

aprilia

SXV / RXV 450 - 550

www.serviceaprilia.com

use+maintenancebook



9100652 (USA)

INTRODUCTION

0

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0.1. INTRODUCTION

0.1.1. FOREWORD

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 drafted this manual with the maximum attention in order to provide 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. Such modifications will be entered in subsequent editions of the manual. Should you need assistance or clarification regarding inspection and repair procedures, please contact the aprilia SERVICE DEPT. They will be pleased to give you all pertinent information or supply you with details on updates and technical changes applied to the vehicle.

For inspections 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 Authorized Dealers and Service Centers, which guarantee prompt and accurate assistance.

Thank you for choosing aprilia. Have a great ride!

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

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0.1.2. ABBREVIATIONS/SYMBOLS/CONVENTIONS

#	= number
<	= less than
>	= greater than
≤	= less than or equal to
≥	= more than or equal to
~	= approximately
∞	= infinity
°C	= degrees Celsius (centigrade)
°F	= degrees Fahrenheit
±	= plus or minus
a.c	= alternating current
A	= Ampere
Ah	= Ampere per hour
API	= American Gaseum Institute
AT	= high voltage
AV/DC	= Anti-Vibration Double Countershaft
bar	= pressure measurement unit (1 bar = 100 kPa)
d.c.	= direct current
cc	= cubic centimeters
CO	= carbon monoxide
CPU	= Central Processing Unit
DIN	= German industrial standards (Deutsche Industrie Norm)
DOHC	= Double Overhead Camshaft
ECU	= Electronic Control Unit
rpm	= revolutions per minute
HC	= unburned hydrocarbons
ISC	= Idle Speed Control
ISO	= International Standardization Organisation
kg	= kilograms
kgm	= kilograms per meter (1 kgm = 10 Nm)
km	= kilometers
km/h	= kilometers per hour
kΩ	= kilo Ohm
kPa	= kiloPascal (1 kPa = 0.01 bar)
KS	= clutch side (from the German "Kupplungsseite")
kW	= kilowatt
ℓ	= liters
LAP	= racetrack lap
LED	= Light Emitting Diode
LEFT	
SIDE	= left side
m/s	= meters per second
max	= maximum
mbar	= millibar (1 mbar = 0.1 kPa)
mi	= miles
MIN	= minimum
MPH	= miles per hour
MS	= flywheel side (from the German "Magnetoseite")
MΩ	= MegaOhm
N.A.	= Not Available
N.O.M.M.	= Motor Octane Number
N.O.R.M.	= Research Octane Number
Nm	= Newton meter (1 Nm = 0.1 kgm)
Ω	= ohm
PICK-UP	= pick-up
BDC	= Bottom Dead Center
TDC	= Top Dead Center
PPC	= Pneumatic Power Clutch

RIGHT	
SIDE	= right side
SAE	= Society of Automotive Engineers
TEST	= diagnostic check
T.B.E.I.	= crownhead Allen screw
T.C.E.I.	= cheesehead Allen screw
T.E.	= hexagonal head
T.P.	= flathead screw
TSI	= Twin Spark Ignition
UPSIDE-	
DOWN	= inverted fork
V	= volt
W	= watt
Ø	= diameter

GENERAL INFORMATION

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1.1. STRUCTURE OF THE MANUAL

1.1.1. CONVENTIONS USED IN THE MANUAL

- This manual is divided in sections and subsections, each covering a set of the most significant components. Refer to the index of sections when consulting the manual.
- Unless expressly specified otherwise, assemblies are reassembled by reversing the dismantling procedure.
- The terms "right" and "left" are referred to the rider seated on the vehicle in the normal riding position.
- Motorcycle operation and basic maintenance are covered in the "OWNER'S MANUAL".

NOTE *This manual is an important and integral part of your vehicle. Keep it with your vehicle at all times, even if the vehicle is resold.*

aprilia has prepared this manual to supply you, the user, with correct and current information. However, since **aprilia** constantly improves the design of its vehicles, there may be slight discrepancies between your vehicle and the material given in this manual.

If you have any questions about your vehicle, contact your Local aprilia Dealer, as he will have the very latest technical information available from the factory.

For tests and repairs not expressly described in this manual, to purchase aprilia genuine spare parts, accessories, and other products, and for help with specific problems, please contact your Local aprilia Dealer or service center. These professionals will be able to assist you promptly and accurately.

Thank you for choosing **aprilia**. Have a great ride!

This manual is copyrighted in all countries. Partial or complete reproduction of the manual by any print or electronic means is strictly prohibited.

1.1.2. DANGEROUS ELEMENTS

FUEL

**DANGER**

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

Refueling and engine service should take place in a well-ventilated area with the engine stopped.

Do not smoke when refueling or in the proximity of sources of fuel vapors, avoid flames, sparks and any element that could ignite fuel or provoke explosions.

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 brim. Tighten the filler cap securely after each refueling.

Avoid contact with skin. Do not inhale vapors. Do not swallow fuel. Do not transfer fuel between different containers using a hose.

DO NOT RELEASE FUEL INTO THE ENVIRONMENT.

KEEP AWAY FROM CHILDREN.

Use only premium grade unleaded gas, min. O.N. 95 (ROM) and 85 (MON).

LUBRICANTS

**DANGER**

Good lubrication ensures vehicle safety.

Failure to keep lubricants at the recommended level or the use of an unsuitable new and clean type of lubricant may lead to engine or gearbox seizure, causing serious accidents, personal injury or even death.

Gear fluid may cause serious damage to the skin if handled daily and for long periods.

Wash your hands carefully after use.

Do not release oil into the environment.

Take it to the filling station where you usually buy it or to an oil salvage center.

**WARNING**

When filling the vehicle with this oil, take care it does not spill out. Immediately clean spilled oil or it may damage the vehicle paintwork.

In case of contact with oil, tire surfaces will become very slippery and endanger your safety.

In case of leaks, do not use the vehicle. Check and trace the cause of leaks and proceed with repair.

ENGINE OIL

**DANGER**

Engine oil may cause serious damage to the skin if handled daily and for long periods.

Wash your hands carefully after use.

Do not release oil into the environment.

Dispose of it at the nearest waste oil reclamation firm or through the supplier.

Wear latex gloves when servicing.

FRONT FORK FLUID

**DANGER**

Front suspension response can be modified to a certain extent by changing damping settings and/or selecting a particular grade of oil. Standard oil viscosity: SAE 20 W. Different oil grades can be selected to obtain a particular suspension response (choose SAE 5W for a softer suspension, 20W for a stiffer suspension).

The two grades can also be mixed in varying solutions to obtain the desired response.

BRAKE FLUID

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.

**DANGER**

Do not use the vehicle in case brakes are worn out or do not work properly. The brakes are the most important parts for ensuring safety and for this reason must always be in perfect working order. Failure to comply with these recommendations will probably lead to a crash or an accident, with a consequent risk of personal injury or death.
A wet surface reduces brakes efficiency.

**DANGER**

When road surfaces are wet, braking distances are doubled, since both brake efficiency and tire grip are highly reduced in wet conditions.

Any water on brakes, after washing the vehicle, driving on a wet road surface or running through puddles or potholes, can wet brakes and greatly reduce their efficiency.

Failure to comply with these recommendations may lead to serious accidents, with risk of severe personal injuries or death.

Brakes are critical safety components. Do not ride the vehicle if brakes are not in top running order.

Check that brakes are properly operating before every trip.

Brake 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 BRAKE FLUID INTO THE ENVIRONMENT.

KEEP AWAY FROM CHILDREN.

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

**DANGER**

Do not use any brake fluids other than the specified type. Never mix different types of fluids to top up level, as this will damage the braking system.

Do not use brake fluid from containers which have been kept open or in storage for long periods.

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

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 entering of water or dust into the circuit.

Wear latex gloves when servicing the hydraulic circuit.

DISK BRAKES**DANGER**

The brakes are the most important parts for ensuring safety and for this reason they must be in perfect working order at all times; check them before every trip.

A dirty disk soils the pads.

Dirty pads must be replaced, while dirty disks must be cleaned with a high-quality degreaser.

Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

Check brake pads for wear.

When the brake pads wear out, the level of the fluid decreases to automatically compensate for their wear.

The front brake fluid reservoir is located on the right handlebar, near the front brake lever.

The rear brake fluid reservoir is located under the right fairing.

Do not use the vehicle if the braking system leaks fluid.

COOLANT

**DANGER**

Coolant is toxic when ingested, contact with eyes or skin may cause irritation.

In the event of contact with skin or 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.

DO NOT RELEASE COOLANT INTO THE ENVIRONMENT.

KEEP AWAY FROM CHILDREN.

**DANGER**

Take care not to spill coolant onto hot engine parts. It may ignite and produce invisible flames. Wear latex gloves when servicing.

Do not ride when coolant is below the minimum level.

Coolant mixture is a 50% solution of water and antifreeze. This is the ideal solution for most operating temperatures and provides good corrosion protection.

This solution is also suited to warm weather, as it is less prone to evaporative loss and will reduce the need for top-ups.

In addition, less water evaporation means fewer minerals salts depositing in the radiator, which helps preserve the efficiency of the cooling system.

When the temperature drops below 32°F (0°C) , check the cooling system frequently and add more antifreeze (up to 60% maximum) to the solution, if needed.

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

Refer to the chart given below and add water with the quantity of antifreeze to obtain a solution with the desired freezing point:

Freezing point °F (°C)	Coolant % of volume
-4°F (-20°C).	35
-22°F (-30°C).	45
-40°F (-40°C).	55

NOTE Coolants have different specifications. The protection degree is written on the label.

**WARNING**

Use only nitrite-free antifreeze and corrosion inhibitors with a freezing point of -35°C (-31°F) as a minimum.

DRIVE CHAIN

Check drive chain operation, wear, slack and lubrication at regular intervals.

The vehicle is equipped with an endless chain with a joint link.

**WARNING**

If too slack, the chain can come off the front or rear sprockets and lead to serious accident and damage to the vehicle, with consequent serious personal injury or death.

Do not use the vehicle if the chain slack has not been correctly adjusted.

To check the chain, take it with your hand where it turns on the rear sprocket and pull it as to separate it from the sprocket itself.

If you can move the chain apart of the front sprocket for more than 3 mm (0.125 in), change chain, front and rear sprocket.

**DANGER**

If not properly maintained, the chain can wear out prematurely and lead to damage of both front and rear sprockets.

Perform chain maintenance operations more frequently if the vehicle is used on rainy or dusty areas.

TIRES

**WARNING**

If tires are over-inflated, the vehicle will feel stiff and be difficult and uncomfortable to ride. In addition, its roadworthiness will be impaired, especially on wet surfaces and during cornering. Flat tires (insufficient pressure) can slip on the rim and make you lose the control of the vehicle. Insufficient pressure compromises vehicle roadworthiness, maneuverability and brake efficiency. Tires changes, repair, maintenance and balancing must be carried out by specialized technicians using suitable equipment. When new, tires often have a thin slippery protective coating. Drive carefully for the first few miles (kilometers). Never use rubber treating substances on tires. In particular, avoid contact with fluid fuels, which can lead to rapid wear. In case of contact with oil or fuel, do not clean. Change the tires instead.

**DANGER**

Some of the original equipment tires of this vehicle are provided with wear indicators. There are several kinds of wear indicators. For more information on how to check the wear, contact your Dealer. Visually check if the tires are worn and have them changed if they are. If a tire deflates while driving, stop immediately. Avoid hard brakings or moves and do not close throttles too abruptly. Slowly close the throttle grip, move to the edge of the road and use the engine brake to slow down until coming to a halt. Failure to comply with these recommendations may lead to accidents, with risk of personal injuries or death. Do not install tires with air tube on rims for tubeless tires and vice versa.

1.1.3. SAFETY WARNINGS

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



Safety Warning: When you see this symbol on the vehicle or in the manual, pay particular attention to the potential risk of personal injury or death. Failure to comply with the instructions given in the warning messages preceded by this symbol may result in grave risk for your and other people's safety and for the vehicle.

**DANGER**

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

**WARNING**

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

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

1.1.4. BASIC SAFETY RULES

CARBON MONOXIDE

If it is necessary to run the engine in order to carry out maintenance operation, make sure that the area in which you are operating is properly ventilated. Never run the engine in enclosed spaces.

If it is necessary to work indoors, use an exhaust evacuation system.

**WARNING**

The exhaust fumes contain carbon monoxide, a poisonous gas that can cause loss of consciousness and even death.

**WARNING**

Carbon monoxide is both colorless and odorless, and cannot be detected by smell, vision, or any other sense. Avoid breathing exhaust fumes under any circumstances.

GASOLINE

Keep gasoline away from children.

Gasoline is also poisonous. Never attempt to siphon gasoline using your mouth. Never allow gasoline to contact your skin. If you should accidentally spill gasoline on yourself, change your clothes immediately and wash the area where the gasoline was splashed thoroughly with hot water and soap. Should you accidentally swallow gasoline, do not induce vomiting. Drink large quantities of clear water or milk and immediately seek professional medical assistance. Should you accidentally get gasoline in your eyes, flush with large quantities of cool, clear water and immediately seek professional medical assistance.

**WARNING**

Gasoline is extremely flammable and becomes explosive under certain conditions.

KEEP GASOLINE AWAY FROM CHILDREN

HOT COMPONENTS

**WARNING**

The engine and all parts of the exhaust system, as well as the braking system, become very hot and remain hot for some time after the vehicle and the engine are stopped. Before handling any component of your vehicle after riding, make sure that it has cooled sufficiently to be safe to handle.

USED ENGINE OIL

**WARNING**

Use latex gloves for maintenance operations that require contact with used oil.

Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is advisable to thoroughly wash your hands with soap and water after handling used oil.

KEEP OIL AWAY FROM CHILDREN

BRAKE FLUID

**WARNING**

Brake fluid is extremely poisonous. Never ingest or swallow brake fluid. Should brake fluid accidentally be swallowed, drink large quantities of milk or clear water and immediately seek professional medical assistance. Brake fluid is highly destructive of skin and eye tissue. Should you accidentally spill brake fluid on yourself, remove the contaminated clothing, wash your body with soap and warm water immediately and immediately seek professional medical assistance.

Should you accidentally splash brake fluid into your eyes, flush with a large quantity of cool, clear water and immediately seek professional medical assistance.

COOLANT

In certain conditions, the ethylene glycol contained in the engine coolant is flammable: its flame is invisible, but you can be burned anyway.

**WARNING**

Avoid spilling the engine coolant on the exhaust system or on the engine components. They may be hot enough to cause the coolant to ignite and burn without a visible flame. The coolant (ethylene glycol) can cause skin irritation and is poisonous if swallowed.

Coolant and coolant/water mixtures are sweet to the taste and brightly colored, therefore are highly attractive to pets and children. Take extra precautions to keep new and used coolant out of reach of children and animals.

KEEP COOLANT AWAY FROM CHILDREN.

**WARNING**

Risk of burns. Do not remove the radiator cap when the engine is hot. Wait until the engine has completely cooled down. The coolant is under pressure and may splash out and cause burns.

HYDROGEN GAS AND BATTERY ELECTROLYTE**WARNING**

The battery gives off noxious and explosive gases; keep cigarettes, flames and sparks away from the battery.

Provide adequate ventilation when operating or recharging the battery.

During recharging and use, make sure that the room is properly ventilated and avoid inhaling the gases released during the recharging.

The battery contains sulfuric acid (electrolyte). Contact with the skin or eyes may cause serious burns. Always wear protective clothing, rubber gloves, and tight fitting goggles or a face shield when working around the battery, especially when filling the battery with either water or electrolyte.

In case of contact with the skin, flush immediately with plenty of water. In case of contact with the eyes, flush with plenty of water for at least 15 minutes.

Immediately consult a health professional.

The electrolyte is poisonous.

If the electrolyte is accidentally swallowed, drink large quantities of water or milk and then milk of magnesia or vegetable oil. Immediately consult a health professional.

KEEP BATTERIES AND ELECTROLYTE

AWAY FROM CHILDREN.

KEEP BATTERIES AND ELECTROLYTE AWAY FROM CHILDREN

GENERAL PRECAUTIONS AND INFORMATION

Follow these instructions closely when repairing, disassembling or reassembling the motorcycle or its components.

**DANGER**

Using naked flames is strictly forbidden when working on the motorcycle. 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. Be careful of any parts of the engine or exhaust system which may still be hot to the touch to avoid scalds or burns.

Do not put any vehicle parts into your mouth: vehicle components are not edible and some of them are harmful or even toxic.

Unless expressly specified otherwise, assemblies are reassembled by reversing the dismantling procedure. Where a procedure is cross-referred to relevant sections in the manual, proceed sensibly to avoid disturbing any parts unless strictly necessary. Never attempt to polish matte-finished surfaces with lapping compounds.

Never use fuel instead of solvent to clean the motorcycle.

Do not clean any rubber or plastic parts or the seat with alcohol, gas or solvents. Clean with water and neutral detergent.

Always disconnect the battery negative (-) lead before soldering any electrical components.

When two or more persons service the same motorcycle together, special care must be taken to avoid personal injury.

BEFORE DISASSEMBLING ANY COMPONENTS

- Clean off all dirt, mud, and dust and clear any foreign objects from the vehicle before disassembling any components.
- Use the model-specific special tools where specified.

DISASSEMBLING THE COMPONENTS

- Never use pliers or similar tools to slacken and/or tighten nuts and bolts. Always use the suitable wrench.
- Mark all connections (hoses, wiring, etc.) with their positions before disconnecting them. Identify each connection using a distinctive symbol or convention.
- Mark each part clearly to avoid confusion when refitting.
- Thoroughly clean and wash any components you have removed using a detergent with low flash point.
- Mated parts should always be refitted together. These parts will have seated themselves against one another in service as a result of normal wear and tear and should never be mixed up with other similar parts on refitting.
- Certain components are matched-pair parts and should always be replaced as a set.
- Keep away from heat sources.

REASSEMBLING THE COMPONENTS**DANGER**

Never reuse a circlip or snap ring. These parts must always be renewed once they have been removed.

When fitting a new circlip or snap ring, take care to move the open ends apart just enough to allow fitting to the shaft.

Make it a rule to check that a newly-fitted circlip or snap ring has located fully into its groove.

Never clean a bearing with compressed air.

NOTE All bearings must rotate freely with no hard spots or noise. Replace any bearings that do not meet these requirements.

- Use ORIGINAL **aprilia** SPARE PARTS only.
- Use the specified lubricants and consumables.
- Where possible, lubricate a part before assembly.
- When tightening nuts and bolts, start with the largest or innermost nut/bolt and observe a cross pattern. Tighten evenly, in subsequent steps until achieving the specified torque.
- Replace any self-locking nuts, gaskets, seals, circlips or snap rings, O-rings, split pins, bolts and screws which have a damaged thread.
- Lubricate the bearings abundantly before assembly.
- Make it a rule to check that all components you have fitted are correctly in place.
- After repairing the motorcycle and after each service inspection, perform the preliminary checks, and then operate the motorcycle in a private estate area or in a safe area away from traffic.
- Clean all mating surfaces, oil seal edges and gaskets before assembly. Apply a thin layer of lithium grease along the edges of oil seals. Fit oil seals and bearings with the marking or serial number facing outwards (in view).

ELECTRICAL CONNECTORS

To disconnect the electrical connectors, follow the procedures below. Failure to comply with these procedures may lead to irreparable damage to the connector and the wiring as well.

If present, press the special safety hooks.

**WARNING**

Do not pull cables to disconnect the two connectors.

- Grasp the two connectors and disconnect them by pulling them in the two opposite directions.
- In case of dirt, rust, moisture, etc., thoroughly clean the inside of the connectors with compressed air.
- Make sure that the cables are correctly fitted inside the connector terminals.

NOTE The two connectors have just one correct positioning. Make sure to position them in the right direction.

- Then fit the two connectors. Make sure they are correctly coupled (a click will be heard if hooks are present).

TIGHTENING TORQUE SETTINGS**DANGER**

Always remember that the tightening torque settings of all wheel, brake, wheel shaft and other suspension parts play a fundamental role to ensure vehicle safety. Make sure that these values are always within the specified limits.

Check fastening parts tightening torque settings at regular intervals. Upon reassembly, always use a torque wrench.

Failure to comply with these recommendations could lead to the loosening and detachment of one of these parts with a consequent locking of the wheel or other serious problems affecting vehicle maneuverability, creating a risk of falling, serious injury or death.

1.1.5. WARNINGS – PRECAUTIONS – GENERAL RECOMMENDATIONS

Your safety and that of those around you depends not only on your skill as a rider, but also your knowledge about your vehicle and about riding safely.

Therefore it is essential that you do not operate your vehicle on public streets or highways until you have received instructions from a qualified safety organization such as the Motorcycle Safety Foundation, and are properly trained and licensed.

REPORTING OF DEFECTS THAT AFFECT SAFETY

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Aprilia. If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you and your dealer, or Aprilia. To contact NHTSA, you may either call the Auto Safety Hotline toll free at 1-800-424-9393 (or 366-0123 in the Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590.

You can also obtain other information about motor vehicle safety from the Hotline.

ROAD REGULATIONS AND USE OF THE VEHICLE

Rules of the road vary from country to country. It is essential that you understand in advance the rules of the road of the country in which your vehicle will be used.



WARNING

This vehicle has been designed and produced for use only on paved roads. It is not designed to be used on even smooth graded dirt roads or trails. It is not designed for off-road competition or for cross country riding. Do not use this vehicle on rough or unimproved surfaces, or in other off-road areas. Failure to heed this warning could lead to an upset with subsequent injury and even death.

NOISE EMISSION WARRANTY

Aprilia Division of Piaggio & C. S.p.A warrants that this exhaust system, at the time of sale, meets all applicable U.S EPA Federal noise standards for Off Road Motorcycle.

This warranty extends to the first person who buys this exhaust system for purposes other than resale, and to all subsequent buyers.

Warranty claims should be directed to:

Aprilia USA inc.

109 Smoke Hill Lane, Suite 190

Woodstock, GA 30188

USA

Tel 001 770 592 2261

Fax 001 770 592 4878

INFORMATION ON THE NOISE AND EXHAUST GAS EMISSION CONTROL SYSTEM

ORIGIN OF THE EMISSIONS

The combustion process produces carbon monoxide and hydrocarbons. The control of hydrocarbons is very important, because under certain conditions they react to exposure to sunlight and produce photochemical smog.

Carbon monoxide does not react in the same way, but it is toxic and poisonous.

Aprilia utilizes 'lean' carburetor settings and other systems to reduce the production of carbon monoxide and hydrocarbons.

TAMPERING WARNING

Tampering with the noise control system is prohibited.

Federal law prohibits the following acts or causing thereof :

1. The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use
2. The use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below :

- Removal or puncturing of the muffler, baffles, header pipes or any other component which conducts exhaust gases.
- Removal or puncturing of any part of the intake system.
- Lack of proper maintenance.
- Replacing any moving part of the vehicle, or parts of the exhaust or intake system, with parts other than those specified by the manufacturer.

