

Piaggio would like to thank you

for choosing one of its products. We have drawn up this booklet to show you all features of our product. Please read the booklet carefully before using your vehicle. It includes information, suggestions and warnings regarding your vehicle. You will also be informed of features, details and devices that will prove the excellence of your choice. We believe that if you follow our suggestions you will soon tune in with your vehicle and use it for a long time at full satisfaction.

This booklet is an integral part of the vehicle, and upon sale, it should be transferred to the new owner.

APE 50 E4



INSTRUCTIONS

The instructions given in this booklet are intended to provide a clear, simple guide to using your scooter; details are also given of routine maintenance procedures and regular checks that should be carried out on the vehicle at an **Authorised PIAGGIO 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 PIAGGIO Dealer or Service Centre**. Read this booklet carefully before using your vehicle. Follow the instructions contained in this booklet for your personal safety and to ensure long-lasting use of your vehicle. Failure to observe these instructions may cause personal injury or damage to the vehicle.



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 indicated on this page are very important, they highlight the parts of the booklet that should be read with particular care. Each sign consists of a different graphic symbol, making it quick and easy to locate the various topics.

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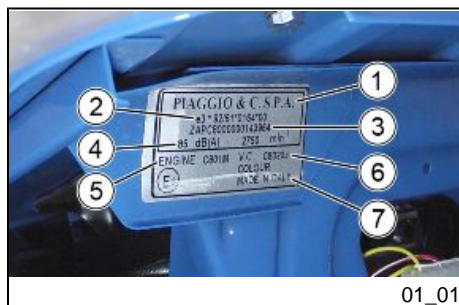
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Chap. 01
Identification



01_01

Manufacturer plate (01_01, 01_02, 01_03, 01_04)

Located under the right side seat.

MANUFACTURER'S PLATE KEY:

1. Manufacturer of the vehicle.
2. Type-approval number.
3. Vehicle Identification Number V.I.N.
4. Noise level (dB) under prescribed engine (Rpm)
5. Type of engine.
6. Vehicle code.
7. Country of production.



01_02

COLOUR LABEL:

This colour label indicates:

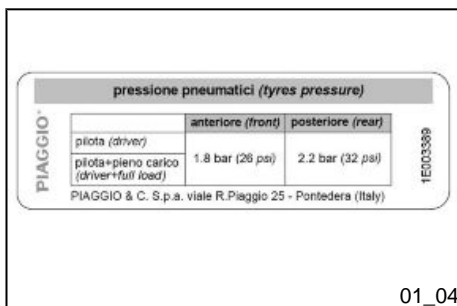
1. Original paintwork manufacturer
2. Paintwork colour
3. Paintwork code



01_03

TYRE LABEL.

To know the front and rear tyre pressure, read the values specified on the tyre label, situated inside the driving cabin.



01_04

Vehicle identification number (01_05, 01_06)

The identification registration numbers are made up of a prefix that identifies the vehicle type and a progressive number punched on the chassis and engine. These numbers must always be quoted in the spare parts requests.

It is advisable to check that the identification registration numbers on the vehicle and on the engine correspond with those indicated in the vehicle registration documents.



01_05



01_06

Check that the prefix and number punched on the chassis correspond to that shown on the vehicle documents.

The chassis identification number is located on the right side of the cross member under the seat.

CAUTION



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

VEHICLE IDENTIFICATION NUMBER

CHASSIS PREFIX

ZAPC81 ÷ 00000000001



01_07

Engine identifications numbers (01_07)

We always recommend checking that the prefix and number stamped on the engine correspond to those reported on the vehicle's identification documents.

The identification number is stamped on the engine's left side.

CAUTION

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

ENGINE IDENTIFICATION NUMBER

ENGINE PREFIX

C804M *01001*

**ENGINE IDENTIFICATION NUMBER (VERSION WITH
SPEED LIMITED TO 25 KM/H)**

ENGINE PREFIX

C805M *01001*

Inside view (01_08)



01_08

Outside view (01_09, 01_10)



01_09



01_10

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Chap. 02
Safe riding



02_01

Safety rules (02_01)

The catalytic converter is an emission control device, mounted in the exhaust system, whose function is to reduce the polluting agents from the exhaust gases.

CAUTION



DURING OPERATION, THE CATALYTIC SILENCER DEVELOPS HIGH TEMPERATURES; THEREFORE, DO NOT STOP OR PARK THE VEHICLE ON: GRASS, DRY LEAVES OR OTHER INFLAMMABLE MATERIALS, TO AVOID THE RISK OF FIRE.



02_02

Safe drive (02_02)

Follow these simple recommendations to use your vehicle every day, confidently and safely. Your skills and your mechanical knowledge are the basis for safe driving. We recommend practising driving your vehicle in traffic-free zones, in order to get well familiar with it.

1. Always drive within the limits of your ability, strictly following the road regulations of the country where you are driving.
2. Carefully adjust the position of the rear-view mirrors to easily check the road behind you.
3. Ensure nothing hinders the travel of controls or pedals (mats, etc.)
4. Ensure that all headlamps and lights are working properly.
5. To start the vehicle, with idling engine, engage the 1st gear and gently release the clutch lever, accelerating at the same time.
6. Reduce speed and drive carefully when on rough roads.
7. Do not brake hard on a wet, unsurfaced or slippery roads.
8. Do not downshift with the engine at high speed to avoid damaging the engine or the gear.
9. When going downhill, do not keep the gearbox in neutral or the engine off, but decrease speed untwisting the throttle grip. Use the brakes to help slowing down the vehicle, but do not keep them pressed for extended periods, to

- prevent brake overheating, which could reduce their efficiency. Shift down gears to increase the engine braking effect.
10. For rapid «pick up», e.g. for overtaking, shift down a gear to get the required torque.
 11. When driving up demanding slopes, shift down to employ the maximum power.
 12. Check that the load is evenly distributed on the vehicle, and do not exceed the foreseen loads (see «Technical data» chapter) to prevent tilting while turning on a corner.



ALWAYS DRIVE YOUR VEHICLE WITHIN THE LIMITS OF YOUR ABILITY. DRIVING WHILE DRUNK OR UNDER THE EFFECT OF DRUGS OR CERTAIN MEDICINES IS EXTREMELY DANGEROUS AND INFRINGES THE ROAD REGULATIONS.

Engine exhaust gas (02_03)

To avoid accidents due to exhaust fumes, take the following precautions.

WARNING



- **DO NOT INHALE THE EXHAUST FUMES. THEY CONTAIN CARBON MONOXIDE, A POISONOUS, COLOURLESS AND ODOURLESS GAS. INHALATION OF THIS GAS CAN CAUSE LOSS OF CONSCIOUSNESS AND MAY EVEN BE FATAL.**
- **WHEN YOU SUSPECT THAT EXHAUST FUMES HAVE ENTERED THE VEHICLE SEARCH FOR THE CAUSE AND ELIMINATE IT IMMEDIATELY. IF YOU HAVE TO DRIVE IN THESE CONDITIONS, DO SO WITH THE SIDE WINDOWS FULLY OPEN.**



02_03



Maintenance (02_04)

Always keep the exhaust system, bodywork and air-conditioning system in good working order. Ensure there are no loose connections or holes in the exhaust system. It is advisable to have the exhaust system and the bodywork checked by an **Authorised Piaggio Service Centre** in the following cases:

- whenever there is a change in the sound of the exhaust.
- whenever the exhaust system is damaged or corroded.
- whenever it collides with an object.

CAUTION



- **IT IS ALSO RECOMMENDED NOT TO LEAVE THE ENGINE RUNNING WHEN THE VEHICLE IS STOPPED OR PARKED FOR LONG PERIODS OF TIME, AS THERE IS A POSSIBILITY THAT EXHAUST FUMES MAY ENTER THE VEHICLE DUE TO POOR MAINTENANCE OR TO A FAULT IN THE EXHAUST SYSTEM.**
- **BEFORE STARTING UP THE ENGINE INSIDE A GARAGE OR SIMILAR ENVIRONMENT, ALWAYS ENSURE THAT THE AREA IS NOT CLOSED AND PERFORM ONLY PARKING MANOEUVRES.**
- **ENSURE THE EXHAUST PIPE IS COMPLETELY FREE FROM SNOW OR OTHER DEBRIS IN ORDER TO PREVENT THE EXHAUST GASES FROM ACCUMULATING UNDERNEATH THE BODY.**



02_05

Ventilation system (02_05)

To allow the ventilation system to work properly, ensure the air intake grille, adjacent to the headlight covers, is always clear of snow, leaves and any other obstructions.



02_06

Running-in period (02_06)

It is advisable to observe the following precautions during the first 1,000 km so as not to compromise the vehicle performance.

- Avoid opening the throttle fully.
- Avoid travelling for any length of time at a constant speed, whether high or low.
- Avoid abrupt braking mainly during the first 300 km, except in case of an emergency.

It is recommended to not exceed the speeds listed below:

- **1st** 7 km/h;
- **2nd** 13 km/h;
- **3rd** 18 km/h;
- **4th** 28 km/h;

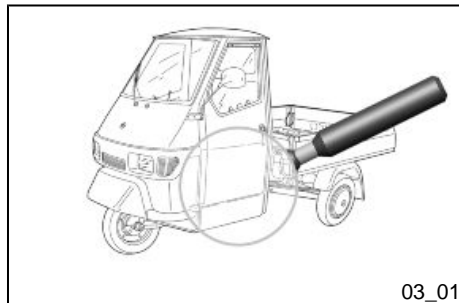
N.B.

**4TH GEAR IS INHIBITED IN THE VERSION WITH SPEED LIMITED TO 25 km/h;
THEREFORE POSITION "4" WILL NOT BE PRESENT ON THE GEAR INDICATOR.**

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Chap. 03
Vehicle use



Checks (03_01)

Before using the vehicle, check:

1. that the petrol and oil tanks are refilled.
2. The brake fluid level.
3. That the tyre inflation pressure is correct.
4. Correct operation of side/taillights, headlights and turn indicators.
5. Front and rear brake operation.
6. The oil level in the gearbox.
7. The oil level in the differential unit.
8. The water level in the windscreen washer fluid reservoir and the orientation of the water jet.

