

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

VESPA Vespa LX 50 4T



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



Personal safety

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



Safeguarding the environment

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



Vehicle intactness

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

The signs that you see on this page are very important. They are used to highlight those parts of the booklet that should be read with particular care. As you can see, each sign consists of a different graphic symbol, making it quick and easy to locate the various topics.

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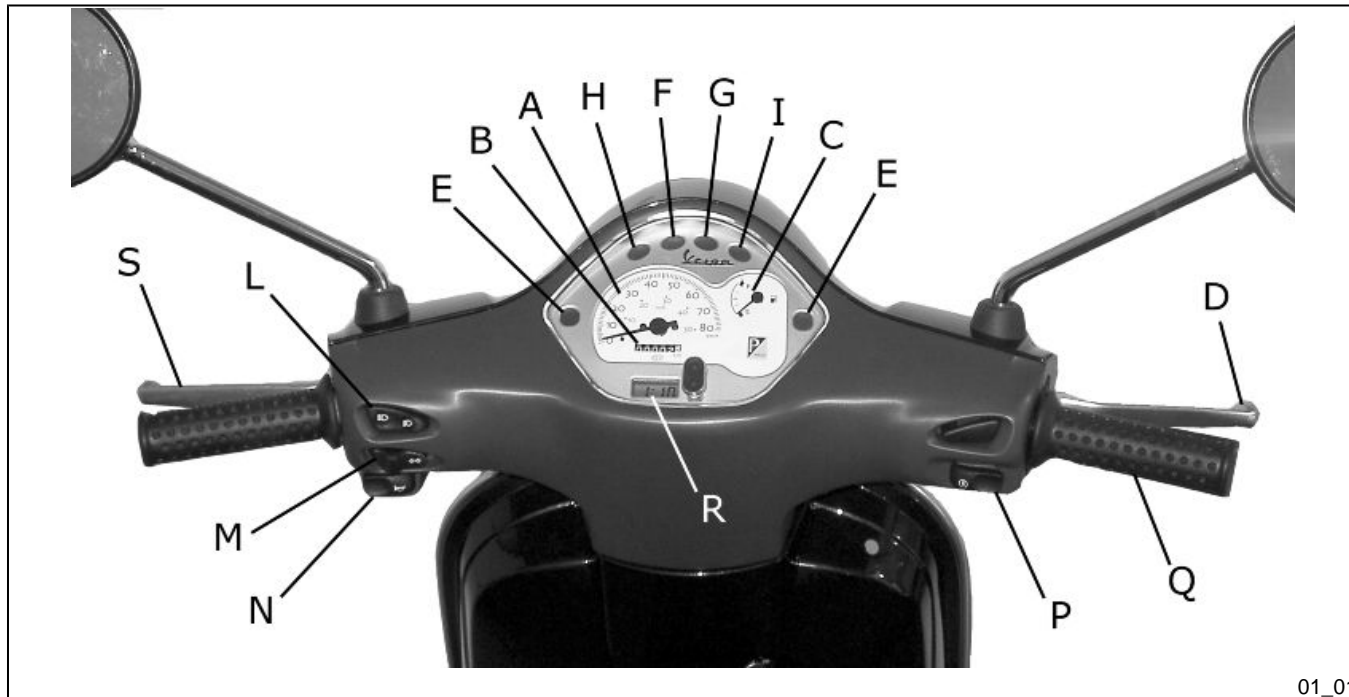
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VESPA Vespa LX 50 4T

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**Chap. 01
Vehicle**



01_01

Dashboard (01_01)

A = Speedometer

B = Odometer

C = Fuel gauge

D = Front brake control lever

E = Turn indicator warning light

F = Preset light

G = High-beam warning light

H = Low fuel warning light

I = Low-beam/position light warning light

L = High/low beam switch

M = Turn indicator switch

N = Horn button

P = Starter button

Q = Throttle grip

R = Digital clock

S = Real brake control lever

Clock (01_02)

Hours and minutes are displayed in a 1 to 12, AM or PM, format on the instrument panel.

Operating the function selection switch «**T**» month, day and seconds can be seen besides hours and minutes. In order to adjust the above mentioned functions, operate button «**U**». 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 BE DISPOSED OF IN SUITABLE CONTAINERS AS PRESCRIBED BY THE REGULATIONS IN FORCE.

Key switch (01_03)

LOCK = Ignition disabled, extractable key, steering lock engaged front glove-box locked.

OFF = Ignition disabled, extractable key, steering lock disengaged, front glove-box unlocked.

ON = Starter position, anti-theft device disabled, non-extractable key, glove-box unlocked.

Locking the steering wheel

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

CAUTION



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

Releasing the steering wheel

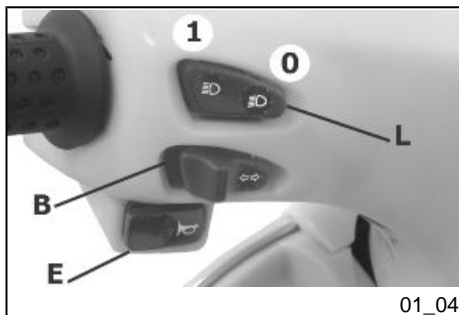
Reinsert the key and turn it to «**OFF**».

CAUTION

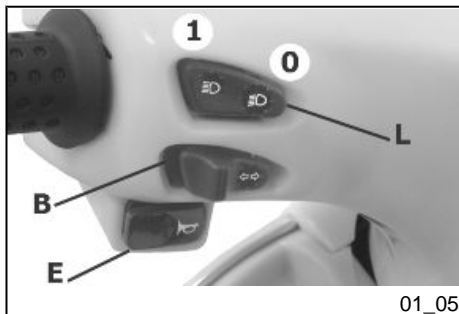
DO NOT TURN THE KEY TO «LOCK» OR «OFF» WHILE RIDING.

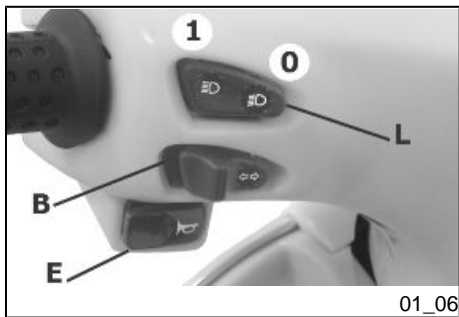
Switch direction indicators (01_04)

To set the left turn indicators flashing, move lever «**B**» to the left; to set the right turn indicators flashing, move it to the right. The lever automatically returns to the central position and the indicators remain on. To turn the indicators off, press the lever towards the switch.