Piaggio & C. S.p.A.
Viale Rinaldo Piaggio, 25
56025 Pontedera (PI) Italy

Piaggio Group Americas, Inc.
140 East 45th Street, 17th Floor
New York, NY 10017 U.S.A.



CAUTION

This product should be checked for repair or replacement if the vehicle noise has increased significantly through use.

Otherwise, the owner may become subject to penalties under state and local ordinances.

PROBLEMS THAT MAY AFFECT THE VEHICLE EMISSIONS

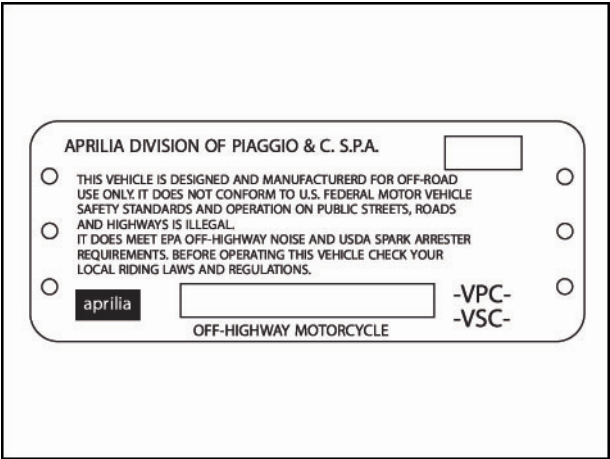
If any of the following symptoms are observed, immediately have your vehicle inspected and repaired by your Local Aprilia Dealer.

Symptoms:

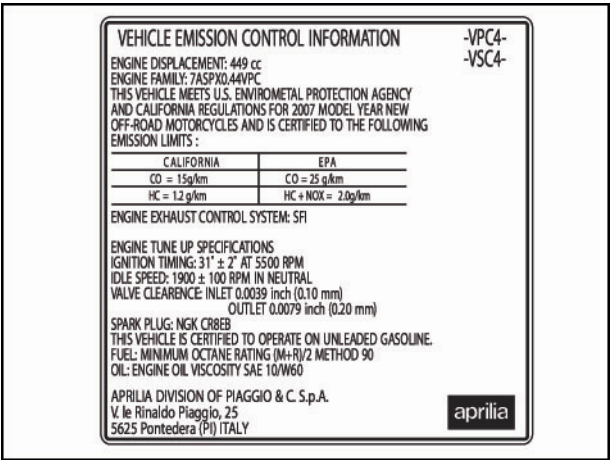
- Difficult starting or stalling after starting.
- Irregular idle.
- Misfiring or backfiring during acceleration.
- After-burning (backfiring).
- Poor engine performance, degraded handling, or poor fuel economy.

1.1.6. POSITION OF THE ADHESIVE WARNING LABELS

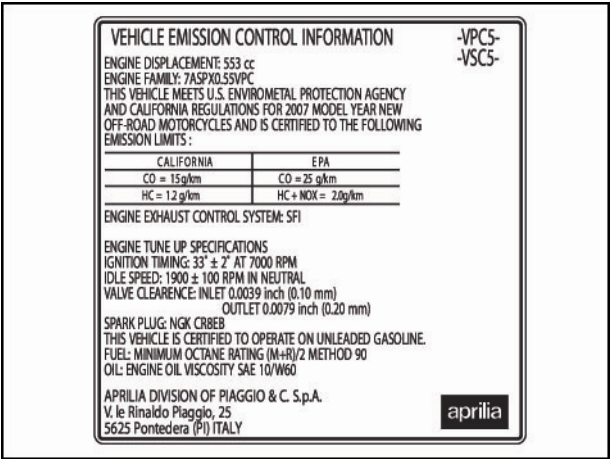
1) V.I.N



2) Polluting 450



3) Polluting 550



4) Noise SXV450

MOTORCYCLE NOISE EMISSION CONTROL INFORMATION
 THIS 2007 ASPVPC0449 MOTORCYCLE, 1017
 MEETS EPA NOISE EMISSION REQUIREMENTS OF 82 dBA
 AT 5115 closing r.p.m. BY FEDERAL TEST PROCEDURE.
 MODIFICATIONS WHICH CAUSE THIS MOTORCYCLE TO EXCEED
 FEDERAL NOISE STANDARDS ARE PROHIBITED BY FEDERAL LAW.
 SEE OWNER'S MANUAL.

-VSC4-

aprilia

5) Noise SXV550

MOTORCYCLE NOISE EMISSION CONTROL INFORMATION
 THIS 2007 ASPVPC0553 MOTORCYCLE, 1017
 MEETS EPA NOISE EMISSION REQUIREMENTS OF 82 dBA
 AT 4727 closing r.p.m. BY FEDERAL TEST PROCEDURE.
 MODIFICATIONS WHICH CAUSE THIS MOTORCYCLE TO EXCEED
 FEDERAL NOISE STANDARDS ARE PROHIBITED BY FEDERAL LAW.
 SEE OWNER'S MANUAL.

-VSC5-

aprilia

6) Gomme RXV

WARNING!
 Do not use any tire other than those recommended and approved by Aprilia. Maintain proper tire inflation. Do not use any tire with less than 1/8" (3mm) tread remaining. Do not repair any tire, nor use a repaired tire. Do not ride your motorcycle overloaded or with an unbalanced load. Failure to follow these warnings can lead to an accident and serious injuries or death. Always ensure that the chain is correctly adjusted. See owner's manual.

CHAIN TENSION WITH NO LOAD
 20-25 mm

PASSENGER IS NOT ALLOWED

Tires pressure kpa - (psi)		Tires size
Front tire	Rear tire	
150 (22)	170 (25)	Front tire Michelin { 90/90 - 21" 54R
140 (20)	150 (22)	Rear tire Michelin { 140/80 - 18" 70R

(OFF-ROAD USE)

-VPC- aprilia

7) Gomme SXV

WARNING!
 Do not use any tire other than those recommended and approved by Aprilia. Maintain proper tire inflation. Do not use any tire with less than 1/8" (3mm) tread remaining. Do not repair any tire, nor use a repaired tire. Do not ride your motorcycle overloaded or with an unbalanced load. Failure to follow these warnings can lead to an accident and serious injuries or death. Always ensure that the chain is correctly adjusted. See owner's manual.

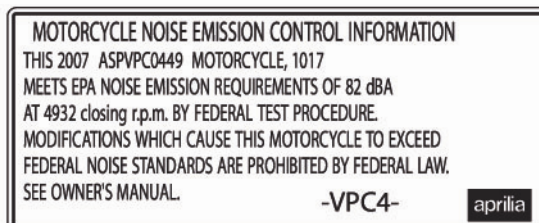
CHAIN TENSION WITH NO LOAD
 20-25 mm

PASSENGER IS NOT ALLOWED

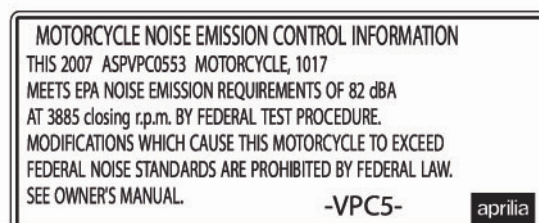
Tires pressure kpa - (psi)		Tires size
Front tire	Rear tire	
180 (26)	200 (29)	Front tire Dunlop { 120/70 ZR 17" (58W)
		Rear tire Dunlop { 180/55 ZR 17" (73W)

-VSC- aprilia

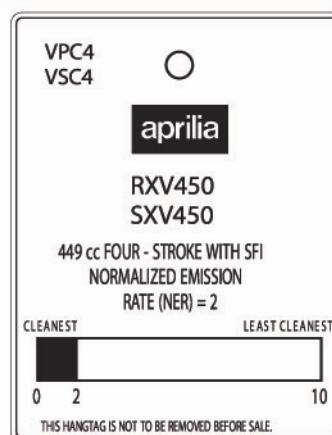
8) Sonore RXV450



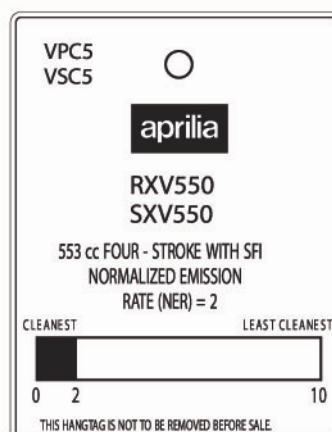
9) Sonore RXV550



10) Hang tag 450



11) Hang tag 550



12) Polluting 450 Off road

VEHICLE EMISSION CONTROL INFORMATION	
ENGINE DISPLACEMENT: 449 cc ENGINE FAMILY: 7PVMX0.44VPC THIS VEHICLE MEETS U.S. ENVIRONMENTAL PROTECTION AGENCY AND CALIFORNIA REGULATIONS FOR 2007 MODEL YEAR NEW OFF-ROAD MOTORCYCLES AND IS CERTIFIED TO THE FOLLOWING EMISSION LIMITS :	
CALIFORNIA	EPA
CO = 15g/km	CO = 25 g/km
HC = 1.2 g/km	HC + NOx = 2.0g/km
ENGINE EXHAUST CONTROL SYSTEM: SFI	
ENGINE TUNE UP SPECIFICATIONS IGNITION TIMING: 31° ± 2° AT 5500 RPM IDLE SPEED: 1900 ± 100 RPM IN NEUTRAL VALVE CLEARANCE: INLET 0.0039 inch (0.10 mm) OUTLET 0.0079 inch (0.20 mm)	
SPARK PLUG: NGK CR8EB THIS VEHICLE IS CERTIFIED TO OPERATE ON UNLEADED GASOLINE. FUEL: MINIMUM OCTANE RATING (M+R)/2 METHOD 90 OIL: ENGINE OIL VISCOSITY SAE 10/W60	
APRILIA DIVISION OF PIAGGIO & C. S.p.A. V.le Rinaldo Piaggio, 25 5625 Pontedera (PI) ITALY	
-VPC4-	-VSC4-
aprilias	

13) Polluting 550 Off road

VEHICLE EMISSION CONTROL INFORMATION	
ENGINE DISPLACEMENT: 553 cc ENGINE FAMILY: 7PVMX0.55VPC THIS VEHICLE MEETS U.S. ENVIRONMENTAL PROTECTION AGENCY AND CALIFORNIA REGULATIONS FOR 2007 MODEL YEAR NEW OFF-ROAD MOTORCYCLES AND IS CERTIFIED TO THE FOLLOWING EMISSION LIMITS :	
CALIFORNIA	EPA
CO = 15g/km	CO = 25 g/km
HC = 1.2 g/km	HC + NOx = 2.0g/km
ENGINE EXHAUST CONTROL SYSTEM: SFI	
ENGINE TUNE UP SPECIFICATIONS IGNITION TIMING: 33° ± 2° AT 7000 RPM IDLE SPEED: 1900 ± 100 RPM IN NEUTRAL VALVE CLEARANCE: INLET 0.0039 inch (0.10 mm) OUTLET 0.0079 inch (0.20 mm)	
SPARK PLUG: NGK CR8EB THIS VEHICLE IS CERTIFIED TO OPERATE ON UNLEADED GASOLINE. FUEL: MINIMUM OCTANE RATING (M+R)/2 METHOD 90 OIL: ENGINE OIL VISCOSITY SAE 10/W60	
APRILIA DIVISION OF PIAGGIO & C. S.p.A. V.le Rinaldo Piaggio, 25 5625 Pontedera (PI) ITALY	
-VPC5-	-VSC5-
aprilias	

1.1.7. EMISSION & NOISE CONTROL SYSTEM WARRANTY STATEMENT**YOUR WARRANTY RIGHTS AND OBLIGATIONS**

The United States Environmental Protection Agency, the California Air Resources Board and Aprilia Division of Piaggio & C. S.p.A. (hereinafter Aprilia) are pleased to explain the emission control system warranty on your 2007 and later off-road motorcycle.

New motor vehicles must be designed, built and equipped to meet the Federal and Californian stringent anti-smog standards.

Aprilia must warrant the emission control system on your off-road motorcycle for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your off-road motorcycle.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, catalytic converter and engine computer.

Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, Aprilia will repair your motorcycle at no cost to you, including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE

Off-Road Motorcycles ≤ 70 cc: for a period of use of 30 months (2.5 years) or 1,550 mi (2,500 km), whichever comes first.

Off-Road Motorcycles > 70 cc: for a period of use of 30 months (2.5 years) or 3,100 mi (5,000 km), whichever comes first.

If an emission-related part on your off-road motorcycle is defective, the part will be repaired or replaced by Aprilia. This is your emission control system DEFECTS WARRANTY.

OWNER'S WARRANTY RESPONSIBILITIES

As the motorcycle owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Aprilia recommends that you retain all receipts covering maintenance on your motorcycle, but Aprilia cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

You are responsible for presenting your off-road motorcycle to an Aprilia dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

As the motorcycle owner, you should be aware that Aprilia may deny your warranty coverage if your motorcycle or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

If you have any questions regarding your warranty rights and responsibilities, you should contact Piaggio Group Americas, Inc., 140 East 45th Street, 17th Floor New York, NY 10017, or the U.S. Environmental Protection Agency, 2000 Traverwood Ann Arbor, MI 48105, or the California Air Resources Board at P.O. Box 8001, 9528 Telstar Avenue, El Monte, CA 91734-8001.

LIMITED WARRANTY ON EMISSION CONTROL SYSTEM

Aprilia warrants that each new 2007 and after Aprilia off-road motorcycle:

A. is designed, built and equipped to comply at the time of initial retail purchase with all applicable regulations of the United States Environmental Protection Agency, and the California Air Resources Board;

B. is free from defects in material and workmanship which cause such motorcycle to fail to comply with applicable regulations of the United States Environmental Protection Agency or the California Air Resources Board for a period of use, depending on the engine displacement, 1,550 mi (2,500 km), if the off-road motorcycle's engine displacement is equal or less than 70 cubic cm, of 3,100 mi (5,000 km), if the off-road motorcycle's engine displacement is greater than 70 cubic cm; or 30 months (2.5 years) from the date of initial retail delivery, whichever comes first.

I. **COVERAGE.** Warranty defects shall be remedied during customary business hours at any authorized Aprilia motorcycle dealer located within the United States of America in compliance with the Clean Air Act and applicable regulations of the United States Environmental Protection Agency and the California Air Resources Board. Any part or parts replaced under this warranty shall become the property of Aprilia.

In the State of California only, emission related warranted parts are specifically defined by the state's Emission Warranty Parts List. These warranted parts are: carburetor and internal parts; intake manifold; fuel injection system; spark advance mechanism; crankcase breather; air cutoff valves; ignition coils; ignition wires; ignition points; condensers, and spark plugs if failure occurs prior to the first scheduled replacement; and hoses, clamps, fittings and tubing used directly in these parts. Since emission related parts may vary from model to model, certain models may not contain all of these parts and certain models may contain functionally equivalent parts.

In the State of California only, Emission Control System emergency repairs, as provided for in the California Administrative Code, may be performed by other than an authorized Aprilia dealer. An emergency situation occurs when an authorized Aprilia dealer is not reasonably available, a part is not available within 30 days, or a repair is not complete within 30 days. Any replacement part can be used in an emergency repair. Aprilia will reimburse the owner for the expenses, including diagnosis, not to exceed Aprilia's suggested retail price for all warranted parts replaced and labor charges based on Aprilia's recommended time allowance for the warranty repair and the geographically appropriate hourly labor rate. The owner may be required to keep receipts and failed parts in order to receive compensation.

II. **LIMITATIONS.** This Emission Control System warranty shall not cover any of the following:

- A. Repair or replacement required as a result of:
- (1) accident,
 - (2) misuse,
 - (3) repairs improperly performed or replacements improperly installed,
 - (4) use of replacement parts or accessories not conforming to Aprilia specifications which adversely affect performance and/or,
 - (5) use in competitive racing or related events

B. Inspections, replacement of parts and other services and adjustments required for required maintenance.

C. Any off-road motorcycle on which the odometer mileage has been changed so that actual mileage cannot be readily determined.

III. LIMITED LIABILITY

A. The liability of Aprilia under this Emission Control System Warranty is limited solely to the remedying of defects in material or workmanship by an authorized Aprilia motorcycle dealer at its place of business during customary business hours. This warranty does not cover inconvenience or loss of use of the motorcycle or transportation of the motorcycle to or from the Aprilia dealer. APRILIA SHALL NOT BE LIABLE FOR ANY OTHER EXPENSES, LOSS OR DAMAGE, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY ARISING IN CONNECTION WITH THE SALE OR USE OF OR INABILITY TO USE THE APRILIA OFF-ROAD MOTORCYCLE FOR ANY PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

B. NO EXPRESS EMISSION CONTROL SYSTEM WARRANTY IS GIVEN BY APRILIA EXCEPT AS SPECIFICALLY SET FORTH HEREIN. ANY EMISSION CONTROL SYSTEM WARRANTY IMPLIED BY LAW, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS LIMITED TO THE EXPRESS EMISSION CONTROL SYSTEM WARRANTY TERMS STATED IN THIS WARRANTY. THE FOREGOING STATEMENTS OF WARRANTY ARE EXCLUSIVE AND IN LIEU OF ALL OTHER REMEDIES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

C. No dealer is authorized to modify this Aprilia Limited Emission Control System Warranty.

IV. LEGAL RIGHTS. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

V. THIS WARRANTY IS IN ADDITION TO THE APRILIA LIMITED OFF-ROAD MOTORCYCLE WARRANTY.

VI. ADDITIONAL INFORMATION. Any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. However, Aprilia is not liable for these parts. The owner is responsible for the performance of all required maintenance. Such maintenance may be performed at a service establishment or by any individual. The warranty period begins on the date the motorcycle is delivered to an ultimate purchaser.

USE

2

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2.1. IDENTIFICATION DATA

2.1.1. VEHICLE IDENTIFICATION NUMBER (ENGINE NUMBER) (FRAME NUMBER) (V.I.N)

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

The frame number can be used for the purchase of spare parts.



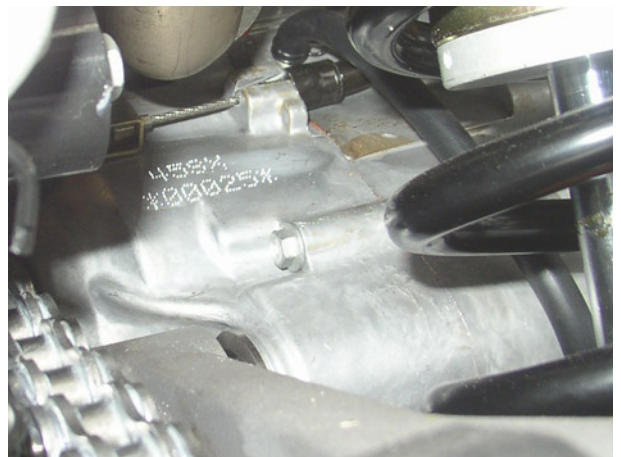
WARNING

Do not alter the identification numbers if you do not want to incur in severe penal and administrative sanctions. In particular, the alteration of the frame number results in the immediate invalidity of the warranty.

ENGINE NUMBER

The engine number is stamped on the left side of engine block.

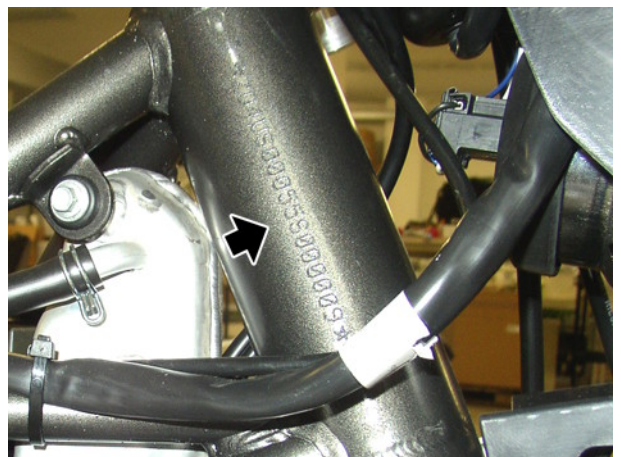
Engine no.



FRAME NUMBER

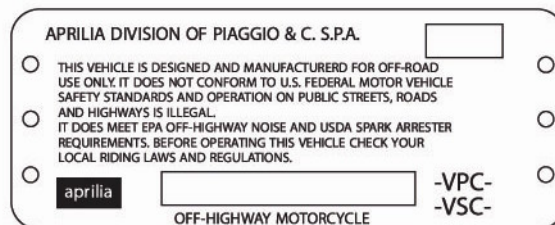
The frame number is stamped on the right side of the steering column.

Frame no.



V.I.N

Every vehicle produced by aprilia receives a vehicle identification number (V.I.N).

**DIGIT MEANING**

1. Check digit
2. Year
3. Assembling factory designation (N = NOALE – VE, S = SCORZE' VE)

☆ ZD4 VSC50 ?7? 000000 ☆

1) Check digit

2) YEAR
(ISO 3779).
7 = 2007

3) N= NOALE, S = SCORZE'

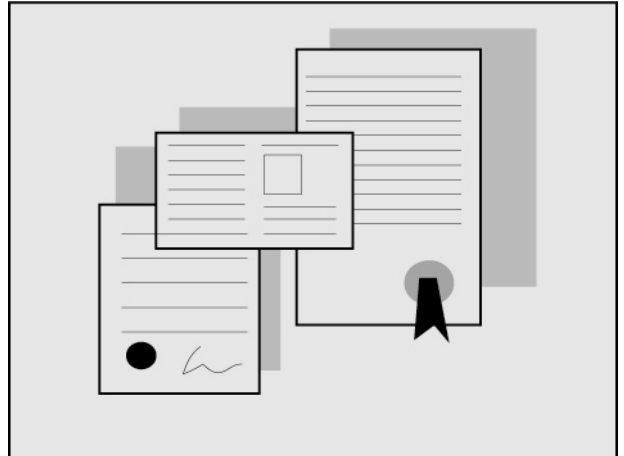
2.2. RIDING IN SAFETY

2.2.1. BASIC SAFETY RULES

The instructions given below cover normal operation of your vehicle and must be carefully observed. By following these rules you will enhance your own safety and the safety of those around you. You will also maximize the life and utility of your vehicle.

Two-wheeled vehicles obviously do not provide some of the protection provided by automobiles, therefore it is essential that you wear appropriate protective clothing. In particular, never operate your vehicle without wearing your helmet, gloves, eye protection, a heavy jacket, sturdy footwear, and sturdy full length pants.

However, do not assume that even the best clothing and helmet will protect you in the event of an upset or a crash with another vehicle. At best, this gear provides some protection from scrapes and scratches, but very little, if any, impact protection.



Be sure that you meet all the requirements prescribed by local law, including driver's license, minimum age, training, insurance, taxes, vehicle registration, license plate, etc. When you first receive your vehicle, practice by riding in areas where there is little traffic. Do not attempt to ride in heavy traffic until you are thoroughly experienced and riding your vehicle has become second nature to you.

