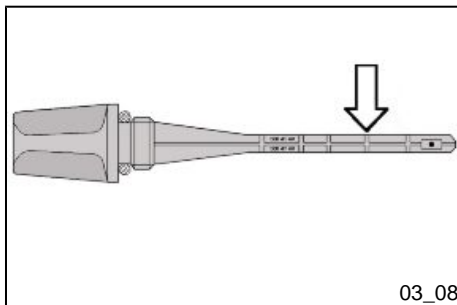
AGIP CITY HI TEC 4T

Engine oil

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



03_07



03_08

Hub oil level (03_07, 03_08)

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

1. Rest the vehicle on its centre stand on an even surface.
2. Unscrew the hub oil dipstick «A», dry it with a clean cloth and then reinsert it, **screwing it fully into place.**
3. Pull out the dipstick to check that the hub oil level is slightly over the notch indicated by the arrow in the figure. This is the correct level and it must remain constant at all times.
4. Screw the oil dipstick back into place completely.

N.B.

THE NOTCHES ON THE HUB OIL LEVEL DIPSTICK, EXCEPT THE ONE INDICATING THE MAX LEVEL, REFER TO OTHER MODELS BY THE MANUFACTURER AND HAVE NO SPECIFIC FUNCTION FOR THIS MODEL.

CAUTION



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

CAUTION



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

CAUTION

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

CAUTION

WHEN REPLACING THE HUB OIL DO NOT LET THE OIL COME INTO CONTACT WITH THE REAR BRAKE DISC.

CAUTION

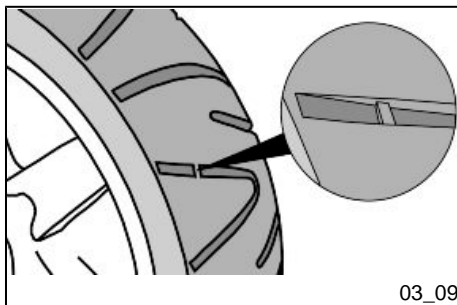
FOR OIL REPLACEMENT, CONTACT ANY AUTHORISED SERVICE CENTRE AS THEY ARE EQUIPPED TO DISPOSE OF USED OILS IN AN ENVIRONMENTALLY FRIENDLY AND LEGAL WAY.

Recommended products

AGIP ROTRA 80W-90

Rear hub oil

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



Tyres (03_09)

Check tyre pressure and wear periodically (roughly every 500 km). 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 sides or irregular tread wear; if this occurs go to an authorised workshop or at least to a workshop equipped to replace tyres.

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.

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.

TYRE INFLATION PRESSURE

Front tyre pressure (with passenger)	2 bar (2 bar)
Rear tyre pressure (with passenger)	2.2 bar (2.5 bar)

TYRES

Front tyre	Tubeless, 120/70-14" 55P
Rear tyre	Tubeless, 140/60 - 13" 63P



Spark plug dismantlement (03_10, 03_11)

Proceed as follows:

Remove the access cover over the spark plug on the right-hand side of the scooter, reach the spark plug and slide it off with your hand;

- Disconnect cap «A» from the spark plug HV cable by turning it clockwise until releasing it from the retainer.

- Unscrew the spark plug using the wrench supplied.

- When refitting, place the spark plug into the hole at the corresponding angle and finger tighten it as far as it will go. Use the wrench only to tighten it.

- Place cap «A» fully over the spark plug, making sure it is in the retainer again.

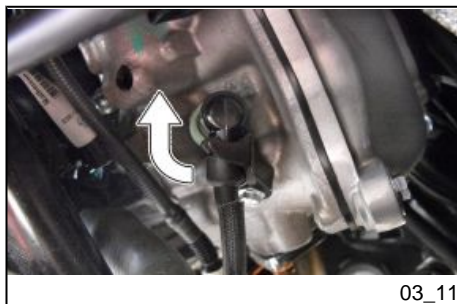
N.B.

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

WARNING



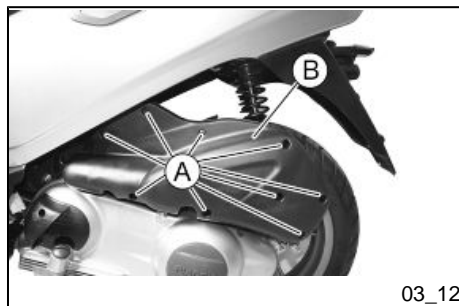
THE SPARK PLUG MUST BE REMOVED WHEN THE ENGINE IS COLD. CHECK THE SPARK PLUG AS INDICATED IN THE SCHEDULED MAINTENANCE TABLE. USING NON-COMPLYING ELECTRONIC CENTRAL UNITS AND ELECTRONIC IGNITIONS OR SPARK PLUGS OTHER THAN THOSE PRESCRIBED MAY SERIOUSLY DAMAGE THE ENGINE. IF THE SPARK PLUG IS REMOVED AFTER A



FLOODED ENGINE (EXCESSIVE FUEL EXPULSION IN THE «SAFE RIDING» SECTION), KEEP THE TUBE CONNECTED TO THE SPARK PLUG AND THE LATTER IN CONTACT WITH A GROUND POINT FAR FROM THE SPARK PLUG HOLE ITSELF IN ORDER TO AVOID THE EXPELLED FUEL FROM CATCHING FIRE.

RECOMMENDED SPARK PLUG

Spark plug	NGK CR8EKB
Electrode gap	0.7 to 0.8 mm



Removing the air filter (03_12, 03_13)

Unscrew the nine fixing screws «A» and remove cover «B».



03_13



03_14

Air filter cleaning (03_14)

1. Wash the sponge with water and neutral soap.
2. Dry it with a clean cloth and small blasts of compressed air.
3. Soak the sponge with a mixture of 50% petrol and 50% specified oil.
4. Gently squeeze the filter element without twisting it, let it drip and then refit it.