**Horn button (01_05)**

Horn button «**E**»

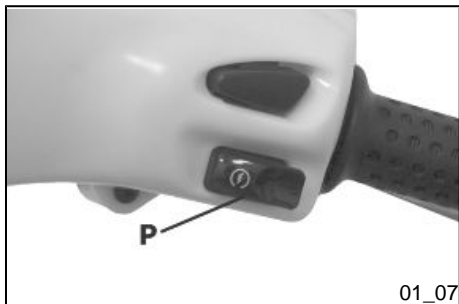




Light switch (01_06)

0 = Dipped beam and position light

1 = High beam and position light



Start-up button (01_07)

To start the engine, press the starter button, «P», after pulling either one of the two brake levers.



Opening the saddle (01_08)

Insert the key into the saddle lock «A», turn it anticlockwise and tip the saddle forward.

Keys (01_09)

The vehicle is supplied with two keys (one spare) which serve to start the engine and unlock the saddle compartment. The keys are accompanied by a tag marked with the identification code to be quoted when ordering duplicates.

WARNING

WE RECOMMEND KEEPING THE DUPLICATE KEY TOGETHER WITH ITS CODE IN A SAFE PLACE AND NOT ON THE VEHICLE



01_09

Identification (01_10, 01_11)

The identification numbers consist of a prefix stamped on the chassis and on the engine, followed by a number. They should always be given when requesting spare parts. We recommend that you check that the prefix and chassis number stamped on the vehicle correspond with those in the vehicle documents.

CAUTION



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



01_10

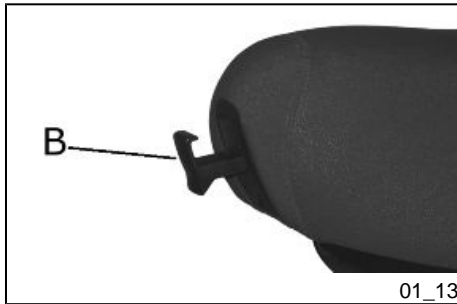


01_11



Rear top box opening (01_12)

Turn the key to the position «OFF». Then press it. With the key in «LOCK» the glove-box is locked.



Bag clip (01_13)

To use the retractable bag hook «B» located at the front end of the saddle, pull it forward lightly.

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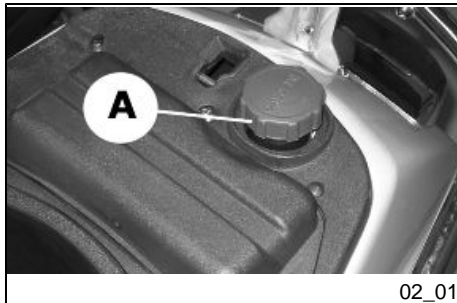


Chap. 02
Use

Checks

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_01

Refuelling (02_01)

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

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

CAUTION



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

CAUTION



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

CAUTION

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

Characteristic**Fuel tank capacity**

~ 8.5 l (2 l of which is reserve)

Tyre pressure**CAUTION**

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

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

Characteristic**Front tyre pressure**

1.6 bar

Rear tyre pressure

2 bar



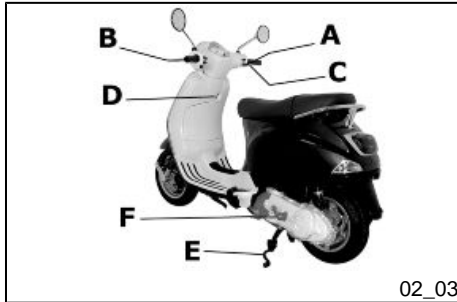
02_02

Running in (02_02)

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_03

Starting up the engine (02_03)

The vehicle is fitted with direct drive automatic transmission. Therefore, always start the engine with the throttle grip slightly twisted; to start-off from still, progressively twist the throttle grip.

The vehicle is equipped with a fuel valve and a starter that switch on automatically as soon as the engine is started.

To start it up, it is necessary to:

- 1: Put the motorscooter on its stand "E"; check that the rear tire is off the ground.
- 2: Keep the throttle grip slightly twisted.
- 3: Insert the key in ignition switch «D» and turn it to «ON»; when turning the key to «ON», the fuel reserve warning light turns on for a few seconds indicating the correct functioning of the bulb.
- 4: Push the starter button «A» after pulling the rear brake lever «B» or the front brake lever «C».

CAUTION

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

CAUTION

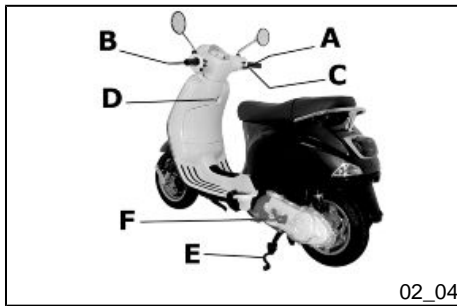
ALWAYS PLACE THE VEHICLE ON ITS STAND BEFORE KICK STARTING.

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

WARNING

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



02_04

Difficult start up (02_04)

If there is a problem you can follow the instructions below:

1. Carburettor flooded. Place the vehicle on the centre stand and check that the rear tyre is off the ground. Open the throttle fully and press the starter button for five seconds and then stop for five seconds. If the engine does not start after a few attempts, let the engine sit for a few minutes and then repeat the above operations. In any case do not operate the starter longer than 20" in the attempt to start the engine.

2. Battery or starter motor inefficiency. Put the motorscooter on its stand "E"; make sure that the rear wheel is off the ground, turn the key switch «D» to «ON» and use the kick-starter «F».

3. Empty fuel tank. After refuelling the scooter, start the engine by pressing the starter button «A» with the throttle at a minimum to provide maximum aspiration for the tap. If the scooter fails to start even after taking the steps described above, contact an **Authorised Piaggio Service Centre.**

CAUTION

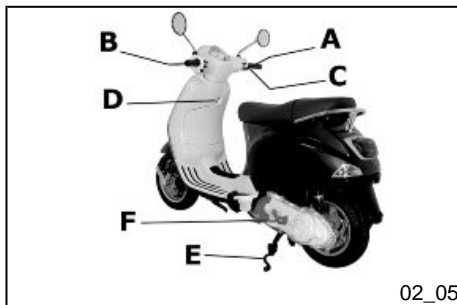


ALWAYS PLACE THE VEHICLE ON ITS STAND BEFORE KICK STARTING.

WARNING



TAMPERING MAY CAUSE SERIOUS ENGINE MALFUNCTION.



Stopping the engine (02_05)

Stop acceleration, then turn the key switch "D" to "OFF" to turn off the engine (extractable key).

CAUTION



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

Automatic transmission

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

WARNING



SOME SIMPLE TIPS ARE PROVIDED BELOW THAT WILL ENABLE YOU TO USE YOUR SCOOTER ON A DAILY BASIS IN GREATER SAFETY AND WITH MORE PEACE OF MIND.