Although this vehicle is legal for operation on freeways and expressways, it is advisable to not ride on these high speed highways until you are thoroughly familiar with your vehicle and have attained a high degree of skill in its operation.

A new vehicle must be carefully run in, see page 75 (RUNNING-IN).

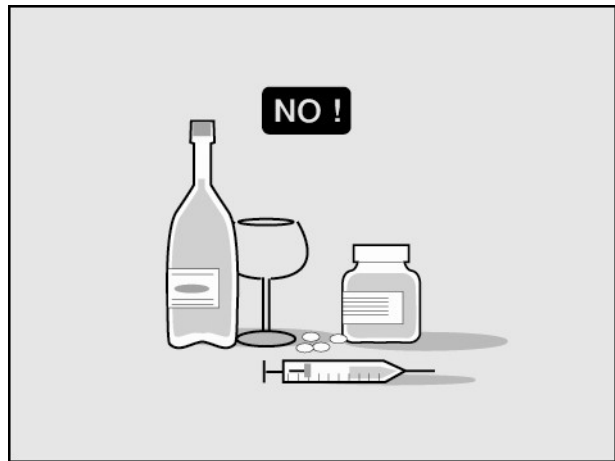
Before starting the engine, make sure that the brakes, clutch, gearbox and throttle controls function properly and that the fuel and oil supply is adequate.

The exhaust system, brakes, and some other parts of the vehicle become very hot during operation.

Do not touch any of these parts.

Some medicines or drugs, illegal or prescription, and alcohol significantly increase the risk of accidents. Do not ride while you are under the influence of alcohol or drugs, illegal or prescription.

Make sure you are in good physical condition and not ill before riding your vehicle. Do not ride your vehicle when you are particularly tired or fatigued. Alcohol, drugs and fatigue are leading causes of vehicle accidents. Many accidents are caused by the rider's inexperience and lack of training. Do not ride your vehicle until you have received training from a recognized training organization such as the Motorcycle Safety Foundation. Remember that riding a two-wheeled vehicle, though easy and fun, is quite different from driving a car. Do not assume that you can operate your vehicle safely just because you are a competent automobile driver. Never lend your vehicle to others unless you are sure that they are competent and properly licensed vehicle operators.



Observe all rules of the road. Pay special attention to all warning, regulatory and informational signs. Avoid showing off (i.e., popping wheelies). Especially observe speed limits, remember that road conditions change with the weather and wet and icy pavements are particularly dangerous for vehicles, especially if you are riding too fast. Remember that automobile drivers have a hard time seeing two-wheeled vehicles, so always give the automobile the right of way, even if it is legally yours. Before changing lanes, look over your shoulder to make sure that the way is clear. Do not rely exclusively on the rearview mirror: you may miscalculate the distance and speed of a vehicle, or you may even not see it at all.

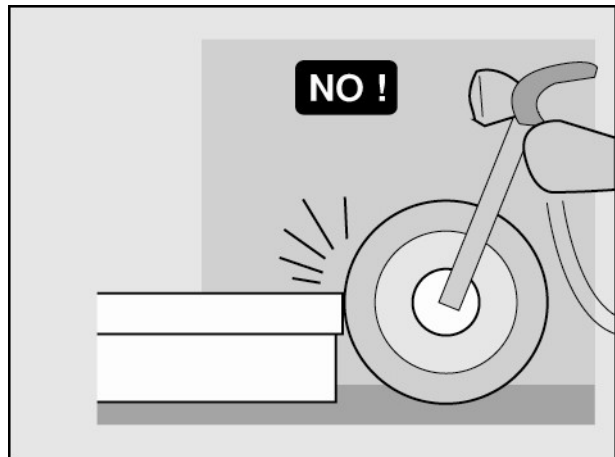


Avoid obstacles that could damage the vehicle or make you lose control.

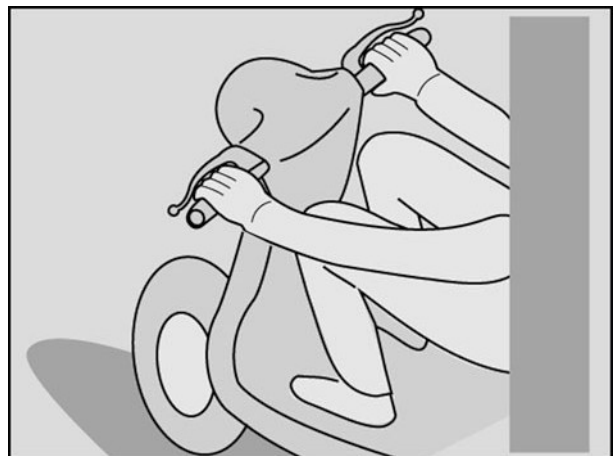
Do not tailgate, do not attempt to increase your gas mileage by following in the slip stream of cars or trucks in front of you.

In case of accident motorcycles, scooters and mopeds do not provide the same degree of protection ensured by automobiles. The legs, in particular, are exposed to the risk of injury. However, the additional installation of leg guards may actually increase the risk of injuries and their seriousness in case of accident.

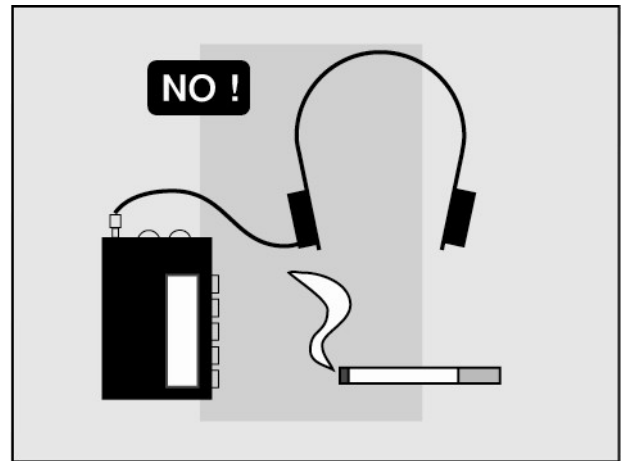
Do not install leg guards available on the spare parts and accessories market. Non-compliance with these instructions may result in serious injuries or even death.



Always ride with both hands on the handlebars and feet on the footrests. Never shift gear without using the clutch, if the vehicle is so equipped. Do not operate the shift lever or the other controls suddenly or abruptly. Such misuse can damage the internal components of the vehicle and consequently cause seizure, loss of control, accidents and serious injuries or even death. Remain in the saddle when you are riding. Do not stand up or attempt to stretch while you are riding your vehicle. If you need to rest, pull over to the side of the road when it can be safely done.



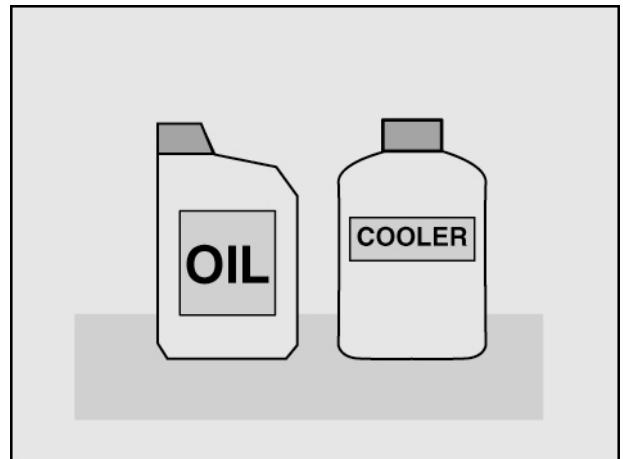
It is very important to your safety that you give full attention to the act of riding. Watch what you are doing, do not allow yourself to be distracted by other cars, people or things on the roadside, etc. Never smoke, eat, drink, read, etc. while riding your vehicle. If you must consult a map, pull over when it can be done safely.



Use only the vehicle's specific fuels and lubricants indicated in the "LUBRICANT CHART"; check the oil, fuel and coolant levels regularly. If the throttle sticks, it may cause a collision with another vehicle, or an upset. If the throttle sticks, kill the engine with the engine stop switch located on the right handlebar. Do not attempt to restart the engine until the throttle has been repaired and works perfectly. Failure to obey this warning can lead to a runaway with seriously injuries or even death.

Your vehicle is equipped with a double cable throttle. One cable opens the throttle when you rotate the throttle grip toward you; the other closes the throttle when you rotate the grip away from you. When you release the throttle grip, it is essential that it automatically return to the idle position.

This double cable arrangement enhances safety by providing for positive closing of the throttle.



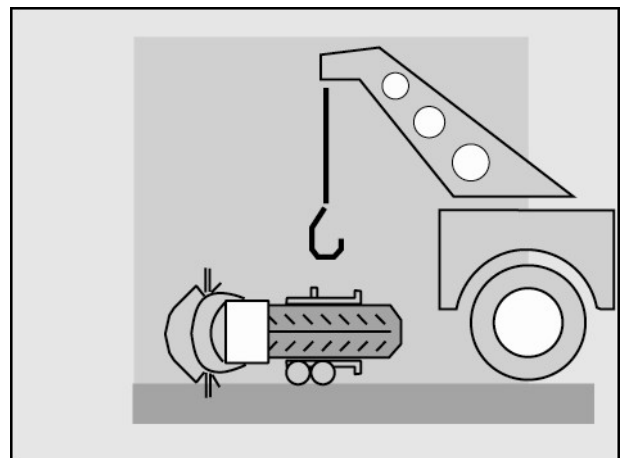
WARNING

In the event of a throttle sticking emergency, always kill the engine using the engine stop switch located near the throttle grip on the right handlebar. Never use your vehicle if the throttle does not automatically fully return to the idle position when the throttle grip is released. Contact your Local aprilia Dealer for repairs. Failure to heed this warning can lead to a serious accident and subsequent injury or even death.

If you and your vehicle are involved in an accident, ensure that there has been no damage to the control levers, tubes, wires, braking system and other vital parts. If your vehicle is involved in an accident, take it to your Local **aprilia** Dealer immediately. He has the equipment and knowledge to check for accidental damage which may compromise your safety.

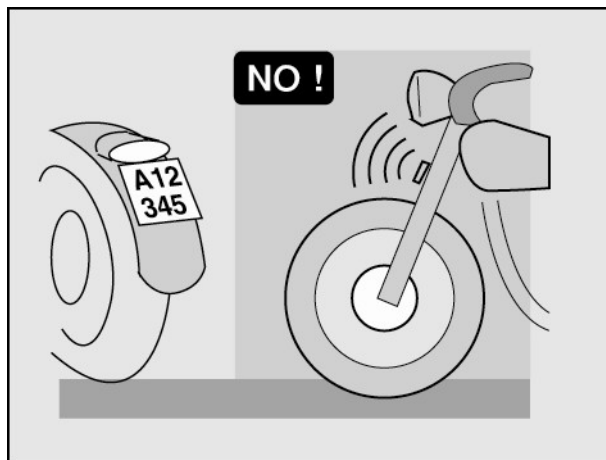
Your **aprilia** Dealer is ready and able to help you with any safety problems you may have, but naturally you should report any malfunctions to your mechanic in order for him to help you.

Do not use your vehicle if it is damaged. A damaged vehicle may become unstable or present other problems which can increase the risk of accident, and therefore of serious injury or even death.



Do not attempt to modify the position, angle or color of your license plate. Do not even protect it with a clear plastic covering. Do not modify any of the safety equipment of your vehicle, especially such safety related items as directional indicators, rearview mirrors, lights or horns.

Any modification to your vehicle will invalidate the warranty. Do not modify your engine in an attempt to increase the horsepower. This can result in irreparable damage to the engine and a compromise in the performance and handling of the vehicle, which could lead to an upset, serious injury or even death.



Have your vehicle repaired only with original parts, and use only original **aprilia** or **aprilia** approved accessories. The use of aftermarket accessories and parts can seriously compromise the safety of your vehicle as well as its performance and serviceability. Any modification which affects performance or safety voids your warranty completely. Tampering with the emissions or noise control systems on your vehicle is against the law, and can be punished by large fines.

In some jurisdictions, it can even lead to the confiscation of your vehicle.



This vehicle was not designed to be equipped with a sidecar or be used to tow trailers or other vehicles. **aprilia** does not manufacture sidecars or trailers and therefore cannot predict the effects of such accessories on the maneuverability or stability of the vehicle: it can only warn that such effects may be negative and that any damage to the vehicle components caused by the use of such accessories will not be covered by the warranty.

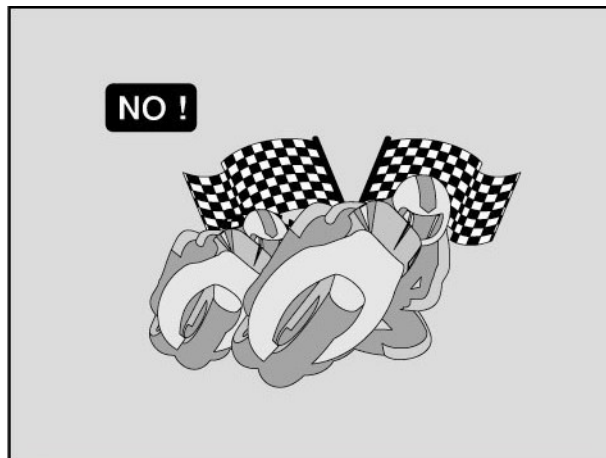


Never race other vehicles with your vehicle.

Brake with both the front and rear brakes.

The use of one brake only for sudden braking may cause the vehicle to skid or make the rider lose control of the vehicle itself.

When riding down a steep hill, use the engine as a brake by selecting the same gear, or a lower gear, than you would use to climb the hill. Use front and rear brakes sparingly.

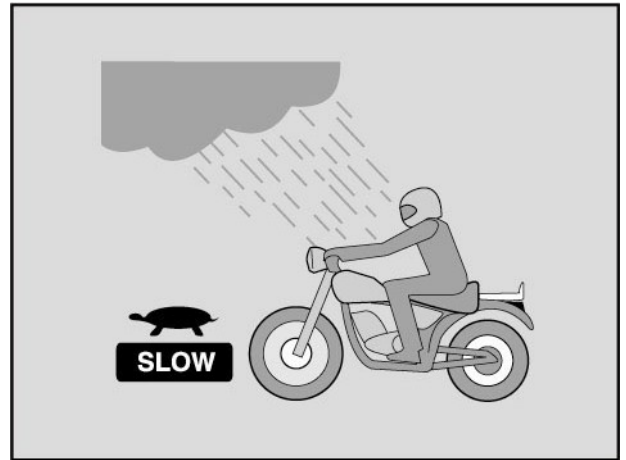


Always ride at the appropriate speed and avoid unnecessary hard acceleration. This not only is safer, but also reduces fuel consumption and increases the life of the vehicle.

If you must ride your vehicle in rainy weather, or on loose surfaces, remember that traction is greatly reduced. Under these conditions, all handling of the vehicle must be done gradually and smoothly.

Sudden acceleration, braking or turning may make you lose control of your vehicle.

When traction is reduced, accelerate and slow using your vehicle's engine braking insofar as possible. Avoid rapid, harsh application of the brakes.



Gradually open and close the throttle to avoid spinning or skidding the rear wheel.

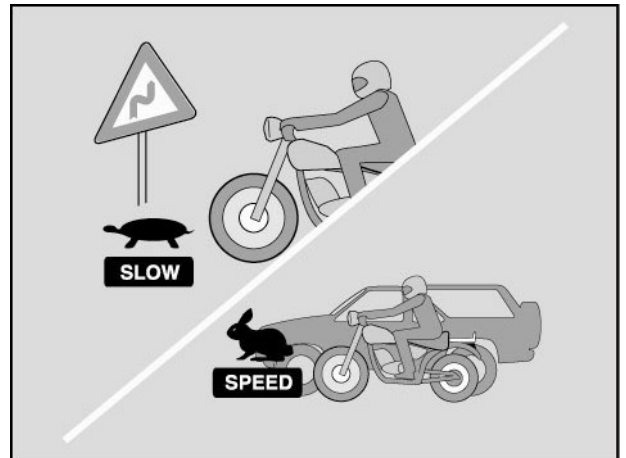
On rough road surfaces, slow down and ride with particular care.

Try to avoid wide open throttle accelerations, unless they are necessary for such things as passing.

Don't allow your engine to "lug," that is, run at too low an rpm. Shift down to a lower gear. Also, don't over-rev the engine.

Observe the red line on the tachometer.

Remember that excessively aggressive cornering can cause your vehicle's tires to lose sideways traction, which can result in an upset and serious injury or even death.



Always observe posted and statutory speed limits, but do not assume that you can ride as fast as the speed limit under all road conditions. Slowing down a little can greatly increase your safety under all road conditions.

Do not ride your vehicle off road.

Do not tamper with the muffler system or the emissions control system of your vehicle. This is not only bad for the environment, it can subject you to serious penalties.



2.2.2. CLOTHING

Before riding your vehicle, ensure that your riding gear is in good condition. To be effective, your helmet must fit properly, and the visor or other eye protection must be clean.

Both research and experience have shown that drivers of other vehicles often do not see vehicles or riders. In order to make yourself more conspicuous to these drivers, wear bright reflective clothing, such as a reflective vest, or clothing with reflective sections sewn into the jacket, pants and gloves. Be particularly aware of approaching automobiles and trucks that might be trying to turn left in front of you. Many vehicle accidents are caused by an opposing automobile driver making a left turn without warning in front of the vehicle.

Inevitably, the driver will look right at you, and yet swear that they did not see you before they turned directly into your path. Ride alert!

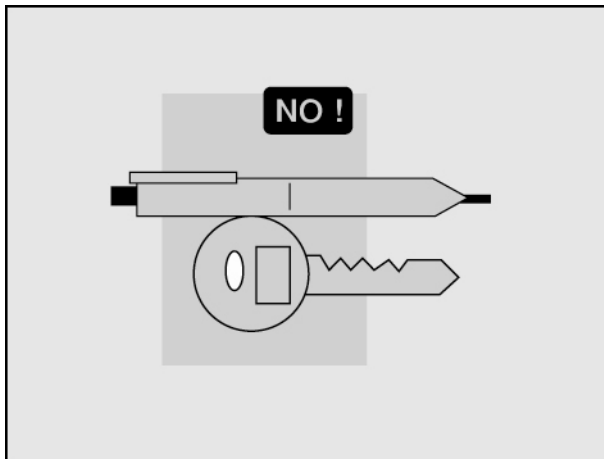
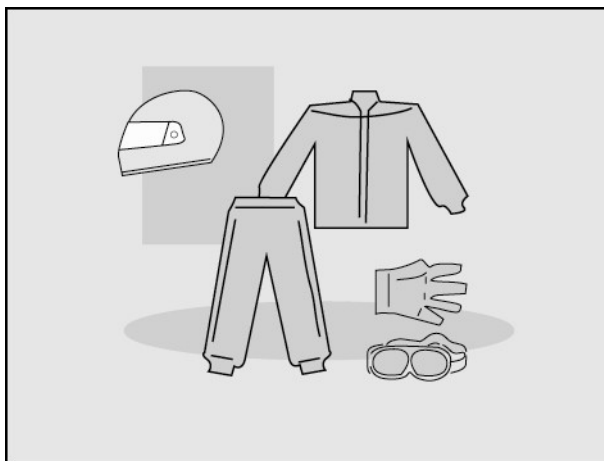
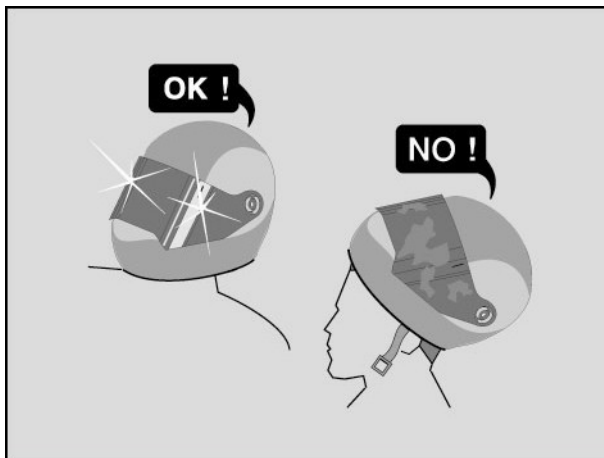
Wear protective clothing, preferably in light and/or reflecting colours. In this way you will make yourself more visible to the other drivers, thus notably reducing the risk of being knocked down, and you will be more protected in case of fall.

Always wear your crash helmet. Many accidents are fatal because of injuries to the head.

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 carry sharp objects in your pockets that could be dangerous in case of an upset, for example, pens or mechanical pencils, etc. Also, make sure that your passengers follow this recommendation.



2.2.3. ACCESSORIES

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

The installation of inappropriate accessories or the overloading of the vehicle may result in the instability of the vehicle itself and cause accidents with consequent risk of serious injuries or even death. Windshields can be particularly dangerous, as they can break and injure or cut the rider in case of accident. In case of doubts with regard to any accessory you would like to install or any load you would like to carry, previously consult your Local **aprilia** Dealer.

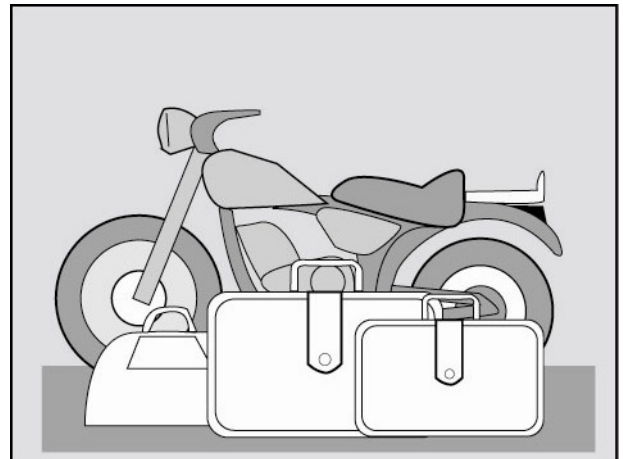
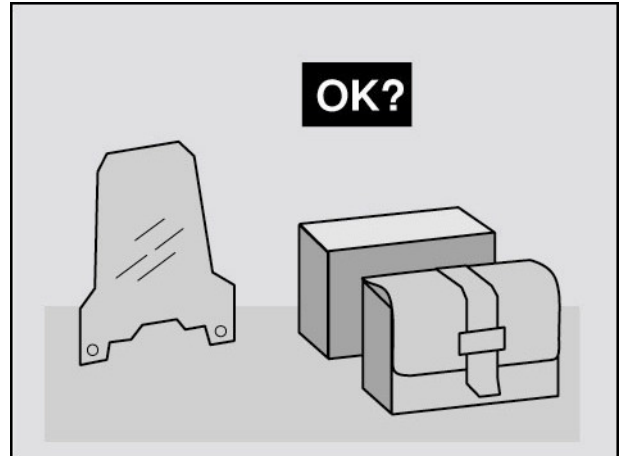
Avoid installing accessories that cover horns or lights or that could impair their functions, limit the suspension stroke and the steering angle, hamper the operation of the controls and reduce the distance from the ground and the angle of inclination in turns.

