

**aprilia**

**RSV 1000 R - RSV 1000 R FACTORY**



**aprilia** part# 8104691

**use+maintenance**book



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## SAFETY WARNINGS

The following precautionary warnings are used throughout this manual in order to convey the following messages:

 **Safety warning. When you find this symbol on the vehicle or in the manual, be careful to the potential risk of personal injury. Non-compliance with the indications given in the messages preceded by this symbol may result in major risks for your and other people's safety and for the vehicle!**

### WARNING

Indicates a potential hazard which may result in serious injury or even death.

### CAUTION

Indicates a potential hazard which may result in minor personal injury or damage to the vehicle.

**NOTE** The word "NOTE" in this manual precedes important information or instructions.

## TECHNICAL INFORMATION

★ The operations preceded by this symbol must be repeated also on the opposite side of the vehicle.

If not expressly indicated otherwise, for the reassembly of the units repeat the disassembly operations in reverse order.

The terms "right" and "left" are referred to the rider seated on the vehicle in the normal riding position.

If the glove/tool kit compartment cover has been installed (as an alternative to the passenger seat), the transport of passenger, luggage or objects is forbidden.

### WARNING

The adjustments for the use of the vehicle on racetracks must be carried out exclusively in case of organized races or events that take place on isolated circuits, away from public roads and with the consent of the competent authorities.

It is strictly prohibited to carry out adjustments for the use of the vehicle on racetracks and then ride it on roads or motorways.

## WARNINGS - PRECAUTIONS - GENERAL ADVICE

Before starting the engine, carefully read this manual and in particular the section "SAFE DRIVE".

Your and other people's safety depends not only on your quickness of reflexes and on your agility, but also on what you know about the vehicle, on its efficiency and on your knowledge of the basic information for "SAFE DRIVE".

Therefore, get a thorough knowledge of the vehicle, in such a way as to be able to drive in the traffic safely.

**NOTE** This manual must be considered as an integral part of the vehicle and must always accompany it, even in case of resale.

**aprilia** has carried out this manual with the maximum attention, in order to supply the user with correct and updated information. However, since **aprilia** constantly improves the design of its products, there may be slight discrepancies between the characteristics of your vehicle and those described in this manual.

For any clarification concerning the information contained in this manual, do not hesitate to contact your **aprilia Official dealer**.

For control and repair operations not expressly described in this publication, for the purchase of **aprilia** genuine spare parts, accessories and other products, as well as for specific advice, contact exclusively **aprilia** Authorised Dealers and Service Centers, which guarantee prompt and accurate assistance.

Thank you for choosing **aprilia**. We wish you a nice ride.

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**NOTE** In some countries the antipollution and noise regulations in force require periodical inspections.

The user of the vehicle in these countries must:

- contact an **aprilia Official dealer** to have the non-homologated components replaced with others homologated for use in the country in question;
- carry out the required periodical inspections.

**NOTE** Soon after purchasing the vehicle, write down the identification data indicated on the SPARE PARTS IDENTIFICATION LABEL in the table here below. This label is positioned on the left side of the frame; to read it, it is necessary to remove the rider seat, see p. 81 (REMOVING THE RIDER SADDLE).

|                            |     |      |    |     |     |     |     |     |     |  |  |
|----------------------------|-----|------|----|-----|-----|-----|-----|-----|-----|--|--|
| <b>aprilia</b>             |     | YEAR |    |     |     |     |     |     |     |  |  |
|                            |     | Y    | 1  | 2   | 3   | 4   |     |     |     |  |  |
| SPARE PARTS IDENTIFICATION |     | I.M. |    |     |     |     |     |     |     |  |  |
|                            |     | A    | B  | C   | D   | E   |     |     |     |  |  |
| I                          | UK  | A    | P  | SF  | B   | D   | F   | E   | GR  |  |  |
| NL                         | CH  | DK   | J  | SGP | SLO | IL  | ROK | MAL | RCH |  |  |
| HR                         | AUS | USA  | BR | RSA | NZ  | CDN |     |     |     |  |  |

These data indicate:

- year of manufacture (Y, 1, 2, ...);
  - modification code (A, B, C, ...);
  - homologation country (I, UK, A, ...).
- and are to be supplied to the **aprilia Official dealer** as reference data for the purchase of spare parts or specific accessories of the model you have acquired.

In this manual the various versions are indicated by the following symbols:

**RSV R** RSV 1000 R

**RFACT** RSV 1000 R FACTORY

**OPT** optional

 catalytic

**VERSION:**

- I** Italy
- SGP** Singapore
- UK** United
- SLO** Slovenia
- A** Austria
- IL** Israel
- P** Portugal
- ROK** South Korea
- SF** Finland
- MAL** Malaysia
- B** Belgium
- RCH** Chile
- D** Germany
- HR** Croatia
- F** France
- AUS** Australia
- E** Spain
- USA** United States of America
- GR** Greece
- BR** Brazil
- NL** Holland
- RSA** South Africa
- CH** Switzerland
- NZ** New Zealand
- DK** Denmark
- CDN** Canada
- J** Japan

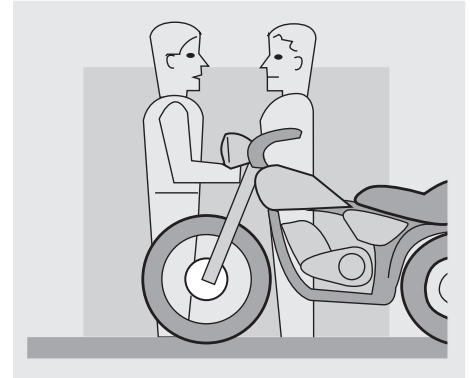
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# aprilia



safe drive



## **BASIC SAFETY RULES**

To drive the vehicle it is necessary to be in possession of all the requirements prescribed by law (driving licence, minimum age, psychophysical ability, insurance, state taxes, vehicle registration, number plate, etc.).

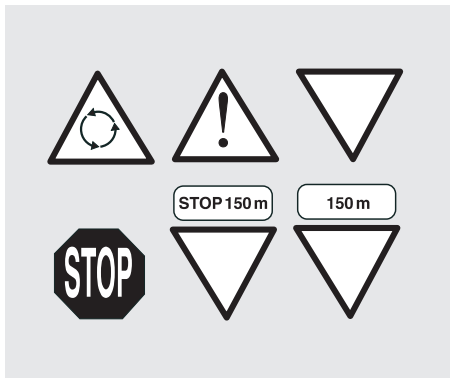
Gradually get to know the vehicle by driving it first in areas with low traffic and/or private areas.

The use of medicines, alcohol and drugs or psychotropic substances notably increases the risk of accidents.

Be sure that you are in good psychophysical conditions and fit for driving and pay particular attention to physical weariness and drowsiness.

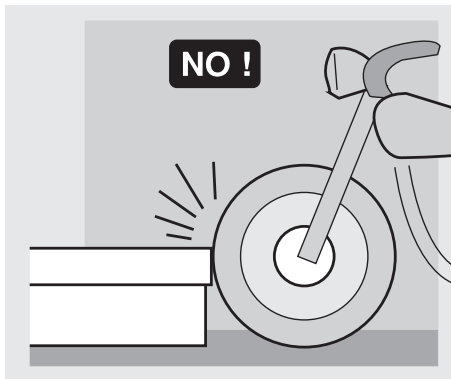
Most road accidents are caused by the driver's lack of experience.

**NEVER** lend the vehicle to beginners and, in any case, make sure that the driver has all the requirements for driving.



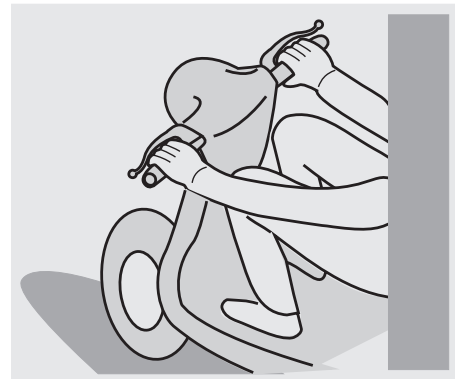
Rigorously observe all road signs and national and local road regulations.

Avoid abrupt movements that can be dangerous for yourself and other people (for example: proceeding on the back wheel, speeding, etc.), and give due consideration to the road surface, visibility and other driving conditions.



Avoid obstacles that could damage the vehicle or make you lose control.

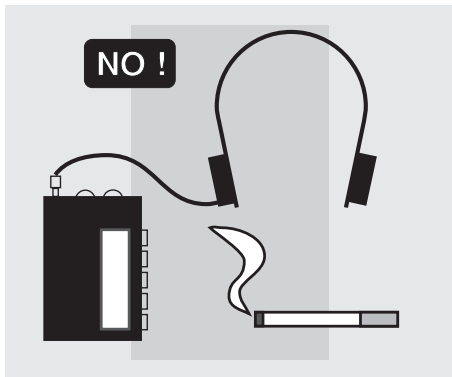
Avoid riding in the slipstream created by preceding vehicles in order to increase your speed.



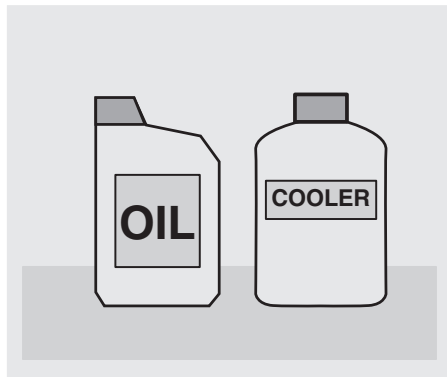
#### **⚠ WARNING**

**Always drive with both hands on the handlebars and both feet on the footrests (or on the rider's footboards), in the correct driving posture.**

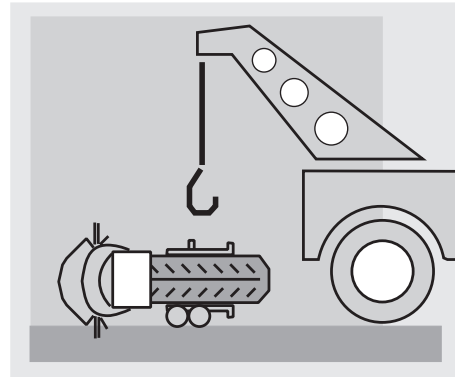
**Avoid standing up or stretching your limbs while driving.**



The driver should pay attention and avoid distractions caused by people, things and movements (never smoke, eat, drink, read, etc.) while driving.



Use only the vehicle's specific fuels and lubricants indicated in the "LUBRICANT CHART"; regularly check oil, fuel and coolant levels.



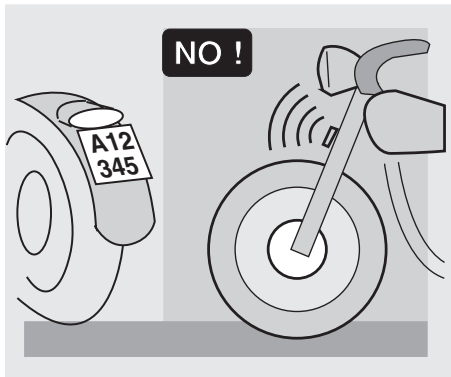
If the vehicle has been involved in an accident, make sure that no damage has occurred to the control levers, pipes, wires, braking system and vital parts.

If necessary, have the vehicle inspected by an **aprilia Official dealer** who should carefully check the frame, handlebars, suspensions, safety parts and all the devices that you cannot check by yourself.

Always remember to report any malfunction to the technicians to help them in their work.

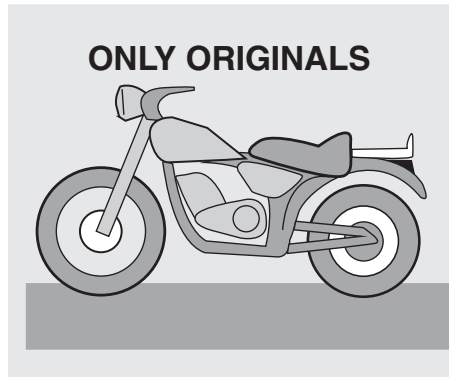
Never use the vehicle when the amount of damage it has suffered endangers your safety.





Never change the position, inclination or colour of: number plate, direction indicators, lights and horns.

Any modification of the vehicle will result in the invalidity of the warranty.



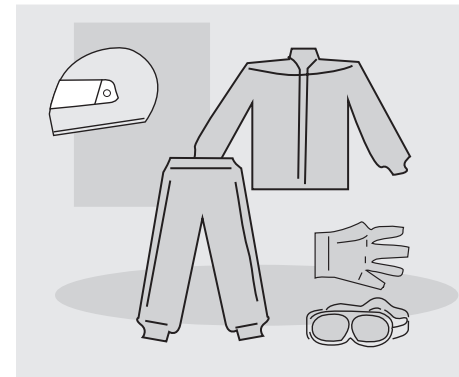
Any modification of the vehicle and/or the removal of original components can compromise vehicle performance levels and safety or even make it illegal.

We recommend respecting all regulations and national and local provisions regarding the equipment of the vehicle.

In particular, avoid all modifications that increase the vehicle's performance levels or alter its original characteristics.

Never race with other vehicles.

Avoid off-road driving.

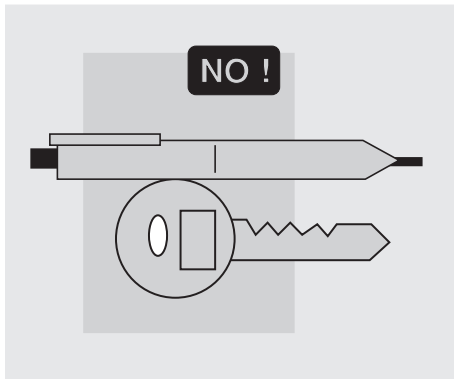


## CLOTHING

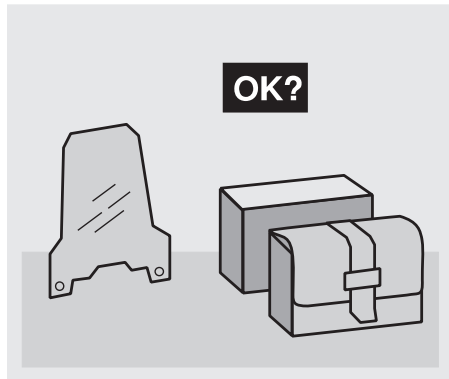
Before starting, always wear a correctly fastened crash helmet. Make sure that it is homologated, in good shape, of the right size and that the visor is clean.

Wear protective clothing, preferably in light and/or reflecting colours. In this way you will make yourself more visible to the other drivers, thus notably reducing the risk of being knocked down, and you will be more protected in case of fall.

This clothing should be very tight-fitting and fastened at the wrists and ankles; strings, belts and ties should not be hanging loose; prevent these and other objects from interfering with driving by getting entangled with moving parts or driving mechanisms.



Do not keep objects that can be dangerous in case of fall, for example pointed objects like keys, pens, glass vials etc. in your pockets (the same recommendations also apply to passenger).



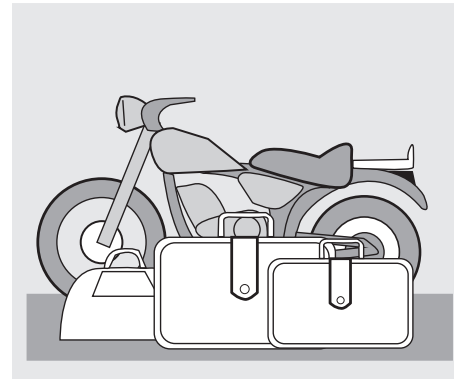
### **ACCESSORIES**

The owner of the vehicle is responsible for the choice, installation and use of any accessory.

Avoid installing accessories that cover horns or lights or that could impair their functions, limit the suspension stroke and the steering angle, hamper the operation of the controls and reduce the distance from the ground and the angle of inclination in turns.

Avoid using accessories that hamper access to the controls, since this can make reaction times longer during an emergency.

Big fairings and windshields installed on the vehicle may produce aerodynamic forces that affect the stability of the vehicle, especially when riding at high speed.



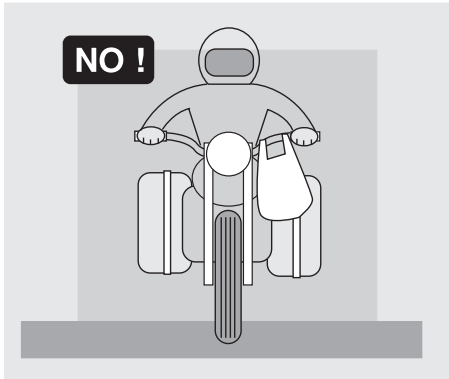
Make sure that the equipment is well fastened to the vehicle and not dangerous when driving.

Do not install electrical devices and do not modify those already existing to avoid electrical overloads, because the vehicle could suddenly stop or there could be a dangerous current shortage in the horn and in the lights.

**aprilia** recommends the use of genuine accessories (**aprilia** genuine accessories).

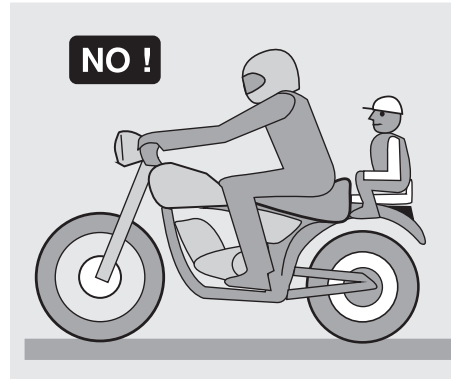
### **LOAD**

Be careful and moderate when loading your luggage. Keep any luggage loaded as close as possible to the center of gravity of the vehicle and distribute the load evenly on both sides, in order to reduce unbalance to the minimum. Furthermore, make sure that the load is firmly secured to the vehicle, especially during long trips.



Avoid hanging bulky, heavy and/or dangerous objects on the handlebars, mudguards and forks, because the vehicle might respond more slowly in turns and its manoeuvrability could be unavoidably impaired.

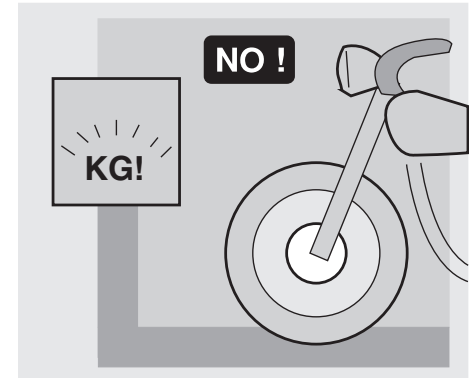
Do not place bags that are too bulky or the crash helmet on the vehicle sides and do not ride with them on, because they could hit people or obstacles, making you lose control of the vehicle.



Do not carry any bag if it is not tightly secured to the vehicle.

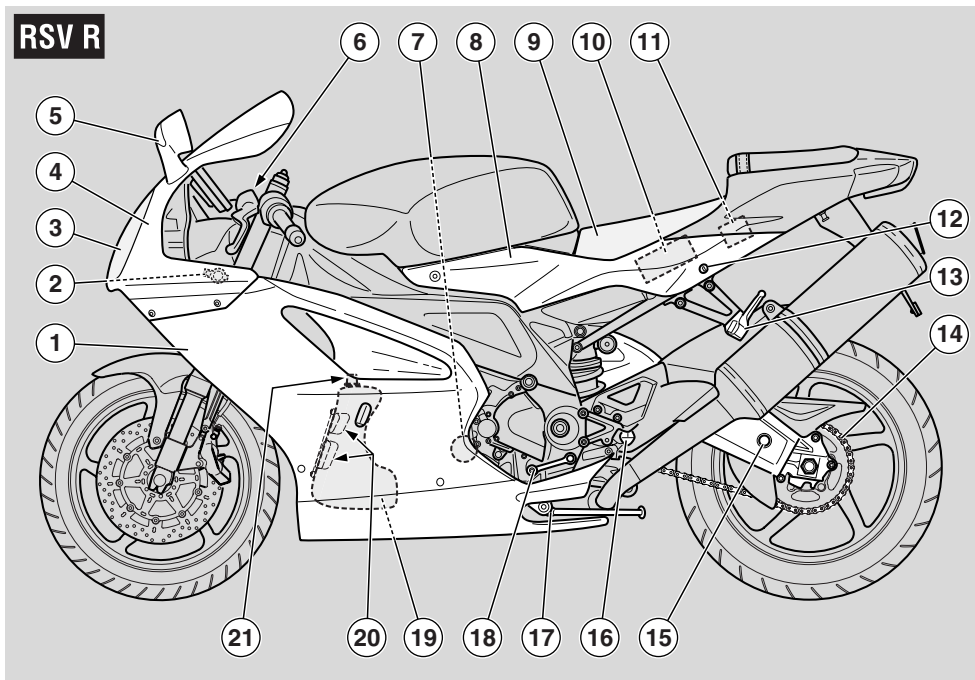
Do not carry bags which protrude too much from the luggage-rack or which cover the lights, horn or indicators.

Do not carry animals or children on the glove compartment or on the luggage rack.

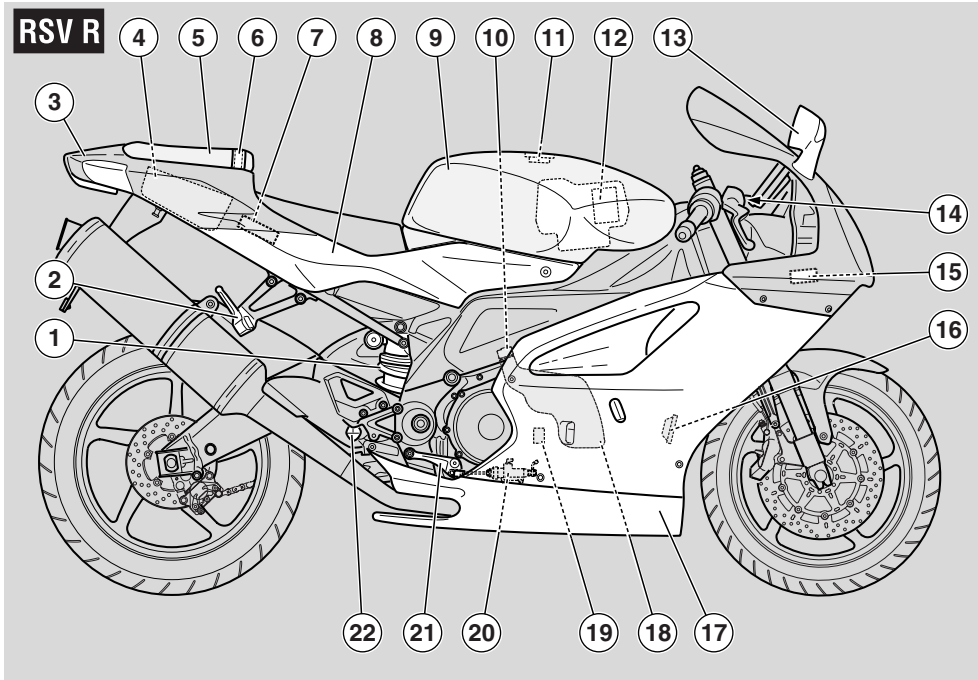


Do not exceed the maximum load allowed for each luggage-rack.

When the vehicle is overloaded, its stability and its manoeuvrability can be compromised.

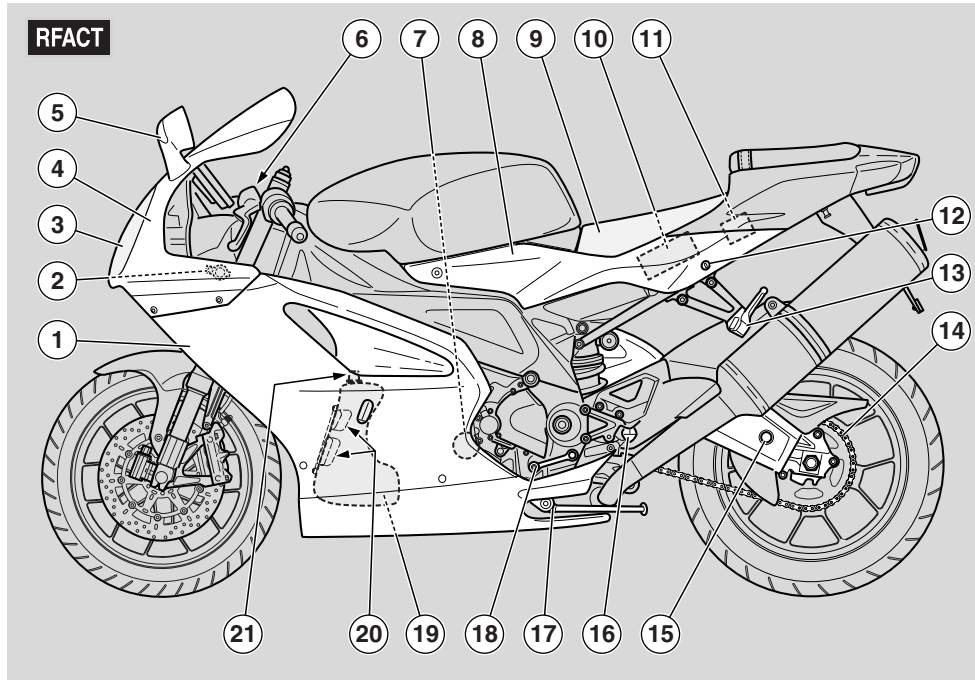
**KEY**

- |                               |                              |                             |                         |
|-------------------------------|------------------------------|-----------------------------|-------------------------|
| 1) Left side fairing          | 7) Engine oil filter         | 13) Passenger left footrest | 19) Engine oil tank     |
| 2) Adjustable steering damper | 8) Left side panel           | (snaps closed/open)         | 20) Engine oil level    |
| <b>RSV R</b> <b>OPT</b>       | 9) Rider seat                | 14) Drive chain             | 21) Engine oil tank cap |
| 3) Headlight left lamp        | 10) Battery                  | 15) Rear swinging arm       |                         |
| 4) Front fairing              | 11) Main fuse carrier (30 A) | 16) Rider left footrest     |                         |
| 5) Left rear-view mirror      | 12) Passenger seat lock      | 17) Side stand              |                         |
| 6) Clutch fluid reservoir     | glove/tool kit compartment   | 18) Gear shift lever        |                         |



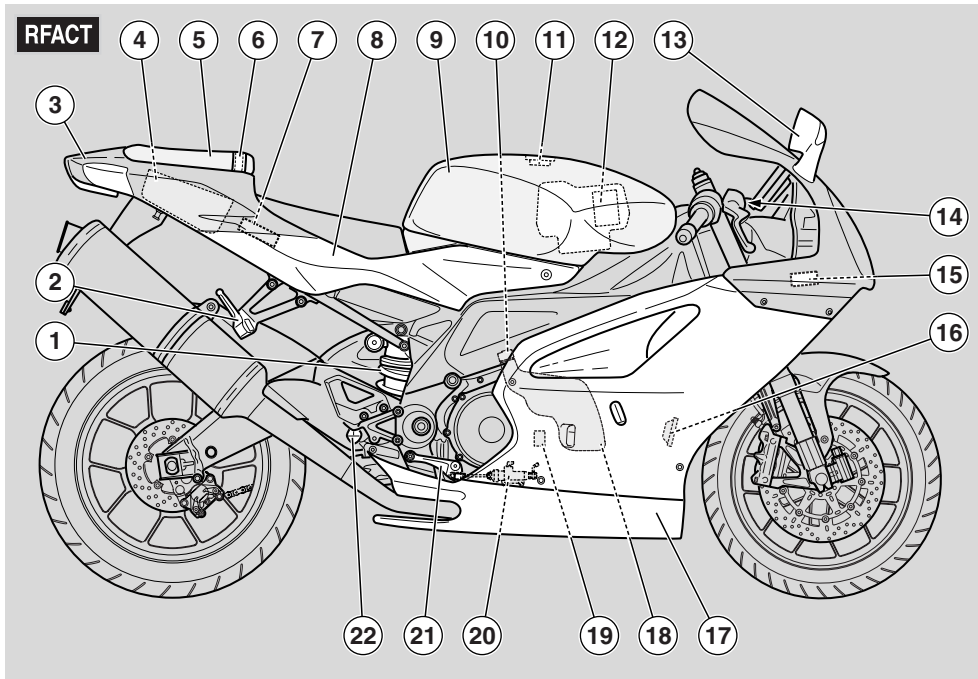
## KEY

- |   |                                |                                   |                                |
|---|--------------------------------|-----------------------------------|--------------------------------|
| 1) Rear shock absorber                                  | 6) Passenger grab strap        | 13) Right rear-view mirror        | 20) Rear brake master cylinder |
| 2) Passenger right footrest<br>(snaps closed/open)      | 7) Engine Control Unit         | 14) Front brake fluid reservoir   | 21) Rear brake lever           |
| 3) Tail light   | 8) Right side panel            | 15) Secondary fuse carrier (15 A) | 22) Rider right footrest       |
| 4) Glove/tool kit compartment                           | 9) Fuel tank                   | 16) Horn                          |                                |
| 5) Passenger seat (glove/tool<br>kit compartment cover) | 10) Coolant expansion tank cap | 17) Right side fairing            |                                |
|   | 11) Fuel tank filler cap       | 18) Expansion tank                |                                |
|   | 12) Air cleaner                | 19) Rear brake fluid reservoir    |                                |



## KEY

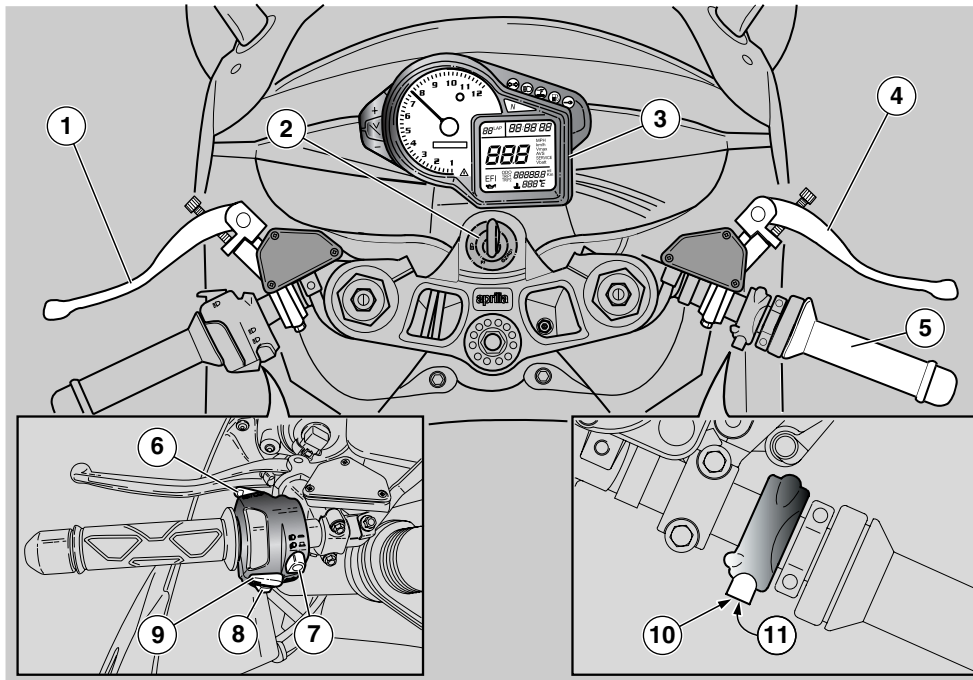
- |                               |  |                         |                         |
|-------------------------------|--|-------------------------|-------------------------|
| 1) Left side fairing          | 8) Left side panel                                 | 14) Drive chain         | 21) Engine oil tank cap |
| 2) Adjustable steering damper | 9) Rider seat                                      | 15) Rear swinging arm   |                         |
| 3) Headlight left lamp        | 10) Battery  | 16) Rider left footrest |                         |
| 4) Front fairing              | 11) Main fuse carrier (30A)                        | 17) Side stand          |                         |
| 5) Left rear-view mirror      | 12) Passenger seat-Glove/tool kit compartment lock | 18) Gear shift lever    |                         |
| 6) Clutch fluid reservoir     | 13) Passenger left footrest                        | 19) Engine oil tank     |                         |
| 7) Engine oil filter          |  | 20) Engine oil level    |                         |



## KEY

- |   |                                   |                                     |                          |
|---|-----------------------------------|-------------------------------------|--------------------------|
| 1) Rear shock absorber                                  | 7) Engine Control Unit            | 14) Front brake fluid reservoir     | 21) Rear brake lever     |
| 2) Passenger right footrest<br>(snaps closed/open)      | 8) Right side panel               | 15) Secondary fuse carrier<br>(15A) | 22) Rider right footrest |
| 3) Tail light   | 9) Fuel tank                      | 16) Horn                            |                          |
| 4) Glove/tool kit compartment                           | 10) Coolant expansion tank<br>cap | 17) Right side fairing              |                          |
| 5) Passenger seat (Glove/tool<br>kit compartment cover) | 11) Fuel tank filler cap          | 18) Coolant expansion tank          |                          |
| 6) Passenger grab strap                                 | 12) Air cleaner                   | 19) Rear brake fluid reservoir      |                          |
|   | 13) Right rear-view mirror        | 20) Rear brake master cylinder      |                          |

## ARRANGEMENT OF THE INSTRUMENTS/CONTROLS



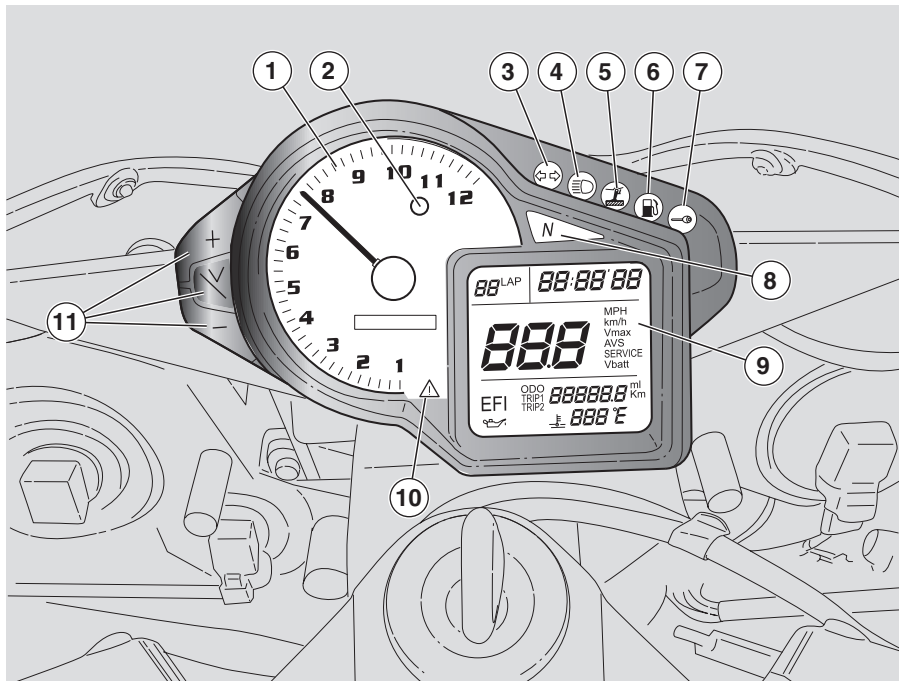
### KEY

- 1) Clutch lever
- 2) Ignition/steering lock switch (○ - ⊗ - ⊞)
- 3) Instruments and indicators
- 4) Front brake lever
- 5) Throttle twistgrip
- 6) High beam flasher (≡▷)/LAP button (multifunction)

- 7) Light dimmer switch (≡▷ - ≡▷)
- 8) Direction indicator switch (↔↔)
- 9) Horn button (🔊)
- 10) Starter button (⊕)
- 11) Engine kill switch (■○ - ■⊗)



## INSTRUMENTS AND INDICATORS















### KEY

- 1) Rev counter
- 2) Red line light
- 3) Green direction indicator light (↔)
- 4) Blue high beam light (≡▷)
- 5) Amber "stand down" light (⚡)
- 6) Amber low fuel light (⛽)
- 7) Red immobilizer light (⚡) (where immobilizer system is fitted)
- 8) Green neutral light (N)
- 9) Multifunction digital display (coolant temperature - clock - battery voltage - lap timer - engine oil pressure diagnostics (⚡))
- 10) Red general warning light (⚠)
- 11) Multifunction computer programming buttons (+, Trip V, -)

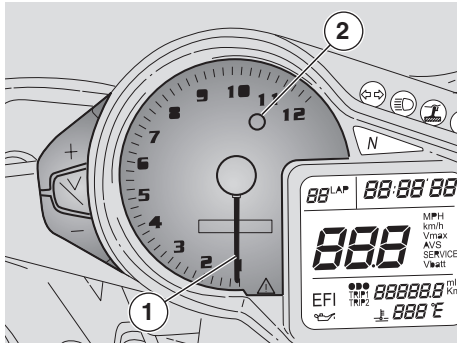
## INSTRUMENTS AND INDICATORS TABLE

When the ignition key is turned to "O" with the engine stopped, all warning lights come on for a LED check-up and go out after three seconds. If one or more warning lights do not come on at this stage, contact an **aprilia Official dealer**.

| Description   | Function  |
|---|---|
| <b>Rev counter (rpm)</b>  | Gives engine revolutions per minute.<br><b>⚠ CAUTION</b> Never exceed engine max rpm, see page 58 (RUNNING-IN).   |
| <b>Red line light</b>   | Blinks when its operating threshold (max rpm, user-selectable) is exceeded, see page 25 (SETTING THE RED LINE THRESHOLD (WITH ENGINE OFF ONLY)).<br>Comes on for three seconds when the maximum rpm threshold is confirmed during the setting procedure, see page 25 (SETTING THE RED LINE THRESHOLD (WITH ENGINE OFF ONLY)). It also comes on for three seconds each time the ignition key is turned to "O", see page 20 (MULTIFUNCTION COMPUTER).   |
| <b>Direction indicator light</b>  |  Blinks when the direction indicators are on.  |
| <b>High beam light</b>  |  Comes on when the high beam is on or when you flash the high beam.  |
| <b>Side stand light</b>   |  Comes on when the side stand is down  |
| <b>Low fuel light</b>   |  Comes on when there are about 4.5 ± 1 litres of fuel left in the tank.<br><b>Refuel as soon as possible, see page 34 (FUEL).</b>  |
| <b>Anti-theft device (immobilizer) light (where immobilizer system is fitted)</b> |  Blinks when the engine is off as a deterrent to prevent theft. Indicates that the anti-theft system is operating.<br><b>⚠ CAUTION</b> When the engine has not been started during 10 days in a row, the energy-saving feature will cause the light to go out, but the IMMOBILIZER system remains in operation.  |
| <b>Neutral light</b>  |  Comes on when the gearbox is in neutral.  |
| <b>Error light</b>  |  Comes on each time the ignition key is turned to "O", with the engine stopped for a light operation check-up.<br>If the light fails to come on at this stage, contact an <b>aprilia Official dealer</b><br><b>⚠ CAUTION</b> If it stays on  , along with any one of the three display symbols "EF",  , and  , after engine is fired, it means that a fuel injection system failure (EF) has been detected, engine oil pressure is low (  ) or coolant temperature is too high (  ). When this is the case, stop the engine immediately and contact an <b>aprilia Official dealer</b> |

| Description                   |                             | Function  |
|-------------------------------|-----------------------------|---|
| Multifunction digital display | Speedometer (km/h - MPH)    | Can be set to display current, average or maximum road speed (in kilometres or miles) see page 20 (MULTIFUNCTION COMPUTER).   |
|                               | Odometer ( KM - Mi)         | Gives total distance covered or distance covered since the trip meter was last reset (in km or miles).  |
|                               | Coolant temperature (°C/°F) | <p>Indicates engine coolant temperature, see page 20 (MULTIFUNCTION COMPUTER).</p> <p><b>⚠ CAUTION</b> Do not leave the ignition switch set to "⊗", as this will stop the cooling fans regardless of coolant temperature. Consequently, temperature will rise further.</p> <p>When temperature rises up to the danger zone, stop the engine, turn the ignition key to "○" and wait until the cooling fans switch off.</p> <p>Now turn the ignition key to "⊗" and check coolant level, see page 42 (COOLANT).</p> <p>Contact an <b>aprilia Official dealer</b>.</p> <p><b>⚠ CAUTION</b> Exceeding the maximum coolant temperature allowed (115 °C - 239 °F) may lead to severe engine damage.</p> |
|                               | Clock                       | Gives hours and minutes in accordance with selected settings, see page 20 (MULTIFUNCTION COMPUTER).   |
|                               | Battery voltage V BATT      | Indicates battery voltage, see page 20 (MULTIFUNCTION COMPUTER).  |
|                               | Lap timer                   | Indicates the various time measurements in accordance with selected settings, see page 20 (MULTIFUNCTION COMPUTER).   |
|                               | Diagnostics                 | <p>Each time the ignition switch is set to position "○", the wording "EFI" appears on the right side of the multifunction display for approximately three seconds.</p> <p><b>⚠ CAUTION</b> If the wording "EFI" appears during normal engine operation, it means that the Engine Control Unit has detected an anomaly. In most cases, the engine will keep running, although performance will be somewhat reduced. Contact an <b>aprilia Official dealer</b> immediately.</p>   |

To cycle through display readouts, see page 20 (MULTIFUNCTION COMPUTER)



## MULTIFUNCTION COMPUTER

When the ignition key is set to position "O", the following dashboard lights come on for three seconds:

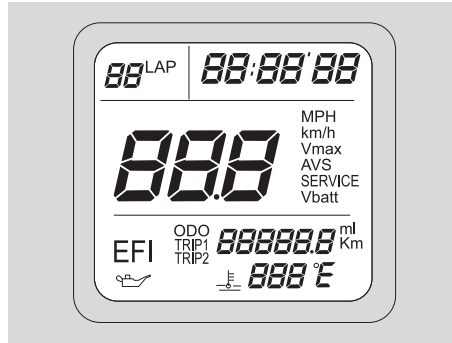
- all segments of the multifunction display;
- all warning lights;
- backlighting.