<

Your ability and your knowledge of the vehicle form the basis of safe riding. We recommend trying out the vehicle in traffic-free zones to get to know your vehicle completely.

ALWAYS DRIVE WITHIN YOUR LIMITS

1. Before riding off, remember to put on your helmet and fasten it correctly.
2. Reduce speed and ride cautiously on uneven roads.
3. Remember that after riding on a long stretch of wet road without using the brakes, the braking effect is initially lower. Given these conditions, it is a good idea to operate the brakes from time to time.
4. Do not brake hard on a wet surface, on dirt tracks or on any slippery road surface.
5. If you have to brake, use both brakes in order to divide the braking action between both wheels.
6. Avoid starting off by mounting the scooter while it is still resting on its stand. In any case, the rear wheel should not be turning when it comes into contact with the ground, in order to avoid abrupt departures.
7. If the vehicle is used on roads covered with sand, mud, snow mixed with salt, etc., clean the brake disc frequently with mild detergent in order to prevent abrasive substances from building up within the holes, which can result in early wear of the brake pads.

8. Any elaboration that modifies the vehicle's performances, such as tampering with original structural parts is strictly forbidden by law, and renders the vehicle not conforming to the approved type and therefor dangerous to ride.

CAUTION

DO NOT FORGET THAT DRIVING IN A STATE OF DRUNKENNESS, OR WHEN UNDER THE EFFECT OF DRUGS OR CERTAIN MEDICINES, CAN BE EXTREMELY DANGEROUS FOR ONESELF AND FOR OTHERS.

CAUTION

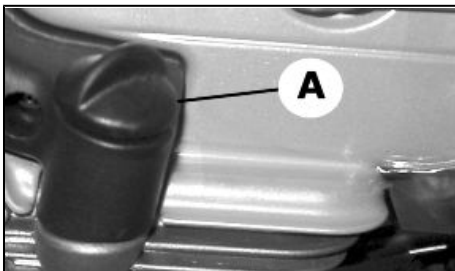
ANY CHANGES TO THE VEHICLE PERFORMANCE AS WELL AS ALTERATIONS TO ORIGINAL STRUCTURAL PARTS IS STRICTLY FORBIDDEN BY LAW, AND RENDERS THE VEHICLE NO LONGER CONFORMING TO THE APPROVED TYPE AND DANGEROUS FOR RIDING.

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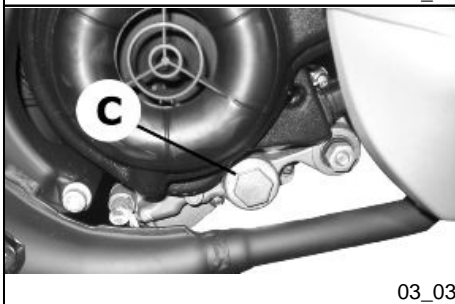
**Chap. 03
Maintenance**



03_01



03_02



03_03

Engine oil level

In 4T engines, the engine oil is used to lubricate the distribution elements, the bench bearings and the thermal group. **An insufficient quantity of oil can cause serious damage to the engine itself.** In all 4T engines the decay of oil characteristics as well as some consumption is normal. Consumption can particularly reflect the conditions of use (i.e. when driving at "full acceleration" all the time, oil consumption increases). **In order to avoid problems, it is advisable to control oil level every time the vehicle is used.**

Engine oil level check (03_01, 03_02)

Check oil level every time the vehicle is used, with the engine cold. The level should be between the MAX and MIN marks on the oil level dipstick "A" shown in the figure; the stand should be firm on an even surface during the check.

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

Check by pushing the dipstick all the way into the hole.

CAUTION



USING THE ENGINE WITH INSUFFICIENT LUBRICATION OR WITH THE WRONG LUBRICANTS MAY INCREASE WEAR AND TEAR ON THE MOVING PARTS AND MAY CAUSE SERIOUS DAMAGE.

Characteristic

Engine oil

Capacity: ~ 850 cc

Engine oil top-up

Always check oil level before carrying out top-ups and add oil **without exceeding the MAX level**. An engine oil check-up and top-up should be carried out every 3,000 km at an **Authorised Piaggio Service Centre**.

Engine oil change (03_03)

Change oil and clean the filter after every 6,000 km at an **Authorised Piaggio Service Centre**. Empty the engine by draining the oil through drainage cap «C» with a cold engine. First unscrew the cap-dipstick used to check engine oil level, then cap «C» and take out the mesh filter. After cleaning and mounting again the mesh filter, screw cap «C» and fill with oil the hole of the cap-dipstick used to check engine oil level. Then start up the scooter, leave it running for a few minutes and switch it off: 5 minutes later check oil level and, if necessary, add oil **without exceeding the MAX level**. Only use new oil of the recommend type for oil top-ups and change.

CAUTION



USED OILS CONTAIN SUBSTANCES HARMFUL TO THE ENVIRONMENT. FOR OIL REPLACEMENT, CONTACT AN AUTHORISED PIAGGIO SERVICE CENTRE, AS THEY ARE EQUIPPED TO DISPOSE OF SPENT OILS IN AN ENVIRONMENTALLY FRIENDLY AND LEGAL WAY.

Recommended products

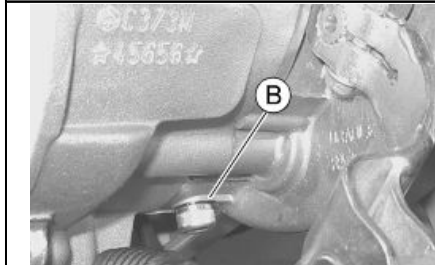
AGIP CITY HI TEC 4T

Engine oil

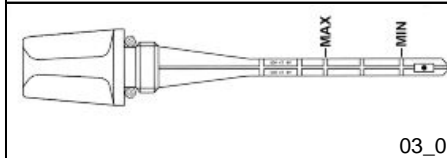
SAE 5W-40, API SL, ACEA A3, JASO MA Synthetic oil



03_04



03_05



03_06

Hub oil level (03_04, 03_05, 03_06)

To check the hub oil level, proceed as follows:

1. Place the scooter on its stand on a level surface;
2. Unscrew the dipstick «A», dry it with a clean rag and then reinsert it, **screwing it tightly into place**;
3. Unscrew the dipstick again and check that the oil level barely reaches the **2nd notch from the bottom**;
4. Screw the dipstick back into place completely.

The screw «B» is the hub oil drainage tap.

CAUTION



USING THE ENGINE WITH INSUFFICIENT LUBRICATION OR WITH THE WRONG LUBRICANTS MAY INCREASE WEAR AND TEAR ON THE MOVING PARTS AND MAY CAUSE SERIOUS DAMAGE.

CAUTION



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

N.B.