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

Fairings and windshields installed on the vehicle may produce aerodynamic forces that will affect the stability of the vehicle during use, especially at high speeds.

Make sure that anything you carry on your vehicle is securely attached, and cannot come loose and jam the wheels, forks, etc.

Do not install any electrical accessories, and do not modify the electrical system of your vehicle. Anything that could cause an electrical overload or other fault could cause the vehicle to suddenly stop, the lights to dim or quit, or the horn and other safety accessories not to work. Use only genuine **aprilia** accessories.



2.2.4. LOAD

Do not overload your vehicle. Attach luggage or packages as close as possible to the center of your vehicle and distribute the load from side to side as evenly as possible, to keep imbalance to a minimum.

Remember that loads tend to loosen with riding, so frequently check the security of your load.

Do not hang anything from your vehicle handlebars, fenders, or forks, because this will upset the handling of your vehicle, and could prevent you from avoiding an accident. Failure to heed this warning can lead to an upset with subsequent serious injury or even death.

Do not ride with your crash helmet hung from the strap because it could easily foul the wheels, fenders, or forks, causing an upset and subsequent serious injury or even death.

Carry a passenger only if your vehicle is equipped with passenger footrests, handgrips for the passenger to hold on to, and a passenger saddle.

When carrying a passenger, remember that your vehicle's handling is reduced, that the brakes are less efficient, and the center of gravity is higher and further to the rear.

This makes it more likely that the front wheel will come up off the ground, especially on acceleration. Therefore, you should avoid hard acceleration and hard braking. Many accidents are caused by inexperienced riders carrying passengers.

Remember that allowance must be made for the extra weight of the passenger for all driving maneuvers.

Avoid abrupt and excessive acceleration.

Always slow down in time and calculate longer stopping and manoeuvring distances. Non-compliance with these instructions may lead to the overturning of the vehicle or to other accidents with consequent serious injuries or even death.

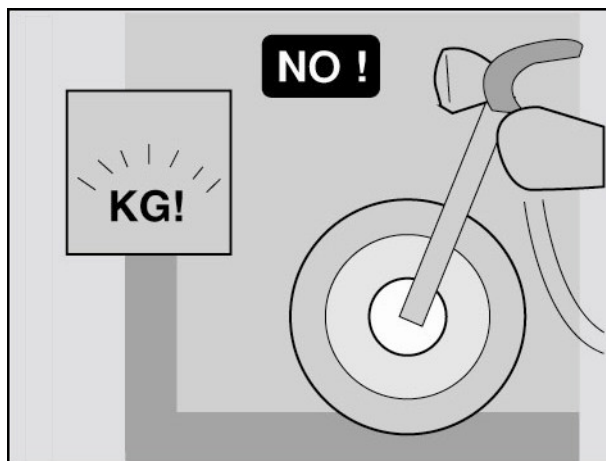
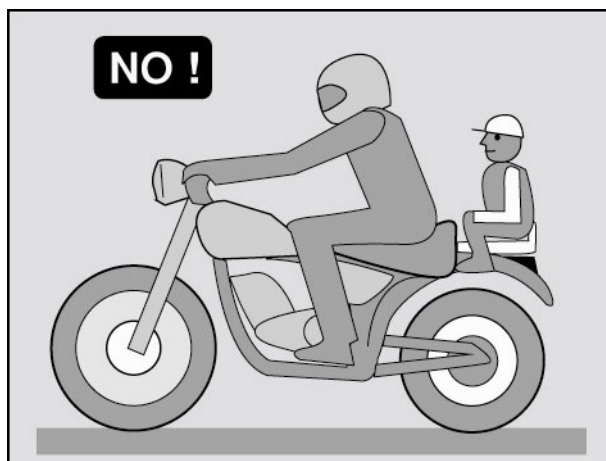
Never carry loosely packaged items, make sure that everything that you carry on your vehicle is carefully secured.

Do not carry packages which protrude from the luggage rack or which cover any of the signal lights, the headlight, or the horn.

Never carry animals or children on the glove compartment or on the luggage rack.

Never exceed the labeled maximum load for each saddlebag.

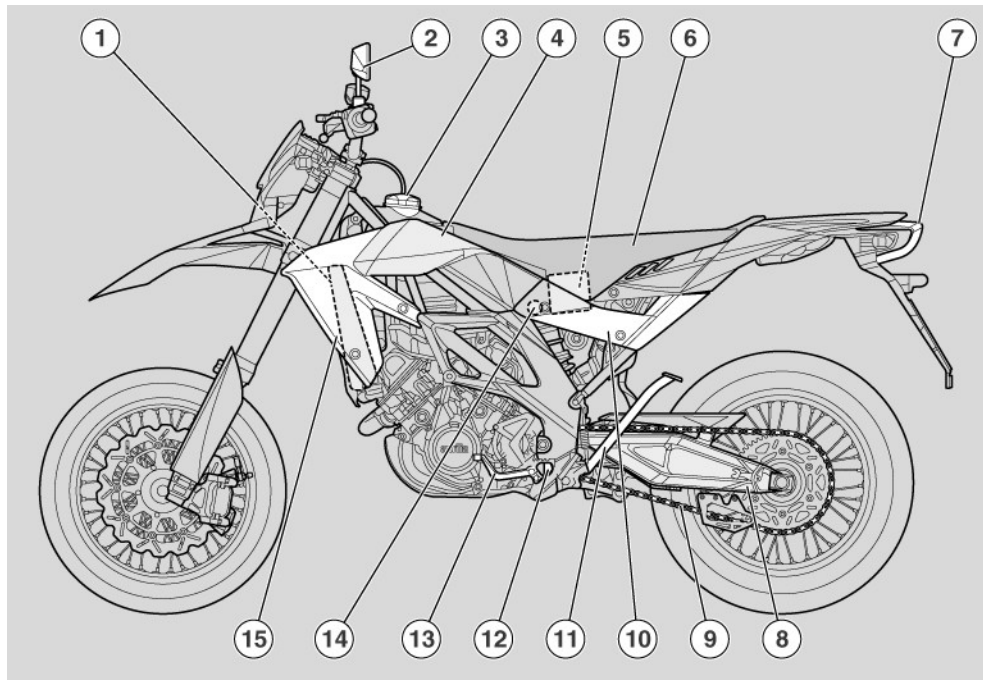
Overloading your vehicle seriously reduces its stability and maneuverability and can lead to an upset with subsequent serious injury or death.



2.3. CONTROLS

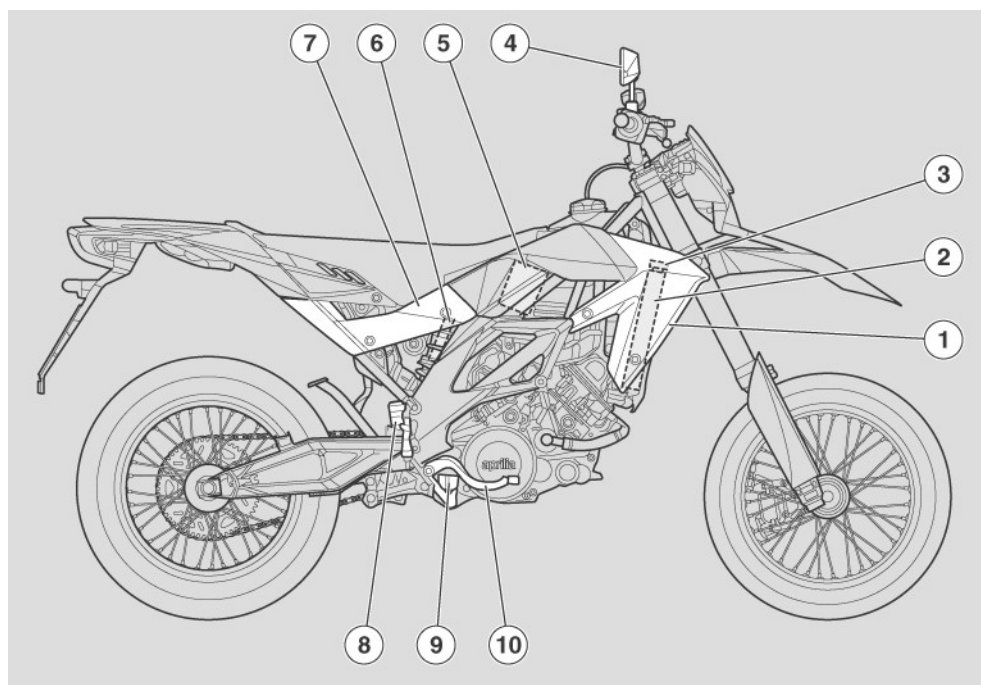
2.3.1. LOCATION OF KEY COMPONENTS

SXV



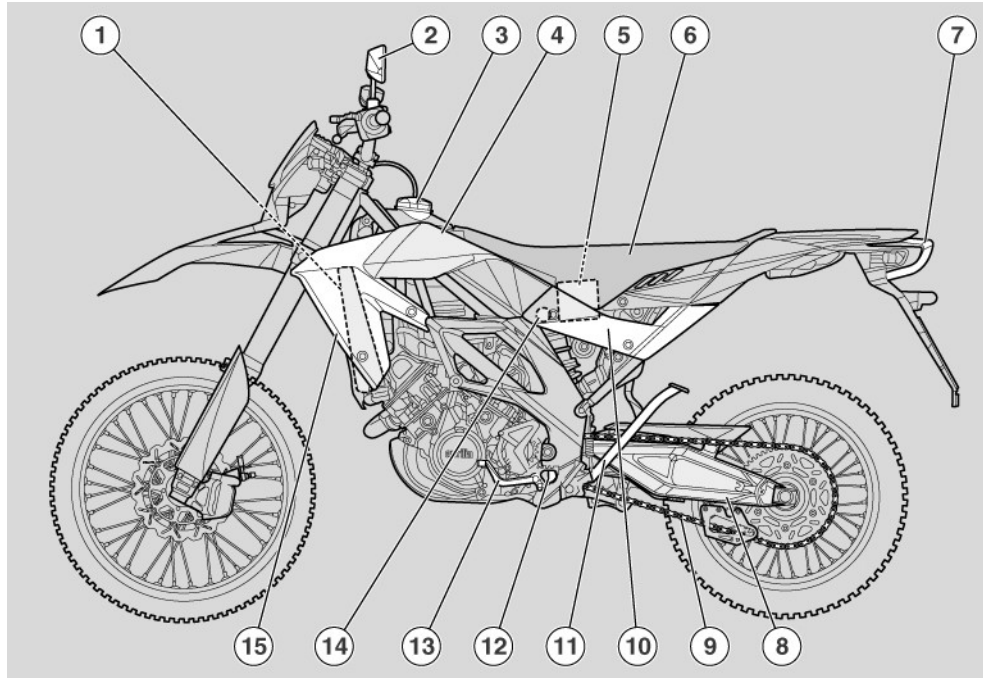
Key:

1. Left coolant radiator
2. Left rearview mirror
3. Fuel tank filler cap
4. Fuel tank
5. Battery
6. Seat
7. Tail light
8. swing arm
9. Drive chain
10. Rear left side body panel
11. Side stand
12. Rider left footrest
13. Gearbox control lever
14. Main fuse carrier (30A)
15. Front left side body panel

**Key:**

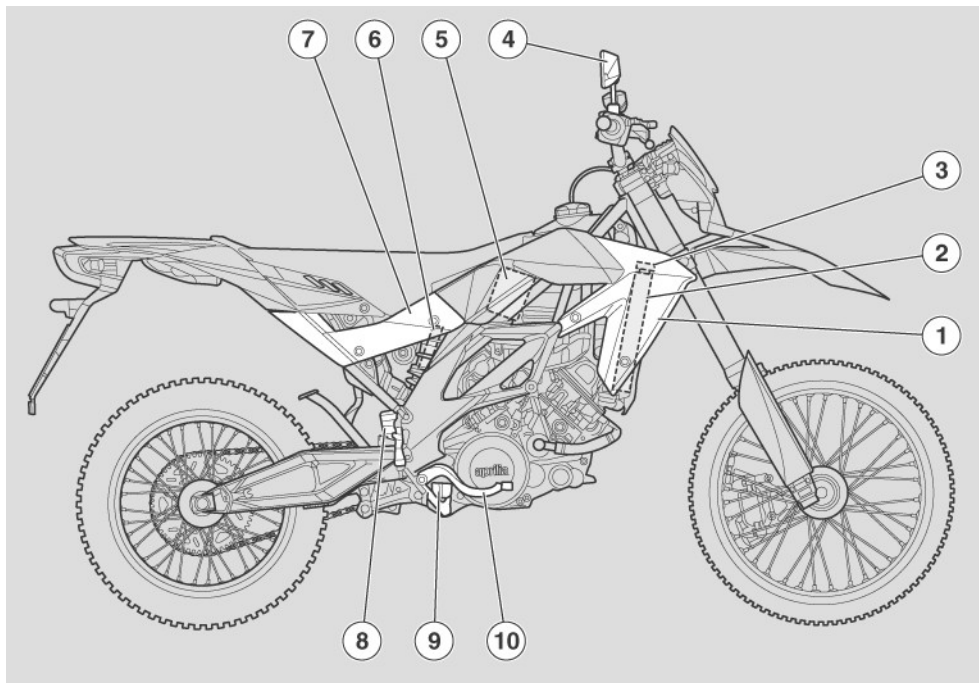
1. Front right side body panel
2. Right coolant radiator
3. Coolant expansion tank cap
4. Right rearview mirror
5. Air box
6. Auxiliary fuse box
7. Rear right side body panel
8. Master cylinder w/ rear brake fluid tank
9. Rider right footrest
10. Rear brake control lever

RXV



Key:

1. Left coolant radiator
2. Left rearview mirror
3. Fuel tank filler cap
4. Fuel tank
5. Battery
6. Seat
7. Tail light
8. swing arm
9. Drive chain
10. Rear left side body panel
11. Side stand
12. Rider left footrest
13. Gearbox control lever
14. Main fuse carrier (30A)
15. Front left side body panel

**Key:**

1. Front right side body panel
2. Right coolant radiator
3. Coolant expansion tank cap
4. Right rearview mirror
5. Air box
6. Auxiliary fuse box
7. Rear right side body panel
8. Master cylinder w/ rear brake fluid tank
9. Rider right footrest
10. Rear brake control lever

2.3.2. CONTROLS LAYOUT

CONTROLS

**Key:**

1. Left rearview mirror
2. Clutch lever
3. Instruments and indicators
4. Ignition switch/steering lock (⌚-⌚-P)
5. Front brake lever
6. Right rearview mirror
7. Throttle grip

2.4. INSTRUMENTS AND INDICATORS

2.4.1. KEY

INSTRUMENTS AND INDICATORS



Key:

1. MODE button
2. Green neutral light (N)
3. Red engine oil pressure warning light (🔧)
4. Engine control system warning light (🔧)
5. Multifunction digital display.
6. Orange low fuel warning light (🛢️)
7. Blue high beam warning light (🚦)
8. Green turn indicator warning light (↔️)
9. Red line light

2.4.2. INSTRUMENTS AND INDICATORS TABLE

Description	Function	
Turn indicator repeater ()	Blinks when the direction indicators are on.	
Engine control system warning light ()	Comes on when the ignition switch is set to () with the engine stopped as a lamp test. If the light does not come on in this phase, contact an aprilia Authorized Dealer.  WARNING If the light () remains on after the engine start or comes on during the normal operation of the engine, this means that a fault of the ignition/fuel feeding system was detected. If this is the case, immediately contact an aprilia Authorized Dealer.	
High beam light ()	Comes on when the high beam bulbs are on or when the headlight flasher is operated.	
Fuel reserve light ()	It comes on when the quantity of fuel left in the tank is 4 ± 1.8 in (2.2 ± 1 liters).  WARNING Avoid depleting the fuel reserve at all costs or the fuel pump might damage.	
Neutral indicator light ()	Comes on when the gear is in neutral.	
Engine oil pressure warning light ()	Comes on when the ignition switch is set to () with the engine stopped as a lamp test. If the light does not come on in this phase, contact an aprilia Authorized Dealer.  WARNING If the engine oil pressure warning light () remains on after engine starting or comes on during the normal operation of the engine, this means that the engine oil pressure in the circuit is insufficient. In this case, stop the engine immediately and contact an aprilia Authorized Dealer.	
Red line light	Blinks when activation threshold (max. rpm) set by the user is exceeded, see (GEAR SHIFT INDICATOR).	
Multifunction digital display	Speedometer (km/h - MPH)	Gives current driving speed, three digits, see (MULTIFUNCTION DISPLAY)
	Odometer Km/miles	Gives total distance covered or distance covered since the trip meter was last reset (in km or miles).
	Revolution counter rpm	Indicates the number of revolutions of the engine per minute.
	Clock	Displays time (hour and minutes) as preset, see (MULTIFUNCTION DISPLAY).
	Battery voltage	Gives battery charge in Volt, see (MULTIFUNCTION DISPLAY)

2.4.3. MULTIFUNCTION DIGITAL DISPLAY

CONTROLS

1 MODE pushbutton; to display and make adjustments (works only when vehicle is stopped).



2 SCROLL pushbutton; to display and set all functions except the time.

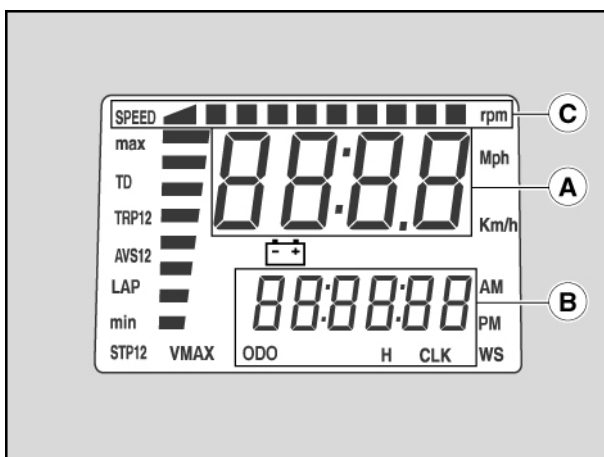


When you turn the ignition key to "⌂", the following instrument panel lights will turn on for 3 seconds:

- all warning lights;
- Backlighting
- All segments on the multifunction digital display.

After the first check routine, the multifunction display will immediately indicate current battery charge, and then display the measured values in the page that was active before switch-off.

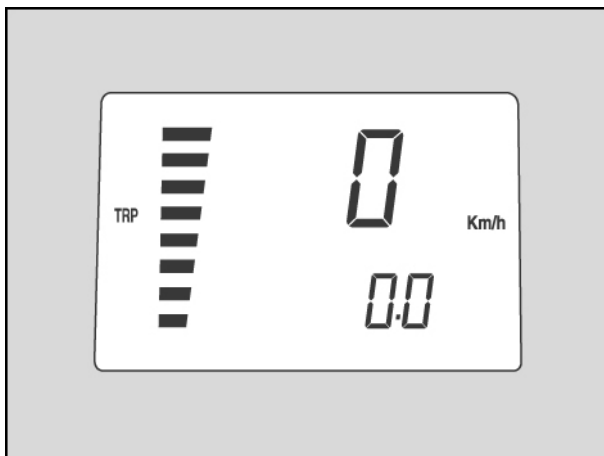
- ODO
- CURRENT SPEED (zone A)
- ODOMETER (zone B)
- GRAPHICAL REV COUNTER, with engine running (zone C)



TRIP

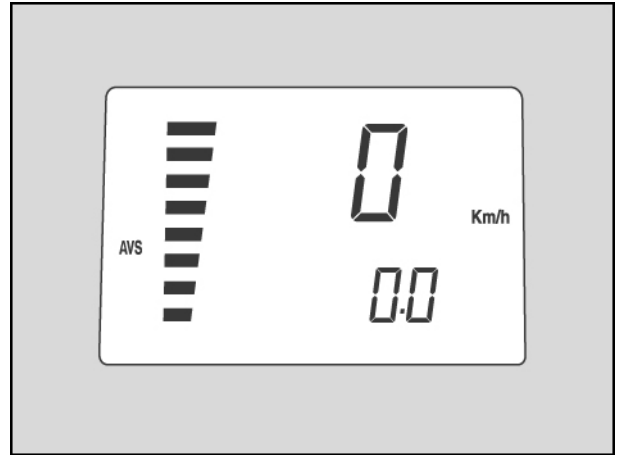
TRIP configuration shows trip (partial) data.

To select TRIP configuration, press MODE if vehicle is stopped, or press SCROLL if vehicle is running, and ODOMETER indication will switch to TRIP.

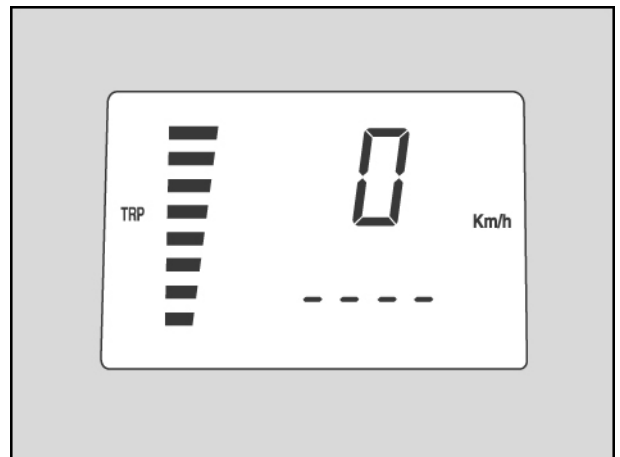


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Press again MODE, if vehicle is stopped, or SCROLL, if vehicle is running, and TRIP indication will switch to AVERAGE SPEED (AVS) indication, as calculated within the trip.



To reset TRIP and corresponding AVERAGE SPEED (AVS) counter press MODE or SCROLL for more than five seconds, with vehicle stopped, and value displayed in area B of the display will change into four dashes. Dashes will turn into four zeroes when button is released (000.0).

**TIME**

With AVERAGE SPEED (AVS) page displayed, press MODE, if vehicle is stopped, or SCROLL, if vehicle is running, to enter the TIME function.

If speed current unit of measurement is km/h, time is displayed in 24-hour format, while if speed unit is mph time format is 12-hour with AM/PM indication.

**ADJUSTMENT**

- Press MODE until hour figures blink;
- Every time MODE is pressed, hour increase by one unit, hold it down to quickly increase the value;
- Leave it untouched for two seconds to store the value and go on with minutes setting;

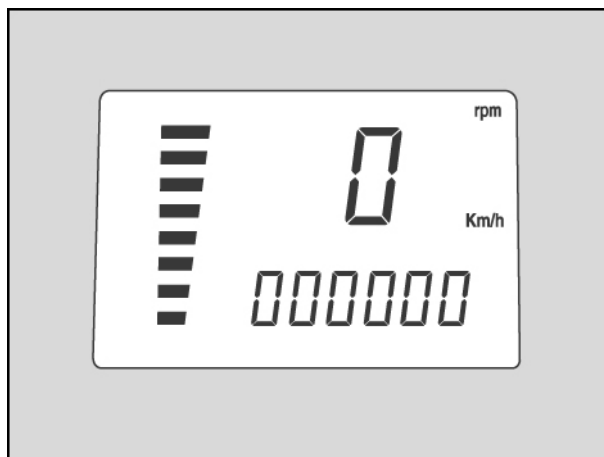


Proceed in the same way to set minutes and seconds, data will be stored after two seconds of inactivity (as previously explained).