The rev counter pointer (1) moves to the maximum rpm value set by the user. After about three seconds, the red line light (2) goes out and the rev counter pointer (1) returns to its initial position.

During the initial check-up, all instruments will briefly show the current values of the corresponding parameters.

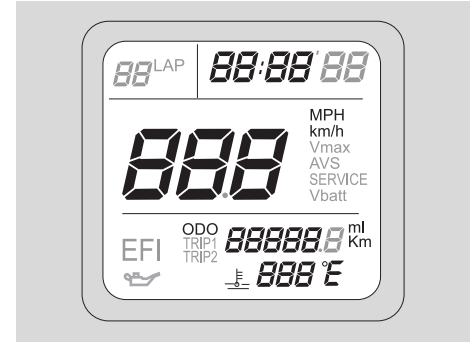
## ⚠ CAUTION

When an "ERR" message flashes on the dashboard instead of the water temperature and the stand and red line lights stay on with a steady light, it means that there is a communication problem on the CAN line between dashboard and Engine Control Unit. Contact a dealer.



## ⚠ CAUTION

After covering the first 1000 km, the "SERVICE" icon appears on the multifunction display. The icon is displayed again upon reaching 10,000 km and every 10,000 km afterwards. Contact an aprilia Official dealer to have the vehicle serviced as specified in the periodic maintenance chart, see page 63 (PERIODIC MAINTENANCE CHART). To turn off the "SERVICE" warning, hold down the "+" and "-" buttons for at least 15 seconds upon turning the key to on.

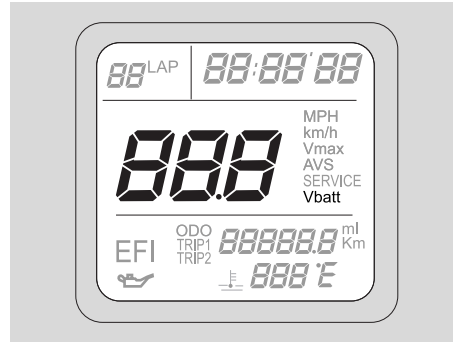
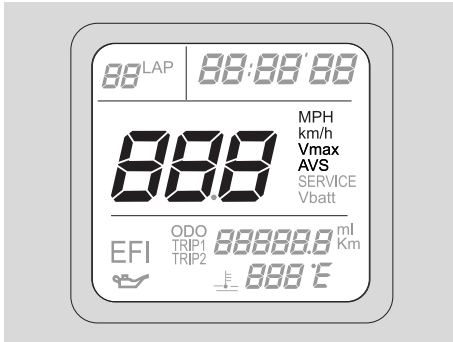


With the ignition key in position "O", standard display readouts are as follows:

- current speed
- clock
- coolant temperature
- odometer.

## TOGGLING BETWEEN MEASUREMENT UNITS (km-mi, kph-MPH, °C-°F)

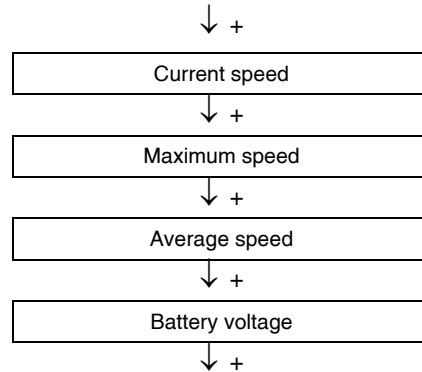
- ◆ Hold down the "TRIP/V" and "-" buttons together for over 15 seconds to toggle between km and mi and between kph and MPH.
- ◆ Likewise, hold down the "TRIP/V" and "+" buttons together for over 15 seconds to toggle between °C and °F.



### VIEWING CURRENT, MAXIMUM AND AVERAGE SPEEDS AND BATTERY VOLTAGE

**NOTE** Average and maximum speed and battery voltage are only displayed when the vehicle is stopped. Only current speed may be displayed while riding.

When the ignition key is turned to position "O", current speed appears on the display. Press the "+" button to display maximum speed (V max), average speed (AVS) and battery voltage.



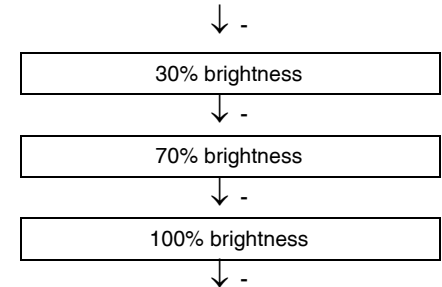
To reset maximum (V max) and average speed (AVS), select the speed indication you wish to reset and hold down the "-" button for at least 3 seconds.

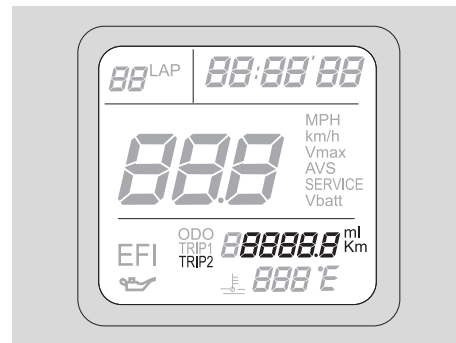
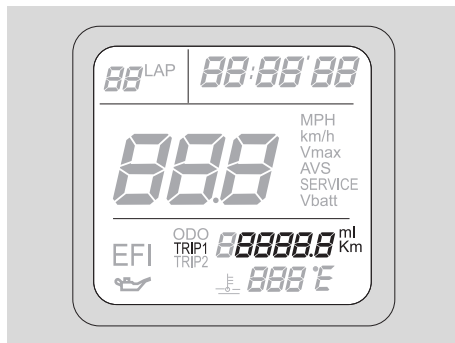
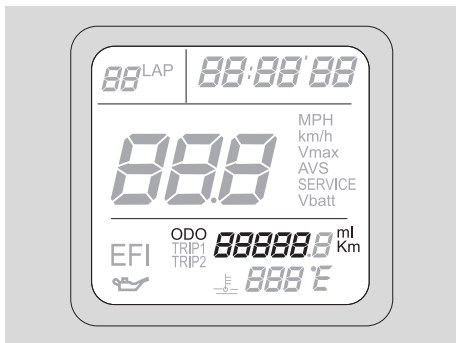
**NOTE** Maximum and average speeds are calculated on the distance covered since last resetting.

Battery voltage indication (expressed in Volts) cannot be changed and provides a measure of battery operating conditions.

The charging system is operating correctly when battery voltage at 4000 rpm with the low beam on is between 13 and 15 Volts.

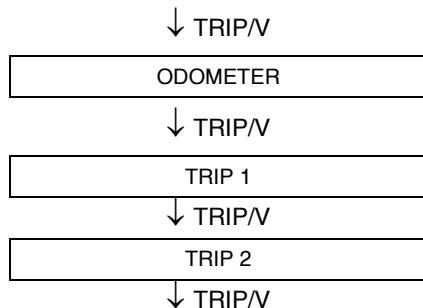
◆ Setting instrument backlighting: instrument backlighting brightness can be set at one of three preset levels (30%, 70%, 100%). To set backlighting, press the "-" button within 5 seconds of turning the key to "O".





## ODOMETER AND TRIP METER DISPLAY (TRIP 1 AND TRIP 2)

Turn the ignition key to "O", to display the odometer. To switch to the trip meter (km/mi) (TRIP 1 and TRIP 2), press the Trip/V button.

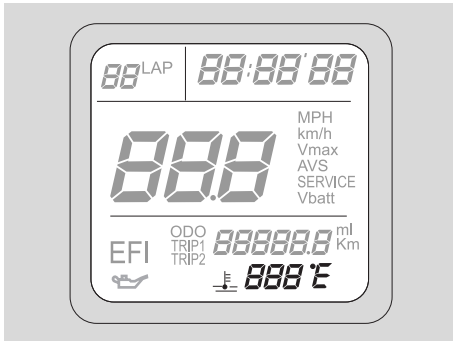


To reset TRIP 1, select Trip 1 display and hold down the "Trip/V" button for at least 3 seconds.

To reset TRIP 2, select Trip 2 display and hold down the "Trip/V" button for at least 3 seconds.

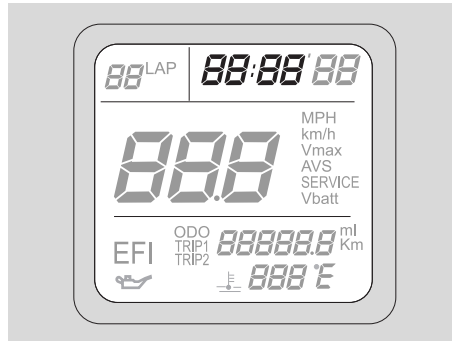
**NOTE** Trip meter indications reflect the distance covered since last resetting.

◆ Trip 1 and Trip 2 indications are wiped off when the battery is disconnected.



### COOLANT TEMPERATURE DISPLAY

- The coolant temperature display reads "----" when the sensor detects a temperature below 34°C (93°F).
- When the sensor detects a temperature between 35°C (95°F) and 114°C (237°F), the display provides actual temperature indication.
- Temperatures between 115° C (239° F) and 135°C (275°F) are displayed with a flashing indication. In addition, the warning light  $\Delta$  will come on to indicate a dangerous condition.
- The display will flash for temperatures above 135°C (275°F) (again, the warning light comes on).



### $\Delta$ CAUTION

**The dashboard error light ( $\Delta$ ) coming on indicates a damaged or disconnected coolant temperature sensor, resulting in missing temperature reading. When this is the case, contact an aprilia Official dealer.**

Display temperature range: 35-135°C (95-275 °F).

### SETTING THE DIGITAL CLOCK:

The digital clock is displayed in the top area of the screen.

The clock is only displayed when the key is set to "  $\odot$  ".

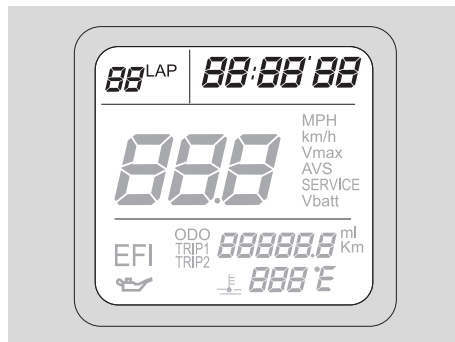
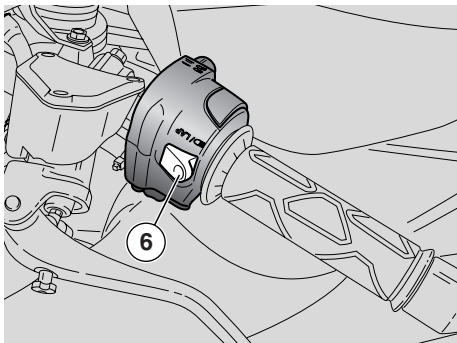
**NOTE** The clock may only be set when the key is set to "  $\odot$  " and the motorcycle is at standstill.

### HOURLY SETTING

- ◆ Hold down the buttons "+" and "-" for at least 3 seconds, until the hour digits begin to flash.
- ◆ Use the "+" and "-" buttons to set hours as desired.
- ◆ Hold down either of the buttons and current setting will increase/decrease by one unit per second.
- ◆ Hold down the "TRIP/V" button for at least three seconds to confirm hour setting. The clock will automatically switch to the minutes setting mode.

### MINUTES SETTING

- ◆ Pressing the "+" and "-" buttons increases/decreases current setting by one minute. Hold down either of the buttons to increase/decrease current setting by one unit per second.
- ◆ Hold down the "TRIP/V" button for at least 3 seconds, until the minute digits stop flashing, to confirm your new setting.
- ◆ Clock setting is lost when the battery is disconnected.



## LAP TIMER

The lap timer measures and stores lap times while riding on the track for later review.

When the "LAP TIMER" function is selected, the "clock" cannot be displayed:

To turn on the lap timer:

- ◆ Hold down "TRIP/V" for over 3 seconds while holding down the "LAP" button. The clock display area will read "01 LAP 00'00"00".

To turn off the lap timer:

- ◆ Hold down "TRIP/V" for over 3 seconds while holding down the "LAP" button. The display will return to the clock display.

To start the lap timer

- ◆ Press the "LAP" button (1) and release immediately. At the first press, time count starts.

Pressing the "LAP" button again within 10 seconds of starting the time count will reset and restart the time count

At the next press of the "LAP" button, a new lap time count begins. The previous lap time is stored and displayed for 10 seconds along with lap number (in the top left corner)

After these 10 seconds, lap timer display changes to second lap timing and lap number.

**NOTE** The lap timer can store up to 40 lap times. When memory is full, pressing the "LAP" button (1) will take no effect and the 40 lap times stored are displayed automatically.

The lap timer is reset by deleting the 40 lap times stored as follows.

Access the lap timer function and hold down the "-" button for at least 3 seconds while holding down the LAP button (1).

When the memory is clear, the lap timer goes back to the initial display "01 LAP 00'00"00".

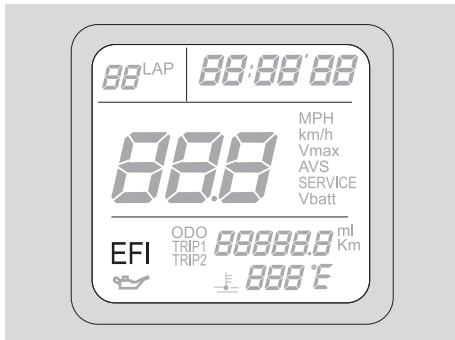
Any lap times stored will be lost when the battery is disconnected.

How to view stored lap times:

- ◆ Access the lap timer function and hold down "TRIP/V" for over 3 seconds. Scroll through lap times using buttons "+" (scroll forward) and "-" (scroll back).

To go back to the lap timer function, hold down "TRIP/V" for over 3 seconds.





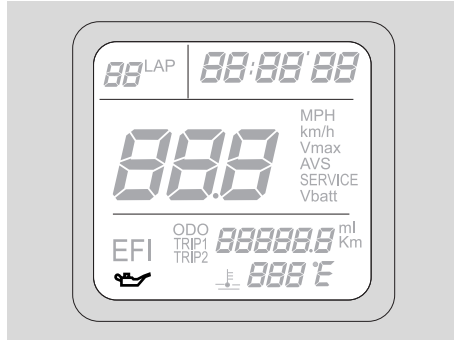
## DIAGNOSTICS

- 1) Each time the ignition key is set to "O", the wording "**EFI**" is displayed for about three seconds.

### ⚠ CAUTION

When the "**EFI**" wording turns on and the warning light (  $\Delta$  ) comes on during normal engine operation, it means that the Engine Control Unit has detected an anomaly.

In most cases the engine will keep running, although with less than ideal performance. However, contact an **aprilia** Official Dealer without delay.



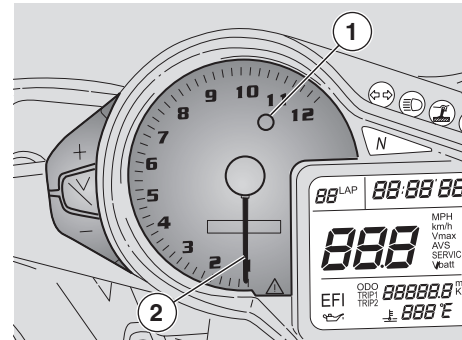
## ENGINE OIL PRESSURE

- Each time the ignition key is set to "O", the engine oil pressure light comes on for about three seconds.

### ⚠ CAUTION

If the engine oil pressure light stays on and the warning light (  $\Delta$  ) comes on as well, after engine firing or during normal engine operation, it means that the engine oil pressure is low.

Stop the engine immediately and contact an **aprilia** Official Dealer.



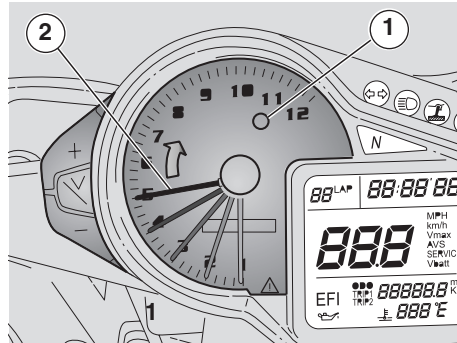
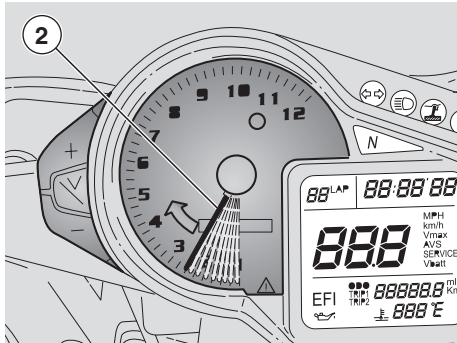
## SETTING THE RED LINE THRESHOLD (WITH ENGINE OFF ONLY)

When the maximum rpm set is exceeded, the red line warning light (red) (1) on the dashboard starts blinking.

**NOTE** The red line threshold, which operates the red line light, can only be set with the engine off and the odometer displayed. Setting range is 2,000 - 12,000 rpm.

Factory setting is 6,000 rpm.

To view red line threshold setting, hold down the "Trip/V" button for at least 3 seconds. The rev counter pointer (2) will point the corresponding rpm for three seconds.



### To set the red line threshold:

- ◆ Turn the ignition key to " Ⓞ ".
- ◆ Allow some time for the dashboard check-up routine.
- ◆ Hold down the "Trip/V" button for at least three seconds: the rev counter pointer (2) will point the current red line setting.
- ◆ You have three seconds to change setting as desired (as long as the rev counter pointer (2) is pointing current red line setting).
- ◆ Use the "+" button to change setting. Press briefly to increase setting by 100 rpm. Hold down a little longer to increase by 1000 rpm.
- ◆ After reaching full scale value (12,000 rpm), the pointer will go back to zero automatically.

- ◆ Three seconds after last pressing the "+" button, the new red line threshold is stored. This is confirmed by the red line light (1) coming on for three seconds, while the pointer (2) will go back to zero.
- ◆ If the engine is started during the setting procedure, the last setting is retained. The new threshold setting is also lost if the battery is disconnected during the setting procedure, and the last setting is retained.

## KEY CONTROLS

### CONTROLS ON THE RIGHT SIDE OF THE HANDLEBAR

**NOTE** The electric components will only work when the ignition switch is in position "○".

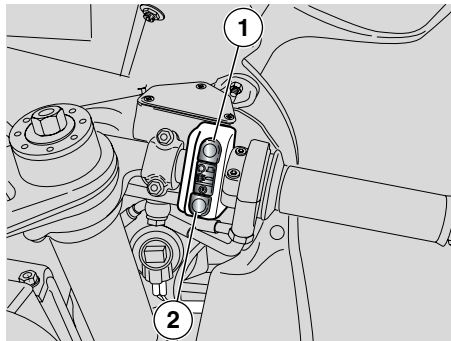
#### 1) ENGINE KILL SWITCH (■ ○ - ■ ⊗)

#### ⚠ CAUTION

Do not operate the engine kill switch (■ ○ - ■ ⊗) while riding.

This is a safety or emergency switch.

When it is in position "■ ○", the engine can be started. When set to position "■ ⊗", it will stop the engine.



#### ⚠ CAUTION

Leaving the ignition switch in position "■ ○" when the engine is stopped may let the battery run flat.

After stopping the vehicle, stop the engine and then turn the ignition switch to position "■ ⊗".

#### 2) STARTER BUTTON (⊗)

When pressed, the starter button "⊗", turns the engine over. See page 53 (STARTING) for starting procedure.

### CONTROLS ON THE LEFT SIDE OF THE HANDLEBAR

**NOTE** The electric components will only work when the ignition switch is in position "○".

#### 3) HORN BUTTON (⊂)

Press it to operate the horn.

#### 4) DIRECTION INDICATOR SWITCH (⇄)

Move the switch to the left in order to signal your intention to turn left; move the switch to the right to signal a right turn.

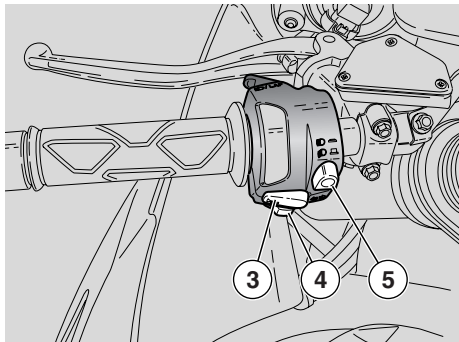
Press the switch to cancel the signal.

#### 5) DIMMER SWITCH (■ ⊗ - ■ ⊗)

With the dimmer switch set to "■ ⊗", the parking lights, the dashboard light and the low beam are on.

Push the dimmer switch to position "■ ⊗" to turn on the high beam.

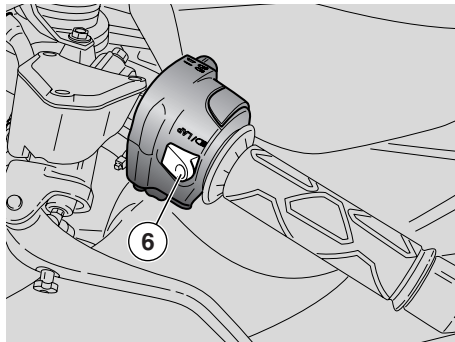
Ensure that the dimmer switch is set to "■ ⊗" before starting the engine.



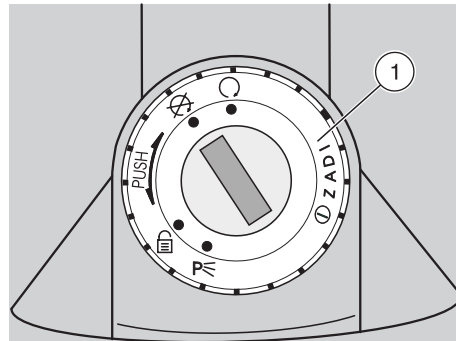
## 6) HIGH BEAM FLASHER (≡▷) / LAP (multifunction) BUTTON

**NOTE** To set the functions, see page 20 (MULTIFUNCTION COMPUTER).

Press the button to flash the high beam in an emergency. When pressed together with the TRIP/V button, it turns on the lap timer.



**NOTE** Release the button to stop the flasher.



## IGNITION SWITCH

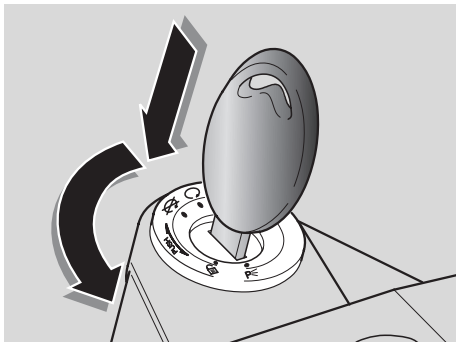
The ignition switch (1) is positioned on the steering head.

**NOTE** The key operates the ignition switch/steering lock, the fuel filler cap lock and the glove/tool kit compartment cover.

Two keys are delivered along with the vehicle (one spare key).

**NOTE** Do not keep the spare key on the vehicle.

**NOTE** Setting the ignition key to "○" automatically turns on the lights. The lights will turn off when the ignition switch is set to "⊙".



## STEERING LOCK




### ⚠ WARNING


Never turn the key to position "🔒" while riding or you might lose control of the vehicle.

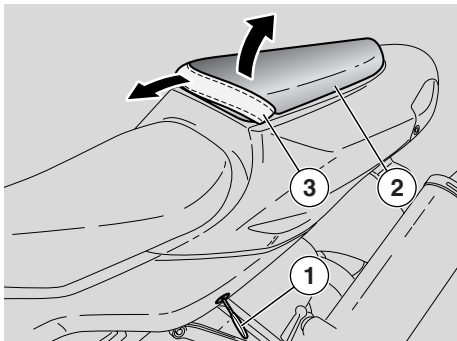
### OPERATION

To lock the steering:

- ◆ Turn the handlebar fully to the left.
- ◆ Turn the key to position "🔒".
- ◆ Push in the key and turn it to "🔒".
- ◆ Extract the key.

| Position   | Function   | Key removal  |
|--|--|--|
| <br>Steering lock | The steering is locked. It is not possible to start the engine or switch on the lights | It is possible to remove the key. The immobilizer system is activated after the key is removed. (where immobilizer system is fitted) |
|                   | Neither the engine nor the lights can be operated.                                     | It is possible to remove the key. The immobilizer system is activated after the key is removed. (where immobilizer system is fitted) |
|                   | The engine and the lights can be operated.   | It is not possible to remove the key.  |

|   |   |  |
|---|---|--|
|  | The steering is locked. It is not possible to start the engine. The parking lights of headlight and tail light are turned on. | It is possible to remove the key. The immobilizer system is activated after the key is removed. (where immobilizer system is fitted) |
|---|---|--|



### UNLOCKING/LOCKING THE PASSENGER SEAT

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Insert the key (1) into the seat lock.
- ◆ Release the passenger seat (2) from the grab strap (3).
- ◆ Turn the key (1) anticlockwise.
- ◆ Raise the front end of the passenger seat (2).
- ◆ Withdraw the passenger seat (2).

**NOTE** Before lowering and locking the seat (2), make sure that you have not left the key in the glove/tool kit compartment.

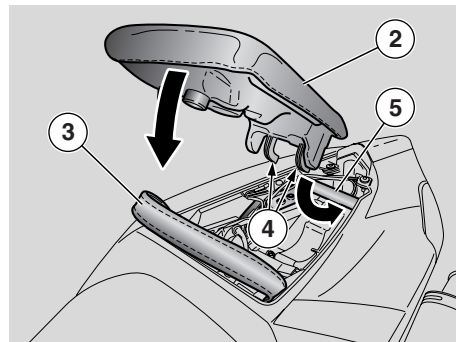
**To lock the seat (2), proceed as follows:**

- ◆ Slide the hooks (4) placed at the rear end of the passenger seat underneath the frame tube (5) of the rear subframe.
- ◆ Push the passenger grab strap (3) forward and lower the front end of the seat. Make sure to set the grab strap in the correct position.
- ◆ Press down on the front end of the seat so that the lock becomes engaged.

### ⚠ WARNING

**Make sure the seat (2) is locked securely before riding.**

**NOTE** The **RFACT** version is only approved in the single-seater configuration for the **USA** market. The corresponding market version is not fitted with a passenger seat.

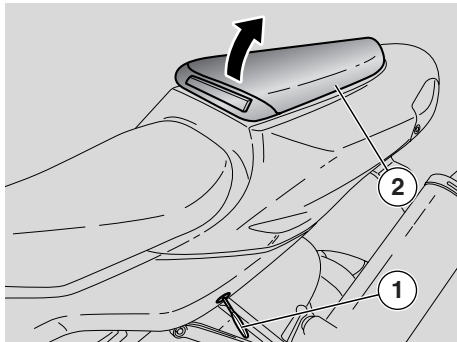


The tail of the vehicle accommodates a convenient glove / tool kit compartment, which is accessed by removing the compartment cover.

**NOTE** The glove/tool kit compartment cover can only be used when the passenger seat (2) is removed and vice versa.

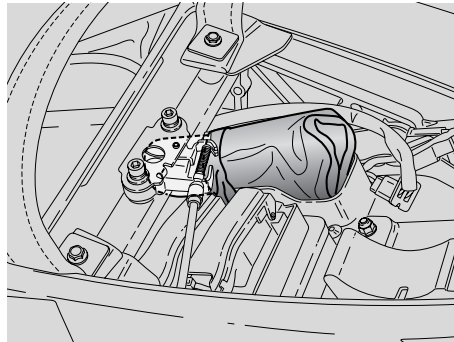
To use the vehicle with the glove/tool kit compartment cover it is necessary to remove the passenger seat as previously described.

See page 31 (UNLOCKING/LOCKING THE GLOVE/TOOL KIT COMPARTMENT COVER) for installation instructions.



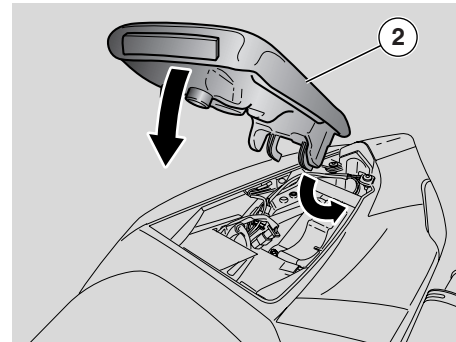
### UNLOCKING/LOCKING THE GLOVE/TOOL KIT COMPARTMENT COVER

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Insert the key (1) in the lock.
- ◆ Turn the key (1) anticlockwise, raise the glove/tool kit compartment cover (2) and ease it off in a forward motion.



The tail of the vehicle accommodates a convenient glove / tool kit compartment, which is accessed by removing the compartment cover (2).

**NOTE** Before lowering and locking the glove/tool kit compartment cover (2), make sure that you have not left the key in the glove/tool kit compartment.

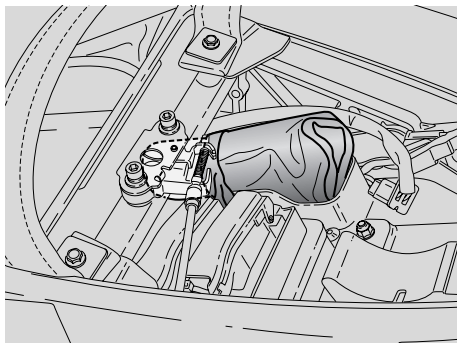


**To lock the glove/tool kit compartment cover (2):**

- ◆ Slide the lower front lugs underneath the frame tube of the rear subframe.
- ◆ Position the glove/tool kit compartment cover in its seat and press down until the lock snaps shut.

### **⚠ WARNING**

**Before riding, make sure that the glove/tool kit compartment cover (2) is correctly locked.**



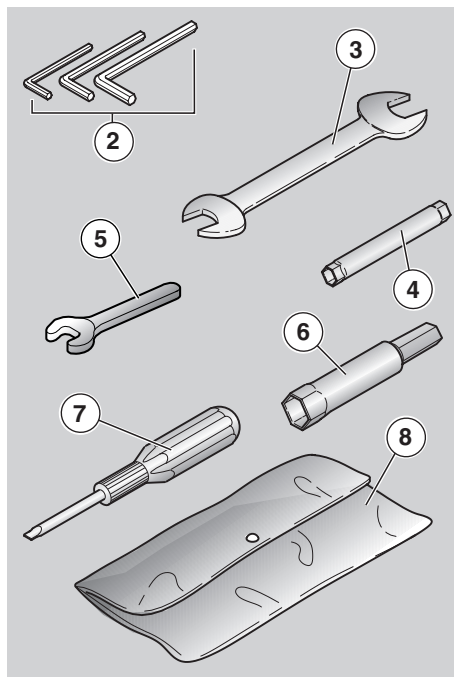
## GLOVE/TOOL KIT COMPARTMENT

To reach the glove/tool kit compartment, proceed as follows:

- ◆ Remove the passenger seat - see page 30 (UNLOCKING/LOCKING THE PASSENGER SEAT) - or the glove/tool kit compartment cover - see page 31 (UNLOCKING/LOCKING THE GLOVE/TOOL KIT COMPARTMENT COVER).

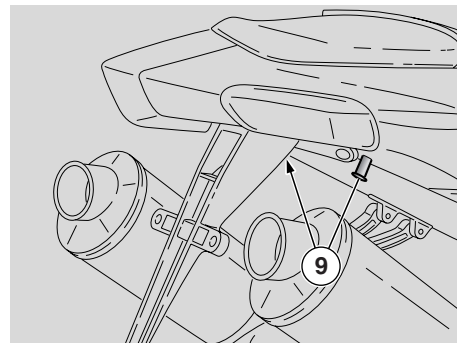
The tool kit (1) includes:

- 3, 5, 6 mm Allen spanners (2);
- 11 - 13 mm double open-end spanner (3);
- 8 - 10 mm double socket spanner (4);
- 17 mm open-end spanner (5);
- 16 mm socket spanner for spark plug (6)



- double-ended (cross-headed/hexagon) screwdriver (7);
- tool box (8).

**Maximum load allowed: 1.5 kg.**



## LUGGAGE FIXING POINTS

The passenger seat can be used to carry small luggage, which must be strapped down securely to the suitable fixing points (9).

**Maximum load allowed: 9 kg.**

### ⚠ WARNING

**Carry small luggage only and make sure it is fastened securely.**

**NOTE** The **RFACIT** version for the **USA** market is only available in the single-seater configuration and has no luggage fixing points.



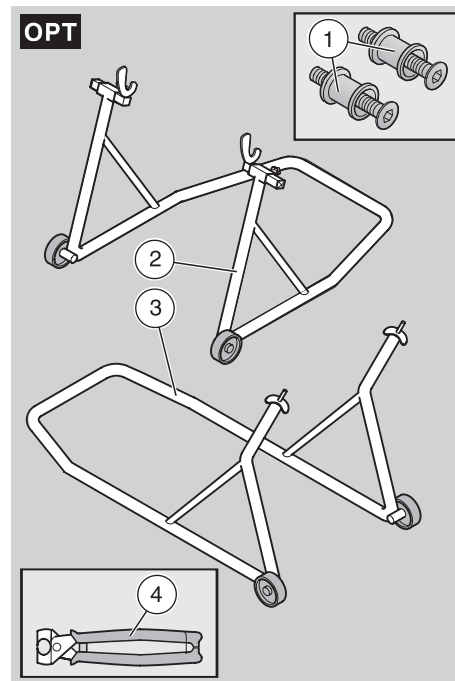
## SPECIAL TOOLS **OPT**

Certain specific operations must be performed using special tools, available from **aprilia Official dealer**:

| Tool  | Operations   |
|---|--|
| Pins (1) for the rear wheel stand, see page 70 (FITTING THE PINS FOR THE REAR WHEEL STAND <b>OPT</b> ). | To position the vehicle on the rear wheel stand.   |
| Rear wheel stand (2), see page 70 (PLACING THE VEHICLE ON THE REAR WHEEL STAND <b>OPT</b> ).            | Engine oil and engine oil filter change. Rear wheel disassembly. Drive chain adjustment. Removal of the lower fairing. |
| Front wheel stand (3), see page 71 (PLACING THE VEHICLE ON THE FRONT WHEEL STAND <b>OPT</b> ).          | Front wheel disassembly.   |
| Click clamp (4) installation pliers, see page 65 (CLICK CLAMPS).  | Click clamp installation.  |

## ACCESSORIES

- "R FACTORY" front fork,  
- "R FACTORY" rear shock absorber, and  
- adjustable steering damper,  
which are fitted from standard to the RSV 1000 R FACTORY, can also be installed to the RSV 1000 R (contact an **aprilia Official dealer**).



## MAIN COMPONENTS

### FUEL

#### **⚠ WARNING**

The fuel used to operate engines is highly flammable and becomes explosive under particular conditions. Refuelling and engine service should take place in a well-ventilated area with the engine stopped. Do not smoke when refuelling or in the proximity of sources of fuel vapours. Avoid contact with open flames, sources of sparks or any other source which may ignite the fuel or lead to explosion.