CAUTION



TYRE PRESSURE SHOULD BE CHECKED WHEN TYRES ARE COLD.



Refuelling (03_02, 03_03, 03_04, 03_05, 03_06, 03_07, 03_08, 03_09)

FUEL TANK:

The fuel tank is located on the left side of the vehicle.



Fuel type plate - E10 gasoline

The plate illustrated in the image indicates the fuel type to be used for refilling.



To open the refilling plug, insert the supplied key and turn it anti-clockwise, then remove the plug.



To close, refit the plug in its seat, then turn the key clockwise and remove it.

CAUTION



WHEN REFUELLING, KEEP THE PLUG CLEAN FROM DUST AND DIRT.

CAUTION

STOP THE ENGINE BEFORE REFILLING WITH GASOLINE. NEVER EXCEED THE TANK'S MAXIMUM CAPACITY, AS THE EXCESS FUEL WILL END UP FILLING THE DELIVERY HOSE AS WELL, THUS RESULTING IN POSSIBLE FUEL SPILLAGE AND THE CONSEQUENT RISK OF FIRE AND/OR DAMAGE TO THE VEHICLE'S BODYWORK. DO NOT SMOKE AND KEEP AWAY FROM OPEN FLAMES: FIRE HAZARD. DO NOT INHALE THE FUEL VAPOURS.

WARNING

ALWAYS USE GASOLINE WITH A MAXIMUM OF 10% BIOETHANOL CONTENT (E10). DO NOT USE GASOLINE WITH AN ETHANOL CONTENT HIGHER THAN 10%; THIS USE COULD DAMAGE THE FUEL SYSTEM COMPONENTS AND/OR COMPROMISE ENGINE PERFORMANCE.

CAUTION

USING MOBILE PHONES DURING GASOLINE REFILLING OPERATIONS IS HIGHLY DANGEROUS, IT MAY CAUSE EXPLOSION OR FIRE. SWITCH OFF THE MOBILE PHONE WHEN REFILLING WITH FUEL, IN THE VICINITY OF CHEMICAL OR INFLAMMABLE SUBSTANCES.

OIL TANK:

The oil tank is located on the right side of the vehicle.



03_06

To open the refilling plug, turn it anti-clockwise.



03_07

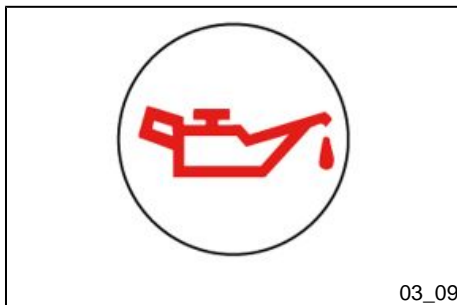
To close it, refit the plug in its seat and turn it clockwise.

CAUTION

USE OF OILS DIFFERENT THAN THOSE RECOMMENDED MAY COMPROMISE THE SERVICE LIFE OF THE ENGINE.



03_08



The minimum oil level is indicated by the specific warning light on the instrument panel.



Before starting the engine (03_10)

Before starting the vehicle, check:

- that the hand brake is not engaged.
- that the reverse gear control lever is forward or backward according to whether you want to move forward or in reverse.



03_11

Engine start up (03_11, 03_12, 03_13, 03_14, 03_15, 03_16, 03_17, 03_18)

Make sure the fuel cock is open, making sure to unscrew it completely.



03_12

Make sure that the hand brake is engaged.



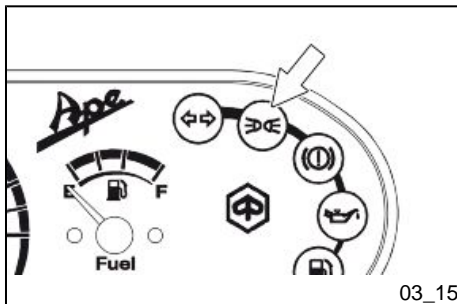
03_13

Make sure that the gear is in neutral position, identified by the "N" position on the gear indicator.



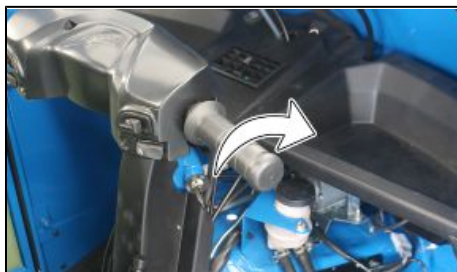
03_14

Turn the key supplied by setting the switch to the "ON" position.



03_15

With the starter key on «ON» , the warning lights on the instrument panel, the low beam and the parking lights are always lit.



03_16

Keep the throttle hand grip at idle.



03_17

When starting the engine cold, pull the starter knob. Release it a few seconds after the ignition of the engine.



03_18

Press the start-up button for a few seconds until the engine starts. Do not try the switch in the event of ignition failure, refer to the procedure described in paragraph "**Difficult starting**".

WARNING



EXHAUST GASES ARE TOXIC. DO NOT START THE ENGINE IN A CLOSED PLACE.

Stopping the engine (03_19, 03_20)

After stopping the vehicle, before turning off the engine put the gear into neutral position identified by the "N" position on the gear indicator.



03_19



03_20

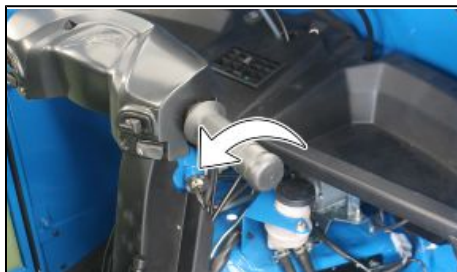
Turn the switch key to «OFF».



03_21

Vehicle Start-up (03_21, 03_22)

With the engine at idle, pull the clutch lever and turn the gearshift lever to 1st speed position, identified by the "1" position on the gear indicator.



03_22

Slowly release the clutch lever and at the same time increase the number of revolutions of the engine with the throttle hand grip.

WARNING



EXHAUST GASES ARE TOXIC. DO NOT START THE ENGINE IN A CLOSED PLACE.



03_23

Starting difficulties (03_23)

Should there be any problem, proceed as follows:

- Carburettor flooded.

Close the fuel cock, turn the start key to position "**ON**"; with closed starter open the gas and press the start-up button 5 - 6 times; open the fuel cock and, with the switch key in the «**ON**» position, press the start-up button. In any case, do not try with the starter motor engaged.

- Inefficiency of the battery or starter motor.

Use an auxiliary battery with equivalent or slightly higher specifications with respect to the original battery.

If you need to bump start the vehicle (by pushing or towing), follow these instructions: engage a high gear (2nd or 3rd), do not exceed 20 km/h (even when freewheeling), release the clutch lever gradually. Before performing this operation, check the reverse lever position.

If you cannot start the engine even with the procedure described above, contact an **Authorised PIAGGIO Service Centre**.

CAUTION



NEVER STRESS THE ENGINE AT LOW TEMPERATURES IN ORDER TO AVOID POSSIBLE DAMAGE. WHEN DRIVING DOWNHILL, DO NOT EXCEED TOP SPEED OR THE ENGINE COULD BE DAMAGED BY PROLONGED OVERREVING.

CAUTION

AFTER A LONG JOURNEY ALLOW THE ENGINE TO RUN AT IDLE SPEED FOR A FEW SECONDS BEFORE SWITCHING IT OFF



03_24

Gear position (03_24, 03_25, 03_26, 03_27, 03_28)

To reverse the vehicle, proceed as follows:

in a stationary position put the gear in neutral position identified by the "N" position of the gear indicator, keeping the engine at idle.



03_25

Pull the reverse gear lever back until the reverse gear is engaged.

WARNING

ENGAGE REVERSE GEAR ONLY WHEN THE VEHICLE IS AT A STANDSTILL. OTHERWISE, THE GEARS COULD BE DAMAGED.

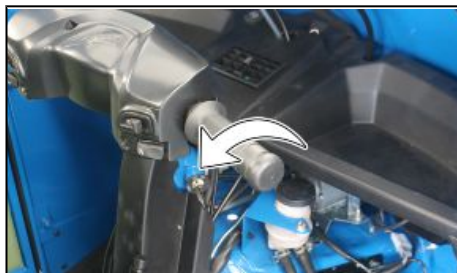


03_26

Engage the 1st gear identified by the "1" position of the gear indicator, release the clutch lever slowly, and at the same time operate the throttle hand grip to start the vehicle in reverse gear.

WARNING

PAY PARTICULAR ATTENTION WHILE GUIDING IN REVERSE GEAR TO AVOID THE LOSS OF CONTROL OF THE VEHICLE.



03_27



03_28

To resume moving forward, stop the vehicle, put the gear in neutral and bring the reverse gear control lever forward up to the end of stroke.

Once reverse gear is engaged, there are 4 separate ratios available for reversing (for the version with speed limited to 25 km/h there are 3 ratios). For safety reasons, it is nonetheless recommended to always keep the same ratio until the end of the manoeuvre.

WARNING

TO ENSURE MAXIMUM SAFETY DURING THE REVERSING MANOEUVRE, ALWAYS KEEP THE SAME RATIO, PREFERABLY 1ST GEAR.

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Chap. 04
Seats and safety
belts



05_01

Using the safety belts (05_01)

Observe the following suggestions for using the seat belts correctly. Failure to follow these instructions may lead to severe injury in the event of an accident or sudden braking. Check the seat belts periodically to ensure proper functioning. If its operation appears faulty, have it checked at an **Authorised PIAGGIO Service Centre** immediately.