If unit of measurement is miles, when time is set, AM and PM blink alternately, press MODE to set correct indication; AM/PM indication changes between 12:59:59 and 13 (1 PM).

REVOLUTION COUNTER

From TIME page, briefly press SCROLL to enter the REVOLUTION COUNTER configuration, value is shown in area B and is also shown as a graph in area C of the display.



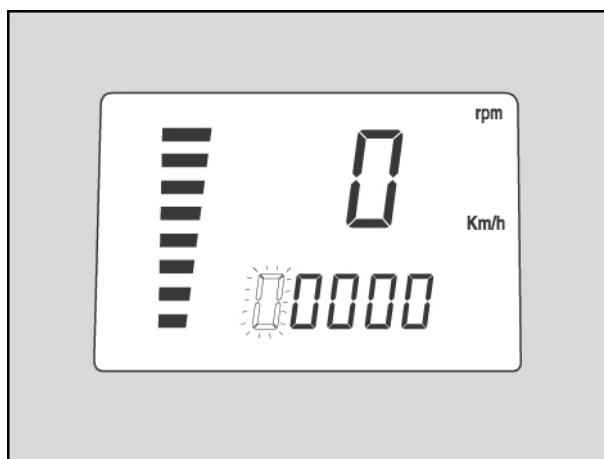
RED LINE SETTING

The multifunction display normally comes with standard preset red line values, if you want to advance this warning indication, stop the vehicle and the engine and proceed as follows:

- Press MODE and SCROLL pushbuttons at the same time for more than 5 seconds.

Area B will show five zeroes (00000); the first will be flashing.

- Every time MODE is pressed, the flashing value will increase by one unit.



Leave it untouched for two seconds to store the value and go on with minutes setting.

Proceed in the same way to set second and third zeroes, data will be stored after two seconds of inactivity (as previously explained).

It is not possible to change the last two zeroes.

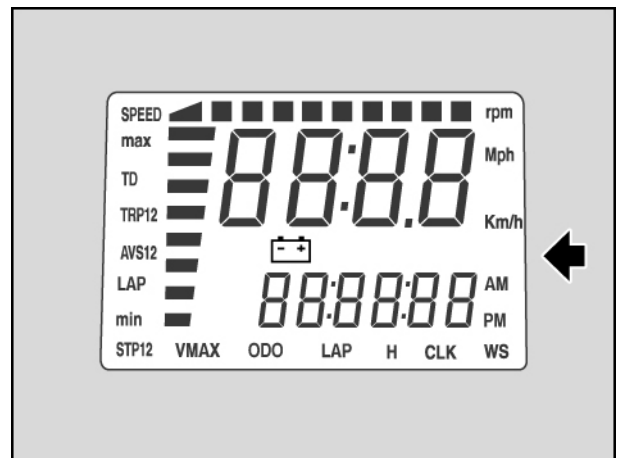
If set number is correct, i.e. less than standard rpm, press SCROLL for more than two seconds to store the value.

When the set threshold is exceeded, the alarm light (3) on the instrument panel flashes until the value goes below the threshold.



BATTERY ICON

The battery icon comes on when battery charge is low; if this condition occurs while vehicle is running, check battery charge and the recharging system. This icon normally comes on before and after starting, it goes off when engine has started.



2.5. MAIN INDEPENDENT CONTROLS

2.5.1. CONTROLS ON THE RIGHT PART OF THE HANDLEBAR

NOTE The electrical parts work only when the ignition switch is in position "O".

1 ENGINE STOP SWITCH (⊗)



WARNING

Do not operate the engine stop switch while riding.

This switch serves as a safety or emergency switch. With the switch pressed in position "O", it is possible to start the engine; the engine can be stopped by pressing the switch to position "⊗".



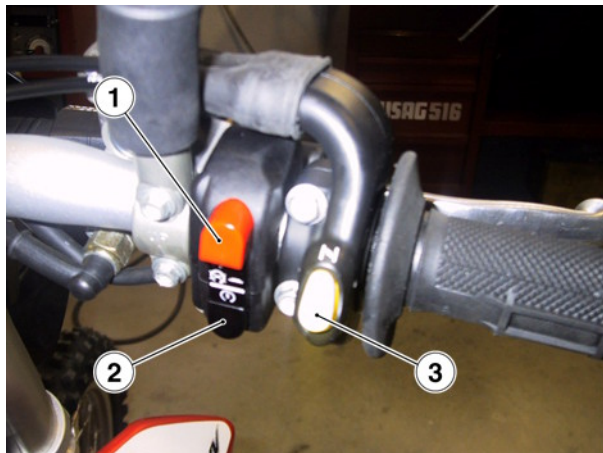
WARNING

With the engine stopped and the ignition switch in position "O", the battery may run down.



WARNING

When the vehicle has come to a standstill and you have stopped the engine, set the ignition switch to position "⊗".



2 STARTER BUTTON (ⓘ)

When the starter button "ⓘ" is pressed, the starter motor will crank the engine. For the starting procedure, see (STARTING).

3 COLD START CONTROL

In case of starting from cold, the control unit is not able to keep the engine running on its own. In such cases, use the cold start control. For the starting procedure, see (STARTING).

2.5.2. CONTROLS ON THE LEFT PART OF THE HANDLEBAR

NOTE The electrical parts work only when the ignition switch is in position "O".

1 HIGH BEAM SIGNALING PUSHBUTTON (⏏)

It makes it possible to use the high beam for signalling to forthcoming vehicles in case of danger and/or emergency.

NOTE Release the button to turn off the high beam flasher.

2 Dimmer switch (⏏-⏏)

When the light dimmer switch is in "⏏" position, the high beam comes on; while in "⏏" position, the low beam comes on.

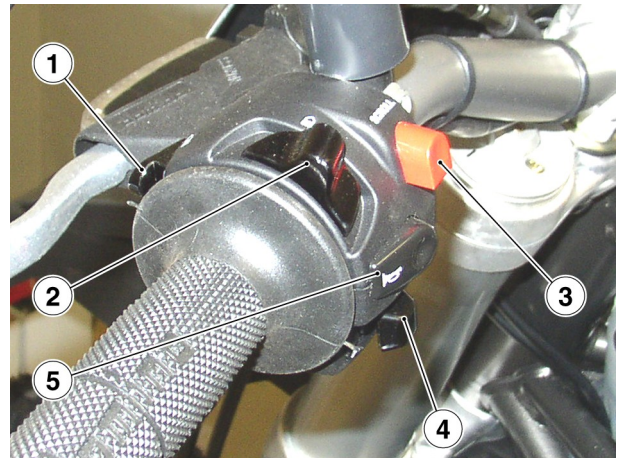
3 SCROLL PUSHBUTTON

4 DIRECTION INDICATOR SWITCH (↔)

To indicate the turn to the left, move the switch to the left; to indicate the turn to the right, move the switch to the right. Press the switch to turn off the direction indicator.

5 HORN BUTTON (🔊)

The horn is activated when the push button is pressed.



2.5.3. IGNITION SWITCH

The ignition switch (1) is positioned on the upper plate of the steering column.

NOTE The key operates the ignition switch/steering lock.

Two keys are supplied together with the vehicle (one spare key).

NOTE Set the ignition switch to "⌚" to automatically turn on the lights.

The lights will turn off when the ignition switch is set to "🔒".



Position	Function	Key removal
	The steering is locked. It is not possible to start the engine or switch on the lights.	It is possible to remove the key.
	Neither the engine, nor the lights will operate.	It is possible to remove the key.
	The engine and the lights can be operated.	It is not possible to remove the key.

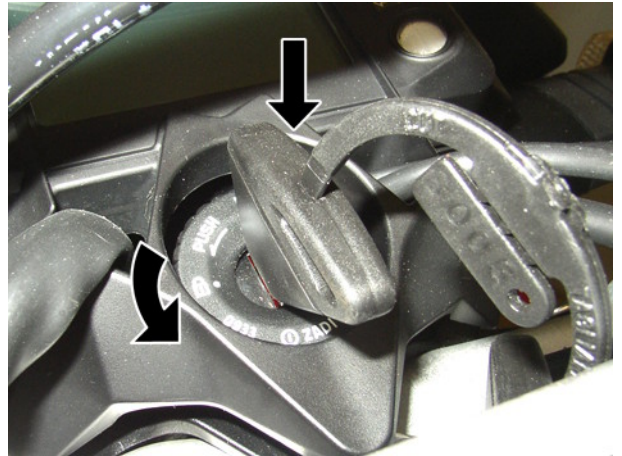
2.5.4. STEERING LOCK

**DANGER**

Never turn the key to position "🔒" when riding, or you will lose control of the vehicle.

OPERATION**To lock the steering:**

- Turn the handlebar fully to the left.
- Turn the key to "🔒".
- Press and turn the key left (anticlockwise), slowly turn the handlebar until key can be set to "🔒".
- Remove the key.



2.6. INSTRUCTIONS FOR USE

2.6.1. GENERAL WARNINGS

FUEL



DANGER

The fuel used to operate engines is highly flammable and becomes explosive under certain conditions. Refueling and engine service should take place in a well-ventilated area with the engine stopped. Do not smoke while refueling or near fuel vapors. In any case, avoid contact with naked flames, sparks and any other heat source or source of ignition to prevent fires or explosion.



WARNING

Gasoline is poisonous and carcinogenic and contains chemical substances that cause birth defects and other reproductive problems. If gasoline should be accidentally spilled on the skin or clothes, immediately wash it off with soap and water and change clothes. Should gasoline accidentally come in contact with your eyes, flush with a large quantity of water and immediately contact a health professional. Should you accidentally get gasoline into your mouth, do not induce vomiting. Drink a large quantity of milk or clear water and immediately contact a health professional.



WARNING

Never try to siphon gasoline by using your mouth. Use a manual pump or a similar system. If your vehicle overturns, it will leak gasoline which is extremely flammable. Flames or sparks may ignite this which will not only destroy the vehicle but could also do serious damage to surrounding property and cause serious injuries or even death.

ALWAYS KEEP GASOLINE AWAY FROM CHILDREN.

DISPOSE OF UNWANTED GASOLINE PROPERLY, DO NOT RELEASE IT INTO STORM SEWERS, SINKS OR TOILETS.

**DANGER**

Take care not to spill fuel out of the filler, or it may ignite when in contact with hot engine parts. In case fuel has accidentally spilled, make sure that the area has completely dried, and before starting the vehicle check that there is no fuel inside the fuel filler neck. Fuel expands from heat and when left under direct sunlight.

Never fill the fuel tank up to the brim. Screw the plug up carefully after Refueling. Avoid any contact of the fuel with the skin and the inhalation of vapors; do not swallow fuel or pour it from a receptacle into another by means of a tube.

**WARNING**

If dirt has accumulated on or around the fuel filler cap, wipe the cap and the area around the cap with a clean cloth. Prevent any foreign material from getting into the fuel tank, as this could lead to serious engine damage.

Use only unleaded fuel, in conformity with the DIN 51 607 standard, min. O.N. 95 (RON) and 85 (MON)

- TANK CAPACITY (reserve included): 7.5 liters (13.6 pt).
- TANK RESERVE: 2.2 liters (4 pt) (mechanical reserve).

To refuel, proceed as follows:

- Unscrew and remove the fuel tank cap (1).
- Refuel.

TIRES

This vehicle is provided with tires with tube.

**DANGER**

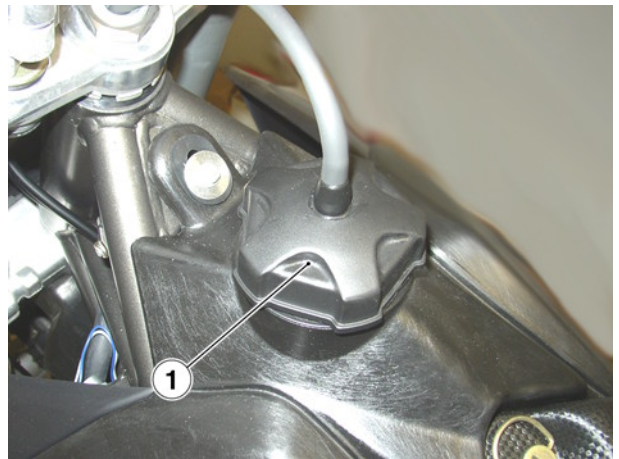
Periodically check tire inflation pressure at ambient temperature, see (TECHNICAL DATA). If tires are hot, the measurement will not be correct.

Perform the measurement especially before and after long rides.

If the inflation pressure is too high, the ground unevenness can not be dampened and is transmitted to the handlebar. This affects riding comfort and reduces roadholding during cornering.

**WARNING**

Measuring pressure must always be carried out when the tires are cold. When tires are warm, pressure increases, so checking pressure at this time will lead to an incorrect reading. If the tire is overinflated (pressure too high), the result will be a hard and uncomfortable ride. Also, roadholding, especially when cornering and in wet conditions, will also be compromised. If the tire is underinflated (pressure too low), the tire may slip on the rim with consequent loss of control. Again, roadholding and handling characteristics will be negatively affected and brake performance reduced.





By contrast, if inflation pressure is too low, the tire walls are placed under greater stress, and the tire may slip on the rim or become loose, with consequent loss of control of the vehicle. In case of sudden braking, the tires could even come off the rims.

Furthermore, the vehicle could skid while cornering.

Check the surface and the wear of the tires: tires in poor condition can impair both grip and vehicle handling.

Change the tire when it is worn or in case of puncture on the tread side, if the puncture is larger than 5 mm (0.197 in).



After repairing a tire, have the wheels balanced. Only use tires of the size indicated, see (TECHNICAL DATA).

Make sure that the inflation valves always have their sealing caps on to prevent the tires from suddenly going flat.

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

For this reason, it is advisable to have the above operations carried out by an Aprilia Authorized Dealer or by a qualified tire repairer.



If the tires are new, they may still be covered with a slippery film: ride carefully for the first several miles. Do not oil the tires with unsuitable fluids.

Old tires, even if not completely worn down, may become hard and provide poor grip.

Replace them if this is the case.

LUGGAGE

NOTE SXV RXV vehicles are not suitable for transporting loads or luggage

2.6.2. PRE-RIDE CHECKS CHART

**DANGER**

Before departure, always carry out a preliminary check of the vehicle to ensure that it functions correctly and safely. See the PRE-RIDE CHECKS CHART.

Failure to comply with these checking procedures can cause severe personal injuries or damage to the vehicle.

Do not hesitate to consult your aprilia Authorized Dealer if there is something you do not understand about the operation of the controls, or in case you suspect or discover failures.

It does not take long to perform the checks and this step will guarantee you greater safety.

Component	Check
Front and rear disk brakes	Check the operation, the idle stroke of the control levers, the fluid level and make sure there are no leaks. Check the pads for wear. If necessary, top up the fluid tank.
Throttle	Make sure that it works smoothly and that it is possible to open and close it completely, in all steering positions. Adjust and/or lubricate, if necessary.
Engine oil	Check and/or top up if necessary.
Wheel/tires	Check the tire surface, the inflation pressure, wear and tear and any damage. Remove any foreign matter that may be stuck in the tread grooves.
Brake levers	Make sure that they work smoothly. Lubricate the articulations and adjust the stroke if necessary.
Clutch	Check for proper operation, check clutch lever free play, clutch fluid level and check for leaks. If necessary, top up the fluid; the clutch must work without snatching and/or slipping.
Steering	Make sure that the steering rotates smoothly, without any clearance or looseness.
Side stand	Make sure that it operates correctly. Make sure that when the stand is let up or down there is no friction and that the spring tension brings it back to its normal position. If necessary, lubricate joints and articulations.
Fastening elements	Make sure that the fastening elements are not loose. If necessary, adjust or tighten them.
Drive chain	Check the slack.
Fuel tank	Check the fuel level and top up, if necessary. Check the circuit for leaks. Make sure that the fuel cap is correctly closed.
Coolant	Radiator level should cover radiator plates.
Engine stop switch ( - )	Make sure that it operates correctly.
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.

2.6.3. STARTING

**DANGER**

Do not position any object inside the front fairing (between the handlebar and the instrument panel), in order not to hinder the rotation of the handlebar and visibility toward the instrument panel.

NOTE Before starting the engine, carefully read chapter "safe drive", see (SAFE DRIVE).

**DANGER**

This vehicle is extremely fast and powerful, and must be used with the greatest care. Do not ride this vehicle if you are not an experienced, trained motorcycle rider.

**WARNING**

Be careful not to make the vehicle fall when you first sit on it.

**WARNING**

Ensure that the side stand is correctly stowed.

**DANGER**

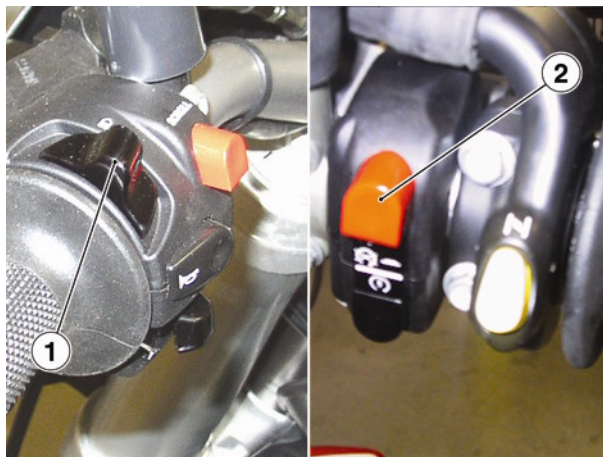
Exhaust emissions contain carbon oxide, a poisonous gas and extremely harmful if inhaled.

Avoid starting the engine in closed or poorly ventilated areas.

**WARNING**

Failure to heed this warning may cause loss of consciousness or even lead to death by asphyxia.

- Sit astride the vehicle, see (INSTRUCTIONS FOR USE).
- Make sure that the stand is completely up.
- Make sure that the light switch (1) is in position "☞".
- Set the engine stop switch (2) to position "⏏".



- Turn the key and set the ignition switch to position "Ⓢ".



The following occurs:

- Starting page is shown for three seconds on display.
- All the lights on instrument panel turn on for three seconds.

**WARNING**

If the low fuel warning light "⛽" on the instrument panel comes on, provide for topping up as soon as possible, see (FUEL).



- Operate a brake to lock at least one wheel.
- Pull the clutch lever completely and shift the gearbox lever into neutral [green warning light (N) on].

**WARNING**

Do not start the engine with gear engaged and clutch pulled.

**WARNING**

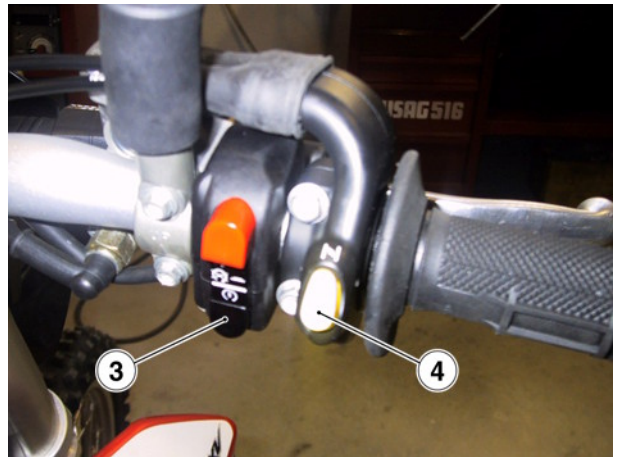
To avoid excessive current draw from the battery, do not hold down the starter button "ⓘ" (3) for more than three seconds, for five attempts in a row. If the engine does not start within this time, wait a few minutes to allow the starter motor to cool down.

**STARTING THE WARM ENGINE**

- Press the starter button "ⓘ" (3) -do not open the throttle yet- and release the button as soon as the engine starts.

STARTING THE COLD ENGINE

- Turn the throttle twistgrip.
- Press the cold start button (4).
- Release the throttle control. The throttle control will stay slightly accelerated to keep the engine running while warming up.
- Take the throttle control to rest position to disable the system.

**WARNING**

Avoid pressing the starter button "ⓘ" when the engine is running, or the starter motor may damage.

If the engine oil pressure light "⛽" on the instrument panel comes on, it means that engine oil pressure in the circuit is low. In this case, stop the engine immediately and contact an Aprilia Authorized Dealer.

Keep at least one brake lever pulled and do not accelerate until you move off.

**WARNING**

Due to the narrow engine manufacturing tolerances and to the size of oilways suitable for sports use, the engine may fail to start under very cold temperatures. Do not exaggerate starting attempts or the starter

exaggerate starting attempts or the starter motor could damage. It is recommended to keep the vehicle indoors, especially in winter. Contact an Aprilia Authorized dealer who will make any possible arrangement to solve the problem: e.g. replacing the spark plug, replacing the battery with one featuring a higher starting current, using an engine oil with reduced viscosity grade, etc.

**WARNING**

Never move off abruptly with the engine cold. To reduce the emission of polluting substances and the consumption of fuel, warm the engine up by proceeding at low speed for the first miles.

2.6.4. MOVING OFF AND RIDING

**DANGER**

Do not position any object inside the front fairing (between the handlebar and the instrument panel), in order not to hinder the rotation of the handlebar and visibility toward the instrument panel.

NOTE Before moving off, carefully read the "riding in safety" chapter, see page (RIDING IN SAFETY).

**WARNING**

If the low fuel light "⛽" on the instrument panel comes on while vehicle is running, it means that you still have 4 pt (2.2 l) of fuel in the tank (1).

Provide for topping up as soon as possible, see (FUEL).

Avoid depleting the fuel reserve at all costs or the fuel pump might damage.

**WARNING**

While riding, keep your hands on the grips and your feet on the footrests.

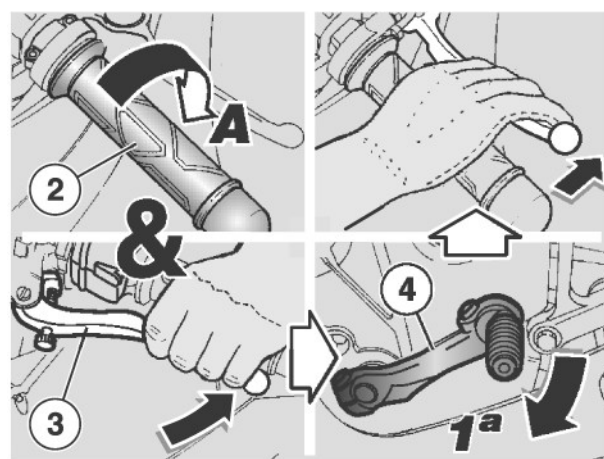
NEVER RIDE IN ANY POSITION OTHER THAN THOSE INDICATED.

To leave:

- Adjust the inclination of the rearview mirrors correctly.

**WARNING**

With the vehicle at rest, try to get acquainted with the use of the rearview mirrors.