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

Recommended products

AGIP ROTRA 80W-90

Rear hub oil

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

Characteristic

Rear hub oil

Quantity: approx. 85 cc

Tyres (03_07)

Periodically check the inflation pressure of each tyre (when cold). The tyres are fitted with a wear indicator and must be replaced as soon as such indicator appears on the tread. Also ensure that the tyres do not show cuts on the walls or an irregular wear of the tread; if this is the case, please contact an authorised or adequately equipped workshop.

CAUTION



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

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

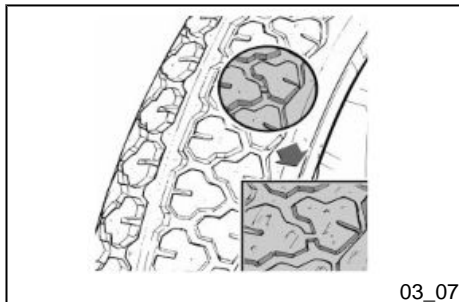
Characteristic

Front tyre pressure

1.6 bar

Rear tyre pressure

2 bar

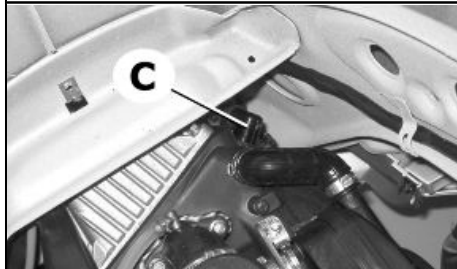




03_08



03_09



03_10

Spark plug dismantlement (03_08, 03_09, 03_10, 03_11)

The engine must be cold to inspect the sparkplug, proceed as follows:

1. Lift the saddle and remove the helmet compartment "A";
2. Remove the sparkplug inspection door "B";
3. Remove plug cap "C";
4. Use the equipped spanner "D"(with rubber stop) and a 13 mm spanner to remove the sparkplug.

To reassemble repeat the procedure in the opposite order using the spanner to insert the sparkplug and to tighten it in its seat, making sure to install it and screw it down at the correct angle.

The above operations need to be carried out very carefully by inserting the left hand from the sparkplug inspection door and the right hand from the helmet compartment. To reassemble the door carry out the operations in the opposite order, making sure to insert the tab in the part of the central covering.

WARNING



THE SPARK PLUG MUST BE REMOVED WHEN THE ENGINE IS COLD. THE USE OF A SPARK PLUG WITH THERMAL GRADE OR THREAD OTHER THAN THE INDICATED TYPE (SEE «DATA» SECTION) CAN SERIOUSLY DAMAGE THE ENGINE. REPLACE SPARK PLUGS AT THE INTERVALS INDICATED IN THE SCHEDULED MAINTENANCE TABLE.

N.B.

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

Characteristic

Spark plug

NGK CR 8EB



03_11

Removing the air filter (03_12, 03_13)

Remove the side fairing unscrewing the 2 screws marked **A**. Remove the air cleaner cap «**D**» after unscrewing the 6 fixing screws «**C**», then remove the filtering element. Clean with water and shampoo, afterwards dry with compressed air and submerge in a recommended oil and petrol mixture in ratio of 50%. Afterwards squeeze it, leave it to dry and mount it again.

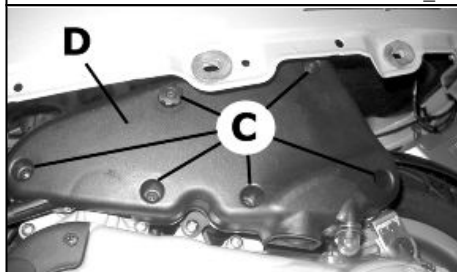
CAUTION



IN CASE OF RIDING ON DUSTY ROADS IT IS ADVISABLE TO CLEAN THE AIR FILTER MORE FREQUENTLY THAN INDICATED IN THE RELEVANT CHAPTER ON SCHEDULED MAINTENANCE.



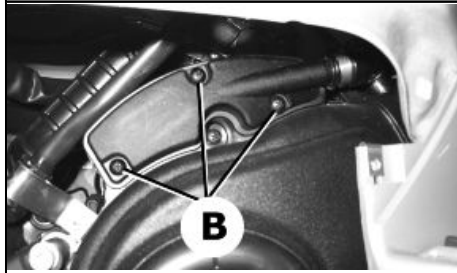
03_12



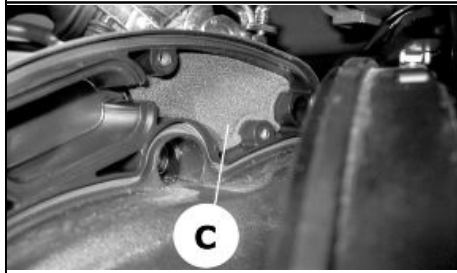
03_13



03_14



03_15



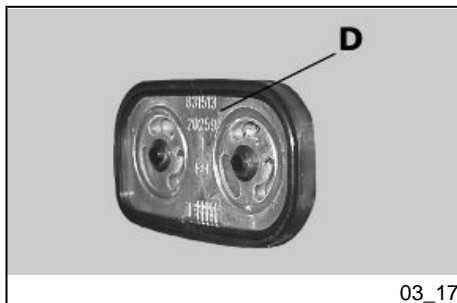
03_16

Secondary air system (03_14, 03_15, 03_16, 03_17)

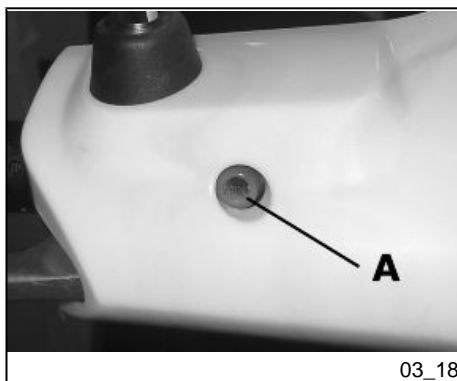
Use the two screws "A" on the right side panel and remove it. Use the three screws "B" to remove the cover of the secondary air box. Move the cover of the box away and remove the sponge filter "C". Wash the sponge with water and a neutral soap, and dry it with a clean rag and shorts blasts of compressed air. When cleaning the filter, make sure the reed valve "D" is in good condition then reinsert it in its seat on the box. Before closing the SAS box cover, check the condition of the O-ring seal; replace it if it appears damaged or deformed.

N.B.

The reed valve can be inserted in only one direction on the SAS housing



03_17



03_18

Checking the brake oil level (03_18, 03_19)

The brake fluid reservoir is equipped with a sight glass «A» made of transparent material; the quantity of liquid contained in the sight glass indicates the level of liquid in the reservoir.