Pregnant women: PIAGGIO recommends using the seat belt. The waist height seat belt length should adhere snugly to your body as low as possible (on the hips) and not at your waist. Ask your doctor for advice.

Injured people: PIAGGIO recommends using the seat belt. Ask your doctor for advice.

WARNING



THE SAFETY BELTS ARE DESIGNED TO EXERT THEIR ACTION ON THE BONE STRUCTURE OF YOUR BODY. THE DIFFERENT BELT SECTIONS SHOULD FIT SNUGLY TO THE PELVIS, THE CHEST AND SHOULDERS DO NOT WEAR THE SECTION WHICH IS SUPPOSED TO FIT ON THE HIPS OVER THE ABDOMEN. SAFETY BELTS SHOULD BE ADJUSTED TO FIT SNUGLY AND SHOULD BE ADAPTED TO THE PERSON WEARING THEM, SO AS TO OFFER THE PROTECTION THEY ARE DESIGNED FOR. A LOOSE BELT WOULD CONSIDERABLY REDUCE PROTECTION TO THE PASSENGER WEARING IT. BE CAREFUL NOT TO DAMAGE BELTS WHEN CLOSING THE DOORS. DO NOT REMOVE BELTS FOR CLEANING. WASH THEM WITH WATER AND NEUTRAL SOAP, RINSE AND LET DRY IN A WARM PLACE. PAY SPECIAL ATTENTION NOT TO DAMAGE THE SEAT BELTS WITH CLEANING PRODUCTS, OIL, ABRASIVE DETERGENTS, CHEMICAL AGENTS OR BATTERY FLUIDS

WARNING



AFTER A SEVERE ACCIDENT, IT IS ESSENTIAL TO HAVE THE ENTIRE SEAT BELT ASSEMBLY REPLACED, EVEN IF IT MAY NOT APPEAR DAMAGED. DO

NOT WEAR A TWISTED SEAT BELT. DO NOT WEAR THE SEAT BELT WITH THE SHOULDER LENGTH UNDER YOUR ARM OR BEHIND YOUR BACK. DO NOT FASTEN THE SEAT BELT OVER HARD OR FRAGILE OBJECTS, SUCH AS GLASSES, JEWELLERY, PENS, KEYS. DO NOT WEAR THE SEAT BELT OVER VERY THICK CLOTHES, AS THIS MAY PREVENT IT FROM BEING POSITIONED CORRECTLY. DO NOT MODIFY OR DISASSEMBLE THE SEAT BELT ASSEMBLY. AFTER AN ACCIDENT OF A CERTAIN SEVERITY, WE RECOMMEND THAT YOU HAVE THE SEAT BELT WHICH WAS BEING WORN REPLACED AT AN AUTHORISED PIAGGIO SERVICE CENTRE, EVEN IF IT DOES NOT APPEAR DAMAGED.

Fasting the safety belt (05_02)

Take the metal tongue from its housing.

Insert the metal tongue in the buckle until it clicks.

CAUTION



TO GUARANTEE THE OPTIMAL PERFORMANCE OF THE SEAT BELT, AFTER HAVING INSERTED THE METAL TONGUE INTO THE BUCKLE, CHECK IT IS SECURELY BLOCKED AND THE SEAT BELT IS NOT TWISTED.



05_02



05_03

Adjusting the safety belt (05_03)

Place the seatbelt as low as possible on the hips, not on the waist.

Adjust the seatbelt so that there is space for a fist between the seatbelt and the chest.

Keep the anchorage at a right angle with the seatbelt and pull the latter in order to extend or shorten it.



05_04

To release the safety belt (05_04)

Press the button. Insert the metal tongue in its housing when it is not in use.

CAUTION

TO PREVENT DAMAGING SEAT BELTS CHECK THEY DO NOT REMAIN PINCHED BETWEEN A DOOR AND THE CAR BODY, OR BEHIND THE SEAT BACK.

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Chap. 05 Instrument panel and controls

Dashboard (06_01)



06_01

Instrument panel key:

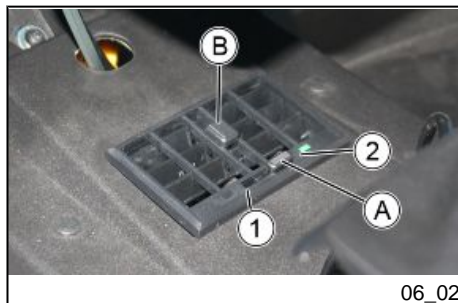
- A** = Reverse gear lever
B = Horn button
C = Turn indicator switch
D = Gear shift knob
E = Clutch lever
F = 12V power socket
G = Instrument panel
H = Throttle grip
I = Windscreen wiper control switch
L = Ignition switch
M = Ignition switch
N = Hand brake lever
O = Brake pedal

Controls (06_02, 06_03, 06_04, 06_05, 06_06)**Glass windscreen control/cab ventilation**

Cursor «**A**»:

- position 1 = Air vents closed (black);
- position 2 = Air vents open (green).

Cursor «**B**»: air direction control.



06_02

RIGHT BUTTONS UNIT:**WINDSCREEN WIPER SWITCH**

The switch has three positions:

1. Windscreen wiper turned off.
2. Windscreen wiper turned on.
3. Windscreen washer enabling.

**START-UP BUTTON****LEFT BUTTONS UNIT:**



06_05

TURN INDICATOR SWITCH

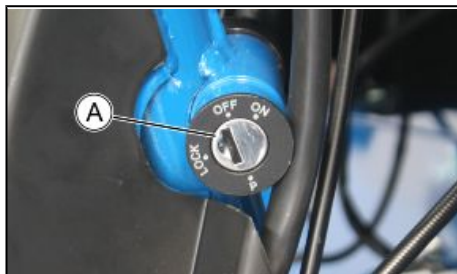
The turn indicator switch has three positions:

1. Left side turn indicator turned on.
2. Turn indicator turned off.
3. Right side turn indicator turned on.



06_06

AUDIBLE WARNING DEVICE



06_07

Ignition switch (06_07)

Key switch "A"

LOCK = Ignition grounded, extractable key, anti-theft engaged.

OFF = Ignition grounded, extractable key, anti-theft disengaged.

ON = Position of start-up preparation, anti-theft disengaged, non-extractable key, mixer oil warning light check ignition lights operation.

ON THE APE CROSS VERSION

P = Parking position ignition grounded, front and rear daylight running light turned on, clock lighted and extractable key.

Locking the steering (antitheft): turn the handlebar to the left (end of the stroke), turn the key to the «**LOCK**» position and remove it.

Unlocking the steering: Re-insert the key and turn it to the «**OFF**» position.

WARNING

DO NOT TURN THE KEY TO POSITION «OFF» WHILE DRIVING.

**12V accessories socket (06_08)**

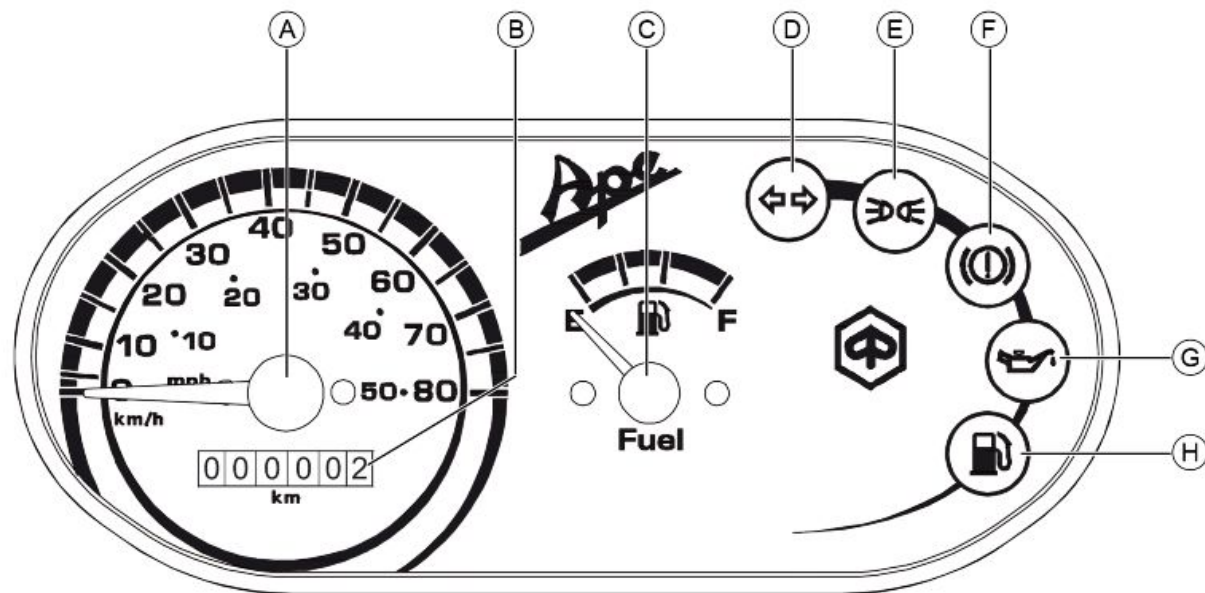
An accessories socket is available on the instrument panel where you can connect 12V powered devices. Do not charge the socket beyond 180W.

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Chap. 06
Gauges and
Warning Lights

Instrument unit and indicators (07_01)



07_01

Instrument group key:

A = Speedometer

B = Odometer

C = Fuel gauge

D = Turn indicator warning light

E = "Lights on" warning light

F = Brake fluid level warning light

G = MiLow mixer oil warning light

H = Low fuel warning light

Indicator lights

The warning lights indicate faults in the systems or their activation.

