

Vespa would like to thank you

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

# **Vespa LX 125ie 150ie 3Valvole**



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



### **Personal safety**

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



### **Safeguarding the environment**

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



### **Vehicle intactness**

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

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



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# Vespa LX 125ie 150ie 3Valvole



**Chap. 01**  
**Vehicle**

## Dashboard (01\_01)



01\_01



**A** = Ignition key-switch

**B** = Horn button

**C** = Turn indicator switch

**D** = Light switches

**E** = Left hand grip

**F** = Rear brake control lever

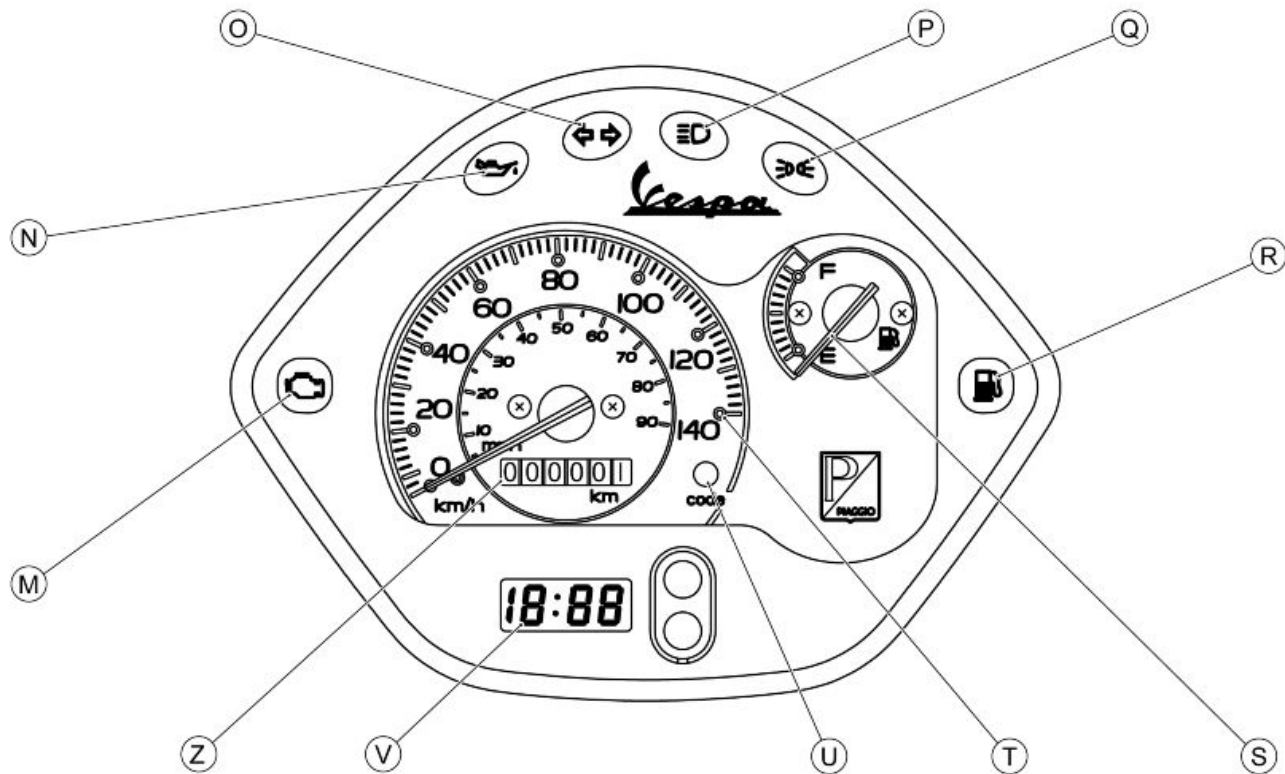
**G** = Analogue instrument panel

**H** = Front brake control lever

**I** = Throttle grip

**L** = Start-up button

## **Analogue instrument panel (01\_02)**



01\_02

**M** = Engine control telltale light

**N** = Low engine oil pressure warning light;

**O** = Turn indicator warning light

**P** = High-beam warning light

**Q** = Daylight running light/low-beam light warning light

**R** = Low fuel warning light

**S** = Fuel gauge

**T** = Speedometer

**U** = Immobilizer LED warning light

**V** = Digital clock

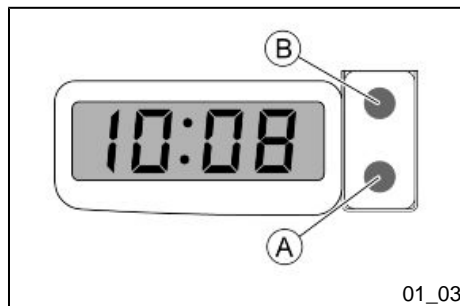
**Z** = Odometer

## **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.



The digital clock is powered by a battery (battery life is about 2 years); lift the whole instrument panel to replace the battery. It is advisable to take your vehicle to an **Authorised Service Centre** for this operation.

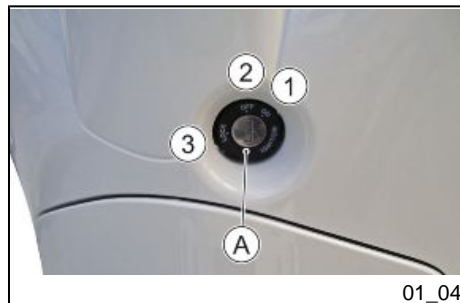
#### WARNING



**DEAD BATTERIES ARE HARMFUL TO THE ENVIRONMENT. THEY MUST DISPOSED OF IN SUITABLE CONTAINERS AS PRESCRIBED BY THE REGULATIONS IN FORCE.**

### Key switch (01\_04)

The key switch «A» is located on the knee-guard panel.



#### 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\_05

### 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.

#### CAUTION



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



01\_06

### Releasing the steering wheel (01\_06)

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

#### CAUTION



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



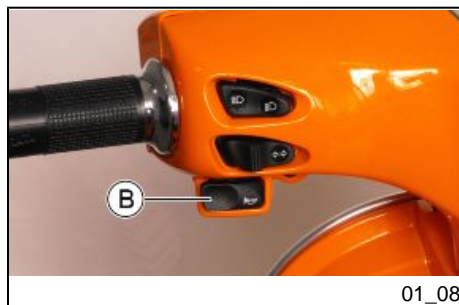
### Switch direction indicators (01\_07)

By moving the turn indicator switch «C» to the left, to position «1», the left turn indicators turn on.

By moving the switch «C» to the right, to position «2», the right turn indicators turn on.

The turn indicator switch «C» turns automatically to position «0», keeping the requested function.

To cancel the request and turn off the activated indicators, press the switch «C».



### Horn button (01\_08)

Push the button «B» to sound the horn.

### Light switch (01\_09)

When the light switch «D» is set to «0», the low-beam light is on. When set to «1», the high-beam light is activated.



01\_09

**CAUTION**

**DO NOT PLACE, TRANSPORT OBJECTS AND/OR CLOTHES OVER THE FRONT HEADLIGHT ASSEMBLY, WHEN THE HEADLIGHT IS TURNED ON OR OFF. FAILURE TO FOLLOW THIS PRECAUTION MAY CAUSE OVERHEATING AND THE SUBSEQUENT FUSION OF THE GLASS.**



01\_10

**Start-up button (01\_10)**

To start the engine, pull either of the two brake levers and then push the button «L».

The vehicle is equipped with special starter procedure management. The starter motor remains active until the engine starts even if switch «L» is released.

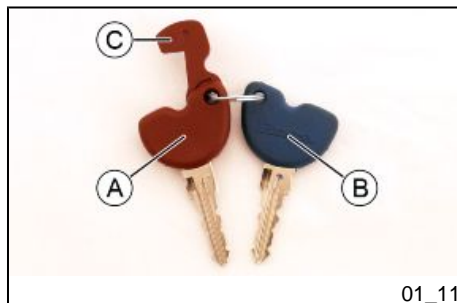
Keep one of the two brakes operated (front or rear) so as to not interrupt the starter procedure.

The throttle grip must remain in the minimum position, because any other position inhibits the vehicle starter.

The starter motor will remain active for a maximum of 5 consecutive seconds.

**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.



## Keys (01\_11, 01\_12, 01\_13)

The vehicle is supplied with two types of keys. 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. We therefore recommend that it be used only under exceptional circumstances. The blue key «B» (single copy supplied) is used for normal operations and for start-up.

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

### WARNING

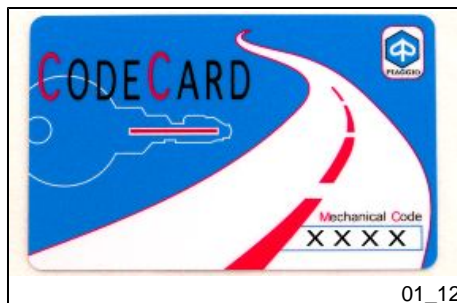


**LOOSING THE RED KEY PREVENTS ANY REPAIRS OF THE 'PIAGGIO IMMOBILIZER' SYSTEM AND THE ENGINE CONTROL UNIT.**

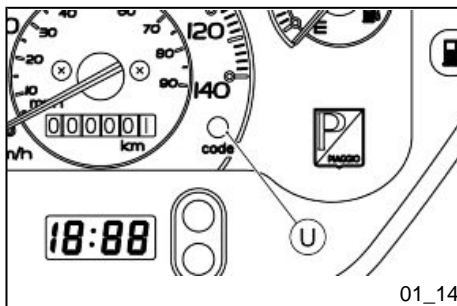
### WARNING



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







## Immobilizer device enabled indicator led (01\_14)

Activation of the «**PIAGGIO IMMOBILIZER**» system is signalled by a flashing warning light «**U**» (see «Analogue instrument panel» section).

