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.

MP3 LT 500 i.e. SPORT - BUSINESS ABS - ASR

Ed. 03_02/2016 Cod. 1Q000184 (IT-FR-DE-ES-NL-EN) - 1Q000185 (EN-PT-DE-ES-FR-EL)

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

Personal safety

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

Safeguarding the environment

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

Vehicle intactness

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

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

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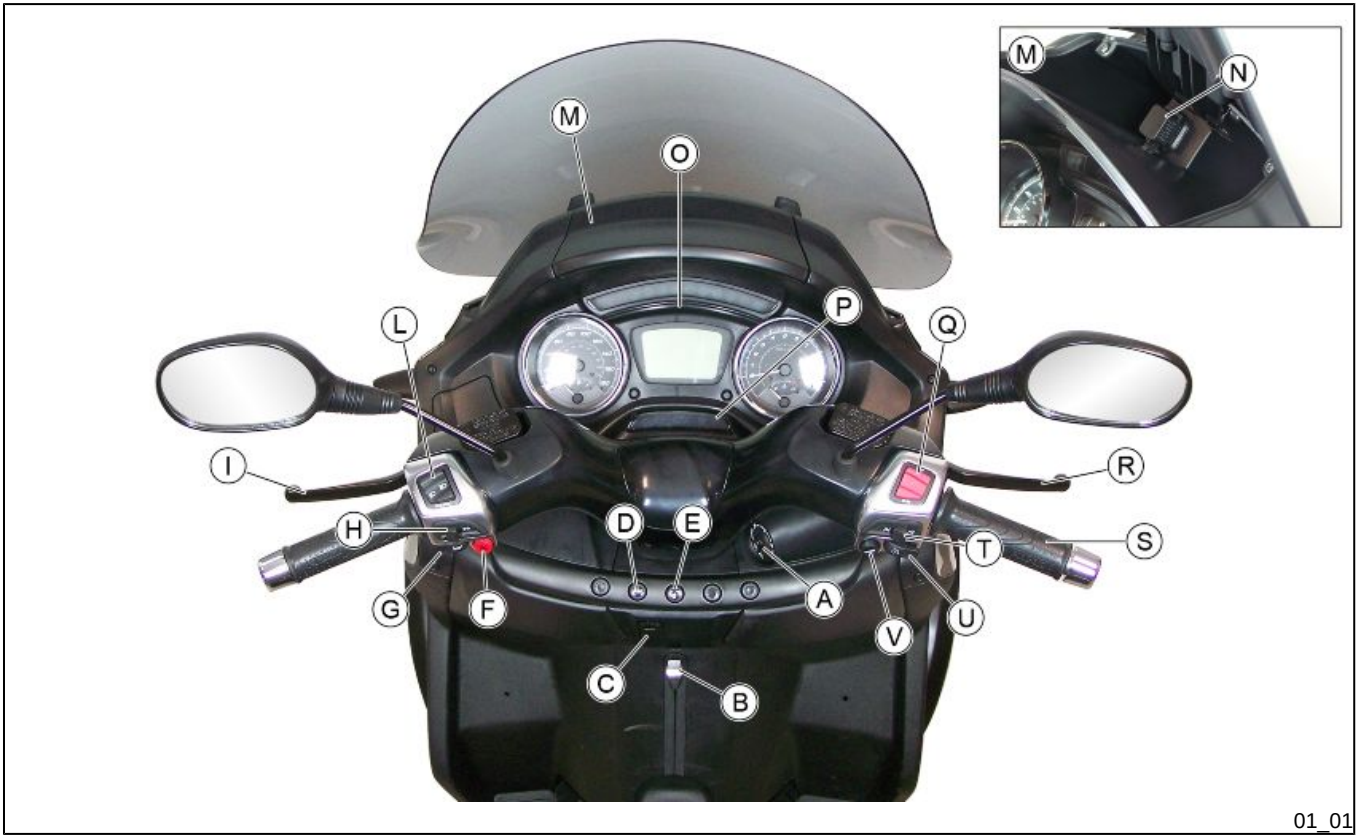
MP3 LT 500 i.e. SPORT - BUSINESS ABS - ASR

PIAGGIO

Chap. 01
Vehicle

Dashboard (01_01)



A = Ignition switch

B = Parking brake

C = Bag hook

D = ASR button (if fitted)

E = Saddle opening button

F = Hazard warning lights button

G = Horn button

H = Turn indicators switch

I = Rear brake lever

L = Light switch

M = Glove-box

N= USB socket

O = Analogue instrument panel with digital display

P = Warning light unit

Q = RUN/OFF emergency stop switch

Q = Front brake lever

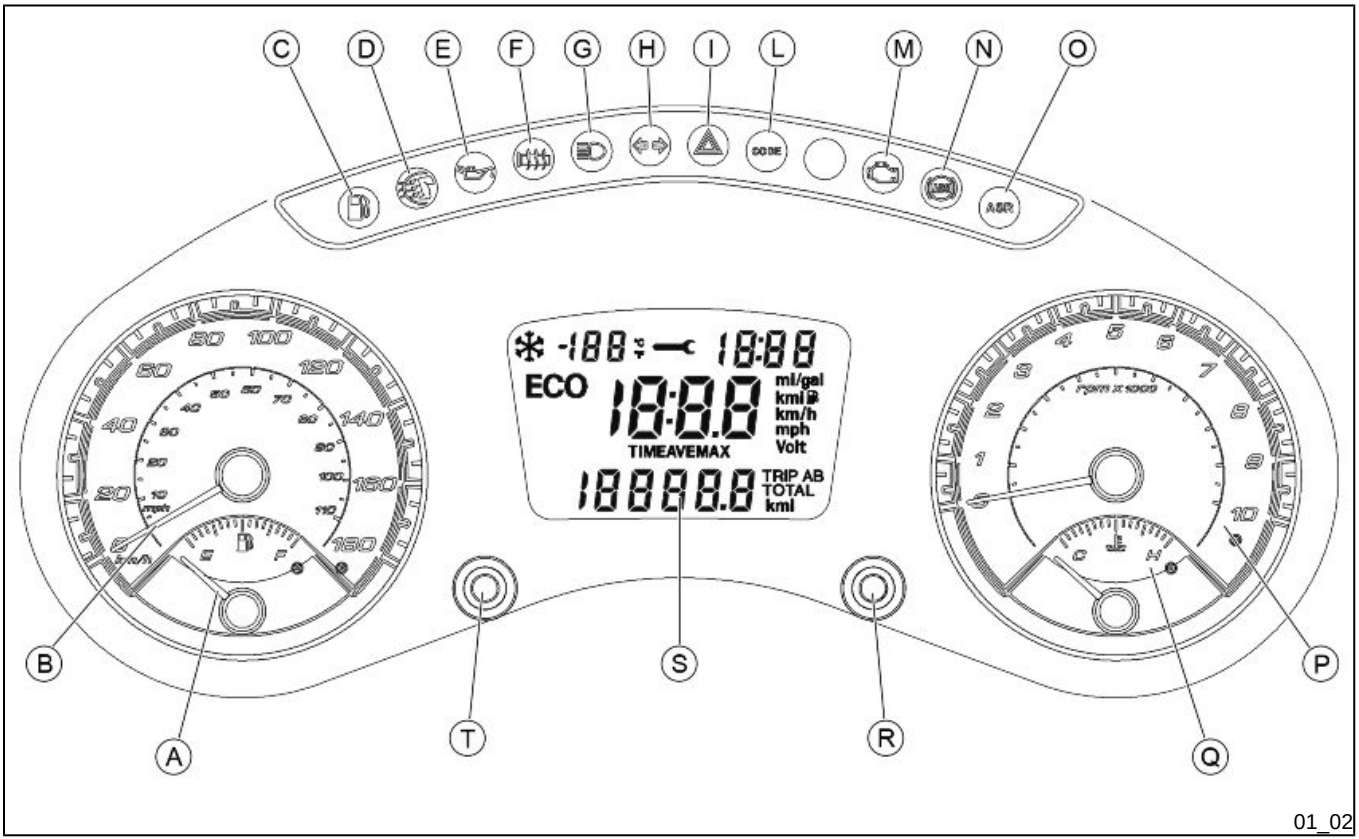
S = Throttle grip

T = Front suspension locking-unlocking switch

U = Starter button

V = MODE button

Analogue instrument panel (01_02)


C
D
E
F
G
H
I
L
M
N
O
B
A
T
S
R
Q
P
ECO
TIMEAVEMAX
ml/gal
km/l
km/h
mph
Volt
TRIP AB
TOTAL
km
ASR
01_02

A = Fuel gauge

B = Speedometer

C = Fuel reserve warning light

D = Leg warmer warning light (if fitted)

M = Low oil pressure warning light

F = Heated handgrip warning light (if fitted)

G = High beam warning light

H= Turn indicator warning light

I = Hazard warning light

L = Immobilizer LED

M = Engine control warning light and engine failure warning light

N = ABS warning light (if fitted)

O = ASR warning light (if fitted)

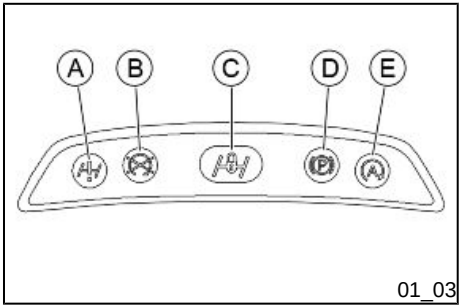
P = Engine rpm indicator

Q = Coolant temperature gauge

R = SET button

S = Digital display

T = ODO/TRIP button



01_03

Indicator unit (01_03)

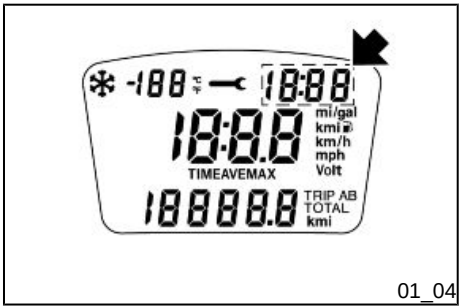
A = Front suspension locking system failure warning light

B = Engine stop warning light

C = Front suspension locking system warning light

D = Warning light for parking brake engaged

E = Warning light not active



01_04

Clock (01_04)

The clock displays, when the vehicle key is set to the «KEY ON» position, hours and minutes, as per manual setting, in the «hh:mm» format.

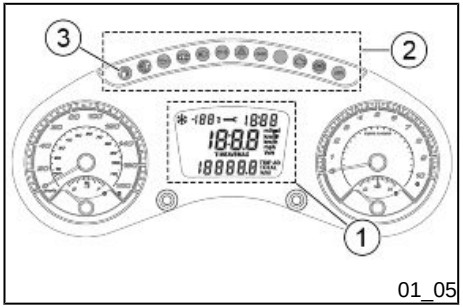
Set the correct time as described in «Hours/minutes function setting ».

WARNING

FOR SAFETY REASONS THE TIME SETTING IS ONLY POSSIBLE WITH THE VEHICLE AT A STANDSTILL.

WARNING

DISCONNECTING THE BATTERY CABLES WILL RESET THE CLOCK

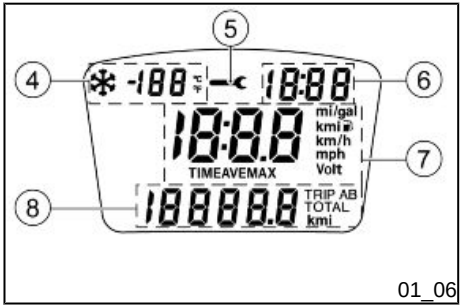


01_05

Digital lcd display (01_05, 01_06, 01_07, 01_08, 01_09, 01_10, 01_11, 01_12, 01_13, 01_14, 01_15, 01_16, 01_17, 01_18, 01_19)

Turning the ignition switch to «**ON**»:

- all the functions on the digital display «**1**» light up;
- All the warning lights «**2**» on the instrument panel light up;
- The fuel reserve warning light e «**3**» remains on for two seconds, then it has the normal function to indicate that the fuel reaches the reserve;
- The needles move up to full scale and back and then get set on the value to be displayed.



01_06

The digital display can be divided into five main zones, within which the functions and settings are developed:

- indication of temperature and ice warning «4»;
- maintenance icon «5»;
- clock «6»;
- information about speed, instantaneous and average travel, autonomy and battery voltage «7»;
- information about distances «8» for the «TOTAL», «TRIP A» and «TRIP B» functions.

01_07

The vehicle has three main buttons to navigate the digital display:

- «MODE» key, placed on the right switch;
- «ODO/TRIP» and «SET» buttons, placed under the digital display.

N.B.

IN THE NAVIGATION OF THE DISPLAY ARE DEFINED:

- «BRIEF PRESSURE»: PRESSING THE BUTTON INDICATED FOR LESS THAN HALF A SECOND;

01_08

- «LONG PRESSURE»: PRESSING THE BUTTON INDICATED FOR MORE THAN THREE SECONDS.

DISPLAY NAVIGATION

MAIN MENU

The display navigation is developed mainly on the three main menu screen pages:

- «TOTAL»: is the totalizer screen page and shows the total information stored from the beginning of the first start of the vehicle;

- «TRIP A»: is the screen page of the first partial value to be stored; illustrates the related information the at determined intervals;

- «TRIP B»: is the screen page of the second partial value to be stored; illustrates the related information the at the determined interval.

It is possible to navigate between the «TOTAL», «TRIP A» and «TRIP B» main menus (in this order), by briefly pressing the «ODO/TRIP» button or by briefly double pressing the MODE button.

Each of these main menus is in turn navigable in different ways and with different functions, depending on the command that is applied:

- BRIEF PRESS OF THE «MODE» BUTTON
- BRIEF DOUBLE PRESS OF THE «MODE» BUTTON
- LONG PRESS OF THE «MODE» BUTTON
- BRIEF PRESS OF THE «ODO/TRIP» BUTTON
- LONG PRESS OF THE «ODO/TRIP» BUTTON

- BRIEF PRESS OF THE «MODE» BUTTON

The «TOTAL» screen page in the central area of the display allows to check, in sequence:

- travel indicated in «km/l» or in «mi/gal»;
- residual estimated autonomy expressed in «km» or «mi»;
- battery voltage expressed in «V».

The total distance travelled since the first start of the vehicle, expressed in«km» or «mi» is indicated in the lower area of the display.

The «TRIP A» screen page in the central area of the display allows to check, in sequence:

- travel indicated in «km/l» or in «mi/gal»;
- average travel calculated starting from the statistics start «TRIP A», expressed in «km/l» or in «mi/gal»;
- residual estimated autonomy expressed in «km» or «mi»;
- time displayed in «hh:mm» calculated from the statistics start «TRIP A»;
- average speed starting from the statistics start «TRIP A», expressed in «km/h» or «mph»;
- maximum speed reached, recorded starting from the statistics start «TRIP A», expressed in «km/h» or «mph»;
- battery voltage expressed in «V».

The distance travelled measured from the statistics start «TRIP A», expressed in«km» or «mi» is indicated in the lower area of the display.

The «TRIP B» screen page in the central area of the display allows to check, in sequence:

- travel indicated in «km/l» or in «mi/gal»;
- average travel calculated starting from the statistics start «TRIP B», expressed in «km/l» or in «mi/gal»;
- residual estimated autonomy expressed in «km» or «mi»;
- time displayed in «hh:mm» calculated from the statistics start «TRIP B»;
- average speed starting from the statistics start «TRIP B», expressed in «km/h» or «mph»;

- maximum speed reached, recorded starting from the statistics start «TRIP B», expressed in «km/h» or «mph»;

- battery voltage expressed in «V».

The distance travelled measured from the statistics start «TRIP B», expressed in«km» or «mi» is indicated in the lower area of the display.

BRIEF DOUBLE PRESS OF THE «MODE» BUTTON

Same function as the short press of the «ODO/TRIP» button.

LONG PRESS OF THE «MODE» BUTTON

From any function of any screen page, pressing and holding the «MODE» button switches to the «travel» of the respective screen page of the main menu.

BRIEF PRESS OF «ODO/TRIP» BUTTON

The following screen pages are shown cyclically: «TOTAL», «TRIP A», «TRIP B».