CAUTION



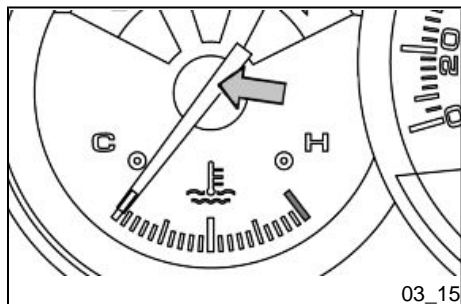
IF THE VEHICLE IS USED ON DUSTY ROADS IT IS NECESSARY TO CARRY OUT MAINTENANCE CHECKS OF THE AIR FILTER MORE OFTEN TO AVOID DAMAGING THE ENGINE.

Recommended products

AGIP FILTER OIL

Oil for air filter sponge

Mineral oil with specific additives for increased adhesiveness



03_15

Cooling fluid level (03_15, 03_16, 03_17, 03_18)

Engine cooling is carried out by a forced-circulation coolant system. The coolant consists of a mixture 50% de-ionised water and 50% glycol ethylene-based antifreeze solution with corrosion inhibitors. The coolant supplied with the scooter is already mixed and ready for use.

For proper engine functioning, make sure that the temperature of the coolant remains in the middle zone of the corresponding gauge. If the needle of the gauge enters the red zone, stop the engine, let it cool down and check the coolant level; if the level is OK, contact an **Authorised Service Centre**.

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

1. Set the vehicle upright on the stand and remove the cover by undoing screw «A».
2. Remove the expansion tank cover «B» by turning it anticlockwise.
3. Look inside the expansion tank and check that fluid level is always between the «MIN» and «MAX» levels.
4. Top-up the fluid when it is close to the minimum mark.

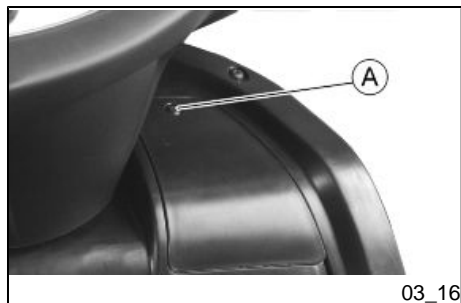
If the level is not correct, proceed to top-up when the engine is cold. If the coolant needs to be topped up frequently or the expansion tank is completely dry, check the cooling system to find the cause of the problem. It is therefore essential to have the cooling system checked at an **Authorised Service Centre**.

Replace coolant as indicated in the scheduled maintenance table. Take your vehicle to an **Authorised Service Centre** for this operation.

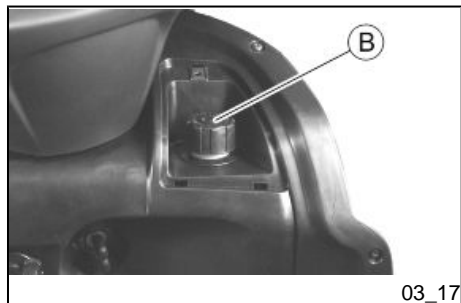
WARNING



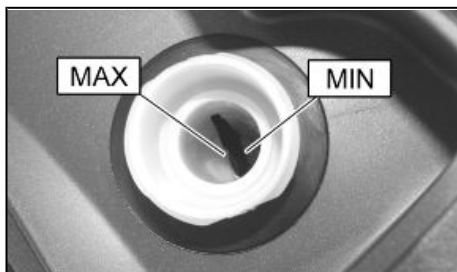
TO AVOID THE RISK OF SCALDING, DO NOT UNSCREW THE EXPANSION TANK COVER WHILE THE ENGINE IS STILL HOT.



03_16



03_17



03_18

WARNING

IN ORDER TO AVOID HARMFUL FLUID LEAKS WHILE RIDING, IT IS IMPORTANT TO MAKE SURE THAT THE LEVEL DOES NOT EXCEED THE REFERENCE TONGUE TOO MUCH.

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

Recommended products**AGIP PERMANENT SPECIAL***coolant*

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



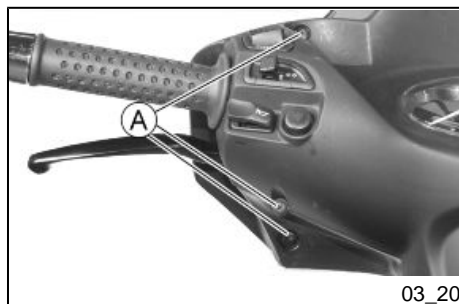
03_19

Checking the brake oil level (03_19)

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

1. Rest the vehicle on its centre stand with the handlebars perfectly horizontal;
2. Check the liquid through the sight glass «C».

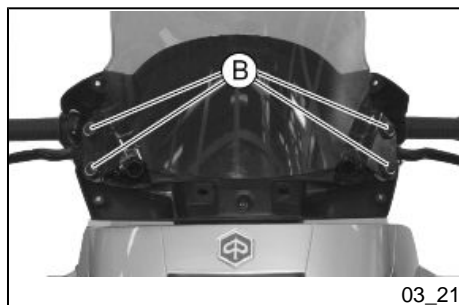
A certain lowering of the level is caused by wear on the brake pads. Should the level appear to be below the minimum mark, please contact an **Authorised Service Centre or Dealer** in order to have the braking system thoroughly checked.



Braking system fluid top up (03_20, 03_21, 03_22, 03_23)

Proceed as follows:

1. Remove the rear-view mirrors.
2. Working from both sides of the vehicle, undo the three screws «A» and remove the front frame.
3. Remove the windshield by undoing the four screws «B».
4. Undo screw «C» and remove the front handlebar cover «D» partially.
5. Remove cover «F» by loosening the two screws «E» and refill, without exceeding the maximum level, adding prescribed fluid type only.