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

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

## Operation

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

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

## WARNING



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

**VIOLENT SHOCKS MAY AFFECT THE ELECTRONIC COMPONENTS OF THE KEY.**

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

### **Procedure start - red key**

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

### **Intermediate step - blu key**

Within ten seconds after pulling out the red key, insert the black key and promptly turn it to «**ON**». After 1-3 seconds, turn the key to "**OFF**" again and pull it out.

In this way, a maximum of 3 blue keys can be programmed by repeating the above procedure and keeping the indicated times.

### **Final step - red key**

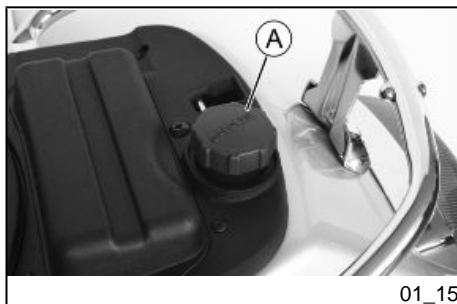
After extracting the last blue key, insert the brown key again and turn it to «**ON**» (carry out this operation within 10 seconds after extracting the previous key). Leave it in this position for 1 to 3 seconds and return it to «**OFF**».

## 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 blue 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.**



## Fuel tank (01\_15)

The fuel tank cap «A» is under the saddle. To reach it, tip the saddle forwards.



01\_16

### Opening the saddle (01\_16)

To lift the saddle;

- insert the key into the saddle lock «A»;
- turn the key anticlockwise and lift the saddle towards the instrument panel.

When lifting the saddle, you access the:

- fuel tank cap,
- helmet compartment;
- main fuses;
- battery.



01\_17

### Opening the side panels. (01\_17, 01\_18, 01\_19)

To remove the front cover, proceed as follows:

- remove the clip-on badge, paying attention to the vehicle bodyworks.



01\_18

- Undo the fixing screw.
- Turn the handlebar until the end of one side.
- Remove the front cover upwards and to the side, releasing the housing tongues.



01\_19

### 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.).**



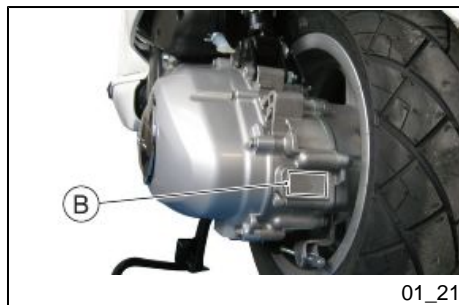
01\_20

**Chassis number**

The chassis number «A» is stamped near the battery compartment.

To read it proceed as follows:

- lift the saddle;
- lift the helmet compartment by removing it.



01\_21

**Engine number**

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



01\_22

### Rear top box opening (01\_22)

Turn the key to «**OFF**». Then press it. When the key is set to «**LOCK**», the glove-box is locked.



01\_23

### Bag clip (01\_23)

The bag hook is placed on the saddle end.

To use the hook, slide it off from the front.



**Maximum applicable load: 1.5 kg**



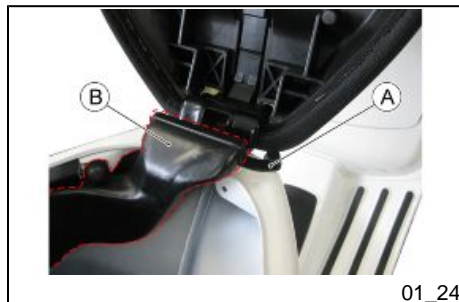
**FOR THE USER SAFETY, THE DIMENSIONS OF THE LOAD SHOULD NOT BE EXCEEDED BY THE PERIMETER OF THE VEHICLE OR PREVENT AT ALL THE RIDING.**

**CAUTION**



**THE INDICATED COMPONENT «B» REPRESENTS THE AIR INTAKE OF THE MOTOR: DO NOT OBSTRUCT EXTERNALLY OR INTERNALLY, WITH ANY OB-**

**JECT, THE ENDS UNDER THE SADDLE, IN ORDER TO AVOID SERIOUS ENDANGERING OF THE VEHICLE.**



### **Helmet Anti-theft Device (01\_24)**

When lifting the saddle, as described in paragraph «Saddle opening», you can reach the antitheft device «A» at which it is possible to secure a helmet.

#### **CAUTION**



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

#### **CAUTION**



**THE INDICATED COMPONENT «B» REPRESENTS THE AIR INTAKE OF THE MOTOR: DO NOT OBSTRUCT EXTERNALLY OR INTERNALLY, WITH ANY OBJECT, THE ENDS UNDER THE SADDLE, IN ORDER TO AVOID SERIOUS ENDANGERING OF THE VEHICLE.**

#### **WARNING**



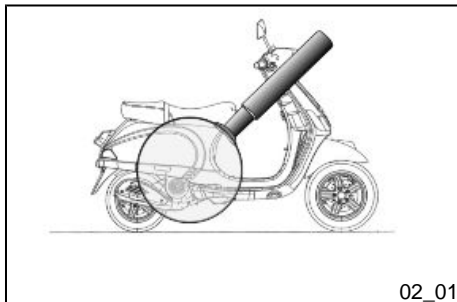
**THIS ACCESSORY IS NOT A THEFT PREVENTION GUARANTEE, IT IS ONLY A DETERRENT.**



# Vespa LX 125ie 150ie 3Valvole



**Chap. 02**  
**Use**

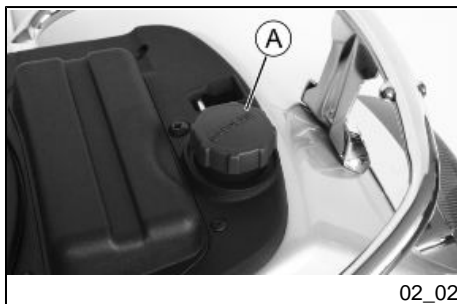


02\_01

## Checks (02\_01)

Before using the vehicle, check:

1. that the fuel tank is full.
2. The oil level in the rear hub.
3. engine oil level (see section «Engine oil level»).
4. That tyres are properly inflated.
5. correct functioning of headlights, rear taillight and turn indicators.
6. The correct functioning of the front and rear brakes.



02\_02

## Refuelling (02\_02)

Fill fuel tank «A» with unleaded petrol (minimum octane rating = 95).

When the fuel reaches the low fuel level, the warning light on the instrument panel lights up.

### CAUTION



**SHUT OFF THE ENGINE BEFORE REFUELING WITH PETROL. PETROL IS HIGHLY FLAMMABLE. DO NOT LET PETROL SPILL FROM THE TANK OR WHILE REFUELING**

### CAUTION



**DO NOT BRING NAKED FLAMES OR CIGARETTES NEAR THE MOUTH OF THE FUEL TANK: FIRE HAZARD. ALSO AVOID INHALING HARMFUL VAPOURS.**

## Characteristic

### Fuel tank capacity

(8.2±0.5) l

### Tyre pressure (02\_03)

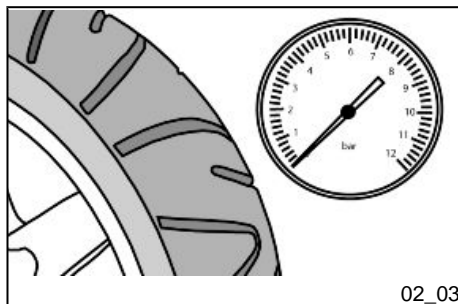
Check tyre pressure as indicated in the scheduled maintenance table.

#### 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.**

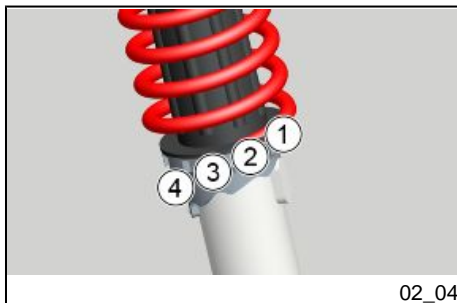


## TYRE INFLATION PRESSURE

Front tyre pressure	1.6 bar
Rear tyre pressure (with passenger)	2.0 bar (2.3 bar)

## TYRES

Front tyre	Tubeless, 110/70 - 11" 45L
Rear tyre	Tubeless, 120/70 - 10" 54L



### Shock absorbers adjustment (02\_04, 02\_05)

The preloading of the spring 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: rider only

**Position 2** medium preloading: rider only

**Position 3** medium preloading: rider and passenger

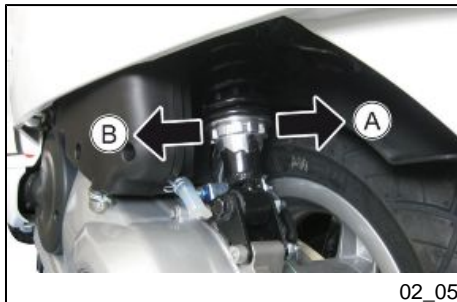
**Position 4:** maximum preloading: rider, passenger, and luggage.