CAUTION

- **IF, IN AN EMERGENCY, THE ENGINE STOPS, PUSH THE VEHICLE TO A SAFE PLACE ON THE SIDE OF THE ROAD. SHUT OFF THE ENGINE AND SWITCH ON THE HAZARD LIGHTS.**
- **BEFORE CHECKING ANY PART OF THE ENGINE LET IT COOL DOWN TO AVOID BURNS.**
- **KEEP YOUR HANDS, CLOTHING AND OTHER OBJECTS AWAY FROM THE MOVING PARTS OF THE ENGINE TO AVOID SERIOUS INJURY.**



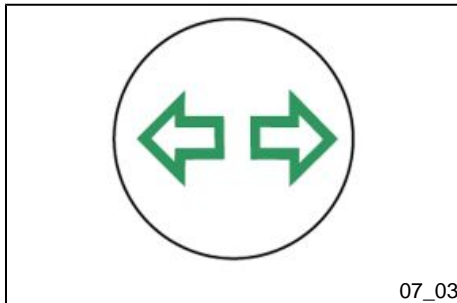
Brake fluid level warning light (07_02)

If the brake liquid level lowers as far as the «MIN» level in the container with the engine on, the relative warning light comes on. Add brake fluid, if necessary, and check for leaks. With the warning light on, it is necessary to exert more pressure on the brake pedal, and consequently the stopping distance will be greater.

CAUTION



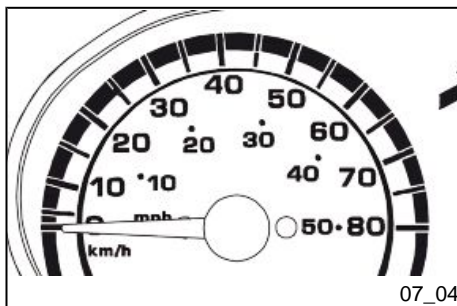
DO NOT DRIVE WITH THE WARNING LIGHT ON, TO AVOID ACCIDENTS. HAVE THE BRAKE CIRCUIT CHECKED IMMEDIATELY BY AN AUTHORISED PIAGGIO SERVICE CENTRE.



Turn signal indicator light (07_03)

Warning light for right and left indicators on.

Indicators



07_04

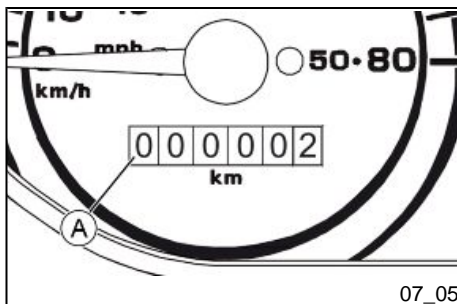
Speedometer (07_04)

The instrument needle indicates vehicle speed, the speedometer has two scales, one from 0 - 80 km/h and an internal one from 0 - 50 mph.

CAUTION



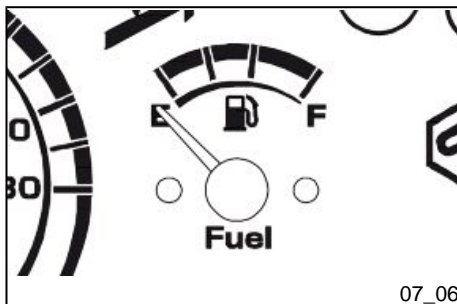
ADJUST SPEED TO COMPLY WITH ROAD TRAFFIC REGULATIONS.



07_05

Odometer (07_05)

The odometer «A» indicates the distance travelled in Km.



07_06

Fuel level indicator (07_06)

The analogue dial needle indicates the fuel level in the tank.

Position "E" = Spent fuel.

Position "F" = full fuel level.

CAUTION**WARNING**

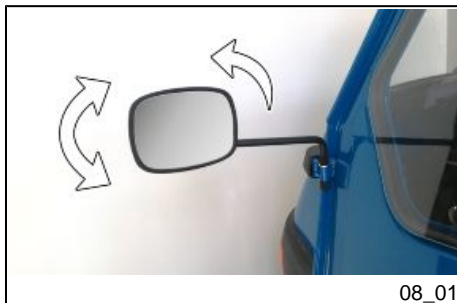
DO NOT DRIVE WITH THE FUEL GAUGE BELOW THE "E" MARK (TANK EMPTY). UNDER SUCH CONDITIONS THE VEHICLE COULD STOP SUDDENLY CAUSING POSSIBLE SITUATIONS OF DANGER FOR PEOPLE.

RESTORING FUNCTIONALITY OF THE ENGINE THAT HAS BEEN WITHOUT FUEL MEANS THE INJECTION SYSTEM HAS TO BE BLED; THIS PARTICULAR OPERATION REQUIRES SPECIFIC TECHNICAL EXPERTISE SO PLEASE CONTACT AN AUTHORISED SERVICE CENTRE.

APE 50 E4



Chap. 07
Mirrors and
Window Glasses



08_01

Adjusting the mirror (08_01)

Rear-view mirrors are adjusted by moving the mirror body manually until the ideal angle is obtained to guarantee full visibility.

CAUTION



NEVER ADJUST MIRRORS WHILE DRIVING AS YOU MAY LOSE CONTROL OF THE VEHICLE.



08_02

Wipers and Brushes (08_02, 08_03, 08_04)

Blade

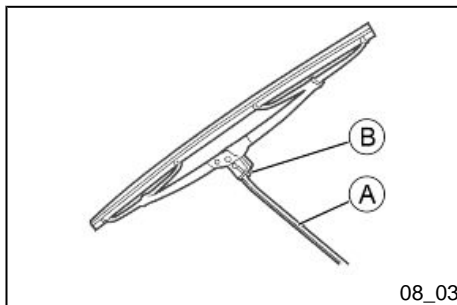
- Clean regularly the rubber part with specific products.
- Replace the blade if the rubber is misshapen or worn. In any case, blades should be replaced approximately once a year.

Some simple recommendations can minimise the possibility of damage to the blade:

- - If the temperature is below zero, make sure the rubber part is not frozen to the windscreen. If required, use a de-icing product to release the blade
- - Remove any snow from the windscreen: this will protect the blade and avoid overloading and overheating the electric motor
- Do not operate the windscreen wiper on a dry windscreen.

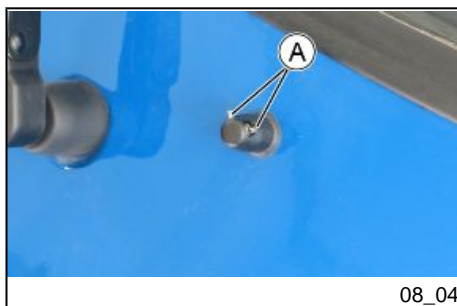


DRIVING WITH A WORN WINDSCREEN WIPER BLADE CAN BE EXTREMELY DANGEROUS AS VISIBILITY IS DECREASED IN POOR WEATHER CONDITIONS.



Replace the windscreen wiper blade as follows:

1. Lift the windscreen wiper arm "A" and position the blade so that it forms a right angle with the arm;
2. Press retainer tab "B" of the latching spring and extract the blade for arm "A";
3. Fit a new blade. Insert the tab in its seat on the arm. Make sure it is locked.



Nozzles

- If there is no jet of fluid, first of all check whether the windscreen washer reservoir is full.
- Check whether the holes «A» are clogged. If so, open them with a pin.
- Direct the windscreen washer nozzles so that the jets are directed towards the highest position of the blade stroke.

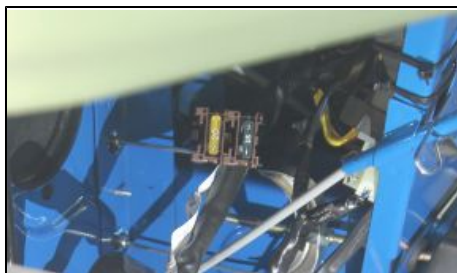
APE 50 E4



Chap. 08
Electrical
system



10_01



10_02



10_03

Electrical system (10_01, 10_02, 10_03)

The circuits of the electrical system are protected by fuses placed under the panel on the vehicle's left side and under the driver's seat.

CAUTION



IN THE EVENT OF ANY ELECTRICAL SYSTEM INTERVENTION, MAKE SURE THAT THE WIRES OF THE CONTROL UNIT ARE CONNECTED CORRECTLY BY FOLLOWING THE COLOURS REPORTED ON THE CONTROL UNIT.

N.B.

"CROSS" VEHICLES ARE PREPARED FOR THE INSTALLATION OF A CAR RADIO (SPEAKER PANEL, WIRING OF THE RELATED ANTENNA).

The electrical system has a battery placed under the seat on the vehicle's right side.

Should the battery be removed from its location in order to be replaced or recharged, disconnect the negative terminal first and, then, the positive one. Disconnect the elastic belt from the fastening hooks and remove the battery.

CAUTION



NEVER DISCONNECT THE CABLES WHILE THE ENGINE IS RUNNING IN ORDER TO AVOID DAMAGING THE ELECTRICAL SYSTEM.

WARNING

USED BATTERIES ARE HARMFUL TO THE ENVIRONMENT. COLLECTION AND DISPOSAL MUST BE CARRIED OUT IN COMPLIANCE WITH THE CURRENT REGULATIONS.

APE 50 E4



Chap. 09
Emergency

Wheel replacement



Spare wheel removal (11_01, 11_02)

Spare wheel and jack

The spare wheel is located under the deck on the right side; to release it, loosen the nut on the support bracket of the same wheel after having removed the cotter pin. The jack and its rod are placed inside cab under the driver seat.

CAUTION



THE JACK IS INTENDED EXCLUSIVELY FOR REPLACING WHEELS. THE JACK SHOULD NEVER BE USED TO PERFORM REPAIRS UNDERNEATH THE VEHICLE UNDER ANY CIRCUMSTANCES. THE INCORRECT POSITIONING OF THE JACK COULD CAUSE THE RAISED VEHICLE TO FALL.