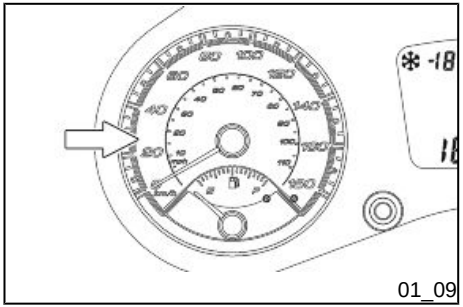
LONG PRESS OF THE «ODO/TRIP»BUTTON

- If the «TOTAL» screen page is active, nothing will happen;

- in any of the screen pages of «TRIP A», the information stored since the statistics start «TRIP A» is reset;

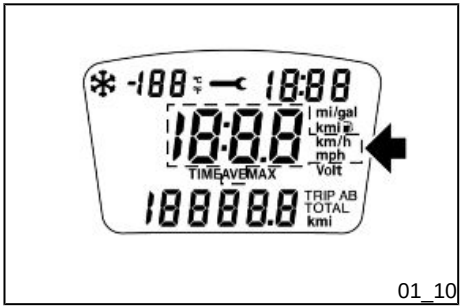
- in any of the screen pages of «TRIP B», the information stored since the statistics start «TRIP B» is reset.

SCREEN PAGES AND OPERATIONS ON THE SUBMENU


01_09

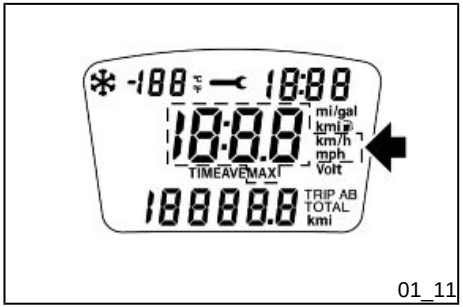
MAXIMUM, AVERAGE AND INSTANTANEOUS SPEED

- The indication of the instantaneous speed is detectable on the speedometer.



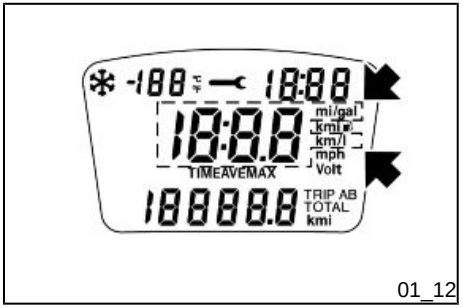
01_10

- Navigating on the display as described, the «AVG» average speed of TRIP A or TRIP B can be displayed, depending on the menu consulted.

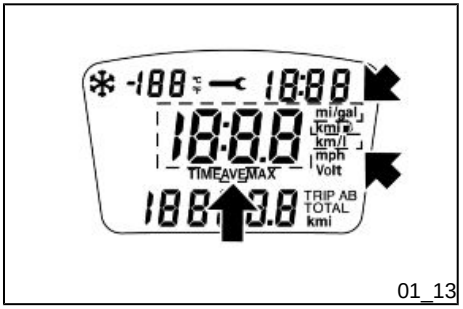


01_11

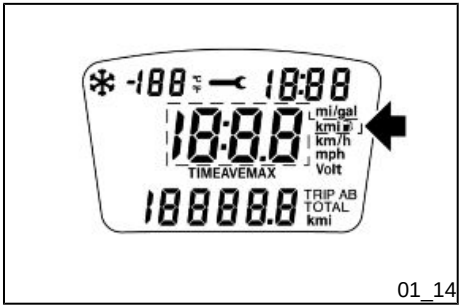
- Navigating on the display as described, the «MAX» maximum speed reached of TRIP A or TRIP B can be displayed, depending on the menu consulted.



01_12



01_13



01_14

INSTANTANEOUS TRAVEL AND AVERAGE TRAVEL

Are indicated in «km/l» or in «mi/gal», according to the measurement unit set in the display.

- The travel is the first screen page displayed on the display and is also the one you return to, with a long press of the «MODE» button, that enables to exit from the sub-menu related to «TOTAL», «TRIP A» or «TRIP B».

- The average travel, in each of the submenus, is the next screen page and can be distinguished by the «AVG» indication.

Both consumptions are calculated values.

The travel is displayed only if the speed is greater than 5 km/h (3 mph), otherwise the symbol «--.-» is displayed.

The average distance is also calculated with the vehicle stopped, but turned on. In the case of resetting data with the «ODO/TRIP» button, the average travel will be indicated after travelling at least 0.1 km (0.1 mi).

RESIDUAL AUTONOMY

The residual autonomy, indicated in «km» or «mi» according to the display settings, is a calculated and estimated value.

Residual autonomy is estimated based on the average travel of the last three minutes, therefore a better estimation of autonomy if riding at a constant speed is calculated.

From the lighting up of the reserve warning light, the residual autonomy value indicated will be «---». Refuel as soon as possible.

UNIT OF MEASUREMENT SETTING

Press and hold for at least 3 seconds the button "**MODE**" and, at the same time, turn the ignition key to "**ON**".

The icons "**kmi**" and "**C-°F**" will start flashing.

"**Kmi**" represents the combination of "**km**" (kilometres) and "**mi**" (miles).

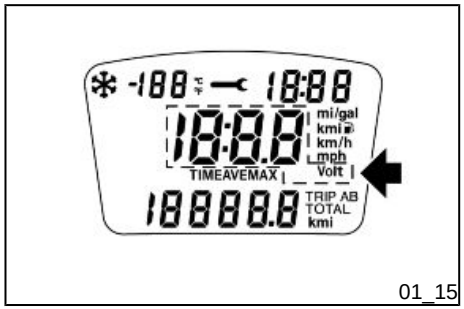
Pressing the "**MODE**" button for less than a second, icons "**km**" and "**mi**" are selected in sequential manner.

Press and hold down the **SET**" button for 3 seconds to confirm the selection.

Now the ambient temperature icon "°**C-°F**" starts flashing.

Pressing the "**MODE**" button for less than a second, icons "**°C**" e "**°F**" are selected in sequential manner.

Press and hold down the **SET**" button for 3 seconds to confirm the selection.



01_15

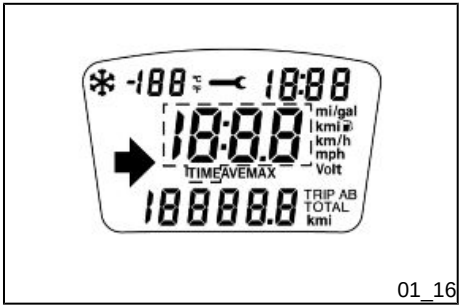
BATTERY

Indicates the instantaneous voltage (Volts) of the battery.

A value around 14-14.5V while riding indicates a correct operating state of the battery recharge system.

Under these conditions an efficient battery is properly charged to its maximum.

In the case where the battery voltage remains under 12.0V in riding conditions, it can indicate a malfunction in the battery recharge system or the battery itself. In case the engine is shut-down, the subsequent restarting may no longer be possible.



01_16

CHRONOMETER

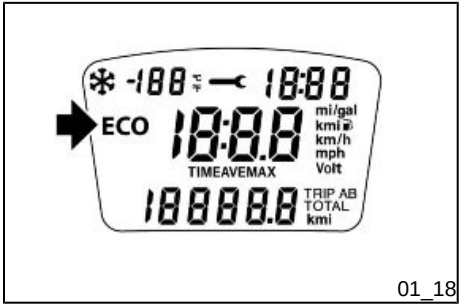
The «TIME» submenu indicates time, expressed in «hh:mm», passed by the reset of the TRIP (A or B) in progress.

01_17

ECO MODE

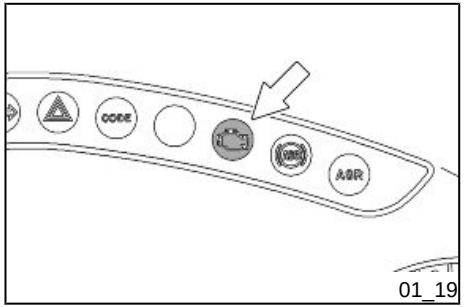
The «**ECO**» mode acts on the mapping of the electronic control unit, with a setting that favours lower consumption compared to the performance.

To activate this mode, <u>with the vehicle at engine idle speed</u>, press the starter button «**U**». With the function activated, the message «**ECO**» will appear on the display.



01_18

To go back to the standard riding mode, with the «**ECO**» function active, press the starter button «**U**» until the mode appears on the display.



01_19

ENGINE CONTROL WARNING LIGHT AND ENGINE FAILURE WARNING LIGHT

The warning light signals possible failure detected by the engine control unit. After the initial check of switching to «**ON**», the warning light, in case of failure, has two different signal modes:

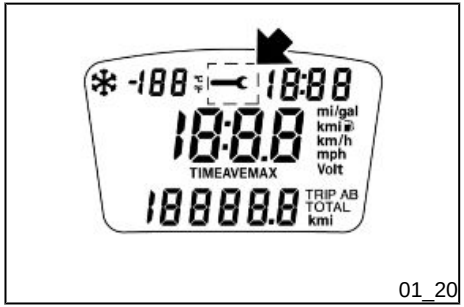
- LIT CONSTANTLY

A failure was detected, which could compromise/degrade the engine performance.

- FLASHING WARNING LIGHT

A failure was detected, which could compromise the rider's safety, therefore the engine performance is deliberately degraded.

In both cases please contact an **Authorised Service Centre**.



01_20

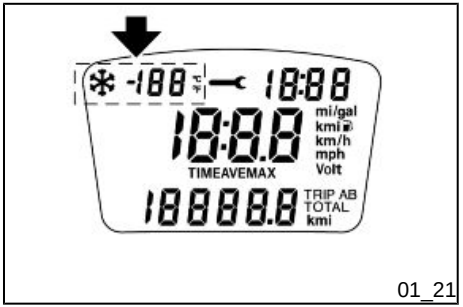
Maintenance icons (01_20)

The maintenance icon flashes for five seconds each time the vehicle is turned on after the check of the dashboard, since 300 km before the expiry of each service coupon.

Similarly, upon achieving the determined distance from the periodic maintenance intervals (the first at 1000 km and then from 5000 km included, after every 5000 km), the icon stays on until the established maintenance is performed.

For routine maintenance and icon reset, contact an **Authorised Service Centre**.

OTHERWISE MAKE THE FIRST CHECK, AS DEFINED AND DETERMINED BY PERIODIC MAINTENANCE TABLE, AT A DISTANCE OF 1000 km.

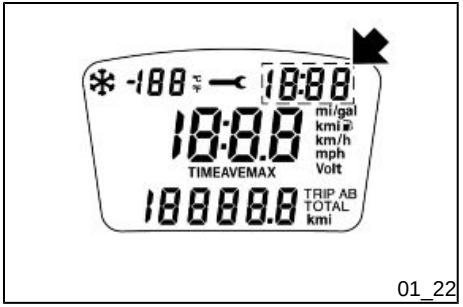


01_21

Setting the outside temperature display (01_21)

The outside temperature indication is shown on the left of the display, in «°C» or «° F» according to the measurement unit set.

In the case in which the outside temperature is less than 3°C, further caution is recommended in the use of the vehicle; the asterisk indicates the possible presence of ice on the road surface.



01_22

Setting the hour/minutes function (01_22, 01_23)

To set or adjust the time, with vehicle running or with key inserted in «KEY ON» position, proceed as follows:

- with a long press of the "SET" button, the number of hours flashes in "hh" format;

- adjust the hours value by briefly pressing the same «SET» button;

- with a long press, the set value is confirmed (or present value if not modified) and it causes the flashing of the minutes value in the format «mm».

- adjust the minutes value by briefly pressing the same «SET» button;

- with a long press, the set value is confirmed (or present value if not modified) and it exits from the clock adjustment.

If, during the adjustment procedure, the «SET» button is not pressed for a time longer than ten seconds, the procedure is interrupted and clock value remains the same as before the adjustment; repeat the adjustment operations.

01_23

WARNING

FOR SAFETY REASONS THE TIME SETTING IS ONLY POSSIBLE WITH THE VEHICLE AT A STANDSTILL.

WARNING

DISCONNECTING THE BATTERY CABLES WILL RESET THE CLOCK

01_24

01_25

MODE button (01_24, 01_25)

Pushing the "**ODO/TRIP**" button for less than a second allows consecutively the following functions:

- Total odometer «**TOTAL**»
- Partial odometer «**TRIP A**»
- Partial odometer «**TRIP B**»

Pressing the «**MODE**» button, within each function, allows to consecutively access additional functions.

- **TOTAL**
  - Travel (km/l)
  - Estimated residual autonomy (km)
  - Battery voltage (V)
- **TRIP A**
  - Travel (km/l)
  - AVG Average travel (km/l)
  - Estimated residual autonomy (km)
  - Trip Time: chronometer (hh:mm)
  - AVG average speed (km/h)
  - MAX maximum speed reached (km/h)
  - Battery voltage (V)
- **TRIP B**
  - Travel (km/l)
  - AVG Average travel (km/l)
  - Estimated residual autonomy (km)
  - Trip Time: chronometer (hh:mm)
  - AVG average speed (km/h)

- MAX maximum speed reached (km/h)
- Battery voltage (V)

Pressing and holding the «**ODO/TRIP**» button in the «TRIP A» and «TRIP B» screen pages, allows to reset all counters for that TRIP.

01_26

Keyswitch (01_26)

1. **LOCK** = Engine disabled, extractable key, mechanical antitheft device enabled. The parking brake cannot be released when pressed and cannot be pressed when released.
2. « **OFF** » = Engine disabled, extractable key, mechanical antitheft device disabled and enabled/disabled parking brake.
3. «**ON**» = Engine enabled for operating, non-extractable key, mechanical antitheft device disabled.
4. «**HELMET COMPARTMENT OPENING**» = Helmet compartment opening position. Press the key when in «**OFF**» or «**ON**» and turn it anticlockwise.
5. «**FUEL TANK COVER OPENING**» = Fuel tank cover opening position. Press the key when in "**OFF**" or "**ON**" and turn it clockwise.

01_27

Locking the steering wheel (01_27)

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

01_28

Releasing the steering wheel (01_28)

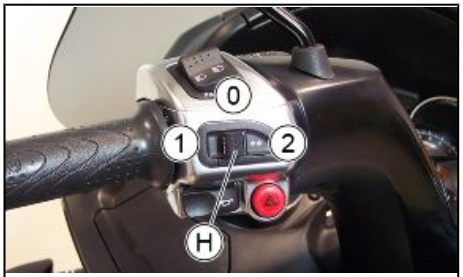
Insert the key and turn to «**OFF**».

CAUTION

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

WARNING

OPERATE THE HANDLEBAR UNTIL OBTAINING THE EASY ROTATION OF THE SWITCH AVOIDING UNNECESSARY STRESS.



01_29

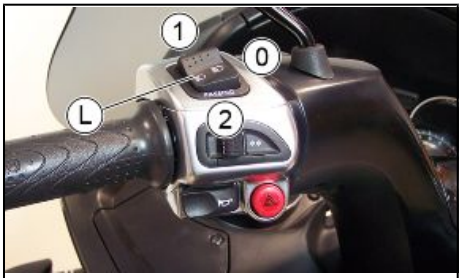
Switch direction indicators (01_29)

Move the switch «**H**» to the left to «**1**», to indicate a left turn; move the switch «**H**» to the right to «**2**», to indicate a right turn;. Press the central part of the switch «**H**» to «**0**» to deactivate the turn indicators.

01_30

Horn button (01_30)

Push the button «**G**» to honk the horn.



01_31

Light switch (01_31)

The position «**0**» of switch «**L**» corresponds to the low beam light selection.

The position «**1**» corresponds to the high beam light.

The position «**2**» activates the high beam flashing; the switch automatically goes back to «**0**». The flashing control also performs the safety light function that can be activated in case of failure of the high beam light fuse.

01_32

Emergency flashing light button (01_32)

It enables the activation of the four turn indicators simultaneously. Control «**F**» can be enabled only with the key set to «**ON**», but once enabled, it keeps functioning even if the key is set to «**OFF**» or «**LOCK**». To disable this function, simply turn the ignition switch to «**ON**».

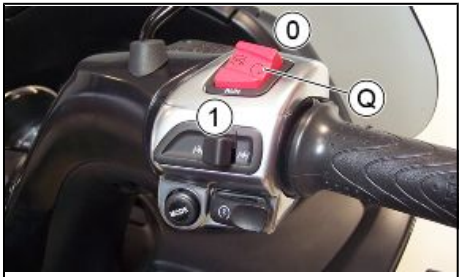
01_33

Start-up button (01_33)

With the engine stop switch «**Q**» set to «**1**» **RUN**, press the button «**U**» to start the engine after having pulled one of the two brake levers.

WARNING

WITH THE FRONT SUSPENSION LOCKED, THE ENGINE WILL NOT INCREASE THE REVS WHEN THE RIDER IS NOT PROPERLY SEATED IN RIDING POSITION.