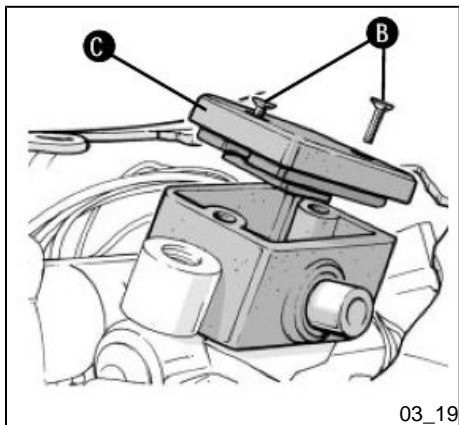
When the sight glass «A» is full, the level inside the reservoir exceeds the MIN level; when it is partially full, the level drops to the MIN level; when it is fully empty, the level of fluid in the reservoir is below the MIN level.

The brake fluid level may fall due to wear on the brake pads. In case the pad wear is below the minimum mark, contact an **Authorised Service Centre** to have the braking system thoroughly checked. If you need to top up the level, follow the steps listed below. Unscrew the 2 screws "B", remove the tank cap "C" and pour in the required quantity of fluid (the brake fluid level must be above minimum). Place the handlebar in the riding position and pay attention not to tilt the vehicle in order to keep the brake fluid reservoir in horizontal position when checking the fluid level.

CAUTION



TOP UPS SHOULD ONLY BE CARRIED OUT WITH DOT 4 CLASSIFIED BRAKE FLUID.



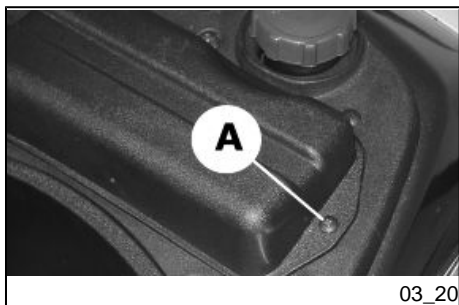
03_19

WARNING

IN NORMAL CLIMATIC CONDITIONS IT IS ADVISABLE TO REPLACE THE ABOVE-MENTIONED FLUID EVERY 2 YEAR. NEVER USE BRAKE FLUID CONTAINED IN CONTAINERS WHICH ARE ALREADY OPEN OR PARTIALLY USED.

CAUTION

THE BRAKING CIRCUIT FLUID IS HIGHLY CORROSIVE. THEREFORE, WHEN TOPPING IT UP, AVOID LETTING IT COME INTO CONTACT WITH THE PAINTED PARTS OF THE VEHICLE. THE BRAKING CIRCUIT FLUID IS HYGROSCOPIC, WHICH MEANS THAT IT ABSORBS MOISTURE FROM THE SURROUNDING AIR. IF MOISTURE CONTAINED IN THE BRAKE FLUID EXCEEDS A CERTAIN VALUE, THIS WILL RESULT IN INEFFICIENT BRAKING.



03_20

Battery (03_20)

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

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

CAUTION

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

CAUTION

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

Checking the electrolyte level

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

CAUTION

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

Long periods of inactivity

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

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

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

N.B.

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

WARNING



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

WARNING

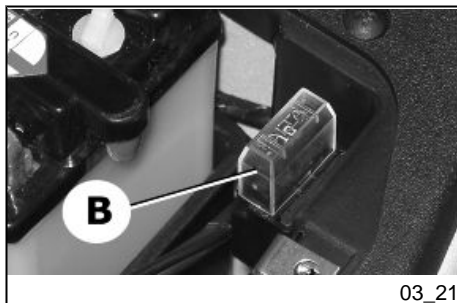
SPENT BATTERIES ARE HARMFUL FOR THE ENVIRONMENT. COLLECTION AND DISPOSAL SHOULD BE CARRIED OUT IN COMPLIANCE WITH CURRENT REGULATIONS.

Fuses (03_21)

The electrical system is protected by a 10A fuse valve «B» located next to the battery. Before replacing a blown fuse, find and solve the problem that caused it to blow. Do not substitute the fuse with any alternative form of conductor

CAUTION

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

**BULB**

High/low beam light bulb

Type: Spherical**Power:** 12V 35/35W**Quantity:** 1

Front tail light bulb

Type: All glass

Power: 12V 5W**Quantity:** 1

Instrument panel light bulbs

Type: All glass**Power:** 12V 1.2W**Quantity:** 3

Front turn indicator bulb

Type: Spherical**Power:** 12V - 10W**Quantity:** 1 RHS + 1 LHS

Rear turn indicator light bulb

Type: Spherical**Power:** 12V - 10W**Quantity:** 1 RHS + 1 LHS

Stop and tail light bulb

Type: Spherical**Power:** 12V 21/5W**Quantity:** 1

12V - 2W warning light bulbs

Type: All glass**Function:** Turn indicators**Quantity:** 2

12V - 1.2W warning light bulb

Type: All glass**Function:** Lights, high-beam lights, fuel reserve**Quantity:** 3

Front light group (03_22, 03_23)

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

- 1) Remove the rear-view mirrors; for this operation follow the instructions described and illustrated in «Rear-view mirrors» section.
- 2) Unscrew the 3 screws holding the handlebar cover. The front central one «B» and the rear 2 «C». Once this is done, the handlebar cover can be removed.
- 3) Remove the handlebar cover to access the headlight and the bulbs.

N.B.

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

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

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

Electric characteristic

Bulbs

1 12V35/35W bulb for high- and low-beam light

1 12V-5W bulb for tail light

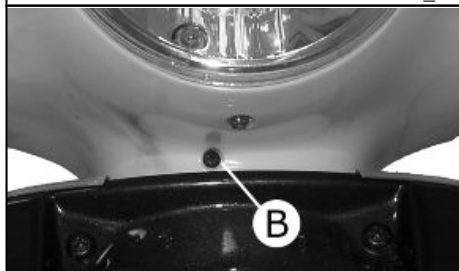
Headlight adjustment (03_24, 03_25)

Proceed as follows:

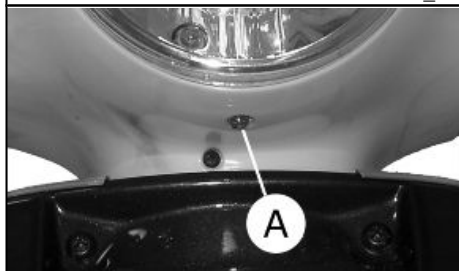
1. Place the vehicle in running order and with the tyres inflated to the prescribed pressure, on a flat surface 10 m away from a white screen situated in a shaded area, making sure that the longitudinal axis of the scooter is perpendicular to the screen;