This operation applies to top up the rear brake pump. Follow the same procedure for the front one.

Under normal climatic conditions, replace fluid as indicated in the scheduled maintenance tables.

This operation must be carried out by trained technicians; take your scooter to an **authorised Service Centre or Dealer**.

WARNING



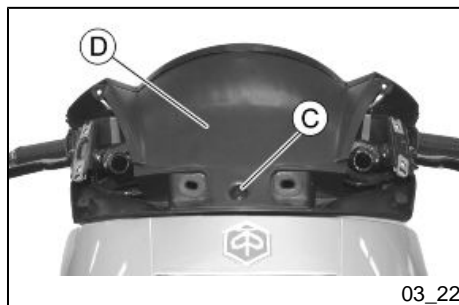
ONLY USE DOT 4 CLASS BRAKE FLUIDS. BRAKING CIRCUIT FLUIDS ARE HIGHLY CORROSIVE. MAKE SURE THAT IT DOES NOT COME INTO CONTACT WITH THE PAINTWORK

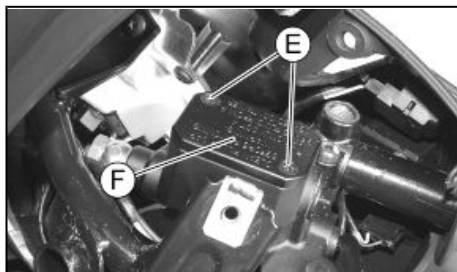
.

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,





03_23

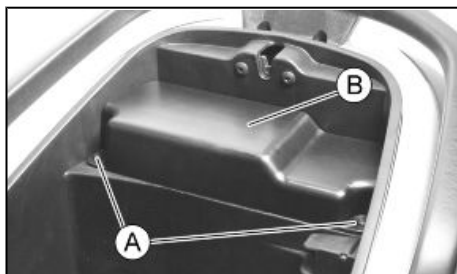
IT WILL LEAD TO INEFFICIENT BRAKING. NEVER USE BRAKING FLUID KEPT IN CONTAINERS THAT HAVE ALREADY BEEN OPENED, OR PARTIALLY USED.

Recommended products

AGIP BRAKE 4

Brake fluid

FMVSS DOT 4 Synthetic fluid



03_24

Battery (03_24)

To access the battery, proceed as follows:

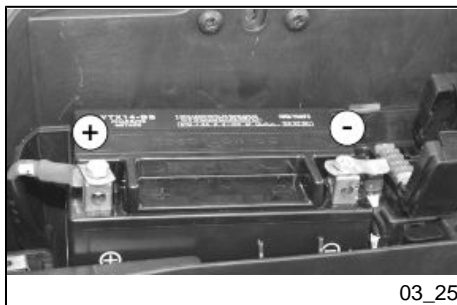
1. Place the vehicle on its centre stand;
2. Open the saddle, following the previously described procedure;
3. Remove the two fasteners "A" and the cover "B".

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:

CAUTION



IN ORDER TO AVOID DAMAGING THE ELECTRIC SYSTEM, NEVER DISCONNECT THE WIRING WHILE THE ENGINE IS RUNNING. DO NOT TIP THE VEHICLE TOO MUCH IN ORDER TO AVOID DANGEROUS LEAKAGE OF THE BATTERY ELECTROLYTE



03_25

Use of a new battery (03_25)

Make sure that the terminals are connected correctly.

CAUTION



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

WARNING



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



03_26

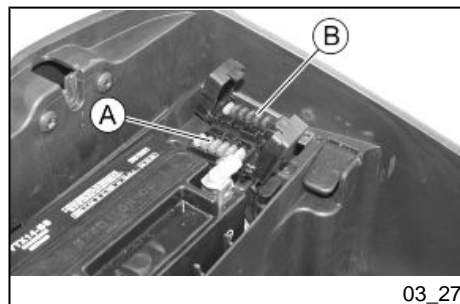
Long periods of inactivity (03_26)

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 cleanliness of the poles. In order to avoid difficult starts and/or irreversible damage to the battery, follow any of these steps:

- **At least once a month** start the engine and run it slightly above idle speed for 10-15 minutes. This keeps all the engine components, as well as the battery, in good working order.
- Take your vehicle to a garage (as indicated in the "Vehicle not used for extended periods" section) to have the battery removed. Have the battery cleaned, charged fully and stored in a dry, ventilated place. Recharge **at least once every two months**.

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. 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.



03_27

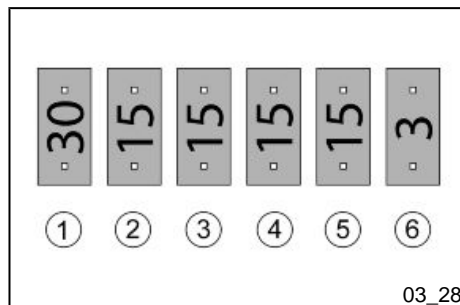
Fuses (03_27, 03_28, 03_29)

The electrical system is equipped with twelve fuses subdivided into two fuse boxes «A» and «B», located inside the battery compartment, to protect the different system circuits.

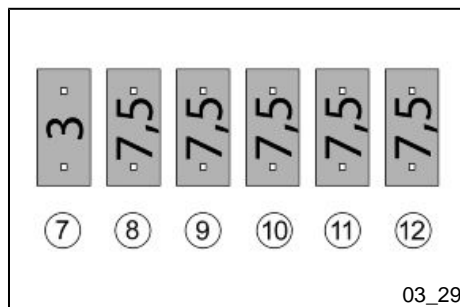
The chart shows the position and specifications of the fuses in the vehicle.

