

PIAGGIO WOULD LIKE TO THANK YOU

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

Fly 125 150 ie



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.

INDEX

VEHICLE..... 7

- Dashboard..... 8
- Analogue instrument panel..... 10
- Clock..... 11
- Keyswitch..... 12
 - Locking the steering wheel..... 12
 - Releasing the steering wheel..... 12
- Switch direction indicators..... 13
- Horn button..... 13
- Light on/of switch..... 14
- Light switch..... 14
- Start-up button..... 15
- Engine stop button..... 15
- The immobilizer system..... 15
 - Keys..... 16
 - Immobilizer device enabled indicator led..... 16
 - Operation..... 16
 - Opening the saddle..... 18
- Identification..... 19
- Rear top box opening..... 19
- Bag clip..... 20

USE..... 21

- Checks..... 22
- Refuelling..... 22
- Tyre pressure..... 23
- Shock absorbers adjustment..... 24
- Running in..... 25
- Starting up the engine..... 26
 - Precautions..... 27
- Stopping the engine..... 28
- Stand..... 28
- Automatic transmission..... 29
- Safe driving..... 30

MAINTENANCE..... 33

- Engine oil level..... 34
 - Engine oil level check..... 34
 - Engine oil top-up..... 35
 - Warning light (insufficient oil pressure)..... 35
 - Engine oil change..... 36
- Hub oil level..... 37
- Tyres..... 38
- Spark plug dismantlement..... 39
- Checking the brake oil level..... 40
- Battery..... 41
 - Checking the electrolyte level..... 42
- Long periods of inactivity..... 43
- Fuses..... 44
- Front light group..... 49
 - Head light adjustment..... 52
- Front direction indicators..... 52
- Rear optical unit..... 53
- Number plate light..... 54
- Rear-view mirrors..... 54
- Front disc brake..... 55
- Rear drum brake..... 56
- Puncture..... 56
- Inactivity of the vehicle..... 57
- Cleaning the vehicle..... 57

TECHNICAL DATA..... 63

- Tool kit..... 68

SPARE PARTS AND ACCESSORIES..... 69

- Warnings..... 70

SCHEDULED MAINTENANCE..... 71

- Scheduled servicing table..... 72

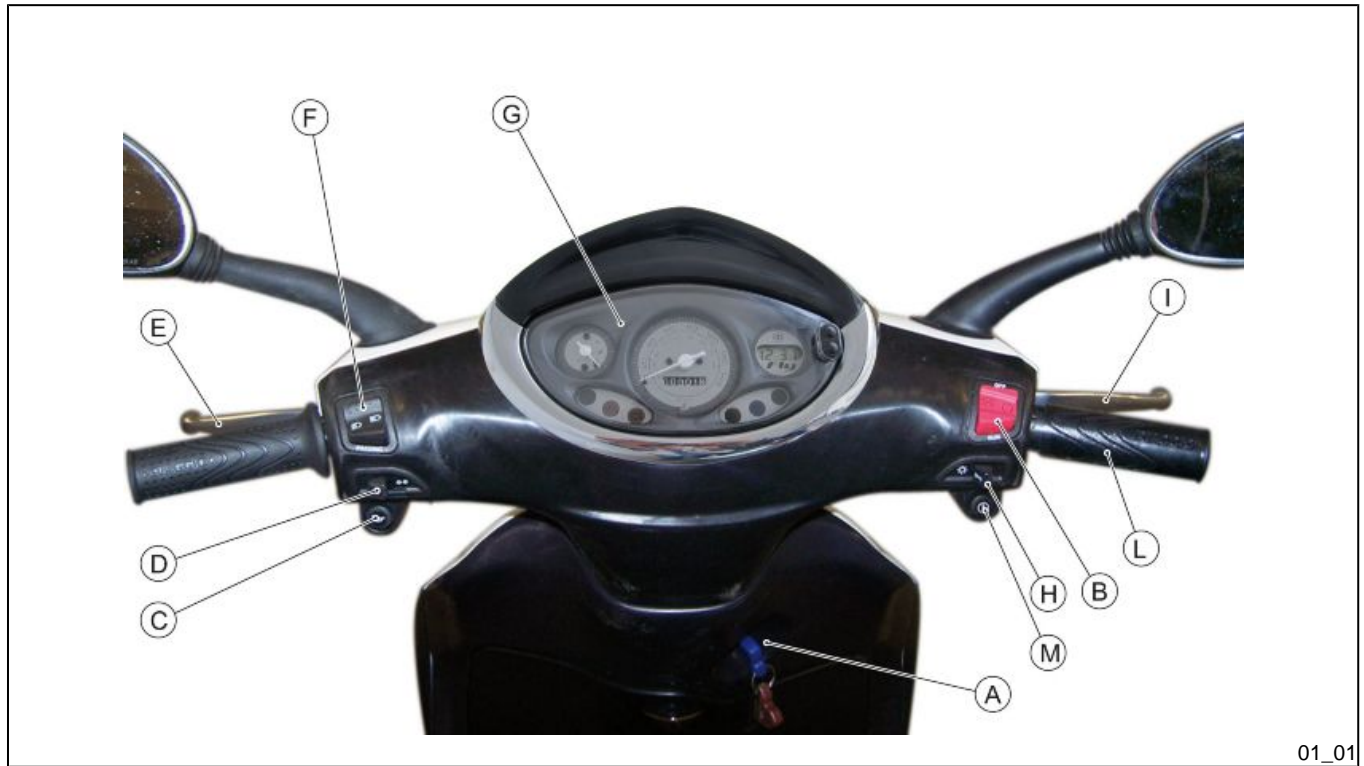
Fly 125 150 ie



PIAGGIO®



**Chap. 01
Vehicle**



Dashboard (01_01)

A = Ignition key-switch

B = RUN/OFF emergency stop switch (if available)