01_34

Engine stop button (01_34)

The engine can be started when the emergency stop switch «**Q**» is in position «**1**» **RUN**;.

Position «**0**» **OFF** allows shutting off the engine in case of emergency and also disabling the restart.

01_35

Front suspension unlock-lock switch (01_35)

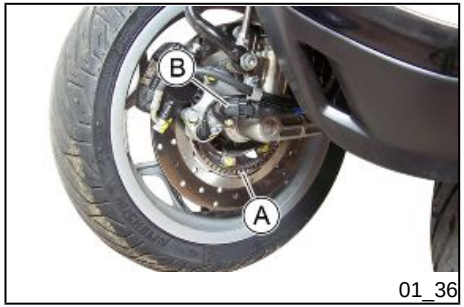
The «**T**» switch engages and disengages the front suspension locking system.

As the topic is so complex, find the instructions for using this control in the **Use** chapter.

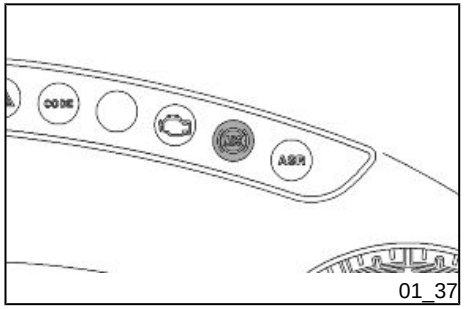
System ABS (01_36, 01_37)

CAUTION

THE FOLLOWING INSTRUCTIONS REFER TO THE ABS - ASR VERSION.



01_36



01_37

The vehicle is equipped with a locking ABS system on the wheels.

A: Tone wheel

B: Speed sensor

- **ABS:** It is a hydraulic - electronic device that limits the pressure within the braking circuit when a sensor, located on the wheel, detects its tendency to lock. This system prevents the wheels from locking to avoid the risk of falling.

In case of failure of the ABS system, immediately reported to the rider with ABS warning light on the instrument panel, the vehicle retains the characteristics of a conventional braking system. In case of ABS warning light, reduce speed and go to an Authorised Service Centre for the appropriate checks. The safety provided by the ABS does not, in any case, justify risky manoeuvres. The stopping distance may be greater, compared to a conventional vehicle equipped with traditional braking in the following conditions:

- Riding on rough roads, with gravel or snow
- Riding on roads with holes or bumps

It is therefore recommended to reduce speed in these conditions.

AT VERY LOW SPEEDS (LESS THAN 5 KM/H) THE ABS SYSTEM IS DISABLED.

IT IS RECOMMENDED TO PAY ATTENTION THEREFORE IN CASES OF BRAKING IN LOW GRIP CONDITIONS AT LOW SPEED (FOR EXAMPLE BRAKING ON GARAGE FLOOR TILES AFTER HAVING RIDDEN ON WET ROADS OR SIMILAR SITUATIONS)

N.B.

THE ABS WARNING LIGHT TURNS ON AND STAYS ON UNTIL REACHING 5 KM/H.

CAUTION

IN THE EVENT OF MALFUNCTION OF THE BATTERY, THE ABS - ASR SYSTEM TURNS OFF.

System ASR (01_38, 01_39)

CAUTION

THE FOLLOWING INSTRUCTIONS REFER TO THE ABS - ASR VERSION.

ASR SYSTEM

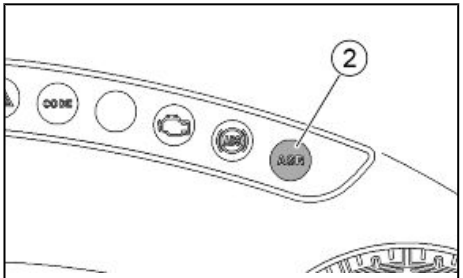
The ASR system is a device to help riding that helps the rider during acceleration manoeuvres, especially on slippery surfaces or in conditions that can cause sudden slippage of the rear wheel. The ASR in these situations automatically intervenes by reducing engine output within the limit imposed by the grip conditions, contributing significantly to the maintenance of stability the vehicle.

WARNING

THE ASR SYSTEM IS BASED ON THE RECOGNITION OF SPEED DIFFERENCES BETWEEN FRONT AND REAR WHEEL. IN ORDER FOR THE SYSTEM TO MAINTAIN MAXIMUM EFFICIENCY IN ALL CONDITIONS, THE CALIBRATION PROCEDURE MUST BE PERFORMED EVERY TIME, EVEN IN CASE OF REPLACEMENT OF JUST ONE TYRE.

FOR THE CALIBRATION OF THE CONTROL UNIT PERFORM THE PROCEDURE BELOW.

01_38



01_39

- **SWITCH «1»:** on / off.
- **WARNING LIGHT «2»:** operating indication warning light.

Flashing mode:

- Off with the vehicle in gear: the system is working, but is not active (normal condition).

- Flashing quickly with moving vehicle: the system is up and running (conditions of low grip and intervention to reduce engine power); we recommend the utmost caution because the grip limit has been exceeded; restore the vehicle safety conditions by gently reducing the throttle opening.

- Lit with moving vehicle: the system is disabled and will not intervene in case of loss of grip.

- If the deactivation was voluntary (by pressing the appropriate button **«1»** for 1 second) it is recommended to replace the system as soon as possible.
- If the deactivation was NOT voluntary, there is an ASR failure: in this case you must contact an **Authorised Service Centre** for the diagnosis and the reactivation of the system.

To ensure maximum safety of the vehicle it is advisable to keep the system active. Deactivation may be necessary only in case of starting with very low grip surfaces (mud, snow) on which the operation of the ASR could actually prevent the movement of the vehicle.

N.B.

AT VEHICLE START-UP THE ASR WARNING LIGHT FLASHES AT THE SAME FREQUENCY AS THE ABS WARNING LIGHT, INDICATING A DIAGNOSTIC PHASE OF THE SYSTEM. IN THE ABSENCE OF ERRORS, BOTH WARNING LIGHTS TURN OFF AT THE SAME TIME WHEN EXCEEDING 5 KM/H.

IN CASE OF ABSENCE OF FLASHING AT START-UP, THE SYSTEM MAY NOT WORKING, PLEASE CONTACT AN AUTHORISED SERVICE CENTRE.

WARNING

THE ASR SYSTEM IS ACTIVATED AT EVERY «ON» POSITIONING OF THE IGNITION SWITCH.

IF DISABLED BY THE USER, THE ASR SYSTEM KEEPS THE STATE OF INACTIVITY ONLY IF THE VEHICLE IS OFF, BY USING THE ENGINE STOP SWITCH; AT THE NEXT KEY ON THE ASR SYSTEM IS ENABLED AUTOMATICALLY.

CAUTION

IT IS EMPHASISED THAT THE RIDING AUXILIARY SYSTEM CAN NOT CHANGE THE PHYSICAL LIMITS OF GRIP AND IS NOT A SUBSTITUTE FOR PROPER MANAGEMENT OF POWER, BOTH ON STRAIGHT STRETCHES AND IN TURNS. THEREFORE, IT IS RECOMMENDED TO ALWAYS USE THE VEHICLE WITH THE UTMOST CARE AND IN ACCORDANCE WITH THE REGULATIONS IN FORCE.

CAUTION

AT LOW SPEED (LESS THAN 5 KM/H), THE ASR SYSTEM DOES NOT WORK.

IT IS RECOMMENDED TO PAY PARTICULAR ATTENTION IN THE EVENT OF ACCELERATION FROM STANDSTILL IN CONDITIONS OF LOW GRIP, ESPECIALLY IN THE FIRST METRES.

N.B.

IN CASE OF ROADS FULL OF HOLES THERE MAY OCCUR BRIEF ACTIVATION OF THE ASR SYSTEM. THIS OCCURS UNDER NORMAL OPERATING CONDITIONS OF THE VEHICLE.

N.B.

THE DEVICE PREVENTS IMPRESSING ON THE REAR HIGH SPEED ROTATION WHEEL WITH THE VEHICLE ON THE CENTRE STAND. IT IS RECOMMENDED NOT TO INSIST WITH THE THROTTLE GRIP IN THIS PARTICULAR CONDITION.

CAUTION

A POOR STATE OF MAINTENANCE OF THE TYRES CAN RESULT IN ABNORMAL OPERATION OF THE ASR SYSTEM.

IN CASE OF REPEATED INTERVENTIONS OF THE ASR, EVEN ON ROAD SURFACES WITH GOOD GRIP OR SMALL THROTTLE OPENINGS, IT IS NECESSARY TO CHECK FOR WEAR AND/OR THE STATE OF INFLATION OF TYRES FIRST. IF THE PROBLEM PERSISTS, CONTACT AN AUTHORISED SERVICE CENTRE.

CAUTION

IN THE EVENT OF MALFUNCTION OF THE BATTERY, THE ABS - ASR SYSTEM TURNS OFF.

ASR SYSTEM CALIBRATION PROCEDURE.
In order to maintain the effectiveness of the ASR system following the replacement of one or more tyres a calibration procedure of the system must be performed as follows on a straight flat stretch of road.

• It is necessary that the diagnostic phase of the ASR systems and ABS is complete: for this purpose, after switching to «**ON**», ride a short distance above 5 km/h and wait for the flashing of the two warning lights to stop.

• Allow the engine to idle for at least 5 seconds.

• Pull the brake lever and press the ASR on/off button «**1**» simultaneously for at least 3 seconds. The activation process will be confirmed by the ASR warning light «**2**» turning on with slow flashing.

• Accelerate to a constant speed of 30 to 40 km/h and maintain it for at least to 8 seconds. The continuity of the vehicle speed in the correct field to complete the procedure will be confirmed by a very fast flashing of the ASR warning light «**2**».

• The end of the procedure will be indicated by the steady lighting ASR warning light «**2**». The ASR system is not active.

• Once the procedure is complete it is necessary to switch to «**OFF**» and wait for at least 60 seconds before being able to switch again to «**ON**».

• In case of failure to complete the procedure within 5 minutes the ASR warning light «**2**» will stay on steady and the ASR will remain off until switching to «**OFF**».

• To switch again to «**ON**» it is necessary to reactivate the ASR. It is however necessary to repeat the process until it succeeds.

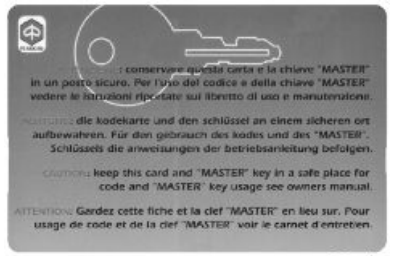
CAUTION

IF NECESSARY, CONTACT AN AUTHORISED SERVICE CENTRE.

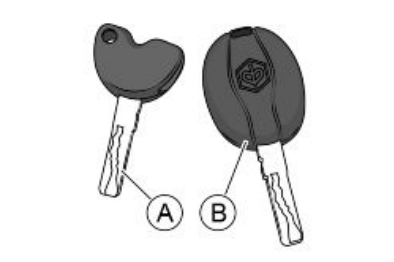
The immobilizer system

In order to enhance theft protection, the vehicle is equipped with a «**PIAGGIO IMMOBILIZER** » electronic locking device that activates the engine operation only after having verified if there is a codified key.

01_40



01_41



01_42

Keys (01_40, 01_41, 01_42)

Two types of keys come with the vehicle:

Key «**A**» is the «**MASTER**» key. Only a single copy of this key is supplied, which is necessary to program all your other keys and for your dealer to perform some maintenance operations. We therefore recommend that it be used only under exceptional circumstances.

The ignition key «**B**» (provided in single copy) is the one for normal use.

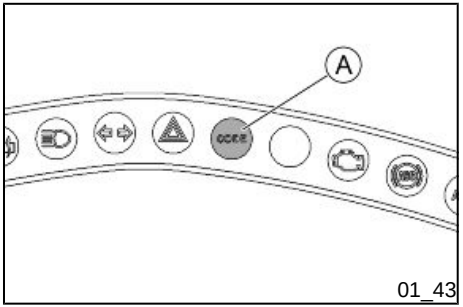
Together with the keys comes a CODE CARD which is imprinted with the mechanical code of the keys.

WARNING

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

WARNING

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



Immobilizer device enabled indicator led (01_43)

The activation of the «**PIAGGIO IMMOBILISER**» system is signalled by the deterrent flashing of the indicator «**A**». The flashing remains operative for the first 48 hours after switching to «**OFF**», after that it turns off automatically to keep the battery charged.

Should the system fail, different warning light «**A**» flashing patterns will provide the **Authorised Service Centre** with information on the type of fault detected. After showing the diagnostic code, the warning light remains on to indicate that the starter is disabled.

Operation

Each time the ignition switch **B**» is removed while in the «**OFF**» or «**LOCK**» positions, the immobilizer system starts operating by activating the engine lock. Turning the key to "**ON**" disables the lock, provided that the safety system recognises the code transmitted by the key.

If the starter is disabled by the system, the intervention will be confirmed by the immobilizer warning light lit. Under this condition, repeat the switching to «**ON**» being careful to ensure the best operative conditions of the key.

WARNING

TO ENSURE THE BEST OPERATIVE CONDITIONS OF THE KEY, AVOID THE PRESENCE OF STRONG MAGNETIC FIELDS AND/OR OTHER KEYS WITH TRANSPONDERS OTHER THAN THE SERVICE ONE NEAR THE IMMOBILIZER SYSTEM AERIAL.

OTHERWISE, THE OTHERS KEYS PROVIDED WITH TRANSPONDERS MUST BE KEPT STABLE IN THE KEY BOX OR ENSURE AN ADEQUATE SEPARATION FROM THE OPERATIVE SERVICE KEY IN THE AERIAL FIELD.

CAUTION

TO ACHIEVE THE BEST RESULTS, IT IS RECOMMENDED TO USE A NON-METALLIC KEY BOX, CONTAINING ONLY THE SERVICE KEY.

THE NON-METALLIC KEY BOX ALSO HAS THE ADVANTAGE TO BE LESS AGGRESSIVE AGAINST THE BODYWORK OF THE IGNITION SWITCH HOUSING.

If the start persists being disabled, try again with the **MASTER** key «**A**». If the engine cannot be started, contact an **Authorised Service Centre**, which is provided with the electronic equipment required to detect and repair the system.

When supplementary keys are required, the codification procedure must be repeated enabling the codes of all keys, including the one in use.

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

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

WARNING

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

VIOLENT SHOCKS MAY AFFECT THE ELECTRONIC COMPONENTS OF THE KEY.

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

Programming the immobilizer system (01_44)

Below is described the procedure to follow for programming the **PIAGGIO IMMOBILISER** system and/or for storing other key codes.

START PROCEDURE

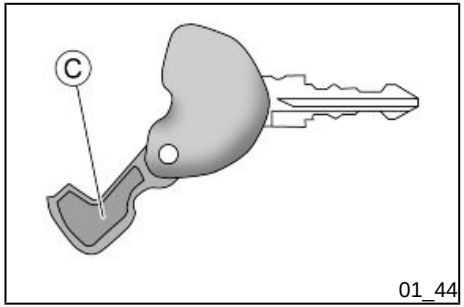
Insert the «MASTER» key «**A**» into the ignition switch (in «**OFF**») and turn it to «**ON**». After 1 - 3 seconds, turn the key to «**OFF** » again and pull it out.

INTERMEDIATE STAGE

After extracting the «MASTER» key «**A**», insert, within ten seconds, the key that is going to be programmed «**B**» and turn it immediately to «**ON**». After 1-3 seconds, turn the key to «**OFF**» again and pull it out. In this way, a maximum of 5 keys can be programmed by repeating the above procedure and keeping the indicated times.

FINAL STAGE

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



01_44

CORRECT PROGRAMMING CHECK PHASE

When the programming of the codes was successful, the switching to «**ON**» with the **MASTER** key «**A**» causes the start of the immobilizer warning light for a time interval of about 0.7 s and then a short flashing number equal to the number of keys inserted in the programming, including the **MASTER** key itself.

Pull the «**MASTER**» key «A» out, then insert it again disabling the transponder «**C**» (i.e., by tilting the key cap by 90°), and switch to «**ON**». When performing the starter operation, ensure that the engine does not start.

Insert the programmed key «**B**» and switch to «**ON**». When the programming was successful, the immobilizer warning light turns on for one single time interval of about 0.7. When performing the starter operation, ensure that the engine starts.

WARNING

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

01_45

Accessing the fuel tank (01_45, 01_46)

To open the fuel tank cover, set the ignition switch to «**OFF**» or « **ON**», then press and turn it clockwise.