CAUTION

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



03_28



FUSES

Fuse No. 1

Capacity: 30 A
Protected circuits: Battery recharge circuit.

Fuse No. 2

Capacity: 15A
Protected circuits: headlight remote control live power supply, fuses No. 7-8-9-10-11, fuel port actuator. Battery-powered immobilizer LED.

Fuse No. 3

Capacity: 15A
Protected circuits: Light switch (via remote control)

Fuse No. 4

Capacity: 15A
Protected circuits: Electric fan (via remote control)

Fuse No. 5

Capacity: 15A

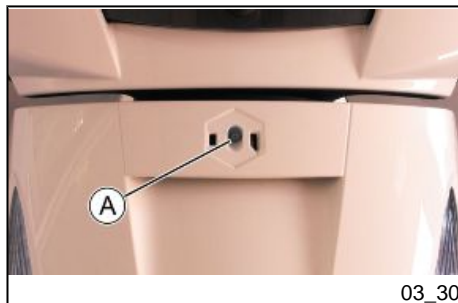
	Protected circuits: via injection load remote control (fuel pump, fuel injector, HV coil and water pump only for 125ie), ECU.
Fuse No. 6	Capacity: 3A Protected circuits: Clock, pre-installation for anti-theft device.
Fuse No. 7	Capacity: 3A Protected circuits (live): Anti-theft device preinstallation, satellite navigation system preinstallation, fuel gauge, fuel level transmitter, low fuel warning light, oil pressure warning light, water temperature gauge.
Fuse No. 8	Capacity: 7.5 A Protected circuits (live): Injection load remote control, injection ECU, electric fan remote control, immobilizer aerial.
Fuse No. 10	Capacity: 7.5 A Protected circuits (live): Stop lights, start-up circuit, horn, turn indicators.
Fuse No. 11	Capacity: 7.5 A Protected circuits (live): High-beam light.
Fuse No. 12	Capacity: 7.5 A Protected circuits (live): Low-beam light.

LIGHT BULBS TABLE

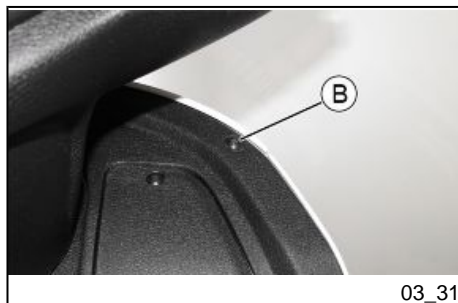
High-beam light bulb	Type: HALOGEN (H7) Power: 12V - 55W Quantity: 1
Low-beam bulb	Type: HALOGEN (H7) Power: 12V - 55W Quantity: 1
Front side light bulb	Type: Incandescent (W2.1x9.5d) Power: 12V - 5W Quantity: 2
Front turn indicator light bulb	Type: Incandescent (BAU 15s) Power: 12V - 10W Quantity: 1 RHS + 1 LHS
Rear turn indicator light bulb	Type: Incandescent (BAU 15s) Power: 12V - 10W Quantity: 1 RHS + 1 LHS
Tail light and stop light bulb	Type: Incandescent (BAY 15d) Power: 12V - 5/21W

Quantity: 2

License plate bulb

Type: Incandescent (W2.1x9.5 d)**Quantity:** 1**Power:** 12V - 5W

03_30



03_31

Front light group (03_30, 03_31, 03_32, 03_33, 03_34)

To access the bulbs:

- Remove the PIAGGIO clip-on badge and undo the screw «A».
- Working on both sides of the vehicle, undo the screw «B» and remove the front headlight cover.
- Working on both sides of the vehicle, undo the three screws «C» and the two screws «D» located inside the front mudguard.
- Take the headlight assembly off its housing.

To reassemble, repeat the operation but in reverse order.

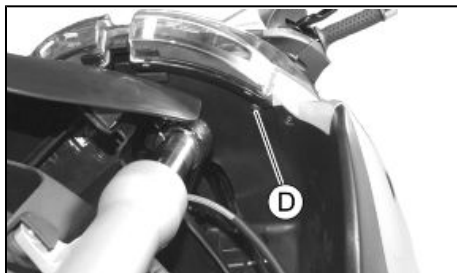
To replace the tail light bulbs «E», take out the rubber bulb holder and slide off the bulb.

In order to replace the high-beam «F» and low-beam «G» bulbs, remove the rubber cap, take out the bulb holder by releasing the springs and slide off the light bulb.

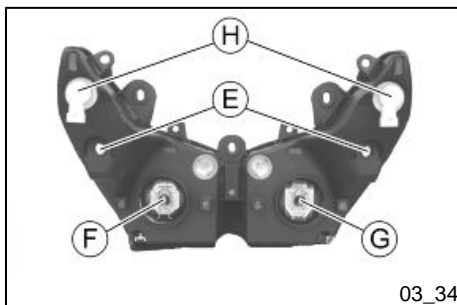
In order to replace the turn indicator bulbs «H», take out the right bulb holder by turning it anticlockwise, or clockwise, if it is the left one, and then slide off the bulb by pushing and turning it anticlockwise.



03_32



03_33



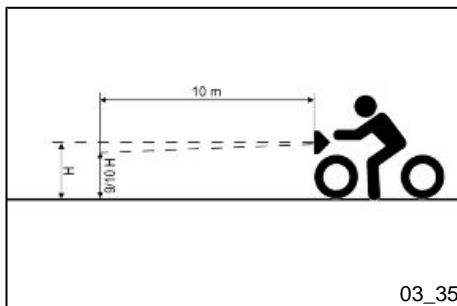
03_34

WARNING

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

CAUTION

DO NOT CARRY ANY GARMENTS ON THE FRONT HEADLIGHT ASSEMBLY. THIS MAY CAUSE BULBS TO OVERHEAT AND THEREFORE ABNORMAL WEAR.