C = Horn button

D = Turn indicator switch

E = Rear brake lever

F = Headlight switch

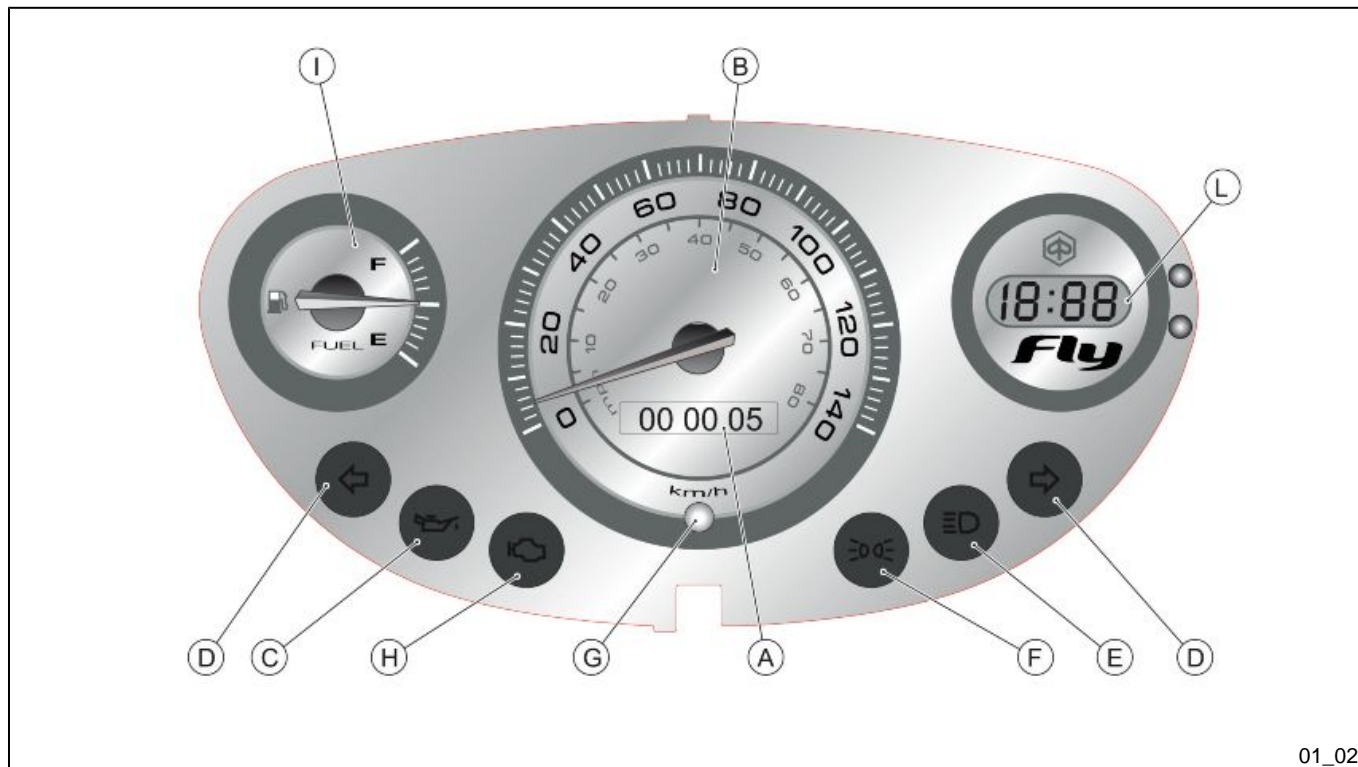
G = Analogue instrument panel

H = Lights switch

I = Front brake lever

L = Throttle grip

A = Starter button



01_02

Analogue instrument panel (01_02)

A = Trip counter

B = Speedometer

F = Low oil pressure warning light

D = Turn indicator warning light

E = High beam warning light

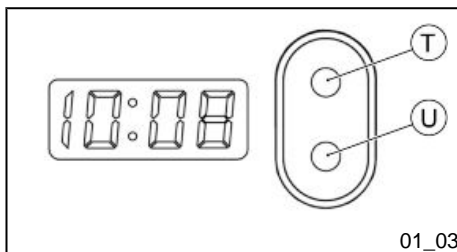
F = Headlight warning light

G = Immobilizer warning light

H = Injection fault

I = Fuel gauge

L = Digital clock



Clock (01_03)

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

Operate the function selection button «**T**» and month, day and seconds are also displayed 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.



01_04

Keyswitch (01_04)

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 = Ready to start 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 «**LOCK**» and remove the key.

CAUTION



NEVER TURN THE KEY TO «LOCK» OR «OFF» WHILE RIDING.

Releasing the steering wheel

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

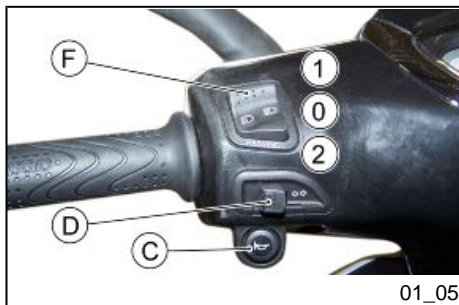
CAUTION



NEVER TURN THE KEY TO «LOCK» OR «OFF» WHILE RIDING.

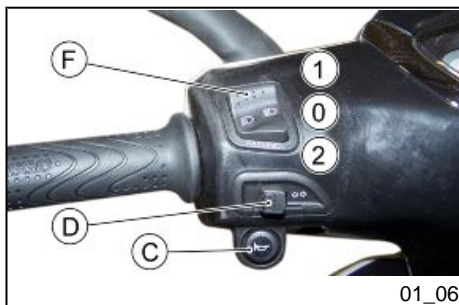
Switch direction indicators (01_05)

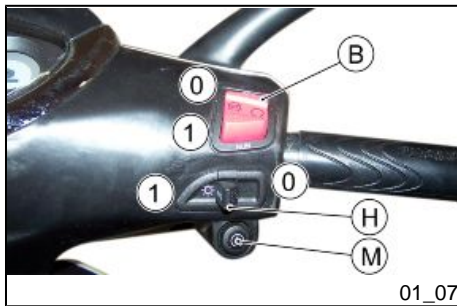
To set the left turn indicators flashing, move lever «D» to the left; to set the right turn indicators flashing, move it to the right. The lever automatically returns to the central position and the indicators remain on. To turn the indicators off, press the lever towards the switch.



Horn button (01_06)

Horn button «C»



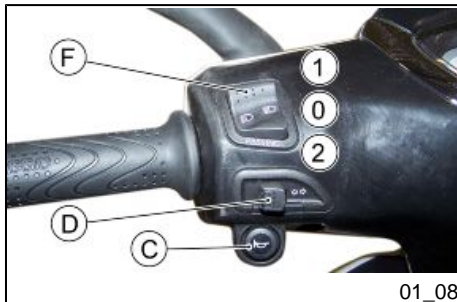


Light on/of switch (01_07)

With lever «H» in position «0», the daylight running lights are off. By moving lever «H» to position «1», the daylight running lights turn on.

Light switch (01_08)

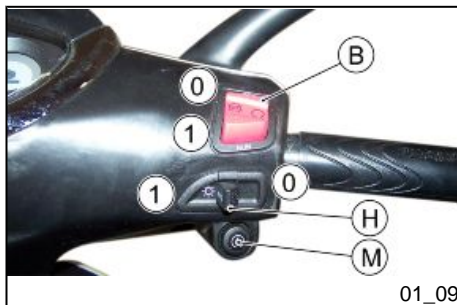
- 0 = Low-beam and taillight
- 1 = High-beam and taillight
- 2 = High-beam flash (passing)



CAUTION

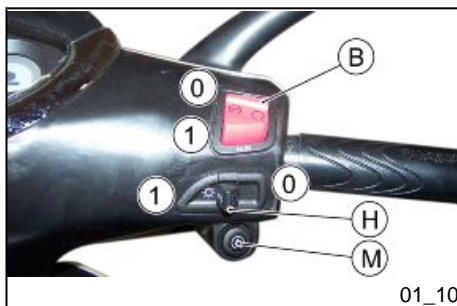


DO NOT PLACE, TRANSPORT OBJECTS AND/OR CLOTHES OVER THE FRONT HEADLIGHT ASSEMBLY, WHEN THE HEADLIGHT IS TURNED ON OR OFF. FAILURE TO FOLLOW THIS PRECAUTION MAY CAUSE OVERHEATING AND THE SUBSEQUENT FUSION OF THE GLASS.