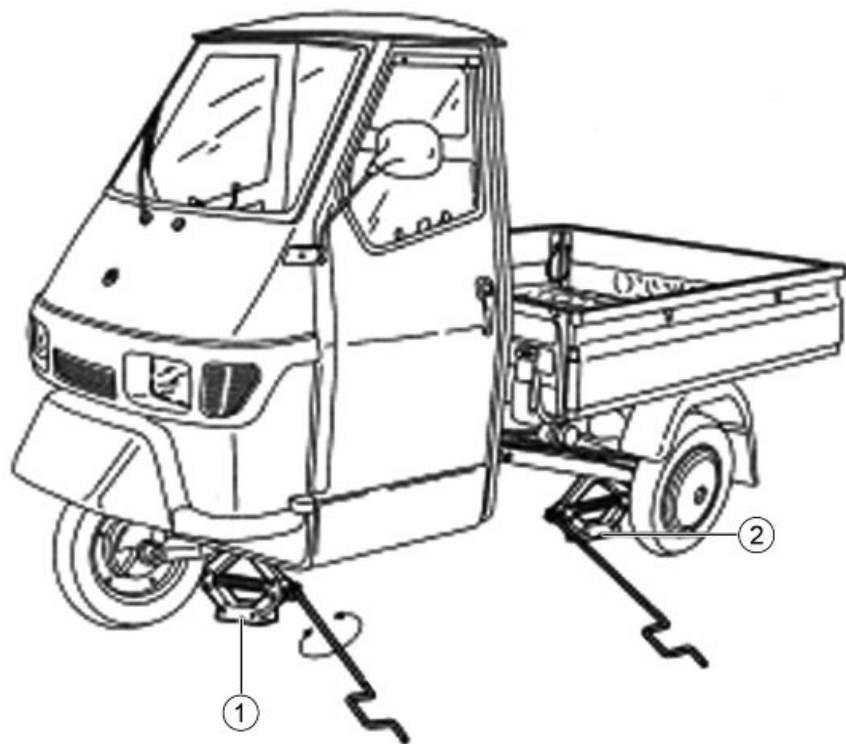
CAUTION



PERIODICALLY CHECK THE TYRE PRESSURE, RESPECTING THE VALUES INDICATED IN THE FOLLOWING SECTION: "MAINTENANCE".



Removing the wheel (11_03, 11_04, 11_05, 11_06, 11_07, 11_08, 11_09, 11_10, 11_11, 11_12, 11_13, 11_14, 11_15, 11_16, 11_17, 11_18, 11_19)



11_03

JACK POSITIONING

1. Front lifting point.

2. Rear lifting point.



REMOVING THE REAR WHEEL

Remove the rear wheel by following this procedure:

Turn off the vehicle so that it is not dangerous for the traffic in order to remove the wheel safely. Put on the hand brake.



Place the jack under the suspension's triangle by matching the triangle's ribs and the jack's grooves.



11_06

Temporary remove the wheel cup. Keep the wheel on the ground and loosen the nuts connecting the wheel to the hub.



11_07

Turn the jack rod clockwise until the wheel to be replaced is lifted a few centimetres from the ground and can easily spin by hand.



11_08

Completely unscrew the fixing nuts, then remove the wheel.

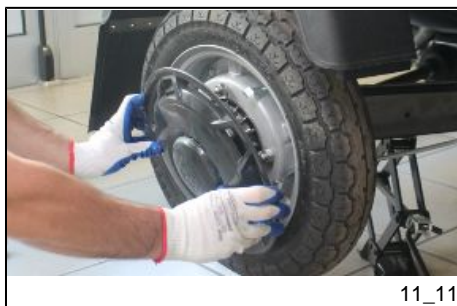


Unscrew the fastening nuts and remove the internal rim.

Reinstall the internal rim on the spare wheel by thoroughly tightening the fastening nuts.



Make sure that, where the spare wheel touches the hub, everything is clean and that there are no impurities that might lead to a wrong fastening of the nuts. Gradually lock the fastening nuts after lowering the vehicle.



Install the wheel cup by making it click into the corresponding grooves.

CAUTION



A WRONG INSTALLATION OF THE WHEEL CUP MAY CAUSE ITS DETACHMENT WHILE THE VEHICLE IS RUNNING.



11_12

FRONT WHEEL REMOVAL

Remove the front wheel by following this procedure:

Turn off the vehicle so that it is not dangerous for the traffic in order to remove the wheel safely. Put on the hand brake.



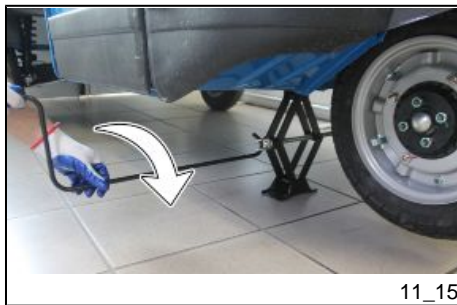
11_13

Temporary remove the wheel cup. Keep the wheel on the ground and loosen the nuts connecting the wheel to the hub.

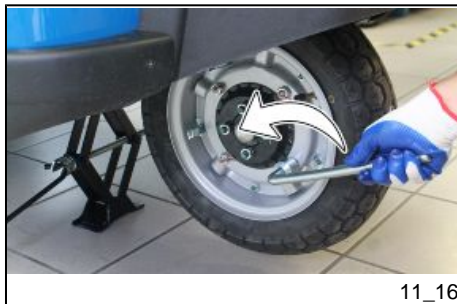


11_14

Place the jack under the central strut by matching the strut's ribs and the jack's grooves.



Turn the jack rod clockwise until the wheel to be replaced is lifted a few centimetres from the ground and can easily spin by hand.



Completely unscrew the fixing nuts, then remove the wheel.



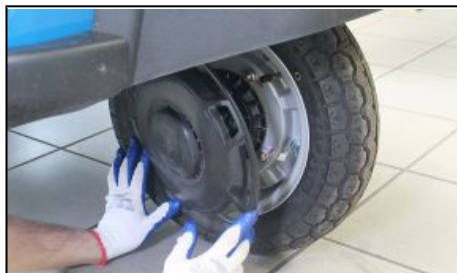
Unscrew the fastening nuts and remove the internal rim.

Reinstall the internal rim on the spare wheel by thoroughly tightening the fastening nuts.



11_18

Make sure that, where the spare wheel touches the hub, everything is clean and that there are no impurities that might lead to a wrong fastening of the nuts. Gradually lock the fastening nuts after lowering the vehicle.



11_19

Install the wheel cup by making it click into the corresponding grooves.

CAUTION

A WRONG INSTALLATION OF THE WHEEL CUP MAY CAUSE ITS DETACHMENT WHILE THE VEHICLE IS RUNNING.

APE 50 E4



Chap. 10 Maintenance

Checking the brake fluid level (12_01)

The rear brake fluid tank is located into the driver compartment, near the brake pedal. Check the level as follows:

1. Stop the vehicle on level ground;
2. Check the oil level is between 1 cm under the surface of cap «A» (**MAX** level) and 1 cm over the bottom of the reservoir (**MIN** level).



12_01

If the oil is under the minimum level contact a **PIAGGIO Dealer or Authorised Service Centre** to have the brake system checked.

Topping up brake fluid

To fill the reservoir, unscrew cap «A» and top up.

Under normal climatic conditions, the replacement of the liquid must be carried out as described in the scheduled maintenance table.

Qualified and skilled personnel are required for this operation. We recommend you go to a **Dealer or Authorised PIAGGIO Service Centre**.

CAUTION



ONLY USE DOT 4 CLASSIFIED BRAKE FLUIDS.

WARNING



BRAKING SYSTEM LIQUID IS HAZARDOUS: WASH WITH WATER IN THE EVENT OF ACCIDENTAL CONTACT.

CAUTION

BRAKING CIRCUIT FLUID IS VERY CORROSIVE;. AVOID CONTACT WITH PAINTED PARTS.

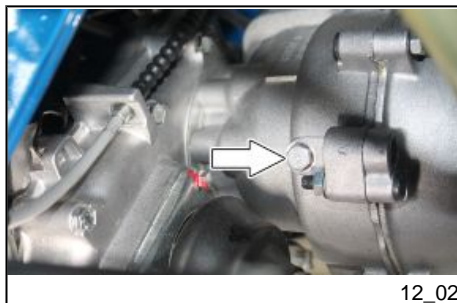
CAUTION

BRAKING SYSTEM LIQUID IS HYGROSCOPIC, I.E., IT ABSORBS HUMIDITY FROM THE SURROUNDING AIR. IF THE HUMIDITY IN THE BRAKE FLUID EXCEEDS A CERTAIN VALUE, IT WILL LEAD TO INEFFICIENT BRAKING. NEVER USE BRAKE FLUID FROM PREVIOUSLY OPENED OR PARTLY-EMPTY CONTAINERS.

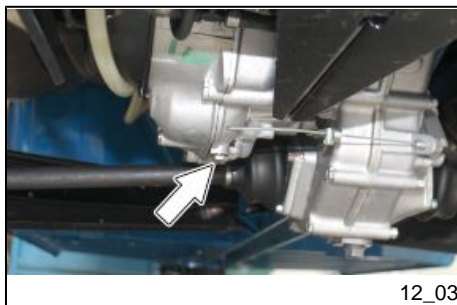
Gear box oil level (12_02, 12_03)

To check the gearbox oil, proceed as follows:

Unscrew the inspection cover, then check the oil level reaches the thread corresponding to the hole.



12_02



12_03

To replace the gearbox oil proceed as follows:

Unscrew the oil drainage plug; when drainage is complete, replace the plug.

Put in a little bit of new oil from the loading hole, let the engine run for a few seconds and empty the crankcase again.

Put the new oil from the loading hole, until the oil level reaches the thread corresponding to the hole.