03_35

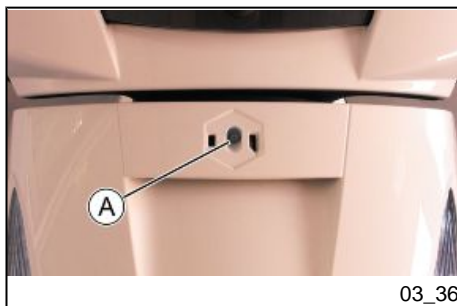
Headlight adjustment (03_35, 03_36, 03_37, 03_38)

Proceed as follows:

1. Position the unloaded vehicle, in running order and with the tyres inflated to the prescribed pressure, onto a flat surface 10 m away from a half-lit white screen; make sure the vehicle axis is perpendicular to the screen.
2. Turn on the headlight and check that the limit of the projected light beam 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, adjust the headlight.

N.B.

THE ABOVE PROCEDURE COMPLIES WITH THE EUROPEAN STANDARDS REGARDING MAXIMUM AND MINIMUM HEIGHT OF LIGHT BEAMS. REFER TO THE STATUTORY REGULATIONS IN FORCE IN EVERY COUNTRY WHERE THE VEHICLE IS USED.



03_36

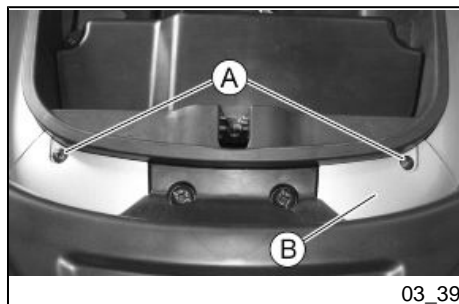
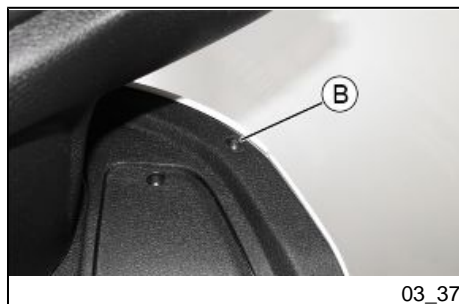
In order to adjust the light beams:

- Remove the PIAGGIO clip-on badge and undo the screw «A».
- Working on both sides of the vehicle, undo the screw «B» and remove the front headlight cover.
- Act on screws «I» in order to aim the light properly.

CAUTION



DO NOT CARRY ANY GARMENTS ON THE FRONT HEADLIGHT ASSEMBLY. THIS MAY CAUSE BULBS TO OVERHEAT AND THEREFORE ABNORMAL WEAR.

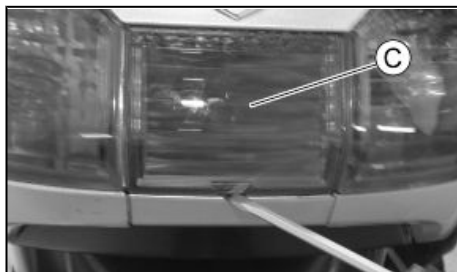


Rear optical unit (03_39, 03_40, 03_41, 03_42)

The rear light unit has two parts that can be removed separately. The operations described refer to one part but apply to both.

To access the bulbs:

1. Lift the saddle and undo the two screws «A» that fix the fairing of the rear light «B».
2. Remove the flap «C».
3. Undo the two screws «D».



03_40

4. Take out the light «E».

To replace the tail/stop light bulbs:

1. Take out the bulb holders «F» by turning the right holder clockwise, and the left one anticlockwise.

2. Press the bulb slightly and turn it anticlockwise.

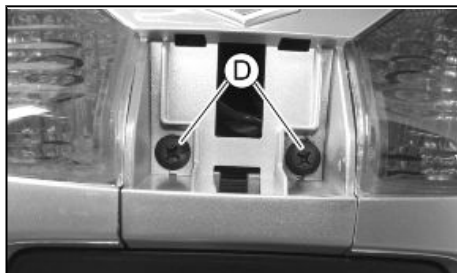
3. Take out the bulb from its fitting.

In order to replace the turn indicator bulbs:

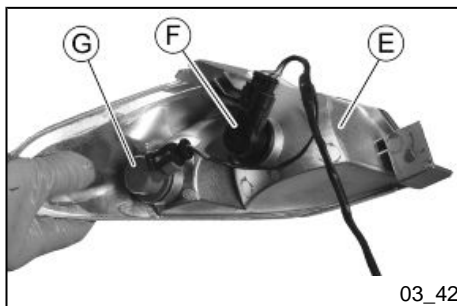
1. Take out the bulb holders «G» by turning the right holder anticlockwise, and the left one clockwise.

2. Press the bulb slightly and turn it anticlockwise.

3. Take out the bulb from its fitting.



03_41



03_42



03_43

Number plate light (03_43)

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



03_44

Rear-view mirrors (03_44, 03_45)

To remove the rear-view mirrors:

1. Lift the rubber bellows.
2. Loosen the nut «A» and slide off the rear-view mirror stem.
3. Remove the screw «B».

Adjust to the desired angle by manually aiming the mirror frame.