- Start the engine, see (STARTING).
- With released throttle grip (2) (Pos.A) and engine idling, pull the clutch lever (3) completely.
- Engage the first gear, by pushing the gear lever (4) downwards.
- Release the brake lever (pulled on the starting).

**WARNING**

On departure, the abrupt release of the clutch lever may cause the engine to stall or the vehicle to jerk forward.

Never accelerate abruptly or excessively when releasing the clutch lever, in order to prevent the clutch from "slipping" (slow release) or the front wheel from raising and "wheeling" (quick release).

- Slowly release the clutch lever (3) and at the same time accelerate by slightly turning the throttle grip (2) (Pos.B).
The vehicle will start moving.
- Ride at reduced speed for the first miles, in order to warm the engine up.

**WARNING**

Never exceed the recommended rpm and speed, see (RUNNING-IN).

- Increase the speed by gradually rotating the throttle grip (2) (Pos.B), without exceeding the recommended speed (and rpm), see (RUNNING-IN).

To engage the second gear:

**WARNING**

Proceed quickly.

Never ride the vehicle at too low of an rpm.

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

**WARNING**

If the engine oil pressure light "" comes on, it means that engine oil pressure in the circuit is low. In this case, stop the engine immediately and contact an aprilia Authorized Dealer.

Downshifting should be carried out in the following situations:

- When riding downhill or when braking, in order to increase the braking action by using the compression of the engine.
- When riding uphill, if the gear engaged is not suitable to the speed (high gear, moderate speed) and the engine rpm decreases.

**WARNING**

Shift the gears one by one; the simultaneous downshifting of more than one gear may make you exceed the maximum rpm (red line). Before and during downshifting, release the throttle grip and decelerate in order to avoid the "red line".

To shift down, proceed as follows:

- Release the throttle grip (2) (Pos.A).
- If necessary, pull the brake levers moderately and decrease the speed of the vehicle.
- Pull the clutch lever (3) and lower the gear shift lever (4) to shift down.
- If the brake levers are pulled, release them.
- Release the clutch lever and accelerate moderately.

**WARNING**

If the warning light "" on the instrument panel comes on during the normal operation of the engine, this means that the electronic control unit has detected a failure. Immediately contact an aprilia Authorized Dealer.



To avoid the overheating of the clutch, keep the engine running with vehicle at rest, engaged gears and pulled clutch lever for the shortest time possible.

**DANGER**

Avoid opening and closing the throttle repeatedly and continuously, so that you do not accidentally lose control of the vehicle. If you have to brake, close the throttle and put on both brakes in order to obtain uniform deceleration, properly exerting pressure on the braking levers.



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

If you stop uphill, decelerate completely and use the brakes only to keep the vehicle steady.

The use of the engine to keep the vehicle steady may cause the overheating of the clutch.

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.



If the brakes are operated continuously on downhill stretches, the friction surfaces may overheat, thus reducing the braking efficiency. Exploit the engine compression and shift down by putting on both brakes intermittently. Never ride downhill with the engine off!

When visibility is insufficient, switch on the low beam even during the day, in order to make your vehicle more visible. In case of wet surfaces or poor grip (snow, ice, mud, etc.), ride slowly and avoid sudden braking or maneuvers that could make you lose grip and fall.



DANGER

Pay the utmost attention to any obstacle or unevenness in the 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 maneuvers.

Switch off the turn indicators immediately after changing direction.



Be very careful when overtaking or being overtaken.

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



The vehicle does not fit a thermostatic valve: at low speed and low temperature, the engine does not reach the ideal operating temperature resulting in bad operation and early wear.

2.6.5. RUNNING-IN

The running-in of the engine is essential to ensure its life and correct operation.

If possible, drive on hilly roads and/or roads with many bends, so that the engine, suspensions and brakes undergo a more effective running-in. During running-in, change speed. By doing this, the components are first "loaded" and then "relieved" and the engine parts can thus cool down.

Even if it is important to stress the engine components during running-in, take care not to exceed.

Follow these recommendations:

- Do not open the throttle completely if the speed is low, both during and after running-in.
- for the first 3 hours of operation, never open throttles more than half their way and never go beyond 8000 rpm,
- for the following 12 hours never open throttles more than 75% of their travel.

NOTE Even after running-in, avoid riding at such rpm as to have the rpm limiter trip, i.e.:

- **SXV 450** 12000 rpm
- **SXV 550** 11500 rpm
- **RXV 450** 11500 rpm
- **RXV 550** 11000 rpm



WARNING

Limiter warning light (not the CPU limiter) is set in-house to 8000 rpm, see INSTRUMENT PANEL for its final setting.

2.6.6. STOPPING**DANGER**

If possible, avoid stopping abruptly, slowing down suddenly and limit braking.

- Release the throttle grip, gradually put on the brakes and at the same time shift down in order to decrease the speed, see (MOVING OFF AND RIDING).



Once the speed has decreased, before stopping the vehicle:

- Pull the clutch lever in order to prevent the engine from stalling.

When the vehicle has come to rest:

- Select neutral (green warning light "N" on).
- Release of the clutch lever.
- In case of a brief stop, keep at least one brake on.



2.6.7. PARKING

It is very important to choose a suitable parking area. Take care to obey traffic signs and the adhere to recommendations below.

**DANGER**

Park the vehicle on firm and flat ground, to prevent it from falling down. Neither lean the vehicle against walls, nor lay it on the ground. Make sure that the vehicle and especially its red-hot parts do not represent a danger for persons and children. Do not leave the vehicle unattended when the engine is on or the key is inserted into the ignition switch.

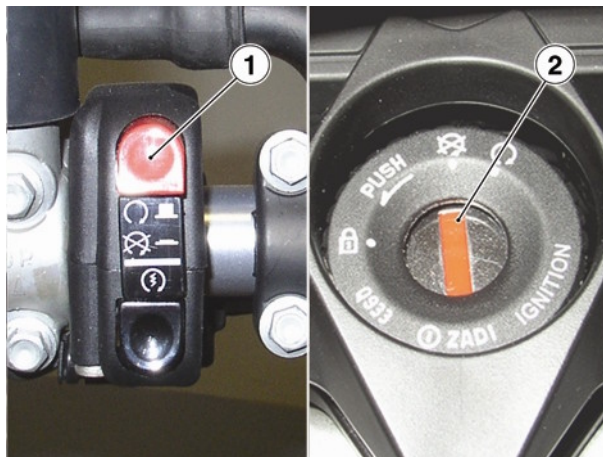
**DANGER**

The fall or excessive inclination of the vehicle may cause the fuel to flow out of the tank.

The fuel used for internal combustion engines is extremely inflammable and in particular conditions it can become explosive.

To park the vehicle:

- Choose a suitable parking area.
- Stop the vehicle, see (STOPPING).
- Set the engine stop switch (1) to position "—X".
- Turn the key and set the ignition switch (2) to position "X".

**DANGER**

Carefully follow instructions given on how to get on and off the vehicle, see (GETTING ON AND OFF THE VEHICLE).

- Get off the vehicle.
- Lock the steering, see (STEERING LOCK) and remove the key.
- Place the vehicle on the stand, see (POSITIONING THE VEHICLE ON THE STAND).

**DANGER**

Make sure that the vehicle is stable.

2.6.8. POSITIONING THE VEHICLE ON THE STAND**DANGER**

Make sure that the parking surface is free of obstacles, firm and flat.

Carefully read the previous paragraph (PARKING).

- Grasp the left grip (1) and place your right hand on the rear upper part of the vehicle (2).
- Press the side stand with your right foot and extend it completely (3).
- Keep it extended and incline the vehicle until the stand rests on the ground.
- Steer the handlebar completely leftwards.

**DANGER**

Make sure that the vehicle is stable.



2.6.9. SUGGESTIONS TO PREVENT THEFT

**WARNING**

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

NEVER leave the key in the ignition switch and always use the steering lock.

Park the vehicle in a safe place, possibly in a garage or a protected place.

When possible, use an additional antitheft device.

Make sure that all documents are in order and the road tax has been paid.

2.6.10. TRANSPORT

During transport, the vehicle must be kept in vertical position and firmly anchored with the first gear engaged in order to avoid any leak of fuel, oil, coolant.

**WARNING**

In case of failure, do not tow the vehicle, ask for assistance.

2.6.11. CLEANING

Clean the vehicle frequently if it is used in particular areas or conditions, such as:

- Polluted areas (cities and industrial areas).
- Areas characterized by a high percentage of salinity and humidity (coastlines, hot and humid climates).
- Special conditions (use of salt and deicing chemical products on the roads during the winter).
- Avoid leaving deposits of industrial and polluting powders, tar spots, dead insects, bird droppings, etc. on the body.
- Avoid parking the vehicle under trees, since in some seasons residues, resins, fruits or leaves fall down, which contain substances that may damage the paint.



WARNING

Before washing the vehicle, block off the engine air scoops and mufflers.



DANGER

After the vehicle has been washed, its braking functions could be temporarily impaired because of water on the braking surfaces. Calculate long braking distances to avoid accidents.

Brake repeatedly to restore normal conditions.

Perform the pre-ride checks, see (PRE-RIDE CHECKS CHART).

To remove dirt and mud from the painted surfaces use a low-pressure water jet, carefully wet the dirty parts, remove mud and filth with a soft car sponge impregnated with a lot of water and shampoo (2 – 4% parts of shampoo in water).

Then rinse with plenty of water and dry with chamois leather. To clean the outer parts of the engine use a degreaser, brushes and wipers.

Any parts in anodized aluminum or any painted parts such as forks, rims, frame, footpegs, etc. shall be washed only with water and mild soap. Too much aggressive detergents can damage the surface treatment of these components. Too much aggressive detergents can damage the surface treatment of these components.



WARNING

To clean the lights, use a sponge soaked with water and a mild detergent. Rub surfaces delicately and rinse frequently with plenty of water.

Polish with silicone wax only after the car has been carefully washed.

Never attempt to polish matte-finished surfaces with lapping compounds.

Do not wash the vehicle under the sun, especially during the summer, when the body is still warm: if the shampoo dries before being rinsed off, it can damage the paint.



Do not use water (or fluids) at a temperature exceeding 40°C (104°F) to clean the plastic components of the vehicle.

Do not aim high-pressure water or air jets or steam jets onto the following components: wheel hubs, controls on the right and left side of the handlebar, bearings, brake master cylinders, instruments and indicators, exhaust pipes, ignition switch/steering lock. Do not clean any rubber or plastic parts or the seat with alcohol or solvents. Clean with water and mild detergent.



DANGER

Do not apply protection waxes onto the seat to avoid it from becoming slippery.

2.6.12. LONG PERIODS OF INACTIVITY

**WARNING**

In case the vehicle is left unriden for more than twenty days, disconnect the 30 A fuse to avoid early wear of the battery.

After a long period of inactivity some precautions are necessary to avoid problems.

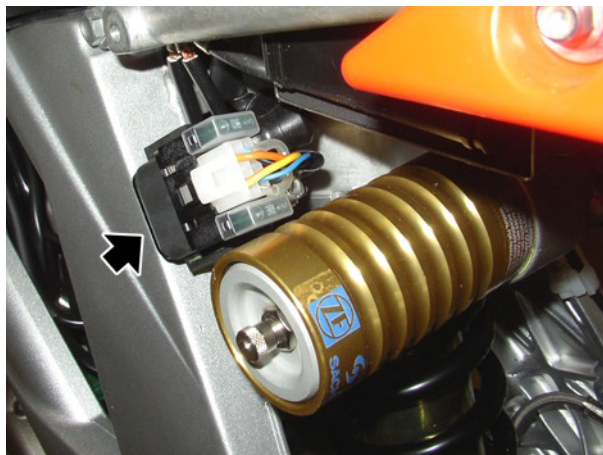
Furthermore, it is important to perform the necessary repairs and a general check up before the period of inactivity, since you could forget to carry them out later.

Proceed as follows:

- Remove the battery, see (REMOVING THE BATTERY) and (LONG INACTIVITY OF THE BATTERY)
- Wash and dry the vehicle, see (CLEANING).
- Polish the painted surfaces with wax.
- Inflate the tires, see (TIRES).
- Place the vehicle in an unheated, not-humid room, away from sunlight, with minimum temperature variations.
- Wrap and tie a plastic bag around the exhaust pipe opening to keep moisture out.

NOTE Using a suitable support, place the vehicle so that both tires are raised from the ground.

- Cover the vehicle avoiding the use of plastic or waterproof materials.



2.6.13. AFTER A PERIOD OF INACTIVITY

Uncover and clean the vehicle, see (CLEANING).

NOTE *Withdraw the plastic bags from the exhaust tailpipes.*

- Uncover and clean the vehicle, see (CLEANING).
- Check the charge of the battery see (CHARGING THE BATTERY) and install it, see (INSTALLING THE BATTERY).
- Refill the fuel tank, see (FUEL).
- Perform the pre-ride checks, see (PRE-RIDE CHECKS CHART).

**DANGER**

Have a test ride at moderate speed in a low-traffic area.

2.6.14. RXV ACCESSORIES

RXV models are delivered together with a set of accessories not installed:

- Cooling fan
- Safety rubber band for side stand

For the **RXV** models a series of optional accessories is also available:

- Racing headlight fairing (to eliminate the instrument panel)
- Connector for racing headlight
- Retainer for front brake line
- Racing tail light / number plate holder

**WARNING**

Do not use the vehicle off-road when the homologated number plate holder/tail light is installed.

MAINTENANCE

3

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3.1. GENERAL TECHNICAL INFORMATION

3.1.1. TECHNICAL DATA

Aprilia RXV 450 – 550

DIMENSIONS	
Max. length	2240 mm (88.19 in.)
Max. width	830 mm (32.68 in.)
Max. height (front fairing included)	1250 mm (49.21 in.)
Seat height	950 mm (37.40 in.)
Wheelbase	1485 mm (58.46 in.)
Minimum ground clearance	320 mm (12.60 in.)
Dry weight	123 kg (271.12 lb)

ENGINE	
Model (RXV 450)	45RX
Model (RXV 550)	55RX
Type	twin-cylinder, 4-stroke with 4 valves per cylinder, single overhead camshaft
Number of cylinders	2
Total displacement (RXV 450)	449 cu. cm (27.40 cu in.)
Total displacement (RXV 550)	553 cu. cm (33.75 cu in.)
Bore/stroke (RXV 450)	76 mm x 49.5 mm (2.99 in x 1.95 in)
Bore/stroke (RXV 550)	80 mm x 55.0 mm (3.15 in x 2.16 in)
Compression ratio (RXV 450)	13 ± 0.5
Compression ratio (RXV 550)	12.5 ± 0.5
Starting	electric
Engine idling rpm	1800 ÷ 2000 rpm
Clutch	Multiplate in oil bath.
Lubricating system	Double separate lubrication with external reservoir
Air filter	with dry filter cartridge
Cooling system	liquid-cooled

gearbox	
Type	mechanical, 5 gears with foot control on the left side of the engine

CAPACITIES	
Fuel (including reserve)	1.98 gal (7.5 l)
Fuel reserve	(0.58 gal) 2.2 l
Engine oil	1.3 l (0.34 gal)
Fork oil	(3.94 in.) 100 mm of air (per leg, measured without spring and compressed rod)
Coolant	(0.29 gal) 1.1 l (50% water + 50% coolant with ethylene glycol)
Seat	1

GEAR RATIOS				
Ratio	Primary	Secondary	Final ratio	Total ratio
1st	22/56 = 1: 2.545	12/31 = 1: 2.583	15/48 = 1: 3.200	1 : 21.042
2nd		13/25 = 1: 1.923		1 : 15.664
3rd		15/23 = 1: 1.533		1 : 12.489
4th		19/24 = 1: 1.263		1 : 10.288
5th		21/22 = 1: 1.047		1 : 8.533

DRIVE CHAIN	
Type	with master link

FUEL SYSTEM	
Type	electronic injection
Throttle (RXV 450)	ø 1.49 in. (38 mm)
Throttle (RXV 550)	ø 1.57 in. (40 mm)

FUEL SYSTEM	
Fuel	premium grade unleaded gas, min. O.N. 95 (RON) and 85 (MON).

FRAME	
Type	Aluminum stanchion and steel tubes trellis

SUSPENSIONS	
Front	telescopic Ø 1.77 in. (45 mm) fork with hydraulic operation
Travel	298.5 mm (11.75 in)
Rear	swing arm and hydraulic adjustable monoshock
Wheel stroke	11.81 in. (300 mm) (usable)

BRAKES	
Front	disk brake – Ø 10.63 in. (270 mm), with hydraulic gearbox
Rear	disk brake – Ø 9.45 in. (240 mm), with hydraulic gearbox

WHEEL RIMS	
Type	spoke-type
Front	1.60 x 21"
Rear	2.15 x 18"

FRONT TIRE	
Type	90/90 21 54R
Inflating pressure	100 kPa (1.0 bar)

REAR TIRE	
Type	140/80 18 70R
Inflation pressure	110 kPa (1.1 bar)

IGNITION	
Type	Digital, electronic

SPARK PLUGS	
Standard	NGK CR8EB
Spark plug electrode gap	0.028 – 0.031 in. (0.7 – 0.8 mm)
Resistance	5 kΩ

ELECTRIC SYSTEM	
Battery	12 V – 6 Ah
Auxiliary fuses	5 A, 15 A, 20 A
Generator (with permanent magnet)	12 V – 350 W

BULBS	
Low beam	12 V – 55 W
High beam	12 V – 60 W
Front parking light	12 V – 3 W
Turn indicators bulb	With micro lamps
Number plate light	12 V – 5 W
Rear parking lights/Stoplight	LED
Instrument panel lights	LED

WARNING LIGHTS	
Gear in neutral	LED
Engine oil pressure	LED
Engine control system	LED
Fuel reserve	LED
High beam	LED
Turn indicators	LED
Red line	LED

Aprilia SXV 450 – 550

DIMENSIONS	
Max. length	85.23 in (2165 mm)
Max. width	32.08 in (815 mm)
Max. height (front fairing included)	46.06 in. (1170 mm)
Seat height	880 mm (34.64 in.)
Wheelbase	57.87 in. (1470 mm)
Minimum ground clearance	10.63 in. (270 mm)
Dry weight	275.58 lb (125 kg)

ENGINE	
Model (SXV 450)	45SX
Model (SXV 550)	55SX
Type	twin-cylinder, 4-stroke with 4 valves per cylinder, single overhead camshaft
Number of cylinders	2
Total displacement (SXV 450)	27.40 cu in. (449 cu. cm)
Total displacement (SXV 550)	33.75 cu in. (553 cu. cm).
Bore/stroke (SXV 450)	2.99 in x 1.95 in (76 mm x 49.5 mm)
Bore/stroke (SXV 550)	3.15 in. x 2.16 in (80 mm x 55.0 mm)
Compression ratio (SXV 450)	13±0.5
Compression ratio (SXV 550)	12.5±0.5
Starting	electric
Engine idling rpm	1800 ÷ 2000 rpm
Clutch	Multiplate in oil bath.
Lubricating system	Double separate lubrication with external reservoir
Air filter	with dry filter cartridge
Cooling system	liquid-cooled

gearbox	
Type	mechanical, 5 gears with foot control on the left side of the engine

CAPACITIES	
Fuel (including reserve)	1.98 gal (7.5 l)
Fuel reserve	0.58 gal (2.2 l)
Engine oil	0.34 gal (1.3 l)
Fork oil	4.92 in. (125 mm) of air (per leg, measured without spring and compressed rod)
Coolant	1.1 l (0.29 gal) (50% water + 50% coolant with ethylene glycol)
Seat	1

SXV 450 GEAR RATIOS				
Ratio	Primary	Secondary	Final ratio	Total ratio
1st	22/56 = 1: 2.545	13/30 = 1: 2.307	15/46 = 1: 3.067	1 : 18.013
2nd		15/27 = 1: 1.800		1 : 14.050
3rd		16/23 = 1: 1.437		1 : 11.221
4th		20/23 = 1: 1.150		1 : 8.976
5th		21/21 = 1: 1.000		1 : 7.806

SXV 550 GEAR RATIOS				
Ratio	Primary	Secondary	Final ratio	Total ratio
1st	22/56 = 1: 2.545	13/30 = 1: 2.307	16/46 = 1: 2.875	1 : 16.888
2nd		15/27 = 1: 1.800		1 : 13.172
3rd		16/23 = 1: 1.437		1 : 10.519
4th		20/23 = 1: 1.150		1 : 8.415
5th		21/21 = 1: 1.000		1 : 7.318

DRIVE CHAIN	
Type	endless (with no connection link) with sealed links

FUEL SYSTEM	
Type	electronic injection
Throttle (SXV 450)	ø 1.49 in (38 mm)
Throttle (SXV 550)	ø 1.57 in (40 mm)

FUEL SYSTEM	
Fuel	premium grade unleaded gas, min. O.N. 95 (RON) and 85 (MON).