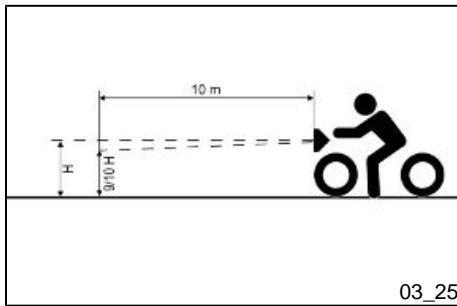
03_22



03_23



03_24

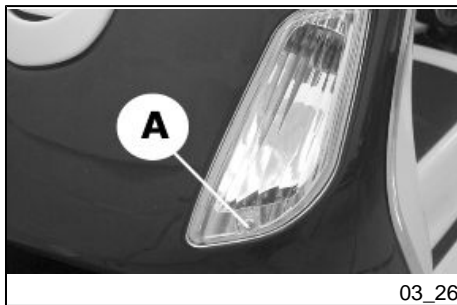


2. Turn on the headlight and check that the borderline of the projected light beam on the screen is not lower than 9/10 of the distance from the ground to the centre of vehicle headlamp and higher than 7/10;

3. If otherwise, adjust the right headlight with screw «A».

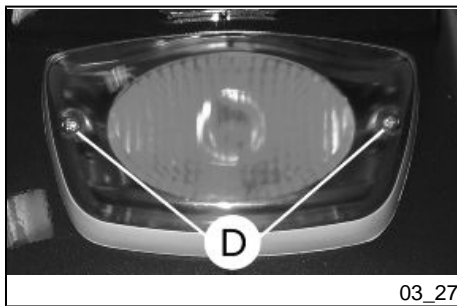
N.B.

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.



Front direction indicators (03_26)

To replace the front turn indicator bulbs, remove the tail light taking out the retaining screw "A", remove the bulb holder from its fitting; gently turn the bulb around 30° and remove it. Follow the process in reverse order to refit.



Rear optical unit (03_27)

To access the rear taillight bulb it is necessary to remove the 2 fixing screws «D». Gently push and turn the bulb about 30° and then remove it. To refit follow the same steps but in reverse order.

N.B.

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

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

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

Rear turn indicators (03_28)

To gain access to the turn indicator bulbs, remove the fastening screws «E».

The bulbs have a bayonet coupling, to remove them press gently and twist anticlockwise about 30°. To refit follow the same steps but in reverse order.

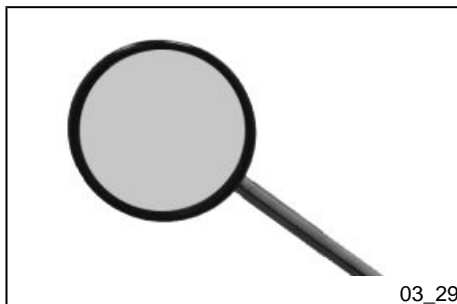


03_28

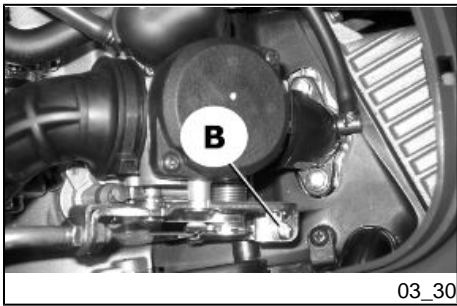
Rear-view mirrors (03_29)

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

To remove the rear-view mirror rotate the rear-view mirror support rod clockwise.



03_29



Idle adjustment (03_30)

Proceed as follows:

1. Rest the scooter on its centre stand and lift the saddle (as described in the «Saddle opening to reach helmet compartment» section).
2. Remove the helmet compartment.
3. To adjust the idle speed, start the engine, then loose or tighten the screw «B» until you reach the recommended idle speed taking care the engine does not make the rear wheel move.

If adjustment is difficult, take your vehicle to a **Dealer or an Authorised PIAGGIO Service Centre** to adjust **CO** to idle speed.

WARNING



IDLE SPEED MUST BE ADJUSTED WHEN THE ENGINE IS VERY HOT. BEFORE THIS OPERATION, MAKE SURE THAT THE THROTTLE GRIP HAS THE RECOMMENDED BACKLASH. IF BACKLASH IN THE THROTTLE CONTROL TRANSMISSION NEEDS ADJUSTING TAKE YOUR SCOOTER TO A PIAGGIO DEALER OR AUTHORISED SERVICE CENTRE

Characteristic

Engine idle speed

approx. 1600 ÷ 1800 rpm

Front disc brake (03_31)

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 an irregular brake operation. In this case, particularly considering the importance of the brakes in terms of safety, it is strongly recommended that you take the vehicle to an **Authorised Service Centre** as soon as possible for the appropriate checks.

WARNING



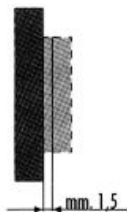
CHECK BRAKE PADS FOR WEAR ON A REGULAR BASIS (AS INDICATED IN THE SCHEDULE MAINTENANCE TABLES). IF THE THICKNESS OF ONE OR BOTH PADS IS IN THE REGION OF 1.5 MM, BOTH PADS MUST BE CHANGED. IT IS RECOMMENDED TO CARRY OUT THIS OPERATION AT AN AUTHORISED SERVICE CENTRE AS SOON AS POSSIBLE.

AFTER FITTING NEW BRAKE PADS DO NOT USE THE VEHICLE UNTIL YOU HAVE ACTIVATED THE BRAKE LEVER REPEATEDLY TO POSITION THE PADS AND RESTORE THE LEVER STROKE TO ITS CORRECT POSITION.

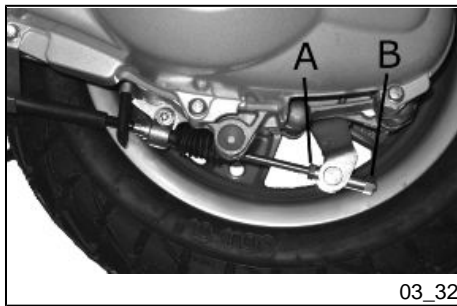
CAUTION



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



03_31



03_32

Rear drum brake (03_32)

Operate adjustment 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



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



03_33

Puncture (03_33)

The vehicle is equipped with Tubeless tyres. When there is a puncture, Tubeless tyres - unlike tyres with inner tubes - go flat very slowly. This offers greater riding safety. A tyre that goes flat very slowly can be repaired with an "Inflate and Repair" spray. Tyres should be later fully repaired or replaced at an **Authorised Service Centre**.



03_34

Periods of inactivity (03_34)

We recommend carrying out the following operations:

1. General cleaning of the vehicle.
- 2 - With the engine off and the piston at bottom dead centre position, remove the spark plug and pour 1÷2 cc of motor oil through its hole. Operate the starter 3-4 times letting the engine perform a few revolutions, then remount the spark plug.
- 3 - Drain up all the vehicle's fuel; spread antirust grease on the unpainted metal parts; keep the wheels lifted above the ground.