Start-up button (01_09)

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



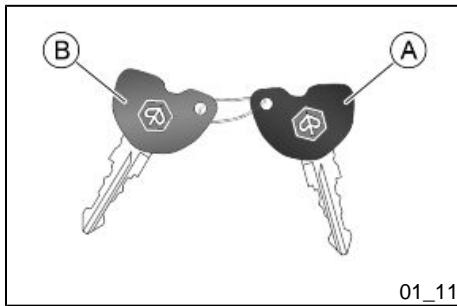
Engine stop button (01_10)

(IF AVAILABLE)

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

The immobilizer system

In order to enhance theft protection, the vehicle is equipped with a «**PIAGGIO IMMOBILIZER**» electronic engine locking device that is activated automatically when the ignition key 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.



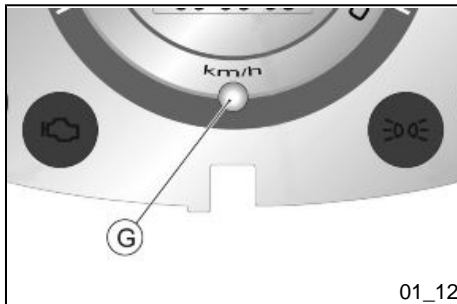
Keys (01_11)

The vehicle is supplied with two types of keys. The «A» key with a brown grip and 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.

WARNING



THE LOSS OF THE BROWN KEY PREVENTS LATER REPAIRS TO THE "PIAGGIO IMMOBILIZER" SYSTEM AND TO THE ENGINE CONTROL UNIT.



Immobilizer device enabled indicator led (01_12)

Activation of the «PIAGGIO IMMOBILIZER» system is signalled by a flashing warning light «G» (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 ignition 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 (brown). 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 (if available). 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 the key with the brown grip and all the blue keys supplied to an **Authorised Piaggio Service Centre**. 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.

SHOULD THE VEHICLE CHANGE OWNER, IT IS ABSOLUTELY NECESSARY THAT THE NEW OWNER GET POSSESSION OF THE KEY WITH THE BROWN GRIP (AS WELL AS ALL OTHER KEYS).

Procedure start-brown key

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

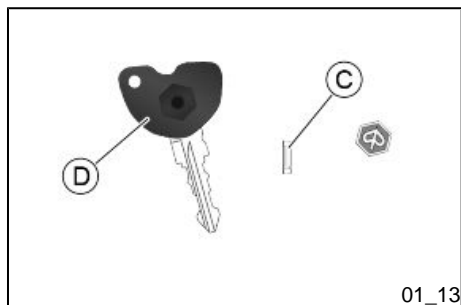
Intermediate step-blu key

After extracting the brown key, insert the blue key within 10 seconds and promptly turn it to «**ON**». After 1 - 3 seconds, turn the key to «**OFF**» again and pull it out.

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

Final step-brown 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 (01_13)

Disable the transponder from the brown key; in order to do this remove the Piaggio clip-on badge and extract the transponder «C» from the handgrip «D». Insert the key into the ignition switch and turn it to «ON». Perform the engine starter operation. Ensure that the engine does not start. Insert the blue key and repeat the start-up operation. Check that engine starts.

WARNING

IF THE ENGINE STARTS WITH THE BROWN KEY (AND WITH A DISABLED TRANSPONDER) OR IF DURING THE PROGRAMMING A WRONG STEP HAS BEEN CARRIED OUT, IT IS NECESSARY TO REPEAT THE PROCESS FROM THE BEGINNING.



Opening the saddle (01_14)

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

Identification (01_15, 01_16)

The identification numbers consist of a prefix stamped on the chassis and on the engine, followed by a number. They must be quoted when ordering spare parts. We recommend that you check that the prefix and frame 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_15



01_16

Rear top box opening

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



Bag clip (01_17)

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

Fly 125 150 ie



PIAGGIO®



Chap. 02
Use



Checks (02_01)

Before using the vehicle, check:

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



Refuelling (02_02)

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

The fuel level is indicated by the specific instrument fitted on the instrument panel.

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



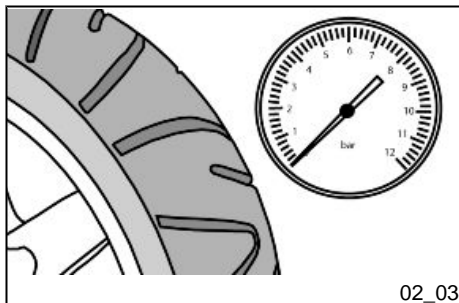
DO NOT BRING NAKED FLAMES OR CIGARETTES NEAR THE MOUTH OF THE FUEL TANK: FIRE HAZARD. ALSO AVOID INHALING HARMFUL VAPOURS.

CAUTION

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

Characteristic**Fuel tank capacity**

~ 7 litres (1.5 l of which is reserve)

**Tyre pressure (02_03)****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 PRESSURE

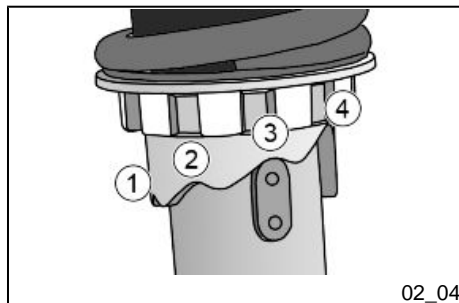
Front tyre pressure	1.8 bar
Rear tyre pressure	2 bar

Rear wheel pressure (rider and passenger): 2.3 bar

TYRES

Front tyre 120/70 - 12" Tubeless

Rear tyre 120/70 - 12" Tubeless



Shock absorbers adjustment (02_04, 02_05)

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

Position 1: minimum preload: rider only

Position 2: medium preloading: rider only

Position 3: medium preloading: rider and passenger

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

In order to carry out this operation you will need to use the specific spanner in the kit.

CAUTION



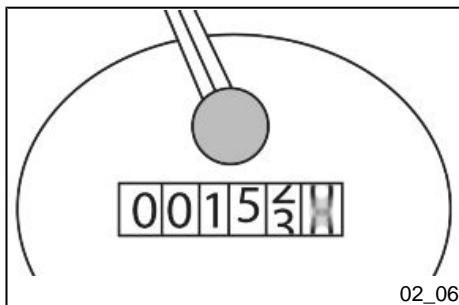
RIDING THE VEHICLE WITH THE SPRING PRELOADING NOT CORRECTLY SET FOR THE RIDER AND POSSIBLE PASSENGER, COULD REDUCE THE COMFORT OF THE RIDE AND THE PRECISION OF THE STEERING.



02_05

WARNING

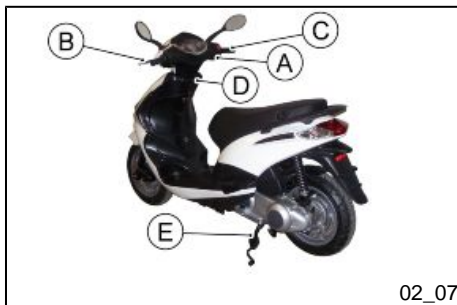
WE RECOMMEND WEARING GLOVES WHILE CARRYING OUT THIS OPERATION IN ORDER TO AVOID INJURIES.



02_06

Running in (02_06)**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_07

Starting up the engine (02_07)

The vehicle is equipped with automatic transmission and centrifugal clutch, thus it must be started with throttle grip to idle speed; to start accelerate in a progressive way. The vehicle is equipped with an electrical fuel pump that switches on automatically as soon as the engine is started.