FRAME	
Type	Aluminum stanchion and steel tubes trellis

SUSPENSIONS	
Front	telescopic Ø 1.89 (48 mm) fork with hydraulic operation
Travel	10.83 in. (275 mm)
Rear	swing arm and hydraulic adjustable monoshock
Wheel stroke	9.92 in. (252 mm) (usable)

BRAKES	
Front	disk brake – Ø 12.60 in. (320 mm), with hydraulic gearbox
Rear	disk brake – Ø 240 mm (ø 9.45 in), with hydraulic gearbox

WHEEL RIMS	
Type	spoke-type
Front	3.50 x 17"
Rear	5.50 x 17"

FRONT TIRE	
Type	120/70 ZR17 (58W)
Inflation pressure	180 kPa (1.8 bar)

REAR TIRE	
Type	180/55 ZR17 (73W)
Inflation pressure	200 kPa (2.0 bar)

IGNITION	
Type	Digital, electronic

SPARK PLUGS	
Standard	NGK CR8EB
Spark plug electrode gap	0.028 – 0.031 in (0.7 – 0.8 mm)
Resistance	5 kΩ

ELECTRICAL SYSTEM	
Battery	12 V – 6 Ah
Auxiliary fuses	5 A, 15 A, 20 A
Generator (with permanent magnet)	12 V – 350 W

BULBS	
Low beam	12 V – 55 W
High beam	12 V – 60 W
Front parking light	12 V – 3 W
Turn indicators bulb	With micro lamps
Number plate light	12 V – 5 W
Rear parking lights/Stoplight	LED
Instrument panel lights	LED

WARNING LIGHTS	
Gear in neutral	LED
Engine oil pressure	LED
Engine control system	LED
Fuel reserve	LED
High beam	LED
Turn indicators	LED
Red line	LED

3.1.2. LUBRICANT TABLE

SXV 450 - 550	
LUBRICANT	PRODUCT
Engine oil	 Agip RACING 4T 10W-60. Use top brand oils meeting or exceeding CCMC G-4, A.P.I. SG. SAE 10W-60 specifications
gearbox fluid	RECOMMENDED:  Agip GEAR SINTH 75W-90
Front fork fluid	RECOMMENDED:  Agip FORK 10W or mix of oils in such percentage so as to obtain a SAE 10 W oil.
Bearings and other lubrication points	RECOMMENDED:  Agip MP GREASE As an alternative to recommended grease, use top brand rolling bearing grease that will resist a temperature range of -22 °F to +284°F (-30°C to +140°C), with dripping point 302°F to 446°F (150°C to 230 °C), high corrosion protection, good resistance to water and oxidation.
Battery terminals	Use neutral grease or Vaseline.
Brake fluid	RECOMMENDED:  Agip BRAKE FLUID DOT 4 PLUS As an alternative to recommended fluid, top brand fluids meeting or exceeding SAE J1703, NHTSA 116 DOT 4, ISO 4925 Synthetic fluid specifications can be used. NOTE Use new brake fluid only. Do not mix different makes or types of oil without having checked bases compatibility.
Engine coolant	 Agip ANTIFREEZE PLUS

RXV 450 - 550	
LUBRICANT	PRODUCT
Engine oil	 Agip RACING 4T 10W-60. Use top brand oils meeting or exceeding CCMC G-4, A.P.I. SG. SAE 10W-60 specifications
gearbox fluid	RECOMMENDED:  Agip GEAR SINTH 75W-90
Front fork fluid	RECOMMENDED:  Agip FORK 7,5W or mix of oils in such percentage so as to obtain a SAE 7.5 W oil.
Bearings and other lubrication points	RECOMMENDED:  Agip MP GREASE As an alternative to recommended grease, use top brand rolling bearing grease that will resist a temperature range of -22 °F to +284°F (-30°C to +140°C), with dripping point 302°F to 446°F (150°C to 230 °C), high corrosion protection, good resistance to water and oxidation.
Battery terminals	Use neutral grease or Vaseline.
Brake fluid	RECOMMENDED:  Agip BRAKE FLUID DOT 4 PLUS As an alternative to recommended fluid, top brand fluids meeting or exceeding SAE J1703, NHTSA 116 DOT 4, ISO 4925 Synthetic fluid specifications can be used. NOTE Use new brake fluid only. Do not mix different makes or types of oil without having checked bases compatibility.
Engine coolant	 Agip ANTIFREEZE PLUS

3.1.3. REGULAR SERVICE INTERVALS CHART

REGULAR SERVICE INTERVALS CHART - For vehicles in homologated version (OFF HIGHWAY)


WARNING

Have the indicated operations performed by an Aprilia Dealer or Authorized Service Center or the warranty will become null and void.


WARNING

Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

Parts	After running- in (311 km) (500 km))	Every 1864 mi (3000 km)	Every 3728 mi (6000 km)	Every 5592 mi (9000 km)
Check throttle unit screws tightening	■	■	-	-
Balance throttle body	■	■	-	-
Check air filter and clean air box	■	■	-	-
Check fuel line condition and positioning	■	■	-	-
Check idle speed	■	■	-	-
Replace paper air filter	-	-	■	-
Change gearbox fluid	■	■	-	-
Check complete gearbox for wear	-	-	-	■
Check spring of overpressure and check valve	-	-	-	■
Check cylinder barrel for wear	-	-	-	■
Check con-rod and main bearings for wear	-	-	-	■
Check starting gears for wear	-	-	-	■
Check clutch spring length	-	■	-	-
Check clutch plates for wear	-	■	-	-
Check and adjust clutch cable	■	■	-	-
Check coolant level in radiator and expansion tank	■	■	-	-
Check system for sealing	-	■	-	-
Check oil pump gears	-	-	-	■
Change engine oil and engine oil filter	■	■	-	-
Clean head lubrication jets	-	-	-	■
Check oil lines condition and position	■	■	-	-
Replace pistons and piston rings	-	-	-	■
Check piston gudgeon pin	-	-	-	■
Change spark plugs	-	-	■	-
Check rocker arm rollers radial play	-	-	-	■
Check valve lift	-	-	-	■
Check camshafts for wear	-	-	-	■
Check camshaft bearings	-	-	-	■
Check valve seats for sealing	-	-	-	■
Check valves for wear	-	-	-	■
Check and adjust valve clearance	-	-	-	■
Check valve guides for wear	-	-	-	■
Check spring washers, caps and buckets for wear	-	-	-	■
Check chain tensioner teeth for wear	-	-	-	■
Check valve spring length	-	-	-	■
Measure drive chain stretch	-	-	-	■
Check drive chain slider for wear	-	-	-	■
Adjust throttle cables	■	■	-	-
Adjust cold start button	■	■	-	-
Change brake fluid	Every year			
Check brake fluid level	■	■	-	-
Check brake lines condition and sealing	■	■	-	-

Parts	After running- in 311 mi (500 km)	Every 1864 mi (3000 km)	Every 3728 mi (6000 km)	Every 9000 mi (5592 mi)
Check brake system screws tightening	■	■	-	-
Check Spark arrestor	■	■	-	-
Check thickness of brake disks	-	■	-	-
Check pad thickness	-	■	-	-
Treat electric contacts and switches with suitable spray	-	■	-	-
Grease battery connections	-	■	-	-
Light operation/direction	■	■	-	-
Check electric system operation	■	■	-	-
Check exhaust system sealing and positioning	-	■	-	-
Check tire condition and pressure	■	■	-	-
Check wheel bearings play	■	■	-	-
Check spokes tension and rim flatness	■	■	-	-
Check wheel shafts screws and nut for tightening	■	■	-	-
Check fuel pump	-	-	-	■
Check engine retaining bolts tightening	■	■	-	-
Check chassis screws and nuts for tightening	■	■	-	-
Fork complete maintenance	-	-	-	■
Clean fork dust seals	-	■	-	-
Bleed fork legs	-	■	-	-
Change fork oil	-	-	-	■
Check fork sealing and operation	■	■	-	-
Check screws of fork plates and wheel shaft pinch bolts for tightening	■	■	-	-
Shock absorber complete maintenance	-	-	-	■
Check shock absorber shafts for tightening	■	■	-	-
Check shock absorber for sealing and operation	■	■	-	-
Check con-rod bearings play	-	-	-	■
Check steering bearings play	■	■	-	-
Clean headstock dust seal	■	■	-	-C
Check chain guide slider for wear	-	-	-	■
Check chain guide for wear	-	-	-	■
Check chain tensioner roller for wear	-	-	-	■
Check chain tensioner slider for wear	-	-	-	■
Tension drive chain	■	■	-	-
Check chain joint (RXV), sealed link (SXV), front and rear sprocket and chain guide for wear	■	■	-	-
Lubricate steering bearings	-	■	-	-
Lubricate clutch lever pin	-	■	-	-
Lubricate throttle cables	-	■	-	-
Lubricate rider footrest pins	-	■	-	-
Lubricate drive chain	■	■	-	-
Lubricate rear suspension lever systems	-	■	-	-
Lubricate side stand pin	-	■	-	-
Lubricate front wheel shaft and bearings	-	■	-	-
Lubricate swing arm shaft	-	■	-	-
Lubricate rear wheel shaft and bearings	-	■	-	-

Notes:

- Any maintenance performed by the Aprilia specialized service center is not a substitute for the daily checks made by the rider!
- If any wear exceeds than the tolerance values, or deformation or damages are found after a check, all involved parts must be replaced
- Clean the vehicle thoroughly before performing any operation
- Using the vehicle on sandy or dusty grounds or in extreme conditions could result in wear of some components before the scheduled check operation.

REGULAR SERVICE INTERVALS CHART - For vehicles in open version for sport use (hobby purposes)

WARNING

Have the indicated operations performed by an Aprilia Dealer or Authorized Service Center or the warranty will become null and void.


WARNING

Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

Parts	After running- in 3h of use	Every 15h of use	Every 60h of use	Every 90h of use
Check throttle unit screws tightening	■	■	-	-
Balance throttle body	■	■	-	-
Check air filter and clean air box	■	■	-	-
Check fuel line condition and positioning	■	■	-	-
Check idle speed	■	■	-	-
Replace paper air filter	-	-	■	-
Change gearbox fluid	■	■	-	-
Check complete gearbox for wear	-	-	-	■
Check overpressure spring and check valve	-	-	-	■
Check cylinder barrel for wear	-	-	-	■
Check con-rod and main bearings for wear	-	-	-	■
Check starting gears for wear	-	-	-	■
Check clutch spring length	-	■	-	-
Check clutch plates for wear	-	■	-	-
Check and adjust clutch cable	■	■	-	-
Check coolant level in radiator and expansion tank	■	■	-	-
Check system for sealing	-	■	-	-
Check oil pump gears	-	-	-	■
Change engine oil and engine oil filter	■	■	-	-
Clean head lubrication jets	-	-	-	■
Check oil lines condition and position	■	■	-	-
Replace pistons and piston rings	-	-	-	■
Check piston gudgeon pin	-	-	-	■
Change spark plugs	-	-	■	-
Check rocker arm rollers radial play	-	-	-	■
Check valve lift	-	-	-	■
Check camshafts for wear	-	-	-	■
Check camshaft bearings	-	-	-	■
Check valve seats for sealing	-	-	-	■
Check valves for wear	-	-	-	■
Check and adjust valve clearance	-	-	-	■
Check valve guides for wear	-	-	-	■
Check spring washers, caps and buckets for wear	-	-	-	■
Check chain tensioner teeth for wear	-	-	-	■
Check valve spring length	-	-	-	■
Measure drive chain stretch	-	-	-	■
Check drive chain slider for wear	-	-	-	■
Adjust throttle cables	■	■	-	-
Adjust cold start button	■	■	-	-
Change brake fluid	Every year			
Check brake fluid level	■	■	-	-
Check brake lines condition and sealing	■	■	-	-

Parts	After running- in 3h of use	Every 15h of use	Every 60h of use	Every 90h of use
Check brake system screws tightening	■	■	-	-
Check Spark arrestor	■	■	-	-
Check thickness of brake disks	-	■	-	-
Check pad thickness	-	■	-	-
Treat electric contacts and switches with suitable spray	-	■	-	-
Grease battery connections	-	■	-	-
Light operation/direction	■	■	-	-
Check electric system operation	■	■	-	-
Check exhaust system sealing and positioning	-	■	-	-
Check tire condition and pressure	■	■	-	-
Check wheel bearings play	■	■	-	-
Check spokes tension and rim flatness	■	■	-	-
Check wheel shafts screws and nut for tightening	■	■	-	-
Check fuel pump	-	-	-	■
Check engine retaining bolts tightening	■	■	-	-
Check chassis screws and nuts for tightening	■	■	-	-
Fork complete maintenance	-	-	-	■
Clean fork dust seals	-	■	-	-
Bleed fork legs	-	■	-	-
Change fork oil	-	-	-	■
Check fork sealing and operation	■	■	-	-
Check screws of fork plates and wheel shaft pinch bolts for tightening	■	■	-	-
Shock absorber complete maintenance	-	-	-	■
Check shock absorber shafts for tightening	■	■	-	-
Check shock absorber for sealing and operation	■	■	-	-
Check con-rod bearings play	-	-	-	■
Check steering bearings play	■	■	-	-
Clean headstock dust seal	■	■	-	-
Check chain guide slider for wear	-	-	-	■
Check chain guide for wear	-	-	-	■
Check chain tensioner roller for wear	-	-	-	■
Check chain tensioner slider for wear	-	-	-	■
Tension drive chain	■	■	-	-
Check chain joint (RXV), sealed link (SXV), front and rear sprocket and chain guide for wear	■	■	-	-
Lubricate steering bearings	-	■	-	-
Lubricate clutch lever pin	-	■	-	-
Lubricate throttle cables	-	■	-	-
Lubricate rider footrest pins	-	■	-	-
Lubricate drive chain	■	■	-	-
Lubricate rear suspension lever systems	-	■	-	-
Lubricate side stand pin	-	■	-	-
Lubricate front wheel shaft and bearings	-	■	-	-
Lubricate swing arm shaft	-	■	-	-
Lubricate rear wheel shaft and bearings	-	■	-	-

Notes:

- Any maintenance performed by the Aprilia specialized service center will not replace the daily checks made by the rider!
- If any wear exceeds than the tolerance values, or deformation or damages are found after a check, all involved parts must be replaced
- Clean the vehicle thoroughly before performing any operation
- Using the vehicle on sandy or dusty grounds or in extreme conditions could result in wear of some components before the scheduled check operation.

REGULAR SERVICE INTERVALS CHART - For vehicles in open version for sport use (competitive purposes)

WARNING

Have the indicated operations performed by an aprilia Dealer or authorized service center or the warranty will become null and void.


WARNING

Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

Parts	After running- in 3h of use	Every 15h of use	Every 30h of use	Every 45h of use
Check throttle unit screws tightening	■	■	-	-
Balance throttle body	■	■	-	-
Check air filter and clean air box	■	■	-	-
Check fuel line condition and positioning	■	■	-	-
Check idle speed	■	■	-	-
Replace paper air filter	-	-	■	-
Change gearbox fluid	■	■	-	-
Check complete gearbox for wear	-	-	-	■
Check overpressure spring and check valve	-	-	-	■
Check cylinder barrel for wear	-	-	-	■
Check con-rod and main bearings for wear	-	-	-	■
Check starting gears for wear	-	-	-	■
Check clutch spring length	-	■	-	-
Check clutch plates for wear	-	■	-	-
Check and adjust clutch cable	■	■	-	-
Check coolant level in radiator and expansion tank	■	■	-	-
Check system for sealing	-	■	-	-
Check oil pump gears	-	-	-	■
Change engine oil and engine oil filter	■	■	-	-
Clean head lubrication jets	-	-	-	■
Check oil lines condition and position	■	■	-	-
Replace pistons and piston rings	-	-	-	■
Check piston gudgeon pin	-	-	-	■
Change spark plugs	-	-	■	-
Check rocker arm rollers radial play	-	-	-	■
Check valve lift	-	-	-	■
Check camshafts for wear	-	-	-	■
Check camshaft bearings	-	-	-	■
Check valve seats for sealing	-	-	-	■
Check valves for wear	-	-	-	■
Check and adjust valve clearance	-	-	-	■
Check valve guides for wear	-	-	-	■
Check spring washers, caps and buckets for wear	-	-	-	■
Check chain tensioner teeth for wear	-	-	-	■
Check valve spring length	-	-	-	■
Measure drive chain stretch	-	-	-	■
Check drive chain slider for wear	-	-	-	■
Adjust throttle cables	■	■	-	-
Adjust cold start button	■	■	-	-
Change brake fluid	Every year			
Check brake fluid level	■	■	-	-
Check brake lines condition and sealing	■	■	-	-
Check brake system screws tightening	■	■	-	-
Check spark arrestor	■	■	-	-
Check thickness of brake disks	-	■	-	-

Parts	After running- in 3h of use	Every 15h of use	Every 30h of use	Every 45h of use
Check pad thickness	-	■	-	-
Treat electric contacts and switches with suitable spray	-	■	-	-
Grease battery connections	-	■	-	-
Light operation/direction	■	■	-	-
Check electric system operation	■	■	-	-
Check exhaust system sealing and positioning	-	■	-	-
Check tire condition and pressure	■	■	-	-
Check wheel bearings play	■	■	-	-
Check spokes tension and rim flatness	■	■	-	-
Check wheel shafts screws and nut for tightening	■	■	-	-
Check fuel pump	-	-	-	■
Check engine retaining bolts tightening	■	■	-	-
Check chassis screws and nuts for tightening	■	■	-	-
Fork complete maintenance	-	-	-	■
Clean fork dust seals	-	■	-	-
Bleed fork legs	-	■	-	-
Change fork oil	-	-	-	■
Check fork sealing and operation	■	■	-	-
Check screws of fork plates and wheel shaft pinch bolts for tightening	■	■	-	-
Shock absorber complete maintenance	-	-	-	■
Check shock absorber shafts for tightening	■	■	-	-
Check shock absorber for sealing and operation	■	■	-	-
Check con-rod bearings play	-	-	-	■
Check steering bearings play	■	■	-	-
Clean headstock dust seal	■	■	-	-
Check chain guide slider for wear	-	-	-	■
Check chain guide for wear	-	-	-	■
Check chain tensioner roller for wear	-	-	-	■
Check chain tensioner slider for wear	-	-	-	■
Tension drive chain	■	■	-	-
Check chain joint (RXV), sealed link (SXV), front and rear sprocket and chain guide for wear	■	■	-	-
Lubricate steering bearings	-	■	-	-
Lubricate clutch lever pin	-	■	-	-
Lubricate throttle cables	-	■	-	-
Lubricate rider footrest pins	-	■	-	-
Lubricate drive chain	■	■	-	-
Lubricate rear suspension lever systems	-	■	-	-
Lubricate side stand pin	-	■	-	-
Lubricate front wheel shaft and bearings	-	■	-	-
Lubricate swing arm shaft	-	■	-	-
Lubricate rear wheel shaft and bearings	-	■	-	-

Notes:



WARNING

If the vehicle is used for competitive purposes, the 15h servicing must be performed after each race.

- Any maintenance performed by the **aprilia** specialized service center must not replace the daily checks made by the rider!
- If any wear exceeds than the tolerance values, or deformation or damages are found after a check, all involved parts must be replaced
- Clean the vehicle thoroughly before performing any operation
- Using the vehicle on sandy or dusty grounds or in extreme conditions could result in wear of some components before the scheduled check operation.
- ONLY for RXV model: if the vehicle is mainly used for off-road purposes, perform every 30 hours of use any maintenance operation indicated in the 45h column.

3.1.4. CHECKING THE SWITCHES

Carefully read (MAINTENANCE).

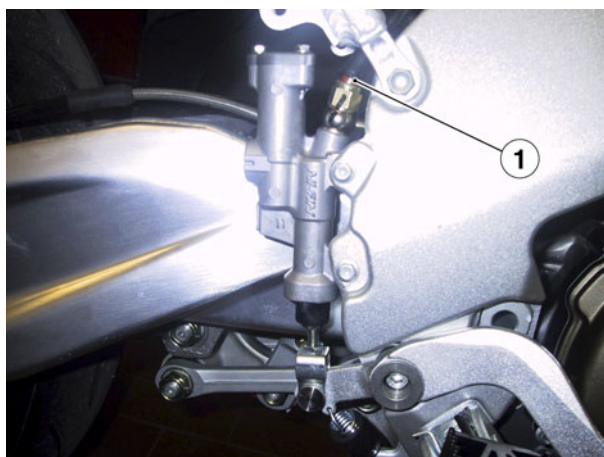
The vehicle is provided with two switches:

Stop light switch (1) on rear brake lever.

Stop light switch (2) on front brake lever.

For the check, proceed as follows:

- Make sure that there are no dirt or mud deposits on the switch; the pin must be able to move without interference, returning automatically to its initial position.
- Make sure that the cables are connected correctly.
- Check the spring: it must not be damaged, worn or weakened.



3.1.5. BULBS

Carefully read (MAINTENANCE).

**DANGER**

Risk of fire.

Keep fuel and other flammable substances away from the electrical components.

**WARNING**

Before proceeding to change a bulb, set the ignition switch to "OFF" and allow some time for the bulb to cool down.
Change the bulb wearing clean gloves or using a clean and dry cloth.



Do not leave fingerprints on the bulb, since these may cause its overheating and consequent breakage.

If you touch the bulb with bare hands, remove any fingerprint with alcohol, in order to avoid any damage.

DO NOT FORCE THE ELECTRIC CABLES.

NOTE Before changing a bulb, check the fuses, see (CHANGING THE FUSES).

CHANGING THE HEADLIGHT BULB

The headlight contains:

- One parking light bulb (1).
- One low beam bulb/high beam (2)

To change the bulbs:

- Place the vehicle on the stand, see (POSITIONING THE VEHICLE ON THE STAND).

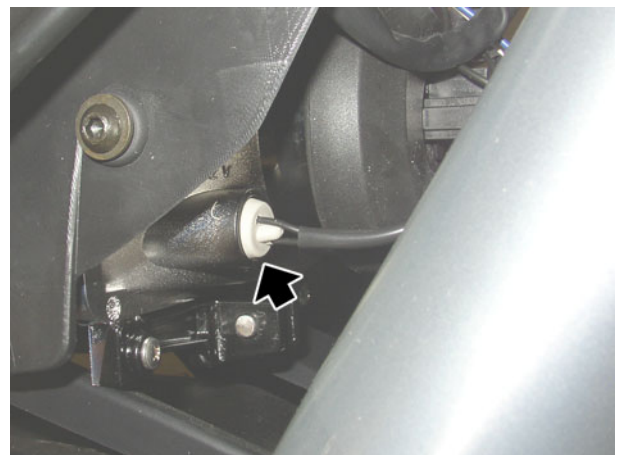
**DANGER**

Handle the plastic components with care to avoid scraping or damaging them.

**PARKING LIGHT BULB (1)****DANGER**

To extract the bulb holder, do not pull the electric wires.

- Grab the bulb holder, pull it and release it of its seat.
- Remove the parking light bulb and fit a new bulb of equal rating.



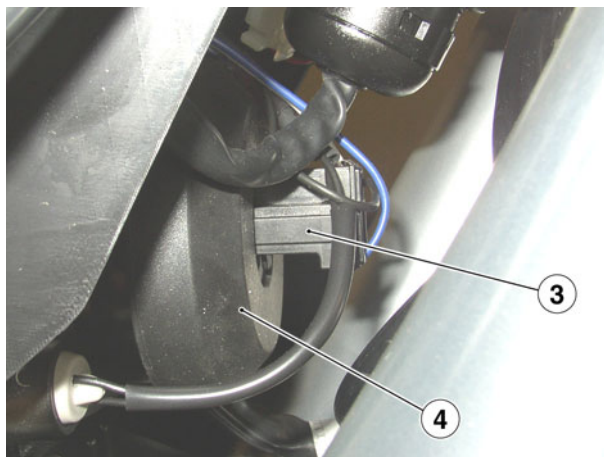
LOW BEAM/HIGH BEAM BULB (2)



DANGER

To extract the bulb electric connector, do not pull its electric wires.

- Grasp the bulb electric connector (3), pull it and disconnect it from the bulb holder.
- Withdraw the protection element (4) from reflector seat and from lamp terminals.



- Release the two ends of the clip (5) from the bulb holder.
- Extract the bulb from its seat.

When reassembling:

NOTE Insert the bulb in the bulb holder, making the relevant positioning seats coincide.

- Correctly install a new bulb of the same type.
- Correctly refit the protection element (4) into lamp terminals and reflector seat.
- Connect bulb connector (3).



3.1.6. SPARK PLUG

Carefully read (MAINTENANCE).

NOTE Halve indicated maintenance intervals if the vehicle is used in rainy or dusty areas, on uneven surfaces, or in competitions.



WARNING

Check, clean or replace both spark plugs, one by one.

Periodically remove the spark plugs and clean them carefully, removing any carbon deposits; change them if necessary.



WARNING

Always change both spark plugs together, even when only one needs replacing.

In order to gain access to the spark plugs:



DANGER

Before carrying out the following operations, let the engine and the silencer cool down until they reach ambient temperature to avoid burns.

- Position the vehicle on the stand.