Take care not to spill fuel out of the filler, or it may ignite when in contact with hot engine parts.

In the event of accidental fuel spillage, make sure the affected area is fully dry before starting the engine. Fuel expands from heat and when left under direct sunlight. Never fill the fuel tank up to the rim.

Tighten the filler cap securely after each refuelling. Avoid contact with skin. Do not inhale vapours. Do not swallow fuel. Do not transfer fuel between different containers.

**DO NOT RELEASE FUEL INTO THE ENVIRONMENT.**

**KEEP AWAY FROM CHILDREN.**

Use only premium-grade unleaded fuel with a minimum octane rating of 95 (RON) and 85 (MON).

**To refuel, proceed as follows:**

- ◆ Raise the flap (1).
- ◆ Insert the key (2) into the filler cap lock (3).
- ◆ Turn the key clockwise, pull and open the fuel flap.

TANK CAPACITY (reserve included): 17.5 ℓ

FUEL RESERVE: 4.5 ± 1 ℓ

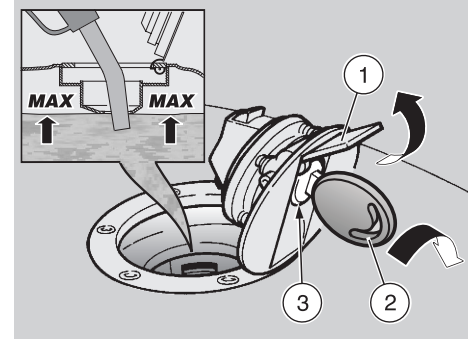
#### **⚠ CAUTION**

Do not add any additives or other substances to the fuel. If you use a funnel or other tool, make sure that they are perfectly clean.

#### **⚠ WARNING**

Do not fill the tank up to the rim. Fuel level must always remain below the lower edge of the filler neck (see figure).

- ◆ Refuel.



**After refuelling:**

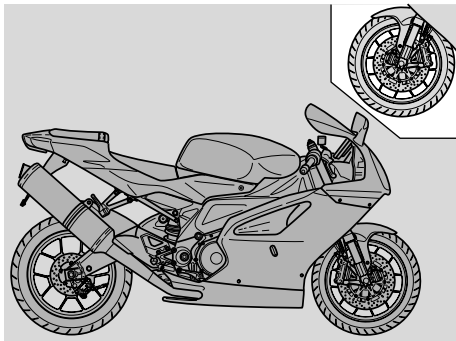
**NOTE** The cap can only be closed when the key (2) is inserted.

- ◆ Press the cap with the key (2) inserted to close.

#### **⚠ WARNING**

Make sure that the cap is properly closed.

- ◆ Extract the key (2).
- ◆ Close the flap (1).



## BRAKE FLUID - recommendations

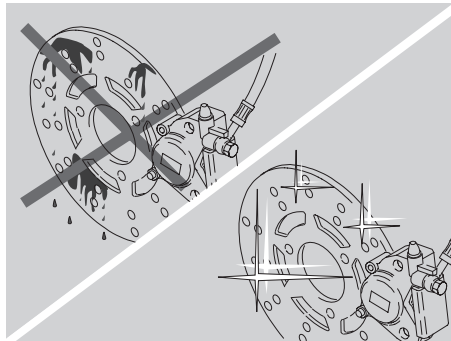
**NOTE** This vehicle is fitted with front and rear disk brakes. Each braking system is operated by an independent hydraulic circuit.

The information provided below applies to both braking systems.

### **⚠ WARNING**

Any sudden changes in play or hardness in the brake lever are warning signs of problems with the hydraulic circuits.

If in doubt about the braking efficiency of your bike or if you are not able to perform routine checks, contact an **aprilia** Official Dealer.



### **⚠ WARNING**

Ensure that the brake disks and brake linings have not become contaminated with oil or grease. This is particularly important after servicing or inspections.

Make sure the brake lines are not twisted or worn.

Prevent accidental ingress of water or dust into the circuit. Wear latex gloves when servicing the hydraulic circuit.

Brake fluid is an irritant. Avoid contact with eyes or skin.



### **⚠ WARNING**

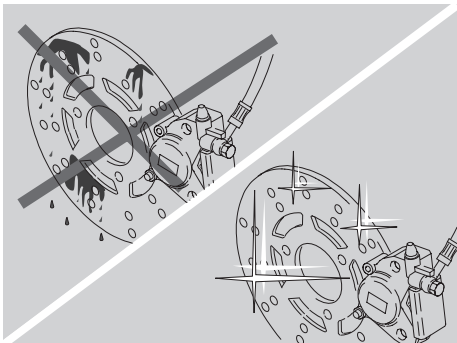
In the event of accidental contact, wash affected body parts thoroughly. In the event of accidental contact with eyes, contact an eye specialist or seek medical advice.

KEEP AWAY FROM CHILDREN.

DO NOT RELEASE BRAKE FLUID INTO THE ENVIRONMENT.

### **⚠ CAUTION**

When handling brake fluid, take care not to spill it onto plastic or paint-finished parts or they will damage.



## DISK BRAKES

### WARNING

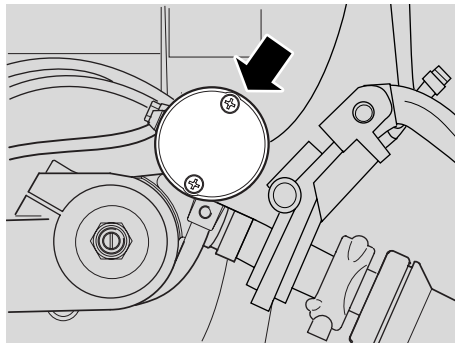
The brakes are critical to your safety and must always be kept in sleek running order. Check the brakes before each ride.

A dirty disk will soil the pads, leading to loss of braking. Dirty pads must be replaced, whereas a dirty brake disk may be cleaned with a high-quality degreasing product.

Have brake fluid changed at an **aprilia Official Dealer** every two years.

Use the brake fluid specified in the lubricant chart, see page 117 (LUBRICANT CHART).

**NOTE** This vehicle is fitted with front and rear disk brakes. Each braking system is operated by an independent hydraulic circuit.



The front brake is a twin-disk brake (one disk on either side of the wheel).

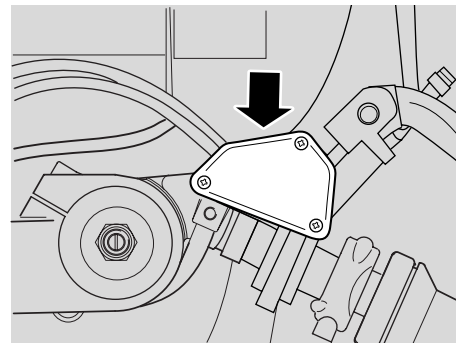
The rear brake uses a single disk (fitted to the right side of the wheel).

The information provided below applies to both braking systems.

Brake fluid level decreases gradually as the brake pads wear down.

The front brake fluid reservoir is mounted near the front brake lever coupling.

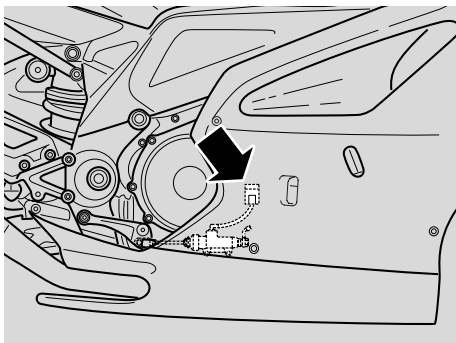
The rear brake fluid reservoir is positioned under the right fairing; to reach it, remove the right fairing, see page 82 (REMOVING THE SIDE FAIRINGS).



**NOTE** Halve service intervals when the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Have the brake disks checked by an **aprilia Official dealer** after the first 1000 km (625 mi) and every 10000 km (6250 mi) afterwards.

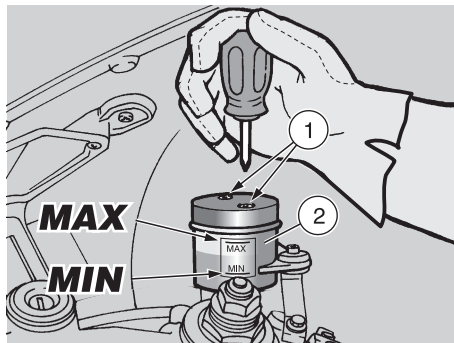
Before each ride, check brake fluid level in both reservoirs - see page 37 (FRONT BRAKE) and page 39 (REAR BRAKE), and check the brake pads for wear - see page 93 (CHECKING THE BRAKE PADS FOR WEAR).



Have brake fluid changed every two years by an **aprilia Official dealer**.

### **⚠ WARNING**

**Do not ride if the braking system is leaking.**



## **FRONT BRAKE**

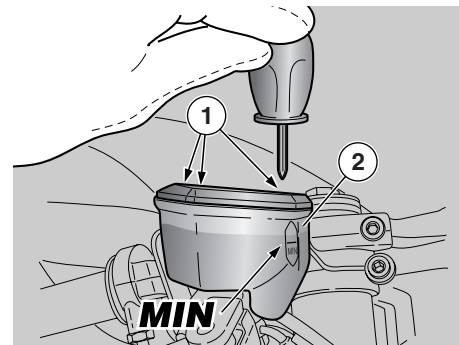
### **CHECK**

- ◆ Place the vehicle in vertical position, keep the handlebar in the direction of travel.
- ◆ Make sure that the fluid level in the reservoir exceeds the "MIN" mark.  
**MIN**= minimum level  
**MAX**= maximum level

If level is below the "MIN" mark:

### **⚠ CAUTION**

**Brake fluid level decreases gradually as the brake pads wear down.**



- ◆ Check the brake disk and the brake pads for wear, see page 93 (CHECKING THE BRAKE PADS FOR WEAR).

If the pads and/or the disk are in good condition, top up to correct level.

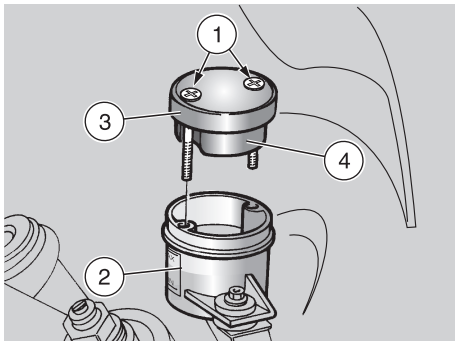
### **TOPPING UP**

**Read page 35 (BRAKE FLUID - recommendations) carefully.**

### **⚠ CAUTION**

**Danger: brake fluid could leak out. Never operate the front brake lever when the screws (1) have been loosened or when the reservoir cover is not in place.**

- ◆ Unscrew the screws (1) of the brake fluid reservoir (2) by means of a short, cross-headed screwdriver.



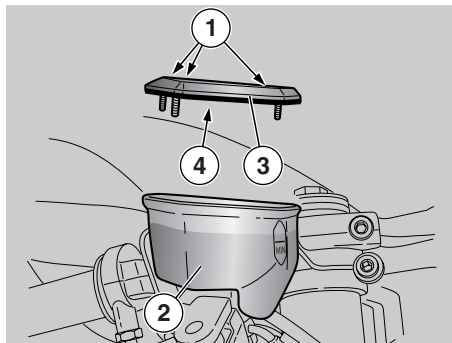
### ⚠ WARNING

Avoid long exposure of brake fluid to air.

Brake fluid is hygroscopic and will absorb moisture from the air.

Keep the brake fluid reservoir open **JUST LONG ENOUGH** to top up level.

- ◆ Raise and remove the cover (3) together with the screws (1) and the gasket (4).



### ⚠ CAUTION

Do not rock the motorcycle from side to side when topping up or brake fluid will spill out.

Do not add any additives or other products.

If you use a funnel or other tool, ensure they are perfectly clean.

- ◆ Top up the reservoir (2) with brake fluid, see page 117 (LUBRICANT CHART) until exceeding "**MIN**" level mark.

### ⚠ CAUTION

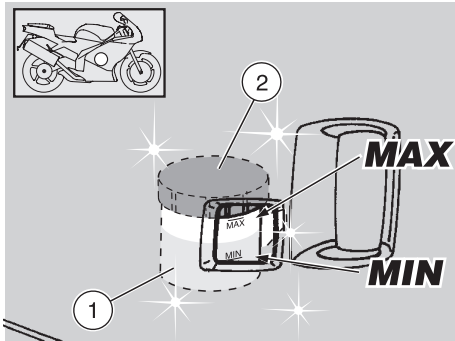
While topping up, never pour too much fluid.

Fill up to max. level only with new brake pads.

If topped up to max. level with worn pads, brake fluid will spill out when you change the pads at a later time.

Check braking efficiency.

When the brake lever has exceeding travel or if you notice a loss of braking, contact an **aprilia** Official dealer. The braking system may need bleeding.



## REAR BRAKE

### CHECK

- ◆ Keep the vehicle upright, so that the fluid in the reservoir (1) is parallel with the plug (2).
- ◆ Look through the special slot in the right fairing to check that fluid level in the reservoir exceeds the "MIN" mark.

MIN= minimum level

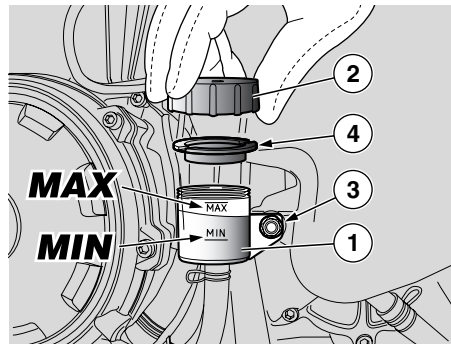
MAX= maximum level

If level is below the "MIN" mark:

### ⚠ CAUTION

**Brake fluid level decreases gradually as the brake pads wear down.**

- ◆ Check the brake disk and the brake pads for wear, see page 93 (CHECKING THE BRAKE PADS FOR WEAR).



If the pads and/or the disk are in good condition, top up to correct level.

### TOPPING UP

**Read page 35 (BRAKE FLUID - recommendations) carefully.**

- ◆ Remove the right fairing, see page 82 (REMOVING THE SIDE FAIRINGS).

### ⚠ CAUTION

**Danger: brake fluid could leak out. Never operate the rear brake lever when the reservoir cap is loose or has been removed.**

### ⚠ WARNING

**Avoid long exposure of brake fluid to air.**

**Brake fluid is hygroscopic and will absorb moisture from the air.**

**Keep the brake fluid reservoir open JUST LONG ENOUGH to top up level.**

- ◆ Unscrew the screw (3) completely.
- ◆ Shift the complete reservoir (1) moderately outwards.
- ◆ Unscrew and remove the cap (2).

### ⚠ CAUTION

**Ensure the fluid in the reservoir is parallel with the reservoir rim at all times (in a horizontal position) when topping up or brake fluid will spill out.**

**Do not add any additives or other products.**

**If you use a funnel or other tool, ensure they are perfectly clean.**

- ◆ Remove the gasket (4).
- ◆ Top up the reservoir (1) with brake fluid, see page 117 (LUBRICANT CHART) until bringing level between the "MIN" and "MAX" marks.  
Always renew the brake pads before topping up to "MAX" level.

### ⚠ CAUTION

**Do not tilt reservoir (1) even if plug (2) is tightened. This might let air in the circuit and brake system would be impaired.**



### **⚠ CAUTION**

Brake pad wear affects fluid level. If topped up to "MAX" level with worn pads, brake fluid will spill out when you change the pads at a later time.

Check braking efficiency.

When the brake lever has exceeded travel or if you notice a loss of braking, contact an **aprilia** Official dealer. The braking system may need bleeding.

### **CLUTCH FLUID - recommendations**

**NOTE** This vehicle is fitted with a hydraulically-controlled clutch.

### **⚠ CAUTION**

Any sudden changes in play or hardness in the clutch lever are warning signs of problems with the hydraulic circuit.

If in doubt about the proper operation of the clutch or if you are not able to perform routine checks, contact an **aprilia** Official dealer.

### **⚠ CAUTION**

Make sure the clutch hose is not twisted or worn.

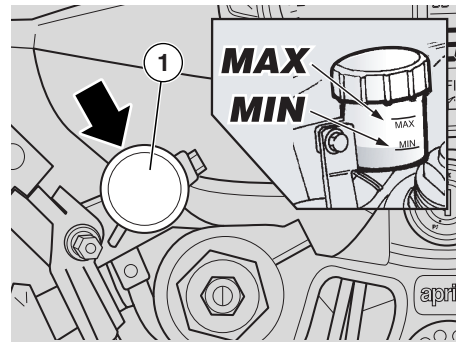
Prevent accidental ingress of water or dust into the circuit. Wear latex gloves when servicing the hydraulic circuit.

Clutch fluid is an irritant. Avoid contact with eyes or skin.

In the event of accidental contact, wash affected body parts thoroughly. In the event of accidental contact with eyes, contact an eye specialist or seek medical advice.

**DO NOT RELEASE CLUTCH FLUID INTO THE ENVIRONMENT.**

**KEEP AWAY FROM CHILDREN.**



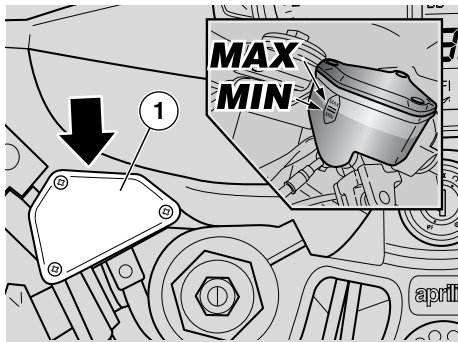
When handling clutch fluid, take care not to spill it onto plastic or paint-finished parts or they will damage.

Have clutch fluid changed every two years by an **aprilia** Official dealer.

Use the clutch fluid specified in the lubricant chart, see page 117 (LUBRICANT CHART).

The clutch fluid reservoir (1) is mounted near the clutch lever coupling.





**NOTE** Halve service intervals when the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Before each ride, check clutch fluid level in the reservoir - see page 41 (CLUTCH). Have clutch fluid changed every two years by an **aprilia Official dealer**.

### **⚠ WARNING**

**Do not ride if the clutch hydraulic circuit is leaking.**



### **CLUTCH**

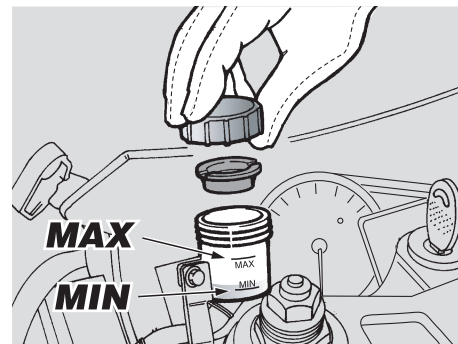
**NOTE** Halve service intervals when the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Have the clutch checked by an **aprilia Official dealer** every 10,000 km (6250 mi).

**If the vehicle is used for racing:**

have the clutch checked by an **aprilia Official dealer** every 5000 km (3120 mi).

**NOTE** The engine is equipped with a hydraulically-operated clutch, aided by the patented PPC (Pneumatic Power Clutch) system, which prevents rear wheel bouncing under braking.



### **CHECK**

- ◆ Place the vehicle in vertical position and keep handlebar in the direction of travel.
- ◆ Make sure that the fluid level exceeds the "MIN" mark.

**MIN**= minimum level

**MAX**= maximum level

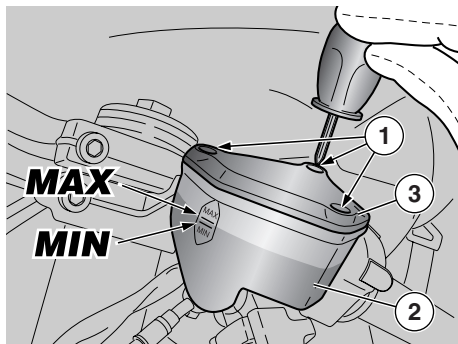
- ◆ If fluid is below the "MIN" mark, top up to correct level.

### **TOPPING UP**

**Read page 40 (CLUTCH FLUID - recommendations) carefully.**

### **⚠ CAUTION**

**Danger: clutch fluid could leak out. Never operate the clutch lever when the reservoir cap is loose or has been removed.**



### **⚠ WARNING**

Avoid long exposure of clutch fluid to air.

Clutch fluid is hygroscopic and will absorb moisture from the air.

Keep the clutch fluid reservoir open **JUST LONG ENOUGH** to top up level.

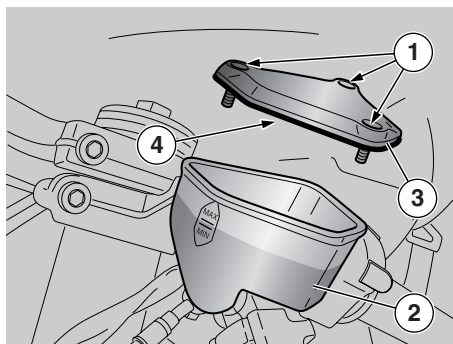
- ◆ Use a short cross-headed screwdriver and undo the three screws (1) from clutch fluid reservoir (2).
- ◆ Lift and remove cover (3) together with screws (1) and gasket (4).

### **⚠ CAUTION**

Do not rock the motorcycle from side to side when topping up or clutch fluid will spill out.

Do not add any additives or other products.

If you use a funnel or other tool, ensure they are perfectly clean.



- ◆ Top up the reservoir (2) with clutch fluid, see page 117 (LUBRICANT CHART) until bringing level between the "MIN" and "MAX" marks.

### **⚠ CAUTION**

Never exceed the "MAX" level.

Check the clutch for proper operation.

**When the clutch lever has exceeding travel or if you notice a loss of efficiency, contact an *aprilia* Official dealer. The clutch hydraulic circuit may need bleeding.**



## **COOLANT**

### **⚠ CAUTION**

Do not ride when coolant is below the minimum level "LOW".

**NOTE** You will need to remove the right side fairing in order to top up coolant level.

**NOTE** Halve service intervals when the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Check coolant level before each ride - see page 44 (CHECKING AND TOPPING UP). Have coolant changed every two years by an ***aprilia* Official dealer**.



### **⚠ WARNING**

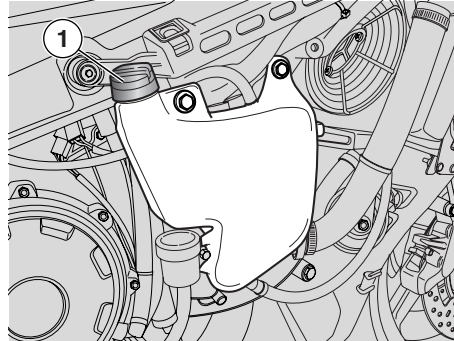
Coolant is toxic when ingested. Contact with eyes or skin may cause irritation. In the event of contact with eyes, rinse repeatedly with abundant water and seek medical advice. In the event of ingestion, induce vomiting, rinse mouth and throat with abundant water and seek medical advice immediately.

**KEEP AWAY FROM CHILDREN.**

**DO NOT RELEASE INTO THE ENVIRONMENT.**

Take care not to spill coolant onto hot engine parts. It may ignite and produce invisible flames.

Wear latex gloves when servicing.



### **⚠ CAUTION**

**Have coolant changed at an aprilia Official dealer.**

Coolant mixture is a 50% solution of water and anti-freeze.

This is the ideal solution for most operating temperatures and provides good corrosion protection.

This solution is also suited to the warm season, as the mixture is less prone to evaporative loss and will reduce the need for top-ups. In addition, less water evaporation means fewer mineral salts depositing in the radiator, which helps preserve the efficiency of the cooling system.



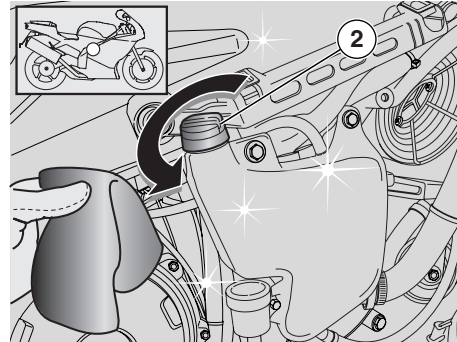
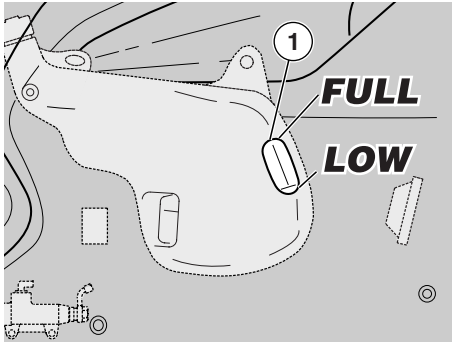
When temperature drops below zero degrees centigrade, check the cooling system frequently and add more anti-freeze (up to 60% maximum) to the solution.

Use distilled water in the coolant mixture. Tap water will damage the engine.

### **⚠ WARNING**

**Do not remove the expansion tank plug (1) when the engine is hot, since coolant is very hot.**

**Contact with skin or clothes, may cause severe scalding and/or damage.**



## CHECKING AND TOPPING UP

### **⚠ WARNING**

**Wait for the engine to cool down before checking or topping up coolant level.**

- ◆ Stop the engine and wait until it has cooled down.
- ◆ Hold the vehicle upright, with both wheels on the ground.
- ◆ Look through the slot (1) in the right fairing and check that coolant level in the expansion tank is between the "FULL" and "LOW" marks.

**FULL** = maximum level

**LOW** = minimum level

**If not so:**

- ◆ Remove the side fairing, see page 82 (REMOVING THE SIDE FAIRINGS).
- ◆ Unscrew and remove the filler cap (2).

### **⚠ WARNING**

**Coolant is toxic when ingested. Contact with eyes or skin may cause irritation. Do not put your fingers or any other object into the filler opening in order to ensure that there is coolant.**

### **⚠ CAUTION**

**Do not add any additives or other products.**

**If you use a funnel or other tool, ensure they are perfectly clean.**

- ◆ Top up with coolant, see page 117 (LUBRICANT CHART) up to just below the "FULL" mark. Never top up beyond the "FULL" level mark or coolant will leak out when the engine is running.
- ◆ Refit the filler cap (2).

### **⚠ CAUTION**

**If coolant level drops too quickly or the tank is empty, check the cooling circuit for leaks. Have the leak repaired at an **aprilia** Official dealer.**

## TYRES

This vehicle is fitted with tubeless tyres.

**NOTE** Halve service intervals when the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

### ⚠ WARNING

Check the tyre condition and inflation pressure at room temperature every two weeks.

Check the tyre condition and inflation pressure at room temperature after the first 1000 km (625 mi) and every two weeks afterwards, see page 113 (TECHNICAL DATA).

Checking pressure on hot tyres will result in inaccurate measurement.

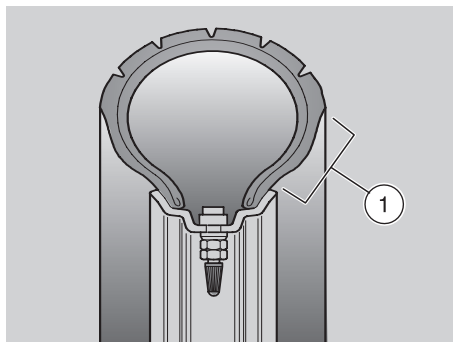
Take care to check tyre pressures before and after a long journey.

An overinflated tyre will provide a harsh ride, reduce riding comfort and stability when cornering.

An underinflated tyre will extend the contact patch to include a larger portion of the tyre wall (1). When this is the case, the tyre may slip on or become separated from the rim, leading to loss of control.

The tyre may even come off the rim under hard braking.

Lastly, the vehicle may skid in a bend.



### ⚠ WARNING

Inspect tread surface and check for wear. Badly worn tyres adversely affect road holding and handling.

Some of the tyre types approved for this vehicle are fitted with wear indicators.

There are various types of wear indicators.

Enquire about the correct wear inspection procedure with your supplier.

Visually inspect the tyres for wear and have them changed when worn.

A tyre that becomes punctured in the tread area should be changed when the puncture is larger than 5 mm.

The wheel must be balanced after each tyre repair.

### ⚠ WARNING

Use tyres of the specified type and model recommended by the manufacturer, see page 113 (TECHNICAL DATA). Using other than specified tyres may adversely affect handling.

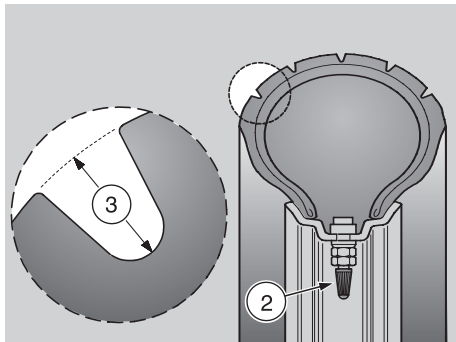
Never use tube tyres on tubeless tyre rims, or vice versa.

Always check that the caps are in place on the valves (2), or the tyres may deflate suddenly.

Tyre replacement and repair, as well as wheel servicing and balancing are delicate operations. They should be carried out using adequate tools and are best left to experienced mechanics.

Have your tyres and wheels serviced at an **aprilia** Official dealer or a specialised tyre repairer.

New tyres may be coated with an oily film. Drive carefully until covering several kilometres. Never apply non-specific products to the tyres. Old tyres may not ensure full grip due to material ageing - even when they are still within the wear limit - and must be replaced.



### MINIMUM RECOMMENDED TREAD DEPTH (3):

front and rear 2 mm (USA 3 mm) and in any case not less than prescribed by the regulations in force in the country where the vehicle is used.

## ENGINE OIL

### ⚠ WARNING

Prolonged or repeated contact with oil may cause severe skin damage.

Wash your hands thoroughly after handling oil.

**KEEP AWAY FROM CHILDREN.  
DO NOT RELEASE INTO THE ENVIRONMENT.**

Place oil in a sealed container and dispose of it through a waste oil reclamation firm or through your usual supplier.

Wear latex gloves during servicing.

### ⚠ CAUTION

If the warning light " ⚠ " comes on and the symbol "🛢" appears on the display during normal engine operation, it means that engine oil pressure in the circuit is too low.

When this is the case, check engine oil level, see page 65 (CHECKING AND TOPPING UP ENGINE OIL LEVEL). If engine oil level is not correct, stop the engine immediately and contact an **aprilia** Official dealer.



### ⚠ CAUTION

Handle carefully.

Do not spill oil!

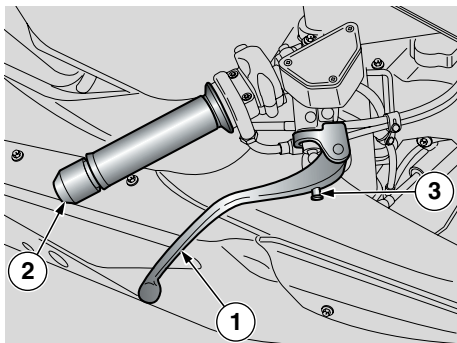
Avoid smearing any vehicle components, the area in which you are working and the surrounding area. Remove any trace of oil.

In case of leakage or malfunctions, contact an **aprilia** Official dealer.

Check engine oil level at regular intervals, see page 65 (CHECKING AND TOPPING UP ENGINE OIL LEVEL).

See page 63 (PERIODIC MAINTENANCE CHART) and page 67 (CHANGING ENGINE OIL AND THE ENGINE OIL FILTER) for oil change instructions.

**NOTE** Use high-quality 15W - 50 oil, see page 117 (LUBRICANT CHART).

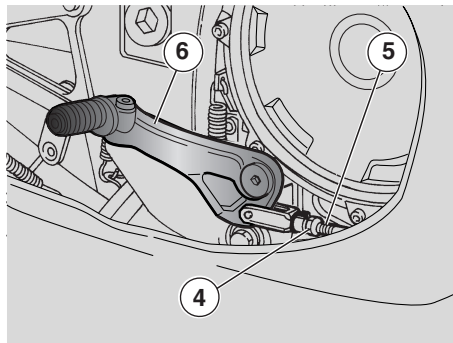


### ADJUSTING THE FRONT BRAKE LEVER AND THE CLUTCH LEVER

The grab distance of the lever (1) (distance from the grip (2)) can be adjusted by rotating the adjuster (3).

The MAX and MIN click settings give a grab distance of 126 and 83 mm, respectively.

- ◆ ★ Push the lever (1) forward and rotate the adjuster (3) until setting the lever (1) at the desired distance.

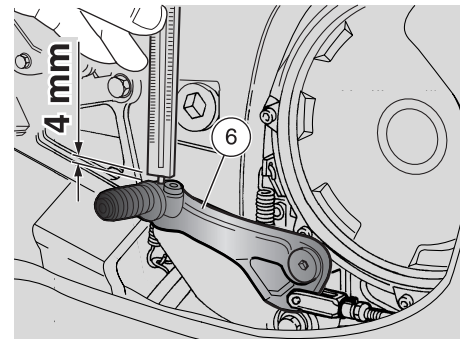


### ADJUSTING REAR BRAKE LEVER CLEARANCE

Brake lever position is determined based on ergonomic principles at the factory.

If necessary, it is possible to adjust brake lever clearance:

- ◆ Slacken the lock nut (4).
- ◆ Unscrew the master cylinder actuating rod (5) to ensure a minimum clearance of **0.5 - 1 mm** between the rod and the piston.



#### ⚠ CAUTION

**Make sure that the lever (6) has a certain amount of free play, or the brake will remain applied leading to early wear of braking elements.**

**Free play of lever (6): 4 mm (measured at the lever end).**

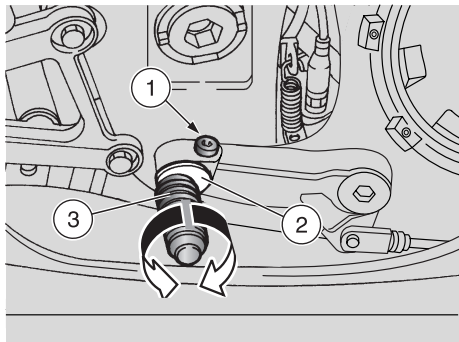
- ◆ Lock the master cylinder actuating rod (5) by means of the lock nut (4).

#### ⚠ CAUTION

**After the adjustment, make sure that the wheel rotates freely with the brake released.**

**Check braking efficiency.**

**If necessary, contact your aprilia Official dealer.**



### **ADJUSTING THE REAR BRAKE LEVER AND THE GEAR SHIFT LEVER**

The position of the control levers is determined based on ergonomic principles at the factory.

If necessary, it is possible to adjust the position of the levers.

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Partially unscrew the screw (1).
- ◆ Rotate the eccentric (2) until finding the optimal position for the pedal (3).
- ◆ Tighten the screw (1) and make sure that the eccentric retains its position.

### **⚠ CAUTION**

**If the gear shift lever needs further adjustment, contact an **aprilia** Official dealer.**

### **MUFFLER/EXHAUST SILENCER**

### **⚠ WARNING**

**Tampering with the noise control system is prohibited.**

Owners are warned that the law may prohibit:

- The removal or disconnection of any device or element of design incorporated into any new vehicle to limit the noise emissions before its sale or delivery to the final purchaser or while it is in use except if carried out for maintenance, repair or replacement purposes.
- The use of the vehicle after the removal or disconnection of this device or element of design.

Check the muffler/exhaust silencer and the silencer pipes for rust or holes. Ensure that the exhaust system works correctly.

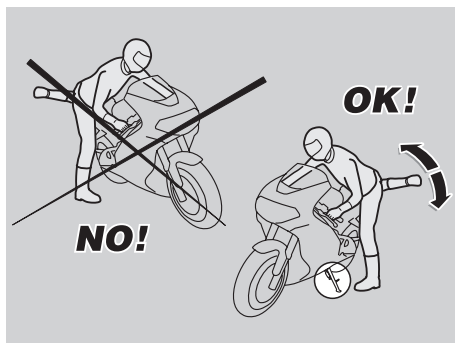
If the exhaust system noise increases, contact an **aprilia** Official dealer immediately.

### **⚠ WARNING**

**Both exhaust silencers are equipped with catalytic converter and become very hot to the touch. Be careful! Danger of burns!**



## INSTRUCTIONS FOR USE



### GETTING ON AND OFF THE VEHICLE

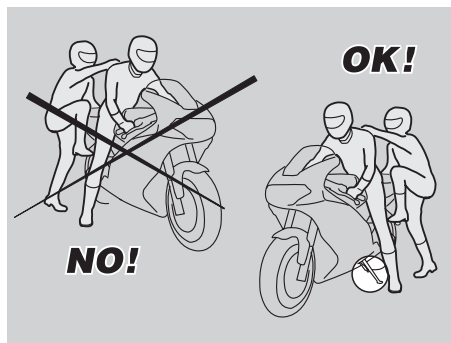
The instructions below must be followed with the maximum care in order to avoid injury to persons and damage to property and to the vehicle, caused by the rider or passenger falling from the vehicle and/or the vehicle falling or overturning.

#### **⚠ WARNING**

**Risk of falling and overturning. Proceed with care.**

When getting on and off the vehicle, make sure nothing can impair your movements. Also, your hands should be free (replace any objects, such as your helmet, gloves or dangling glasses before mounting or dismounting).

Always mount and dismount from the left side with the vehicle on the side stand.



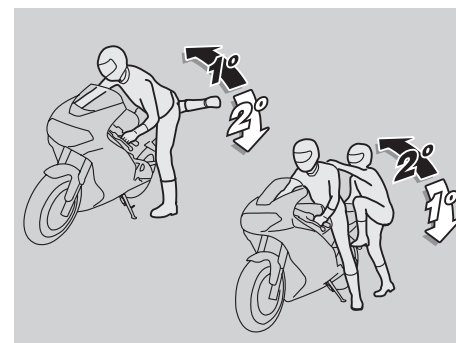
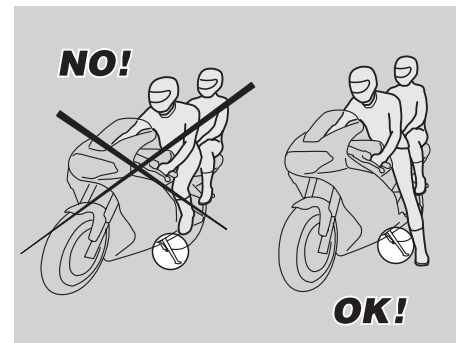
#### **⚠ CAUTION**

**However, do not apply you full weight or that of the passenger to the side stand.**

The stand has been designed to support the weight of the vehicle and a minimum load, without the rider and the passenger.