To start it up, it is necessary to:

- Rest the scooter on its centre stand «E», making sure the rear wheel does not touch the ground.
- Keep the throttle grip to idle speed.
- Insert the key into the ignition switch «D» and turn it to «ON».
- Wait for the engine control telltale light to turn off.
- Push the starter button «A» after pulling the front brake lever «C» or the rear brake lever «B».

CAUTION



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

CAUTION



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

WARNING

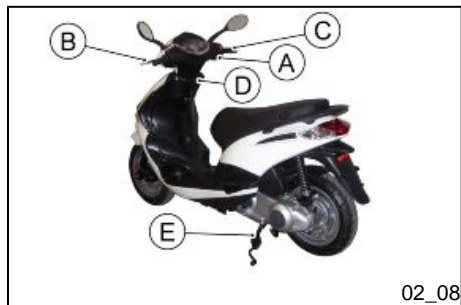
THE SYSTEM IS DESIGNED TO INHIBIT STARTING THE VEHICLE WHEN ONE ATTEMPTS TO START THE ENGINE WITH THE THROTTLE GRIP OPEN, THUS PREVENTING AN INCORRECT MANOEUVRE. THEREFORE KEEP THE THROTTLE GRIP ON IDLE SPEED OR PARTIALLY OPEN IF NECESSARY.

Precautions**CAUTION**

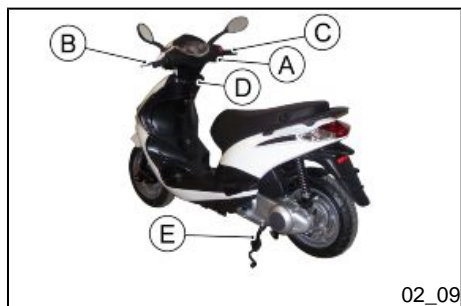
NEVER STRESS THE ENGINE AT LOW TEMPERATURES IN ORDER TO AVOID POSSIBLE DAMAGE. BE CAREFUL NEVER TO EXCEED THE MAXIMUM SPEED WHILE RUNNING DOWNHILL, IN ORDER TO AVOID DAMAGING THE ENGINE. IN ANY CASE, IN ORDER TO PRESERVE THE ENGINE FROM PROLONGED OVERREVVING, THE REVOLUTION LIMITER WILL BE ACTIVATED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

WARNING

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



02_08



02_09

Stopping the engine (02_09)

Stop acceleration, then turn the key switch «D» to «OFF » to stop the engine (extractable key).

CAUTION



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

Stand (02_10)

CENTRE STAND

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

**SIDE STAND:**

With your foot push the projection of the stand «L » in order to open it and at the same time lean the vehicle on you. There is a switch that hinders the vehicle starter with lowered stand.

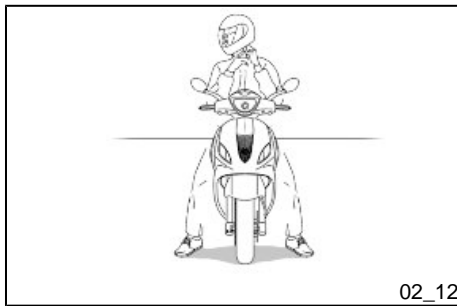
WARNING

USE THE SIDE STAND PREFERABLY ON STREET SURFACES WHICH ARE COMPACT AND ONLY SLIGHTLY SLOPING, PARTICULARLY IN CONDITIONS OF MAXIMUM ALLOWED LOAD.

**Automatic transmission (02_11)**

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_12)

WARNING



SOME SIMPLE TIPS ARE PROVIDED BELOW WHICH WILL ENABLE YOU TO USE YOUR VEHICLE ON A DAILY BASIS MORE EASILY AND SAFELY. <

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 RIDE WITHIN YOUR LIMITS

1. Before riding off, remember to put the helmet on and fasten it correctly.
- 2.Reduce speed on rough roads and ride with caution.
- 3.Remember that 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, unsurfaced or slippery roads.
- 5.If you have to brake, use both brakes in order to spread the braking action between both wheels.
- 6.Avoid riding off by mounting the scooter when it is resting on its 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.
- 7.If the vehicle is used on roads covered with sand, mud, snow mixed with salt, etc., clean brake discs frequently with a mild detergent in order to avoid the formation of abrasive substances in the holes, which could result in early wear of the brake pads.

8. Remember that any change that modifies the vehicle's performance, such as tampering with original structural parts, renders the vehicle not conforming to the approved type and therefore dangerous to ride.

CAUTION

RIDING UNDER THE INFLUENCE OF ALCOHOL, DRUGS OR CERTAIN MEDICINES CAN BE EXTREMELY DANGEROUS FOR ONESELF AND FOR OTHERS.

CAUTION

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

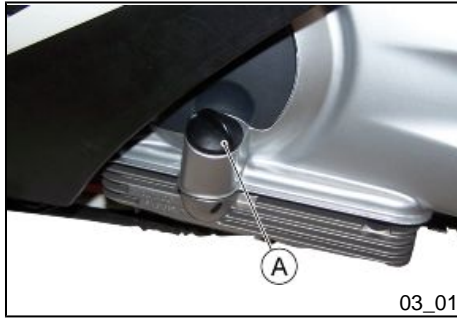
Fly 125 150 ie



PIAGGIO®



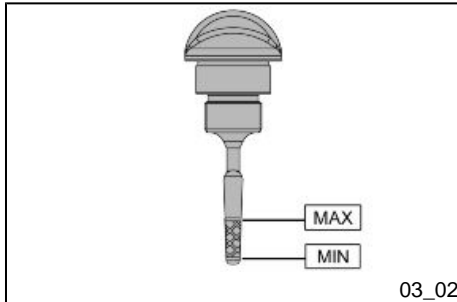
**Chap. 03
Maintenance**



03_01

Engine oil level (03_01)

Four stroke engine oil is used in the engines in order to lubricate the timing bodies, the bench bearings and the thermal group. **An insufficient quantity of oil can seriously damage the engine.** In all four-stroke engines, a loss of efficiency in oil performance and certain consumption should be considered normal. Consumption can particularly reflect the conditions of use (i.e. when driving at 'full acceleration' all the time, oil consumption increases). The replacement intervals provided for by the maintenance programme are defined depending on the total content of oil in the engine and the average consumption measured following standardised methods. **In order to prevent any problems, we recommend checking oil level more frequently than indicated in the Scheduled Maintenance table or before setting off on long journeys. The vehicle is, however, equipped with an oil pressure warning light on the instrument panel.**



03_02

Engine oil level check (03_02)

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

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.

CAUTION



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

Characteristic

Engine oil

1100 cm³

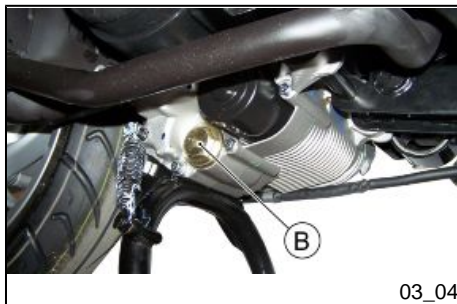
Engine oil top-up

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**.