CAUTION



REPLACE THE OIL WHEN THE ENGINE IS WARM. RIDING THE VEHICLE WITH INSUFFICIENT GEARBOX LUBRICATION OR WITH CONTAMINATED OR IMPROPER LUBRICANTS ACCELERATES THE WEAR AND TEAR OF THE MOVING PARTS AND CAN CAUSE IRREPARABLE DAMAGE. REPLACE THE OIL WHEN THE ENGINE IS WARM. OPERATING THE VEHICLE GEARBOX WITH

CAUTION



AN EXCESSIVE AMOUNT OF OIL CAN SPILL OUT AND DIRTY THE ENGINE.

WARNING



USED OIL IS HARMFUL TO THE ENVIRONMENT. WHEN REPLACING THE OIL, WE SUGGEST TO CONTACT A PIAGGIO AUTHORISED SERVICE CENTRE EQUIPPED FOR DISPOSING SPENT OILS IN THE RESPECT OF NATURE AND IN COMPLIANCE WITH THE LAWS IN FORCE.

Differential-gear oil level (12_04, 12_05, 12_06)

To check the differential oil level, proceed as follows:

Unscrew the inspection cap and clean the dipstick with a cloth. Screw it again until it reaches the closing point.



12_04



12_05

Unscrew the cap again and make sure the oil level is between the «**MIN**» and «**MAX**» positions on the dipstick.



12_06

To replace the differential oil proceed as follows:

Unscrew the oil drain plug; screw the cap once the oil has been completely drained. Unscrew the oil fill plug and add new oil.



12_07

Window washer fluid level (12_07)

The windscreen washer fluid reservoir is located inside the cab, under the right side seat of the vehicle.

To fill the reservoir, unscrew the cap and top-up. Use a specific detergent.

Body maintenance



12_08

Outside cleaning (12_08)

You must first soak the dirt and mud left on painted surfaces, using a jet of water at a low pressure. Once soaked, mud and dirt must be removed with a soft bodywork sponge soaked in a solution of water and "Shampoo" (2-4% of shampoo in water). Then rinse thoroughly with water and dry with chamois leather.

To clean the exterior of the engine, use oil, brushes and rags.

Oil is harmful to the paint.

Please note that any polishing with silicone wax should always be preceded by washing.

WARNING



DETERGENTS POLLUTE THE WATER, SO THE WASH MUST BE PERFORMED IN THE AREA EQUIPPED FOR THE COLLECTION AND PURIFICATION OF LIQUIDS USED FOR THE CLEANING ITSELF.

CAUTION

NEVER WASH IN THE SUN, ESPECIALLY IN SUMMER. SHAMPOO IF LEFT TO DRY ON HOT BODYWORK BEFORE RINSING MAY DAMAGE THE PAINT. NEVER USE RAGS SOAKED IN PETROL OR NAPHTHA TO WASH PAINTED OR PLASTIC SURFACES, SO AS TO PREVENT THEM FROM LOSING THEIR SHINE.



12_09

Checking and replacing the air cleaner element (12_09)

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

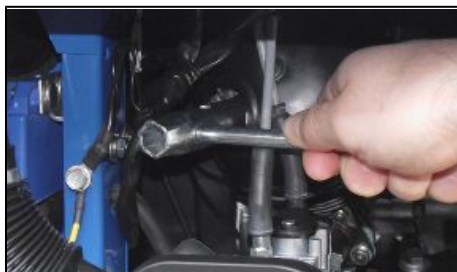


12_10

Checking and replacing the pre-heating plugs (12_10, 12_11, 12_12)

To access the spark plug, proceed as follows:

Disconnect the HV cable's cap from the spark plug.



12_11

Unscrew the spark plug by using the supplied wrench.



12_12

Check the spark plug's wear status and cleanliness, and, if necessary, clean it with pure petrol and a metallic brush. Check the status of the spark plug's insulation, and replace the spark plug if any cracks or breaks are encountered.

Reinsert the spark plug manually at the appropriate angle, and only use the wrench to tighten it.

CAUTION



THE SPARK PLUG MUST BE REMOVED WHEN THE ENGINE IS COLD. THE SPARK PLUG MUST BE REPLACED AT THE TIME INTERVALS INDICATED ON THE SCHEDULED MAINTENANCE TABLE. THE USE OF SPARK PLUGS OF DIFFERENT THERMAL GRADE FROM THAT REQUIRED OR WITH INAPPROPRIATE THREADS COULD SERIOUSLY DAMAGE THE ENGINE.



12_13

Checking the battery status (12_13, 12_14)

The electrical system has a battery placed under the seat on the vehicle's right side.

Should the battery be removed from its location in order to be replaced or recharged, disconnect the negative terminal first and, then, the positive one. Disconnect the elastic belt from the fastening hooks and remove the battery.

CAUTION



NEVER DISCONNECT THE CABLES WHILE THE ENGINE IS RUNNING IN ORDER TO AVOID DAMAGING THE ELECTRICAL SYSTEM.

WARNING



USED BATTERIES ARE HARMFUL TO THE ENVIRONMENT. COLLECTION AND DISPOSAL MUST BE CARRIED OUT IN COMPLIANCE WITH THE CURRENT REGULATIONS.

The battery is the electrical device requiring the utmost attention and most thorough maintenance. The main maintenance rules will be listed below:



12_14

SET-UP OF A NEW BATTERY

Make sure the terminals are properly connected.

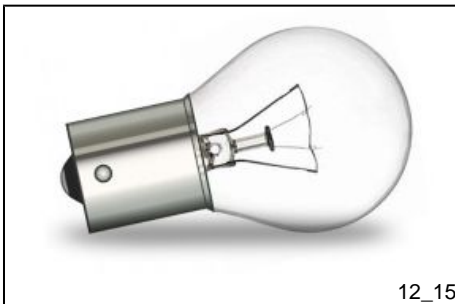
CAUTION



DO NOT INVERT THE POLES: SHORT-CIRCUIT AND FAILURE RISK ON ELECTRICAL DEVICES.

PROLONGED INACTIVITY

If the vehicle remains inactive for a long time the battery needs to be periodically recharged: please notice that the battery usually gets completely empty after approximately three months . If the battery is removed, please make sure the terminals are properly connected upon refitting.



12_15

Bulbs (12_15)

This section lists the bulb types for the vehicle equipment.

BULBS

Low beam light bulb	Type: With leds Power: 7W Quantity: 1 RH + 1 LH
Front turn indicator bulb	Type: Spherical (amber colour) Power: 12V / 10W Quantity: 1 RH + 1 LH
Cab internal light bulb	Type: With leds Quantity: 1
Indicators unit bulb	Type: Capless Power: 12V / 2W Quantity: 1 + 1
Warning light unit bulb	Type: Capless Power: 12V / 2W Quantity: 5
Stop light bulb	Type: Spherical Power: 12V / 10W Quantity: 1 RH + 1 LH
Rear turn indicator bulb	Type: Spherical (amber colour) Power: 12V / 10W

	Quantity: 1 RH + 1 LH
Rear daylight running light bulb	Type: Spherical Power: 12V / 5W Quantity: 1 RH + 1 LH
Licence plate light bulb	Type: Spherical Power: 12V / 5W Quantity: 1

Replacing the lights



Headlight (12_16)

The front headlights are of the «LED» type. In case of malfunctions, please contact an **Official Assistance Point** for the replacement.



12_17

Front direction indicator (12_17, 12_18)

In order to replace the bulbs of the front turn indicators, proceed as follows:

Loosen the fixing screws of the transparent plastic.



12_18

Press lightly and turn the bulb anticlockwise to take it out;

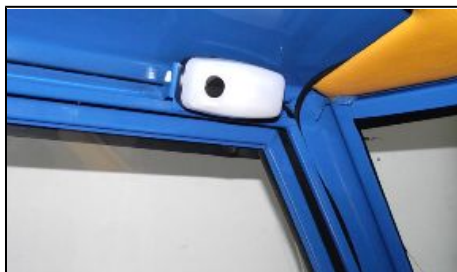


12_19

Plate lights (12_19)

In order to remove the number plate light bulb, proceed as follows:

- Undo the two fixing screws of the transparent cover;
- Replace the bulb and reassemble.



12_20

Front inside light (12_20)

The cab has a courtesy light placed above the left door, the switch is on the same light fitting. As it is an LED light, it requires no maintenance.



12_21

Tail lights (12_21, 12_22)

To replace the bulbs of turn indicator lights, stop lights, and daylight running light, proceed as follows:

Remove the transparent plastic by unscrewing the four fixing screws.

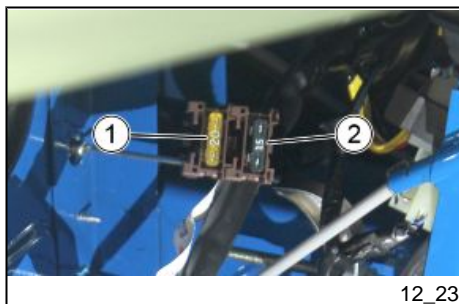


12_22

To replace the turn indicators bulb, press the bulb "1" down slightly and turn it anticlockwise.

To replace the stop lights bulb, press the bulb "2" down slightly and turn it anticlockwise.

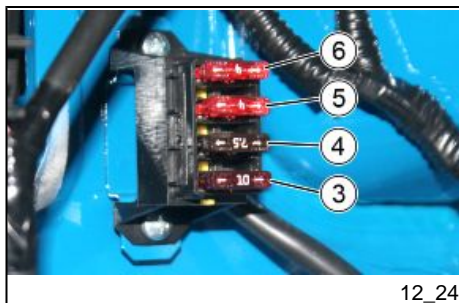
To replace the daylight running light bulb, press the bulb "3" down slightly and turn it anticlockwise.



12_23

Fuses (12_23, 12_24)

The circuits of the electric system are protected by two main fuses located under the driver's seat and by four fuses located under the instrument panel, on the left side of the vehicle.



12_24

FUSES

Fuse No. 1

Capacity: 20 A

Power supply input: directly from the battery.

Protected circuits: voltage regulator, internal lighting, cigarette lighter, ignition switch.

 Fuse No. 2
Capacity: 15 A**Power supply input:** switched live.**Protected circuits:** windscreen wiper motor.