CAUTION

ALWAYS USE PETROL WITH A MAXIMUM OF 10% BIOETHANOL CONTENT (E10).

01_46

DO NOT USE PETROL WITH AN ETHANOL CONTENT HIGHER THAN 10%; THIS USE COULD DAMAGE THE FUEL SYSTEM COMPONENTS AND/OR COMPROMISE ENGINE PERFORMANCE.

01_47

Power supply socket (01_47)

There is a plug socket "**D**" inside the helmet compartment.

The plug socket may be used for external consumers (mobile phone, inspection light, etc.).

CAUTION

PROLONGED USE OF THE PLUG SOCKET MAY RESULT IN PARTIAL DISCHARGE OF THE BATTERY

Electric characteristic

Plug socket

12 V - 180 W MAX

Maximum power

180 W

01_48

USB socket (01_48)

Above the dashboard, inside the glove-box, there is a USB socket.

To use it, remove the protective plug. Cover the socket with the plug to avoid that water and/or humidity can damage it.

CAUTION

THE GLOVE-BOX IS NOT WATERTIGHT.

DO NOT STORE OBJECTS THAT MIGHT BE SUBJECT TO HUMIDITY OR REACT TO POTENTIAL SUBSTANCES SPILLED ON THE GLOVE-BOX LID, EVEN IF CLOSED.

CAUTION

THE SUPPLIED USB SOCKET IS COMPATIBLE WITH THE DEVICES OF THE FOLLOWING BRANDS: Apple iPhone, Apple iPod, Apple iPod Nano, Apple iPod Touch, Blackberry Pearl, Blackberry 8xxx AND NOT COMPATIBLE WITH THE DEVICES FOR THE PRODUCTS OF THE MOTOROLA BRAND.

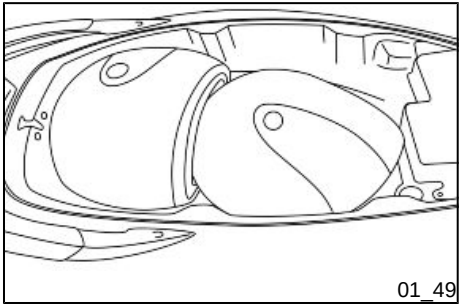
The USB socket is active once the key is turned to «**ON**».

CAUTION

PROLONGED USE OF THE PLUG SOCKET MAY RESULT IN PARTIAL DISCHARGE OF THE BATTERY

USB PORT

Output voltage	(5.00±0.25) Vdc
Charging current	1 A max



01_49

The saddle (01_49)

In the helmet compartment is place for two flip up helmets, if correctly positioned as indicated in the figure.

01_50

Saddle opening via button to access helmet compartment (01_50)

When the ignition switch is set to «**OFF**» or «**ON**», the saddle can be opened by pressing button «**E**». The saddle cannot be opened when the ignition switch is set to «**LOCK**».

01_51

Opening the saddle to access the helmet compartment in an emergency (01_51)

If the vehicle battery is discharged, turn the ignition key switch to «**OFF**» or «**ON**», then press and turn it anticlockwise to open the saddle.

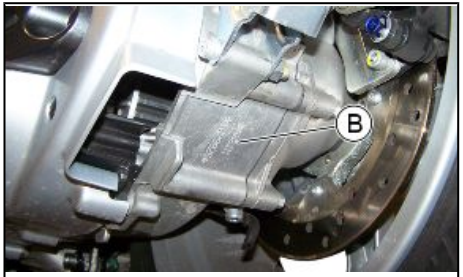
01_52

Identification (01_52, 01_53)

The identification registration numbers consist of a prefix stamped on the chassis and engine "**B**" respectively, followed by a number. These numbers must always be indicated on spare parts requests. To read the chassis number, remove the relevant port "**A**" in the helmet compartment. We recommend checking that the chassis registration number stamped on the vehicle corresponds with that on the vehicle documentation.

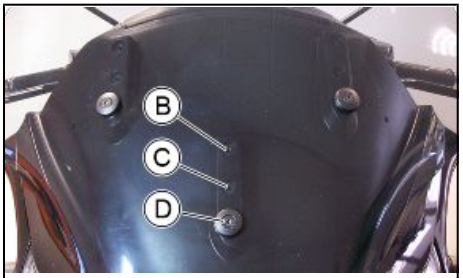
CAUTION

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



01_53

01_54



01_55

Adjusting the windscreen (01_54, 01_55)

The windshield can be adjusted to 3 positions «**B**», «**C**» and «**D**» according to the rider's needs. Unscrew the 3 screws «**A**», remove the windshield upper part and set it in the desired position. Tighten the 3 fixing screws again.

WARNING

CARRY OUT THIS OPERATION WITH EXTREME CARE SO AS NOT TO SCRATCH THE WINDSHIELD. PREVENT WINDSHIELD DETACHMENT WHILE RIDING BY TIGHTENING THE FIXING SCREWS WELL.

01_56

Bag clip (01_56)

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

Predisposed for installation of accessories

This vehicle is equipped with a pre-installation for the installation of the following accessories:

- Piaggio Multimedia Platform
- Heated handgrips
- Leg warmer
- Cobra satellite for anti-theft tracking

Contact an **Authorised Service Centre** for more information and installation.

WARNING

USE ONLY ORIGINAL PIAGGIO ACCESSORIES AND DEVICES, THE ONLY ONES TESTED AND ENSURING NOT TO ALTER ENERGY ABSORPTION OF THE VEHICLE.

NON-ORIGINAL DEVICES THAT REQUEST THE ELECTRIC CONNECTION TO THE VEHICLE SYSTEM CAN CAUSE IRRETRIEVABLE DAMAGE.

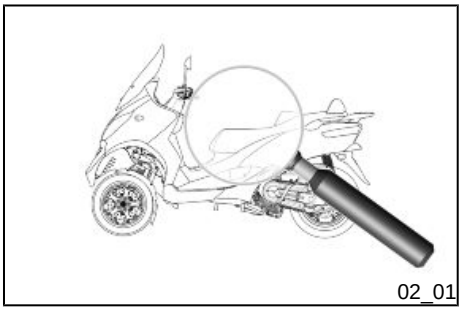
THE USE OF NON-ORIGINAL ACCESSORIES VOIDS THE WARRANTY.

1 Vehicle

MP3 LT 500 i.e. SPORT - BUSINESS ABS - ASR

PIAGGIO

Chap. 02
Use



02_01

Checks (02_01)

Before using the vehicle, check:

1. That the fuel tank is full.

2. The correct fluid level for front and rear brakes.

3. That the tyres are properly inflated.

4. The correct functioning of side lights, headlamp, turn indicators, stop light and license plate light.

5. The correct functioning of front and rear brakes.

6. The oil level in the in the gearcase.

7. The engine oil level.

8. The coolant level.

02_02

Refuelling (02_02, 02_03)

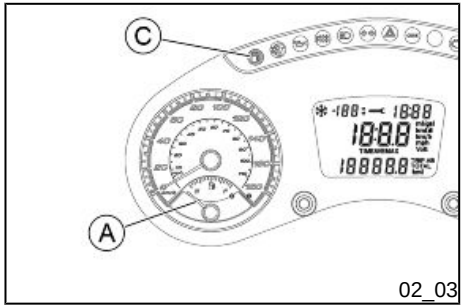
Open the access door to the fuel tank cap and remove the cap «**T**».

Top up the fuel tank with unleaded petrol, min octane rating of 95. The instrument «**A**» indicates fuel level and the warning light «**C**» signals the reserve.

CAUTION

ALWAYS USE PETROL WITH A MAXIMUM OF 10% BIOETHANOL CONTENT (E10).

DO NOT USE PETROL WITH AN ETHANOL CONTENT HIGHER THAN 10%; THIS USE COULD DAMAGE THE FUEL SYSTEM COMPONENTS AND/OR COMPROMISE ENGINE PERFORMANCE.



02_03

CAUTION

PETROL DAMAGES THE PLASTIC PARTS OF THE BODYWORK.

WARNING

DO NOT RIDE WITH THE FUEL TANK ALMOST EMPTY, LACK OF FUEL CAN DAMAGE THE CATALYTIC CONVERTER.

CAUTION

USING NON-RECOMMENDED PETROL REDUCES THE EFFICIENCY OF THE EXHAUST AND FUEL SUPPLY SYSTEMS.

CAUTION

DO NOT LET THE GASOLINE RUN OUT; IF THIS SHOULD HAPPEN, DO NOT CONTINUALLY TRY TO START THE MACHINE, MOVE THE IGNITION SWITCH TO «OFF» AND REFILL THE TANK WITH GASOLINE AS SOON AS POSSIBLE. IF YOU DO NOT DO THIS, YOU COULD DAMAGE THE FUEL PUMP AND/OR THE CATALYTIC CONVERTER.

WARNING

IT IS HIGHLY INADVISABLE TO REFUEL USING METHODS OTHER THAN NORMAL FUEL PUMPS. IF PETROL IS NOT COMPLETELY CLEAN, IT CAN DAMAGE THE FUEL SUPPLY SYSTEM FILTERS.

CAUTION

WARNING

WHILE REFUELLING, FULLY INSERT THE FUEL GUN IN THE TANK, AFTER THE FIRST CLICK STOP THE SUPPLY AND DO NOT FORCE REFILLING, IN ORDER TO AVOID FUEL LEAKAGES, EVEN IF SUBSEQUENT TO REFUELLING.

CAUTION

WHILE REFUELLING, DO NOT USE ELECTRONIC DEVICES AND/OR CELLULAR PHONES THAT COULD CAUSE DAMAGE TO THINGS AND/OR PEOPLE DUE TO GASOLINE VAPOURS.

CAUTION

DURING REFUELLING AVOID FUEL LEAKAGES, WHICH MAY CAUSE DAMAGE TO THINGS OR PERSONS AND FIRE HAZARD.

CAUTION

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

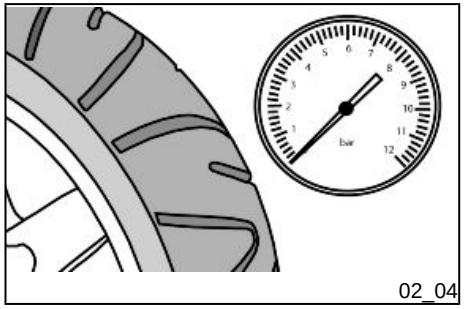
CAUTION

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

Characteristic

Fuel tank

12.0 ± 0.5 l



02_04

Tyre pressure (02_04)

Check tyre pressure and wear periodically (roughly every 500 km). Tyres feature wear indicators; replace tyres as soon as these indicators become visible on the tyre tread. Also check that the tyres do not show signs of splitting at the sidewalls or irregular tread wear; if this occurs go to an **Authorised Service Centre**.

CAUTION

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

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

WARNING

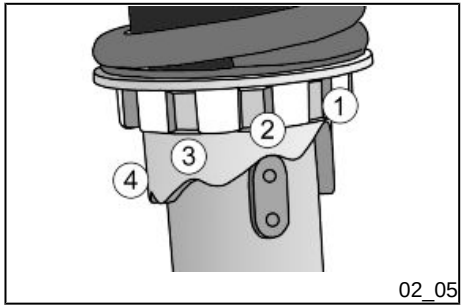
THE WHEELS FITTED WITH TYRES SHOULD ALWAYS BE BALANCED. RIDING THE VEHICLE WITH VERY LOW TYRE PRESSURE OR WITH INCORRECTLY BALANCED TYRES CAN LEAD TO DANGEROUS STEERING VIBRATIONS.

TYRE INFLATION PRESSURE

Front tyres pressure	2 bar
Rear tyre pressure (with passenger)	2.4 (2.6) bar

TYRES

Front tyres	Tubeless 110/70 - 13" 48S
Rear tyre	Tubeless 140/70 - 14" 68S



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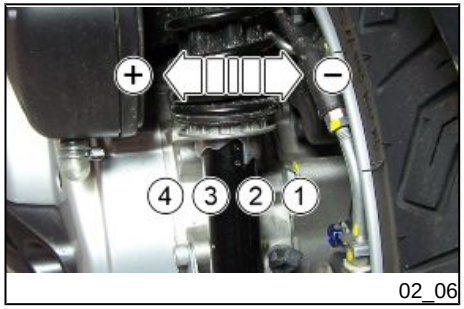


02_06

Shock absorbers adjustment (02_05, 02_06)

The spring preload is adjustable into 4 different settings by turning the adjuster ring on the bottom of the shock absorbers with a specific wrench for shock absorbers.

Position 1: minimum pre-load: rider only

Position 2 medium preloading: rider only

Position 3 medium preloading: rider and passenger

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

CAUTION

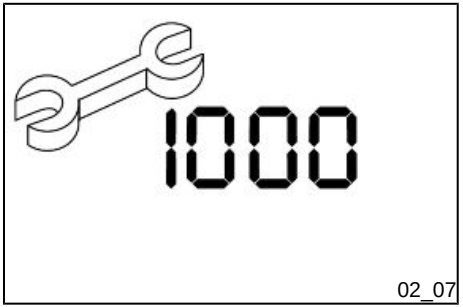
RIDING THE VEHICLE WITH THE SPRING PRELOADING NOT CORRECTLY SET FOR THE RIDER AND POSSIBLE PASSENGER, COULD REDUCE THE COMFORT OF THE RIDE AND THE PRECISION OF THE STEERING.

WARNING

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

WARNING

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



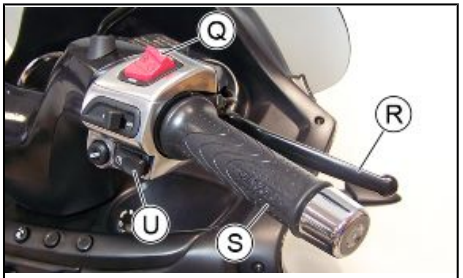
02_07

Running in (02_07)

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

CAUTION

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



02_08

Starting up the engine (02_08, 02_09, 02_10)

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

A running engine automatically shuts off when the emergency stop switch is set to "**OFF**".

The vehicle is equipped with automatic transmission with direct drive, so that starting is effected by turning the throttle grip to idle speed; to start-off from a stationary position, progressively twist the throttle grip. The vehicle is equipped with an electrical fuel pump that switches on automatically as soon as the engine is started. The vehicle has a front suspension locking system. When the front suspension locking system is activated, a sensor placed under the saddle will prevent the vehicle motion, but not the engine start, if the rider is not properly seated in riding position.

To start-up the engine:

1. Rest the vehicle on its centre stand, ensuring the rear wheel is not touching the ground.

02_09

02_10

2. Hold the throttle grip «**S**» in the idle position.

3. Insert the key into the ignition switch «**A**» and turn it to «**ON**».

4. Make sure that switch «**Q**» is set to «**ON**».

5. Pull either the front «**R**» or rear «**I**» brake lever and afterwards press the starter button «**U**».

WARNING

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

CAUTION

WITH ENGINE ON AND FRONT SUSPENSION LOCKED, WHEN THE RIDER GOES IN DRIVING POSITION ON THE SADDLE, THE INJECTION SYSTEM PROVIDES A TIME OF ABOUT HALF A SECOND BEFORE RESPONDING TO THE OPENING OF THE THROTTLE GRIP.

TO ENSURE THE MAXIMUM RIDING SAFETY AND TO AVOID ABRUPT AND DANGEROUS STARTS, DO NOT OPEN THE THROTTLE GRIP DURING THIS SHORT PERIOD OF TIME.

CAUTION

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

CAUTION

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

CAUTION

TO ENSURE SAFE RIDING CONDITIONS, DO NOT TURN OFF THE ENGINE WHILE THE VEHICLE IS MOVING.

CAUTION

WITH THE EMPTY FUEL TANK, AVOID SWITCHING TO «ON» AND DO NOT TRY TO START. FAILURE TO OBSERVE THIS RULE COULD DAMAGE THE FUEL PUMP.

WARNING

DO NOT TRY TO START THE ENGINE WITH THE THROTTLE GRIP TWISTED. THIS MAY LEAD TO LOSING CONTROL OF THE VEHICLE AND TO ROLLOVER, WITH CONSEQUENT SERIOUS OR, IN SOME CASES, LETHAL INJURIES.

Precautions

CAUTION

THE INJECTION SYSTEM PROVIDES THE INTERVENTION OF THE RPM LIMITER IF THE ENGINE SPEED EXCEEDS THE ESTABLISHED THRESHOLD. IN ANY CASE, TO ENSURE THE MAXIMUM RELIABILITY OF THE ENGINE, AVOID UNNECESSARY STRESS WHEN THE ENGINE IS STILL COLD. ALSO, RIDING DOWNHILL, DO NOT EXCEED THE SPEED OVER THE MAXIMUM VALUE OBTAINED DURING NORMAL RIDING ON FLAT ROADS.