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.**

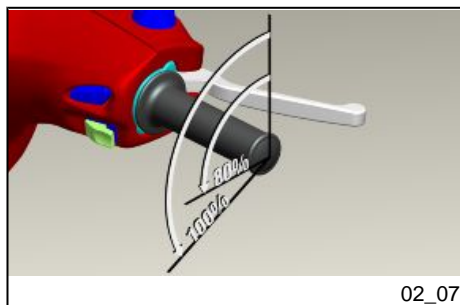
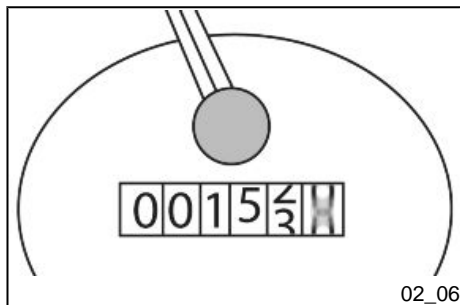


**WARNING**

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

**Running in (02\_06, 02\_07)****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\_08

## Starting up the engine (02\_08, 02\_09, 02\_10, 02\_11, 02\_12)

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.

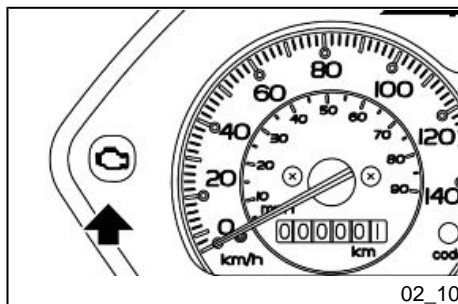
The vehicle is equipped with a **servo assisted** starter system.

To start it up, it is necessary to:

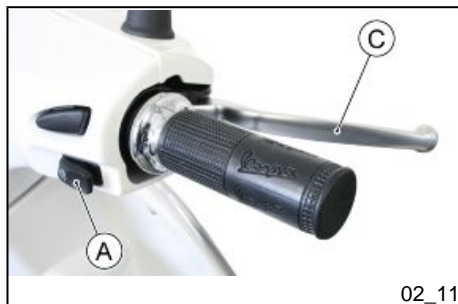
- Rest the vehicle on its centre stand, ensuring the rear wheel is not touching the ground.
- Keep the throttle grip to idle speed.
- Insert the key into the ignition key and turn it to «ON».



02\_09



- Wait for the engine control telltale light to turn off.



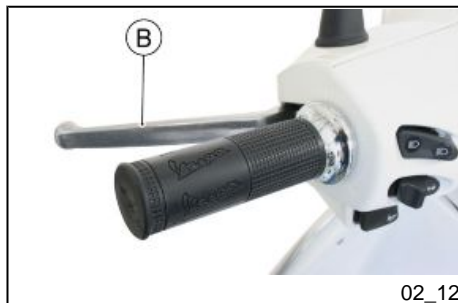
- To start the engine, pull either of the two brake levers «**B-C**» and then push the button «**A**».

The vehicle is equipped with special starter procedure management. The starter motor remains active until the engine starts even if switch «**L**» is released.

Keep one of the two brakes operated (front or rear) so as to not interrupt the starter procedure.

The throttle grip must remain in the minimum position, because any other position inhibits the vehicle starter.

The starter motor will remain active for a maximum of 5 consecutive seconds.



#### CAUTION



**DO NOT CARRY OUT THESE OPERATIONS IN CLOSED AREAS SINCE EXHAUST GASES ARE TOXIC.**

#### CAUTION



**DUE TO THE HIGH TEMPERATURES THE SILENCER CAN REACH, ALWAYS TAKE CARE, WHEN PARKING THE VEHICLE, THAT THE SILENCER DOES NOT**

**COME INTO CONTACT WITH FLAMMABLE MATERIALS, TO AVOID SERIOUS BURNS.**



### **Starting up the engine (02\_12, 02\_13, 02\_14, 02\_15, 02\_16, 02\_17)**

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.

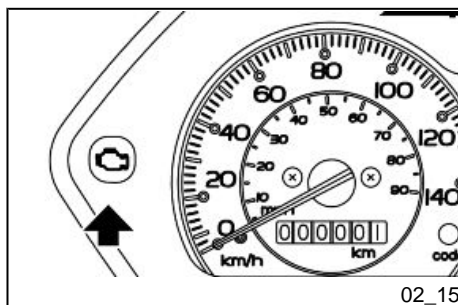
The vehicle is equipped with a **servo assisted** starter system.

To start it up, it is necessary to:

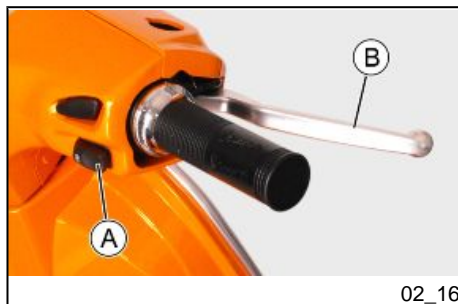
- Rest the vehicle on its centre stand, ensuring the rear wheel is not touching the ground.
- Keep the throttle grip to idle speed.
- Insert the key into the ignition key and turn it to «ON».







- Wait for the engine control telltale light to turn off.



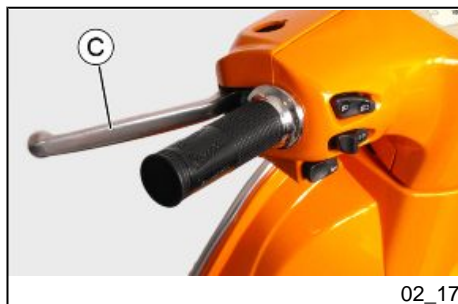
- To start the engine, pull either of the two brake levers «B-C» and then push the button «A».

The vehicle is equipped with special starter procedure management. The starter motor remains active until the engine starts even if switch «L» is released.

Keep one of the two brakes operated (front or rear) so as to not interrupt the starter procedure.

The throttle grip must remain in the minimum position, because any other position inhibits the vehicle starter.

The starter motor will remain active for a maximum of 5 consecutive seconds.



#### CAUTION



**DO NOT CARRY OUT THESE OPERATIONS IN CLOSED AREAS SINCE EXHAUST GASES ARE TOXIC.**

#### CAUTION



**DUE TO THE HIGH TEMPERATURES THE SILENCER CAN REACH, ALWAYS TAKE CARE, WHEN PARKING THE VEHICLE, THAT THE SILENCER DOES NOT**

**COME INTO CONTACT WITH FLAMMABLE MATERIALS, TO AVOID SERIOUS BURNS.**



### **Difficult start up (02\_18)**

In the rare case of a flooded engine, and in order to facilitate starting, try putting the vehicle into motion with the throttle slightly 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\_19)**

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

#### **CAUTION**



**DUE TO THE HIGH TEMPERATURES THAT CAN BE REACHED IN THE CATALYTIC CONVERTER, WHEN PARKING THE VEHICLE, PAY ATTENTION TO THE MUFFLER: TO AVOID SERIOUS BURNS OR FIRE, THE MUFFLER SHOULD NEVER COME INTO CONTACT WITH FLAMMABLE MATERIALS.**



02\_20

### Anti-theft ring (02\_20)

The ring shown in the figure, located on the right side of the vehicle is used to fasten the vehicle to a stable object using a vehicle chain. Do not use the ring for other purposes.

#### WARNING



**THIS ACCESSORY IS NOT A THEFT PREVENTION GUARANTEE, IT IS ONLY A DETERRENT.**



02\_21

### Catalytic silencer (02\_21)

#### CAUTION

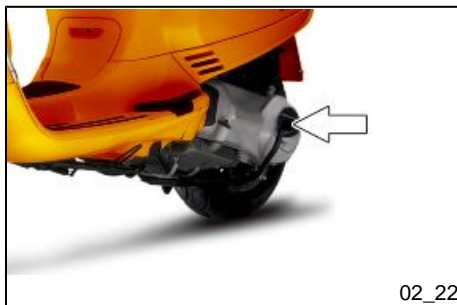


**TAMPERING WITH THE CATALYTIC SILENCER MAY CAUSE SEVERE DAMAGE TO THE ENGINE.**

#### CAUTION

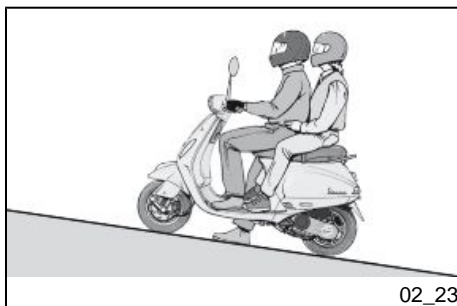


**DUE TO THE HIGH TEMPERATURES THAT CAN BE REACHED IN THE CATALYTIC CONVERTER, WHEN PARKING THE VEHICLE, PAY ATTENTION TO THE MUFFLER: TO AVOID SERIOUS BURNS OR FIRE, THE MUFFLER SHOULD NEVER COME INTO CONTACT WITH FLAMMABLE MATERIALS.**



### Stand (02\_22)

Lower the projection of the centre stand by kicking the bracket while pulling the vehicle backward, holding onto the handlebars.