03_45



Front and rear disc brake (03_46)

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

CAUTION



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

CAUTION



HAVE THE BRAKE PADS CHECKED BY THE DEALER ACCORDING TO THE CHECKS SPECIFIED IN THE SCHEDULED MAINTENANCE TABLE. HOWEVER, IN THE EVENT OF NOISES COMING FROM THE FRONT AND/OR REAR BRAKING SYSTEM DURING OPERATION, IT IS ADVISABLE TO HAVE THE BRAKING SYSTEM CHECKED BY AN AUTHORISED SERVICE CENTRE OR DEALER. AFTER REPLACING THE BRAKE PADS, DO NOT USE THE SCOOTER UNTIL YOU HAVE OPERATED THE BRAKE LEVER SEVERAL TIMES IN ORDER TO ALLOW THE PLUNGERS TO SETTLE AND THE LEVER STROKE TO BE SET TO THE CORRECT POSITION.

CAUTION



THE PRESENCE OF SAND, MUD, SNOW MIXED WITH SALT, ETC. ON THE ROAD, CAN DRASTICALLY REDUCE THE LIFE OF THE BRAKE PADS. IN OR-

DER 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 tube). In the event of a puncture, Tubeless tyres - unlike tyres with inner tubes - go flat very slowly, resulting in a greater steering safety. In the event of a puncture, an emergency repair can be carried out using an "inflate and repair" spray can. For a final repair, take your vehicle to an **Authorised Service Centre or Dealer**. The replacement of a tyre involves removing the wheel in question. Take your vehicle to an **Authorised Service Centre or Dealer** for these operations.

CAUTION



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

WARNING



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



03_47

Periods of inactivity (03_47)

We recommend carrying out the following operations:

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

Recommended products

AGIP CITY HI TEC 4T

Oil to lubricate flexible transmissions (throttle control)

Oil for 4-stroke engines

Cleaning the vehicle

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

CAUTION

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

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 A FANLIKE SPRAY 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 AIM THE JET DIRECTLY 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 THEIR MECHANICAL PROPERTIES. USING SILICONE-BASED WAX CAN DAMAGE THE PAINTED SURFACES, DE-

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

STARTING FAILURE

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

IGNITION PROBLEMS

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

LACK OF COMPRESSION

Loose spark plug.	Screw in the spark plug tightly
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 («Air filter removal» section)
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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 SUSPENSION

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

AUTOMATIC TRANSMISSION PROBLEMS

CVT rollers and/or drive belt
damaged

Contact an **Authorised Service
Centre.**

STAND DOES NOT RETURN TO POSITION

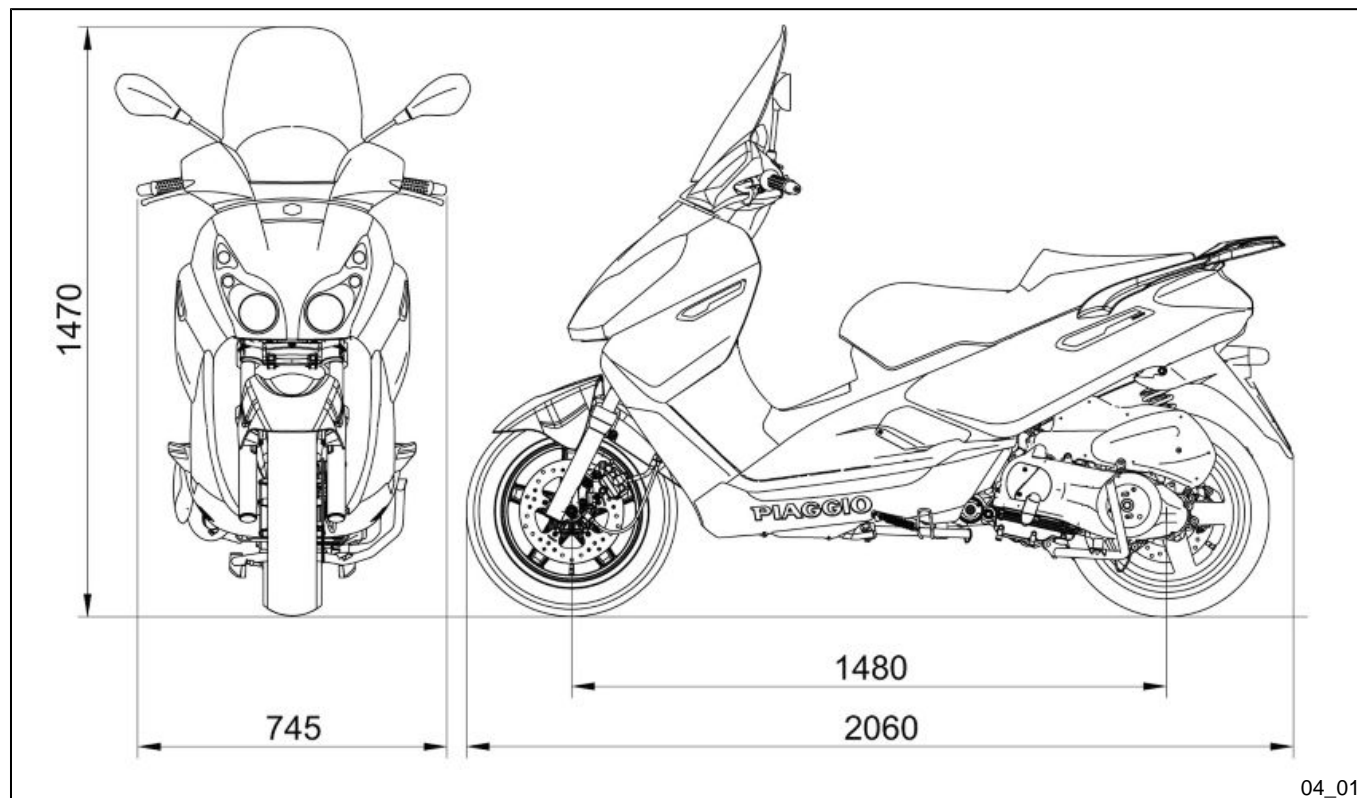
Presence of dirt

Clean and grease

X7 EVO 300ie e 125ie



Chap. 04
Technical data



04_01

ENGINE DATA (125IE)