WARNING

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

Difficult start up

Carefully follow the procedure described in section «**Engine start-up**».

WARNING

THE THROTTLE GRIP MUST REMAIN IN THE MINIMUM POSITION, BECAUSE ANY OTHER POSITION INHIBITS THE VEHICLE STARTER.

CAUTION

IF NECESSARY, CONTACT AN AUTHORISED SERVICE CENTRE.

02_11

Stopping the engine (02_11)

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

CAUTION

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

CAUTION

TO ENSURE SAFE RIDING CONDITIONS, DO NOT TURN OFF THE ENGINE WHILE THE VEHICLE IS MOVING.

02_12

Stand (02_12)

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

02_13

Automatic transmission (02_13)

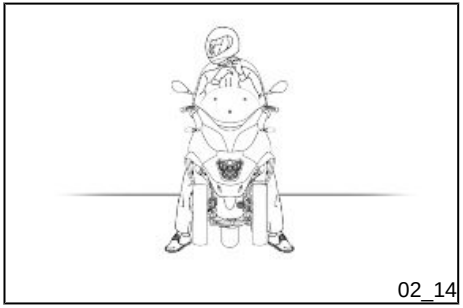
To ensure simple, pleasurable riding, the vehicle is equipped with automatic transmission with speed variator and centrifugal clutch. The system is designed to provide the best performance (acceleration and consumption) while driving on both flat roads and uphill.

If you have to stop on an uphill slope (traffic lights, traffic jam, etc.) **use the brakes to keep the vehicle still, leaving the motor running at idling speed. Using the engine to keep the vehicle still can cause the clutch to overheat, due to the friction of the clutch masses against the capstan. Do not accelerate with the hand brake engaged.** It is always advisable to avoid prolonged clutch slippage conditions (besides those previously indicated) like driving up a steep hill fully loaded or starting off with rider and passenger on a slope with a gradient greater than 25%.

Take the following precautions if the clutch overheats:

1.Do not continue riding in such conditions.

2. Let the clutch cool down with the engine at idle speed for a few minutes.


02_14

Safe driving (02_14)

Some simple tips are provided below that will enable you to use your vehicle on a daily basis in greater safety and peace of mind. Your skill and your mechanical knowledge are the basis of a safe ride. We recommend trying out the vehicle in traffic - free zones, in order to acquire a good knowledge of the vehicle it self.

1. Before riding off, remember to put the helmet on and fasten it correctly.

2. Reduce speed on rough roads and ride with care.

3. After riding on a long stretch of wet road without using the brakes, braking can be poor at the beginning. In these conditions, it is a good idea to apply the brakes from time to time.

4. 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.

5. If the vehicle is used on roads covered with sand, mud, snow mixed with salt, etc., clean the brake disc frequently with a mild detergent in order to prevent abrasive particles from building up inside the holes, which can result in early brake pad wear.

CAUTION

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

CAUTION

WITH ENGINE ON AND FRONT SUSPENSION LOCKED, WHEN THE RIDER GOES IN DRIVING POSITION ON THE SADDLE, THE INJECTION SYSTEM PROVIDES A TIME OF ABOUT HALF A SECOND BEFORE RESPONDING TO THE OPENING OF THE THROTTLE GRIP.

TO ENSURE THE MAXIMUM RIDING SAFETY AND TO AVOID ABRUPT AND DANGEROUS STARTS, DO NOT OPEN THE THROTTLE GRIP DURING THIS SHORT PERIOD OF TIME.

CAUTION

IN ORDER TO PREVENT ANY ACCIDENTS RIDE VERY CAREFULLY AFTER ADDING ACCESSORIES AND WHILE CARRYING LUGGAGE. ADDING ACCESSORIES AND LUGGAGE CAN REDUCE THE VEHICLE'S STABILITY, PERFORMANCE AND SAFETY DURING USE.

WARNING

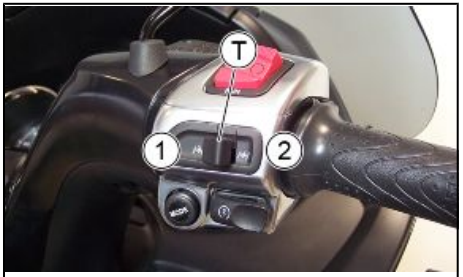
IF RIDING A SCOOTER WITH ACCESSORIES (GLOVE COMPARTMENT AND/OR WINDSHIELD)REDUCE THE SPEED. THE SCOOTER CAN BE RIDDEN AT A HIGHER SPEED WITHOUT THE ACCESSORIES MENTIONED BEFORE WITHIN THE LIMITS ESTABLISHED BY LAW. IF THERE ARE NOT PAIGE ACCESSORIES FITTED, OR AN ABNORMAL LOAD, OR IF THE VEHICLE IS NOT IN A GENERALLY GOOD CONDITION, OR WHENEVER WEATHER CONDITIONS DEMAND IT, SPEED SHOULD BE FURTHER REDUCED.

CAUTION

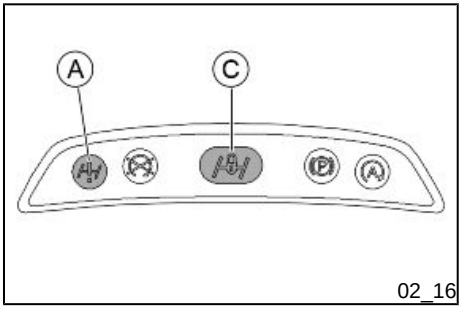
DO NOT ADJUST THE MIRRORS WHILE RIDING. THIS COULD CAUSE YOU TO LOOSE CONTROL OF THE VEHICLE.

CAUTION

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



02_15



02_16

Front suspension locking system (02_15, 02_16, 02_17, 02_18)

The front suspension locking system simply prevents vehicle tilting when the «**T** » switch is pressed. The vehicle can be stopped without your feet touching the ground.

The warning light «**C**» starts flashing when the ignition switch is set to «**ON**» and the lock is deactivated. This means that the system is enabled for activation.

When the «**T**» switch is turned to «**1** » a continuous sound alarm signals that the locking system is engaged and, at the same time, the warning light «**C**» turns on steadily.

When the «**T** switch is turned to «**2**» an intermittent sound alarm signals that the locking system is disengaged and, at the same time, the warning light «**C** » starts flashing again. Warning light «**C** » turns off when riding starts. This means that the lock is not enabled.

Engaging roll lock is possible only if the following conditions occur at the same time:

- Throttle completely untwisted.
- Engine rpm below 2,500 rpm.
- Vehicle speed below 10 km/h.
- Locking system WARNING light «**A** » off (the system has not detected failures)

If one of these conditions is not checked, the warning light «**C** » remains off and locking cannot be engaged (in normal riding conditions, the warning light «**C**» is off).

With engine on, system locked (warning light «**C**» on) and if the rider is properly seated in riding position, the suspension locking system is disengaged automatically and the warning light «**C** » turns off when the throttle is twisted to start the ride.

For riders' safety, the vehicle has a **rider detection sensor** in the saddle which enables the system to prevent vehicle motion and suspension unlocking (in case of locked suspension) when the rider is not properly seated in riding position: in such case, the WARNING light «**A**» turns on steadily.

CAUTION

WITH ENGINE ON AND FRONT SUSPENSION LOCKED, WHEN THE RIDER GOES IN DRIVING POSITION ON THE SADDLE, THE INJECTION SYSTEM PROVIDES A TIME OF ABOUT HALF A SECOND BEFORE RESPONDING TO THE OPENING OF THE THROTTLE GRIP.

TO ENSURE THE MAXIMUM RIDING SAFETY AND TO AVOID ABRUPT AND DANGEROUS STARTS, DO NOT OPEN THE THROTTLE GRIP DURING THIS SHORT PERIOD OF TIME.

CAUTION

THE DRIVER PRESENCE SENSOR IS LOCATED IN THE FRONT PART OF THE SEAT. FOR THIS REASONS AVOID INADVERTENTLY PLACING BAGS OR OTHER HEAVY OBJECTS ON THE SEAT.

NOT OBSERVING THIS RULE MAY MOVE THE VEHICLE FORWARD AND RELEASE THE SUSPENSION LOCKING SYSTEM EVEN IF THE RIDER IS NOT SEATED, BY SIMPLY TWISTING THE THROTTLE GRIP. THE VEHICLE COULD FALL ACCIDENTALLY AS A CONSEQUENCE.

WARNING

DURING THE STOP, IF THE FEET ARE NOT TOUCHING THE GROUND TO KEEP THE VEHICLE IN BALANCE, MAKE SURE THAT THE FRONT SUSPENSION LOCKING SYSTEM IS ENGAGED.

WARNING

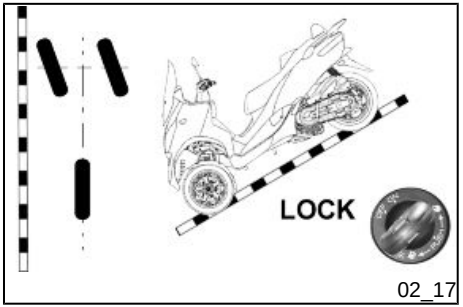
WHEN THE FRONT SUSPENSION IS LOCKED AND ESPECIALLY ON ROUGH ROADS AND/OR IF THERE ARE OBSTACLES (E.G. BOLLARDS, PLATFORMS, ETC.), AVOID MOVING THE VEHICLE. WHEN THE LOCK IS ACTIVE THE VEHICLE MOVEMENT IS STILL INHIBITED BY THE SYSTEM.

IN CASE OF ENGINE FAILURE (DISCHARGED BATTERY) AVOID PULLING THE VEHICLE WITH THE LOCKING SYSTEM ENGAGED.

WITH THE LOCKING SYSTEM ENGAGED AND THE ENGINE OFF, AVOID MOVING THE VEHICLE AT SPEEDS ABOVE 5 Km/h.

CAUTION

DO NOT GO DOWNHILL WHEN THE LOCK SYSTEM IS ENGAGED AND THE IGNITION SWITCH IS TURNED TO THE OFF POSITION.



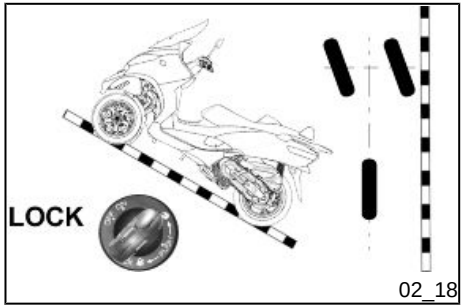
02_17

If the WARNING light «**A** » turns on (flashes), it means that there is a failure in the front suspension locking system. Therefore, it is necessary to contact an **Authorised Service Centre.** If the front suspension is locked, it can be unlocked by operating the «**T**» switch twice quickly on the unlocking position «**2**»**.** Once the suspension is unlocked, the vehicle can be normally used, except for the locking system which will be disengaged.

For some cases of failure, the vehicle speed is auto-limited to 30 Km/h. This automatic procedure is activated to enhance safety until the failure is eliminated.

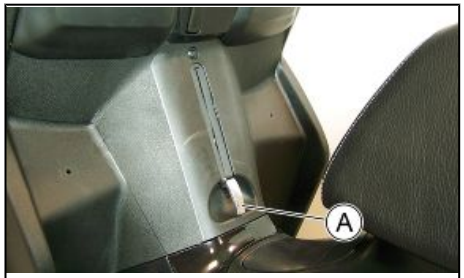
Always contact an **Authorised Service Centre.**

If the continuous sound alarm is activated when the WARNING light «**A**» turns on (steadily), try to unlock the system by operating the «**T** » switch twice quickly on the



02_18

unlocking position «**2**»**.**If it cannot be unlocked, contact an **Authorised Service Centre.**



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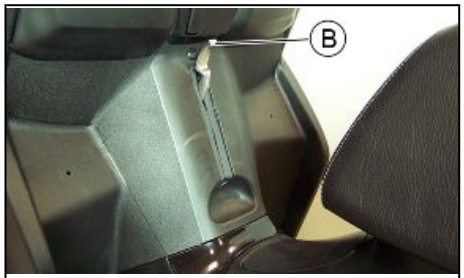


02_20

Parking brake (02_19, 02_20, 02_21)

With the vehicle at a standstill and the suspension locking system engaged, it is possible to get off the vehicle without using the stand. **For safety reasons, it is compulsory to press the hand brake lever** shown in the figure, moving it form position «**A** » to position «**B**».

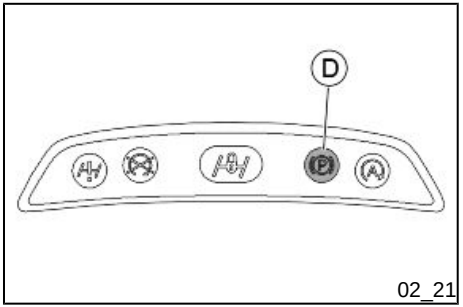
When the hand brake «**B**» is engaged, warning light «**D**» on the instrument panel turns on.

When the hand brake is set to «**B**» and the ignition switch is turned to position «**LOCK**», the safety system that prevents the hand brake from getting released is activated. To release the hand brake, turn the ignition switch to «**OFF**» or «**ON**». If the switch is set to position «**LOCK**» , the hand brake can also be engaged.

WARNING

IT IS PREFERABLE TO USE THE STAND IF THE VEHICLE STOPS ON A STEEP SLOPE.

BUT IF THE STEEP SLOPE IS LATERAL, THE STAND CAN NOT BE USED AND THE SUSPENSION LOCK SOLVES THE PROBLEM.



02_21

ALWAYS OBSERVE THE CUSTOMARY SAFETY PRECAUTIONS FOR CASES WHEN THE VEHICLE STOPS ON A STEEP SLOPE. TURN THE WHEELS SO THAT THE POTENTIAL MOVEMENT CAUSED BY THE SLOPE TAKES THAT WHEEL AGAINST THE SIDEWALK. WITH THE STEERING LOCK ENGAGED, MANOEUVRE SO THAT THE SIDEWALK IS TO THE RIGHT WHEN YOUR VEHICLE IS PARKED UPHILL AND TO THE LEFT WHEN PARKED DOWNHILL.

02_22

Integral pedal braking system (02_22, 02_23)

The vehicle is equipped with an integral braking system controlled by the brake pedal **«A»** located on the right hand footrest. Operating this pedal brakes both the front brake discs and the rear brake disc simultaneously.

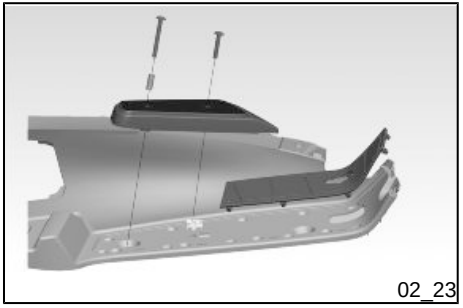
The deceleration of the vehicle can be managed by the integral pedal brake as well as by the combined action of two manual controls. The maximum braking performance is achieved by manual controls.

An optional "heelrest" kit is also available for optimised rider comfort. For the installation of the support, the rubber mat of the footrest must be removed and taken away of about 20 cm. Using the screws, the spacer and the optional clamp fix the plate as indicated in the diagram.

CAUTION

AS THE SYSTEM IS LINKED TO THE CONVENTIONAL BRAKE PUMPS, OPERATING HANDLEBAR CONTROLS AND FOOT PEDAL MAY CAUSE A PERCEPTIBLE MOVEMENT OF THE BRAKE LEVERS AND VICE VERSA.

THIS IS NORMAL.