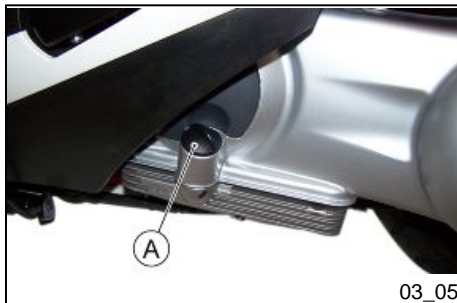
Warning light (insufficient oil pressure) (03_03)

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.**

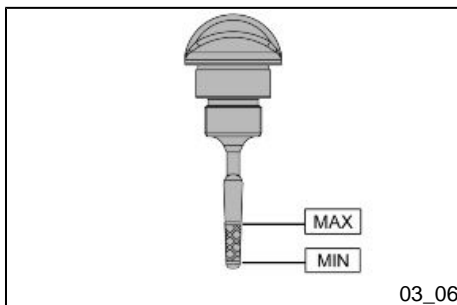




03_04



03_05



03_06

Engine oil change (03_04, 03_05, 03_06)

Oil must be changed and filter replaced at an **Authorised Service Centre** (as indicated in the Scheduled Maintenance Table). 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 «**A**». Since a certain quantity of oil remains in the circuit still, the top-up should be carried out from the 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.

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

eni i-Ride PG 10W-40

Synthetic-based lubricant for four stroke engines.

JASO MA, MA2 - API SL - ACEA A3



03_07

Hub oil level (03_07, 03_08)

Check that there is oil in the rear hub; the oil in an upright vehicle should barely reach the notch of the dipstick «A».

CAUTION



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

N.B.

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

Recommended products

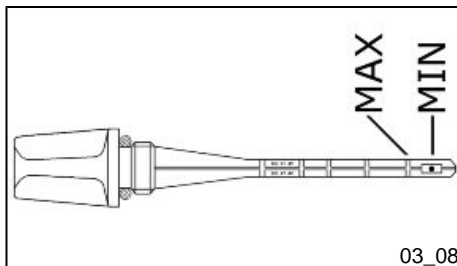
AGIP GEAR SAE 80W-90

Lubricant for gearboxes and transmissions.

API GL-4

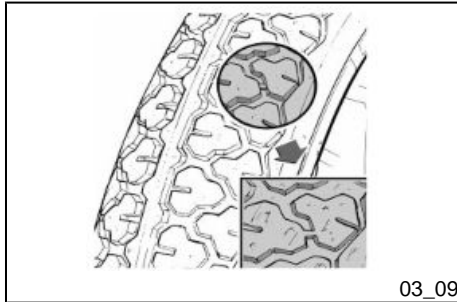
Characteristic

Rear hub oil



03_08

~ 200 cm³



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.

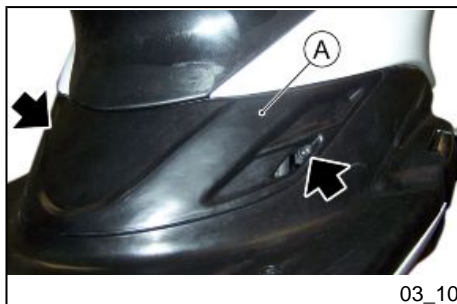
TYRES MUST BE REPLACED WHEN THE TREAD REACHES THE WEAR LIMITS SET FORTH BY LAW.

TYRES

Front tyre	120/70 - 12" Tubeless
Rear tyre	120/70 - 12" Tubeless

TYRE PRESSURE

Front tyre pressure	1.8 bar
Rear tyre pressure	2 bar
Rear wheel pressure (rider and passenger):	2.3 bar



03_10

Spark plug dismantlement (03_10, 03_11)

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

1. Remove the access door «A» after unscrewing the corresponding screws;
2. Detach the spark plug cap;
3. Remove the spark plug with the spanner supplied (with fixing rubber).

To refit, repeat the procedure in reverse order using the spanner to insert the spark plug or to tighten it in its seat. Care should be taken to installing and fixing it with correct inclination

To refit the door follow the steps in reverse order, making sure to insert the tabs in their slots.

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.



03_11

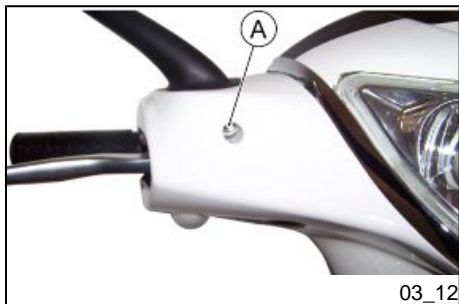
N.B.

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

Characteristic**Spark plug**

125 cm³ engine NGK CR8EB - DENSO U24ESR-NB

150 cm³ engine: NGK CR7EB - DENSO U22ESR-NB

**Checking the brake oil level (03_12, 03_13)**

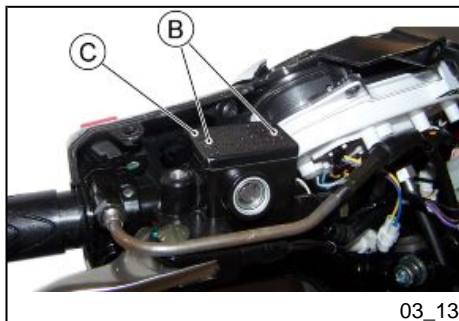
The brake fluid reservoir is equipped with a sight glass «A» made of transparent material; the quantity of liquid contained in the sight glass indicates the level of liquid in the reservoir.

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 reservoir 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

THE SYSTEM MUST ONLY BE TOPPED UP WITH DOT4 TYPE BRAKE FLUID.



03_13

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 UP, AVOID LETTING IT COME INTO CONTACT WITH THE PAINTED PARTS OF THE VEHICLE. 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.



03_14

Battery (03_14)

To have access to the battery it is necessary to open the front case and remove access door to the battery by unscrewing the two star-shaped screws as shown in the picture

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.

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

Long periods of inactivity (03_15)

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, 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 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**.

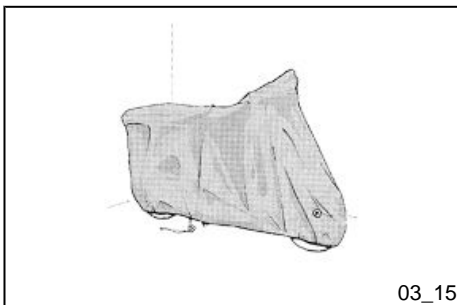
N.B.

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 IRREPARABLE DAMAGE TO THE VEHICLE'S ELECTRONIC CONTROL UNIT.





03_16



03_17

WARNING

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

Fuses (03_16, 03_17, 03_18, 03_19, 03_20)

The electrical system is protected by a 30A fuse «7» located next to the battery; by four 7.5 A fuses; by one 5 A fuse and one 10 A fuse. The six fuses mentioned above are located under the front grill. To reach them:

- remove the PIAGGIO clip-on badge «A»;
- unscrew and remove the screw «B»;
- remove the grill «C».

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 SPEC-

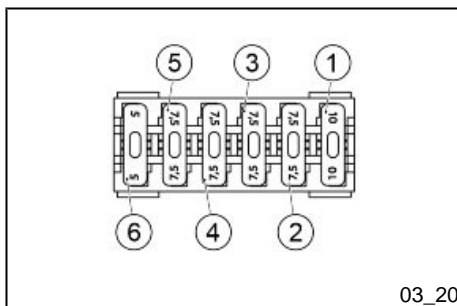


IFICATIONS OF THE SYSTEM CAN CAUSE MALFUNCTIONING AND RISK OF FIRE.