The purpose of placing the vehicle on the side stand before mounting is to keep the vehicle from falling or overturning. This does not mean that the side stand should be used to support the weight of rider and passenger.

While getting on and off, the weight of the vehicle may make you lose balance, and the vehicle may fall or overturn.



**NOTE** The rider must always mount before the passenger and dismount after the passenger. It is the rider's responsibility to keep the vehicle balanced while the passenger gets on and off.



The passenger must move carefully when getting on and off the vehicle, to avoid upsetting the balance of vehicle and rider.

**NOTE** It is the rider's responsibility to instruct the passenger on how to safely get on and off the vehicle.

The vehicle is equipped with special passenger footrests to make it easier to get on and off the vehicle. The passenger must always use the left footrest to get on and off the vehicle.

Never get off or try to get off the vehicle by jumping or stretching your leg and putting your foot on the ground. This would compromise the stability and balance of the vehicle.

**NOTE** Any bags or objects strapped to the rear of the vehicle can impair your movements while getting on and off.

When mounting or dismounting, swing your right leg over the vehicle in a controlled movement. Do not hit the rear end (tail or luggage) or you will upset vehicle balance.

### GETTING ON THE VEHICLE

- ◆ Grasp the handlebar correctly and get on the vehicle without loading your weight onto the side stand.

**NOTE** If you cannot touch both feet on the ground, set the right foot firmly on the ground (if you should lose your balance, the side stand on the left side of the vehicle will keep you from falling over on that side) and keep ready to place your left foot on the ground.

- ◆ Push the vehicle upright and place both feet on the ground. Keep the vehicle balanced.

**NOTE** Do not fold out the passenger footrest or attempt to do so while sitting astride the vehicle, or you might lose balance.

- ◆ Instruct the passenger to fold out both passenger footrests.
- ◆ Explain to the passenger how to safely get on the vehicle.
- ◆ Pull up the side stand using your left foot. Make sure it is fully up.

### GETTING OFF THE VEHICLE

- ◆ Choose the parking area, see page 59 (PARKING).
- ◆ Stop the vehicle, see page 59 (STOPPING).

### ⚠ WARNING

**Make sure that the parking surface is free from obstacles. Park on firm and level ground.**

- ◆ Push down on the side stand lever with the left heel until the side stand is fully down.

**NOTE** If you cannot touch both feet on the ground, set the right foot firmly on the ground (if you should lose your balance, the side stand on the left side of the vehicle will keep you from falling over on that side) and keep ready to place your left foot on the ground.

- ◆ Place both feet on the ground and keep the vehicle upright and balanced.
- ◆ Explain to the passenger how to safely get off the vehicle.

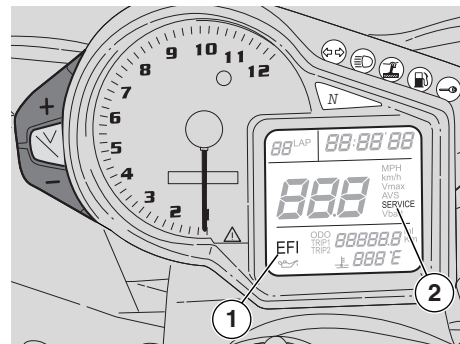
### ⚠ CAUTION

**Risk of falling and overturning. Make sure that the passenger has dismounted.**

- ◆ Do not place your weight on the side stand.
- ◆ Lean the vehicle until the stand touches the ground.
- ◆ Grasp the handlebar correctly and get off the vehicle.
- ◆ Rotate the handlebar fully to the left.
- ◆ Fold the passenger footrests.

### ⚠ CAUTION

**Make sure that the vehicle is stable.**



## PRE-RIDE CHECKS

### **⚠ WARNING**

**Check the vehicle before each ride to ensure safe riding. (See the PRE-RIDE CHECKS CHART). Failure to do so may lead to severe injury or vehicle damage.**

If you have any doubts on the operation of the vehicle controls or believe that any vehicle components might be faulty, do not hesitate to contact an **aprilia Official dealer**.

A quick check is done in no time, but does wonders for your safety.

**NOTE** This vehicle provides real-time diagnostics of failures stored into the Engine Control Unit.

Each time the ignition key is set to "O", the wording "**EFI**" (1) appears on the right side of the multifunction display for approximately three seconds.

### **⚠ CAUTION**

**If the wording "**EFI**" (1) is displayed during normal engine operation, it means that the Engine Control Unit has detected an anomaly.**


**In most cases, the engine will keep running, although giving less performance. At any rate, contact an **aprilia Official dealer** immediately.**

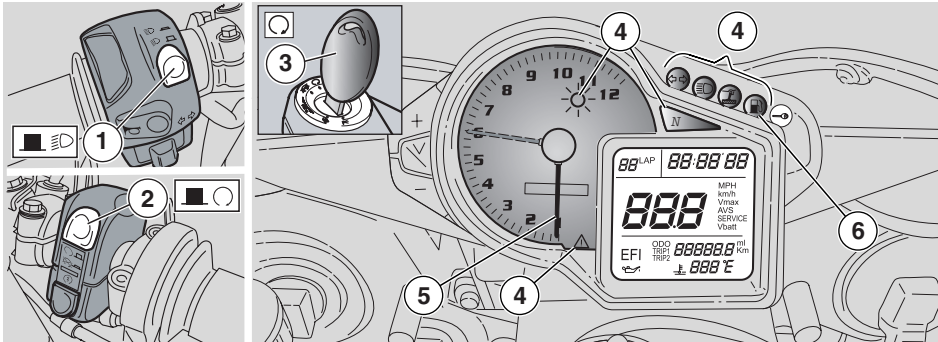
### **⚠ CAUTION**

**After covering the first 1000 km (625 mi) and every 10,000 km (6250 mi) afterwards, the "**SERVICE**" warning (2) appears on the right display.**

**When you see this warning, contact an **aprilia Official dealer** to have the vehicle serviced and inspected according to the periodic maintenance chart, see page 63 (PERIODIC MAINTENANCE CHART). To cancel the "**SERVICE**" warning, turn the key to ON while holding down the "+" and "-" buttons at the same time for at least 15 seconds.**

## PRE-RIDE CHECKS CHART

| Part  | Action  | Page                  |
|---|---|-----------------------|
| Front and rear disk brakes  | Check for proper operation. Check brake lever free play and brake fluid level. Check for leaks and brake pad wear.<br>Top up brake fluid level, if necessary.   | 35, 36, 37,<br>39, 93 |
| Throttle  | Ensure that it turns smoothly. The throttle should open and close fully at all positions of the steering. Adjust and/or lubricate, if necessary.  | 94                    |
| Engine oil  | Check and top up as required.   | 46, 65                |
| Wheels/tyres  | Check tyre surface, inflation pressure. Check for wear or damage. Remove any foreign objects lodged in the tread.   | 45                    |
| Brake levers  | Make sure they move smoothly. Lubricate the joints and adjust travel, if necessary  | 47                    |
| Clutch  | Check for proper operation, check clutch lever free play, clutch fluid level and check for leaks. Top up clutch fluid, if necessary. The clutch should not jerk or slip.  | 40, 41                |
| Steering  | Steering should rotate smoothly and evenly. There should be no play or looseness.   | –                     |
| Side stand  | The stand should operate smoothly and snap back in the rest position in a smooth motion. Spring action must be enough to fold it fully up. Lubricate joints and connections, if necessary. Check stand switch for proper operation. | 97, 102               |
| Fasteners   | Make sure the fasteners are properly tightened. Adjust or tighten as required.  | –                     |
| Drive chain   | Check slack.  | 79, 80                |
| Fuel tank   | Check fuel level and refuel if low.<br>Check for leaks in the fuel system.<br>Make sure the filler cap is tightened securely.   | 34, 81                |
| Coolant   | Coolant level in the expansion tank must be between the " <b>FULL</b> " and " <b>LOW</b> " marks.   | 42, 44                |
| Engine kill switch<br>(  ) | Check for proper operation.   | 27                    |
| Lights, warning lights, horn, rear brake light switches and electrical devices                              | Check horn and indicators for proper operation. Change bulbs or fix a failure, if necessary.  | 98 - 109              |



## STARTING

### ⚠ WARNING

The vehicle's engine delivers considerable power. Familiarise with the vehicle gradually and use the greatest care.

Do not place any objects on the inside of the front fairing (between the handlebar and the dashboard), or they might hinder handlebar rotation and hide the dashboard from view.

**NOTE** Before starting the engine, carefully read section "Safe Riding", see page 5 (SAFE RIDING).

### ⚠ WARNING

Exhaust emissions contain carbon oxide, which is a poisonous gas and extremely harmful if inhaled.

Never operate the engine indoors. Make sure the area is well ventilated before starting the engine.

Failure to heed these warnings may lead to loss of conscience or even death.

**NOTE** With the side stand down, the engine can only be started if the gearbox is in neutral. If you try to engage a gear with the stand down, the engine will stop.

With the side stand up, the engine can be started either in neutral or with a gear engaged while keeping the clutch lever pulled in.

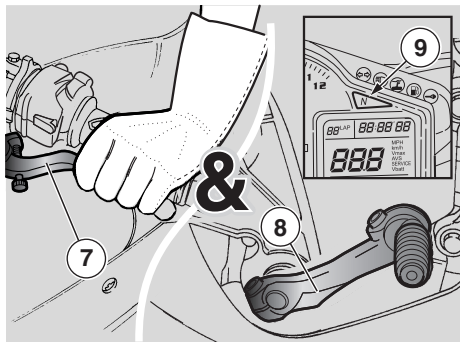
- ◆ Sit astride the vehicle, see page 49 (GETTING ON AND OFF THE VEHICLE).
- ◆ Make sure the stand is fully up.
- ◆ Make sure the dimmer switch (1) is in position "☺".
- ◆ Set the engine kill switch (2) to "■|○".
- ◆ Turn the key (3) to set the ignition switch to position "○".

### When you turn the key:

- All digits of the multifunction display come on for 3 seconds.
- All dashboard warning lights (4) and the backlighting come on for 3 seconds.
- The odometer pointer (5) points the last red line threshold setting for 3 seconds and then returns to idle rpm.
- During normal operation, all instruments will give the current reading.

### ⚠ CAUTION

When the low fuel light "⚡" (6) comes on, refuel as soon as possible. See page 34 (FUEL).



**NOTE** The units of measurement of speedometer (km or mi) and coolant temperature (°C or °F), the red line threshold, clock functions and lap timer are user-selectable. See page 20 (MULTIFUNCTION COMPUTER).

### ⚠ WARNING

The red line threshold is set at 6000 rpm at the factory. Increase the threshold gradually as you become familiar with your vehicle.

During running-in, never exceed the recommended rpm, see page 56 (RUNNING-IN).

- ◆ Lock at least one wheel, by pulling a brake lever.
- ◆ Pull the clutch lever (7) fully in and select neutral using the gear lever (8) [green light "N" (9) on].

- ◆ The vehicle is equipped with a cold start feature controlled by the ECU which operates automatically when starting the engine from cold.

### ⚠ CAUTION

Do not press the starter button "⊗" for more than fifteen seconds at a time or it will draw too much current from the battery.

If the engine does not start within fifteen seconds, wait ten seconds and then press the button "⊗" again.

- ◆ Press the starter button "⊗" (10) - do not open the throttle yet - and release the button as soon as the engine starts.

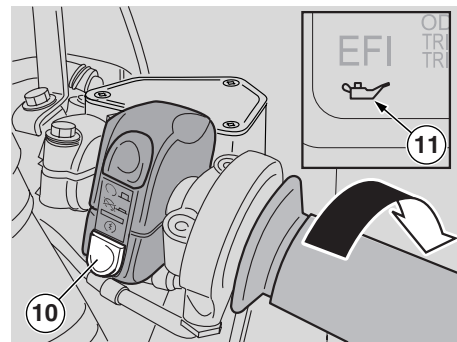
### ⚠ CAUTION

Avoid pressing the starter button "⊗" (10) with the engine running or you will damage the starter motor.

After the engine has started, the engine oil pressure light "⚡" (11) must go out. If the oil light stays on or comes on during normal operation, it means that oil pressure in the circuit is too low.

When this is the case, stop the engine immediately and contact an **aprilia** Official dealer.

- ◆ Keep at least one brake lever pulled and do not accelerate before moving off.



### ⚠ CAUTION

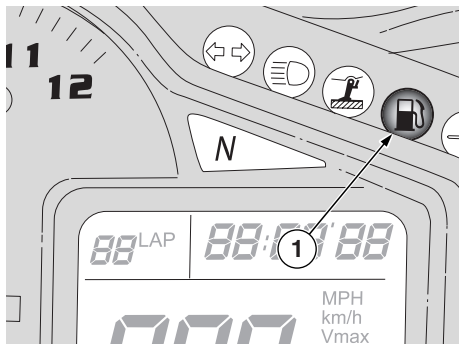
Do not move off abruptly after starting the engine from cold.

Ride at low speed until covering several kilometres. This will allow the engine to warm up and reduce polluting emissions and fuel consumption.

### ⚠ CAUTION

If the wording "EFI" appears on the multifunction display during normal engine operation, it means that the Engine Control Unit has detected an anomaly.

In most cases, the engine will keep running although with less than ideal performance. Contact an **aprilia** Official dealer immediately.



## MOVING OFF - RIDING

### ⚠ WARNING

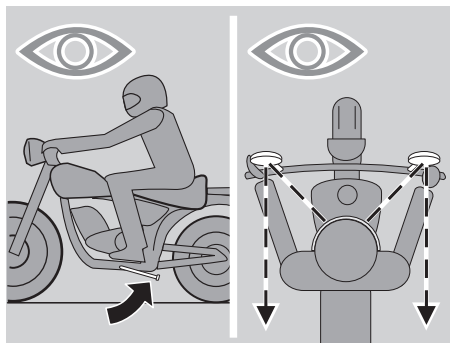
The vehicle's engine delivers considerable power. Familiarise with the vehicle gradually and use the greatest care.

Do not place any objects on the inside of the front fairing (between the handlebar and the dashboard), or they might hinder handlebar rotation and hide the dashboard from view.

**NOTE** Before moving off, carefully read section "Safe Riding", see page 5 (SAFE RIDING).

### ⚠ CAUTION

If the low fuel light "F" (1) on the dashboard comes on while the vehicle is running, it means that you still have  $4.5 \pm 1\%$  of fuel in the tank. Refuel as soon as possible, see page 34 (FUEL).



### ⚠ WARNING

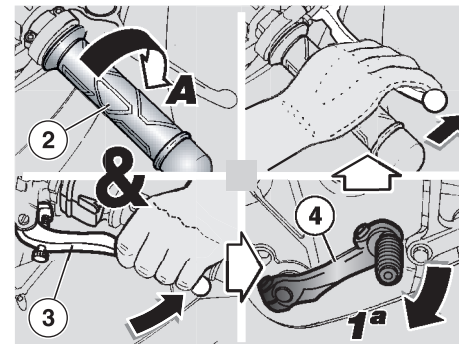
If you are riding solo, make sure that the passenger footrests are folded. While driving, keep your hands on the grips and your feet on the footrests.

**NEVER DRIVE IN ANY POSITION OTHER THAN THOSE INDICATED.**

### ⚠ WARNING

If you are carrying a passenger, instruct him/her on the basic safety rules of pillion riding.

**Ensure that the stand is fully up before moving off.**



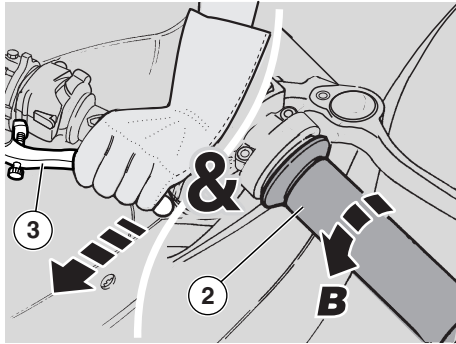
## Moving off:

- ◆ Start the engine. See page 53 (STARTING).
- ◆ Adjust the rear-view mirrors.

### ⚠ CAUTION

With the vehicle stopped, try to familiarise with the use of the mirrors. Convex mirrors provide a larger view, but any objects seen in these mirrors seem farther than they really are. It may take some time to learn to judge the distance of traffic behind accurately.

- ◆ With the throttle twistgrip (2) released (Pos. A), let engine idle and pull the clutch lever (3) fully in.
- ◆ Engage the first gear, by pushing the gear lever (4) downwards.
- ◆ Release the brake lever (you should have pulled it when starting the engine).



### ⚠ WARNING

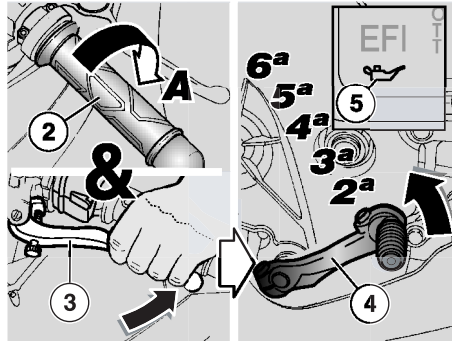
Release the clutch lever smoothly, or you may stall the engine or cause the vehicle to jerk forwards.

Open the throttle slowly and gradually when releasing the clutch lever. Abrupt acceleration will cause the clutch to slip (if released slowly) or will lead to a wheelie, if the clutch is released abruptly.

- ◆ Slowly release the clutch lever (3) while opening the throttle slightly (2) (Pos.B).

The vehicle will start moving.

- ◆ Ride at low speed until covering several kilometres. This will allow the engine to warm up.



### ⚠ CAUTION

Never exceed the recommended rpm, see page 58 (RUNNING-IN).

- ◆ Increase speed by gradually opening the throttle (2) (Pos.B), without exceeding the recommended rpm, see page 58 (RUNNING-IN).

To engage the second gear:

### ⚠ CAUTION

Proceed quickly.

Never let the engine run at too low rpm.

- ◆ Release the throttle twistgrip (2) (Pos.A), pull the clutch lever (3) and lift the gear shift lever (4). Release the clutch lever (3) and accelerate.
- ◆ Repeat the last two operations and shift up.

### ⚠ CAUTION

If the engine oil pressure LED "🛢" (5) comes on during normal engine operation, it means that engine oil pressure in the circuit is too low.

If so, stop the engine immediately and contact an **aprilia** Official dealer.

Downshifting is normally required in the following conditions:

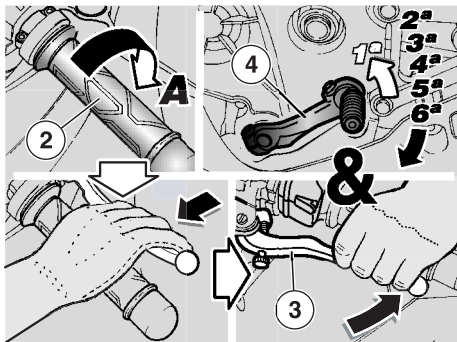
- ◆ When riding downhill or when braking, in order to use engine braking for improved braking efficiency.
- ◆ When riding uphill, if the gear engaged is too high for your speed and the engine rpm decreases.

### ⚠ CAUTION

When shifting down, always select the next lower gear or you will cause the engine to race (exceed maximum rpm).

Before and during the downshifting, release the throttle grip and decelerate, in order to avoid racing the engine.





To shift down, proceed as follows:

- ◆ Release the throttle grip (2) (Pos.A).
- ◆ If necessary, apply both brakes lightly to slow down the vehicle.
- ◆ Pull the clutch lever (3) and lower the gear shift lever (4) to shift down.
- ◆ Release the brake levers if you have pulled them.
- ◆ Release the clutch lever and accelerate moderately.

### ⚠ CAUTION

If the coolant temperature readout of the multifunction display is between 115°C (239°F) and 135°C (275°F) - see page 20 (MULTIFUNCTION COMPUTER), stop the vehicle and let the engine run at 3000 rpm for approximately two minutes to keep coolant circulating in the system. After two minutes, set the engine kill switch to "⏏" and check coolant level, see page 42 (COOLANT).

If coolant temperature readout is still flashing after you have checked level, contact an **aprilia** Official dealer.

Do not set the ignition switch to "⏏", as this would switch off the cooling fans regardless of coolant temperature and temperature would keep rising.

If the wording "EF" appears on the right multifunction display during normal engine operation, it means that the Engine Control Unit has detected an anomaly.

In most cases, the engine will keep running, although performance may be somewhat reduced. Contact an **aprilia** Official dealer immediately.

When the vehicle is at standstill with the engine running, do not keep the clutch lever pulled and a gear engaged for long periods, or the clutch will overheat.

### ⚠ WARNING

Do not open and close the throttle repeatedly and continuously, or you may lose control of the vehicle. When you need to brake, use both brakes to slow down gradually and adjust the pressure on the brakes as required.

Using one brake only reduces braking force significantly and may lock a wheel resulting in loss of grip.

To stop while riding uphill, close the throttle and simply use the brakes to keep the vehicle steady. Using the

engine to keep the vehicle steady may result in the clutch overheating.

When approaching a bend, slow down or brake in good time. Take the bend at moderate, steady speed or accelerate slightly. Late braking may put the vehicle into a skid.

Use the brakes sparingly when riding downhill, or the brake lining may overheat and impair braking efficiency. Use engine braking and apply both brakes intermittently.

Never ride downhill with the engine off.

In low visibility, switch on the low beam even during the day, in order to make your vehicle more visible. When riding on wet or slippery surfaces (such as snow, ice, mud), slow down, avoid harsh braking and do not swerve suddenly to avoid skidding.

## WARNING

Watch for skid hazards and changes in the road surface.

Uneven road surfaces, rails, inspection covers, painted signals, construction site metal covers become slippery in rainy weather and must be negotiated carefully, smoothly and keeping the vehicle upright.

Always signal your intention to change lanes or direction in good time using the direction indicators. Avoid sudden manoeuvres. Switch off the direction indicators immediately after changing direction. Be very careful when overtaking or being overtaken.

When it rains, large vehicles lift surface water, which affects visibility. In addition, the slip stream may make you lose control of the vehicle.

## RUNNING-IN

Proper engine running-in is essential to preserving engine life and performance over time. Twisty roads and gradients are ideal to break in engine, suspension and brakes effectively.

Vary speed frequently during running-in. This will vary the amount of loading you will be putting on engine parts so as to allow them to cool down.

While it is important to place a certain amount of stress on engine components during the running-in period, take care not to exceed.

**NOTE** Top performance is only obtained after covering the first 1500 km (937 mi).

### Observe the following instructions:

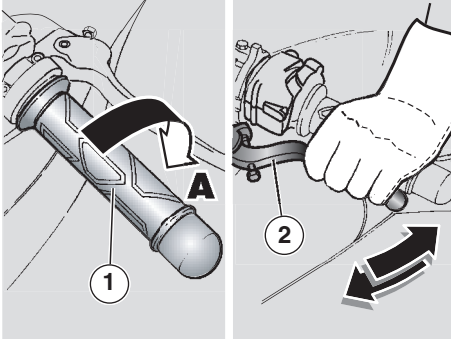
- ◆ Do not flip the throttle open abruptly when the engine is running at low speed, both during and after the running-in period.
- ◆ Apply the brakes gently and avoid hard, prolonged braking until covering the first 100 km (62 mi). This will allow the brake pad lining to break in properly rubbing on the brake disks.
- ◆ During the first 1000 km (625 mi) never exceed 6000 rpm.

## WARNING

After the first 1000 km (625 mi), have an **aprilia** Official dealer carry out the "Post running-in" checks specified in the periodic maintenance chart, see page 63 (PERIODIC MAINTENANCE CHART). Failure to perform these checks may lead to injury to yourself or other people and/or vehicle damage.

- ◆ After the first 1000 km (625 mi) and until covering 1500 km (937 mi), drive more briskly, varying speed and using maximum acceleration for just a few seconds, in order to ensure better coupling of the components; never exceed 7500 rpm (see table).
- ◆ After the first 1500 km (937 mi), you can expect higher performance from your engine. However, never exceed the maximum rpm allowed (11,000 rpm).

| Recommended maximum engine rpm |       |
|--------------------------------|-------|
| Distance covered, km (mi)      | rpm   |
| 0 – 1000 (0 – 625)             | 6000  |
| 1000 – 1500 (625 – 937)        | 7500  |
| over 1500 (937)                | 11000 |



## STOPPING

### ⚠ WARNING

If possible, avoid stopping abruptly or slowing down suddenly. Brake progressively and in good time.

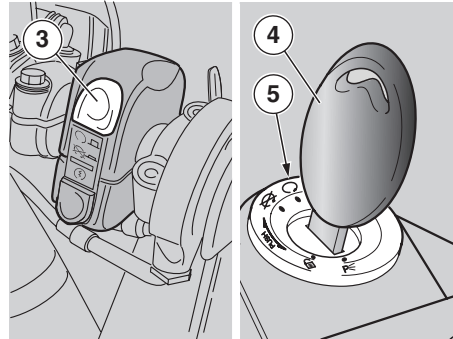
- ◆ Release the throttle twistgrip (1) (pos. A), apply the brakes gradually and shift down to reduce speed, see page 55 (MOVING OFF - RIDING).

When you have slowed down, before stopping the vehicle:

- ◆ Pull the clutch lever (2) to avoid stalling the engine.

When the vehicle is at standstill:

- ◆ Place the gear lever in neutral (green warning light "N" on).
- ◆ Release the clutch lever (2).
- ◆ When stopping for a short time, keep at least one brake on.



## PARKING

Select a suitable parking area, observing the road signs and the indications given below.

### ⚠ WARNING

Park the vehicle on firm and level ground to prevent it falling over.

Do not lean the vehicle against walls and do not lay it down on the ground.

Make sure that the vehicle, and in particular hot vehicle components, may not put the safety of persons and children at risk. Do not leave the vehicle unattended with the engine running or with the key inserted into the ignition switch.

Stay away from the cooling fans even when they are not operating. They might switch on unexpectedly and your clothing or hair might be caught in the fans.

### ⚠ WARNING

Leaning the vehicle exceedingly or letting it fall over may lead to fuel leakage.

The fuel used to operate internal combustion engines is highly flammable and becomes explosive under particular conditions.

### ⚠ CAUTION

Do not place your full weight or that of the passenger on the side stand.

To park the vehicle:

- ◆ Choose a suitable parking area.
- ◆ Stop the vehicle, see page 59 (STOPPING).
- ◆ Set the engine kill switch (3) to position "OFF".
- ◆ Turn the key (4) to set the ignition switch (5) to position "LOCK".

### ⚠ WARNING

When getting on or off the vehicle, follow the instructions provided at page 49 (GETTING ON AND OFF THE VEHICLE).

- ◆ Following the indications, wait until the passenger has dismounted before getting off the vehicle.
- ◆ Lock the steering, see page 29 (STEERING LOCK) and extract the key (4).

### ⚠ WARNING

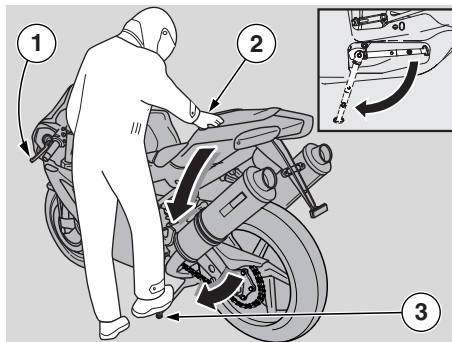
Make sure that the vehicle is stable



## PLACING THE VEHICLE ON THE STAND

### SIDE STAND

To place the vehicle on the side stand while sitting astride the vehicle, see page 49 (GETTING ON AND OFF THE VEHICLE). If you have lifted the stand, say, to move the vehicle, place the vehicle on the stand as follows:



### ⚠ WARNING

**Make sure that the parking ground is free from obstacles, firm and level.**

- ◆ Choose a suitable parking area, see page 59 (PARKING).
- ◆ Grasp the left grip (1) and place your right hand on the rear upper part of the vehicle (2).
- ◆ Push on the side stand with your right foot and lower it completely (3).
- ◆ Lean the vehicle until the stand is touching the ground.
- ◆ Turn the handlebar fully to the left.

### ⚠ WARNING

**Make sure that the vehicle is stable.**

## SUGGESTIONS TO PREVENT THEFT

### ⚠ CAUTION

**Do not use any “brake lock” devices. Failure to heed this warning can seriously damage the braking system and lead to an accident thus provoking serious injuries or death.**

NEVER leave the ignition key in the switch and always use the steering lock. Park the vehicle in a safe place, possibly in a garage or an area protected by security. If possible, use an additional anti-theft device. Make sure to have all the necessary documents and the Excise Duty stamp. Write down your personal data and telephone number in this page. This will identify you as the owner in the event the vehicle is stolen and then recovered.

SURNAME: .....

NAME: .....



ADDRESS: .....

.....

TELEPHONE NO.: .....

**NOTE** In most cases, stolen vehicles are identified through the data written on the Owner's Manual.

## IMMOBILIZER (if fitted)

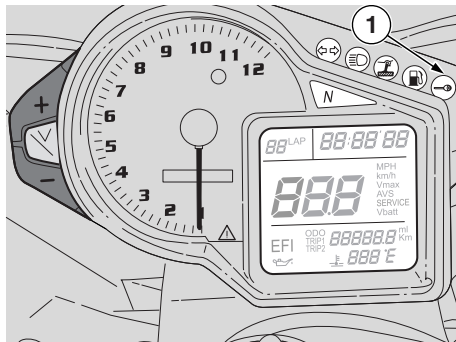
The vehicle is fitted with an immobilizer anti-theft system  by  that is automatically activated each time the ignition key is removed from the switch.

Store the spare key in a safe place. Immobilizer system keys cannot be duplicated. If both keys are lost, you will have to have a number of vehicle components replaced (rather than just the key-operated locks).

Embedded in the key grip is a transponder, an electronic device that modulates the radiofrequency signal emitted by a special antenna built into the switch when the key is turned to on. The modulated signal acts as a "password" that tells the control unit whether an authorised key is being used to start the engine.

**NOTE** The Immobilizer system supports up to four enabled keys. New keys can only be enabled at your Official Dealer, who has the master key available.

The programming procedure wipes off all existing key codes. An owner who wishes to have a new key enabled, will have to bring all the keys he intends to be using to the Dealer.



Immobilizer status is indicated by a dashboard light (1):

- Immobilizer off - light off
- Immobilizer on - light flashes every three seconds as a theft deterrent
- Unknown key - light flashes every second.

## MAINTENANCE

### WARNING

**Fire hazard.**

**Keep fuel and other flammable products away from electric components.**

**Before servicing or inspecting the motorcycle: stop the engine and remove the key from the ignition switch; allow for the engine and exhaust system to cool down; where possible, lift the motorcycle using adequate equipment placed on firm and level ground.**

**Make sure that the room is properly ventilated before proceeding.**

**Be careful of any parts of the engine or exhaust system which may still be hot to the touch in order to avoid scalds or burns.**

**Never put any mechanical parts or other vehicle components in your mouth when you have both hands busy. None of the motorcycle components is edible. Some components are harmful or toxic.**

## ⚠ CAUTION

Unless expressly specified otherwise, motorcycle assemblies are refitted or re-assembled by reversing the removal or dismantling procedure.

Wear latex gloves before servicing the vehicle.

Normally, the owner can take care of routine maintenance. However, some maintenance operations require specific tools and are best left to experienced mechanics.

If you need assistance or technical advice, contact an **aprilia Official dealer** for guaranteed accurate, prompt service.

We recommend having the vehicle road-tested at the **aprilia Official dealer** after repair or servicing. In addition, perform the "Pre-ride checks" after any maintenance operation, see page 52 (PRE-RIDE CHECKS CHART).

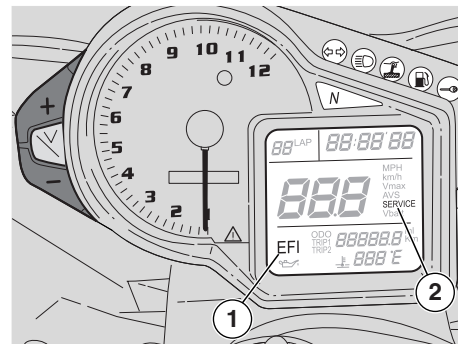
**NOTE** This vehicle provides real-time diagnostics of failures stored into the Engine Control Unit.

Each time the ignition key is set to "O", the wording "EFF" (1) appears on the right side of the multifunction display for approximately three seconds.

## ⚠ CAUTION

If the wording "EFF" (1) is displayed during normal engine operation, it means that the Engine Control Unit has detected an anomaly.

In most cases, the engine will keep running, although giving less performance. At any rate, contact an **aprilia Official dealer** immediately.



## ⚠ CAUTION

After covering the first 1000 km (625 mi) and every 10,000 km (6250 mi) afterwards, the "SERVICE" warning (2) appears on the right display.

When you see this warning, contact an **aprilia Official dealer** to have the vehicle serviced and inspected according to the periodic maintenance chart, see page 63 (PERIODIC MAINTENANCE CHART). To cancel the "SERVICE" warning, turn the key to ON while holding down the "+" and "-" buttons for at least 15 seconds.

## PERIODIC MAINTENANCE CHART

OPERATIONS TO BE CARRIED OUT BY THE **aprilia** Official dealer (CAN BE CARRIED OUT BY THE USER AS WELL).

### Key

①= check and clean, adjust, lubricate or replace, if necessary;

②= clean;

③= replace;

④= adjust.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

(\*) = Check every two weeks or at the specified intervals.

| Component                            | Post running-in [1000 km (625 mi)] | Every 5000 km (3125 mi) (only for intensive racing use) | Every 10000 km (6250 mi) or 12 months           | Every 20000 km (12500 mi) or 24 months |
|--------------------------------------|------------------------------------|---|---|--|
| Spark plug                           |                                    | ③   | ①   | ③                                      |
| Air cleaner                          |                                    | ③   | ①   | ③                                      |
| Engine oil filter                    | ③                                  | ③   | ③   |  |
| Engine oil filter (on oil tank)      | ②                                  | ②   |   | ②                                      |
| Light operation/beam setting         |                                    |   | ①   |  |
| Light system                         | ①                                  |   | ①   |  |
| Safety switches                      |                                    |   |   |  |
| Clutch fluid                         | ①                                  | ①   | ①   |  |
| Brake fluid                          | ①                                  | ①   | ①   |  |
| Coolant                              | ①                                  | ①   |   | ①                                      |
| Engine oil                           | ③                                  | ③   | ③   |  |
| Tyres                                | ①                                  |   | ①   |  |
| Tyre pressure (*)                    | ④                                  |   | ④   |  |
| Error warning light (on dashboard) △ | each start-up ①                    |   |   |  |
| Drive chain slack and lubrication    | every 1000 km (625 mi): ①          |   |   |  |
| Brake pad wear                       | ①                                  | every 1000 km (625 mi): ①                               | before each ride and every 2000 km (1250 mi): ① |  |

**OPERATIONS TO BE CARRIED OUT BY THE aprilia Official dealer.**

**Key**

① = check and clean, adjust, lubricate or replace, if necessary (according to workshop manual specifications);

② = clean;

③ = replace;

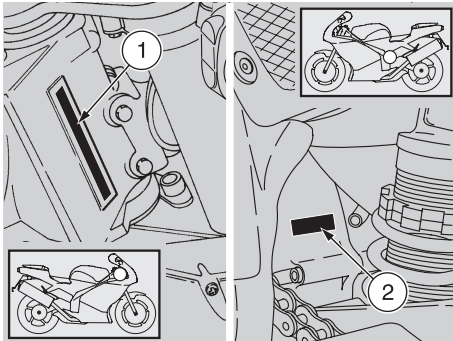
④ = adjust.

(\*) = only for versions with magnesium wheels: check that rim paint is in good conditions.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

| Component                                       | Post running-in<br>1000 km (625 mi) | Every 5000 km (3125<br>mi) (only for<br>intensive racing use) | Every 10000 km<br>(6250 mi) or 12<br>months   | Every 20000 km<br>(12500 mi) or 24<br>months |
|---|-------------------------------------|---|---|--|
| Rear shock absorber                             |                                     | ①   |   | ①  |
| Gearbox   |                                     | every 10000 km<br>(6250 mi): ①                                |   |  |
| Bowden cables and controls                      | ①                                   | ①   | ①   |  |
| Rear suspension linkage<br>bearings             |                                     |   |   | ①  |
| Steering bearings and steering<br>play          | ①                                   | ①   | ①   |  |
| Wheel bearings                                  |                                     | ①   | ①   |  |
| Brake disks                                     | ①                                   | ①   | ①   |  |
| Vehicle operation                               | ①                                   | ①   | ①   |  |
| Valve clearance                                 | ④                                   |   |   | ④  |
| Braking systems                                 | ①                                   | ①   | ①   |  |
| Cooling system                                  |                                     | ①   | ①   |  |
| Clutch fluid                                    |                                     | every 12 months: ③  | every 24 months: ③  |  |
| Brake fluid                                     |                                     |   |   |  |
| Coolant   |                                     |   |   |  |
| Fork oil (RSV R)                                |                                     |   | After the first 10000 km (6250 mi)<br>and every 20000 km (12500 mi)<br>afterwards: ③  |  |
| Fork oil (RFACT)                                |                                     | ③   | ③   |  |
| Fork oil seals (RSV R)                          |                                     |   | After the first 30000 km (18650 mi)<br>and every 20000 km (12500 mi)<br>afterwards: ③ |  |
| Fork oil seals (RFACT)                          |                                     | ①   | ①   |  |
| Brake pads                                      | if worn: ③                          |   |   |  |
| Wheels/Tyres (*)                                | ①                                   | ①   | ①   |  |
| Nut, bolt, screw tightening                     |                                     |   | ①   |  |
| Cylinder synchronization                        | ①                                   |   |   |  |
| Suspension and trim                             | ①                                   | ①   |   | ①  |
| Final drive (chain, rear and front<br>sprocket) |                                     | ①   | ①   |  |
| Fuel pipes                                      |                                     |   | ①   | every 4 years: ③                             |
| Clutch wear                                     |                                     | ①   |   |  |
| Pistons   |                                     | ①   |   |  |





## IDENTIFICATION DATA

It is a good rule to write down the frame and engine numbers in the space provided in this manual.

You may be asked to provide the frame number when purchasing spare parts.

**NOTE** Altering the vehicle identification numbers is a legal offence. Altering the frame number invalidates the guarantee.

### FRAME NUMBER

The frame number (1) is stamped on the right side of the steering tube.