02_23

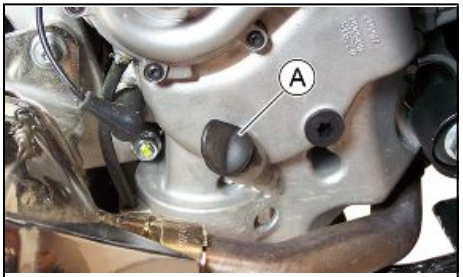
MP3 LT 500 i.e. SPORT - BUSINESS ABS - ASR

PIAGGIO

Chap. 03
Maintenance

Engine oil level

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 a minimum oil pressure warning light on the instrument panel.**

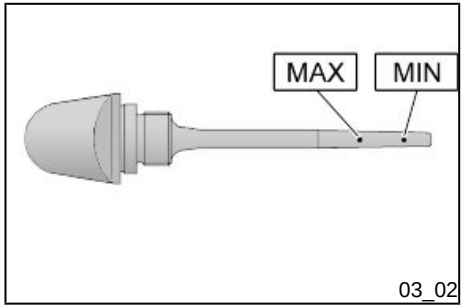


03_01

Engine oil level check (03_01, 03_02)

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

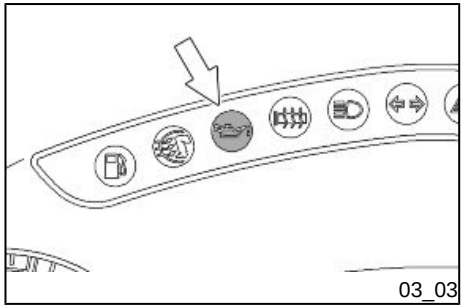
If the check is carried out after the vehicle has been used, and therefore with a hot engine, the level will be lower; in order to carry out a correct check, wait at least 10 minutes after the engine has been stopped so as to get the correct level.



03_02

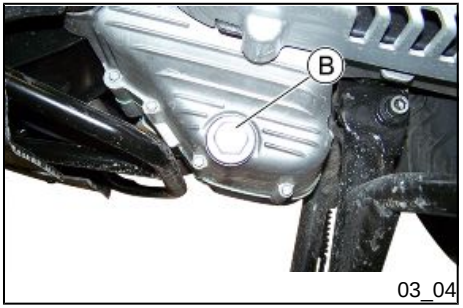
Engine oil top-up

Always check the oil level before carrying out top ups and add oil without exceeding the **MAX** level. Getting an oil level between the **MIN and MAX levels** requires ~ **400 cm³** of oil. An oil check-up and top-up should be carried out at any **Authorised Service Centre**, as indicated in the scheduled maintenance table.

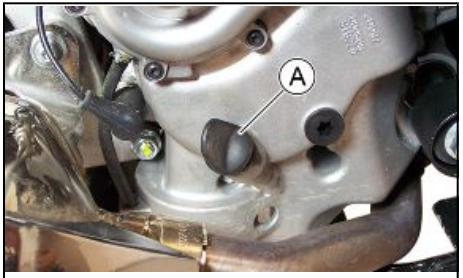

03_03

Warning light (insufficient oil pressure) (03_03)

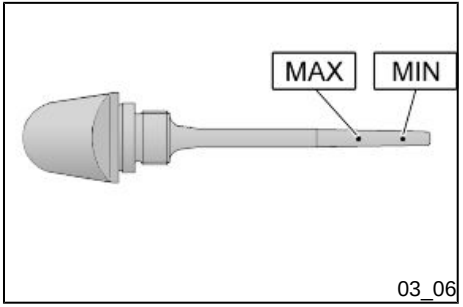
The vehicle is equipped with a warning light that comes on when the key is turned to «**ON**». However, this light should switch off once the engine has been started. **If the light comes on while braking, at idle speed or while turning a corner, it is necessary to check the oil level and top it up if 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)

The oil and the filter must be changed as indicated in the scheduled maintenance table at an **Authorised Service Centre**. The engine should be emptied by draining the oil via the drainage tap «**B**» of the mesh filter on the transmission side. In order to facilitate oil drainage, loosen the cap/dipstick «**A**». Unscrew and remove the oil cartridge filter. Install a new oil filter taking care to lubricate the sealing O-rings with engine oil. Since a certain quantity of oil still remains in the circuit, add approximately 1500 cm³ of oil through cap «**A**». Then start the engine, leave it running for a few minutes and shut 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 oil changes, use new oil of the recommended type.

CAUTION

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

TOPPING UP THE ENGINE WITH AN EXCESSIVE AMOUNT OF OIL MAY CAUSE MALFUNCTION AND/OR A DROP IN PERFORMANCE OF THE VEHICLE.

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

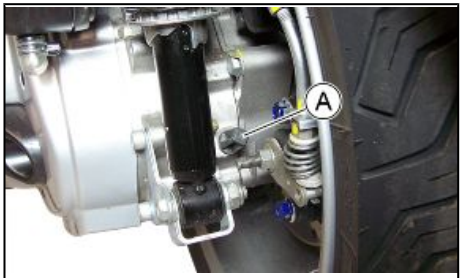
CAUTION

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

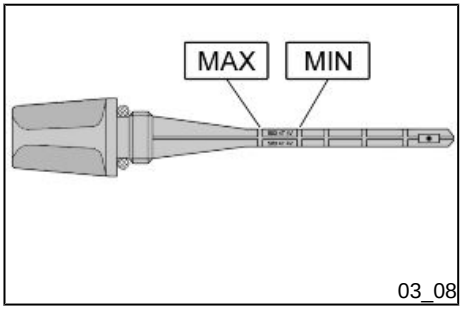
Recommended products

eni i-Ride PG 5W-40

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



03_07



03_08

Hub oil level (03_07, 03_08)

Check the oil in the rear hub. (oil content ~ 250 cm³). To check the rear hub oil level, proceed as follows:

1) Rest the vehicle onto its centre stand, on level ground.

2) Unscrew the hub oil dipstick «**A**», dry it with a clean cloth and then reinsert it **screwing it fully into place.**

3) Extract the dipstick and check that the oil level is between the MIN and MAX marks, as indicated in the figure; this level is correct and it must remain constant at all times.

4) Screw the dipstick back in, checking that it is correctly locked in place.

CAUTION

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

CAUTION

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

CAUTION

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

CAUTION

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

CAUTION

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

Recommended products

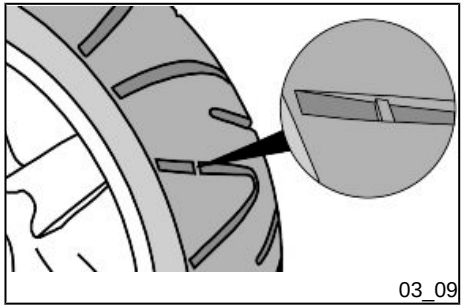
AGIP GEAR SAE 80W-90

Lubricant for gearboxes and transmissions.
API GL-4

Characteristic

Transmission oil

250 cm^3



Tyres (03_09)

Check tyre pressure and wear periodically (roughly every 500 km). Tyres feature wear indicators; replace tyres as soon as these indicators become visible on the tyre tread. Also check that the tyres do not show signs of splitting at the sidewalls or irregular tread wear; if this occurs go to an **Authorised Service Centre**.

CAUTION

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

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

WARNING

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

TYRES

Front tyres	Tubeless 110/70 - 13" 48S
Rear tyre	Tubeless 140/70 - 14" 68S

TYRE INFLATION PRESSURE

Front tyres pressure	2 bar
Rear tyre pressure (with passenger)	2.4 (2.6) bar

03_10

03_11

Spark plug dismantlement (03_10, 03_11)

This engine has two spark plugs.

Remove the port on the left-hand side panel of the vehicle by undoing the fixing screw «**A**» and using a small screwdriver in the rear notch, then proceed as follows:

1.Disconnect the caps «**B**» of the HV cables of the spark plugs

2.Undo the spark plugs with the specific spark plug spanner.

3.When refitting, place the spark plugs into the hole at the required angle and tighten by hand until it is finger tight;

4.Use the wrench only to tighten it;

5.Insert the caps «**B**» on the spark plugs all the way to the bottom;

6.Refit the flap ensuring that the rear fastener is engaged.

CAUTION

SPARK PLUGS MUST BE REMOVED WHEN THE ENGINE IS COLD. SPARK PLUGS MAINTENANCE OPERATIONS ARE DESCRIBED IN THE SCHEDULED MAINTENANCE TABLE. USING NON-CONFORMING ELECTRONIC CENTRAL UNITS AND ELECTRONIC IGNITIONS OR SPARK PLUGS OTHER THAN THOSE PRESCRIBED MAY SERIOUSLY DAMAGE THE ENGINE.

N.B.

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

Characteristic

Spark plug

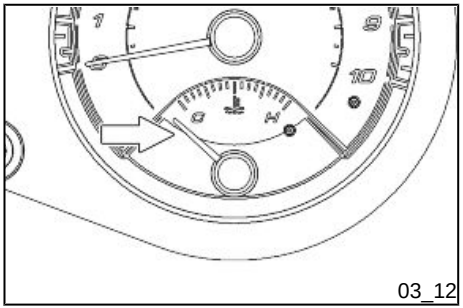
NGK CR7EKB

Electrode gap

0.7 ÷ 0.9 mm

Removing the air filter

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



03_12

Cooling fluid level (03_12, 03_13, 03_14, 03_15)

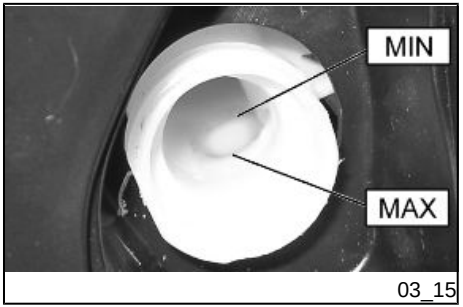
Engine cooling is carried out by a forced-circulation coolant system. The cooling circuit holds coolant consisting of a mixture of 50% de-ionised water and 50% glycol ethylene-based antifreeze solution with corrosion inhibitors. The coolant supplied with the scooter is already mixed and ready for use.

For the proper functioning of the engine it is necessary for the coolant temperature to be maintained at about 90°C (indicator at mid-scale of instrument, approximately). If the needle of the gauge enters the red zone, stop the engine, let it cool down and check the coolant level; if the level is OK, contact an **Authorised Service Centre**.

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

03_13

03_14



03_15

1. Rest the vehicle upright on the stand and remove the screw of the expansion tank cap shown in the photograph.

2. Remove the expansion tank cap «**A**» by turning it anticlockwise.

3. Look inside the expansion tank: the fluid level must always be between the min and the max level

4. If the coolant level is near the minimum mark, top-up when the engine is cold.

If the coolant needs to be topped up frequently or the expansion tank is completely dry, check the cooling system to find the cause of the problem. It is therefore essential to have the cooling system checked at an **Authorised Service Centre**. Replace coolant as indicated in the scheduled maintenance table. Take your vehicle to an **Authorised Service Centre** for this operation.

WARNING

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

WARNING

TO PREVENT AVOID HARMFUL FLUID LEAKAGE WHILE RIDING, ENSURE THAT THE LEVEL NEVER EXCEEDS THE MAXIMUM VALUE.

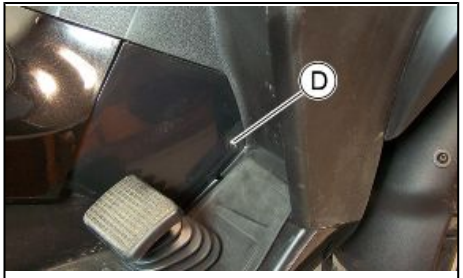
TO ENSURE CORRECT ENGINE OPERATION, KEEP THE RADIATOR GRILLE CLEAN.

Recommended products

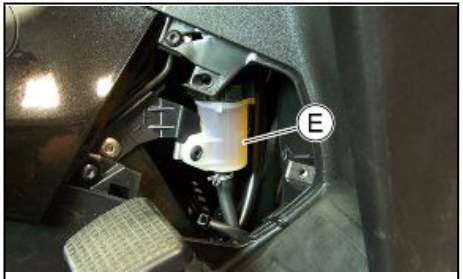
AGIP PERMANENT SPECIAL

Ethylene glycol antifreeze liquid with organic inhibition additives. Red, ready to use.
ASTM D 3306 - ASTM D 4656 - ASTM D 4985 - CUNA NC 956-16

03_16



03_17



03_18

Checking the brake oil level (03_16, 03_17, 03_18)

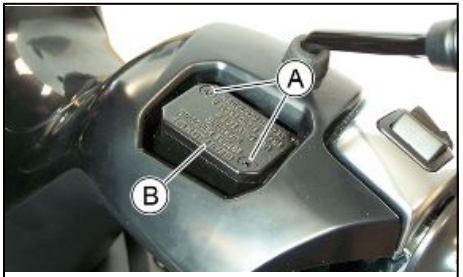
The front and rear brake fluid reservoirs are both positioned on the handlebar. Proceed as follows:

1. Rest the vehicle on its centre stand with the handlebars perfectly horizontal;

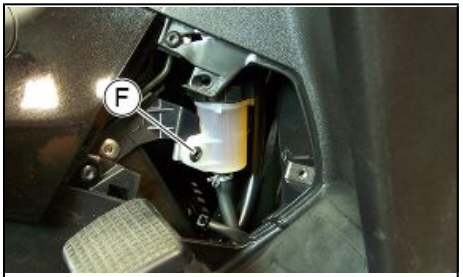
2. Check the liquid through the sight glass «**C**».

To check the integral braking system fluid level, remove the cover on the right hand side of the footrest, undoing the screw «**D**» and check the brake fluid level in the reservoir «**E**».

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



03_19



03_20

Braking system fluid top up (03_19, 03_20)

Proceed as follows:
Loosen the two screws «**A**» and lift the plastic cover «**B**» in order to access the brake fluid reservoir. Top-up the brake fluid level using only the prescribed brake fluid.

This procedure applies to the rear brake pump top-up operation; follow the same procedure for the front brake pump.

To top up the integral braking system brake fluid, partially remove the fluid reservoir from its mounting, taking care not to detach the pipe. Loosen the screw «**F**» to take out the tank and remove the cap to refill.

Under normal climatic conditions, the brake fluid should be changed every 2 years.

This operation must be carried out by trained technicians, please contact your nearest **Authorised Service Centre.**

WARNING

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

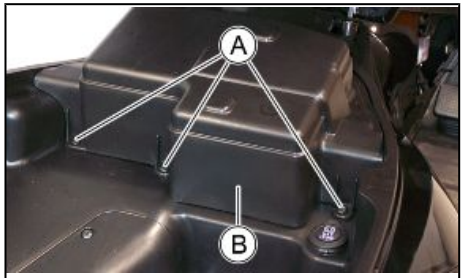
CAUTION

AVOID CONTACT OF BRAKE FLUID WITH EYES, SKIN, AND CLOTHING. IN CASE OF ACCIDENTAL CONTACT, RINSE WITH WATER. THE FLUID IN THE BRAKING CIRCUIT IS HYGROSCOPIC, THAT IS, IT ABSORBS MOISTURE FROM THE SURROUNDING AIR. IF MOISTURE CONTAINED IN THE BRAKE FLUID EXCEEDS A CERTAIN VALUE, THIS WILL RESULT IN INEFFICIENT BRAKING. NEVER USE BRAKE LIQUID FROM OPEN OR PARTIALLY USED CONTAINERS.

Recommended products

AGIP BRAKE 4

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



03_21

Battery (03_21)

To access the battery, proceed as follows:

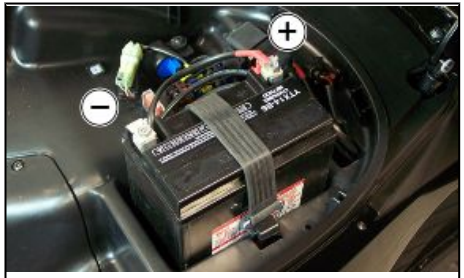
1. Rest the vehicle on its centre stand;

2. Open the saddle, following the previously described procedure;

3. Remove the three clamps «**A**» and the cover «**B**».

WARNING

IN ORDER TO AVOID DAMAGING THE ELECTRIC SYSTEM, NEVER DISCONNECT THE WIRING WHILE THE ENGINE IS RUNNING.



03_22

Use of a new battery (03_22)

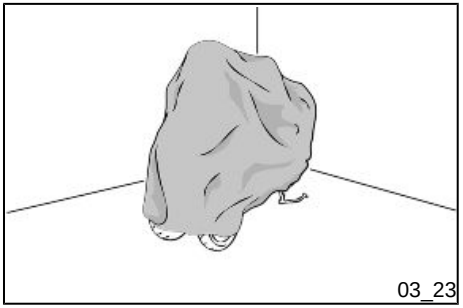
Make sure that the terminals are connected correctly.

CAUTION

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

WARNING

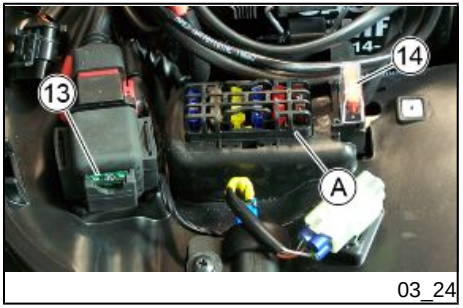
USED BATTERIES ARE HARMFUL FOR THE ENVIRONMENT. COLLECTION AND DISPOSAL SHOULD BE CARRIED OUT IN COMPLIANCE WITH REGULATIONS IN FORCE.