4 - For the battery, follow the procedures described in the «Battery» section.

5 - Drain the petrol from the carburettor tank.

6 - Replace engine oil.

Recommended products

AGIP CITY HI TEC 4T

Oil to lubricate flexible transmissions (brakes, throttle control and odometer)

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 abundantly with water, and dry with a shammy cloth. For the outside of the engine, use petroleum, a brush and clean cloths. Petrol can damage paintwork. Remember that any polishing with silicone wax must always be preceded by washing.

CAUTION



DETERGENTS POLLUTE WATER. THEREFORE THE VEHICLE SHOULD BE WASHED IN AN AREA EQUIPPED FOR THE COLLECTION AND PURIFICATION OF THE LIQUIDS USED.

WARNING



NEVER WASH THE VEHICLE UNDER DIRECT SUNLIGHT, ESPECIALLY IN SUMMER WHEN THE BODYWORK IS STILL HOT, AS THE CAR SHAMPOO MAY DRY BEFORE BEING RINSED OFF, AND COULD DAMAGE THE PAINTWORK. NEVER USE RAGS SOAKED IN PETROL OR DIESEL OIL TO CLEAN THE PAINTED OR

PLASTIC SURFACES, TO PREVENT THEM LOSING THEIR SHINE AND MECHANICAL CHARACTERISTICS.

WARNING



WHEN WASHING THE ENGINE WITH A HIGH-PRESSURE WATER JET:

- **ONLY USE FAN SPRAY JETS.**
- **DO NOT PLACE THE WATER JET NOZZLE CLOSER THAN 60 CM.**
- **DO NOT USE WATER AT TEMPERATURES OVER 40° C.**
- **DO NOT DIRECT THE JETS DIRECTLY TO CARBURETTOR, WIRING, SLOT DIFFUSER ON THE TRANSMISSION COVER AND SCROLL COVER.**

DIFFICULTY STARTING

No fuel in tank	Refuelling
Filters, jets or carburettor dirty or clogged.	Contact an Authorised Service Centre.
Insufficient battery charge	Kick-start. Recharge the battery.

IGNITION PROBLEMS

No spark from spark plug. Due to the presence of high voltage, this check should only be carried out by an expert.	<p>Check that the electrodes are properly adjusted (0.7÷ 0.8 mm).</p> <p>Check that the electrodes are clean (clean with pure petrol and metal brush or with emery cloth).</p> <p>Check the spark plug insulator: if</p>
--	--

there are any cracks or breakage, replace the spark plug. If the spark plug is in good condition, contact an **Authorised Piaggio Service Centre**.

LACK OF COMPRESSION

Spark plug adapter "worn", valve clearance not adequate; worn piston gas rings	Contact an Authorised Service Centre .
--	---

HIGH CONSUMPTION AND LOW PERFORMANCE

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

INEFFICIENT BRAKING

Oil on drum or disc. Worn Pads/ Shoes	Contact an Authorised Service Centre
incorrect rear brake adjustment	Adjust

INEFFICIENT SUSPENSION

Oil leak; worn limit switch bumpers; worn shock absorber attachment points	Contact an Authorised Service Centre
--	---

IRREGULAR AUTOMATIC TRANSMISSION

Deteriorated roller container or belt.	Contact an Authorised Service Centre .
--	---

INCREASED EXHAUST NOISE

Deterioration of the SAS system and/or of the tab	Contact an Authorised Service Centre .
---	---

STAND DOES NOT RETURN TO POSITION

Presence of dirt	Clean and grease
------------------	------------------

STARTER LEVER DOES NOT RETURN TO CORRECT POSITION

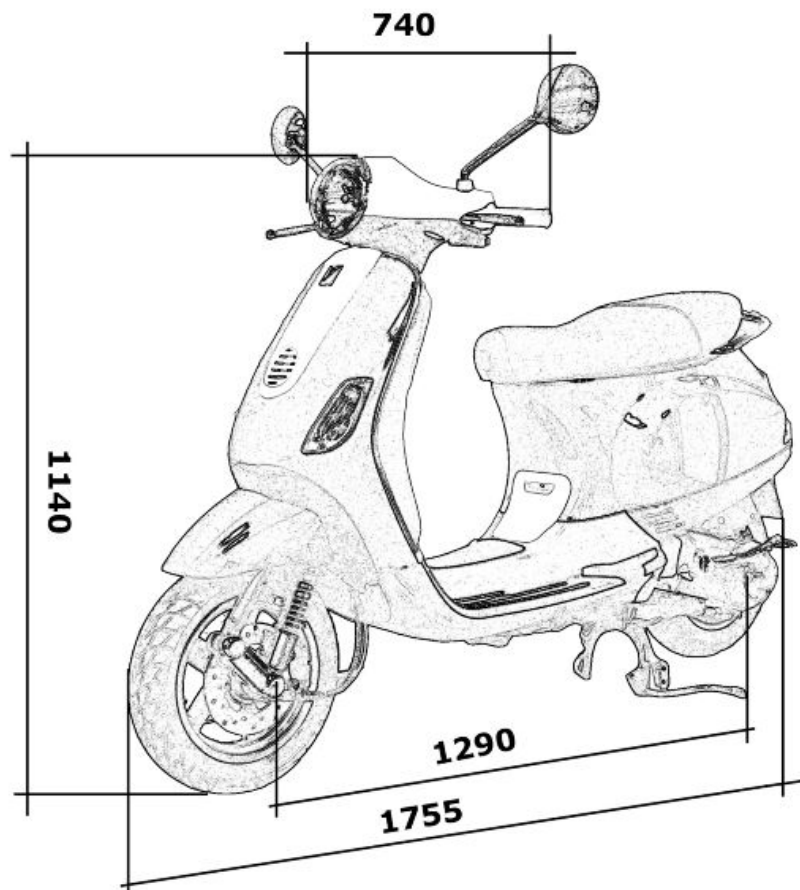
Presence of dirt	Clean and grease
------------------	------------------

VESPA Vespa LX 50 4T

Vespa®



Chap. 04
Technical data



TECHNICAL SPECIFICATIONS

Engine type	Single cylinder 4-stroke Piaggio Hi-PER4
Cubic capacity	49.9 cc
Bore x stroke	39 X 41.8 mm
Compression ratio	11.5 :1
Length	1755 mm
Width	740 mm
Overall height	1140 mm
Wheel base	1290 mm.
Fuel	Unleaded petrol
Chassis	Unitised body made of stamped plate.
Fuel tank capacity	~ 8.5 l (2 l of which is reserve)
Timing system	Single overhead camshaft (SOHC) with 2 valves
Start up	Electrical and kick starter
Lubrication	Wet crankcase
Cooling	Forced air circulation.
Depression carburettor	KEIHN CVK 18
Spark plug	NGK CR 8EB
Transmission	Automatic variator CVT with torque server.
Clutch	Automatic centrifugal dry clutch

Steering and suspensions	Fulcrum steering tube on the front wheel-holder hub; helicoidal spring suspension and double-acting hydraulic shock absorber; rear with single chamber hydraulic shock absorber and coaxial spring not adjustable at preloading
Rear tyre	Tubeless; 120/70-10"
Front tyre	Tubeless; 110/70-11"
Rear wheel rim	Die-cast aluminium alloy; 3.00 x 10"
Front wheel rim	Die-cast aluminium alloy; 2.50 x 11"
Front brake	Disc brake (Ø 200 mm) with hydraulic control (lever on the far right of the handlebar) and fixed calliper.
Rear brake	Ø110 mm drum brake
Homologation	Euro 2
Dry weight	102±5

Kit equipment

Spanners: one box wrench (16 mm); a double screwdriver. The tools are located in a toolbox under the saddle.