Type	Single-cylinder, 4-stroke
Engine capacity	124 cm ³
Bore x stroke	57.0 x 48.6 mm
Compression ratio	12 ± 0.5: 1
Engine idle speed	1750 ± 100 rpm
Timing system	4 valves, single overhead camshaft, chain-driven.
Valve clearance	Intake: 0.10 mm Exhaust: 0.15 mm
Max. power	11 kW at 9250 rpm
MAX. torque	12.1 Nm at 7500 rpm
Transmission	Automatic expandable pulley variator with torque server, V-belt, self-ventilating dry automatic centrifugal clutch and transmission housing with forced-circulation air cooling.
Final reduction gear	Gear reduction unit in oil bath.
Lubrication	Engine lubrication with lobe pump (inside crankcase), chain-driven, with double filter: mesh and paper.
Cooling	Forced coolant circulation system.
Starter	Electric
Ignition	Electronic inductive discharge ignition, high efficiency, with separate HV coil.

Ignition advance	α/N three-dimensional map managed by control unit
Spark plug	NGK CR8EKB
Electrode gap	0.7 to 0.8 mm
Fuel system	Electronic injection with Ø 32-mm throttle body and electric fuel pump.
Fuel	Unleaded petrol (95 RON)
Exhaust silencer	Absorption-type exhaust silencer with a 3-way catalytic converter and lambda probe.
Emission regulations	EURO 3

ENGINE DATA (300IE)

Type	Single-cylinder, 4-stroke
Cubic capacity	278 cm ³
Bore x stroke	75 X 63 mm
Compression ratio	11 ± 0.5 : 1
Engine idle speed	1700 ± 100 rpm
Timing system	4 valves, single overhead camshaft, chain-driven.
Valve clearance	Intake: 0.10 mm Exhaust: 0.15 mm
Max. power	16 kW at 7500 rpm
MAX. torque	23.8 Nm at 5750 rpm

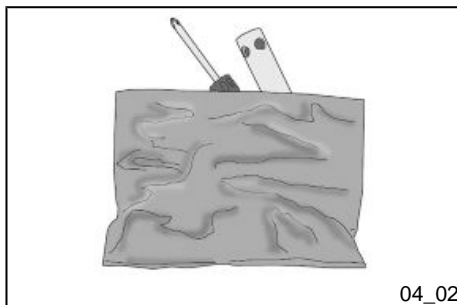
Transmission	Automatic expandable pulley variator with torque server, V-belt, self-ventilating dry automatic centrifugal clutch and transmission housing with forced-circulation air cooling.
Final reduction gear	Gear reduction unit in oil bath.
Lubrication	Engine lubrication with lobe pump (inside crankcase), chain-driven, with double filter: mesh and paper.
Cooling	Forced coolant circulation system.
Starter	Electric
Ignition	Electronic inductive discharge ignition, high efficiency, with separate HV coil.
Ignition advance	α/N three-dimensional map managed by control unit
Spark plug	NGK CR8EKB
Electrode gap	0.7 to 0.8 mm
Fuel system	Electronic injection with Ø 32-mm throttle body and electric fuel pump.
Fuel	Unleaded petrol (95 RON)
Exhaust silencer	Absorption-type exhaust silencer with a 3-way catalytic converter and lambda probe.
Emission regulations	EURO 3

VEHICLE TECHNICAL DATA

Chassis	Tubular and steel sheets.
Front suspension	Hydraulic telescopic fork with Ø 35-mm stem
Rear suspension	Two double-acting shock absorbers, adjustable to four positions at preloading.
Front brake	Ø 260-mm disc brake with hydraulic control activated by handlebar right-side lever.
Rear brake	Ø 240-mm disc brake with hydraulic control operated by the handlebar left-side lever.
Wheel rim type	Light alloy wheel rims.
Front rim	14" x 3.50
Rear rim	13" x 3.50
Front tyre	Tubeless, 120/70-14" 55P
Rear tyre	Tubeless, 140/60 - 13" 63P
Front tyre pressure (with passenger)	2 bar (2 bar)
Rear tyre pressure (with passenger)	2.2 bar (2.5 bar)
Kerb weight	159 ± 7 Kg (125ie)
	161 ± 7 Kg (300ie)
Maximum weight allowed	360 kg
Battery	12V-10Ah

CAPACITY

Engine oil	1.300 cm ³
Hub oil	250 cm ³
Cooling system fluid	~ 2 l
Fuel tank (reserve)	~12 ± 0.5 l (~2.5 l)

**Toolkit (04_02)**

The toolkit comprises:

- One box-spanner Ø 16
- One twin screwdriver
- One special spanner for adjusting the rear shock absorbers
- One torx wrench T30
- One plastic clip for removing fuses.

The tools are stored in the helmet compartment.

X7 EVO 300ie e 125ie



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 TO CONTACT AN AUTHORISED DEALER OR SERVICE CENTRE IN ORDER TO CHOOSE AND FIT ACCESSORIES CORRECTLY. THE USE OF NON-ORIGINAL ACCESSORIES MAY AFFECT THE STABILITY AND OPERATION OF YOUR VEHICLE AND REDUCE SAFETY LEVELS WITH POTENTIAL RISKS FOR THE RIDER.

WARNING

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

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

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

WARNING

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

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

X7 EVO 300ie e 125ie



Chap. 06
Scheduled
maintenance



Scheduled servicing table (06_01)

Adequate maintenance is fundamental to ensure 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 intervals, even if the stated mileage has not yet been reached. Punctual scooter servicing is essential to ensure your warranty remains valid. For any further information concerning Warranty procedures and 'Scheduled Maintenance', please refer to the 'Warranty Booklet'.