Frame no. \_\_\_\_\_

### ENGINE NUMBER

The engine number (2) is stamped on the rear part of the engine, near the front sprocket.

Engine no. \_\_\_\_\_

## JOINTS WITH CLICK CLAMPS AND WITH SCREW CLAMPS

### ⚠ CAUTION

Remove **ONLY** the clamps indicated in the maintenance procedures.

This text is not to be intended as an authorization to arbitrarily remove the clamps present on the vehicle.

### ⚠ WARNING

Before removing a clamp, make sure removal will not lead to fluid leakage. If so, take suitable measures to prevent leakage and protect the components nearby.

### CLICK CLAMPS

Click clamps are removed using common pliers, whereas installation requires a special tool (see below).

Before removing a clamp, prepare the material necessary for correct reassembly.

**NOTE** Make sure to have the appropriate special tool **OPT** ready at hand :

- clamp installation pliers, see page 33 (SPECIAL TOOLS **OPT**).

### ⚠ CAUTION

On refitting, replace the click clamp that has been removed with a new one of the same size, available from **aprilia** Official dealer. Click clamps become unserviceable during removal. Do not attempt to refit them.

Do not replace a click clamp you have removed with a screw clamp or with other types of clamps.

### ⚠ CAUTION

Proceed with care to avoid damage to joint components.

- ◆ Apply the pliers to the head of the click clamp, forcing until release.

### SCREW CLAMPS

Screw clamps are removed and installed using a common screwdriver.

### ⚠ CAUTION

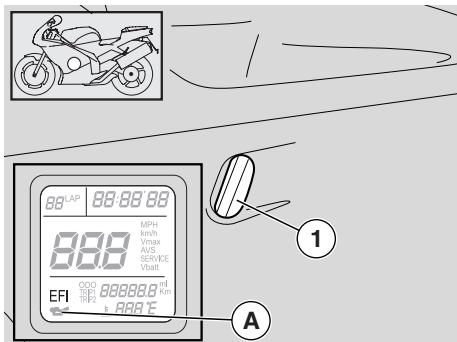
Check the conditions of the clamp and if necessary replace it with a new one of the same type and size, available from **aprilia** Official dealer.

When fastening the clamp, make sure that the joint is sufficiently stable.

## CHECKING AND TOPPING UP ENGINE OIL LEVEL

Read page 46 (ENGINE OIL) and page 61 (MAINTENANCE) carefully.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.



Periodically check engine oil level, change oil after the first 1000 km (625 mi) and every 10000 km (6250 mi) afterwards, see page 67 (CHANGING ENGINE OIL AND THE ENGINE OIL FILTER).

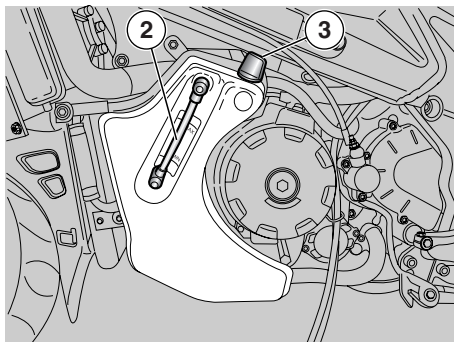
### ⚠ CAUTION

In the vehicle is used for racing, change the engine oil every 5000 km (3125 mi). Change oil more frequently if the vehicle is used in dusty conditions.

Check oil level as follows:

### ⚠ CAUTION

Engine oil level must be checked when the engine is warm. If level is checked from cold, oil level may have dropped temporarily below the "MIN" mark. This is not a problem, as long as the engine oil pressure warning light "🛢️" (A) does not come on, see page 18 (INSTRUMENTS AND INDICATORS TABLE).



**NOTE** To warm up the engine and engine oil up to operating temperature, do not let the engine idle with the vehicle at standstill. The correct procedure is to travel about 15 km (10 mi) outside town (this is sufficient for engine oil to reach operating temperature).

- ◆ Stop the engine, see page 59 (STOPPING).
- ◆ Keep the vehicle upright with both wheels on the ground.
- ◆ Check oil level in the sight glass (2) visible through the special slot (1) in the left fairing.

**MAX** = maximum level

**MIN** = minimum level.

The difference between "MAX" and "MIN" levels is about 500 cu cm.

- ◆ Correct level is achieved when the oil is just below the **MAX** level mark.

### ⚠ CAUTION

Oil level must be between the **MAX** and **MIN** level marks. Incorrect oil level will cause severe engine damage.

If needed, top up as follows:

- ◆ Remove the left fairing, see page 82 (REMOVING THE SIDE FAIRINGS).
- ◆ Unscrew and remove the filler cap (3).

### ⚠ CAUTION

Do not add additives or other products.

If you use a funnel or other tool, make sure they are perfectly clean.

**NOTE** Use high-quality 15W - 50 oil, see page 117 (LUBRICANT CHART).

- ◆ Top up the tank until bringing oil to the correct level, see page 117 (LUBRICANT CHART).

## CHANGING ENGINE OIL AND THE ENGINE OIL FILTER

### ⚠ CAUTION

Changing engine oil and the oil filter may prove difficult for unskilled operators.

If necessary, contact your **aprilia** Official dealer.

If you wish to perform these operations yourself, keep to the following instructions.

Read page 46 (ENGINE OIL) and page 61 (MAINTENANCE) carefully.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Periodically check engine oil level, see page 65 (CHECKING AND TOPPING UP ENGINE OIL LEVEL) and change the oil after the first 1000 km (625 mi) and every 10000 km (6250 mi) afterwards.

### ⚠ CAUTION

If the vehicle is used for racing, change engine oil every 5000 km (3120 mi).

If the vehicle is used in dusty conditions, change the oil more frequently.

Change the oil as follows:

**NOTE** Oil will drain out more easily and completely when it is warm and therefore more fluid. Normally, this is achieved when the engine has been running for about twenty minutes.

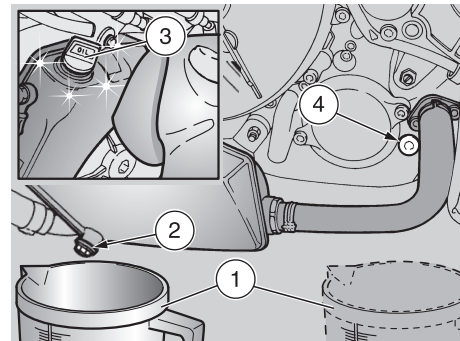
### ⚠ CAUTION

When warmed up, the engine contains hot oil. Be careful to avoid burns while carrying out the operations described below.

- ◆ Remove the left fairing, see page 82 (REMOVING THE SIDE FAIRINGS).
- ◆ Clean off any dirt from the area around the filler cap (3) with a clean cloth.
- ◆ Place a container (1) holding more than 4000 cu cm under the drain plug (2) on the tank.
- ◆ Unscrew and remove the drain plug (2) on the tank.
- ◆ Unscrew and remove the filler cap (3).
- ◆ Drain the oil and let it drip into the container (1) for a few minutes.
- ◆ Check the sealing washer of the tank drain plug (2) and replace as required.
- ◆ Screw and tighten the drain plug (2) onto the tank.

**Torque wrench setting for drain plug (2): 15 Nm (1.5 kgm).**

- ◆ Place the container (1) underneath the engine crankcase, under the engine drain plug (4).
- ◆ Unscrew and remove the engine drain plug (4).
- ◆ Drain the oil and let it drip into the container (1) for a few minutes.



### ⚠ CAUTION

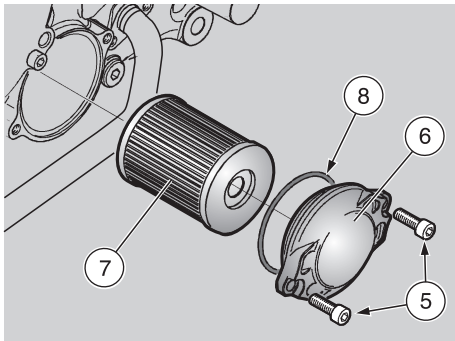
**Do not release oil into the environment. Place oil in a sealed container and dispose of it through a waste oil reclamation firm or through your usual supplier.**

- ◆ Remove any metal debris collected by the drain plug (4) magnet.
  - ◆ Screw and tighten the drain plug (4).
- Torque wrench setting for engine drain plug (4): 12 Nm (1.2 kgm).**

## CHANGING THE ENGINE OIL FILTER

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

**Change the engine oil filter every 10000 km (6250 mi) or anyway each time you change the engine oil.**



- ◆ Release the two screws (5) and remove the cover (6).
- ◆ Remove the engine oil filter (7).

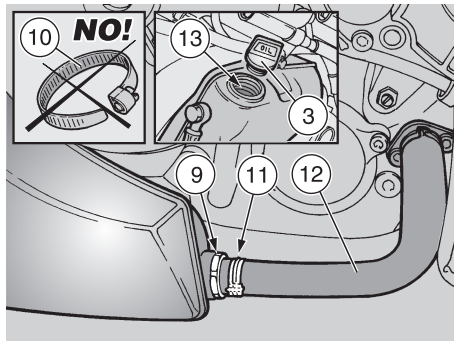
### ⚠ CAUTION

#### Never reuse an oil filter.

- ◆ Spread a film of oil on the seal (8) of the new engine oil filter.
- ◆ Insert the new oil filter.
- ◆ Refit the cover (6). Refit and tighten the two screws (5).

#### CLEANING THE ENGINE OIL FILTER LOCATED ON THE TANK

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.



Clean the engine oil filter (7) located on the tank after covering the first 1000 km (625 mi) and every 20000 km (12427 mi) (or every two oil changes) afterwards.

**NOTE** Make sure you have the special tool **OPT** ready at hand:

- special clamp installation pliers, see page 33 (SPECIAL TOOLS **OPT**).

### ⚠ CAUTION

On refitting, replace the click clamp that has been removed with a new one of the same size, available from **aprilia** Official dealer.

Click clamps become unserviceable during removal. Do not attempt to refit them.

Do not replace a click clamp you have removed with a screw clamp (10) or with other types of clamps.

- ◆ Release the click clamp (11).
- ◆ Disconnect the hose (12).
- ◆ Release and remove the engine oil filter (9) located on the tank and clean with an air line.
- ◆ Check the engine oil filter (9) seal, fit and tighten the filter.

**Torque wrench setting for engine oil filter (9) located on the tank: 30 Nm (3.0 kgm).**

- ◆ Connect the hose (12) and fit a new click clamp.

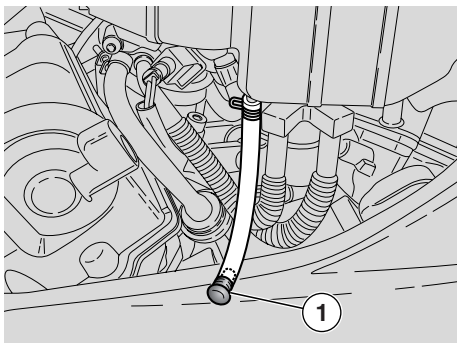
### ⚠ CAUTION

Do not add any additives or other products.

If you use a funnel or other tool, ensure they are perfectly clean.

**NOTE** Use high-quality 15W - 50 oil, see page 117 (LUBRICANT CHART).

- ◆ Pour from opening (13) about 3500 cu. cm. of engine oil, see page 117 (LUBRICANT CHART).
- ◆ Refit and tighten the filler cap (3).
- ◆ Start the engine, see page 53 (STARTING) and keep it idling for about one minute to let oil fill all points of the circuit.
- ◆ Check oil level and top up if needed, see page 65 (CHECKING AND TOPPING UP ENGINE OIL LEVEL).



## AIR CLEANER

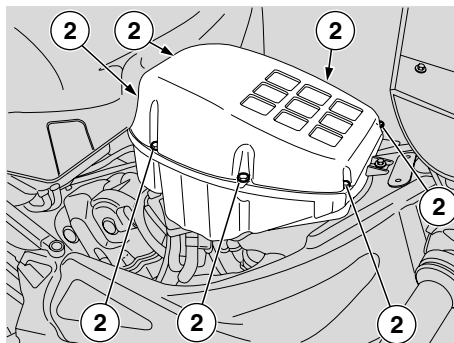
**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Check the air cleaner every 10000 km (6250 mi) or 12 months. Change it every 20000 km (12500 mi) or more frequently when you ride on dusty or wet roads.

In this case, clean the air cleaner after each ride following the partial cleaning procedure described below.

### ⚠ CAUTION

**Cleaning the filter more frequently does not eliminate the need to change the filter at the specified intervals. Do not start the engine when the air cleaner is not in place. Do not clean the filter element with petrol or solvents. These products may cause the fuel to ignite in the fuel system, leading to personal injury and vehicle damage.**

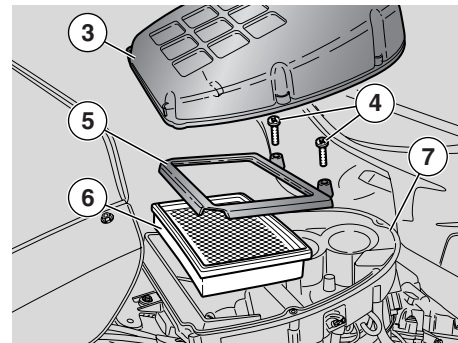


## DO NOT RELEASE POLLUTING PRODUCTS INTO THE ENVIRONMENT.

◆ Every 10000 km (6250 mi), remove the cap (1), drain its contents into a container and deliver it to a waste collection centre.

## REMOVAL

- ◆ Lift the fuel tank, see page 81 (LIFTING THE FUEL TANK).
- ◆ Release and remove the seven screws (2).
- ◆ Take off the air box cover (3).
- ◆ Release and remove the two screws (4).
- ◆ Remove the air cleaner retaining bracket (5).
- ◆ Extract the air cleaner (6).
- ◆ Check the seal (7) for wear or damage and replace as required.



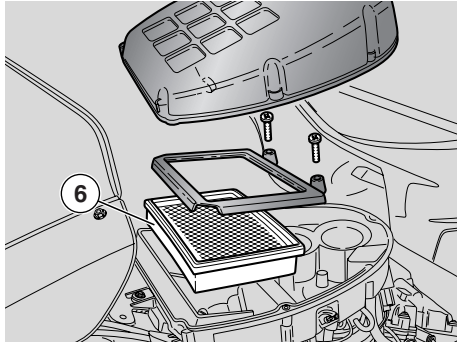
### ⚠ CAUTION

**Block off the intake funnels with clean cloths to prevent the ingress of dirt into the intake ducts. On refitting, make sure to remove the cloths and any other objects you may have placed into the airbox before installing the air box cover (3). Make sure the air cleaner is properly in place or it will let unfiltered air into the system. Note that early wear of piston rings and cylinder is frequently due to a defective or badly positioned air cleaner.**

## PARTIAL CLEANING

### ⚠ CAUTION

**Do not press or hit the air cleaner meshing (6). Do not use a screwdriver or any other tools on the air cleaner.**



- ◆ Hold the air cleaner (6) in a vertical position and tap it repeatedly on a clean bench.
- ◆ If needed, blow the air cleaner (6) with an air line. Aim the gun from the inside of the meshing outwards.

### ⚠ CAUTION

**When cleaning the air cleaner, ensure the meshing is not torn. Always change a damaged air cleaner.**

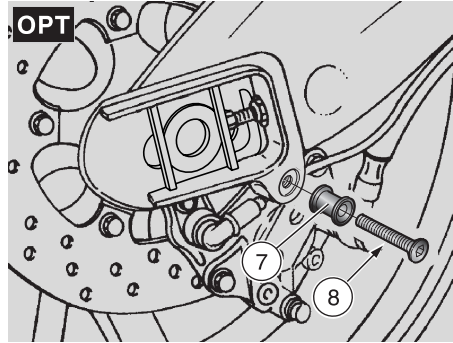
- ◆ Clean the outer surface of the air cleaner (6) with a clean cloth.

### REPLACEMENT

### ⚠ CAUTION

**Never reuse an air cleaner.**

- ◆ Replace the air cleaner (6) with a new air cleaner of the same type.



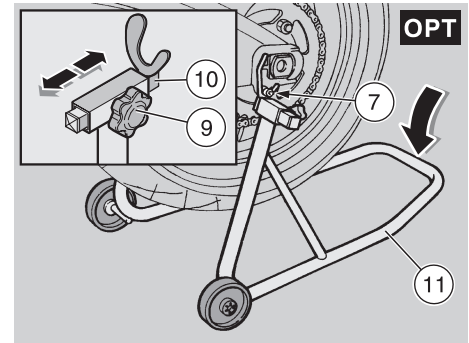
### FITTING THE PINS FOR THE REAR WHEEL STAND **OPT**

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ ★Fit the pin (7) into the suitable seat in the swinging arm.
- ◆ ★Start the screw (8) into the threaded hole in the swinging arm and tighten.

### PLACING THE VEHICLE ON THE REAR WHEEL STAND **OPT**

- ◆ Fit the two pins (7), see page 70 (FITTING THE PINS FOR THE REAR WHEEL STAND **OPT**).

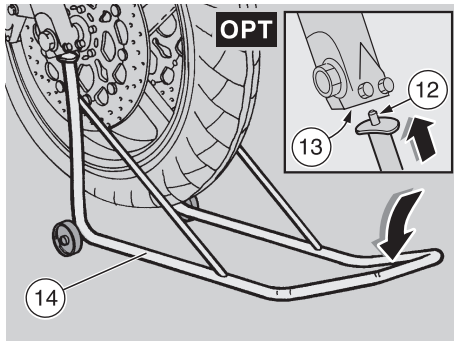
**NOTE** Ask someone to help you keep the vehicle upright with both wheels on the ground.



- ◆ ★Slacken the knob (9).
- ◆ ★Shift the fork-shaped support (10) so that its width matches the distance between the two pins fitted to the swinging arm.
- ◆ ★Tighten the knob (9).
- ◆ Slide both fork-shaped seats (10) of the stand (11) underneath the pins (7) fitted to the vehicle at the same time.
- ◆ Place one foot on the rear end of the stand (11).
- ◆ Push down on the stand (11).

### ⚠ CAUTION

**Make sure the vehicle is stable.**

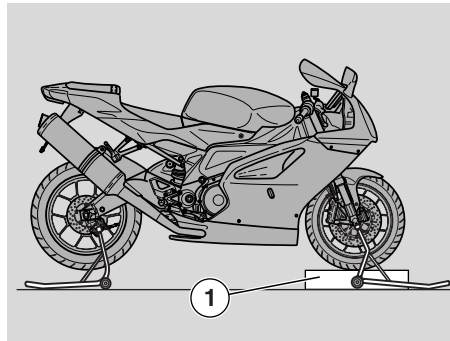


### PLACING THE VEHICLE ON THE FRONT WHEEL STAND **OPT**

- ◆ Place the vehicle on the rear wheel stand, see page 70 (FITTING THE PINS FOR THE REAR WHEEL STAND **OPT**).
- ◆ Slide both lugs of the stand (12) into the holes (13) at the bottom ends of the front fork.
- ◆ Place one foot on the front end of the stand (14).
- ◆ Push down on the stand (14).

#### **⚠ CAUTION**

Make sure the vehicle is stable.



### FRONT WHEEL

#### **⚠ CAUTION**

Removing and refitting the front wheel may prove difficult for unskilled operators.

If necessary, contact your **aprilia** Official dealer.

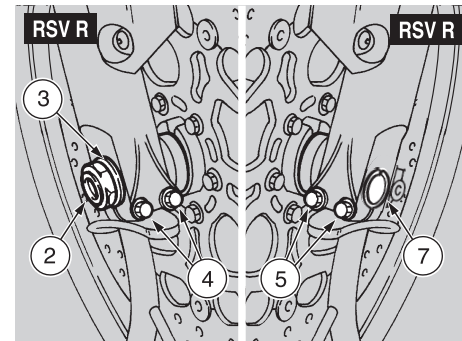
If you wish to perform these operations yourself, keep to the following instructions.

Read page 61 (MAINTENANCE) carefully. Use great care when removing the wheel to avoid damaging the brake lines, brake disks and brake pads.

#### **⚠ WARNING**

Riding with damaged disks will put your safety, that of other persons and the vehicle at risk.

Check the wheel rim for damage and have it replaced if damaged.



### REMOVAL

- ◆ Remove the front brake callipers, see page 74 (FRONT BRAKE CALLIPERS **RSV R**) and 75 (FRONT BRAKE CALLIPERS) **RIFACT**.
- ◆ Place a support (1) under the tyre to hold the wheel in place once released.

#### **⚠ CAUTION**

Make sure the vehicle is stable.

- ◆ Have an assistant hold the handlebar steady in position as in forward travel so that the steering cannot move.

**Torque wrench setting for wheel hub nut (2): 80 Nm (8.0 kgm).**

- ◆ Undo and remove the wheel hub nut (2) and collect the washer (3).

## Torque wrench setting for wheel spindle clamp bolts: 22 Nm (2.2 kgm)

**RSV R**; 12 Nm (1.2 kgm) **RFACT**.

- ◆ Slacken but do not remove the two wheel spindle clamp bolts (4) on the right side.
- ◆ Slacken but do not remove the two wheel spindle clamp bolts (5) on the left side.

**NOTE** Note the direction of the spacer (6) placed on the right side to refit it correctly on assembly.

**NOTE** Lift the wheel slightly to facilitate spindle removal.

- ◆ Push on the threaded end of the wheel spindle (7) carefully. Tap with a plastic mallet if needed.
- ◆ Hold the front wheel and withdraw the wheel spindle (7) manually.
- ◆ Ease the wheel off in a forward motion.

### **⚠ CAUTION**

**The spacer (6) should still be sitting in the wheel hub. If it slips off, refit it correctly (see REFITTING THE WHEEL).**

## REFITTING THE WHEEL

- ◆ Smear a light coat of grease over the total length of the wheel spindle (7), see page 117 (LUBRICANT CHART).

### **⚠ CAUTION**

**Use great care when refitting the wheel to avoid damaging the brake lines, brake disks and brake pads.**

**NOTE** The next procedure is only required when the spacer (6) has slipped out of place.

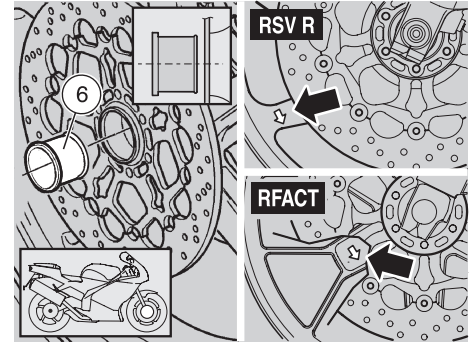
- ◆ Position the spacer (6) to the wheel with the larger diameter facing out.

### **⚠ CAUTION**

**The arrow mark on the hub points in the direction of rotation.**

**Make sure to refit the wheel in the correct direction. The arrow must be on the left side of the vehicle.**

- ◆ Place the wheel between the fork legs and over the support (1).



### **⚠ WARNING**

**Do not attempt to align the holes by putting your fingers into the holes.**

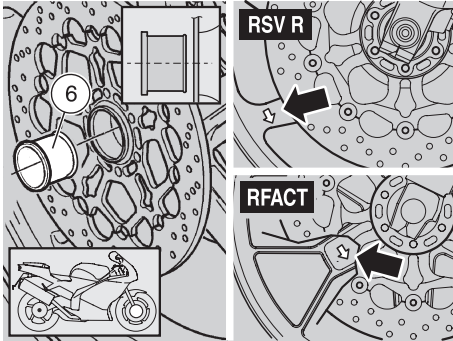
- ◆ Move the wheel until the wheel hub bore aligns with the holes in the fork.
- ◆ Slide the wheel spindle (7) fully home from the left side.

**NOTE** Make sure the wheel spindle (7) is fully in the hub.

- ◆ Fit the washer (3) and screw the wheel hub nut (2) finger-tight.

**NOTE** Next, you will have to temporarily fit the two wheel spindle clamp bolts (5) on the left side. It is not necessary to tighten them to the final torque.





- ◆ Start the two wheel spindle clamp bolts (5) in their holes on the left side and tighten just enough to prevent wheel spindle (7) rotation.
- ◆ Tighten the nut (2) to the specified torque.

**Torque wrench setting for wheel hub nut (2): 80 Nm (8.0 kgm).**

- ◆ Tighten the two wheel spindle clamp bolts (4) on the right side.

**Torque wrench setting for wheel spindle clamp bolts: 22 Nm (2.2 kgm)**

**RSV R; 12 Nm (1.2 kgm) RFACT.**

- ◆ Slacken the two wheel spindle clamp bolts (5) on the left side.
- ◆ Refit the front brake callipers, see page 74 (FRONT BRAKE CALLIPERS **RSV R**).
- ◆ Hold in the front brake lever and press down on the handlebars repeatedly to pump the front fork up and down. This will allow the fork legs to seat properly.
- ◆ Place the vehicle on the side stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Tighten the two wheel spindle clamp bolts (5) on the left side.

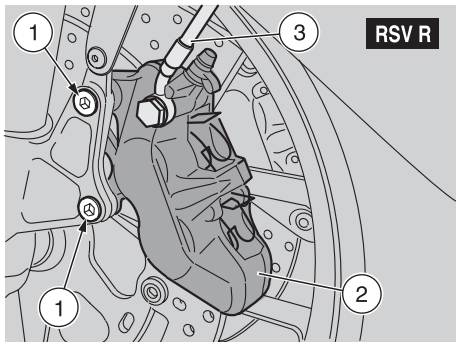
**Torque wrench setting for wheel spindle clamp bolts (5): 22 Nm (2.2 kgm) **RSV R**; 12 Nm (1.2 kgm) **RFACT**.**

- ◆ Make sure the following components have not become contaminated with lubricants:
  - tyre;
  - wheel;
  - brake disks.

## **⚠ WARNING**

**After refitting the wheel, work the front brake lever repeatedly and check for proper operation of the brake.**

**We recommend having the vehicle inspected at an **aprilia** Official dealer to make sure that all components are at the correct torque and that the wheel is properly centred and balanced. Failure to do so could result in severe personal injury.**



## FRONT BRAKE CALLIPERS RSV R

Read page 61 (MAINTENANCE) carefully.

### ⚠ WARNING

A dirty disk will soil the pads, leading to loss of braking efficiency. Dirty pads must be replaced, whereas dirty disks may be cleaned with a high-quality degreaser.

### ⚠ CAUTION

Use great care during removal and refitting procedures to avoid damaging the brake lines, brake disks and brake pads.

**NOTE** To remove the front brake callipers, it is necessary to use the suitable front OPT and rear OPT wheel stands.

## REMOVAL

◆ Place the vehicle on the front wheel stand, see page 71 (PLACING THE VEHICLE ON THE FRONT WHEEL STAND OPT).

### ⚠ CAUTION

Make sure that the vehicle is stable.

- ◆ Rotate the wheel manually. Set it so that the brake calliper can be reached through the space between two rim spokes.
- ◆ Have someone keep the handlebar steady in the direction of travel, with the steering locked.

**Torque wrench setting for the brake calliper bolts (1): 50 Nm (5 kgm).**

- ◆ ★ Unscrew and remove the two brake calliper bolts (1).

### ⚠ CAUTION

Do not operate the brake lever when the callipers are not in place, or the pistons might fall out leading to brake fluid spillage.

In the event of brake fluid spillage, contact your **aprilia** Official dealer to have the vehicle serviced properly.

- ◆ ★ Withdraw the brake calliper (2) from the disk, leaving it attached to the hose (3).

**Remove the other brake calliper as follows:**

- ◆ Repeat the operations marked with ★.

## REASSEMBLY

### ⚠ CAUTION

Proceed with care to avoid damage to the brake pads.

- ◆ ★ Locate the brake calliper (2) to the disk so as to align the calliper mounting holes and the carrier holes.

### ⚠ WARNING

Refit the brake calliper using two new bolts (1) of the same type as those fitted originally.

- ◆ ★ Fit the two calliper mounting bolts (1) and tighten.

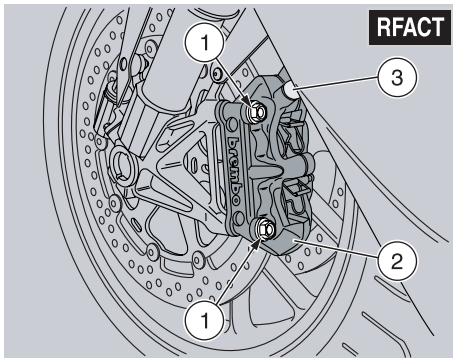
**Torque wrench setting for the calliper mounting bolts: 50 Nm (5 kgm).**

Refit the other brake calliper as follows:

- ◆ Repeat the operations marked with ★.
- ◆ Remove the front wheel stand OPT, see page 71 (PLACING THE VEHICLE ON THE FRONT WHEEL STAND OPT).

### ⚠ CAUTION

After reassembly, work the front brake lever repeatedly and check for proper operation of the brake.



## FRONT BRAKE CALLIPERS RFACT

Read page 61 (MAINTENANCE) carefully.

### **⚠ WARNING**

A dirty disk will soil the pads, leading to loss of braking efficiency. Dirty pads must be replaced, whereas dirty disks may be cleaned with a high-quality degreaser.

### **⚠ CAUTION**

Use great care during removal and refitting procedures to avoid damaging the brake lines, brake disks and brake pads.

**NOTE** To remove the front brake callipers, it is necessary to use the suitable front OPT and rear OPT wheel stands.

## REMOVAL

- ◆ Place the vehicle on the front wheel stand, see page 71 (PLACING THE VEHICLE ON THE FRONT WHEEL STAND OPT).

### **⚠ CAUTION**

Make sure that the vehicle is stable.

- ◆ Rotate the wheel manually. Set it so that the brake calliper can be reached through the space between two rim spokes.
- ◆ Have someone keep the handlebar steady in the direction of travel, with the steering locked.

**Torque wrench setting for the brake calliper bolts (1): 50 Nm (5 kgm).**

- ◆ ★ Unscrew and remove the two brake calliper bolts (1).

### **⚠ CAUTION**

Do not operate the front brake lever when the callipers are not in place, or the pistons might fall out leading to brake fluid spillage.

In the event of brake fluid spillage, contact your **aprilia** Official dealer to have the vehicle serviced properly.

- ◆ ★ Withdraw the brake calliper (2) from the disk, leaving it attached to the hose (3).

**Remove the other brake calliper as follows:**

- ◆ Repeat the operations marked with ★.

## REASSEMBLY

### **⚠ CAUTION**

Proceed with care to avoid damage to the brake pads.

- ◆ ★ Locate the brake calliper (2) to the disk so as to align the calliper mounting holes and the carrier holes.

### **⚠ WARNING**

**Refit the brake calliper using two new bolts (1) of the same type as those fitted originally.**

- ◆ ★ Screw the two calliper mounting bolts (1) hand-tight until they contact the calliper.
- ◆ ★ Pull the brake lever to let the calliper locate properly against the disk.
- ◆ ★ Tighten the two bolts (1) to the specified torque while keeping the brake lever squeezed in.

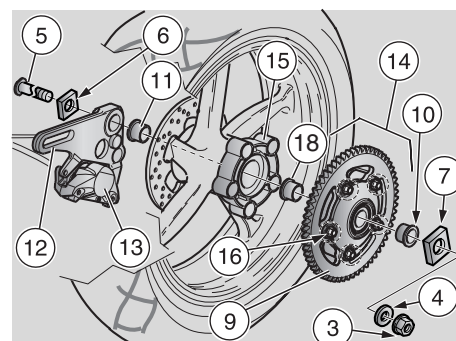
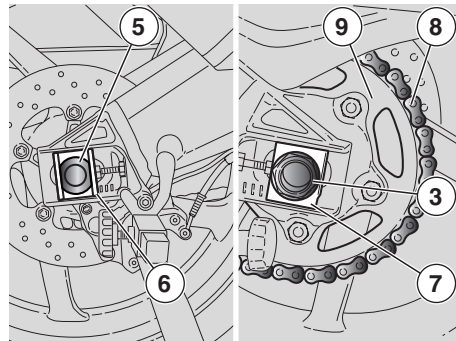
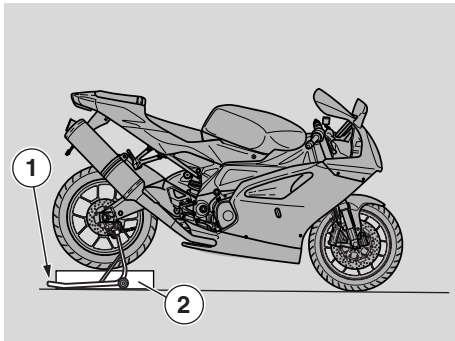
**Torque wrench setting for the calliper mounting bolts: 50 Nm (5 kgm).**

**Refit the other brake calliper as follows:**

- ◆ Repeat the operations marked with ★.
- ◆ Remove the front wheel stand OPT, see page 71 (PLACING THE VEHICLE ON THE FRONT WHEEL STAND OPT).

### **⚠ CAUTION**

**After reassembly, work the brake lever repeatedly and check for proper operation of the brake.**



## REAR WHEEL

### ⚠ CAUTION

Removing and refitting the rear wheel may prove difficult for unskilled operators.

If necessary, contact your **aprilia** Official dealer.

If you wish to perform these operations yourself, keep to the following instructions.

Read page 61 (MAINTENANCE) carefully.

To avoid burns, allow some time for the engine and exhaust silencer to cool down completely before proceeding.

Use great care when removing the wheel to avoid damaging the brake lines, brake disks and brake pads.

### ⚠ WARNING

Riding with damaged rims will put your safety, that of other persons and the vehicle at risk.

Check the wheel rim for damage and have it replaced if damaged.

**NOTE** To remove the rear wheel, you will need the rear wheel stand **OPT**. Make sure to have it ready at hand.

### REMOVAL

- ◆ Place the vehicle on the rear wheel stand (1), see page 70 (PLACING THE VEHICLE ON THE REAR WHEEL STAND **OPT**).
- ◆ Place a support (2) under the tyre to hold the wheel in place once released.

**Torque wrench setting for wheel hub nut (3): 120 Nm (12 kgm).**

- ◆ Undo and remove the wheel hub nut (3) and collect the washer (4).

**NOTE** Lift the wheel slightly to facilitate spindle removal.

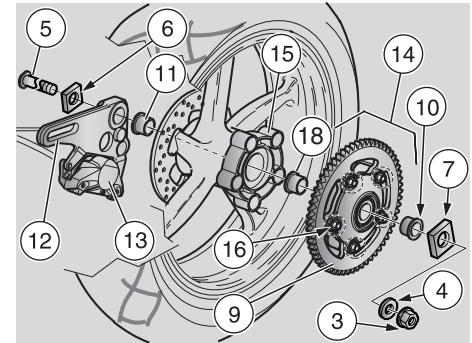
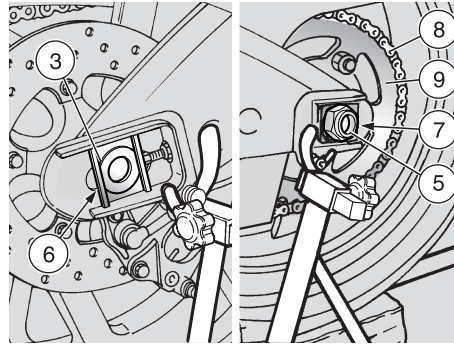
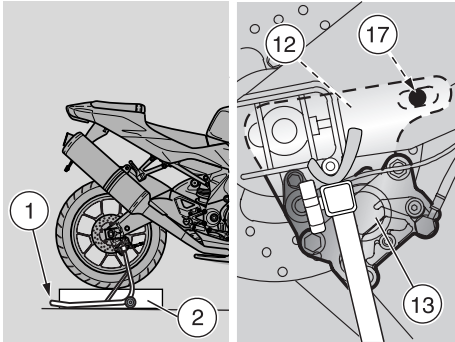
- ◆ Withdraw the wheel spindle (5) from the right side.

**NOTE** Note the direction and position of the right (6) and left (7) chain sliders so as to refit them correctly on assembly.

- ◆ Collect the right (6) and left (7) chain sliders.

**NOTE** Take the chain (8) off the sprocket (9) passing it on the outside.

- ◆ Push the wheel forward and take the drive chain (8) off the rear sprocket (9).
- ◆ Remove the wheel from the swinging arm pulling from the rear. Proceed carefully until the brake disk is well away from the callipers.



### ⚠ CAUTION

Do not operate the rear brake lever with the wheel removed, or the pistons might fall out leading to brake fluid spillage.

In the event of brake fluid spillage, contact your **aprilia** Official dealer to have the vehicle serviced properly.

### ⚠ CAUTION

The left (10) and right (11) spacers should still be sitting in the wheel hub. If they slip off, refit them correctly (see REFITTING THE WHEEL).

**NOTE** The brake calliper (13) carrier (12) is still attached to the right side of the swinging arm.

Use great care. If the final drive assembly (14) is mounted to the cush drive hub (15), do not turn the rear wheel over or place it horizontally lying on the rear chain sprocket (A) side, or the final drive assembly will come off and the sprocket (9) might damage.

**NOTE** To avoid removal of the final drive assembly, place the wheel in the same position as for travel (vertically) or place it horizontally with the sprocket up and secure the wheel to keep it from falling over.

**NOTE** Do not disturb the five nuts (16). The final drive can be detached from the cush drive hub as an assembly.

◆ Place both hands (B) on the outer diameter of the sprocket (9) and withdraw the final drive assembly. Keep it parallel to wheel axis during removal.

### REFITTING THE WHEEL

If you have removed the final drive assembly (14):

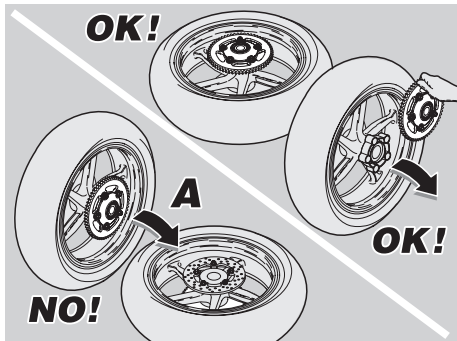
**NOTE** Fit the final drive assembly keeping it parallel to wheel axis and make sure the cush drive rubbers become properly located into their seats in the cush drive hub (15).

◆ Place both hands (C) on the outer diameter of the sprocket (9) and insert the final drive assembly into the cush drive hub (15).

### ⚠ CAUTION

Make sure the spacer (18) does not slip off the final drive assembly on refitting.