CAUTION



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



FUSE CHART

Fuse No. 1 **Threshold of operation:** 10A
Location: front part
Protected circuits: battery power, lights relay.

Fuse no. 2 **Threshold of operation:** 7.5 A
Location: front part
Protected circuits: battery-powered injection solenoid, injection control unit, Immobilizer LED.

Fuse no. 3 **Threshold of operation:** 7.5 A
Location: front part
Protected circuits: Ignition switched live, turn indicators intermittence, horn, instrument panel, stop lights.

Fuse no. 4 **Threshold of operation:** 7.5 A
Location: front part
Protected circuits: Ignition switched live light switch and solenoid, daylight running lights, and dashboard lighting.

Fuse No. 5 **Threshold of operation:** 7.5 A
Location: front part

	Protected circuits: Key powered, flasher function.
Fuse No. 6	<p>Threshold of operation: 5A</p> <p>Location: front part</p> <p>Protected circuits: Ignition switched live injection control unit, immobilizer antenna, injection load remote control.</p>
Fuse No. 7	<p>Threshold of operation: 30 A</p> <p>Location: battery compartment</p> <p>Protected circuits: Battery power, recharge circuit, vehicle general (flywheel, voltage regulator).</p>

BULBS

High/low beam light bulb	<p>Type: Halogen (H4)</p> <p>Power: 12V - 35/35W</p> <p>Quantity: 1</p>
Front side light bulb	<p>Type: All glass</p> <p>Power: 12V - 5W</p> <p>Quantity: 1 RHS + 1 LHS</p>

Front turn indicator light 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 - 1.7W warning light bulbs	Type: All glass Function: turn indicators Quantity: 2
12V - 1.7W warning light bulbs	Type: All glass Function: Lights, high-beam, oil pressure, injection Quantity: 4
Instrument panel lighting bulbs	Type: All glass Power: 12V 1.7W Quantity: 2
License plate bulb	Type: ALL GLASS Power: 12V - 5W

Quantity: 1



03_21

Front light group (03_21, 03_22, 03_23, 03_24, 03_25, 03_26, 03_27)

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 the «Rear-view mirrors» section.
- 2) Unscrew the 3 screws holding the handlebar cover. The front central one «B» and the rear 2 «C».
- 3) Remove the crankcase cover «D» and undo the two screws «E».
- 4) Remove the connector «F».
- 5) Remove the handlebar cover to reach the headlight and the bulbs.

Once this is done, the handlebar cover can be removed.

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_22



03_23



03_24



03_25

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.

Daylights

To replace the lamp position open the front case, remove the bulb holder from the seat; gently pull the lamp. To refit, proceed in reverse order.

Electric characteristic**Bulbs**

- n.1 bulb 12V-35/35W for high- and low beam light
- n.2 bulbs 12V-5W for daylight running lights





03_28

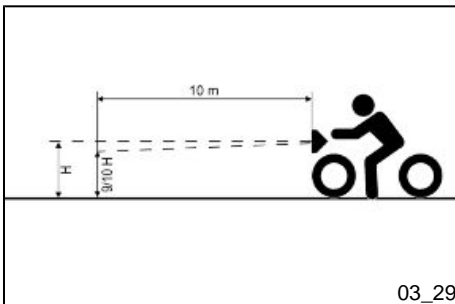
Head light adjustment (03_28, 03_29)

Proceed as follows:

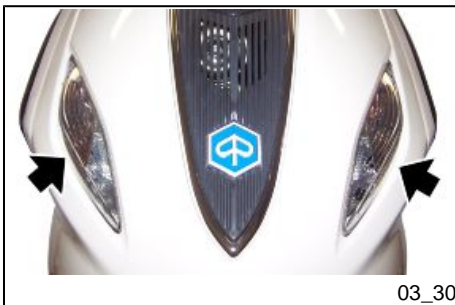
1. Position the vehicle in running order and with the tyres inflated to the prescribed pressure, onto a flat surface 10 m away from a half-lit white screen; ensure that the longitudinal axis of the vehicle is perpendicular to the screen;
2. Turn on the headlight and check that the boundary of the light beam projected onto the screen is not higher than 9/10 or lower than 7/10 of the distance between the centre of the headlight and the ground;
3. 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.



03_29



03_30

Front direction indicators (03_30, 03_31)

To replace the front flasher bulbs, open the front glove-box and remove the bulb holder from the seat; gently turn the bulb around 30° and remove it. Follow the process in reverse order to refit.

Electric characteristic

Bulbs

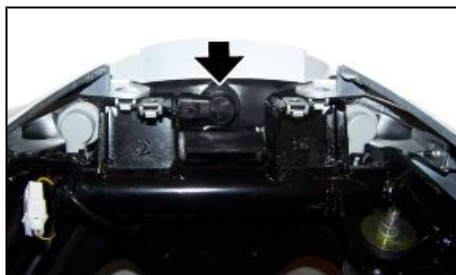
- n.2 12V-10W bulbs for front daylight running lights



03_31



03_32



03_33

Rear optical unit (03_32, 03_33)

In order to reach the rear light bulb, remove the helmet compartment by loosening the 6 fixing screws. Gently push and turn the bulb about 30° and then remove it. To refit follow the same steps but in reverse order.

WARNING

FOR REPLACEMENT OF THE TURN INDICATOR BULBS PLEASE SEE AN AUTHORISED SERVICE CENTRE.

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.

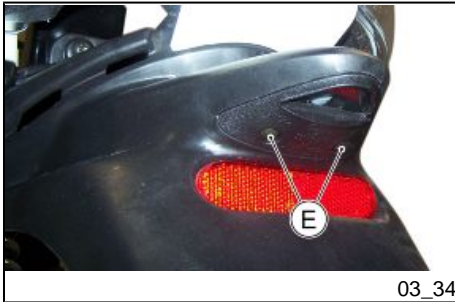
THE PHENOMENON SHOULD QUICKLY DISAPPEAR WHEN THE LIGHT IS SWITCHED ON.

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

Electric characteristic

Bulbs

n.1 12V-21/5W bulb for stop and daylight running lights



Number plate light (03_34)

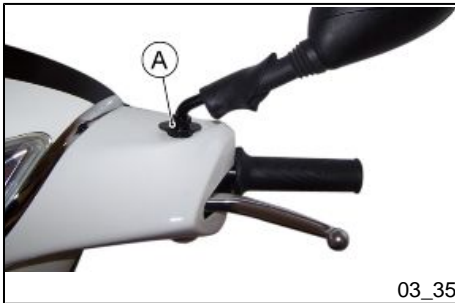
Remove the tail light by operating the retaining screws «E».

Remove the bulb holder from the seat; pull the bulb gently. To refit, proceed in reverse order.

Electric characteristic

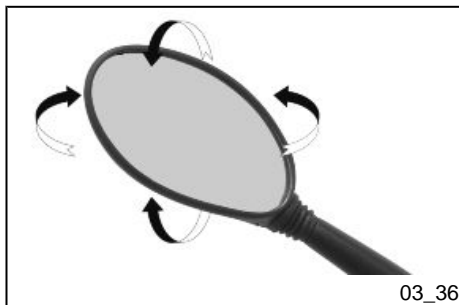
Bulbs

n.1 license plate bulb 12v-5w

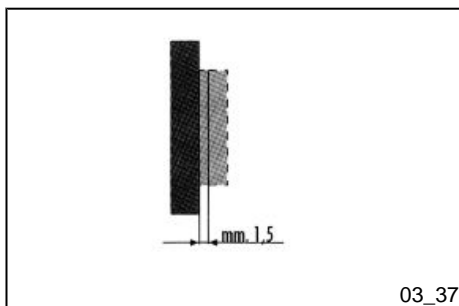


Rear-view mirrors (03_35, 03_36)

To adjust mirrors, loosen lock nut «A», place the mirror stem adequately and tighten the lock nut. The rear-view mirror is assembled on a stem with a ball 'joint'. The mirror can be adjusted manually to the desired position.