03_23

Long periods of inactivity (03_23)

If the vehicle has not been used for long periods, it is necessary to periodically recharge the battery, bearing in mind that the battery tends to go completely flat within around three months. The battery must be recharged with a current load equal to 1/10 of the battery rated capacity (~ 1A), for a period not longer than 8 hours. For this operation contact an **Authorised Service Centre**. When refitting a removed battery, make sure that all terminals are properly connected.



03_24

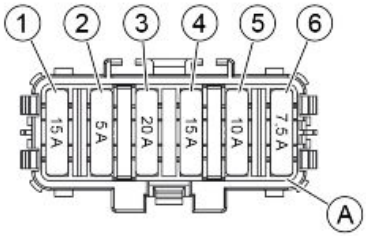
Fuses (03_24, 03_25, 03_26, 03_27, 03_28)

The electrical system has thirteen fuses for protection of different system circuits divided into one single fuse «**13**» and two fuse-boxes.

The fuse «**13**» and the first box, «**A**», are placed inside the battery compartment while the second box, «**B**», is inside the footrest on the left side of the vehicle.

To reach the box «**B**», remove the plastic cover after removing the screw indicated in the picture.

The vehicle version equipped with ABS - ASR system, is equipped with an additional fuse «**14**», for the protection of the ABS control unit circuit and placed inside the battery compartment.

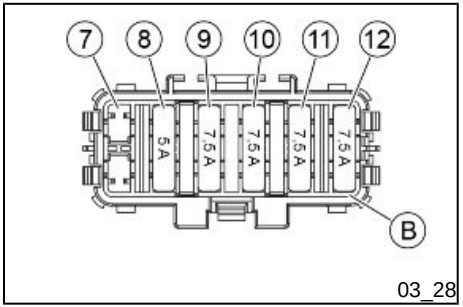


03_25

03_26

03_27

The following tables show the characteristics of the fuses on the vehicle.



FUSE CHART

Fuse no. 1	**Capacity:** 15 A **Protected circuits:** Plug socket, pre-installation heated handgrips control device and leg warmer.
Fuse no. 2	**Capacity:** 5 A **Protected circuits:** Instrument panel, PMP connection.
Fuse No. 3	**Capacity:** 20 A **Protected circuits:** Parking electronic control unit.
Fuse No. 4	**Capacity:** 15 A **Protected circuits:** Helmet compartment lighting, turn indicator control device, headlight

	(via relay), pre-installation for anti-theft device. **Protected circuits (live):** Saddle opening button, fuse No. 12.
Fuse No. 5	**Capacity:** 10 A **Protected circuits:** Electric fan (via relay).
Fuse No. 6	**Capacity:** 7.5 A **Protected circuits:** Engine control unit, injection load (via relay).
Fuse No. 7	Empty
Fuse No. 8	**Capacity:** 5 A **Protected circuits (live):** Stop lights (via relay), starter relay.
Fuse No. 9	**Capacity:** 7.5 A **Protected circuits (live):** Horn, high beam flashing switch.
Fuse No. 10	**Capacity:** 7.5 A **Protected circuits (live):** Injection load relay, ABS control unit, tip over sensor, engine control unit, immobilizer aerial.
Fuse No. 11	**Capacity:** 7.5 A **Protected circuits (live):** USB socket, parking electronic control

	unit, pressure sensor, horn (via relay), headlight relay, pre-installation for anti-theft device, instrument panel, warning lights unit.
Fuse No. 12	**Capacity:** 7.5 A **Protected circuits (live):** PMP connection, daylight running lights, licence plate lights, instrument panel lighting, turn indicator control device, pre-installation heated handgrips control device and leg warmer.
Fuse No. 13	**Capacity:** 30 A **Protected circuits:** Recharge circuit. **Protected circuits (live):** Fuses No. 8, 9, 10 and 11.
Fuse No. 14 (if present)	**Capacity:** 40 A **Protected circuits:** ABS control unit.

CAUTION

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

DO NOT SUBSTITUTE THE FUSE WITH ANY ALTERNATIVE FORM OF CONDUCTOR.

CAUTION

IN ORDER TO AVOID DAMAGING THE ELECTRIC SYSTEM, NEVER DISCONNECT THE WIRING WHILE THE ENGINE IS RUNNING.

CAUTION

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

CAUTION

PROCEED WITH CAUTION.

DO NOT DAMAGE THE TABS AND/OR THEIR CORRESPONDING SLOTS. HANDLE THE PLASTIC AND PAINTED COMPONENTS WITH CARE, DO NOT SCRATCH OR IMPAIR THEM.

Lamps

BULBS TABLE

Low beam bulb	**Type:** HALOGEN (H1) **Power:** 12V - 55W **Quantity:** 1
High beam bulb	**Type:** HALOGEN (H1) **Power:** 12V - 55W **Quantity:** 1
Front parking light	**Type**: LED **Quantity**: 1 **Power**: -
Stop light/rear daylight running light bulb	**Type**: LED **Quantity**: 1 Right - 1 Left **Power**: -
Front turn indicator light bulb	**Type**: Incandescent (BAU 15s) **Power**: 12V - 10W **Quantity**: 1 RHS + 1 LHS
Rear turn indicator light bulb	**Type:** Incandescent (BAU 15s) **Power:** 12V - 10W **Quantity:** 1 RHS + 1 LHS
Helmet compartment light bulb	**Type:** FESTOON BULB

	Power: 12V - 5W **Quantity:** 1
License plate light bulb	**Type:** Incandescent **Power:**12V - 5W **Quantity:**2

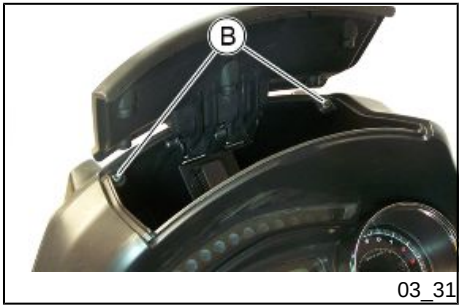
03_29

03_30

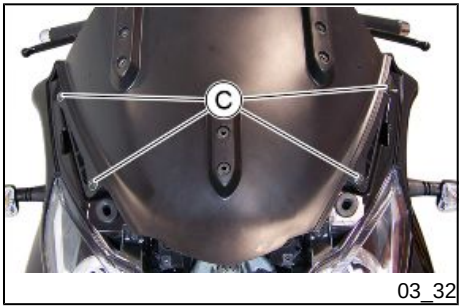
Front light group (03_29, 03_30, 03_31, 03_32, 03_33, 03_34, 03_35, 03_36, 03_37, 03_38, 03_39, 03_40, 03_41, 03_42, 03_43, 03_44)

To remove the front headlight assembly, proceed as follows:

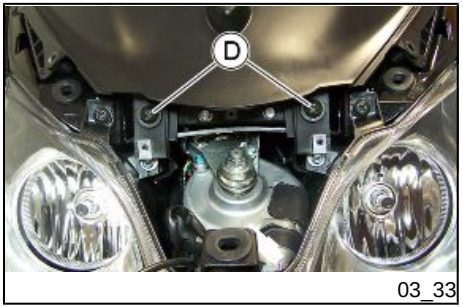
1. Remove the windshield;
2. Remove the headlight assembly central cover disconnecting the housings;
3. Remove the two screws «**A**» and detach the front daylight running light disconnecting the connector;
4. Remove the two screws «**B**» inside the glove-box;
5. Remove the four screws «**C**» paying attention to the spacers;
6. Undo the two screws «**D**», then remove the upper cover of the front shield;
7. Remove the two upper screws «**E**» fastening the headlight assembly;
8. Remove the Piaggio clip-on badge;
9. Undo the screw «**F**» and the grille cornice;
10. Remove the four screws «**G**» and detach the grille;
11. On both sides of the vehicle unscrew the two screws «**H**» inside the wheel housing;
12. Undo the four screws «**I**» and remove the lower cover of the front shield;
13. Remove the two lower screws «**L**» fastening the headlight assembly;
14. Disconnect the light assembly connector
15. Take out the front headlight assembly;
16. Remove the rubber cover to reach the bulbs;
17. For the low beam light bulb, act on the indicated clamps to take out the bulb holder, then detach the bulb;



03_31



03_32



03_33

18. For the high beam light bulb, turn the bulb holder anticlockwise and take it off, then detach the bulb.

To reassemble, repeat the operation but in reverse order.

WARNING

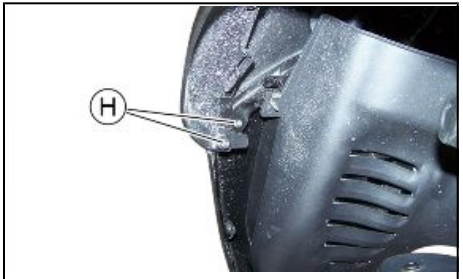
HIGH- AND LOW-BEAM BULBS ARE HALOGEN TYPE: DO NOT TOUCH THEM WITH YOUR FINGERS TO AVOID DAMAGING THEIR FUNCTION.

03_34

03_35

03_36

03_37



03_38

03_39

03_40

03_41

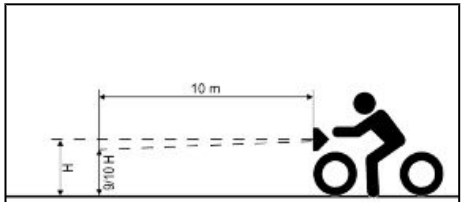
03_42

03_43

03_44

To remove the front daylight running light carry out the procedure described for the removal of the front headlight assembly up to the specific point.

03_45



03_46

Head light adjustment (03_45, 03_46)

Proceed as follows:

1. Position the unloaded vehicle, in running order and with the tyres inflated to the prescribed pressure, on 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;

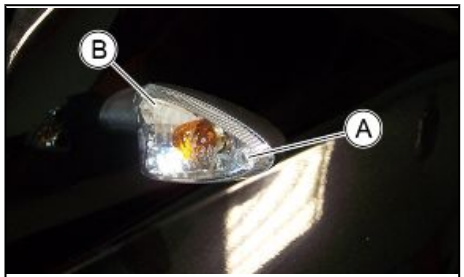
2. Remove the headlight assembly central cover

3. Turn on the headlight and check that the limit of the projected light beam is not over 9/10 or below 7/10 of the distance from the ground to the centre of the vehicle headlight;

4. Otherwise, adjust the headlight with the screws**«A»** indicated in the figure

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_47

Front direction indicators (03_47, 03_48)

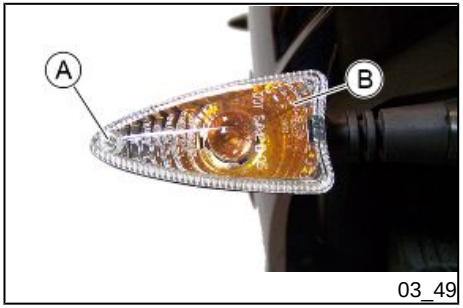
To access the bulb, undo the screw «**A**» and remove the glass «**B**».

To replace the bulb, hold it and then turn it anticlockwise.

Rear optical unit

WARNING

THE STOP AND DAYLIGHT RUNNING LIGHTS PRESENT IN THE REAR LIGHT UNIT ARE «LED» TYPES. IN CASE OF MALFUNCTIONING, AS THE REMOVAL IS PARTICULARLY DIFFICULT, WE ADVISE ADDRESSING AN AUTHORISED SERVICE CENTRE FOR THE REPLACEMENT.

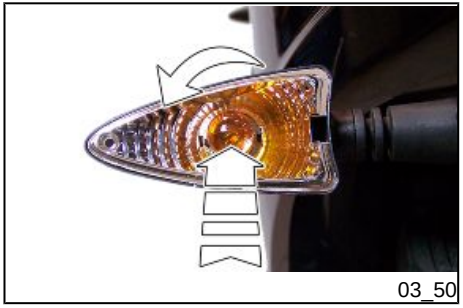


03_49

Rear turn indicators (03_49, 03_50)

To access the bulb, undo the screw «**A**» and remove the glass «**B**».

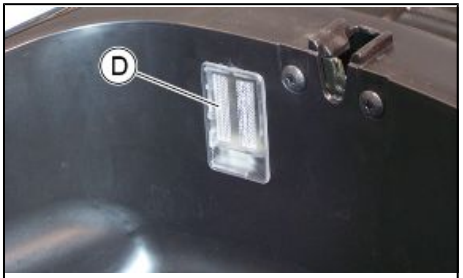
To replace the bulb, hold it and then turn it anticlockwise.


03_50

03_51

Number plate light (03_51)

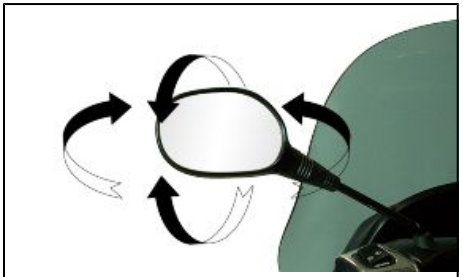
To replace the license plate light bulbs unscrew the two screws «**C**», then remove the plastic and the sight glass and detach the bulb.



03_52

Helmet compartment lighting bulb (03_52)

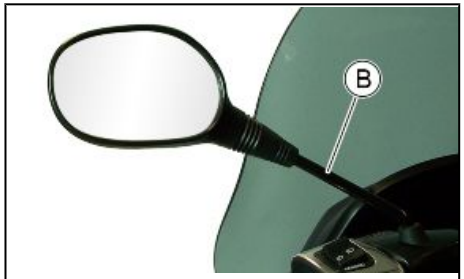
Open the seat compartment and insert a small plain slot screwdriver in the upper notch to detach the snap-on glass «**D**», then replace the bulb.


03_53

Rear-view mirrors (03_53, 03_54, 03_55)

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

03_54



03_55

To remove the rear-view mirror unscrew slightly the lock nut «**A**», placed in the lower part of the handlebar, to unlock the stanchion. Unscrew the stem «**B**» until removing it.

CAUTION

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

03_56

Front and rear disc brake (03_56, 03_57)

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

03_57

CAUTION

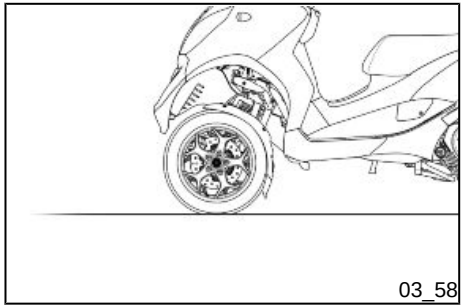
BRAKING SHOULD BEGIN AFTER ABOUT 1/3 OF THE BRAKE LEVER STROKE.

CAUTION

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

CAUTION

THE PRESENCE OF SAND, MUD, SNOW MIXED WITH SALT, ETC. ON THE ROAD, CAN DRASTICALLY REDUCE THE LIFE OF THE BRAKE PADS. IN ORDER TO AVOID THIS, WE RECOMMEND WASHING THE VEHICLE FREQUENTLY WHEN RIDING IN THESE ROAD CONDITIONS.


03_58

Puncture (03_58)

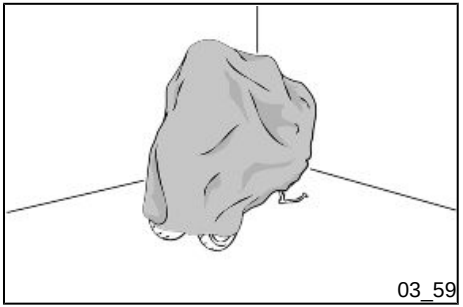
The vehicle is equipped with Tubeless tyres (without inner tube). In the event of a puncture, Tubeless tyres - unlike tyres with inner tubes - go flat very slowly, resulting in a greater steering safety. In the event of a puncture, an emergency repair can be carried out using an "inflate and repair" spray can. For a final repair, take your vehicle to an **Authorised Service Centre or Dealer.** The replacement of a tyre involves removing the wheel in question. Take your vehicle to an **Authorised Service Centre or Dealer** for these operations.