### Automatic transmission (02\_23)

To ensure simple, pleasurable riding, the vehicle is equipped with automatic transmission with regulator and centrifugal clutch. The system is designed to give the best possible performance in terms of both acceleration and consumption, on level ground and uphill, thanks to the adjustments made to engine speed and transmitted torque. 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 motor to keep the vehicle still can cause the clutch to overheat. This problem is due to the friction of the clutch parts on the clutch bell. It is therefore recommended to avoid conditions of prolonged clutch slippage leading to clutch overheating (for example, as well as the situation described above, riding uphill fully laden on steep slopes or starting off on slopes greater than 25%, etc.):

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



## Safe driving (02\_24)

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 the vehicle on roads with sand, mud, snow mixed with salt, etc., we recommend that you clean the brake disc frequently with a non-aggressive detergent in order to avoid the formation of abrasive build-ups in the holes, which could result in early wear of brake pads.

### CAUTION



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

### CAUTION



**ANY ELABORATION THAT MODIFIES THE VEHICLE'S PERFORMANCES, SUCH AS TAMPERING WITH ORIGINAL STRUCTURAL PARTS IS STRICTLY FORBID-**

DEN BY LAW, AND RENDERS THE VEHICLE NO LONGER CONFORMING TO THE APPROVED TYPE AND DANGEROUS FOR RIDING.

#### CAUTION

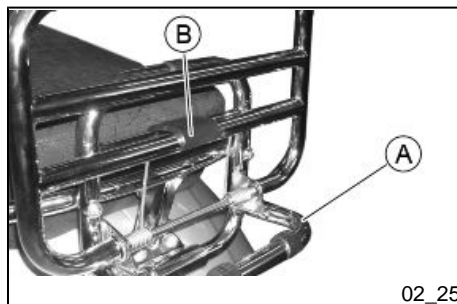


DO NOT ADJUST THE MIRRORS WHILE RIDING. THIS COULD CAUSE YOU TO LOOSE CONTROL OF THE VEHICLE.

#### WARNING



IN ORDER TO PREVENT ANY ACCIDENTS RIDE VERY CAREFULLY AFTER ADDING ACCESSORIES AND WHILE CARRYING LUGGAGE. THE ADDITION OF ACCESSORIES AND LUGGAGE CAN REDUCE YOUR SCOOTER STABILITY AND PERFORMANCE, AS WELL AS THE LEVEL OF SAFETY DURING USE. (SEE THE «SPARE PARTS AND ACCESSORIES» SECTION)



#### Rear rack (02\_25, 02\_26)

The «Touring» version is equipped with rear luggage carrier «A» shown in the picture.

During use of the vehicle without a load on the rear luggage carrier, it is recommended to position the retainer hook «B» as indicated in the picture.

#### WARNING



Rear luggage carrier maximum admissible load: 6 kg



The «**Touring**» version is also equipped with front luggage carrier «**C**», as well as the rear one «**A**» indicated above.

#### WARNING



**Front luggage carrier maximum admissible load: 4 kg**





# Vespa LX 125ie 150ie 3Valvole



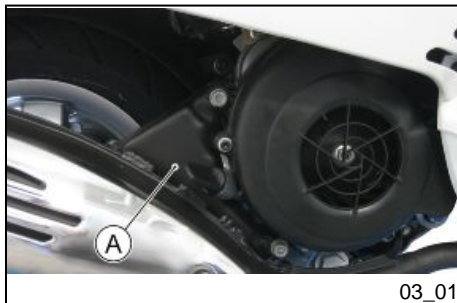
## Chap. 03 Maintenance

## Engine oil level

In four stroke engines, the engine oil is used to lubricate the timing elements, the bench bearings and the thermal group. **An insufficient quantity of oil can cause serious damage to the engine.** In all four-stroke engines, a loss of efficiency in oil performance and consumption should be considered normal.

Consumption can particularly reflect the conditions of use (i.e when driving e.g.: using the vehicle most of the time with the throttle grip mainly open, means a higher oil consumption).

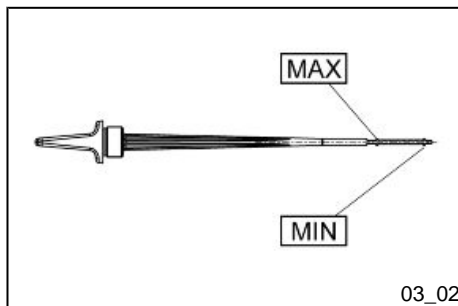
**In order to avoid problems, it is advisable to control oil level every time the vehicle is used.**



### Engine oil level check (03\_01, 03\_02)

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

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

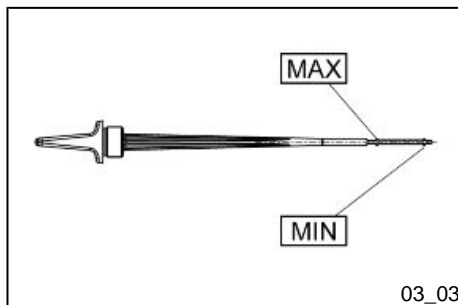


03\_02

### ENGINE OIL CAPACITY

Engine oil

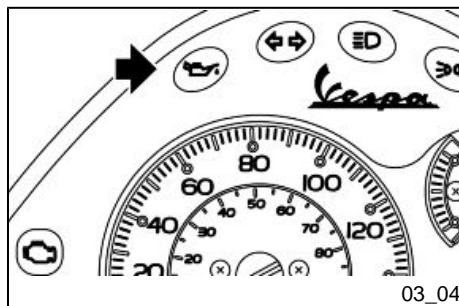
1220 cc (of which 120 cc in the filtering cartridge)



03\_03

### Engine oil top-up (03\_03)

The oil should be topped up after having checked the level and in any case by adding oil **without ever exceeding the MAX. level**. 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.



03\_04

### Warning light (insufficient oil pressure) (03\_04)

The vehicle is equipped with a warning light that comes on when the key is turned to «ON». However, this light should switch 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.**



03\_05

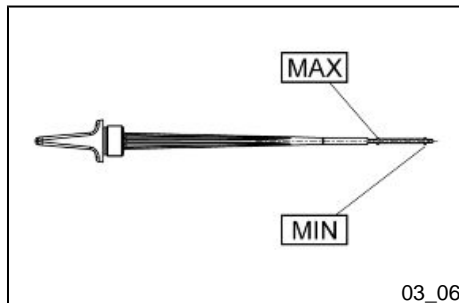
### Engine oil change (03\_05, 03\_06, 03\_07)

The oil and the cartridge filter «C» must be changed as indicated in the scheduled maintenance tables 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 oil drainage, loosen the cap/dipstick. Since a certain quantity of oil still remains in the circuit, add approximately 1000 cm<sup>3</sup> of oil through cap «A». Then start up the vehicle, leave it running for a few minutes and switch it off: after about five minutes check the level and if necessary top up **without exceeding the MAX level**. The cartridge filter must be replaced every time the oil is changed. For top-ups and changes, use new oil of the recommended type.

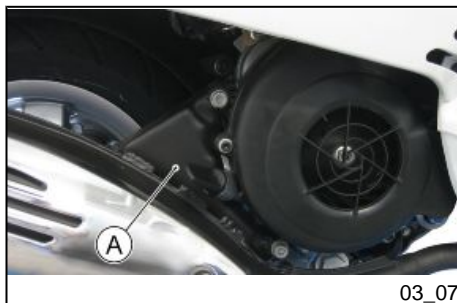
#### WARNING



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



03\_06



03\_07

**WARNING**

A LEVEL HIGHER THAN THE MAXIMUM AMOUNT INDICATED BY THE DIPSTICK, CAN CAUSE VEHICLE MALFUNCTION.

**CAUTION**

USED OIL CONTAINS SUBSTANCES WHICH CAN BE 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.

**CAUTION**

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

**Recommended products**

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

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

**ENGINE OIL CAPACITY**

Engine oil

1220 cc (of which 120 cc in the  
filtering cartridge)

## Hub oil level (03\_08)

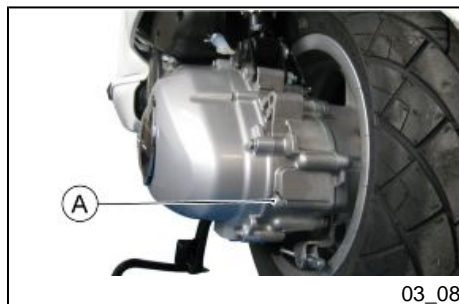
Check the presence of oil in the hub, according to the regular controls shown in the table of the scheduled maintenance.