**NOTE** The next procedure is only required when the left (10) and/or right (11) spacers have slipped out of place.



- ◆ Position the left spacer (10) and/or the right spacer (11) into their seats with the larger diameter facing away from the vehicle.

### ⚠ CAUTION

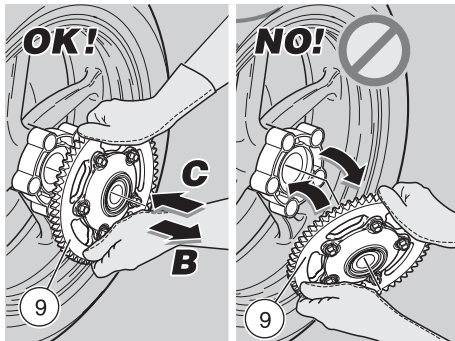
Before refitting the wheel, make sure the brake calliper (13) carrier (12) is correctly in place. The carrier slot should be on the matching peg (17) on the inside of the right swinging arm.

Be careful when locating the disk to the brake calliper.

- ◆ Place the wheel between the two arms of the swinging arm and over the support (2).

### ⚠ WARNING

Do not place your fingers between chain and sprocket.



- ◆ Push the wheel forward and wrap the drive chain (8) around the sprocket (9).
- ◆ Fit the right (6) and left (7) chain sliders correctly into their seats in the swinging arm.
- ◆ Smear a light coat of grease over the total length of the wheel spindle (5), see page 117 (LUBRICANT CHART).

### ⚠ WARNING

Do not attempt to align the holes by putting your fingers inside or you will risk severe injury.

- ◆ Pull back the wheel until the hub bore matches the swinging arm holes.
- ◆ Rotate the carrier (12) complete with brake calliper (13) - it will pivot around the locating pin (17) - until matching the holes.
- ◆ Push the wheel spindle (5) fully home from the right side.

**NOTE** Make sure the wheel spindle (5) is fully in and that spindle head locates correctly into the seat in the left chain slider (7).

- ◆ Fit the washer and screw the wheel hub nut (3) finger-tight.
- ◆ Check chain slack, see page 79 (DRIVE CHAIN).
- ◆ Tighten the nut (3) to the specified torque.

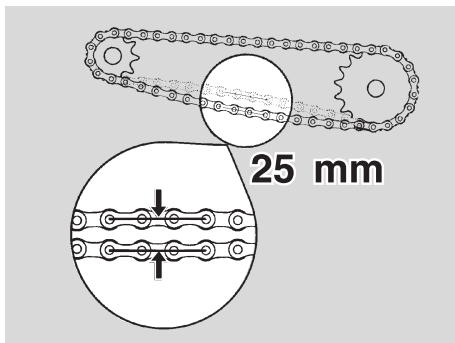
**Torque wrench setting for wheel hub nut (3): 120 Nm (12 kgm).**

- ◆ Make sure the following components have not become contaminated with lubricants:
  - tyre;
  - wheel;
  - brake disk.

### ⚠ CAUTION

After refitting, work the rear brake lever repeatedly and check for proper operation of the brake.

We recommend having the vehicle inspected at an **aprilia** Official dealer to make sure that all components are at the correct torque and that the wheel is properly centred and balanced. Failure to do so could result in severe personal injury.



## DRIVE CHAIN

Read page 61 (MAINTENANCE) carefully.

The vehicle is fitted with an endless chain that has no master link.

### ⚠ CAUTION

Exceeding slack in the chain may cause the chain to rattle or knock, resulting in a worn chain slider and guide.

Check slack at regular intervals and adjust as required, see page 79 (CHAIN SLACK INSPECTION).

Have the chain replaced at an **aprilia** Official dealer only, for guaranteed accurate, prompt service.

Improper maintenance may lead to early wear of the chain and/or front/rear sprocket damage.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

## CHAIN SLACK INSPECTION

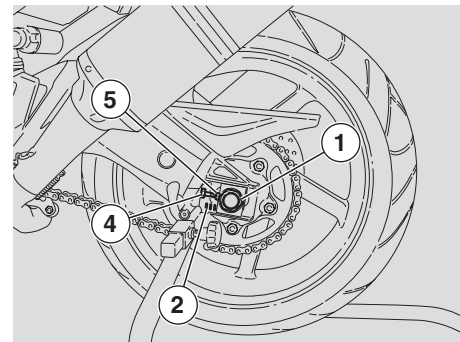
To check chain slack:

- ◆ Stop the engine.
- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Put the gearbox in neutral.
- ◆ Check chain slack by measuring the vertical movement of the chain lower section, midway between the sprockets. Movement should be approximately 25 mm.
- ◆ Move the motorcycle forward to check slack at various sections of the chain. Slack should be the same throughout one full turn of the wheel.

### ⚠ CAUTION

If slack is greater at particular positions of the chain, it means that some links are warped or have seized. In this case, contact an **aprilia** Official dealer. To prevent seizure, lubricate the chain frequently, see page 80 (CLEANING AND LUBRICATION).

Chain slack must be adjusted whenever it differs from the specified 25 mm, regardless of whether it is greater or less than the 25 mm service limit, even when it is consistent at all positions of the chain. See page 79 (CHAIN SLACK ADJUSTMENT).



## CHAIN SLACK ADJUSTMENT

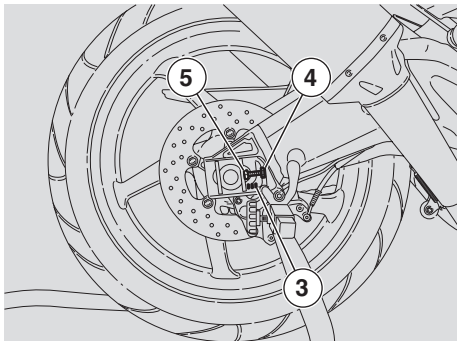
**NOTE** To adjust chain slack, you will need the rear wheel stand **OPT**. Make sure to have it ready at hand.

If the chain needs adjusting after the inspection, proceed as follows:

- ◆ Place the vehicle on the rear wheel stand, see page 70 (PLACING THE VEHICLE ON THE REAR WHEEL STAND **OPT**).
- ◆ Loosen the nut (1) completely.

**NOTE** Wheel centring is aided by fixed reference marks (2-3) located inside the seats of the chain sliders/tensioners fitted to the swinging arm before the wheel spindle.

- ◆ Loosen the two lock nuts (4).
- ◆ Work the adjusters (5) and adjust chain slack, making sure to use the same reference mark settings (2-3) on both sides of the vehicle.



- ◆ Tighten the two lock nuts (4).
- ◆ Tighten the nut (1).

**Torque wrench setting for wheel nut (1): 120 Nm (12 kgm).**

- ◆ Check chain slack, see page 79 (CHAIN SLACK INSPECTION).

### CHECKING CHAIN AND SPROCKETS FOR WEAR

Check the following parts every 10000 km (6250 mi). Visually inspect chain, front and rear sprockets looking for:

- damaged chain rollers;
- loose chain link pins;
- dry, rusty, warped or seized links;
- exceeding wear;
- missing O-rings;
- exceedingly worn or damaged sprocket teeth.

### ⚠ CAUTION

**If chain rollers are damaged, chain link pins are loose and/or any O-rings are missing or deteriorated, renew the drive chain and the front and rear sprockets as a set.**

**Lubricate the chain frequently, especially if you find any dry or rusty parts.**

**Warped or seized links must be lubricated and repaired.**

**If this is not possible, have the chain replaced at an *aprilia* Official dealer.**

### CLEANING AND LUBRICATION

#### ⚠ CAUTION

**The drive chain links are fitted with O-rings that retain the grease inside. Use the utmost care when adjusting, lubricating, washing or replacing the chain.**

**Never wash the drive chain using steam cleaners, high-pressure water nozzles or highly flammable solvents.**

- ◆ Wash the drive chain with fuel oil or kerosene. If the chain tends to become rusty quickly, service more frequently.

Lubricate the chain every 1000 km (625 mi) and whenever it seems appropriate.

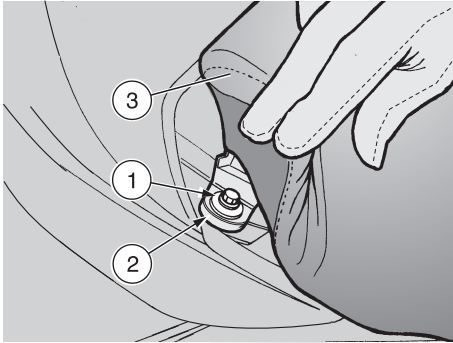
- ◆ After washing the chain, let it dry, then spray with aerosol lubricant for O-ring chains, see page 117 (LUBRICANT CHART).

### ⚠ CAUTION

**The chain lubricants available on the market may contain aggressive substances which will damage the chain rubber O-rings.**

**NOTE** Do not ride when you have only just lubricated the chain. Centrifugal force would cause the newly applied lubricant to fly all over adjacent vehicle parts.





## REMOVING THE RIDER SADDLE

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ ★ Partially raise the rear side edge of the saddle.
- ◆ ★ Unscrew and remove the screw (1) and collect the bushing (2).

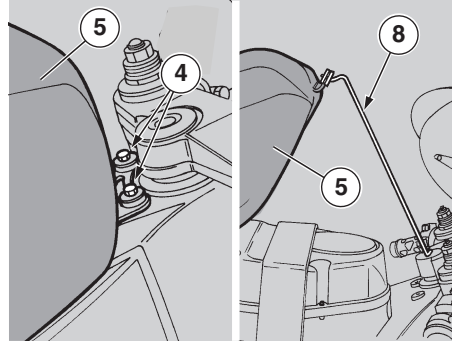
**Torque wrench setting for the screw (1): 12 Nm (1.2 kgm).**

- ◆ ★ The operations marked with ★ must be performed on both sides of the vehicle.
- ◆ Raise and remove the saddle (3).

**NOTE** On refitting, insert the front tab of the saddle into the corresponding seat.

## ⚠ CAUTION

**Before riding, make sure that the saddle (3) is properly positioned and secured firmly.**



## LIFTING THE FUEL TANK

**Read page 34 (FUEL) and page 61 (MAINTENANCE) carefully.**

## ⚠ WARNING

**Fire hazard.**

**Allow for the engine and exhaust silencer to cool down completely before proceeding.**

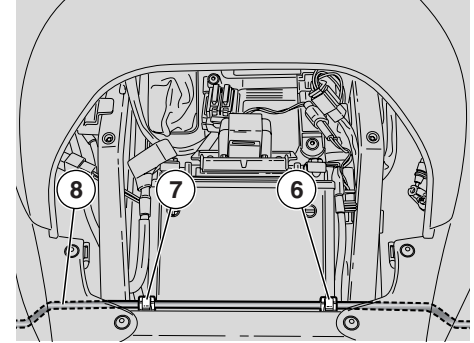
**Fuel vapours are noxious to your health.**

**Make sure the area is well ventilated before proceeding.**

**Do not inhale fuel vapours.**

**Do not smoke and do not use naked flames.**

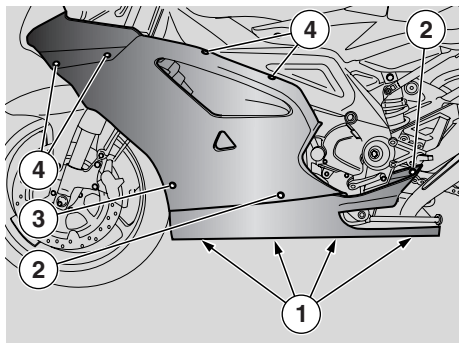
**DO NOT RELEASE FUEL INTO THE ENVIRONMENT.**



- ◆ Remove the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).
- ◆ Remove the side panels, see page 82 (REMOVING THE SIDE PANELS).
- ◆ Unscrew and remove the two retaining screws (4) at the front end of the fuel tank (5).
- ◆ Release the fuel tank support rod (8) from its anchor points (6-7).

**NOTE** The rubber-coated end of the rod (8) must be introduced in the central hole of the steering shaft.

- ◆ Lift the front end of the fuel tank (5) and insert the rod (8) as shown.



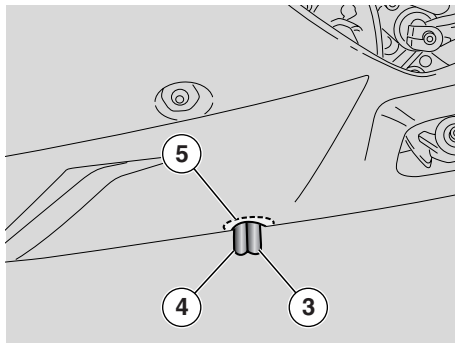
## REMOVING THE SIDE FAIRINGS

Carefully read page 61 (MAINTENANCE).

### ⚠ WARNING

Allow for the engine and exhaust silencer to cool down completely before proceeding.

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Release and remove the screws (1).
- ◆ Release and remove the two screws (2).
- ◆ Slacken the quick fasteners (3).
- ◆ Slacken and remove the quick fasteners (4).



### ⚠ CAUTION

Handle plastic and paint-finished parts with care to avoid scratching or damage.

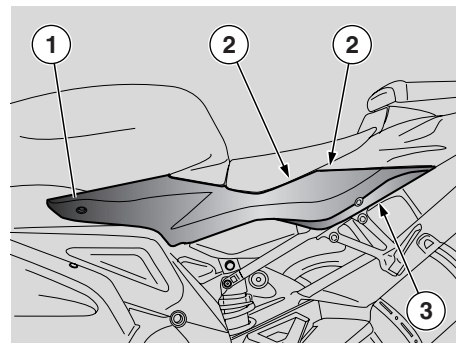
- ◆ Remove the side fairing (2).

**NOTE** Repeat process to remove the other side fairing.

**NOTE** On refitting, route the hoses (3) and (4) through the hole (5) in the left fairing.

## REMOVING THE SIDE PANELS

- ◆ Remove the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).
- ◆ Release and remove the screw (1).
- ◆ Release the plastic rivet (3) using a flat-blade screwdriver.
- ◆ Release and remove the two screws (2).



### ⚠ CAUTION

Handle plastic and paint-finished parts with care to avoid scratching or damage.

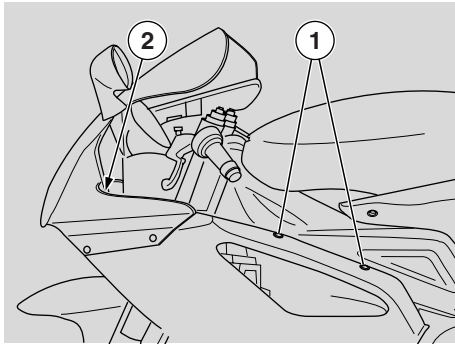
- ◆ Remove the side panel (3).

**NOTE** Make sure the rear fittings are positioned correctly on refitting.

Repeat process to remove the other side panel.

**NOTE** The passenger seat lock or passenger seat cover will remain attached to the left side panel.

To separate them, disconnect the Bowden cable from the lock on the inside of the side panel.

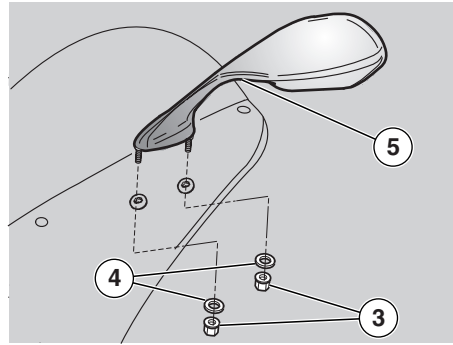


### REMOVING THE FAIRING UPPER FRONT COVERS

- ◆ ★Release and remove the two screws (1).
- ◆ ★Release and remove the retaining screw (2).
- ◆ ★Pull the side fairing apart gently to release the cover.

#### ⚠ CAUTION

Handle plastic and paint-finished parts with care to avoid scratching or damage.



### REMOVING THE REAR-VIEW MIRRORS

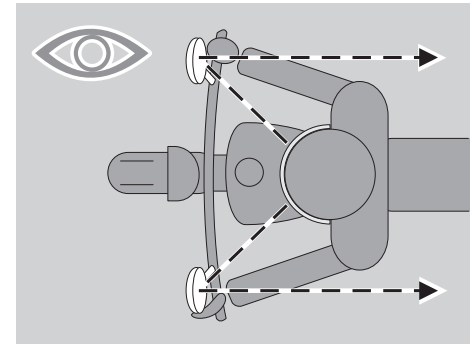
- ◆ Disconnect the direction indicator cables.
- ◆ Release and remove the two nuts (3) and collect the washers (4).
- ◆ Ease off the rear-view mirror (5) paying attention to the electrical connector.

#### ⚠ CAUTION

Handle plastic and paint-finished parts with care to avoid scratching or damage.

- ◆ Remove the rear-view mirror (5).

**NOTE** Repeat process for the other mirror.

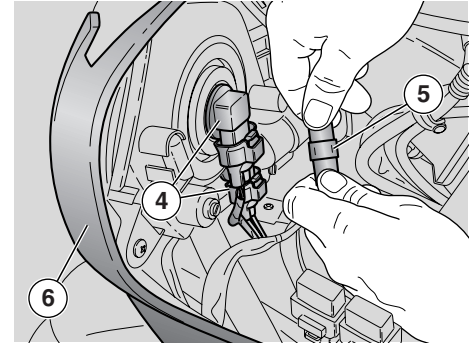
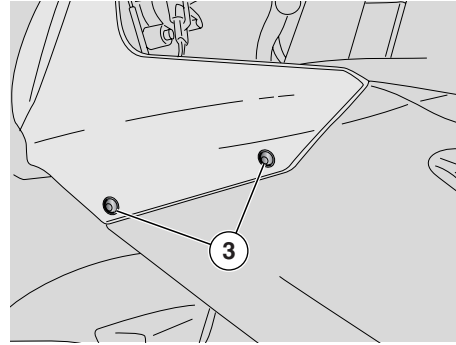
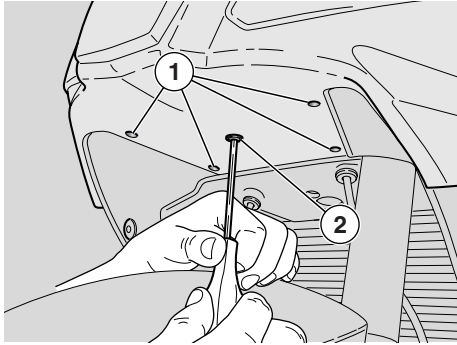


#### ⚠ CAUTION

On refitting, adjust the rear-view mirrors and tighten the nuts to secure them firmly in place.

#### After refitting:

- ◆ Set the rear-view mirrors at the correct angle.



## REMOVING THE FRONT FAIRING

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Turn the ignition switch to position "⊗".
- ◆ Remove the rear-view mirrors, see page 83 (REMOVING THE FAIRING UPPER FRONT COVERS).
- ◆ Release the four plastic rivets (1) using a flat-blade screwdriver.
- ◆ Release and remove the screw (2) in the centre.

### ⚠ CAUTION

Do not overtighten the screw (2) on refitting, as it sits on plastic.

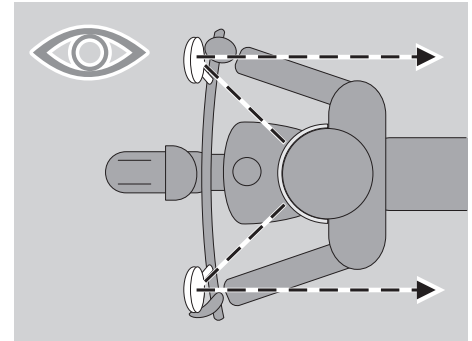
- ◆ ★Release and remove the snap-on fasteners (3) securing the front fairing to the side fairings.
- ◆ ★Disconnect the two connectors (4) on either side of the front fairing.
- ◆ ★Disconnect the connector (5) on either side of the front fairing.
- ◆ Detach the front fairing (6) complete with headlight.

### ⚠ CAUTION

Make sure to refit the electrical connectors (4) and (5) to the matching connectors on assembly.

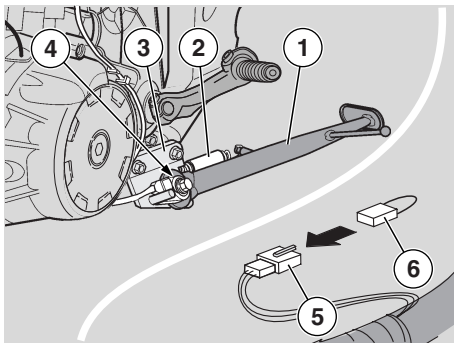
### ⚠ CAUTION

Handle plastic and paint-finished parts with care to avoid scratching or damage.



### After refitting:

- ◆ Set the rear-view mirrors at the correct angle.



## REMOVING THE SIDE STAND

Read page 61 (MAINTENANCE) carefully.

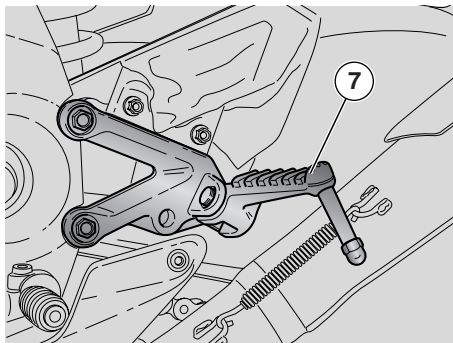
Removal of the side stand (1) complete with:

- springs (2),
- bracket (3), and
- stand switch (4)

is only recommended for vehicles used for racing.

**NOTE** Removing the stand switch (4) interrupts the electric circuit. To restore it, connect the wiring (6) **OPT** (aprilia part # 8127544), available from any **aprilia Official dealer**, to the connector (5).

If the vehicle is used for racing, safety pegs (7) are available for installation to the rider footrests to avoid removal of the side stand.



### ⚠ WARNING

Removal of the safety pegs (7) fitted to the rider footrests is only allowed after removal of the side stand.

### ⚠ CAUTION

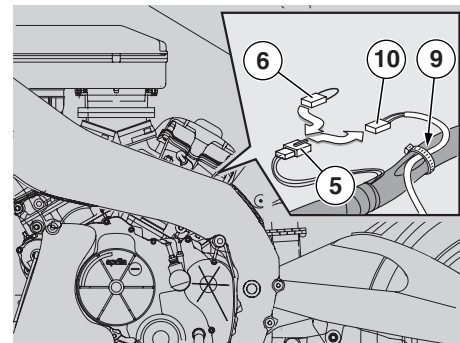
Do not lean the vehicle against walls and do not lay it down on the ground.

When the vehicle is without the side stand (side stand removal is allowed only for racing use), always park using the rear wheel stand **OPT**.

### ⚠ WARNING

It is forbidden to disconnect or remove the safety switch (4) separately from the stand.

When the stand switch (4) alone is disconnected or removed, engine starting is no longer inhibited with the stand down. This means the vehicle is



capable of moving off with the stand down, which may result in an accident, leading to serious injury to the rider and other people and vehicle damage.

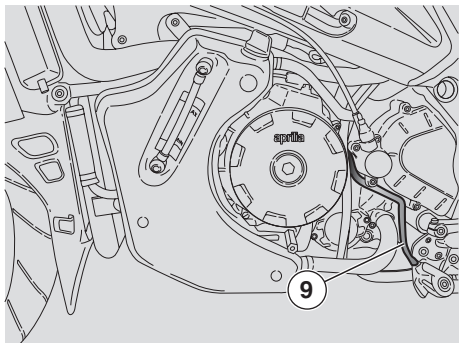
For removal, proceed as follows:

- ◆ Remove the left side fairing, see page 82 (REMOVING THE SIDE FAIRINGS).

### ⚠ CAUTION

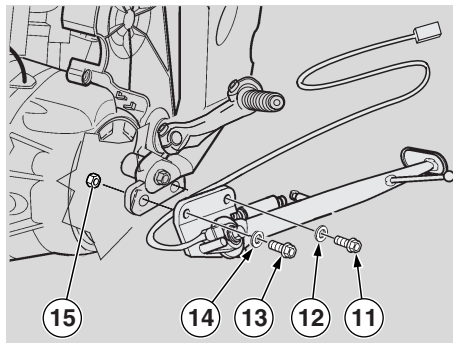
Do not pull on cables, hoses, connectors or on the wiring.

- ◆ Disconnect the electric connector (10) from the connector (5).
- ◆ Connect the wiring (6) (**aprilia** part # 8127544) [in place of the electric connector (10)].



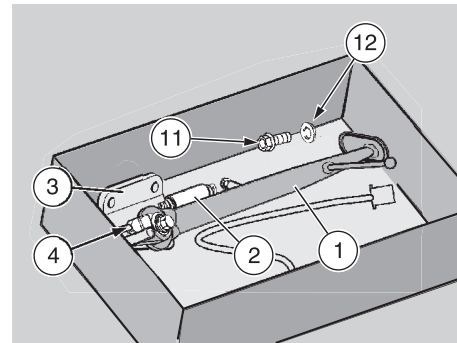
- ◆ Withdraw the cable (9) completely.
- ◆ Lower the fuel tank, see page 81 (LIFTING THE FUEL TANK).

**NOTE** Support the stand, in order to prevent it from accidentally falling down.



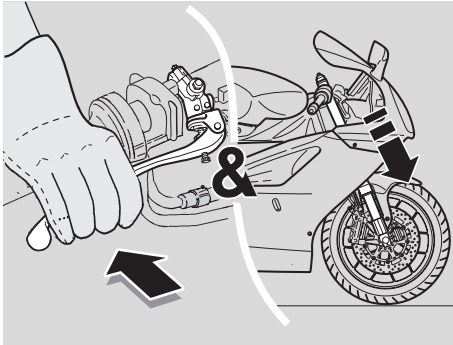
**Torque wrench setting for screws (11) and (13): 40 Nm (4 kgm).**

- ◆ Unscrew and remove the screw (11) and collect the washer (12).
- ◆ Unscrew and remove the screw (13) while holding the nut (15) at the rear end with a spanner.
- ◆ Remove the stand (1) complete with:
  - springs (2);
  - bracket (3);
  - stand switch (4).
- ◆ Refit the screw (13), the washer (14) and the nut (15) and tighten to the specified torque.



**NOTE** Store away the complete stand, the screw (11) and the washer (12) together. This way, you will be able to refit them correctly when you intend to use the vehicle on public roads.

- ◆ Refit the left side fairing, see page 82 (REMOVING THE SIDE FAIRINGS).



## INSPECTING THE FRONT AND REAR SUSPENSION

Read page 61 (MAINTENANCE) carefully.

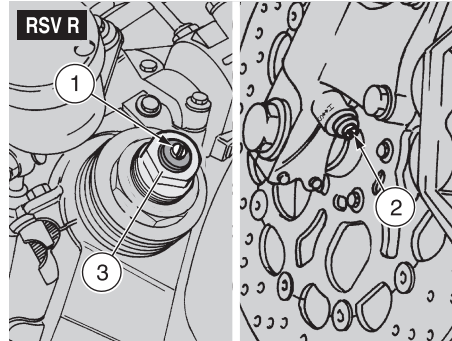
**NOTE** Have the front fork oil changed by an **aprilia Official dealer**, for guaranteed accurate, prompt service.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Have the front fork oil changed after the first 10000 km (6250 mi) and every 20000 km (12500 mi) afterwards.

If the vehicle is equipped with an "R" front fork **RFACT** (**RSV R** **OPT**), have the oil changed every 10000 km (6250 mi).

Carry out the following checks after the first 1000 km (625 mi) and every 10000 km (6250 mi) afterwards:



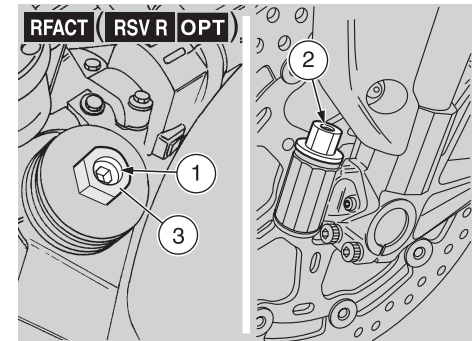
- ◆ Keep the brake lever squeezed in and press down repeatedly on the handlebars to compress the front fork. The front fork should compress in a smooth motion. Inspect the fork legs for any traces of oil.
- ◆ Ensure that all parts are firmly tightened and check for proper operation of the front and rear suspension joints.

### ⚠ CAUTION

In the event of abnormal operation, or if qualified assistance is necessary, contact your **aprilia Official dealer**.

## FRONT SUSPENSION

- ◆ **RSV R** Have the fork oil seals changed by an **aprilia Official dealer** after the first 30000 km (18750 mi) and every 20000 km (12500 mi) afterwards.
- ◆ **RFACT** Every 10000 km (6250 mi) check, clean and lubricate the fork oil seals. If necessary, have them replaced at an **aprilia Official dealer**.



The front suspension is managed by a hydraulic fork, which is held to the steering tube by two yokes.

Each fork leg is fitted with suitable adjusters to modify suspension response. An upper adjuster screw (1) controls rebound damping, whereas a lower adjuster screw (2) controls compression damping. A top-mounted adjuster nut (3) controls springs preload.

## FRONT FORK ADJUSTMENT

### ⚠ CAUTION

**Do not force the adjusters (1-2) beyond their limit stops in either direction, or the threads may strip. Set both fork legs to the same spring preload, compression and rebound damping settings. A vehicle whose fork legs are set to different settings will be unstable. When spring preload is increased,**

rebound damping should be increased accordingly. Failure to do so may result in the front end jerking unexpectedly when riding.

For the adjustment procedures, see:

- **RSV R** see page 88 (FORK **RSV R**);
- **RSV R** (**RSV R** **OPT**) see page 87 ("R FACTORY" FORK **RFAC** (**RSV R** **OPT**)).

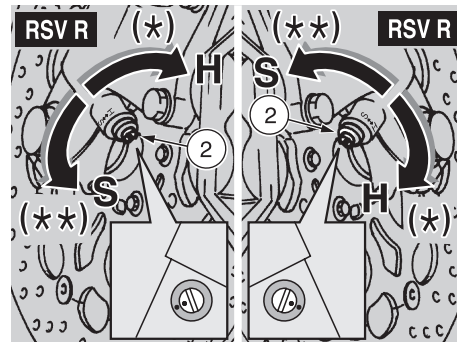
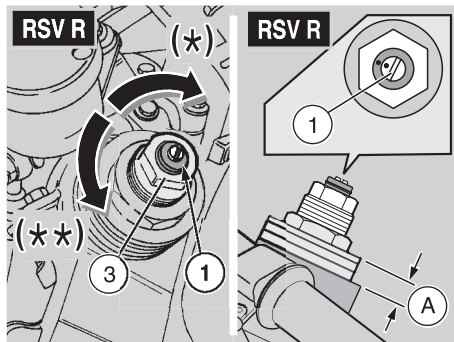
### FORK **RSV R**

Factory setting is designed for any riding condition, low or high speed, with reduced or full load.

However, front suspension setting may be modified to suit specific needs in accordance with vehicle use.

### ⚠ CAUTION

Before adjusting, first set the fork to the stiffest setting [turn the adjusters (1-2) fully clockwise]. The notches on the adjusters (1-2) provide convenient reference marks when setting compression and rebound damping. Rotate the adjusters (1-2) gradually changing setting by one eighth of a turn at a time.



### ⚠ WARNING

Racing settings may only be used during official competitions or sports events authorised by the competent authorities and taking place in closed circuits or, anyway, away from public

roads.

Riding a vehicle with racing settings on public roads and highways is forbidden by the law.

| Front suspension  | Standard setting  | Racing setting  |
|---|---|---|
| Hydraulic rebound damping, screw (1)                        | Tighten fully (*) and then slacken (**) by 1.25 turn                    | Tighten fully (*) and then slacken (**) by 0.5 - 1 turn         |
| Hydraulic compression damping, screw (2)                    | Tighten fully (*) (H) and then slacken (**) (S) by 1 turn               | Tighten fully (*) (H) and then slacken (**) (S) by 0.5 - 1 turn |
| Spring preload, nut (3)                                     | Tighten fully (*) and then slacken (**) until 4 - 5 notches are in view |   |
| Fork height (A) (***) over top yoke (not including top cap) | 4 notches in view   | 5 notches in view   |

(\*) = clockwise  
(\*\*) = anticlockwise

(\*\*\*) = Have this adjustment carried out exclusively by an **aprilia Official dealer**



## “R FACTORY” FORK RFACT RSV R OPT

Factory setting is designed for racing.

However, front suspension setting may be modified to suit specific needs in accordance with vehicle usage.

### ⚠ CAUTION

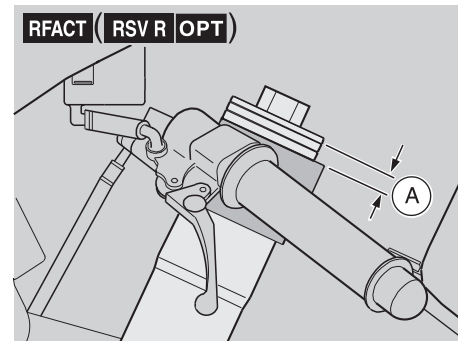
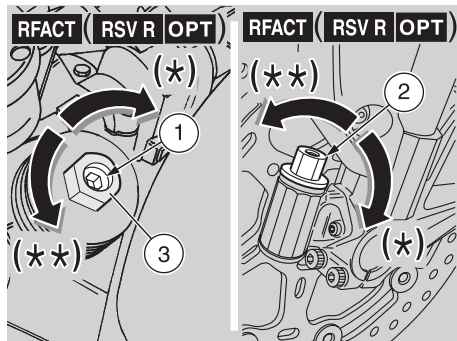
Before adjusting, first set the fork to the stiffest setting [turn the adjusters (1-2) fully clockwise]. The notches on the adjusters (1-2) provide convenient reference marks when setting compression and rebound damping.

Rotate the adjusters (1-2) gradually changing setting by one notch at a time.

### ⚠ WARNING

Racing settings may only be used during official competitions or sports events authorised by the competent authorities and taking place in closed circuits or, anyway, away from public roads.

Riding a vehicle with racing settings on public roads and highways is forbidden by the law.

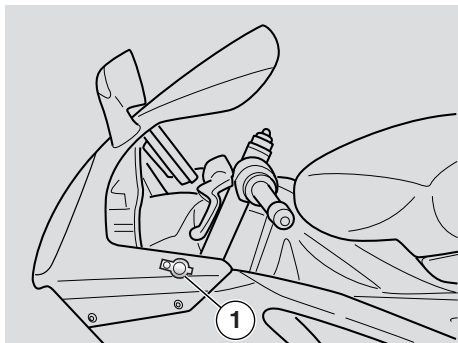


| Front suspension  | Standard setting  | Racing setting  |
|---|---|---|
| Hydraulic rebound damping, screw (1)                        | Tighten fully (*) and then slacken (**) by 12 click positions | Tighten fully (*) and then slacken (**) by 8 - 10 click positions |
| Hydraulic compression damping, screw (2)                    |   |   |
| Spring preload, nut (3)                                     | Slacken fully (**) and then tighten (*) by 8 turns            | Slacken fully (**) and then tighten (*) by 6 - 9 turns            |
| Fork height (A) (***) over top yoke (not including top cap) | 4 notches in view   | 5 notches in view   |

(\*) = clockwise

(\*\*) = anticlockwise

(\*\*\*) = Have this adjustment carried out exclusively by an **aprilia Official dealer**



## ADJUSTABLE STEERING DAMPER

The adjustable steering damper (1) is fitted with an adjusting knob (2) that controls hydraulic damping (see table).

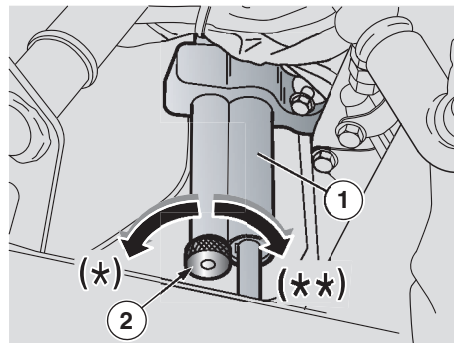
### Adjust as follows:

- ◆ Turn the handlebar fully to the left.

### ⚠ CAUTION

**Before adjusting, first set the knob to the stiffest setting (turn the knob fully anticlockwise).**

- ◆ Turn the knob (2) to set hydraulic damping (see table).



## STEERING DAMPER

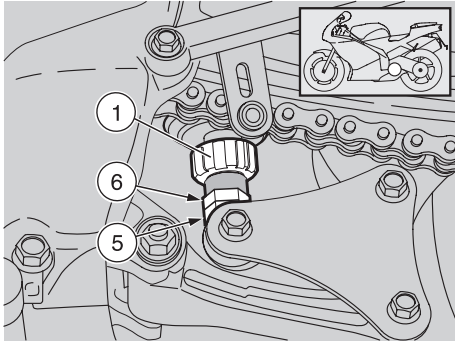
The standard **RSV R** model is not equipped with a steering damper. However, it may be retrofitted with an adjustable steering damper (1), available from **aprilia Official dealer**.

The standard **RFACT** model is equipped with an adjustable steering damper (1).

| Adjustable steering damper | Standard setting  | Racing setting | Setting options   |
|----------------------------|---|----------------|---|
| Setting                    | Tighten fully (**) and then slacken (*) by 15 click positions |                | Tighten fully (**) and then slacken (*) by 2 - 17 click positions |

(\*) = anticlockwise

(\*\*) = clockwise

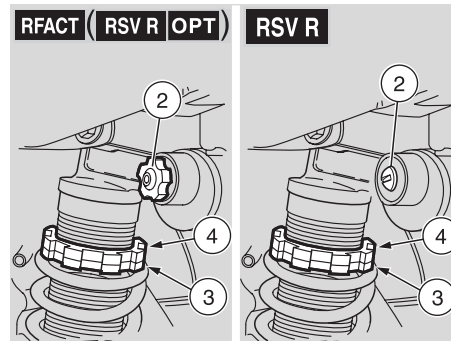


## REAR SUSPENSION

The rear suspension is managed by a spring/damper unit that is connected to the frame and to the rear swinging arm through uni-ball bearings and a linkage system, respectively.

To modify vehicle response, the rear shock absorber is fitted with an adjusting ring nut (1) which controls rebound damping, an adjuster knob (2) which controls compression damping, an adjusting ring nut (3) that controls spring preload and a ring nut (4).

**NOTE** Vehicle response can be further modified by varying rear ride height.



## REAR SHOCK ABSORBER ADJUSTMENT

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Check and if necessary adjust the rear shock absorber every 20000 km (12500 mi).

Factory setting is designed for racing.