 Fuse No. 3
Capacity: 10 A**Power supply input:** battery protected by fuse No. 1.**Protected circuits:** internal lighting, cigarette lighter.

 Fuse No. 4
Capacity: 7.5 A**Power supply input:** switched live.**Protected circuits:** horn, windscreen wiper control switch, turn indicators flasher relay, stop button on rear brake, oil level sensor, instrument panel, fuse No. 2, mixer oil warning light flasher relay.

 Fuse No. 5
Capacity: 4 A**Power supply input:** switched live.**Protected circuits:** ignition switch (PARKING function, if available), cigarette lighter, full headlamp, front turn indicators.

 Fuse No. 6
Capacity: 4 A

Power supply input: switched live.

Protected circuits: front headlamps (low beam lights).

CAUTION



BEFORE REPLACING THE BLOWN FUSE, TRY TO ELIMINATE THE FAULT THAT HAS CAUSED IT TO BLOW. NEVER ATTEMPT TO REPLACE A FUSE USING DIFFERENT MATERIAL (FOR EXAMPLE A PIECE OF ELECTRICAL WIRE) OR A FUSE WITH A GREATER AMP RATING THAN THAT WHICH IS INDICATED.

CAUTION



IF YOU WANT TO INSTALL ADDITIONAL SYSTEMS (E.G. ADDITIONAL LIGHTS), PLEASE NOTICE THAT INAPPROPRIATE BRANCHING ON THE WIRING'S CONNECTIONS MAY DAMAGE THE SYSTEM: CONTACT A PIAGGIO OFFICIAL ASSISTANCE POINT.



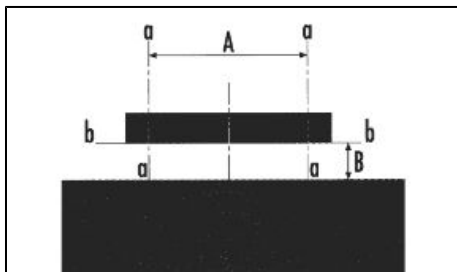
12_25

Brake pedal (12_25)

Air bleeding from the braking system

In case of anomalies of the brake performance, accompanied by idle pumping, have the system drained by the **Concessionaires or Authorised PIAGGIO Service Centres**.

IN FACT, THE BRAKE FLUID IS HIGHLY CORROSIVE AND IT MUST BE DISPOSED ACCORDING TO PRECISE REGULATIONS. MOREOVER, ANY INTERVENTION TO THE BRAKING SYSTEM MUST BE CARRIED OUT ONLY BY QUALIFIED PERSONNEL.



12_26

Headlights adjustment (12_26, 12_27)

Proceed as follows:

1. Place the vehicle in conditions of use, without load, with the tyres inflated to the prescribed pressure on flat grounds at 10 m from a white screen placed in semidarkness. Make sure the vehicle axis is perpendicular to the screen;
2. Draw two vertical lines "a-a" at a distance «A» corresponding to the distance between headlight axes. Draw a horizontal line "b-b" at height «B» from ground corresponding to the headlight centre height from ground multiplied by 0.9;
3. Start the engine and lock the throttle twist grip at approximately 1/3 of its travel. Switch the dipped beam headlight on. Direct the beam so that the horizontal line between the light and the shade falls above the horizontal "b-b" drawn on the screen;
4. if this is not so, adjust the headlight by means of the two screws «A» to correct any beam alterations.



12_27

CAUTION



BEFORE CARRYING OUT THE OPERATION FOR HEADLIGHTS AIMING, CHECK THAT THE TYRES ARE INFLATED TO THE INDICATED PRESSURES.

Tyres (12_28)

- Periodically check the inflation pressure of each tyre.
- Tyres feature wear indicators; replace tyres as soon as these indicators become visible on the tyre tread.
- Also check that the tyres do not show signs of splitting at the sidewalls or irregular tread wear; In this case, consult a **Dealer or an Authorised Piaggio Service Centre**.

CAUTION



ACCORDING TO THE PROVISIONS OF THE REGULATIONS IN FORCE, THE TYRE TREADS MUST BE OVER 1 MM THICK.

CAUTION



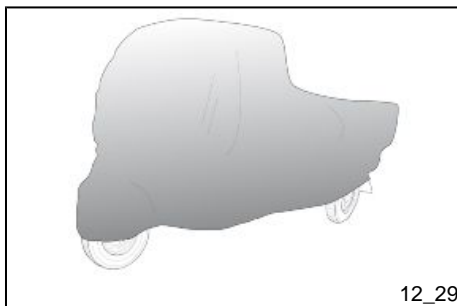
TYRE PRESSURE SHOULD BE CHECKED WHEN TYRES ARE COLD. AN INCORRECT PRESSURE CAUSES ABNORMAL WEAR OF TYRES AND MAKES DRIVING HAZARDOUS.



12_28

TYRES

Wheel rim	2.5" x 10
Tyres	100/90 - 10 56J
Front tyre pressure without load	1.8 bar
Rear tyre pressure without load	2.2 bar



Periods of inactivity (12_29)

Perform the following operations:

1. general vehicle cleaning;
2. With the engine off and the piston at bottom dead center, remove the spark plug, enter 10 to 15 cc of oil from the corresponding hole. Then press the engine start-up button 3-4 times, making the engine and the spark plug slowly turn.
3. Drain the fuel tank. Cover the unpainted metal parts with rustproof grease;
4. for the battery, follow the procedures indicated in the chapter: "Maintenance".

Brakes

Brake adjustment (12_30)

CAUTION



TO ADJUST THE BRAKES RELATED TO THE BRAKING SYSTEM, IT IS RECOMMENDED TO CONTACT AN AUTHORISED PIAGGIO SERVICE CENTRE.

HAND BRAKE

During vehicle use, a slight elongation of the hand brake stroke may be noted, due to normal wear.

CAUTION

WARNING



IF YOU NOTICE THAT THE NUMBER OF CLICKS NECESSARY TO ENSURE THE VEHICLE REMAINS STATIONARY WHEN USING THE HANDBRAKE INCREASES, HAVE THE SYSTEM CHECKED BY AN AUTHORISED SERVICE CENTRE IMMEDIATELY.

Characteristic

Parking brake lever travel

2 ÷ 3 units.

Troubleshooting / What to do if...



NO IGNITION

Connector to the mixer oil reserve control disconnected.	Reconnect
--	-----------

Spark plug connectors disconnected	Reconnect.
------------------------------------	------------

IGNITION DIFFICULTIES

No fuel in the tank.	Refill
----------------------	--------

Filters, jets, carburettor body obstructed or dirty	Contact a PIAGGIO Official Assistance Point
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IGNITION IRREGULARITIES

No spark from spark plug	<p>Make sure the electrodes are properly adjusted (0.5 mm)</p> <p>Make sure the electrodes are clean (use pure petrol and a metal brush or sand paper).</p> <p>Check the spark plug's insulation and replace the spark plug in case of cracks or damages. If the spark plug is in good conditions, contact a PIAGGIO Official Assistance Point.</p>
--------------------------	--

DUE TO THE PRESENCE OF HIGH VOLTAGE, THIS CHECK MUST BE PERFORMED BY QUALIFIED PERSONS.

INSUFFICIENT COMPRESSION

Spark plug housing thread damaged; head tightening loose; worn-out piston circlips	Contact a PIAGGIO Official Assistance Point
--	--

HIGH CONSUMPTIONS AND LOW PERFORMANCE

Air filter blocked or dirty	Wash with water and shampoo.
-----------------------------	------------------------------

INSUFFICIENT BRAKING

Greasy drums, worn-out brake shoes	Contact a PIAGGIO Official Assistance Point
------------------------------------	--

Air in the circuit's pipes	Let the air out
----------------------------	-----------------

Faulty brake shoe self-adjustment device	Contact a PIAGGIO Official Assistance Point
--	--

Irregular consumption of friction material	Contact a PIAGGIO Official Assistance Point
--	--

Oil leaks from the circuit	Contact a PIAGGIO Official Assistance Point
----------------------------	--

Air in the brake circuit	Let the air out; Contact a PIAGGIO Official Assistance Point .
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SUSPENSIONS INEFFICIENCY

Oil leaks; spring load leaks; worn-out stop buffers.	Contact a PIAGGIO Official Assistance Point
--	--

GEARBOX IRREGULARITIES

Malfunctions of gearbox or differential gear.	Contact a PIAGGIO Official Assistance Point .
---	--

SILENCER EXCESSIVELY NOISY

SAS valve malfunction	Contact a PIAGGIO Official Assistance Point .
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INEFFICIENCY OF THE ELECTRICAL SYSTEM