### WARNING



**FOR THE REGULAR CHECK OF THE HUB OIL LEVEL SHOWN IN THE SCHEDULED MAINTENANCE TABLE, CONTACT AN AUTHORISED SERVICE CENTRE.**

**FOR THE CONTROLS OF THE HUB OIL LEVEL THAT ARE NOT PREDETERMINED BY THE SCHEDULED MAINTENANCE TABLE, OPERATE AS DESCRIBED.**



### CHECK LEVEL

- Park the vehicle on level ground and centre stand.
- Undo screw «A»:
  - **oil comes out** of the screw hole «A»: the oil quantity in the hub is adequate; place it and tighten the screw.
  - **NO oil comes out** of the screw hole «A»: the oil quantity in the hub, **IS NOT** adequate and it is necessary to carry out the top-up.
- With a cloth carefully clean the transmission crankcase.

### WARNING



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

**TOP-UP**

If necessary carry out the top-up, **DO NOT use the vehicle** and contact an **Authorised Service Centre**.

**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 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.**

**Recommended products**

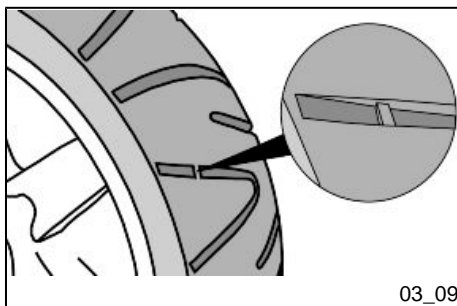
**AGIP GEAR SAE 80W-90**

*Lubricant for gearboxes and transmissions.*

API GL-4

**HUB OIL CAPACITY**

Hub oil	200 cm <sup>3</sup>
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## Tyres (03\_09)

Periodically check the inflation pressure of each tyre (when cold).

Tyres are fitted with wear indicators; tyres should be replaced 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 a workshop adequately equipped to remove and refit 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.**

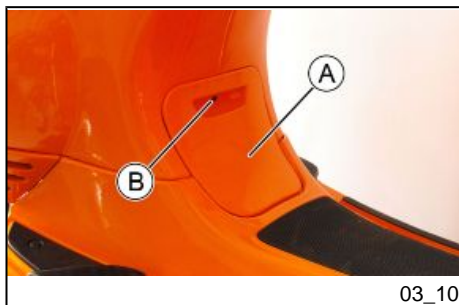
## TYRES

Front tyre	Tubeless, 110/70 - 11" 45L
Rear tyre	Tubeless, 120/70 - 10" 54L

## TYRE INFLATION PRESSURE

Front tyre pressure	1.6 bar
Rear tyre pressure (with passenger)	2.0 bar (2.3 bar)





03\_10

## Spark plug dismantlement (03\_10, 03\_11, 03\_12)

### Removal

In order to inspect the spark plug, follow the operation described when the engine is cold:

- Slide off the spark plug inspection cover «A» by unscrewing the screw «B».
- Slide off the spark plug tube «C».
- Remove the spark plug using the box-spanner supplied.

### Fitting

- Use the box-spanner to refit the spark plug in its saddle, then tighten it. Care should be taken while installing and fixing it with the correct inclination.

- Insert the spark plug tube «C».

- Place the inspection cover «A» and tighten the screw «B».

### CAUTION



**FOLLOW THESE PROCEDURES VERY CAREFULLY TO AVOID ANY SEVERE DAMAGE THAT MAY BE CAUSED BY THE VERY POWERFUL IGNITION SYSTEM.**

### CAUTION



**THE SPARK PLUG MUST BE REMOVED WHEN THE ENGINE IS COLD.**

**USING IGNITION ELECTRONIC CENTRAL UNITS OR SPARK PLUGS OTHER THAN THE TYPES PRESCRIBED (SEE «TECHNICAL DATA» SECTION) CAN CAUSE SERIOUS DAMAGE TO THE ENGINE.**



03\_11



03\_12

**CAUTION**

PERFORM THE OPERATIONS CAREFULLY.

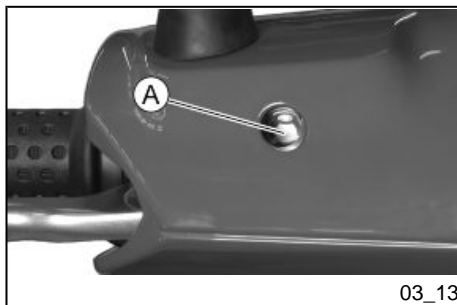
DO NOT DAMAGE THE TONGUES OR THEIR SEATS. HANDLE THE PAINTED AND PLASTIC COMPONENTS CAREFULLY. DO NOT SCRATCH OR DAMAGE THEM.

**RECOMMENDED SPARK PLUG**

Spark plug (125cm <sup>3</sup> )	NGK CR8EB
Spark plug (150cm <sup>3</sup> )	NGK CR8EB
Electrode gap	0.7 to 0.8 mm

**Removing the air filter**

To remove and clean the air filter, follow the indications in the scheduled maintenance table, contact an **Authorised Service Centre**.



03\_13

### Checking the brake oil level (03\_13)

The tank of the brake fluid is placed on the right side of the handlebar, under the handlebar cover.

To control the brake fluid level, proceed as follows:

- rest the vehicle on its centre stand and with the handlebars perfectly horizontal;
- control the level with the relative inspection sight glass «A», visible on the right front side of the handlebar cover:

- if the sight glass is **full**, the brake fluid level is correct.
- If the brake fluid level is certified to the reference «**MIN**», go to an **Authorised Service Centre** or carry out the top-up as indicated.
- If the brake fluid level is lower than the reference «**MIN**», do not use the vehicle and contact an **Authorised Service Centre**.



03\_14

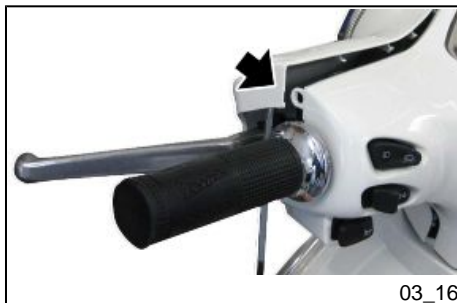
### Braking system fluid top up (03\_14, 03\_15, 03\_16, 03\_17)

Proceed as follows:

- Remove the rear-view mirrors.
- Undo the two screws «**A**».
- Remove the front cover as described in paragraph "Opening cases".
- Undo the screw «**B**».



03\_15

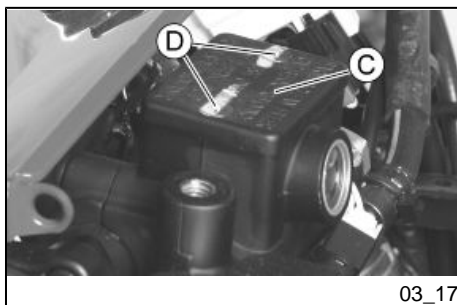


03\_16

- Working separately on both sides of the vehicle, release the fin inside the handlebar covers.

- Remove the front handlebar cover.

- Slide off the front handlebar covers from the front, paying attention to the connections of the bulbs and place it on the front shield.



03\_17

- Remove the tank cover «C» after sliding off the two fixing screws «D».

- Refill with the prescribed brake fluid type only, paying attention not to exceed the maximum allowed level and indicated by the inspection sight glass.

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

**WARNING**

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

**CAUTION**

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

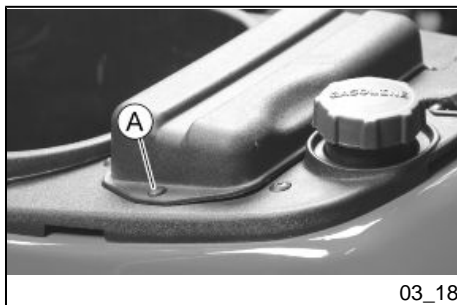
**Recommended products****AGIP BRAKE 4**

*Brake fluid.*

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

**FITTING**

To fit the removed components to access the brake fluid tank, work in reverse order what is described in the instructions of this paragraph.



## Battery (03\_18)

To access the battery, tilt the saddle forwards, then remove the battery compartment access door by unscrewing the star-shaped screw "A" shown in the figure.

The battery is the electrical device that requires the most frequent attention and the most thorough maintenance.

### WARNING



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

### CAUTION



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

### 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.**



## Use of a new battery (03\_19)

To install a new battery:

1. Place the battery in its housing.
2. Connect the positive pole «+» first and then the negative pole «-».
3. Place the battery cover.