03_36



03_37

Front disc brake (03_37)

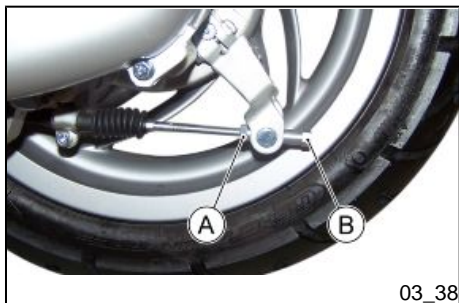
The brake disc and pad wear is automatically compensated, therefore it has no effect on the functioning of the front and rear brakes. For this reason it is not necessary to adjust the brakes. An excessively elastic brake lever stroke may indicate the presence of air in the braking circuit or an irregular 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.



03_38

CAUTION

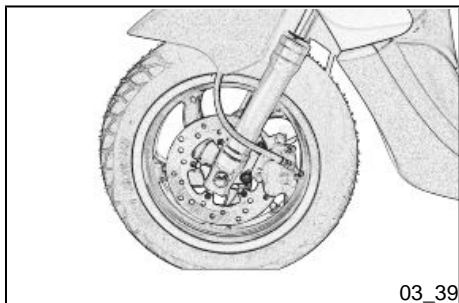
BRAKING SHOULD BEGIN AFTER ABOUT 1/3 OF THE BRAKE LEVER STROKE.

Rear drum brake (03_38)

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_39

Puncture (03_39)

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**.

Inactivity of the vehicle (03_40)

The following operations are recommended:

- 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 cm³ of motor oil through its hole. Operate the starter motor 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 uncoated metal parts; keep the wheels lifted above the ground.
- 4 - For the battery, follow the procedures described in the «Battery» section.
- 5 - Replace engine oil.

Recommended products

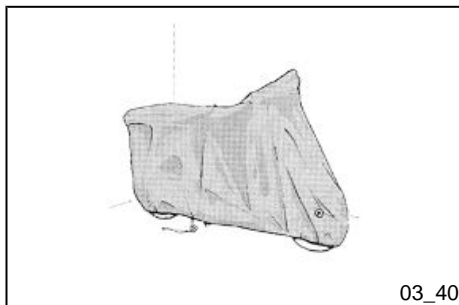
eni i-Ride PG 10W-40

Synthetic-based lubricant for 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.



03_40

WARNING

To avoid the appearance of oxidations, wash the vehicle every time it is used in certain areas or in special conditions of:

- Environmental / seasonal conditions: use of salt, de-icer chemical products on the road in winter.
- Air pollution: city and/or industrial areas.
- Salinity and humidity of the atmosphere: marine areas, hot and wet weather.

WARNING

- Prevent deposits from remaining on the bodywork, industrial and pollutant residual dust, tar spots, dead insects, bird droppings, etc.
- Do not park the vehicle under the trees. In some seasons, in fact, residues, resins, fruits or leaves may fall from the trees, containing chemicals that are harmful to the paintwork.

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, IN ORDER 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 JET AT THE THROTTLE BODY, THE ELECTRIC CABLES, THE COOLING SLITS IN THE TRANSMISSION COVER AND THE SPIRAL COVER.

START-UP PROBLEMS

No fuel in tank	Refuel
Injection system fault	Contact an Authorised Service Centre.
Insufficient battery charge	Recharge the battery.

Fuel pump fault

Contact an **Authorised Service Centre.**

IGNITION PROBLEMS

No spark from spark plug. Due to the presence of high voltage, this check should only be carried out by an expert.

Check that the electrodes are properly adjusted (0.7÷ 0.8 mm).
Check that the electrodes are clean. Check the spark plug insulator: replace the spark plug if the insulator is cracked or broken. If the spark plug is in good conditions, contact an **Authorised Service Centre.**

Faulty ignition / injection control unit.

Contact an **Authorised 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.

Contact an **Authorised Service Centre.**

INEFFICIENT BRAKING

Oil on drum or disc. Worn Pads/ Shoes	Contact an Authorised Service Centre
--	---

incorrect rear brake adjustment	Adjust
---------------------------------	--------

INEFFICIENT SUSPENSION

Inefficient shock absorbers, oil leakage, deteriorated end of stroke buffers.	Contact an Authorised Service Centre
---	---

AUTOMATIC TRANSMISSION PROBLEMS

Deteriorated CVT rollers and/or drive belt and/or clutch	Contact an Authorised Service Centre
---	---

STAND DOES NOT RETURN TO POSITION

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

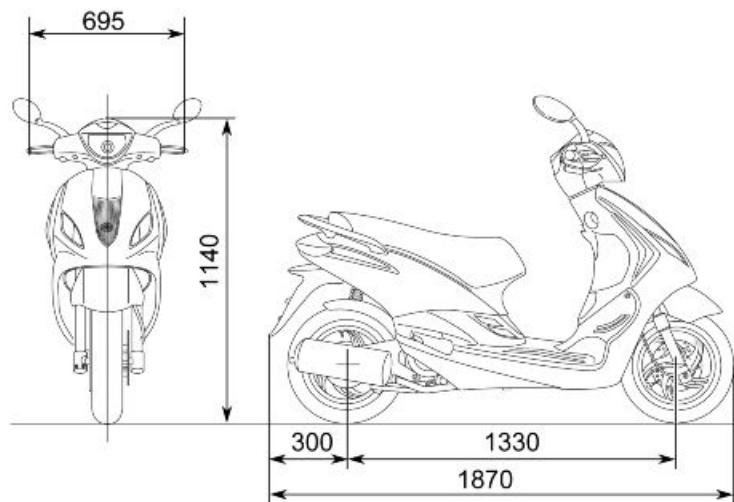
Fly 125 150 ie



PIAGGIO®



Chap. 04
Technical data



04_01

SPECIFICATIONS - 125 ENGINES

ENGINE	Single-cylinder, 4-stroke Piaggio LEADER
Engine capacity	124 cm ³
Bore x stroke	57.0 x 48.6 mm
Max. power	7.6 kW at 8,250 rpm

MAX. torque	9.2 Nm at 6,500 rpm
Compression ratio	10.6 ± 0.5 : 1
Timing system	2 valves, single overhead camshaft, chain-driven.
Valve clearance (cold engine)	Intake: 0.10 mm Exhaust: 0.15 mm
Spark plug	NGK CR8EB - DENSO U24ESR-NB
Fuel system	Electronic injection with single injector throttle body
Cooling	Forced-air circulation cooling.
Lubrication	Wet crankcase
Electric	Electric starter
Gearbox	Continuously variable transmission with torque server
Clutch	Automatic centrifugal dry clutch
Fuel	Unleaded petrol