Malfunctions of controls (switches) or light activation	Contact a PIAGGIO Official Assistance Point
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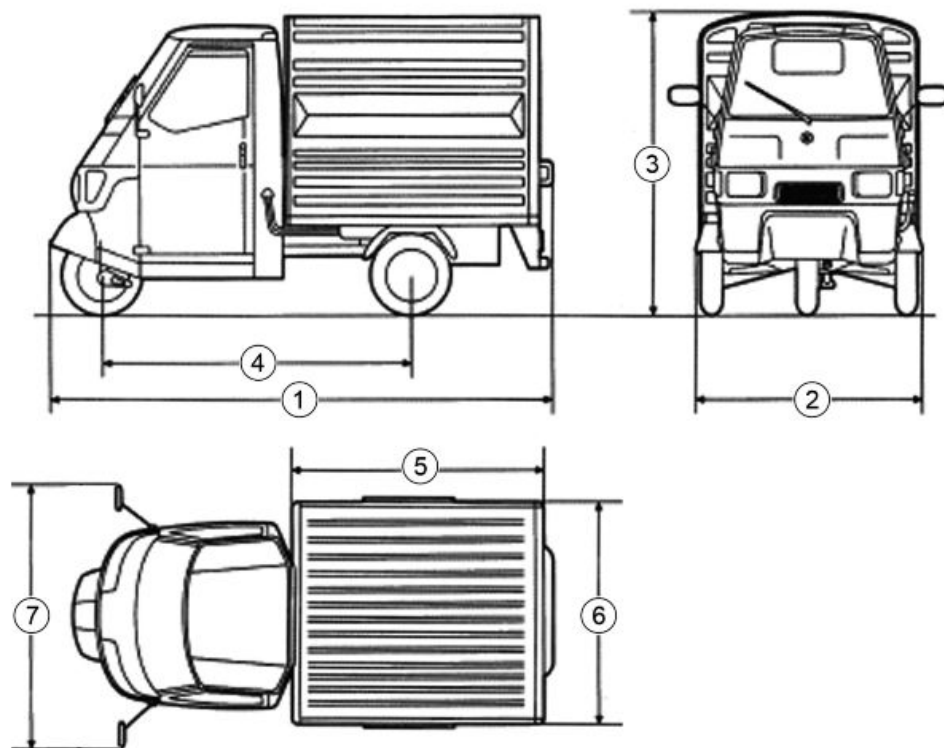
Inefficient battery	Contact a PIAGGIO Official Assistance Point
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APE 50 E4



Chap. 11
Technical data

Vehicle (14_01)



14_01

SIZES

N.	millimetres (mm)	TOP	CROSS	LONG Deck	SHORT deck	VAN
1	Length	2660	2540	2660	2500	2500
2	Width	1,260	1,260	1,260	1,260	1,260
3	Height	1550	1620	1550	1550	1590
4	Wheelbase	1590	1590	1590	1590	1590
5	Deck length (INTERNAL)	1,350	1,190	1,350	1,190	1,190
5	Deck length (EXTERNAL)	1410	1250	1410	1250	1250
6	Deck width (INTERNAL)	1,200	1,140	1,140	1,140	1,140
6	Deck width (EXTERNAL)	1,260	1,200	1,200	1,200	1,200
7	Width including mirrors	1,460	1,460	1,460	1,460	1,460
-	Board height	230	230	230	230	-

WEIGHTS

Kilograms (kg)	TOP	CROSS	LONG Deck	SHORT deck	VAN
Technically permissible maximum total weight	500	500	500	500	490
Kerb vehicle mass	255	255	255	240	268
Kerb vehicle mass with driver	330	330	330	315	345
Maximum weight permissible on the front axle	150	150	150	150	150
Maximum weight permissible on rear axle	410	410	410	410	410
Useful load capacity $\pm 3\%$	170	170	170	185	145

REFILLING

Fuel tank (reserve)	10 litres (2 litres)
Mixer oil tank (reserve)	2.0 litres (0.6 litres)
Gearbox oil	750 cm ³
Differential Oil	420 cm ³
Windscreen washer fluid tank	1.5 litres

BRAKES

Braking system	Hydraulic dual circuit and foot pedal operation.
Front brakes	Ø 170-mm drum brake.
Rear brakes	Ø 170-mm drum brake.

SUSPENSIONS

Front suspension	Swinging arm with helical spring and coaxial hydraulic shock absorber.
Rear suspension	Independent swinging arms, hydraulic shock absorbers and helical springs.

TYRES

Wheel rim	2.5" x 10
Tyres	100/90 - 10 56J
Front tyre pressure without load	1.8 bar
Rear tyre pressure without load	2.2 bar

ELECTRICAL SYSTEM

Battery	12V 32Ah 150A
Voltage regulator	14.5 V at 5,000 rpm (regulated voltage), 20 A (maximum current on the battery)
Starter motor	≥0.06 kgm at 4,200 rpm; 9.5÷10V; 60A

Engine**ENGINE EURO 4**

Engine	2-stroke single-cylinder with rotating timing
Bore	38 mm

Stroke	43 mm
Engine capacity	49,8 cm ³
Compression ratio	10÷10,5:1
Maximum declared torque ±5% (*)	3,3 Nm at 5.200 rpm
Maximum declared power ±5% (*)	1,9 kW at 6.000 rpm
Engine idle speed	approx. 1500 ± 100 g/min
Ignition	Capacitor discharge.
Fuel supply	Petrol-oil mix by means of automatic carburettor/mixer (capacity under engine speed and throttle valve opening) and gravity system.
Cooling system	Air.
Lubrication	Performed by the mixture's oil for: piston, cylinder, drive shaft, bearing on the fly-wheel's side.
Transmission	From the drive shaft to the rear wheels through the clutch and the gearbox-differential gear-axle group.
Transmission	4 speeds, direct drive gears. NOTE: THE VERSION WITH SPEED LIMITED TO 25 Km/h HAS 3 SPEEDS.
Differential	Connected to the gearbox's gear shaft by means of cylindrical gears; conical planetary gear and satellites. The differential box is connected to the two axle shafts

	conveying motion to the wheels. The differential is equipped with a gear reversing device.
Exhaust silencer	Combined type, expansion and absorption with double catalytic converter and secondary air system (SAS box).
Spark plug	NGK GR8DI-8
Homologation	L5e Euro 4 Tricycle

(*) = the tolerance of $\pm 5\%$ applies to both the speed and the value measured.

UNIT OF MEASUREMENT CONVERSION TABLE

1 Mile (mi)	1.609 Kilometres (km)
1 Mile per hour (mph)	1.602 kilometres per hour (Km/h)
1 Inch (in)	25.4 Millimetres (mm)
1 Foot (ft)	0.305 Metre (m)
1 US Gallon (US gal)	3.785 Litre (l)
1 Cubic inch (in ³)	16.4 Cubic centimetres (cm ³)
1 Pound (lb)	0.454 Kilogramme (kg)
1 Foot pound (lb ft)	1.356 Newton metre (Nm)
1 Pound per square inch (PSI)	0.069 (bar)
1 Fahrenheit (°F)	32+(9/5) Celsius (°C)

APE 50 E4



Chap. 12
Scheduled
maintenance -
Checks



15_01

Checks (15_01)

Adequate maintenance is fundamental to ensure long-lasting, optimal operation conditions and performance.

To this purpose, PIAGGIO offers a series of checks and maintenance operations to be performed at the owner's expense, which are summarised in the Scheduled Maintenance table.

It is a good rule to point out any small function anomalies to an **Authorised PIAGGIO Dealer or Service Centre** at once, without waiting until the next time your vehicle is serviced, in order to remedy them as soon as possible.

Any replacement or repair operation which may have to be carried out during each Scheduled Maintenance Service, will only be performed if previously approved by the customer.

Service the vehicle at the prescribed mileage, increasing the frequency in case of Severe Driving Conditions.

Carrying out scheduled services on time is necessary to ensure your warranty remains valid. For all other information concerning Warranty procedures and "Scheduled Maintenance", please refer to the "Warranty Booklet".



15_02

Scheduled maintenance service (15_02)

The vehicle owner is responsible for ensuring that maintenance work is carried out. The «Scheduled Maintenance» section provides details on the maintenance work recommended by the manufacturer.

SCHEDULED MAINTENANCE TABLE

km x 1,000	1	5	10	15	20	25	30	35	40	45	50	EVERY 12 MONT HS	EVERY 24 MONT HS
Safety blocks	I	I	I	I	I	I	I	I	I	I	I	I	
Spark plug			R		R		R		R		R		
Carburettor	C		C		C		C		C		C	C	
Hinges - Door locks - Transmissions			L		L		L		L		L		
Accelerator - mixer control	A	A	A	A	A	A	A	A	A	A	A	A	
Air filter		C	R	C	R	C	R	C	R	C	R	R	
SAS (secondary air) filter			C		C		C		C		C	C	
Filter of the CO control system					R				R				
Steering play			I		I		I		I		I		
Electrical system and battery	I	I	I	I	I	I	I	I	I	I	I		
Braking system	I	I	I	I	I	I	I	I	I	I	I	I	
Brake and clutch levers		L	L	L	L	L	L	L	L	L	L	I	
Brake fluid	I	I	I	I	R	I	I	I	R	I	I	I	R
Gearbox oil		I	R	I	R	I	R	I	R	I	R	I	
Differential Oil		I	R	I	R	I	R	I	R	I	R	I	
Tyre pressure and wear	I	I	I	I	I	I	I	I	I	I	I	I	

km x 1,000	1	5	10	15	20	25	30	35	40	45	50	EVERY 12 MONT HS	EVERY 24 MONT HS
Headlights	I		A		A		A		A		A		
Test ride	I	I	I	I	I	I	I	I	I	I	I	I	
Suspension			I		I		I		I		I	I	
Flexible transmission lines			L		L		L		L		L	I	
Rear brake tubes							R						
Flexible brake hoses			I		I		I		I		I	I	
Pipes of the CO control system		C	C	C	C	C	C	C	C	C	C	C	
CO valve			I		R		I		R		I		

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

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



15_03

Recommended products (15_03)

Piaggio Group recommends the products of its "Castrol Official Partner" for the scheduled maintenance of its vehicles.

Use lubricants and liquids having specifications that are equivalent, or superior, to the recommended products. These indications also apply when topping up fluid levels.

RECOMMENDED PRODUCTS TABLE

Product	Description	Specifications
Two stroke oil for mixer	Low smokiness lubricant for 2 stroke engines, with synthetic base plus additives.	API TC; JASO FC; ISO-L-EGD
80W-90 transmission oil	Lubricant for gearboxes and transmissions	SAE 80W-90; API GL-4
Brake fluid DOT 4	Synthetic brake fluid.	SAE J 1703; FMVSS 116; ISO 4925; CUNA NC 956 DOT4
Calcium based grease	Calcium grease	Paste-textured; Ivory colour; Specifications TL 9150 066, symbol NATO G 460
Lithium based grease	Lithium based, multi-purpose grease.	Yellow grease ISO L-X-BCHA 3 - DIN 51 825 K3K -20

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