VESPA Vespa LX 50 4T

Vespa®



**Chap. 05
Spare parts and
accessories**



05_01



05_02

Warnings (05_01, 05_02)

WARNING



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

VESPA Vespa LX 50 4T

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**Chap. 06
Programmed
maintenance**

Scheduled maintenance table

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

To this end, a series of checks and maintenance operations (at the owner's expense) have been suggested, which are included in the summary table on the following page. Any minor faults should be reported without delay to an **Authorised Service Centre or Dealer** without waiting until the next scheduled service to solve it.

All scheduled maintenance services must be carried out at the specified times, even if the stated mileage has not yet been reached. Carrying out scheduled services on time is necessary to ensure your warranty remains valid. For any further information concerning Warranty procedures and "Scheduled Maintenance", please refer to the "Warranty Booklet".

EVERY 3,000 KM

Engine oil - level check/ top-up

EVERY 2 YEARS

Brake fluid - change

AFTER 1,000 KM OR 4 MONTHS

Hub oil - change

Valve clearance - check

Idle speed (*) - adjustment

Throttle lever - adjustment

Steering - adjustment

Brake control levers - greasing

Brake pads - check condition and wear

Brake fluid level - check

Safety locks - check

Electrical system and battery - check

Tyre pressure - check

Vehicle and brake test - road test

(*) See instructions in «Idle speed adjustment» section

**AT 6000 KM OR 12 MONTHS, 18000, 30000, 42000,
54000 AND 66000 KM**

Engine oil - replacement

Hub oil level - check

Spark plug / electrode gap - check

Oil filter (net filter) - clean

Variable speed rollers - check or replacement

Brake pads - check condition and wear

Brake fluid level - check

Electrical system and battery - check

Tyre inflation and wear - Check

Vehicle and brake test - road test

AT 12000 KM OR 24 MONTHS AND 60000 KM

Engine oil - replacement

Hub oil level - check

Spark plug/electrode gap - replacement

Air filter - clean

Oil filter (net filter) - clean

Idle speed (*) - adjustment

Throttle lever - adjustment

Variable speed rollers - check or replacement

Driving belt - replacement

Odometer cable - greasing

Steering - adjustment

Brake control levers - greasing

Brake pads - check condition and wear

Brake fluid level - check

Transmission elements - lubrication

Safety locks - check

Suspensions - check

Electrical system and battery - check

Headlight - adjustment

Tyre inflation and wear - Check

SAS box (sponge) (**) - cleaning

Vehicle and brake test - road test

(*) See instructions in «Idle speed adjustment» section

(**) See regulations in the «Secondary air system» section

A 24000 KM AND 48000 KM

Engine oil - replacement

Hub oil level - replacement

Spark plug/electrode gap - replacement

Air filter - clean

Oil filter (net filter) - clean

Valve clearance - check

Idle speed/carburetion - Adjustment (*)

Throttle lever - adjustment

Variable speed rollers - check or replacement

Driving belt - replacement

Cylinder ventilation system - check

Odometer cable - greasing

Steering - adjustment

Brake control levers - greasing

Brake pads - check condition and wear

Brake fluid level - check

Transmission elements - lubrication

Safety locks - check

Suspensions - check

Electrical system and battery - check

Headlight - adjustment

Tyre inflation and wear - Check

Vehicle and brake test - road test

AT 36000 KM

Engine oil - replacement

Hub oil level - check

Spark plug/electrode gap - replacement

Air filter - clean

Oil filter (net filter) - clean

Idle speed (*) - adjustment

Throttle lever - adjustment

Variable speed rollers - check or replacement

Driving belt - replacement

Odometer cable - greasing

Steering - adjustment

Brake control levers - greasing

Brake pads - check condition and wear

Flexible brake tubes - replacement

Brake fluid level - check

Transmission elements - lubrication

Safety locks - check

Suspensions - check

Electrical system and battery - check

Headlight - adjustment

Tyre inflation and wear - Check

SAS box (sponge) (**) - cleaning

Vehicle and brake test - road test

(*) See instructions in «Idle speed adjustment» section

(**) See regulations in the «Secondary air system» section

AFTER 72,000 KM

Engine oil - replacement

Hub oil - change

Spark plug/electrode gap - replacement
--

Air filter - clean

Oil filter (net filter) - clean

Valve clearance - check

Idle speed (*) - adjustment

Throttle lever - adjustment

Variable speed rollers - check or replacement

Driving belt - replacement

Cylinder ventilation system - check

Odometer cable - greasing

Steering - adjustment

Brake control levers - greasing

Brake pads - check condition and wear

Flexible brake tubes - replacement

Brake fluid level - check

Transmission elements - lubrication

Safety locks - check

Suspensions - check

Electrical system and battery - check

Headlight - adjustment

Tyre inflation and wear - Check

SAS box (sponge) (**) - cleaning

Vehicle and brake test - road test

(*) See instructions in «Idle speed adjustment» section

(**) See regulations in the «Secondary air system» section

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 BRAKE 4	Brake fluid	FMVSS DOT 4 Synthetic fluid
AGIP CITY HI TEC 4T	Oil to lubricate flexible transmissions (brakes, throttle control and odometer)	Oil for 4-stroke engines
AGIP FILTER OIL	Oil for air filter sponge	Mineral oil with specific additives for increased adhesiveness
AGIP CITY HI TEC 4T	Engine oil	SAE 5W-40, API SL, ACEA A3, JASO MA Synthetic oil
AGIP GREASE MU3	Grease for odometer transmission gear case	Soap-based lithium grease with NLGI 3; ISO-L-XBCHA3, DIN K3K-20
AGIP GP 330	Grease for brake control levers, throttle, stand	White calcium complex soap-based spray grease with NLGI 2; ISO-L-XBCIB2

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Tyre pressure: 17

Tyres: 29



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