However, rear suspension setting may be modified to suit specific needs in accordance with vehicle usage.

## ⚠ CAUTION

Before adjusting, first set the rear shock absorber to the stiffest setting [turn the adjusters (1-2) fully clockwise].

Do not force the adjusters (1-2) beyond their limit stops in either direction, or the threads may strip.

- ◆ Release the ring nut (4) by means of the appropriate spanner.
  - ◆ Adjust spring preload (B) through the adjusting ring nut (3) (see table).
  - ◆ After adjusting, tighten the ring nut (4).
  - ◆ Work the ring nut (1) to set shock absorber rebound damping (see table).
- Compression damping is adjusted by turning the knob (2) on **RFACT** models, by turning the screw (2) on **RSV R** models (see table).

### To change vehicle trim:

- ◆ Slacken the lock nut (5) moderately.
- ◆ Work the adjuster (6) to set shock absorber length (A) (distance between centres) (see table).

## ⚠ CAUTION

Tighten the check nut (5) to the specified torque.

- ◆ After the adjustment, tighten the lock nut (5).

**Torque wrench setting for lock nut (5): 40 Nm (4 kgm).**

## ⚠ CAUTION

Set spring preload and rebound damping according to vehicle usage. When you increase spring preload, you will have to increase rebound damping accordingly to avoid unexpected jerking when riding. If necessary, contact an **aprilia** Official dealer.

## ⚠ CAUTION

**RFACT** (**RSV R** **OPT**) Never remove the capscrew (8) or attempt to service the membrane located underneath. The shock absorber contains nitrogen,

which would leak out if these components were disturbed. This would impair shock absorber operation and lead to an accident.

## ⚠ WARNING

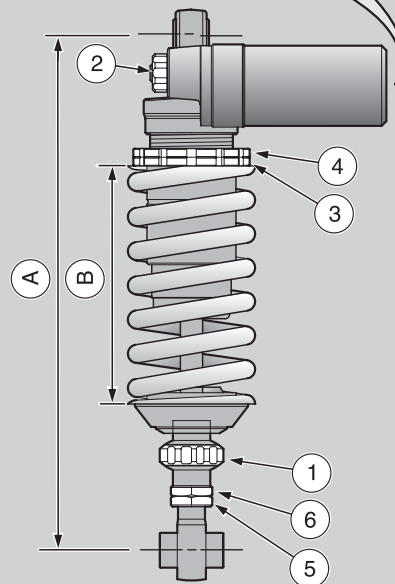
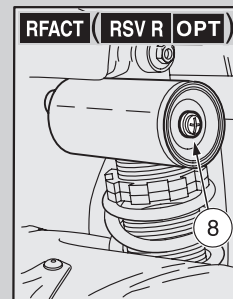
Racing settings may only be used during official competitions or sports events authorised by the competent authorities and taking place in closed circuits or, anyway, away from public roads.

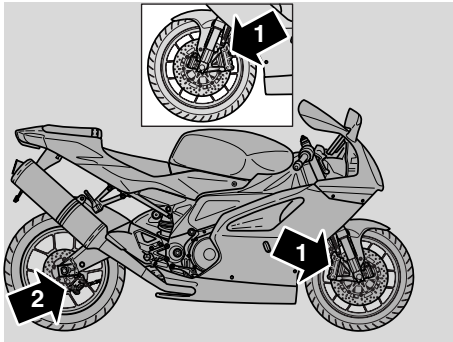
Riding a vehicle with racing settings on public roads and highways is forbidden by the law.

| Rear suspension  | Standard setting   | Racing setting   |
|--|--|--|
| Shock absorber distance between centres (A)                                    | 313 ±1.5 mm  | 310 to 317 mm  |
| Spring length (preloaded) (B)  | - <b>RSV R</b> 149 mm<br>- <b>RFACT</b> 145 mm   | - <b>RSV R</b> 151 mm<br>- <b>RFACT</b> 147 mm   |
| Rebound damping, ring nut (1)  | Tighten fully (*) and then slacken (**) by 20 click positions  | Tighten fully (*) and then slacken (**):<br>- <b>RSV R</b> by 12 - 16 click positions<br>- <b>RFACT</b> by 13 - 16 click positions |
| Compression damping, screw (2) for <b>RSV R</b> , or knob (2) for <b>RFACT</b> | Tighten fully (*) and then slacken (**)<br>- <b>RSV R</b> by 1.5 turns<br>- <b>RFACT</b> by 12 click positions | Tighten fully (*) and then slacken (**)<br>- <b>RSV R</b> by 1-2 turns<br>- <b>RFACT</b> by 8-14 click positions                   |

(\*) = clockwise

(\*\*) = anticlockwise





## CHECKING THE BRAKE PADS FOR WEAR

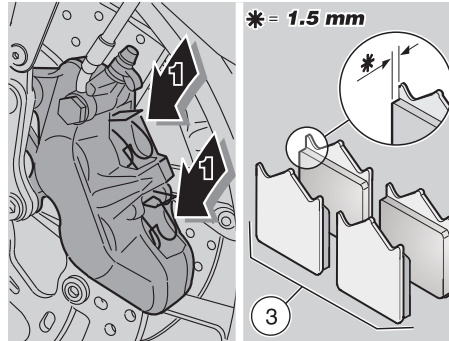
Read page 35 (BRAKE FLUID - recommendations), page 36 (DISK BRAKES) and page 61 (MAINTENANCE) carefully.

**NOTE** The following instructions apply to both braking systems.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Check the brake pads for wear after the first 1000 km (625 miles) and every 2000 km (1250 miles) afterwards and before each ride.

The rate at which brake pads will wear depends on usage, riding style and road surface condition.



\* = 1.5 mm

3

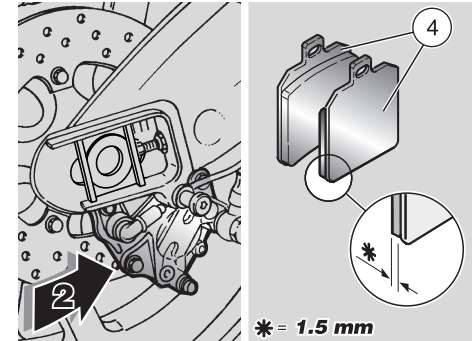
### ⚠ WARNING

Inspect the brake pads before each ride. This is a quick inspection procedure to determine brake pads wear:

◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).

**NOTE** The front (right and left) brake callipers are fitted with four brake pads each. The rear brake calliper has two brake pads.

- ◆ Visually inspect the area between brake disk and brake pads as follows:
  - front brake callipers (1): check the pads looking from above at the rear end;
  - rear brake calliper (2): check the pads looking from the bottom up at the rear end.



\* = 1.5 mm

### ⚠ WARNING

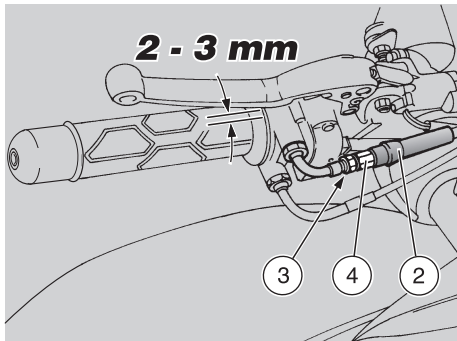
If brake pads were allowed to wear down until uncovering the metal substrate, metal-to-metal contact with the brake disk would lead to rattle and the brake calliper sparking. This will result in loss of braking and brake disk damage, causing a dangerous riding condition.

Have the brake pads changed when the lining material [of even just one of the front (3) or rear (4) brake pads] is worn down to nearly 1.5 mm, or when any one of the wear indicators is no longer visible:

- change all brake pads of both **front brake callipers** (right and left);
- change both brake pads of the **rear brake callipers**.

### ⚠ WARNING

Have the pads replaced at an **aprilia Official dealer**.



## THROTTLE TWISTGRIP ADJUSTMENT

Read page 61 (MAINTENANCE) carefully.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

Have the throttle cables checked at an **aprilia Official dealer** after the first 1000 km (625 miles) and every 10000 km (6250 miles) afterwards.

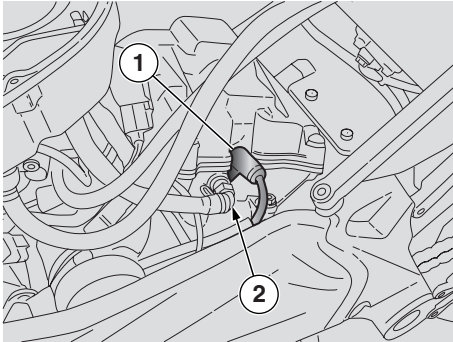
There should be **2-3 mm** free play in the throttle twistgrip (measured at twistgrip edge).

If not so:

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Take off the rubber gaiter (2).
- ◆ Loosen the locknut (3).
- ◆ Rotate the adjuster (4) until setting the specified free play.
- ◆ After adjusting, tighten the locknut (3) and check free play again.
- ◆ Refit the rubber gaiter (2).

### CAUTION

**After adjusting, turn the handlebar and ensure that idling speed is unaffected by handlebar movement. Open the throttle and ensure that the twistgrip springs back to the closed position smoothly and gradually when released.**



## SPARK PLUGS

Read page 61 (MAINTENANCE) carefully.

**NOTE** Halve maintenance intervals if the vehicle is used in rainy or dusty conditions, on rough roads or for racing.

### ⚠ CAUTION

**Check, clean or replace all spark plugs, one by one.**

Check the spark plugs after the first 10000 km (6250 miles) and every 20000 km (12500 miles) afterwards.

If the vehicle is used for racing, change the spark plugs every 5000 km (3125 mi).

At regular intervals, remove the spark plugs and clean off any carbon deposits or replace as required.

### ⚠ CAUTION

**Always change both spark plugs together, even when only one needs replacing.**

In order to gain access to the spark plugs:

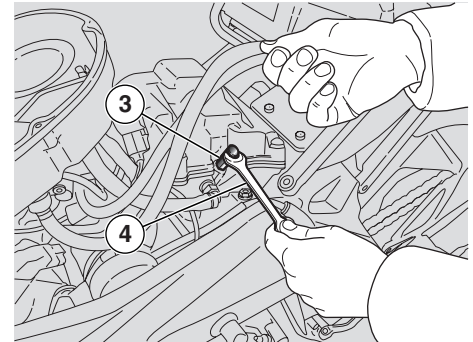
### ⚠ WARNING

**To avoid burns, allow some time for the engine and exhaust silencer to cool down completely before proceeding.**

- ◆ Lift the fuel tank, see page 81 (LIFTING THE FUEL TANK).

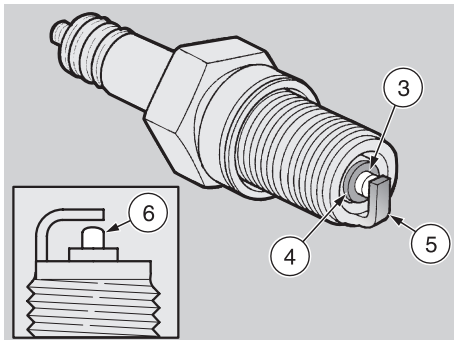
**NOTE** The vehicle is equipped with one spark plug for each cylinder.

The procedures described below apply to both spark plugs.



Removal:

- ◆ Pull the cap (1) off the spark plug (2).
- ◆ Remove any traces of dirt from the spark plug base.
- ◆ Fit the suitable spark plug tool (supplied with the tool kit) to the spark plug.
- ◆ Fit the 13-mm open-end spanner (4) to the hexagon of the spark plug tool (3).
- ◆ Unscrew and extract the spark plug. Ensure that no dust or foreign matter fall into the cylinder.



### Inspection and cleaning:

#### ⚠ CAUTION

This motorcycle uses spark plugs with platinum electrodes.

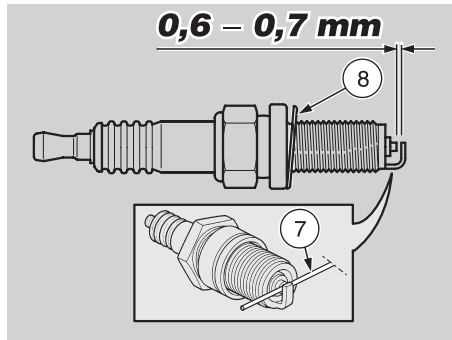
Do not clean with wire brushes and/or abrasive compounds. Clean with compressed air only.

#### Key:

- central electrode (3)
- insulator (4)
- side electrode (5).

◆ Check electrode and insulating material for carbon deposits or corrosion. Blow with an air line to remove any deposits, if needed.

A spark plug must be changed when: the insulator is cracked; the electrodes show traces of corrosion or exceeding deposits; the tip of the central electrode (3) is worn away and has achieved a radiused contour (6).



#### ⚠ CAUTION

Ensure that the replacement spark plug is the suitable length and thread.

A short thread will cause carbon to build up on the thread in the head. When you fit a proper spark plug at a later time, the engine will damage.

Use recommended spark plugs only, see page 113 (TECHNICAL DATA). A spark plug of the wrong rating may shorten engine life and cause loss of performance.

Use a wire feeler gauge (7) to check air gap between electrodes. Any other tool will damage the platinum coating of the electrodes.

◆ Check the electrode gap with a wire feeler gauge (7).

#### ⚠ CAUTION

Do not attempt to adjust electrode gap.

Electrode gap should be 0.6 - 0.7 mm. If not so, change the spark plug.

◆ Make sure the washer (8) is in good condition.

#### To refit the spark plug:

◆ Fit the washer (8) and screw the spark plug finger-tight to avoid damaging the thread.

◆ Tighten using the supplied tool. Screw in each spark plug by one half turn to compress the washer.

Torque wrench setting for spark plugs: 20 Nm (2.0 kgm).

#### ⚠ CAUTION

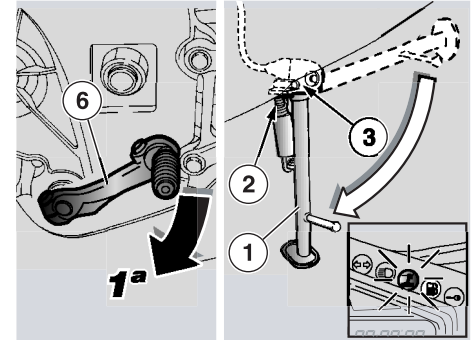
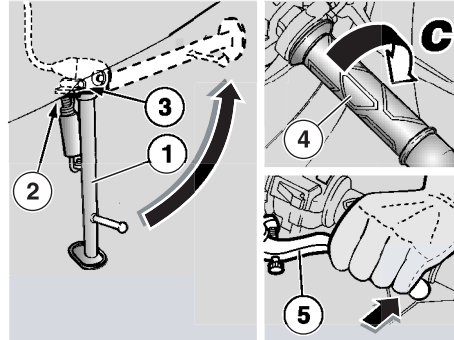
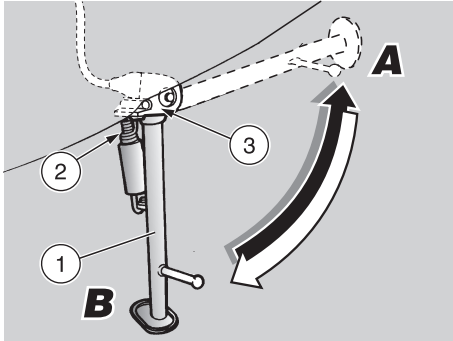
It is essential to tighten the spark plugs properly. A loose spark plug will cause engine overheating and result in severe damage.

◆ Refit the spark plug cap (1) securely onto the spark plug (2), so that it will not work itself loose when exposed to engine vibration.

**NOTE** Repeat the above procedures for the other spark plug.

◆ Lower the fuel tank, see page 81 (LIFTING THE FUEL TANK).





## CHECKING THE SIDE STAND

Read page 61 (MAINTENANCE) and page 102 (CHECKING THE SWITCHES) carefully.

The side stand (1) has two positions:

- folded up (at rest) (Pos.A);
- down (supporting the bike) (Pos.B).

The side stand must be operated by the rider.

The stand (1) must rotate freely.

The springs (2) keep the stand in the desired position (up or down).

Check the stand as follows:

- ◆ Place the vehicle on the rear wheel stand, see page 70 (PLACING THE VEHICLE ON THE REAR WHEEL STAND **OPT**).
- ◆ The springs (2) must not be damaged, worn, oxidised or weakened.

- ◆ Make sure that the stand has no free play in the up or down position.
- ◆ With the stand up, pull it down and make sure the springs let it achieve the fully down position.
- ◆ Pull up the stand and release it at mid travel to make sure it goes fully up.
- ◆ The stand must rotate freely. Grease the joint if needed, see page 117 (LUBRICANT CHART).

The side stand (1) is equipped with a safety switch (3) that inhibits engine operation when a gear is engaged with the side stand (1) down.

To check for proper operation of the stand switch (3):

- ◆ Remove the rear wheel stand, see page 70 (PLACING THE VEHICLE ON THE REAR WHEEL STAND **OPT**).
- ◆ Sit astride the vehicle.
- ◆ Fold up the side stand (1).

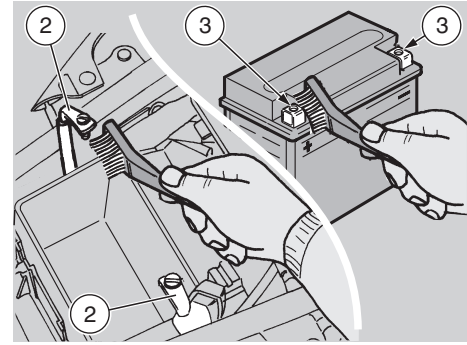
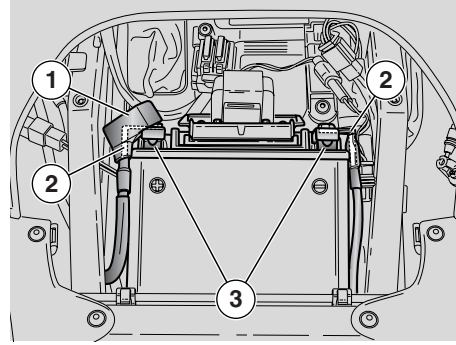
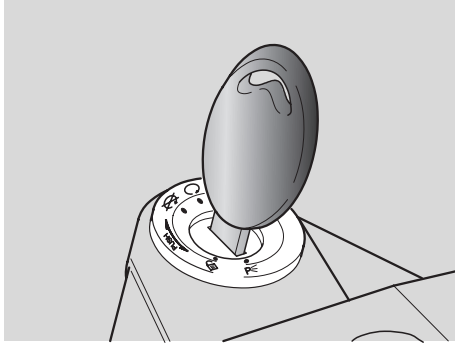
- ◆ Start the engine, see page 53 (STARTING).
- ◆ Release the throttle twistgrip (4) (Pos.C), let engine idle and then pull in the clutch lever (5).
- ◆ Engage the first gear, by pushing the gear lever (6) downwards.
- ◆ Pull down the side stand (1) to operate the stand switch (3).

The following should happen:

- the engine must stop;
- the "side stand down" light "⚡" must come on.

## ⚠ CAUTION

If the engine does not stop, contact an **aprilia** Official dealer.



## BATTERY

Read page 61 (MAINTENANCE) carefully.

### WARNING

Fire hazard!

Keep fuel and other flammable products away from electric components.

Never invert the battery cables.

Ensure that the ignition switch is in the "OFF" position before connecting or disconnecting the battery, otherwise some components might damage. Connect the positive cable (+) first and then the negative cable (-).

Disconnect in the reverse order.

**NOTE** This vehicle is fitted with a maintenance-free battery which seldom needs inspecting and may need charging from time to time.

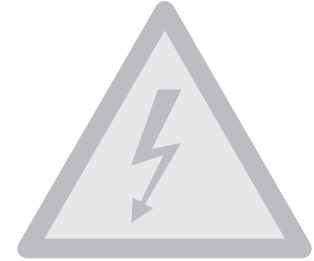
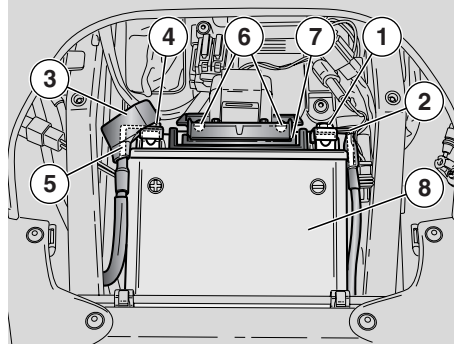
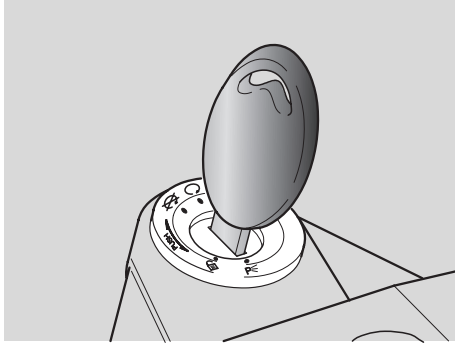
## CLEANING AND CHECKING BATTERY TERMINALS AND LEAD CONNECTIONS

Read page 98 (BATTERY) carefully.

- ◆ Ensure the ignition switch is in the "OFF" position.
- ◆ Remove the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).
- ◆ Slide the red protective cap (1) aside.
- ◆ Check that battery lead connections (2) and battery terminals (3) are:
  - in good condition (free from corrosion or any deposits);
  - coated with neutral grease or Vaseline.

### If needed:

- ◆ Remove the battery, see page 99 (BATTERY REMOVAL).
- ◆ Clean off any corrosion deposits from the battery lead connections (2) and terminals (3) using a wire brush.
- ◆ Refit the battery, see page 101 (INSTALLING THE BATTERY).



## BATTERY REMOVAL

### ⚠ CAUTION

When the battery is removed, the digital clock and red line setting will be reset to zero. See page 20 (MULTIFUNCTION COMPUTER) for instructions on how to set clock and red line.

Read page 98 (BATTERY) carefully.

- ◆ Ensure the ignition switch is in the "⊗" position.
- ◆ Remove the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).
- ◆ Release and remove the negative (-) terminal screw (1).
- ◆ Slide the negative lead (2) aside.
- ◆ Lift the red protective cap (3).

- ◆ Release and remove the positive (+) terminal screw (4).
- ◆ Slide the positive lead (5) aside.
- ◆ Release and remove the two screws (6).
- ◆ Remove the battery retaining bracket (7).
- ◆ Grasp the battery (8) firmly and lift it out of its mount.

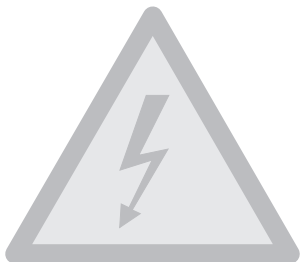
### ⚠ WARNING

Once removed, the battery must be stored in a safe place out of the reach of children.

- ◆ Place the battery on a level surface, in a cool, dry place.

- ◆ Refit the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).

**NOTE** See page 101 (INSTALLING THE BATTERY) for installation instructions.



## CHECKING BATTERY FLUID LEVEL

Read page 98 (BATTERY) carefully.

This vehicle is fitted with a maintenance-free battery and it is not necessary to check battery fluid level.

## CHARGING THE BATTERY

Read page 98 (BATTERY) carefully.

### ⚠ CAUTION

Do not remove the battery plugs or the battery may damage.

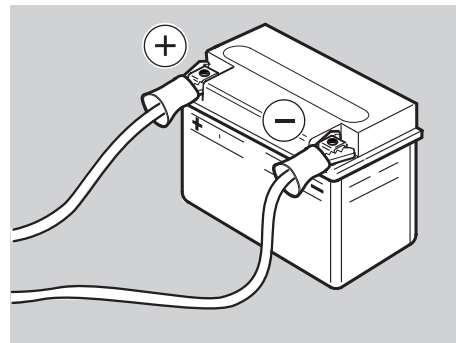
- ◆ Remove the battery, see page 99 (BATTERY REMOVAL).
- ◆ Be sure to have a suitable battery charger ready at hand.
- ◆ Set the battery charger to the desired charge rate (see chart below).
- ◆ Connect the battery to the battery charger.

### ⚠ WARNING

Charge or use the battery in a well-ventilated place. Do not inhale the gasses produced by the battery under charging.

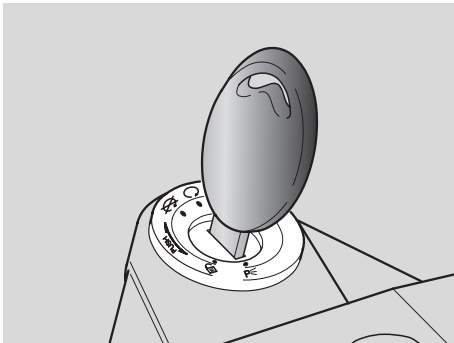
- ◆ Switch on the battery charger.

| Charge rate | Voltage (V) | Amperes (A) | Time (hrs) |
|-------------|-------------|-------------|------------|
| Regular     | 12          | 1.0         | 8 – 10     |
| Fast        | 12          | 1.0         | 0.5        |



### ⚠ WARNING

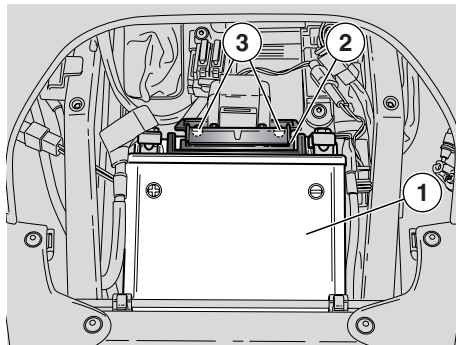
The battery keeps producing gases for some time after the battery charger has been switched off. Allow 5-10 minutes before proceeding to refill the battery.



## INSTALLING THE BATTERY

Read page 98 (BATTERY) carefully.

- ◆ Ensure the ignition switch is in the "⊗" position.
- ◆ Remove the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).

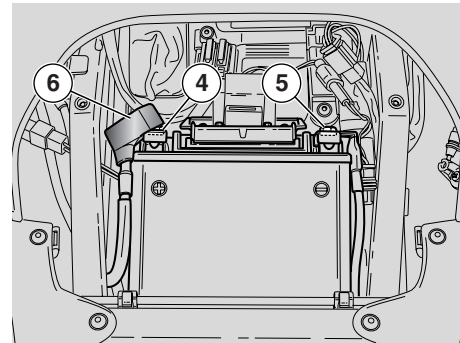


**NOTE** Place the battery (1) with the terminals pointing to the rear of the vehicle.

- ◆ Refit the battery (1) into its mount.
- ◆ Refit the battery retaining bracket (2).
- ◆ Fit and tighten the screws (3).

### **⚠ WARNING**

On refitting, connect the positive cable (+) first and then the negative cable (-).



- ◆ Connect the positive (+) cable by tightening the terminal screw (4).
- ◆ Connect the negative (-) cable by tightening the terminal screw (5).
- ◆ Coat lead connections and terminals with neutral grease or Vaseline.
- ◆ Refit the red protective cap (6).
- ◆ Refit the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).

### **⚠ CAUTION**

When the battery is removed, the digital clock and red line setting will be reset to zero. See page 20 (MULTIFUNCTION COMPUTER) for instructions on how to set clock and red line.

## LONG INACTIVITY OF THE BATTERY

### ⚠ CAUTION

When the motorcycle is to be left unused for over twenty days, disconnect the 30-A fuses, otherwise the multifunction computer will keep drawing current and the battery will deteriorate.

**NOTE** Disconnecting the 30-A fuses will reset the digital clock and red line setting. See page 20 (MULTIFUNCTION COMPUTER) for instructions on how to set clock and red line.

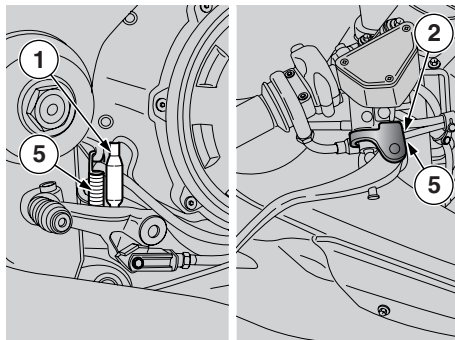
When the vehicle is left unused for over a fortnight, charge the battery to avoid sulphation, see page 100 (CHARGING THE BATTERY).

◆ Remove the battery, see page 99 (BATTERY REMOVAL) and store it in a cool, dry place.

To avoid degradation in the wintertime or while the vehicle is stored away, check battery charge at regular intervals (monthly).

◆ Charge the battery fully at normal charge rate, see page 100 (CHARGING THE BATTERY).

If you are leaving the battery fitted in the vehicle, disconnect the leads from the terminals.

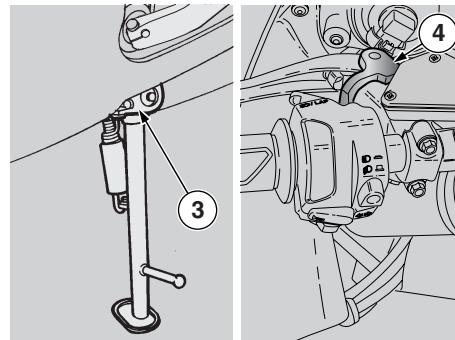


## CHECKING THE SWITCHES

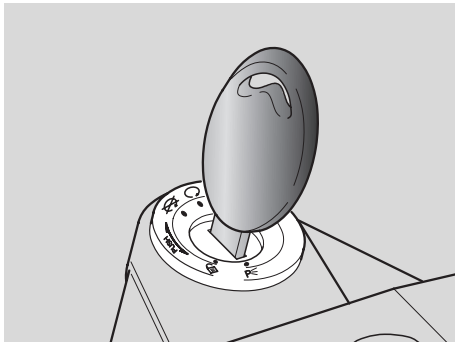
**Read page 61 (MAINTENANCE) carefully.**

**The vehicle is fitted with four switches:**

- 1) Brake light switch on the rear brake lever.
- 2) Brake light switch on the front brake lever.
- 3) Safety switch on the side stand.
- 4) Switch on the clutch lever.



- ◆ Clean the switch if caked with dirt or mud. The pin must move freely and return automatically to its initial position.
- ◆ Make sure that the cables are connected correctly.
- ◆ Check the spring (5): it must not be damaged, worn or weakened.



## REPLACING THE FUSES

Read page 61 (MAINTENANCE) carefully.

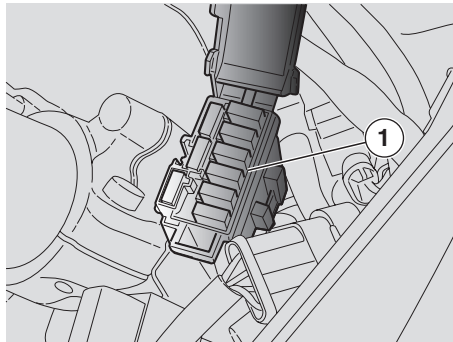
### **CAUTION**

Never attempt to repair a defective fuse. Never use a fuse of a rating other than specified. This could damage the electrical system or cause a short circuit, with the risk of fire.

**NOTE** When a fuse fitted in a particular position keeps blowing frequently, there might be a short circuit or overloading. When this is the case, contact an **aprilia Official dealer**.

Checking the fuses is recommended whenever an electrical component fails to operate or is malfunctioning, or when the engine does not start.

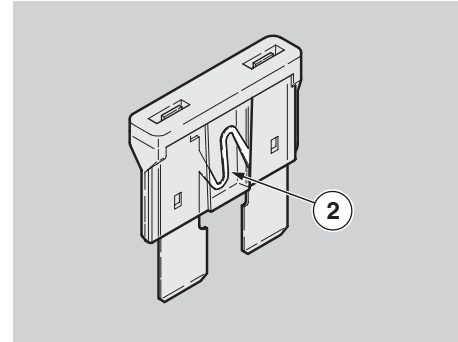
Check the 15-A auxiliary fuses first and then the 30-A main fuses.



### Inspection:

- ◆ Set the ignition switch to "⊗". This will prevent accidental short circuits.
- ◆ Take off the cover of the auxiliary fuse box (1).
- ◆ Extract all fuses one by one and check for blown fuses. A blown fuse is identified by the filament (2) in the centre being broken.
- ◆ When you find a blown fuse, determine and rectify the cause (if possible) before fitting a new fuse.
- ◆ Replace any failed fuses with a fuse of equal current rating.

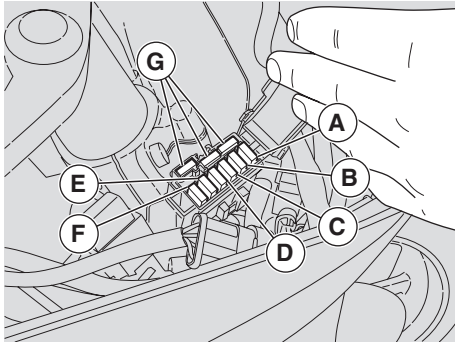
**NOTE** When you use one of the spare fuses, remember to add a new fuse of equal rating to the fuse box.



- ◆ Remove the rider saddle, see page 81 (REMOVING THE RIDER SADDLE).
- ◆ Repeat the process for the main fuses.

**NOTE** When the 30-A fuses are removed, the digital clock and red line setting will be reset to zero.

See page 20 (MULTIFUNCTION COMPUTER) for instructions on how to set clock and red line.

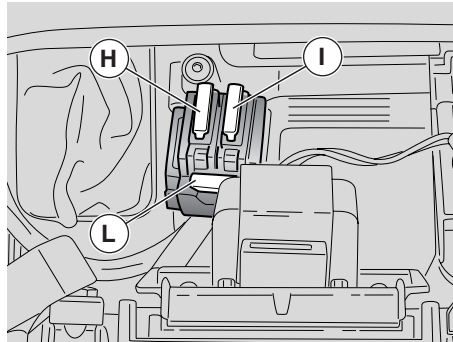


### ARRANGEMENT OF 5-A AUXILIARY FUSES

- A) From ignition key to:  
light relay, brake light, horn, parking lights.
- B) From ignition key to: direction indicators, dashboard.
- C) From battery to:  
key positive brought to ECU.

### ARRANGEMENT OF 15-A AUXILIARY FUSES

- D) From battery to:  
speed sensor, fuel pump, relay, starter, lambda sensor.
- E) From battery to:  
cooling fan relay, coils, fuel injectors, air intake flaps, camshaft position sensor.



### ARRANGEMENT OF 20-A AUXILIARY FUSES

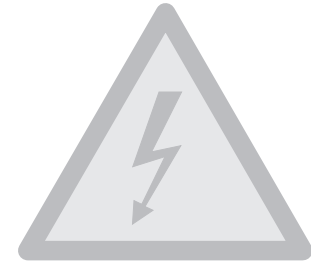
- F) From ignition switch to:  
high beam lights, low beam lights.

**NOTE** There are three spare fuses (G).

### ARRANGEMENT OF 30-A MAIN FUSES

- H) Battery charging and vehicle loads (red and red/white wires).
- I) Injection loads (red and red/white wires).

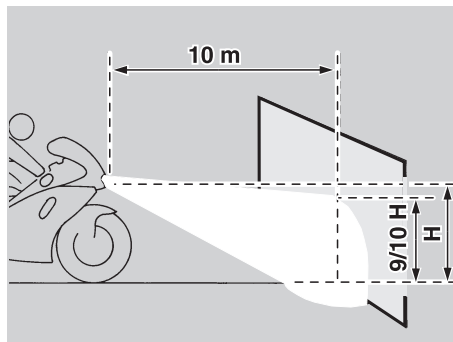
**NOTE** There is one spare fuse (L).





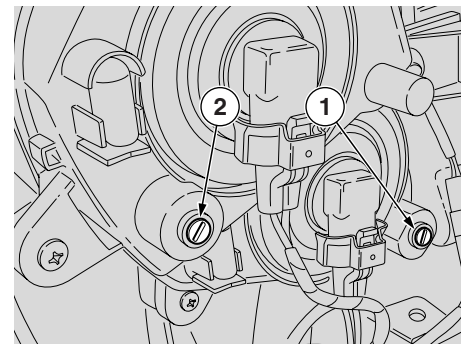
## VERTICAL ADJUSTMENT OF THE HEADLIGHT BEAM

**NOTE** Beam inspection procedures may vary from country to country. Observe the law in force in the country of the user.



### To set beam height:

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Working from the rear left side of the front fairing, fit a short cross-headed screwdriver to the adjuster screw (1) and adjust as follows:
  - TIGHTEN (clockwise) to raise the beam;
  - SLACKEN (anticlockwise) to lower the beam.
- ◆ Repeat process for the right beam.



### When finished:

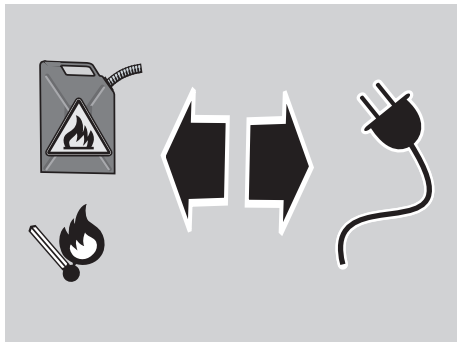
#### **⚠ WARNING**

Check for proper beam height setting.

#### **⚠ CAUTION**

The headlights are also fitted with adjuster screws (2) for horizontal beam adjustment.

Correct beam horizontal adjustment is performed at the factory and we advise against disturbing standard setting, unless such adjustment is mandatory in your country.



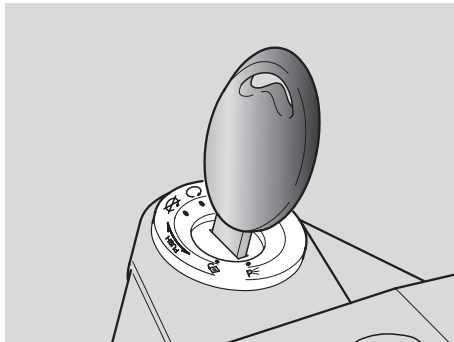
## BULBS

Read page 61 (MAINTENANCE) carefully.

### ⚠ WARNING

Fire hazard!

Keep fuel and other flammable products away from electric components.



### ⚠ CAUTION

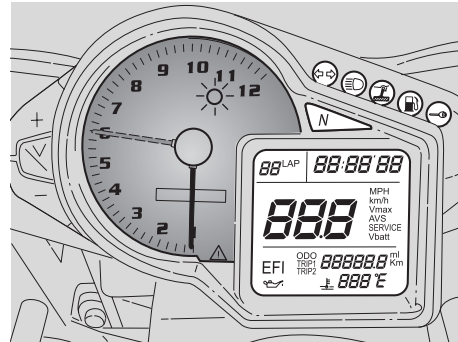
Before proceeding to change a bulb, set the ignition switch to "OFF" and allow some time for the bulb to cool down.