### 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.**

## Characteristic

### Battery

Sealed, 12 V / 10 Ah

## Long periods of inactivity

Battery performance will be poor if the vehicle is not used for a long time. This is the result of the natural phenomenon of battery discharging, and may be due to residual absorption by vehicle components with constant power consumption. Poor battery performance may also be due to environmental conditions and the cleanliness of the

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

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

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

#### **N.B.**

**THE BATTERY MUST BE CHARGED WITH A CURRENT EQUAL TO 1/10 OF THE RATED CAPACITY OF THE BATTERY AND FOR NOT LONGER THAN 10 HOURS. CONTACT AN AUTHORISED SERVICE CENTRE TO CARRY OUT THIS OPERATION SAFELY. WHEN REFITTING THE BATTERY MAKE SURE THE LEADS ARE CORRECTLY CONNECTED TO THE TERMINALS.**

#### **WARNING**



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

#### **WARNING**



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





03\_20

### Fuses (03\_20, 03\_21, 03\_22, 03\_23)

The electrical system is protected by main and secondary fuses, positioned as:

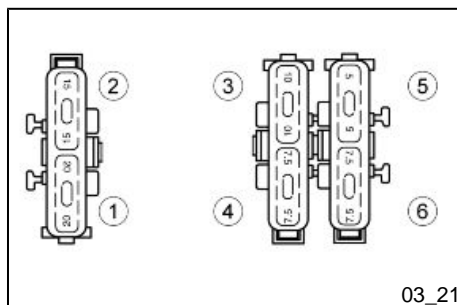
**MAIN FUSE HOLDER «A»** battery compartment under the saddle

**Access to the main fuse holders «A»:**

- Lift the saddle and open the fuse holders.

### MAIN FUSES

Fuse No. 1	<b>Capacity:</b> 20 A
	<b>Protected circuits:</b> vehicle general
Fuse No. 2	<b>Capacity:</b> 15 A
	<b>Protected circuits:</b> battery-powered injection solenoid, injection control unit and immobilizer LED.



03\_21



03\_22

**SECONDARY FUSES «B»:** inside the front shield under the front cover.

**Access to the secondary fuses «B»:**

- Remove the front cover as described in paragraph "Opening cases".
- Open the fuse holders.

## **SECONDARY FUSES**

Fuse No. 3

**Capacity:**10A

**Protected circuits:**Protected circuits: Powered by battery, light solenoid and antitheft device preparation.

Fuse No. 4

**Capacity:** 7.5 A

**Protected circuits:** Protected circuits: Live accessories, instrument panel, horn, stop switch and starter remote control.

Fuse No. 5

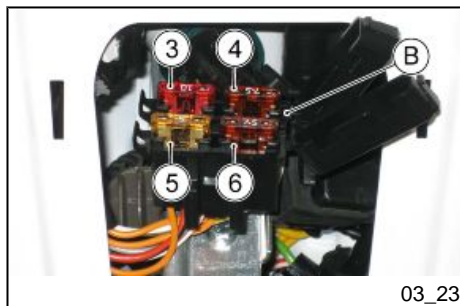
**Capacity:** 5A

**Protected circuits:** coil battery powered, solenoid loads, immobilizer antenna and control unit MIU.

Fuse No. 6

**Capacity:** 7.5 A

**Protected circuits:** Protected circuits: key powered to daylight running light and dashboard lighting.



03\_23

**CAUTION**

**BEFORE REPLACING THE FUSE IT IS NECESSARY TO FIND AND SOLVE THE FAILURE THAT CAUSED IT TO BLOW.**

**DO NOT REPLACE THE FUSE WITH ANY ALTERNATIVE FORM OF CONDUCTOR.**

**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.**

**CAUTION**

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

**CAUTION**

**PERFORM THE OPERATIONS CAREFULLY.**

**DO NOT DAMAGE THE TONGUES OR THEIR SEATS. HANDLE THE PAINTED AND PLASTIC COMPONENTS CAREFULLY. DO NOT SCRATCH OR DAMAGE THEM.**

**BULBS**

High/low beam light bulb	<b>Type:</b> Halogen (H4) <b>Power:</b> 12V - 55/60W <b>Quantity:</b> 1
Front daylight running light bulbs	<b>Type:</b> Incandescent <b>Power:</b> 12V - 5W <b>Quantity:</b> 1
Stop light/rear daylight running light bulb	<b>Type:</b> Incandescent <b>Power:</b> 12V-5W/16W <b>Quantity:</b> 1
License plate bulb	<b>Type:</b> Incandescent <b>Power:</b> 12V - 5W <b>Quantity:</b> 1
Front turn indicator light bulb	<b>Type:</b> Incandescent, BAU 15S, Amber <b>Power:</b> 12V - 10W <b>Quantity:</b> 1 RHS + 1 LHS
Rear turn indicator light bulb	<b>Type:</b> Incandescent, BAU 15S, Amber

**Power:** 12V - 10W

**Quantity:** 1 RHS + 1 LHS

Instrument panel bulb

**Type:** Incandescent

**Power:** 12V - 2W

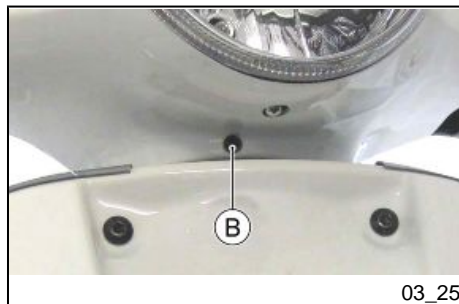
**Quantity:** 3

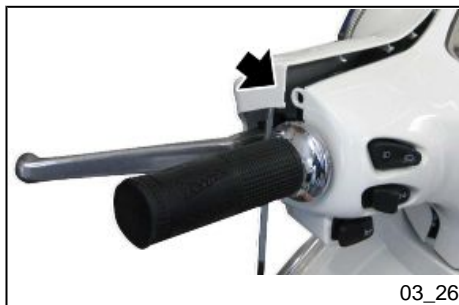


### Front light group (03\_24, 03\_25, 03\_26, 03\_27, 03\_28)

To access the headlight bulbs, remove the front of the handlebar cover, as follows:

- Remove the front cover as described in paragraph "Opening cases".
- Remove the rear-view mirrors as described in the paragraph "rear-view mirrors".
- Undo the front screw «B» and the two rear ones «A» that holding the handlebar cover.





03\_26

- Very carefully release the front handlebar cover from the side tongues, place internal and on both sides.

- Move the handlebar cover from the front.

#### CAUTION



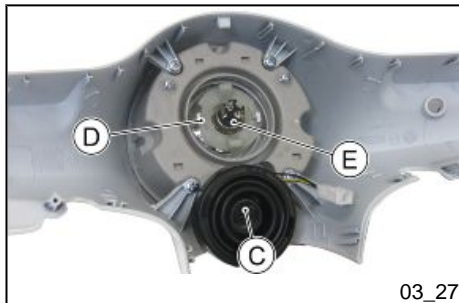
**PERFORM THE OPERATIONS CAREFULLY.**

**DO NOT DAMAGE THE TONGUES OR THEIR SEATS. HANDLE THE PAINTED AND PLASTIC COMPONENTS CAREFULLY. DO NOT SCRATCH OR DAMAGE THEM.**

#### HIGH/LOW BEAM LIGHT BULB

- Disconnect, by sliding the electric connector off.

- Remove the rubber protection «C».



03\_27

- Turn it anticlockwise, remove the ring nut «D».

- Slide off the bulb «E» and replace it with one of the same electric characteristics.

#### CAUTION

**DO NOT PULL THE ELECTRICAL CABLES WHEN TAKING OUT THE BULB ELECTRICAL CONNECTOR.**

#### N.B.

**IF MISTING IS NOTICED ON THE INSIDE OF THE TAIL LIGHT, CHECK THAT IT DISAPPEARS AFTER SOME MINUTES OF IGNITION OF THE TAIL LIGHT. IT IS A COMMON PHENOMENON AND IS ATTRIBUTABLE TO HUMIDITY AND/OR TO LOW TEMPERATURES; DOES NOT SHOW FAILURE.**

THE PRESENCE OF DROPS OF WATER, ON THE OTHER HAND, COULD INDICATE THAT WATER IS INFILTRATING. CONTACT AN AUTHORISED SERVICE CENTRE.



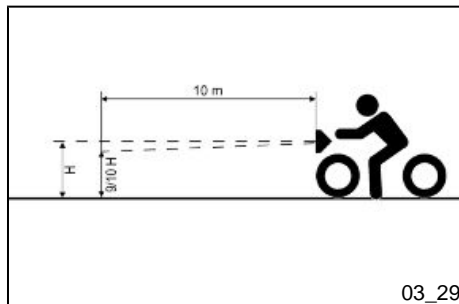
03\_28

#### DAYLIGHT RUNNING LIGHT BULB

- Slide off the bulb «F» from the seat, paying attention to the electrical connections.
- Slide off the bulb from the bulb holder and replace it.

#### CAUTION

**DO NOT PULL THE ELECTRICAL CABLES WHEN TAKING OUT THE BULB HOLDER.**



03\_29

#### Headlight adjustment (03\_29, 03\_30)

Proceed as follows:

- Position the 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; ensure that the longitudinal axis of the vehicle is perpendicular to the screen;
- Turn on the headlight and check that the borderline of the projected light beam on the screen is not higher than 9/10 or lower than 7/10 of the distance from the ground to the centre of the vehicle headlamp;
- Otherwise, adjust the right headlight with the screw «A».