VERSION 300ie

SCHEDULED MAINTENANCE TABLE

Km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60
Valve clearance					A				A				A
Driving belt				R			R			R			R
Sliding shoes / CVT rollers			R		R		R		R		R		R
Spark plug			R		R		R		R		R		R
Air filter			C		C		C		C		C		C
Belt compartment air filter			I		I		I		I		I		I
Engine oil	R	I	R	I	R	I	R	I	R	I	R	I	R
Oil filter	R		R		R		R		R		R		R

Km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60
Oil filter (mesh)	C												
Hub oil	R		I		R		I		R		I		R
Coolant *	I		I		I		I		I		I		I
Radiator (external cleaning)				I			I			I			I
Brake fluid *	I		I		I		I		I		I		I
Brake pads	I	I	I	I	I	I	I	I	I	I	I	I	I
Brake levers	L		L		L		L		L		L		L
Throttle control	A		A		A		A		A		A		A
Electrical system and battery	I		I		I		I		I		I		I
Suspension			I		I		I		I		I		I
Steering	A		A		A		A		A		A		A
Headlight direction adjustment				A			A			A			A
Transmission				L			L			L			L
Centre stand			L								L		
Safety fasteners	I		I				I				I		I
Tyre pressure and wear	I		I		I		I		I		I		I
Vehicle road test	I		I		I		I		I		I		I

I: CHECK AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY.

C: CLEAN, **R:** REPLACE, **A:** ADJUST, **L:** LUBRICATE

* Replace every 2 years

SCHEDULED MAINTENANCE TABLE

Km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60
Roller bearing - Driven pulley			L		L		L		L		L		L
Safety fasteners	I		I				I				I		I
Spark plug			R		R		R		R		R		R
Drive belt			I	R	I		R		I	R	I		R
Throttle control	A		A		A		A		A		A		A
Air filter			C		C		C		C		C		C
Oil filter	R		R		R		R		R		R		R
CVT Filter			C		C		C		C		C		C
Valve clearance			A				A				A		
Electrical system and battery	I		I		I		I		I		I		I
Brake levers	L		L		L		L		L		L		L
Brake fluid *	I		I		I		I		I		I		I
Coolant *	I		I		I		I		I		I		I
Engine oil	R	I	R	I	R	I	R	I	R	I	R	I	R
Hub oil	R		I		R		I		R		I		R
Headlight direction adjustment				A			A			A			A
Brake pads	I	I	I	I	I	I	I	I	I	I	I	I	I
Sliding shoes / CVT rollers			R		R		R		R		R		R

Km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60
Tyre pressure and wear	I		I		I		I		I		I		I
Vehicle road test	I		I		I		I		I		I		I
Radiator (external cleaning)				I			I			I			I
Suspension	I		I		I		I		I		I		I
Steering	A		A		A		A		A		A		A
Transmission				L			L			L			L

I: CHECK AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY.

C: CLEAN, **R:** REPLACE, **A:** ADJUST, **L:** LUBRICATE

* Replace every 2 years

RECOMMENDED PRODUCTS TABLE

Product	Description	Specifications
AGIP 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	Calcium complex soap-based grease with NLGI 2; ISO-L-XBCIB2	Grease (brake control levers, throttle grip)
AGIP CITY HI TEC 4T	Engine oil	SAE 5W-40, API SL, ACEA A3, JASO MA Synthetic oil

Product	Description	Specifications
AGIP BRAKE 4	Brake fluid	FMVSS DOT 4 Synthetic fluid
AGIP PERMANENT SPECIAL	coolant	Monoethylene glycol-based antifreeze fluid, CUNA NC 956-16

UNIT OF MEASURE - CONVERSION - ENGLISH SYSTEM
TO INTERNATIONAL SYSTEM (IS).

1 Inch (in)	25.4 Millimetres (mm)
1 Foot (ft)	0.305 Meter (m)
1 Mile (mi)	1.609 Kilometre (km)
1 US Gallon (USgal)	3.785 Litre (l)
1 Pound (lb)	0.454 Kilogram (kg)
1 Cubic inch (in ³)	16.4 Cubic centimetres (cm ³)
1 Foot pound (ft lb)	1,356 Newton meter (Nm)
1 Mile per hour (mi/h)	1.602 Kilometres per hour (km/h)
1 Pound per square inch (PSI)	0.069 (bar)
1 Fahrenheit (°F)	32+(9/5) Celsius (°C)

TABLE OF CONTENTS

A

Air filter: 46, 47

B

Battery: 51, 52

Brake: 49, 63

C

Checks: 26

Clock: 11

D

Disc brake: 63

E

Engine oil: 38, 40

Engine stop: 15

F

Fuel: 19

Fuses: 53

H

Headlight: 59

Horn: 14

Hub oil: 42

I

Identification: 21

Immobilizer: 15, 18

Instrument panel: 11

K

Key switch: 12

Keys: 16

L

Light switch: 14

M

Maintenance: 37, 83

Mirrors: 62

P

Puncture: 64

R

Refuelling: 26

S

Saddle: 21

Scheduled maintenance: 83

Shock absorbers: 29

Spark plug: 45

Stand: 34

Start-up: 15

Switch: 12–14

T

Tank: 19

Technical Data: 71

Toolkit: 77

Top box: 23

Transmission: 34

Tyre pressure: 28

Tyres: 44

V

Vehicle: 7, 65



The descriptions and illustrations given in this publication are not binding. While the basic specifications as described and illustrated in this manual remain unchanged, PIAGGIO-GILERA reserves the right, at any time and without being required to update this publication beforehand, to make any changes to components, parts or accessories, which it considers necessary to improve the product or which are required for manufacturing or construction reasons.

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

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

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