SPECIFICATIONS - 150 ENGINES

ENGINE	Single-cylinder, 4-stroke Piaggio LEADER
Cubic capacity	149.5 cm ³
Bore x stroke	62.6 x 48.6 mm
Max. power	8.6 kW at 8,000 rpm

MAX. torque	11.2 Nm at 6,250 rpm
Compression ratio	10.6 ± 0.5 : 1
Timing system	2 valves, single overhead camshaft, chain-driven.
Valve clearance (cold engine)	Intake: 0.10 mm Exhaust: 0.15 mm
Spark plug	NGK CR7EB - DENSO U22ESR-NB
Fuel system	Electronic injection with single injector throttle body
Cooling	Forced-air circulation cooling.
Lubrication	Wet crankcase
Electric	Electric starter
Gearbox	Continuously variable transmission with torque server
Clutch	Automatic centrifugal dry clutch
Fuel	Unleaded petrol

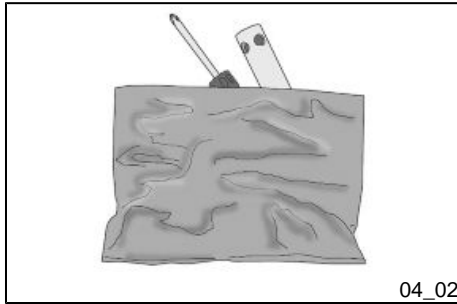
VEHICLE TECHNICAL DATA

Chassis	Tubular steel frame
Front suspension	Hydraulic telescopic fork with Ø 32-mm stem, 76 mm travel.
Rear suspension	Adjustable 4-position spring preloading single shock absorber, 73 mm travel

Front brake	Disc brake (Ø 220 mm) with hydraulic control (lever on the far right of the handlebar) and floating calliper.
Rear drum	Ø 140-mm drum brake with mechanical control activated by the handlebar left-side lever.
Wheel rim type	Light alloy.
Front wheel rim	12" x 3.00
Rear wheel rim	12" x 3.00
Front tyre	120/70 - 12" Tubeless
Rear tyre	120/70 - 12" Tubeless
Front tyre pressure (with passenger)	1.8 bar (- bar)
Rear tyre pressure (with passenger)	2 bar (2.3 bar)
dry weight	123 kg
Maximum weight allowed	300 kg
Battery	Sealed, 12 V / 6 Ah

CAPACITY

Engine oil	1.10 l
Transmission oil	200 cm ³
Fuel tank capacity	~ 7 litres (1.5 l of which is reserve)



Tool kit (04_02)

The toolkit includes:

1. A box-spanner (16 mm) with internal rubber ring to extract spark plugs;
2. A twin screwdriver;
3. An open spanner (13 mm);
4. A wrench to adjust shock absorbers.
5. A T30 Torx wrench
6. A T25 Torx wrench

The toolkit plastic pouch is fastened to the saddle with a clamp. To take it out, just push the tabs at the same time you loosen the clamp.

Fly 125 150 ie



PIAGGIO®



**Chap. 05
Spare parts and
accessories**



Warnings (05_01, 05_02)

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.



Fly 125 150 ie



PIAGGIO®



**Chap. 06
Scheduled
maintenance**



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 necessary to have your vehicle serviced to the prescribed intervals of time, even if you have not reached the predicted mileage. Carrying out scheduled services on time is essential for the validity of your warranty. For any further information concerning Warranty procedures and 'Scheduled Maintenance', please refer to the 'Warranty Booklet'.

MAINTENANCE TABLE

km x 1,000 or (months) maximum	1 (1)	6 (6)	12 (12)	18 (18)	24 (24)
Safety fasteners	I		I		I
Centre stand / Side stand		L	L	L	L
Drive belt		I	R	I	R
Throttle control	A		A		A
Air filter *		C	C	C	C
Oil filter	R	I	I	I	R
Mesh oil filter	C	C	C	C	C
Valve clearance		A		A	
Electrical system and battery	I	I	I	I	I
Cylinder ventilation system					C

km x 1,000 or (months) maximum	1 (1)	6 (6)	12 (12)	18 (18)	24 (24)
Brake levers	L		L		L
Brake fluid **	I	I	I	I	I
Engine oil *	R	R	R	R	R
Hub oil***	R	I	I	I	R
Headlight direction adjustment			A		A
Brake pads	I	I	I	I	I
Sliding shoes / CVT rollers		I	R	I	R
Tyre pressure and wear	I	I	I	I	I
Vehicle road test	I	I	I	I	I
Odometer gear			L		L
Suspension			I		I
Steering	A		A		A
Transmission			L		L

I: INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY

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

* Check every 3,000 km

** Replace every 2 years

*** If the vehicle is used in rainy conditions replace every 3,000 km

RECOMMENDED PRODUCTS TABLE

Product	Description	Specifications
AGIP GEAR SAE 80W-90	Lubricant for gearboxes and transmissions.	API GL-4
AGIP BRAKE 4	Brake fluid.	SAE J 1703 -FMVSS 116 - DOT 3/4 - ISO 4925 - CUNA NC 956 DOT 4 synthetic fluid
AGIP GREASE MU3	Yellow-brown, lithium-base, medium-fibre multipurpose grease.	ISO L-X-BCHA 3 - DIN 51 825 K3K -20
AGIP FILTER OIL	Special product for the treatment of foam filters.	-
eni i-Ride PG 10W-40	Synthetic-based lubricant for four stroke engines.	JASO MA, MA2 - API SL - ACEA A3
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 Metres (m)
1 Mile (mi)	1.609 Kilometres (km)
1 US gallon (USgal)	3.785 Litres (l)
1 Pound (lb)	0.454 Kilograms (kg)
1 Cubic inch (in ³)	16.4 Cubic centimetres (cm ³)
1 Foot pound (lb ft)	1,356 Newton metres (Nm)

1 Mile per hour (mi/h)	1.602 Kilometres per hour (km/h)
1 Pound per square inch (PSI)	0.069 (bar)
1 Fahrenheit (°F)	$32 + (9/5)$ Celsius (°C)

TABLE OF CONTENTS

B

Battery: 41
Brake: 40, 55, 56

C

Checks: 22
Clock: 11

D

Disc brake: 55

E

Engine oil: 34–36
Engine stop: 15

F

Fuses: 44

H

Horn: 13
Hub oil: 37

I

Identification: 19
Immobilizer: 15, 16
Instrument panel: 10

K

Keys: 16

L

Light switch: 14

M

Maintenance: 33, 71
Mirrors: 54

P

Puncture: 56

R

Refuelling: 22

S

Saddle: 18
Scheduled maintenance: 71
Shock absorbers: 24
Spark plug: 39
Stand: 28
Start-up: 15
Switch: 13, 14

T

Technical Data: 63
Top box: 19
Transmission: 29
Tyre pressure: 23

Tyres: 38

V

Vehicle: 7, 57



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

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

"© Copyright 2013 - PIAGGIO VIỆT NAM. All rights reserved. Reproduction of this publication in whole or in part is prohibited."

PIAGGIO VIỆT NAM- After Sales

LOT M - BINH XUYEN INDUSTRIAL ZONE - VINCH PHUC - VIET NAM

CUSTOMER SERVICE CENTRE

Please contact with us following:

Hot line: **1800 5555 85**

Email:

customer.service@piaggio.com.vn

Website:

www.piaggio.com.vn