#### 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.**



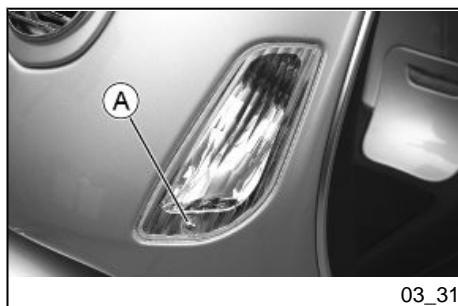


03\_30

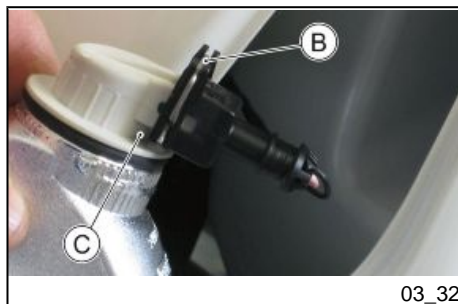
### Front direction indicators (03\_31, 03\_32)

To replace the bulbs:

- remove the turn indicator from its seat by undoing the screw «A».



03\_31



03\_32

- Slide of the clip «B» and release the connector.
- Take out the bulb holder «C» from its seat by turning it anticlockwise.
- Press the bulb, turn it anticlockwise and then take it out.

To refit, proceed in reverse order.



### Rear optical unit (03\_33, 03\_34)

To replace the taillight bulb:

1. Remove the two screws «A» and slide off the rear headlight assembly.
2. Take out the bulb holder «B» from its fitting by turning it anticlockwise.
3. Press the bulb, turn it anticlockwise and then take it out.

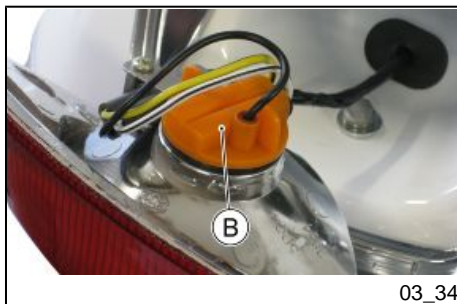
To refit, proceed in reverse order.

#### N.B.

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

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

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



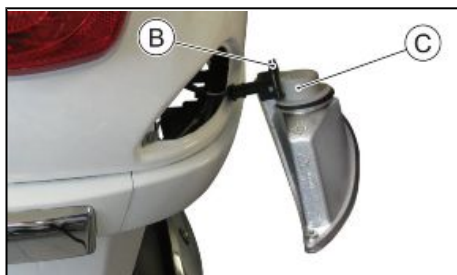


03\_35

### Rear turn indicators (03\_35, 03\_36)

To replace the bulbs:

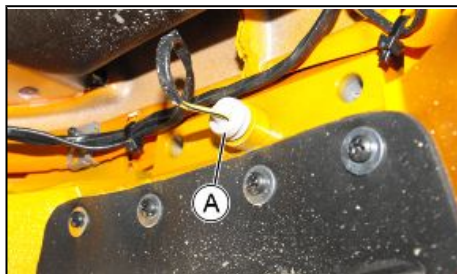
- remove the turn indicator from its seat by undoing the screw «A».



03\_36

- Slide of the clip «B» and release the connector.
- Take out the bulb holder «C» from its seat by turning it anticlockwise.
- Press the bulb, turn it anticlockwise and then take it out.

To refit, proceed in reverse order.

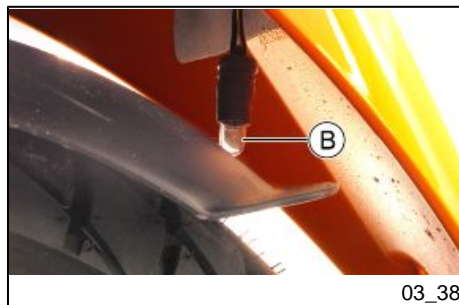


03\_37

### Number plate light (03\_37, 03\_38)

To remove the license plate bulb proceed as follows:

- Slide off the bulb holder «A» from its seat by operating from the inside of the license plate holder.
- Slide off bulb «B».



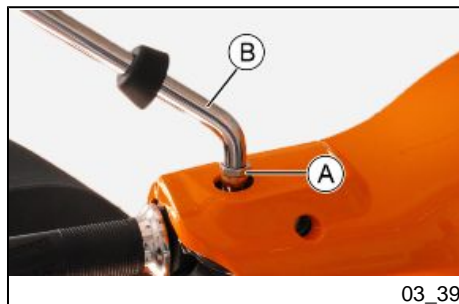
03\_38

**CAUTION**

**DO NOT PULL THE ELECTRICAL WIRING TO EXTRACT THE BULB HOLDER.**

**Rear-view mirrors (03\_39)**

The mirrors can be set to the desired position by adjusting the mirror frame.



03\_39

To remove the rear view mirror, lift the rubber protection, unscrew the lock nut «A» slightly to unlock the stem. Unscrew the stem «B» until removing it.

**CAUTION**

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



03\_40

### Front disc brake (03\_40)

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 ORDER TO AVOID THIS, WE RECOMMEND WASHING THE VEHICLE FREQUENTLY WHEN RIDING IN THESE ROAD CONDITIONS.**



03\_41

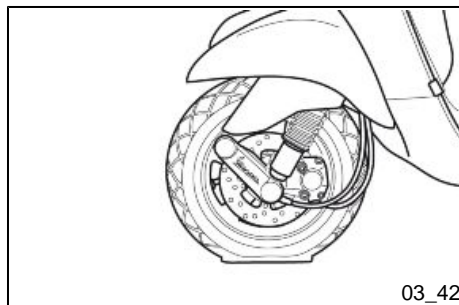
### Rear drum brake (03\_41)

Operate adjusting nut «B» and loosen lock nut «A» shown in the figure. Note that when the throttle is in idle **the wheel should rotate free**. After the adjustment, screw lock nut «A».

#### CAUTION



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



03\_42

### Puncture (03\_42)

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.**



03\_43

### Periods of inactivity (03\_43)

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 cm<sup>3</sup> of oil through its hole (larger amounts are dangerous for the engine itself). Operate the starter button 1-2 times for roughly 1 second to turn the engine over slowly, then insert the spark plug again;
3. Drain all the fuel from the scooter; spread antirust grease on the uncoated metal parts; keep the wheels lifted above the ground by resting the chassis on two wooden wedges;
4. As regards the battery, follow the instructions in the «Battery» section.

### Recommended products

#### **eni i-Ride PG 5W-40**

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

JASO MA, MA2 - API SL - ACEA A3

### **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.**

**CAUTION**

**DO NOT USE A HIGH-PRESSURE WATER JET MACHINE TO CLEAN THE ENGINE AND/OR VEHICLE; 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 AT: THE ENGINE, THE WIRING, THE COOLING SLITS ON THE TRANSMISSION OR SCROLL COVERS.**

**CAUTION**

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



INFORMATION ON THIS MATTER, CONTACT AN AUTHORISED SERVICE CENTRE.

#### WARNING



CLEAN YOUR SCOOTER FREQUENTLY SO AS TO AVOID POSSIBLE DIRT OR MUD DEPOSITS THAT COULD CAUSE MALFUNCTIONING IN THE THROTTLE GRIP TRANSMISSION AND/OR OTHER COMPONENTS.

## Troubleshooting

### **STARTING FAILURE**

Fuse blown

Replace the blown fuse and have the vehicle checked by an **Authorised Service Centre**.

### **STARTING DIFFICULTIES (SEE «STARTER PROBLEMS» SECTION)**

Lack of fuel in tank.

Refuelling

Injection system fault

Contact an **Authorised Service Centre**

Fuel pump fault	Contact an <b>Authorised Service Centre</b>
Flat battery	Recharge the battery.

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

### **IGNITION PROBLEMS**

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

### **LACK OF COMPRESSION**

Loose spark plug.	Screw in the spark plug tightly
Cylinder head loose, piston gas rings worn.	Contact an <b>Authorised Service Centre.</b>
Valve stuck	Contact an <b>Authorised Service Centre.</b>

## **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 <b>Authorised Service Centre</b> .
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## **INEFFICIENT SUSPENSION**

Shock absorber fault, oil leak, end buffers damaged; shock absorber preloading incorrectly set	Contact an <b>Authorised Service Centre</b> .
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## **AUTOMATIC TRANSMISSION PROBLEMS**

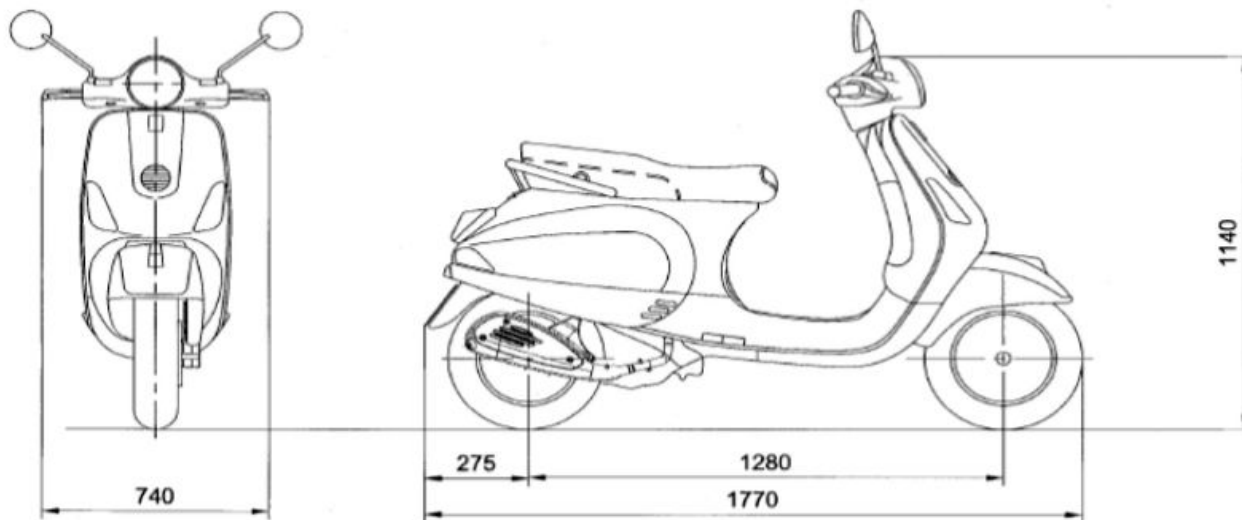
CVT rollers and/or drive belt damaged	Contact an <b>Authorised Service Centre</b> .
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# Vespa LX 125ie 150ie 3Valvole