Wear clean gloves or use a clean, dry cloth to handle bulbs. Do not leave your fingerprints on a bulb, as this may cause overheating leading to failure.

If you touch a bulb with your fingers, remove any fingerprints with alcohol to avoid early failure.

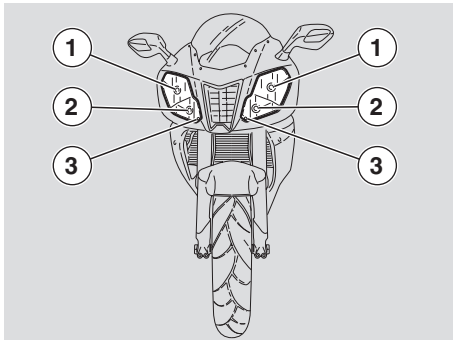
**DO NOT PULL ON THE WIRING.**

**NOTE** Check the fuses, see page 103 (REPLACING THE FUSES) before changing a bulb.



## REPLACING THE DASHBOARD BULBS

If you need assistance or technical advice, contact your **aprilia Official dealer**, for guaranteed accurate, prompt service.



## REPLACING THE HEADLIGHT BULBS

Read page 106 (BULBS) carefully.

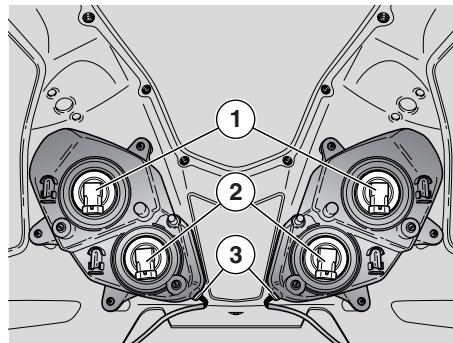
The front fairing is shown removed from the vehicle for better clarity. In fact, the high and low beam bulbs can be replaced with the front fairing in place.

The headlight accommodates the following bulbs:

- Two high beam bulbs (1).
- Two low beam bulbs (2).
- Two parking light bulbs (3).

High beam and low beam use the same bulbs.

If one of the bulbs (2) is damaged and no spare bulb is available, you may replace it with one of the bulbs (3).



This is only intended to help you ride back home or reach the nearest parts shop. Replace the damaged bulb as soon as possible.

To replace:

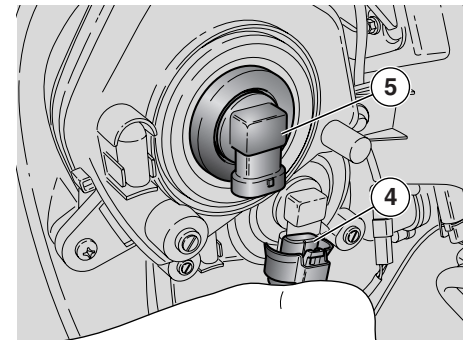
- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).

### HIGH AND LOW BEAM BULBS

**NOTE** Disconnect one connector at a time to avoid confusing the various connectors when refitting.

When high and low beam bulb connectors must be removed at the same time, mark them with their positions and make sure to refit them in the correct positions on assembly.

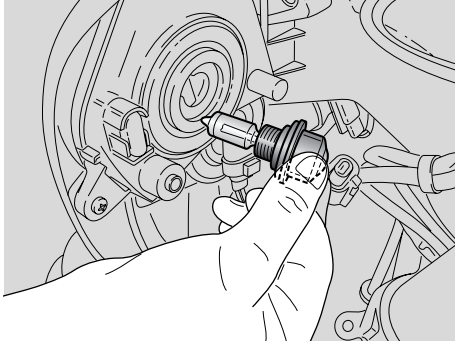
- ◆ Remove the upper side cover, see page 83 (REMOVING THE FAIRING UPPER FRONT COVERS).



### ⚠ CAUTION

**Never pull on the wiring to disconnect a bulb connector.**

- ◆ Disconnect the connector (4).
- ◆ Rotate the locking anticlockwise and extract the bulb holder (5).
- ◆ Fit a new bulb of equal rating.
- ◆ Refit the bulb holder into the seat and rotate clockwise to lock in place.
- ◆ Refit the connector (4).

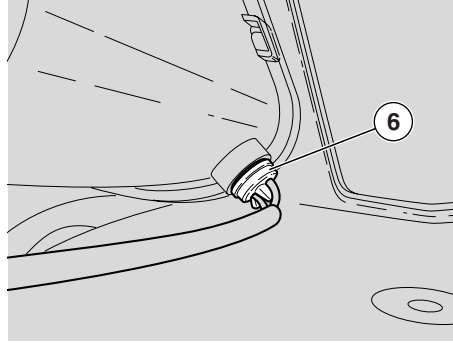


**⚠ CAUTION**

Never pull on the wiring to disconnect a bulb connector.

**PARKING LIGHT BULB**

- ◆ Remove the front fairing, see page 84 (REMOVING THE FRONT FAIRING).

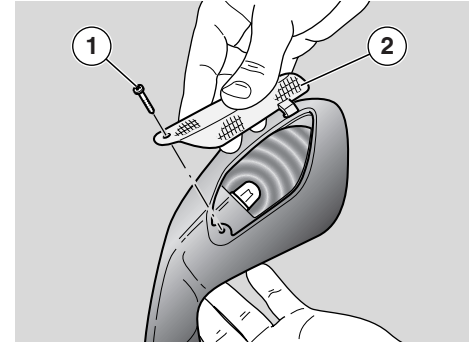


**⚠ CAUTION**

Never pull on the wiring to extract a bulb holder.

- ◆ Grasp the parking light bulb holder (6) and pull to extract.
- ◆ Remove the bulb and fit a new bulb of equal rating.

**NOTE** Ensure that the bulb locates correctly into the bulb holder.



**REPLACING THE FRONT AND REAR DIRECTION INDICATOR BULBS**

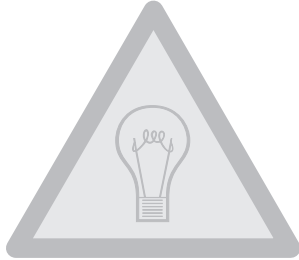
Read page 106 (BULBS) carefully.

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Unscrew and remove the screw (1).

**⚠ CAUTION**

The protective shield is retained by a locating peg. Remove carefully or the locating peg might break off.

- ◆ Remove the lens (2).



### ⚠ CAUTION

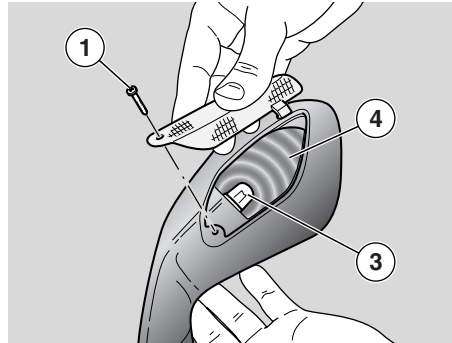
On refitting, ensure that the lens locates properly into its slot. Tighten the screw (1) gradually. Do not overtighten or the shield will damage.

- ◆ Push down the bulb (3) gently and twist anti-clockwise.
- ◆ Extract the bulb (3) from its seat.

### ⚠ CAUTION

When fitting the bulb, ensure that the two locating pegs locate properly into the slots in the bulb holder.

- ◆ Install a new bulb of equal rating.



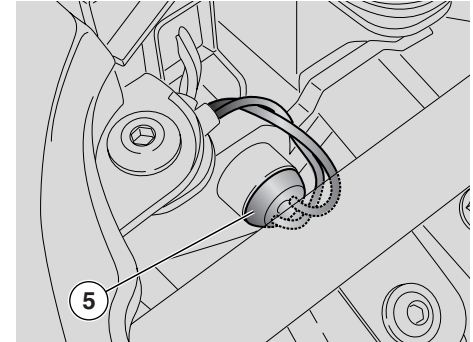
### ⚠ CAUTION

If the reflector (4) comes off its seat, refit it correctly.

## REPLACING THE NUMBER PLATE LIGHT BULB

Read page 106 (BULBS) carefully.

- ◆ Place the vehicle on the stand, see page 60 (PLACING THE VEHICLE ON THE STAND).
- ◆ Remove the passenger seat / glove/tool kit compartment cover, see page 31 (UNLOCKING/LOCKING THE GLOVE/TOOL KIT COMPARTMENT COVER).



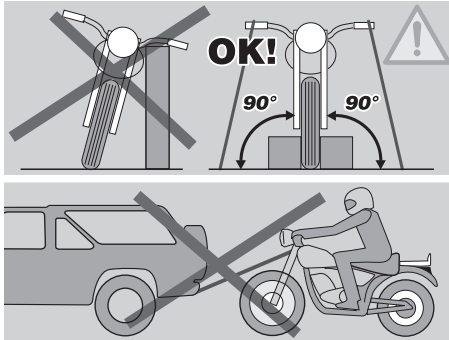
### ⚠ CAUTION

Never pull on the wiring to extract a bulb holder.

- ◆ Extract the number plate light bulb holder (5).
- ◆ Remove the bulb and fit a new one with equal rating.

**NOTE** Ensure that the bulb locates correctly into the bulb holder.

## TRANSPORT

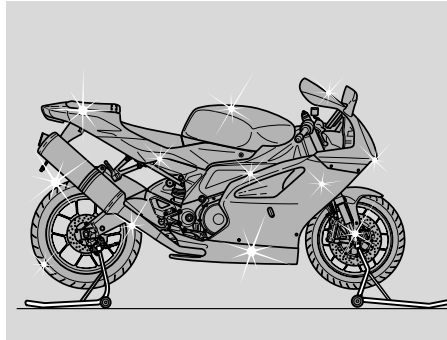


During transport, the vehicle must be well secured in an upright position with the first gear selected, to avoid fuel, oil and coolant leaks.

### CAUTION

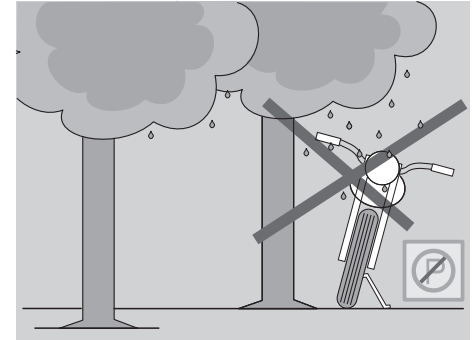
**If stranded, do not have the vehicle towed. Contact a road-side service.**

## CLEANING



**Clean the vehicle frequently when it is exposed to adverse conditions, such as:**

- Pollution (urban and industrial areas)
- Salinity and humidity in the atmosphere (sea areas, hot and damp weather)
- Particular environmental/seasonal conditions (salt and anti-ice chemical products spread over the roads in the wintertime).
- Make sure to clean off any industrial residue and pollutants, tar, dead insects, bird droppings, etc. from the vehicle fairings.
- Avoid parking the vehicle under trees. Resins, fruits or leaves falling from the trees may contain aggressive chemical substances that may damage the paintwork.



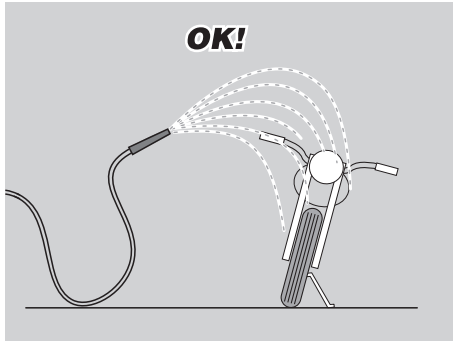
### WARNING

**Braking efficiency may be temporarily impaired after washing the vehicle, as the friction surfaces of the braking systems may be wet.**

**Remember that braking distance will be longer.**

**Operate the brakes repeatedly to restore normal operation.**

**Perform the recommended pre-ride checks, see page 52 (PRE-RIDE CHECKS CHART).**

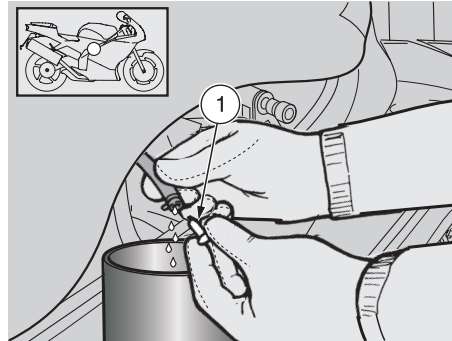


To clean off dirt and mud from painted surfaces, soften caked dirt with a low-pressure water jet. Sponge off using a car body sponge soaked in a car body shampoo and water solution (2-4% parts of shampoo). Rinse with plenty of water and dry with chamouis leather.

Clean the outer parts of the engine with a degreaser, brushes and a cloth.

#### **After washing the vehicle**

- ◆ Remove the cap (1).
- ◆ Drain the contents into a container and deliver it to a waste collection centre.



#### **⚠ CAUTION**

**Clean the lights using a sponge soaked in neutral soap and water. Rub the sponge gently on the lights and rinse frequently with abundant water.**

**Wash the vehicle thoroughly before applying silicone wax.**

**Do not polish matt-painted surfaces with polishing paste.**

**Do not wash the vehicle under the sun, especially in the summertime, when the body is still warm. The shampoo drying before it is rinsed away can damage the paintwork.**

**Do not use liquids at a temperature higher than 40° C to clean the plastic components of the vehicle.**



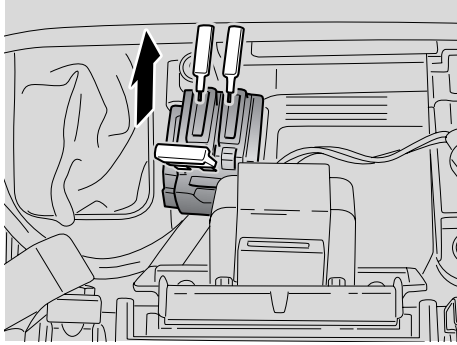
#### **⚠ CAUTION**

**Do not aim high-pressure water/air jets or steam jets at the following parts: wheel hubs, controls on the right and left side of the handlebar, bearings, brake master cylinders, instruments and indicators, silencer, glove/tool kit compartment, ignition switch/steering lock, cooler or radiator fins, fuel filler cap, lights and electric connections.**

**Do not clean any rubber and plastic parts and the saddle with alcohol, petrol or solvents: use water and mild soap only.**

#### **⚠ WARNING**

**Do not apply protective wax on the saddle or it may become slippery.**



## LONG PERIODS OF INACTIVITY

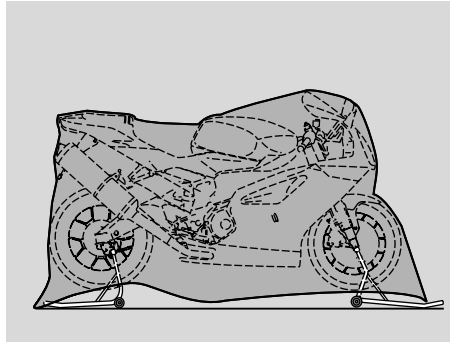
### ⚠ CAUTION

When the motorcycle is to be left unused for over twenty days, disconnect the 30-A fuses, otherwise the multifunction computer will keep drawing current and the battery will deteriorate.

**NOTE** Disconnecting the 30-A fuses will reset the digital clock and red line setting. See page 20 (MULTIFUNCTION COMPUTER) for instructions on how to set clock and red line.

When storing the vehicle away for long periods, some precautions are necessary to avoid damage due to prolonged inactivity.

Minor repairs should not be postponed, lest you forget them. A general check-up of the bike is also recommended.



## Proceed as follows:

- ◆ Remove the battery, see page 99 (BATTERY REMOVAL) and page 102 (LONG INACTIVITY OF THE BATTERY).
- ◆ Wash and dry the vehicle, see page 110 (CLEANING).
- ◆ Wax all painted surfaces.
- ◆ Inflate the tyres, see page 45 (TYRES).
- ◆ Store the vehicle in dry place, without heating, away from sunlight and with steady temperature.
- ◆ Wrap and tie a plastic bag around the exhaust pipe opening to keep moisture out.

**NOTE** Place the vehicle on the front **OPT** and rear **OPT** wheel stands so that both wheels are off the ground.

- ◆ Place the vehicle on the front wheel stand, see page 71 (PLACING THE VEHICLE ON THE FRONT WHEEL STAND **OPT**).
- ◆ Place the vehicle on the rear wheel stand, see page 70 (PLACING THE VEHICLE ON THE REAR WHEEL STAND **OPT**).
- ◆ Cover the vehicle. Avoid using plastic or waterproof materials.

## AFTER STORAGE

**NOTE** Remove the plastic bag from the exhaust pipe.

- ◆ Uncover and clean the vehicle, see page 110 (CLEANING).
- ◆ Check battery charge, see page 100 (CHARGING THE BATTERY) and install it, see page 101 (INSTALLING THE BATTERY).
- ◆ Refuel, see page 34 (FUEL).
- ◆ Perform the recommended pre-ride checks, see page 52 (PRE-RIDE CHECKS CHART).

### ⚠ WARNING

**Test ride the vehicle at moderate speed in an area away from traffic.**



## TECHNICAL DATA



|                      |  |   |
|----------------------|--|---|
| DIMENSIONS           | Max. length .....  | 2025 mm   |
|                      | Max. width.....  | 730 mm  |
|                      | Max. height (incl. windshield).....  | 1135 mm   |
|                      | Rider saddle height.....   | 820 mm  |
|                      | Wheelbase .....  | 1410 mm   |
|                      | Minimum ground clearance.....  | 130 mm  |
|                      | Weight in running order.....   | <b>RSV R</b> 215 kg – <b>RFACT</b> 209 kg   |
| ENGINE               | Model .....  | V990 NG   |
|                      | Type .....   | 4-stroke V 60* twin-cylinder, with 4 valves per cylinder, DOHC.                                 |
|                      | No. of cylinders .....   | 2   |
|                      | Total displacement.....  | 997,6 cu. cm  |
|                      | Bore/stroke.....   | 97 mm/67.5 mm   |
|                      | Compression ratio.....   | 11.8 ± 0.4: 1   |
|                      | Starting.....  | Electric starter  |
|                      | Engine idling speed.....   | 1280 ± 100 rpm  |
|                      | Clutch.....  | Multiplate wet clutch, hydraulically operated, control on left side of handlebar and PPC device |
|                      | Lubricating system .....   | Dry sump with separate oil tank and oil cooler  |
| Air cleaner.....     | Dry filter cartridge   |   |
| Cooling system ..... | Liquid cooling   |   |
| GEARBOX              | Type .....   | Mechanical, 6 gears with foot control on left side of engine                                    |
| CAPACITIES           | Fuel (including reserve) .....   | 18 ℓ  |
|                      | Fuel reserve .....   | 4.5 ± 1 ℓ   |
|                      | Engine oil .....   | oil change 3700 cu cm - oil and oil filter change 3900 cu cm                                    |
|                      | Front fork oil <b>RSV R</b> .....  | 520 ± 2.5 cu cm (each leg)  |
|                      | Front fork "R FACTORY" <b>RFACT</b> ( <b>RSV R</b> <b>OPT</b> ) oil.....     | 500 ± 2.5 cu cm (each leg)  |
|                      | Coolant.....   | 2.2 ℓ (50% water + 50% anti-freeze with ethylene glycol)  |
|                      | Saddle.....  | 2 ( <b>RFACT</b> USA version: single-seater only)   |
| Max. load .....      | <b>RSV R</b> 180 kg (driver + passenger + luggage) - <b>RFACT</b> USA 105 kg |   |

|                     |                           |   |                  |                  |             |
|---------------------|---------------------------|---|------------------|------------------|-------------|
| TRANSMISSION RATIOS | Ratio                     | Primary   | Secondary        | Final drive      | Total ratio |
|                     | 1st                       | 31/60 = 1: 1.935  | 15/34 = 1: 2.267 | 16/40 = 1: 2,500 | 1:10,986    |
|                     | 2nd                       |   | 19/31 = 1: 1.632 |                  | 1:7,895     |
|                     | 3rd                       |   | 20/26 = 1: 1.300 |                  | 1:6,290     |
|                     | 4th                       |   | 22/24 = 1: 1.091 |                  | 1:5,279     |
|                     | 5th                       |   | 25/24 = 1: 0.960 |                  | 1:4,645     |
|                     | 6th                       |   | 26/23 = 1: 0.885 |                  | 1:4,280     |
| DRIVE CHAIN         | Type .....                | Endless (with no master link) with O-ring links   |                  |                  |             |
|                     | Endless .....             | 525   |                  |                  |             |
| FUEL SYSTEM         | Type .....                | Electronic injection (Multipoint)   |                  |                  |             |
|                     | Choke .....               | Ø 57 mm   |                  |                  |             |
| FUEL                | Fuel .....                | Premium-grade unleaded petrol, minimum octane rating 95 (ROM) and 85 (MON).   |                  |                  |             |
| FRAME               | Type .....                | Two-beam frame with light alloy cast elements and extruded elements   |                  |                  |             |
|                     | Steering head angle ..... | 25°   |                  |                  |             |
|                     | Trail .....               | 100 mm (with 120/70 front tyre)   |                  |                  |             |
| SUSPENSION          | Front .....               | Adjustable hydraulic upside-down fork, Ø 43 mm  |                  |                  |             |
|                     | Travel .....              | RSV R 127 mm - RFACT (RSV R OPT) 120 mm   |                  |                  |             |
|                     | Rear .....                | Light-alloy swinging arm with differentiated profiles on both sides and adjustable air/oil-sprung mono-shock absorber |                  |                  |             |
|                     | Wheel travel .....        | 135 mm  |                  |                  |             |
| BRAKES              | Front .....               | Twin floating disk - Ø 320 mm, four-piston callipers - Ø 34 mm  |                  |                  |             |
|                     | Rear .....                | Disk brake - Ø 220 mm, twin-piston calliper - Ø 32 mm   |                  |                  |             |
| WHEEL RIMS          | Type .....                | Light alloy, spindle can be removed   |                  |                  |             |
|                     | Front .....               | 3.50 x 17"  |                  |                  |             |
|                     | Rear .....                | 6.00 x 17"  |                  |                  |             |





| Wheel           | Make     | Model              | Type     | Size             | Recommended |   | Alternative                 | Pressure kPa (bar) |                     |           |
|-----------------|----------|--------------------|----------|------------------|-------------|---|-----------------------------|--------------------|---------------------|-----------|
|                 |          |                    |          |                  |             |   |                             | ▲                  |                     | ❏         |
|                 |          |                    |          |                  |             |   |                             | Rider              | Rider and passenger | Rider     |
| <b>** Front</b> | PIRELLI  | DIABLO             | CORSA    | 120/70-ZR 17"    | ▲           | ❏ | <b>RSV R</b> + <b>RFACT</b> | 230 (2,3)          | 250 (2,5)           | 210 (2,1) |
| <b>** Rear</b>  | PIRELLI  | DIABLO             | CORSA    | 190/50-ZR 17"    | ▲           | ❏ | <b>RSV R</b> + <b>RFACT</b> | 250 (2,5)          | 280 (2,8)           | 200 (2,0) |
| <b>* Front</b>  | PIRELLI  | DRAGON SUPER-CORSA | -        | 120/70-ZR 17"    | ▲           | ❏ | <b>RSV R</b> + <b>RFACT</b> | 230 (2,3)          | 250 (2,5)           | 210 (2,1) |
| <b>* Rear</b>   | PIRELLI  | DRAGON SUPER-CORSA | -        | 180/55-ZR 17"    | ▲           | ❏ | <b>RSV R</b> + <b>RFACT</b> | 250 (2,5)          | 280 (2,8)           | 200 (2,0) |
| <b>** Front</b> | METZELER | SPORTTEC           | M1       | 120/70-ZR 17"    | ▲           | ❏ | <b>RSV R</b> + <b>RFACT</b> | 230 (2,3)          | 250 (2,5)           | 210 (2,1) |
| Rear            | METZELER | SPORTTEC           | M1       | 180/55-ZR 17"    | ▲           | ❏ | <b>RSV R</b> + <b>RFACT</b> | 250 (2,5)          | 280 (2,8)           | 200 (2,0) |
| <b>** Rear</b>  | METZELER | SPORTTEC           | M1       | 190/50-ZR 17"    | ▲           | ❏ | <b>RSV R</b> + <b>RFACT</b> | 250 (2,5)          | 280 (2,8)           | 200 (2,0) |
| Front           | METZELER | RENNSPORT          | -        | 120/70-ZR 17"    | -           | ❏ | <b>RSV R</b> + <b>RFACT</b> | -                  | -                   | 210 (2,1) |
| Rear            | METZELER | RENNSPORT          | -        | 180/55-ZR 17"    | -           | ❏ | <b>RSV R</b> + <b>RFACT</b> | -                  | -                   | 200 (2,0) |
| <b>** Front</b> | MICHELIN | PILOT SPORT        | E        | 120/70-ZR 17" TL | ▲           | - | <b>RSV R</b>                | 230 (2,3)          | 250 (2,5)           | -         |
| <b>** Rear</b>  | MICHELIN | PILOT SPORT        | E        | 190/50-ZR 17" TL | ▲           | - | <b>RSV R</b>                | 250 (2,5)          | 280 (2,8)           | -         |
| Front           | MICHELIN | PILOT SPORT CUP    | -        | 120/70-ZR 17"    | -           | ❏ | <b>RFACT</b>                | -                  | -                   | 210 (2,1) |
| Front           | MICHELIN | PILOT SPORT CUP    | -        | 180/55-ZR 17"    | -           | ❏ | <b>RFACT</b>                | -                  | -                   | 190 (1,9) |
| Front           | MICHELIN | PILOT RACE         | H 2      | 120/70-ZR 17"    | -           | ❏ | <b>RFACT</b>                | -                  | -                   | 210 (2,1) |
| Rear            | MICHELIN | PILOT RACE         | H 2      | 180/55-ZR 17"    | -           | ❏ | <b>RFACT</b>                | -                  | -                   | 190 (1,9) |
| <b>** Front</b> | DUNLOP   | SPORTMAX           | D 208    | 120/70-ZR 17"    | ▲           | - | <b>RSV R</b> + <b>RFACT</b> | 230 (2,3)          | 250 (2,5)           | -         |
| <b>** Rear</b>  | DUNLOP   | SPORTMAX           | D 208    | 190/50-ZR 17"    | ▲           | - | <b>RSV R</b> + <b>RFACT</b> | 250 (2,5)          | 280 (2,8)           | -         |
| Front           | DUNLOP   | SPORTMAX           | D 208 RR | 120/70-ZR 17"    |             | ❏ | <b>RFACT</b>                | -                  | -                   | 210 (2,1) |
| Rear            | DUNLOP   | SPORTMAX           | D 208 RR | 180/55-ZR 17"    |             | ❏ | <b>RFACT</b>                | -                  | -                   | 190 (1,9) |





|                 |                                  |                     |
|-----------------|----------------------------------|---------------------|
| SPARK PLUGS     | Standard .....                   | NGK R DCPR9E        |
|                 | Electrode gap .....              | 0,8 mm              |
|                 | Resistance .....                 | 5 kΩ                |
| ELECTRIC SYSTEM | Battery .....                    | 12 V – 10 Ah        |
|                 | Main fuses.....                  | 30 A                |
|                 | Auxiliary fuses .....            | 5 A, 15 A, 20 A     |
|                 | Generator (permanent-wound type) | 12 V – 500 W        |
| BULBS           | Low beam (halogen) .....         | 12 V – 55 W H7U x 2 |
|                 | High beam (halogen) .....        | 12 V – 55 W H7U x 2 |
|                 | Front parking light .....        | 12 V – 5 W          |
|                 | Direction indicators .....       | 12 V – 10 W         |
|                 | Number plate light .....         | 12 V – 5 W          |
|                 | Stop/rear parking lights .....   | LED                 |
|                 | Rev counter light .....          | LED                 |
|                 | Left multifunction display.....  | LED                 |
| WARNING LIGHTS  | Neutral .....                    | LED                 |
|                 | Direction indicators .....       | LED                 |
|                 | Fuel reserve .....               | LED                 |
|                 | High beam.....                   | LED                 |
|                 | Stand down .....                 | LED                 |
|                 | General warning.....             | LED                 |
|                 | Red line .....                   | LED                 |
|                 | Immobilizer.....                 | LED                 |

## LUBRICANT CHART



**(Recommended) engine oil:**  EXTRA RAID 4, SAE 15W - 50 or  Agip TEC 4T, SAE 15W - 50.

As an alternative to recommended oils, top brand oils meeting or exceeding CCMC G-4, A.P.I. S.G. specifications can be used.

**RSV R (Recommended) fork oil:**  F.A. 5W,  F.A. 20W; as an alternative,  Agip FORK 5W or  Agip FORK 20W.

When you wish to obtain an intermediate response between those offered by  F.A. 5W and  F.A. 20W oils or  Agip FORK 5W and  Agip FORK 20W, oils, you may mix the different products as follows:

SAE 10W =  F.A. 5W 67% of volume +  F.A. 20W 33% of volume, or

 Agip FORK 5W 67% del volume +  Agip FORK 20W 33% of volume.

SAE 15W =  F.A. 5W 33% of volume +  F.A. 20W 67% of volume, or

 Agip FORK 5W 33% of volume +  Agip FORK 20W 67% of volume.

**RFACT ( RSV R OPT ) Fork oil type “R FACTORY”:** OHLINS 5W

**Bearings and other lubrication points (recommended):**  BIMOL GREASE 481 -  GREASE MP or  Agip GREASE 30.



As an alternative to recommended grease, use top brand rolling bearing grease that will resist a temperature range of -30°C - +140°C, with dropping point 150°C - 230°C, high corrosion protection, good resistance to water and oxidation.

**Battery lead protection:** use neutral grease or Vaseline.

**Spray grease for chains (recommended):**  CHAIN SPRAY or  Agip CHAIN LUBE.



### CAUTION

**Use new brake fluid only. Do not mix different makes or types of oil without having checked bases compatibility.**

**Brake fluid:** The system is filled with  Autofluid FR. DOT 4 (the braking system is also compatible with DOT 5);  Agip BRAKE 5.1 DOT 4 (the braking system is also compatible with DOT 5).

### CAUTION

**Use new clutch fluid only**

Clutch fluid (recommended):  F.F., DOT 4 (Compatible DOT 5) ;  Agip BRAKE 5.1 DOT 4 (the braking system is also compatible with DOT 5).

### CAUTION

**Use only nitrite-free anti-freeze and corrosion inhibitors with a freezing point of -35°C as a minimum.**

**(Recommended) engine coolant:**  ECOBLU -40 °C -  Agip COOL.

**THE VALUE OF SERVICE** 

Thanks to ongoing technical updates and product-specific technical training, **april** Authorised Network engineers are familiar with every detail of this vehicle and have the special equipment required for correct maintenance and repair.

A vehicle kept in sleek running order is a reliable vehicle. Pre-ride checks, proper maintenance at the recommended intervals and using **april** Original Parts only are key factors!

To find contact information of the Official Dealer and/or Service Centre nearest you, please consult the Yellow Pages or the map provided at our web site:

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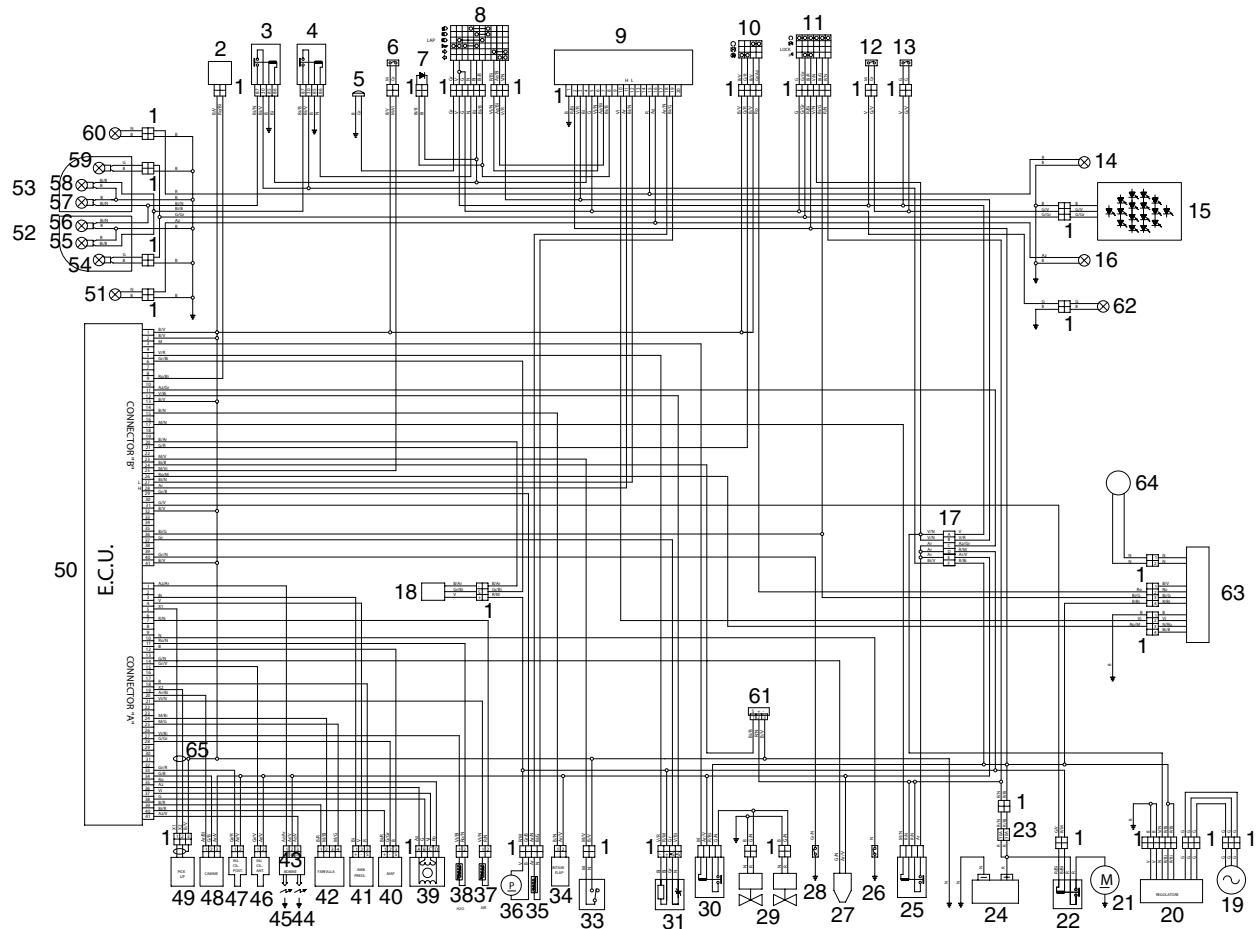


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# WIRING DIAGRAM- RSV 1000 R - RSV 1000 R FACTORY



## WIRING DIAGRAM KEY - RSV 1000 R - RSV 1000 R FACTORY

- |                                    |   |
|------------------------------------|---|
| 1) Multiple connectors             | 36) Fuel pump   |
| 2) Fall sensor                     | 37) Air thermistor  |
| 3) High beam relay                 | 38) Water thermistor  |
| 4) Low beam relay                  | 39) Automatic choke   |
| 5) Horn                            | 40) Intake pressure sensor  |
| 6) Clutch switch                   | 41) Atmospheric pressure sensor                                   |
| 7) Lights/lap diode                | 42) Throttle sensor   |
| 8) Left dimmer switch              | 43) Twin coil   |
| 9) Dashboard                       | 44) Front cylinder spark plug                                     |
| 10) Right dimmer switch            | 45) Rear cylinder spark plug                                      |
| 11) Key-operated switch            | 46) Front cylinder injector                                       |
| 12) Front brake light switch       | 47) Rear cylinder injector  |
| 13) Rear brake light switch        | 48) Camshaft sensor   |
| 14) Rear right direction indicator | 49) Pick-up   |
| 15) Tail light (LED)               | 50) Engine Control Unit (ECU)                                     |
| 16) Rear left direction indicator  | 51) Front left direction indicator                                |
| 17) Auxiliary fuses                | 52) Left headlamp   |
| 18) Speed sensor                   | 53) Right headlamp  |
| 19) Flywheel                       | 54) Left beam parking light                                       |
| 20) Voltage regulator              | 55) Left low beam bulb  |
| 21) Starter motor                  | 56) Left high beam bulb   |
| 22) Starter relay                  | 57) Right high beam bulb  |
| 23) Main fuses                     | 58) Right low beam bulb   |
| 24) Battery                        | 59) Right beam parking light                                      |
| 25) Injection relay                | 60) Front right direction indicator                               |
| 26) Oil pressure sensor            | 61) Diagnostics socket  |
| 27) Purge valve (California only)  | 62) Number plate light  |
| 28) Neutral light switch           | 63) Immobilizer control unit (where immobilizer system is fitted) |
| 29) Cooling fans                   | 64) Immobilizer antenna (where immobilizer system is fitted)      |
| 30) Fan relay                      | 65) Pick-up cables shielding                                      |
| 31) Lambda sensor                  |   |
| 32) -                              |   |
| 33) Side stand switch              |   |
| 34) Intake flap                    |   |
| 35) Fuel sensor                    |   |

## WIRE COLOUR CODING

|           |            |
|-----------|------------|
| <b>Ar</b> | Orange     |
| <b>Az</b> | Light blue |
| <b>B</b>  | Blue       |
| <b>Bi</b> | White      |
| <b>G</b>  | Yellow     |
| <b>Gr</b> | Grey       |
| <b>M</b>  | Brown      |
| <b>N</b>  | Black      |
| <b>R</b>  | Red        |
| <b>V</b>  | Green      |
| <b>Vi</b> | Violet     |
| <b>Ro</b> | Pink       |

## NOTE

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**aprilia**

**ALWAYS DEMAND ORIGINAL SPARE PARTS.**

## NOTE

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**aprilia**

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## NOTE

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**aprilia**

**ALWAYS DEMAND ORIGINAL SPARE PARTS.**

**aprilia s.p.a.** wishes to thank its customers for the purchase of this vehicle:

- Do not release oil, fuel, polluting substances and components into the environment.
- Do not keep the engine running if it isn't necessary.
- Avoid annoying noise.
- Respect the environment.