CAUTION

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

WARNING

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


03_59

Inactivity of the vehicle (03_59)

The following operations are recommended:

1. Clean the scooter thoroughly and then cover it with a canvas;

2. When placing the vehicle on its centre stand, ensure that the front suspension locking system is disengaged;

3. With engine off and piston at the bottom dead centre, remove the spark plug, add 1÷2 cm³ of oil through its hole (larger amounts are dangerous for the engine itself), then insert the spark plug again and briefly press the starter button to turn the engine over slowly

4. Drain all fuel from the vehicle; spread antirust grease on the uncoated metal parts; keep the wheels lifted above the ground by resting the chassis on two wooden wedges;

5. Concerning the battery, follow the instructions in the «Battery» section.

Recommended products

eni i-Ride PG 5W-40

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

Cleaning the vehicle

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

CAUTION

WASHING COMPOUNDS COULD POLLUTE THE WATER. THE VEHICLE MUST BE WASHED AT A WASHING FACILITY WITH EQUIPMENT FOR PURIFYING THE WASHING WATER.

WARNING

THE USE OF A HIGH-PRESSURE WATER JET IS STRONGLY DISCOURAGED FOR ANY ENGINE CLEANING OPERATION; HOWEVER, IF NO OTHER MEANS ARE AVAILABLE, IT IS THEN NECESSARY TO:

• ONLY USE A FANLIKE SPRAY JET.

• DO NOT PLACE THE NOZZLE CLOSER THAN 60 CM.

• DO NOT USE WATER AT TEMPERATURES OVER 40ºC.

• DO NOT USE HIGH-PRESSURE WATER JETS.

• DO NOT STEAM WASH.

• DO NOT DIRECT THE JET STRAIGHT TO THE WIRING OR COOLING SLIT ON THE TRANSMISSION COVER.

CAUTION

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

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

STARTING FAILURE

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

IGNITION PROBLEMS

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

LACK OF COMPRESSION

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

HIGH CONSUMPTION AND LOW PERFORMANCE

Air filter blocked or dirty	Contact an **Authorised Service Centre.**

INSUFFICIENT BRAKING

Greasy disc. Worn pads. Faulty braking system. Presence of air in the front and rear brake circuit	Contact an **Authorised Service Centre.**

INEFFICIENT SUSPENSION

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

AUTOMATIC TRANSMISSION PROBLEMS

CVT rollers and/or drive belt damaged	Contact an **Authorised Service Centre.**

STAND DOES NOT RETURN TO POSITION

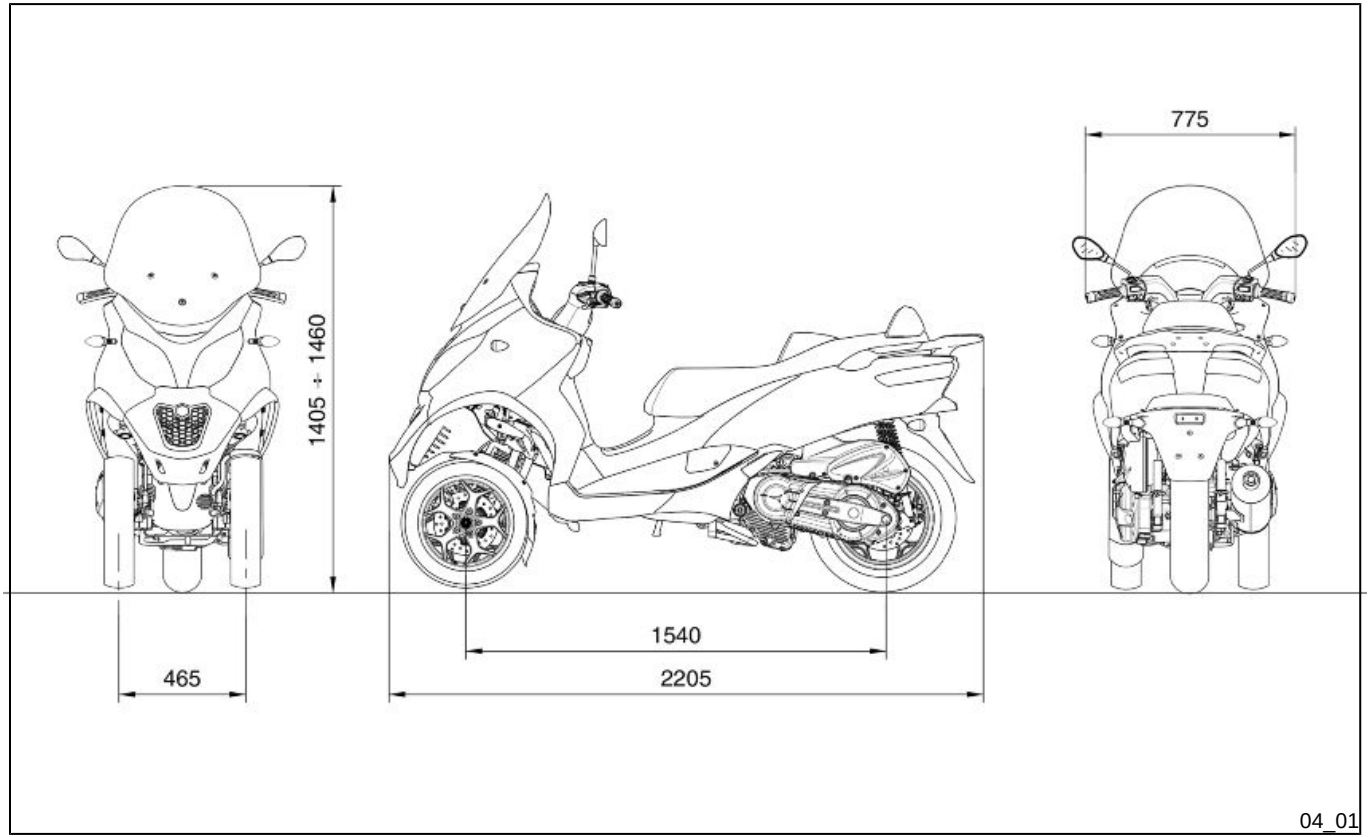
Presence of dirt	Clean and grease

MP3 LT 500 i.e. SPORT - BUSINESS ABS - ASR

PIAGGIO

Chap. 04
Technical data

Data (04_01)



VEHICLE TECHNICAL DATA

Chassis	Tubular and sheet steel
Front suspension	The roll system is composed of an articulated parallelogram suspension with die-cast aluminium control arms and two side headstocks plus shock absorbers with hydraulic locking system
Rear suspension	Two double-acting shock absorbers, adjustable to four positions at preloading.
Front brake	Double disc Ø 258 with hydraulic control activated by handlebar right lever; Braking assisted by ABS system (where available).
Rear brake	Ø 240-mm disc brake with hydraulic control operated by the handlebar left-hand lever; Braking assisted by ABS system (where available).
Integral braking system	The system operates all three discs simultaneously and is controlled hydraulically via the pedal on the footrest; Braking assisted by ABS system (if fitted).
Wheel rim type	Light alloy.
Front wheel rims	13" x 3.00"
Rear wheel rim	14" x 4.50
Front tyres	Tubeless 110/70 - 13" 48S

Rear tyre	Tubeless 140/70 - 14" 68S
Front tyres pressure	2 bar
Rear tyre pressure (with passenger)	2.4 (2.6) bar
Kerb weight	266 kg
Maximum weight limit	460 kg
Battery	12V-12Ah

ENGINE TECHNICAL DATA

Type	Single-cylinder, 4-stroke
Engine capacity	493 cm^3
Bore x Stroke	94 x 71 mm
Compression ratio	10.5 ± 0.5 : 1
Engine idle speed	1,600 ± 100 rpm
Timing system	Four valves, single overhead camshaft, chain-driven.
Valve clearance	Inlet: 0.15 mm Outlet: 0.15 mm
MAX. power	29.5 kW at 7,250 rpm
MAX. torque	45.5 Nm at 5,250 rpm
Transmission	CVT expandable pulley variator with torque server, V-belt, self-ventilating dry automatic

	centrifugal clutch and transmission housing with forced-circulation air cooling.
Final reduction gear	Gear reduction unit in oil bath.
Lubrication	Engine lubrication with lobe pump (inside crankcase), chain-driven, with double filter: mesh and paper.
Cooling	Forced coolant circulation system.
Starter	Electric starter
Ignition	Highly efficient electronic inductive ignition, integrated with the injection system, with variable advance, separate HV coil and double spark plug.
Ignition advance	Three-dimensional map managed by control unit
Spark plug	NGK CR7EKB
Electrode gap	0.7 ÷ 0.9 mm
Fuel system	Electronic injection with electric fuel pump.
Fuel	Unleaded petrol max E10 (95 RON)
Exhaust silencer	Absorption-type exhaust muffler with catalytic converter and lambda probe.
Emissions compliance	EURO 2

CAPACITY

Engine oil	1.7 l
Transmission oil	250 cm^3
Cooling system fluid	approx. 1.8 l
Fuel tank	~ 12 l ± 0.5

MP3 LT 500 i.e. SPORT - BUSINESS ABS - ASR

PIAGGIO

Chap. 05
Spare parts and accessories

05_01

05_02

Warnings (05_01, 05_02)

WARNING

PIAGGIO MARKETS ITS OWN LINE OF ACCESSORIES THAT ARE RECOGNISED AND GUARANTEED FOR USE. IT IS THEREFORE ESSENTIAL TO CONTACT AN AUTHORISED DEALER OR SERVICE CENTRE IN ORDER TO CHOOSE AND FIT ACCESSORIES CORRECTLY. THE USE OF NON-ORIGINAL ACCESSORIES MAY AFFECT THE STABILITY AND OPERATION OF YOUR VEHICLE AND REDUCE SAFETY LEVELS WITH POTENTIAL RISKS FOR THE RIDER.

WARNING

USE ONLY ORIGINAL PIAGGIO ACCESSORIES AND DEVICES FOLLOWING THE INDICATIONS IN THE SECTION «VEHICLE/PRE-INSTALLATION FOR ACCESSORIES INSTALLATION».

THE USE OF NON-ORIGINAL ACCESSORIES VOIDS THE WARRANTY.

WARNING

TO PREVENT ACCIDENTS AND TO GUARANTEE PROPER STABILITY, PERFORMANCE AND SAFETY, RIDE THE VEHICLE VERY CAREFULLY WHEN IT IS FITTED WITH ACCESSORIES OR WITH UNUSUAL LOADS.

WARNING

IF RIDING A SCOOTER WITH ACCESSORIES (GLOVE COMPARTMENT AND/OR WINDSHIELD)REDUCE THE SPEED. THE SCOOTER CAN BE RIDDEN AT A

HIGHER SPEED WITHOUT THE ACCESSORIES MENTIONED BEFORE WITHIN THE LIMITS ESTABLISHED BY LAW. IF THERE ARE NOT PAIGE ACCESSORIES FITTED, OR AN ABNORMAL LOAD, OR IF THE VEHICLE IS NOT IN A GENERALLY GOOD CONDITION, OR WHENEVER WEATHER CONDITIONS DEMAND IT, SPEED SHOULD BE FURTHER REDUCED.

WARNING

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

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

MP3 LT 500 i.e. SPORT - BUSINESS ABS - ASR

PIAGGIO

Chap. 06 Scheduled maintenance

06_01

Scheduled servicing table (06_01)

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

For this reason a series of checks and maintenance services has been prepared, available for purchase separately, listed together in the chart on the following page. It is a good idea to report small performance anomalies right away to an **Authorized Dealer or Service Center**, without waiting for the next scheduled service, so they can be repaired immediately.

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'.

SCHEDULED MAINTENANCE TABLE

km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Parking control unit software upgrading (if available)	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Safety fasteners	I		I				I				I				I		
Spark plugs			R		R		R		R		R		R		R		R
Centre stand		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Roll lock calliper control cable			A		A		A		A		A		A		A		A
Drive belt			R		R		R		R		R		R		R		R
Throttle control	A		A		A		A		A		A		A		A		A
Diagnosis by tool	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Air filter			R		R		R		R		R		R		R		R

km x 1,000	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Engine oil filter	R		R		R		R		R		R		R		R		R
Valve clearance					I				I				I				I
Electrical system	I		I		I		I		I		I		I		I		I
Coolant level *	I		I		I		I		I		I		I		I		I
Brake oil level*	I		I		I		I		I		I		I		I		I
Engine oil	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Hub oil	R		I		R		I		R		I		R		I		R
Brake pads	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Sliding shoes / CVT rollers			R		R		R		R		R		R		R		R
Tyre pressure and wear	I		I		I		I		I		I		I		I		I
Vehicle and brake test - test drive	I		I		I		I		I		I		I		I		I
Suspension			I		I		I		I		I		I		I		I
Centre and side steering	A		A		A		A		A		A		A		A		A

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

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

** Replace every 2 years*

06_02

Periodic maintenance table (06_02)

WARNING

THE ANNUAL ROUTINE SERVICE WAS DEVELOPED TO ENSURE A CORRECT MAINTENANCE OF THE VEHICLE, EVEN IF THE INTERVALS OF SCHEDULED MAINTENANCE IN KM OR MILES IS NOT REACHED.

THE FIRST SERVICE IS EXPECTED AFTER 1,000 KM, OR WITHIN 6 MONTHS AFTER VEHICLE REGISTRATION. THE OPERATIONS ARE LISTED IN THE SCHEDULED MAINTENANCE TABLE.

THE SECOND MILEAGE SERVICE AND FOLLOWING, WHEN REACHING THE MILEAGE EXPIRY GIVEN IN THE MAINTENANCE PLAN.

THE ANNUAL ROUTINE SERVICE MUST BE CARRIED OUT WITHIN 12 MONTHS AFTER THE LAST SERVICE, WHEN THE EXPECTED MILEAGE IS NOT REACHED.

ROUTINE MAINTENANCE TABLE

Vehicle type (months)	4Str, air cooled, EFI (12)	4Str, air cooled, EFI (24)	4Str, liquid cooled, EFI (12)	4Str, liquid cooled, EFI (24)	4Str, carb. (12)	4Str, carb. (24)	2Str, carb. (12)	2Str, carb. (24)
Stand	L	L	L	L	L	L	L	L
Carburettor					C	C	C	C
Mixer belt							I	I
Throttle control	I	I	I	I	I	I	I	I
Diagnosis by tool	I	I	I	I				
Engine oil filter	R	R	R	R				

Vehicle type (months)	4Str, air cooled, EFI (12)	4Str, air cooled, EFI (24)	4Str, liquid cooled, EFI (12)	4Str, liquid cooled, EFI (24)	4Str, carb. (12)	4Str, carb. (24)	2Str, carb. (12)	2Str, carb. (24)
Cylinder cooling system	I	I			I	I	I	I
Brake levers	L	L	L	L	L	L	L	L
Coolant			I	R				
Brake fluid	I	R	I	R	I	R	I	R
Engine oil	R	R	R	R	R	R		
Hub oil	I	I	I	I	I	I	I	I
Brake pads	I	I	I	I	I	I	I	I
Tyre pressure and wear	I	I	I	I	I	I	I	I
Suspension	I	I	I	I	I	I	I	I
Steering	I	I	I	I	I	I	I	I
Transmission	L	L	L	L	L	L	L	L
Vehicle road test	I	I	I	I	I	I	I	I

06_03

Table of recommended products (06_03)

Piaggio & C. S.p.A. recommends **eni** products for scheduled maintenance of its vehicles.

RECOMMENDED PRODUCTS TABLE

Product	Description	Specifications
AGIP GEAR SAE 80W-90	Lubricant for gearboxes and transmissions.	API GL-4
eni i-Ride PG 5W-40	Synthetic based lubricant for high-performance four-stroke engines.	JASO MA, MA2 - API SL - ACEA A3
AGIP FILTER OIL	Special product for the treatment of foam filters.	-
AGIP 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
AGIP BRAKE 4	Brake fluid.	SAE J 1703 -FMVSS 116 - DOT 3/4 - ISO 4925 - CUNA NC 956 DOT 4 synthetic fluid
AGIP PERMANENT SPECIAL	Ethylene glycol antifreeze liquid with organic inhibition additives. Red, ready to use.	ASTM D 3306 - ASTM D 4656 - ASTM D 4985 - CUNA NC 956-16

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

1 Inch (in)	25.4 Millimetres (mm)
1 Foot (ft)	0.305 Meter (m)
1 Mile (mi)	1.609 Kilometre (km)
1 US Gallon (US gal)	3.785 Litre (l)
1 Pound (lb)	0.454 Kilogram (kg)
1 Cubic inch (in^3)	16.4 Cubic centimetres (cm^3)
1 Foot pound (lb ft)	1,356 Newton meter (Nm)

1 Miles per hour (mi/h)	1.602 kilometres per hour (Km/h)
1 Pound per square inch (PSI)	0.069 (bar)
1 Fahrenheit (°F)	32+(9/5) Celsius (°C)

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