**Chap. 04**  
**Technical data**



**VEHICLE TECHNICAL DATA**

Frame	Stamped plate body with welded structural reinforcements.
Front suspension	Single arm with helical spring and single double-acting hydraulic shock absorber.
rear suspension	Double-acting shock absorber, adjustable to four positions at preloading.
Front brake	Ø 200-mm disc brake with hydraulic control activated by handlebar right-side lever.
Rear brake	Ø 110-mm drum brake with mechanical control activated by handlebar left-side lever.
Wheel rim type	Light alloy wheel rims.
Front wheel rim	11" x 2.50
Rear wheel rim	10" x 3.00
Front tyre	Tubeless, 110/70 - 11" 45L
Rear tyre	Tubeless, 120/70 - 10" 54L
Front tyre pressure	1.6 bar
Rear tyre pressure (with passenger)	2.0 bar (2.3 bar)
Kerb weight	114 kg
Maximum weight allowed	300 kg
Battery	Sealed, 12 V / 10 Ah

### **125 cm<sup>3</sup> ENGINE SPECIFICATIONS**

Type	Single-cylinder, 4-stroke
Engine capacity	124 cm <sup>3</sup>
Bore x stroke	52.0 x 58.6 mm
Max. power	8.5 kW at 8,250 rpm
MAX. torque	10.7 Nm at 6,500 rpm
Compression ratio	(10.5±0.5):1
Idle speed	(1,750±100) rpm
Valve clearance	intake: 0.08 mm exhaust: 0.08 mm
Timing system	3 valves (2 intake, 1 drainage). single overhead camshaft chain-driven.
Transmission	CVT 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-air circulation cooling.
Starter	Electric starter



Ignition	Electronic inductive discharge ignition, with variable advance and separate HV coil.
Ignition advance	Three-dimensional map managed by control unit
Spark plug (125cm <sup>3</sup> )	NGK CR8EB
Electrode gap	0.7 to 0.8 mm
Fuel system	Electronic injection with Ø 28 mm throttle body, single injector
Fuel	Unleaded petrol (95 RON)
Exhaust silencer	Absorption-type exhaust muffler with catalytic converter.
Emissions compliance	EURO 3

### **150 cm<sup>3</sup> ENGINE SPECIFICATIONS**

Type	Single-cylinder, 4-stroke
Cubic capacity	155 cm <sup>3</sup>
Bore x stroke	58.0 x 58.6 mm
Max. power	8.5 kW at 8,250 rpm
MAX. torque	12.8 Nm at 6,250 rpm
Compression ratio	(10.5±0.5):1
Idle speed	(1,750±100) rpm
Valve clearance	intake: 0.08 mm

exhaust: 0.08 mm

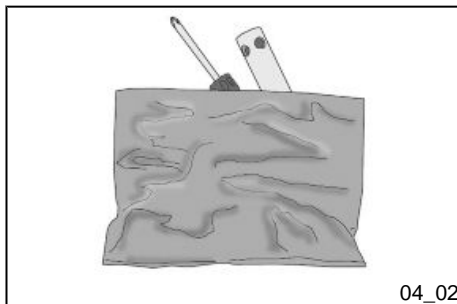
Timing system	3 valves (2 intake, 1 drainage). single overhead camshaft chain-driven.
Transmission	CVT expandable pulley variator with torque server, V-belt, self-ventilating dry automatic centrifugal clutch and transmission housing with forced-circulation air cooling.
Final reduction gear	Gear reduction unit in oil bath.
Lubrication	Engine lubrication with lobe pump (inside crankcase), chain-driven, with double filter: mesh and paper.
Cooling	Forced-air circulation cooling.
Starter	Electric starter
Ignition	Electronic inductive discharge ignition, with variable advance and separate HV coil.
Ignition advance	Three-dimensional map managed by control unit
Spark plug (150cm <sup>3</sup> )	NGK CR8EB
Electrode gap	0.7 to 0.8 mm
Fuel system	Electronic injection with Ø 28 mm throttle body, single injector
Fuel	Unleaded petrol (95 RON)
Exhaust silencer	Absorption-type exhaust muffler with catalytic converter.

Emissions compliance

EURO 3

**CAPACITY**

Engine oil	1220 cc (of which 120 cc in the filtering cartridge)
Hub oil	200 cm <sup>3</sup>
Fuel tank capacity	(8.2±0.5) l

**Toolkit (04\_02)**

The toolkit comprises:

- One box-spanner.
- One twin screwdriver.
- One special spanner for adjusting rear shock absorbers.

The tools are stored in the helmet compartment.



# Vespa LX 125ie 150ie 3Valvole



**Chap. 05**  
**Spare parts and**  
**accessories**



## Warnings (05\_01)

### WARNING



IT IS RECOMMENDED THAT "ORIGINAL PIAGGIO SPARE PARTS" BE USED, AS THESE ARE THE ONLY ONES OFFERING YOU THE SAME QUALITY ASSURANCE AS THOSE INITIALLY FITTED ON THE VEHICLE.

IT SHOULD BE REMEMBERED THAT USING NON-ORIGINAL SPARE PARTS CAUSES YOUR WARRANTY RIGHTS TO EXPIRE.

### 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.

# Vespa LX 125ie 150ie 3Valvole



**Chap. 06**  
**Scheduled**  
**maintenance**



06\_01

## Scheduled servicing table (06\_01)

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.

It is indispensable to have your vehicle serviced to the prescribed intervals of time, even if you have not reached the predicted mileage. Punctual vehicle servicing is necessary for the correct use of the guarantee. For any further information concerning Warranty procedures and 'Scheduled Maintenance', please refer to the 'Warranty Booklet'.

### SCHEDULED MAINTENANCE TABLE

km x 1,000	1	5	10	15	20	25	30
Safety fasteners	I		I		I		I
Spark plug		I	R	I	R	I	R
Cartridge air filter			C		C		R
Centre stand bracket		L	L	L	L	L	L
Driving belt (125cc)			I		R		I
Driving belt (150cc)			R		R		R
Throttle control	A		A		A		A
Roller housing			I		I		I
Air filter			I		I		I
Engine oil filter	R		R		R		R



<b>km x 1,000</b>	<b>1</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>
Valve clearance	A		A		A		A
Electrical system and battery	I	I	I	I	I	I	I
Cylinder ventilation system							I
Brake levers	L		L		L		L
Brake fluid **	I	I	I	I	I	I	I
Engine oil*	R	I	R	I	R	I	R
Hub oil			I		I		I
Headlight direction adjustment			A		A		A
Brake pads	I	I	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
Odometer gear			L		L		L
Suspension			I		I		I
Steering	A		A		A		A
Transmission			L		L		L

*I: CHECK AND CLEAN, ADJUST, LUBRICATE OR REPLACE, IF NECESSARY C: CLEAN; R: REPLACE; A: ADJUST; L: LUBRICATE*

*\* Check level every 2,500 km*

*\*\* Replace every 2 years*

**RECOMMENDED PRODUCTS TABLE**

Product	Description	Specifications
AGIP GEAR SAE 80W-90	Lubricant for gearboxes and transmissions.	API GL-4
AGIP BRAKE 4	Brake fluid.	Synthetic fluid SAE J 1703 - FMVSS 116 - DOT 3/4 - ISO 4925 - CUNA NC 956 DOT 4
eni i-Ride PG 5W-40	Synthetic based lubricant for high-performance four-stroke engines.	JASO MA, MA2 - API SL - ACEA A3
AGIP FILTER OIL	Special product for the treatment of foam filters.	-
AGIP GREASE MU3	Yellow-brown, lithium-base, medium-fibre multipurpose grease.	ISO L-X-BCHA 3 - DIN 51 825 K3K -20
AGIP GP 330	Water repellent stringy calcium spray grease.	R.I.D./A.D.R. 2 10°b) 2 R.I.Na. 2.42 - I.A.T.A. 2 - I.M.D.G. class 2 UN 1950 Page 9022 EM 25-89

**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 (in³)	16.4 Cubic centimetres (cm³)
1 Foot pound (ft lb)	1,356 Newton meter (Nm)

1 Miles 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)



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

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