NOTE The vehicle fits one spark plug (2) per cylinder. The information provided below applies to both spark plugs.

- Remove the cap (1) of the spark plug (2).
- Remove any trace of dirt from the spark plug base (2).
- Fit the wrench supplied with the tool kit into spark plug (2) hexagonal flat
- Unscrew the spark plug (2) and extract it from its seat, taking care to prevent dust or other substances from getting inside the cylinder.



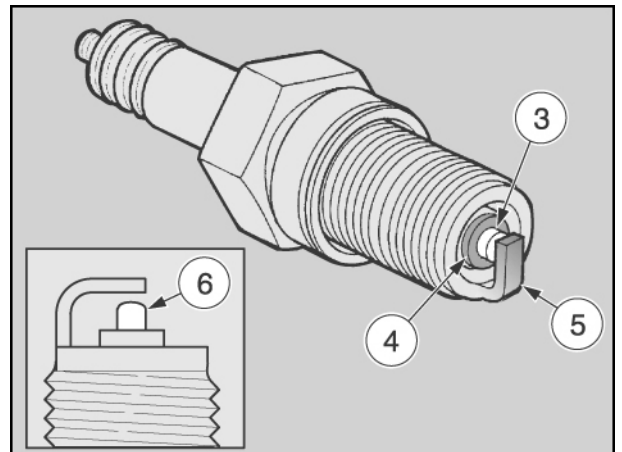
For the check and cleaning:



WARNING

This vehicle is fitted with spark plugs with platinum electrodes. Do not clean the spark plugs with a wire brush and/or abrasive products, use compressed air only.

Key:



- center electrode (3);
- insulating (4);
- side electrode (5).

- Make sure that there are neither carbon deposits, nor corrosion marks on the electrodes and on the insulating material of spark plug (2); if necessary, blow with compressed air to clean them.

If the spark plug (2) has cracking on the insulating material, corroded electrodes, excessive deposits or the tip (6) of the central electrode is rounded, it must be changed.


WARNING

When changing the spark plug (2), check the thread pitch and length.

If the threaded part is too short, the carbon deposits will accumulate on the thread seat, and therefore the engine may be damaged during the installation of the right spark plug.

Use the recommended type of spark plugs only, see (TECHNICAL DATA), in order to avoid compromising the life and performance of the engine.

Electrode gap should be checked using a wire gauge to avoid damaging the platinum coating.

- Check electrode gap with a wire gauge.


WARNING

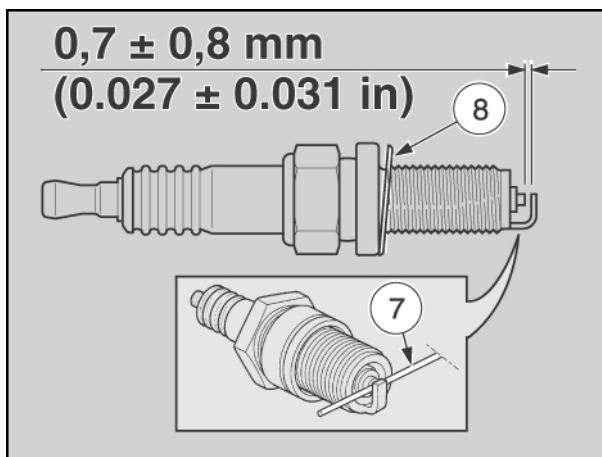
Never attempt to adjust electrode gap.

Electrode gap should be 0.7 - 0.8 mm (0.027 - 0.031 in.); change spark plug (2) if reference value is not respected.

- Make sure that the washer is in good condition.

For the installation:

- Position the washer and screw in the spark plug (2) by hand in order not to damage the thread.
- Tighten the spark plug (2) with the wrench included in the tool kit, making half a turn to compress the washer.



Spark plug (2) tightening torque: 12 Nm (1.2 kgm).


WARNING

The spark plug (2) must be well tightened, otherwise the engine may overheat and be seriously damaged.

- Position the spark plug (2) cap (1) properly to prevent it from coming off due to engine vibration.

NOTE Repeat operations on spark plug (2) on the other cylinder.

3.1.7. FUSES

CHANGING THE FUSES

Carefully read (MAINTENANCE).

**WARNING**

Do not repair faulty fuses.

Never use fuses different from the recommended ones.

The use of unsuitable fuses may cause damages to the electric system or, in case of short circuit, even a fire.

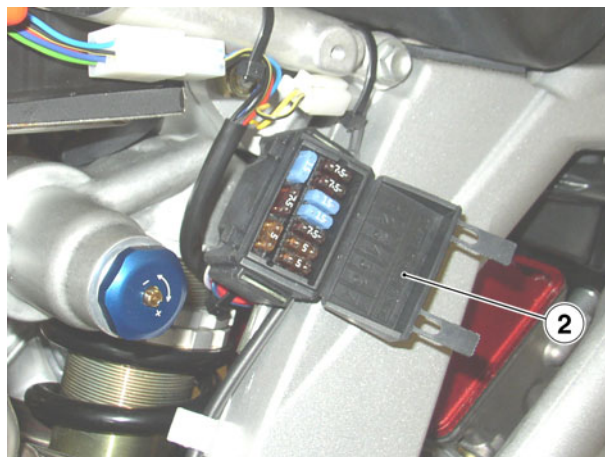
NOTE If a fuse blows frequently, there probably is a short circuit or an overload in the electric system. In this instance, contact an **aprilia** Authorized Dealer.

Check the fuses if an electric component does not work or works irregularly, or if the vehicle fails to start. Check the auxiliary fuses first and then the 30A main fuse. Check as follows:

- Turn the ignition switch to position "0", to avoid any accidental short circuit.
- Remove the right side panel, loosen the two screws (1) and slide it off its seat.



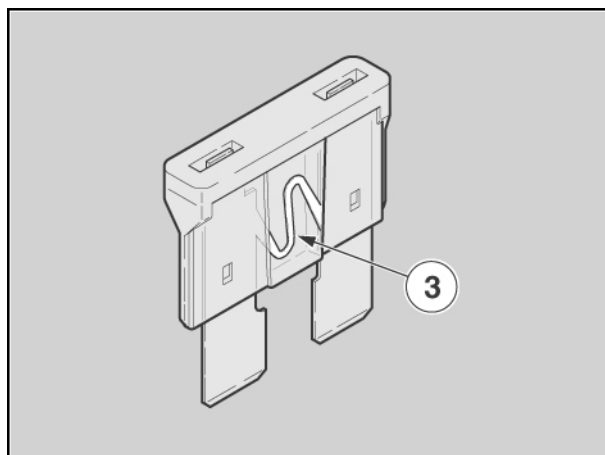
- Lift the cover (2) of the auxiliary fuse box.



- Extract the fuses one by one and check if the filament (3) is broken.
- Before replacing a fuse, try to find out the cause of the problem, if possible.
- Replace the damaged fuse with a new one having the same amperage.

NOTE If you use one of the spare fuses, put a new fuse in the proper seat.

- Remove the left side panel, as described for the right side panel.
- Repeat the above operations for the main fuses.



LAYOUT OF AUXILIARY FUSES

15A Fuse:

- 1 - Control unit relay energizing
- 2 - Parking lights, turn indicators, horn, instrument panel, stop light

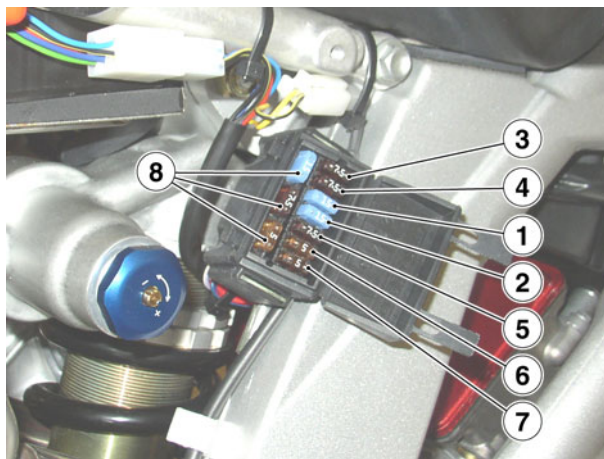
7.5A Fuse:

- 3 - Headlights
- 4 - Control unit relay power
- 5 - Injector coils
- 6 - Electric fan

5A Fuse:

- 7 - Fuel pump

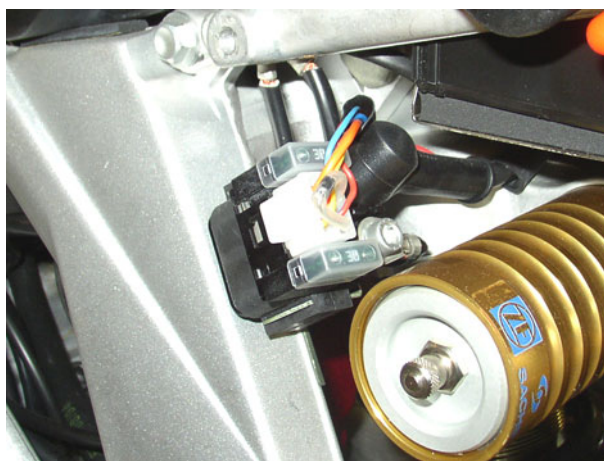
NOTE There are three spare fuses (8).



LAYOUT OF MAIN FUSES

30A Fuse:

Battery charge (one fuse only, the second one is spare).

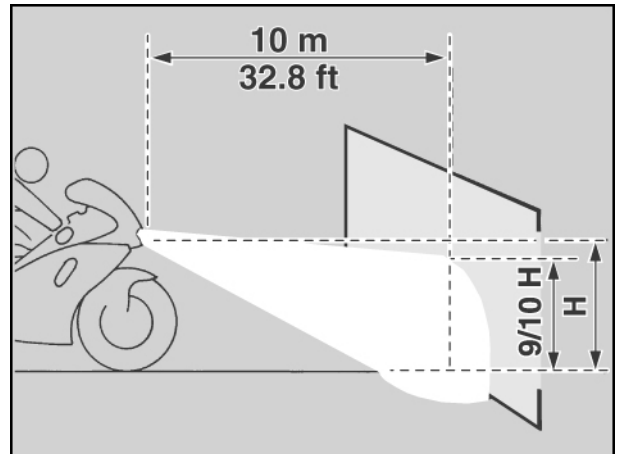


3.1.8. HEADLIGHT BEAM VERTICAL ADJUSTMENT

NOTE To check the direction of the headlight beam, specific procedures must be adopted, in accordance with the regulations in force in the country where the vehicle is used.

To make a quick check that the beam points in the correct direction,

- place the vehicle on flat ground, 10 m away from a wall.
- Turn on the low beam, sit on the vehicle and make sure that the beam projected on the wall is slightly under the horizontal line of the headlight (about 9/10th of the total height).



To adjust the headlight beam:

- Turn screw (1) using a screwdriver.
- TIGHTEN (clockwise) to raise the beam;
- SLACKEN (counter-clockwise) to lower the beam.

After the adjustment:



DANGER

Make sure that the vertical adjustment of the headlight beam is correct.



3.1.9. DISK BRAKES



DANGER

The brakes are the parts that most ensure your safety and for this reason they must always be perfectly working; check them before every trip. A dirty disk will soil the pads, leading to loss of braking efficiency.

Dirty pads must be replaced, while dirty disks must be cleaned with a high-quality degreaser.

The brake fluid must be changed every year by an aprilia Authorized dealer.

Use brake fluid of the type specified in the lubricant chart, see (LUBRICANT TABLE).

NOTE This vehicle is provided with disk brakes with two - front and rear- braking systems having separate hydraulic circuits.

The front braking system is with single disk (left side).

The rear brake uses a single disk (right side).

The following information refers to a single braking system, but is valid for both.

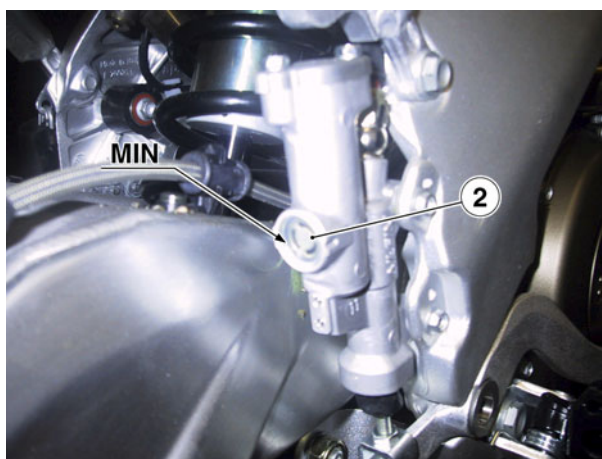
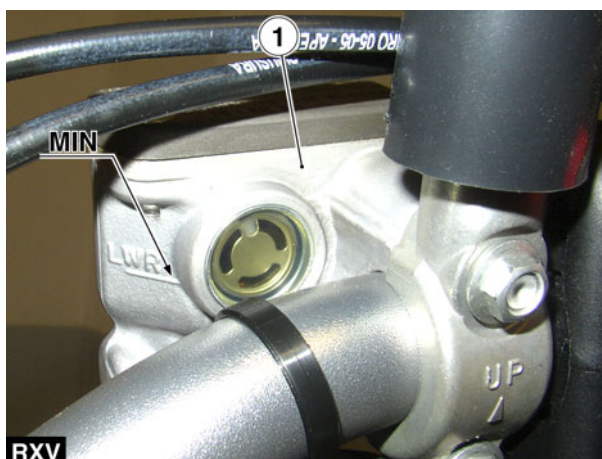
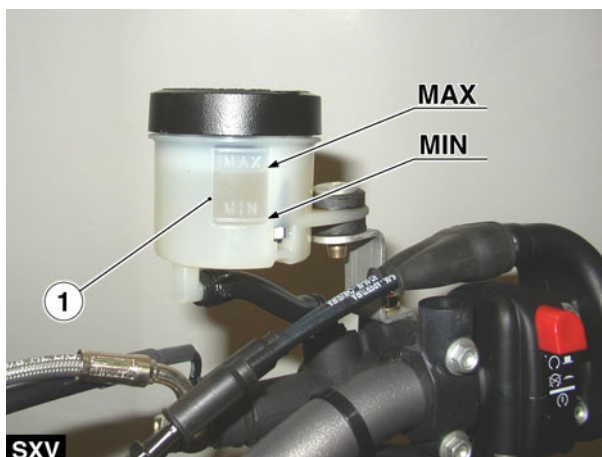
When the disk pads wear out, the level of the fluid inside tank (1 – 2) decreases to automatically compensate for their wear.

The front brake fluid reservoir (1) is mounted near the front brake lever mount.

The rear brake fluid reservoir (2) is built in the master cylinder fixed to the frame, on the right, next to the swing arm.

NOTE Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

Before departure, check the brake fluid level in the reservoirs (1 – 2), see (CHECKING BRAKE FLUID LEVEL) and the wear of the pads, see (CHECKING THE BRAKE PAD WEAR).



WARNING

Never use your vehicle if any portion of either brake system is leaking.



WARNING

Do not add any additives or other substances to the brake fluid.

**CAUTION**

After servicing the brakes, always check that they are working properly. If the stroke of the lever is excessive, or if you detect that the effectiveness of the brakes is reduced in any way, have your vehicle serviced by your Local aprilia Dealer. It may be necessary to have your dealer bleed the system, or there may be some other problem with the brake system. Never ride your vehicle in traffic immediately after servicing the brakes. Always apply the brake lever several times before riding your vehicle. Then, try your vehicle in a parking lot or other safe area with little traffic to ensure that the brakes are working properly. Failure to observe this warning can lead to a serious accident with subsequent serious injury or death.

CHECKING THE BRAKE PAD WEAR

NOTE Carry out these checks only on a firm, flat surface such as a concrete garage floor

NOTE If the reservoir is dirty, wipe it with a clean cloth so that you can see the "MIN" and "MAX" marks.

Carefully read paragraphs (BRAKE diskS), (CHECKING BRAKE FLUID LEVEL) and (MAINTENANCE).

NOTE The following information refer to a single braking system, but are valid for both. Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

The wear of the disk brake pads depends on the use, on the riding style and on the road.

**WARNING**

Wear increases if the vehicle is used in rainy or dusty areas, or off road.

**DANGER**

Check the wear of the brake pads, especially before every trip.

To carry out a quick check of the wear of the pads, proceed as follows:

- Place the vehicle on the stand, see (POSITIONING THE VEHICLE ON THE STAND).

**CAUTION**

When the disk pads wear out, the level of the fluid decreases progressively to compensate for their wear.

SXV**Checking the front brake caliper pads:**

NOTE The front brake caliper has four brake pads.

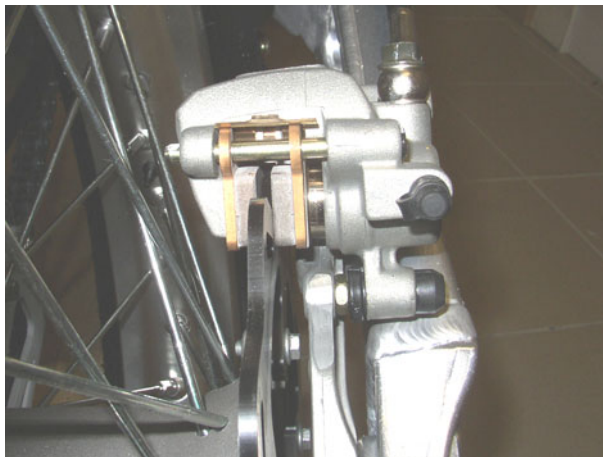
- Carry out a visual check between the brake caliper and the pads, proceeding:
 - from above, on the rear end;



Checking the rear brake caliper pads:

NOTE The rear brake caliper has two brake pads.

- Carry out a visual check between the brake caliper and the pads, proceeding:
- from above, on the rear end;

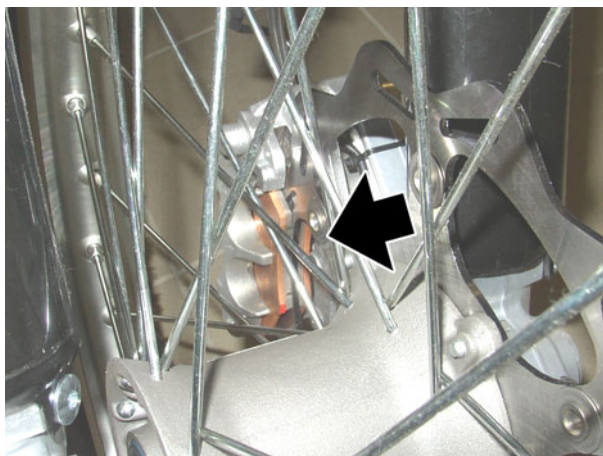


RXV

Checking the front brake caliper pads:

NOTE The front brake caliper has two brake pads.

- Carry out a visual check between the brake caliper and the pads, proceeding:
- from above, on the front end;



Checking the rear brake caliper pads:

NOTE The rear brake caliper is the same as the one fitted to the SXV version; proceed as described in the paragraph about SXV version.



DANGER

Excessive wear of the friction material causes the contact of the pad metal support with the disk, resulting in metallic noise and production of sparks from the caliper; this negatively affects braking efficiency, safety and integrity of the disk.

If the thickness of the friction material -even of one pad only- has reduced to about 0.06 in (1.5 mm) (or even if only one of the wear indicators is not visible any longer) change both pads.



DANGER

Have it changed by an aprilia Authorized Dealer.

3.1.10. DRIVE CHAIN

Carefully read (MAINTENANCE).

SXV fits an endless chain, while **RXV** fits a chain with master link.



DANGER

An excessive slackening of the chain may make the chain detach from the sprocket, resulting in an accident or vehicle serious damage. Periodically check the slack and adjust it if necessary, see (CHAIN SLACK ADJUSTMENT). To change the chain, contact an aprilia Authorized Dealer, who will ensure you prompt and accurate servicing.



DANGER

Incorrect maintenance may cause the untimely wear of the chain and/or damages to the front sprocket and/or the rear sprocket. Carry out the maintenance operations more frequently if you use the vehicle in difficult conditions or on dusty and/or muddy roads.

CHECKING THE SLACK

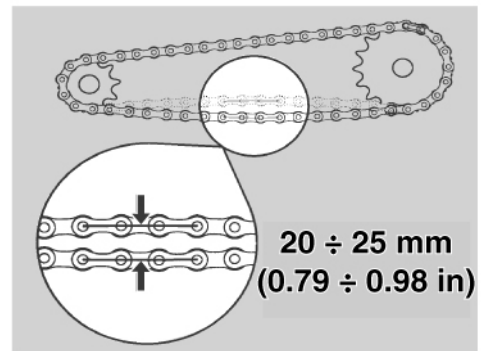
- To check the slack, proceed as follows:
- Stop the engine.
- Position the vehicle on the stand.
- Position the gear shift lever in neutral.
- Check chain slack by measuring the vertical movement of the chain lower section, midway between the sprockets. Movement should be approximately 0.79 - 0.98 in. (20 / 25 mm).
- Move the motorcycle forward, in such a way as to check the vertical oscillation of the chain even in other positions; the slack must be constant in all the wheel rotation phases.



DANGER

If in some positions the slack is higher than in others, this means that there are crushed or seized links; in this case, contact an aprilia Authorized Dealer. To prevent the risk of seizures, lubricate the chain frequently, see (CLEANING AND LUBRICATION).

If the slack is the same in all positions, but higher or lower than 20 - 25 mm (0.79 - 0.98 in), adjust it, see (CHAIN SLACK ADJUSTMENT).



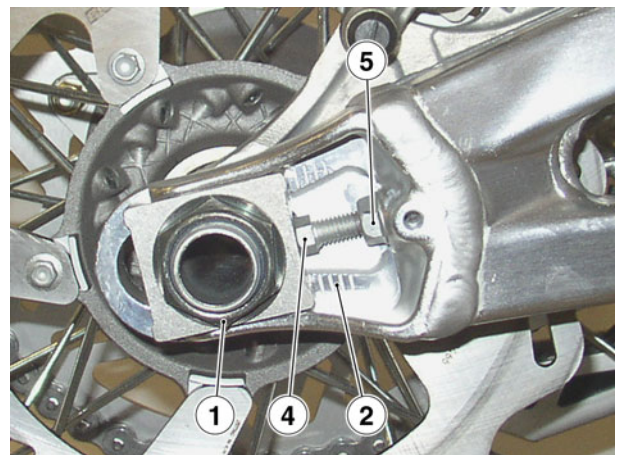
CHAIN SLACK ADJUSTMENT

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

- Position the vehicle on the stand.
- Loosen the nut (1) completely.

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

- 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).

Wheel nut (1) tightening torque:
127 Nm (12.7 kgm)

- Check chain slack, see (CHECKING THE SLACK).

CHECKING CHAIN AND SPROCKETS FOR WEAR

Also check the chain and sprockets and make sure that they do not present:

- damaged rollers;
- loose pins;
- dry, rusty, crushed or seized links;
- excessive wear;
- missing O-rings;
- sprocket or teeth excessively worn or damaged.



DANGER

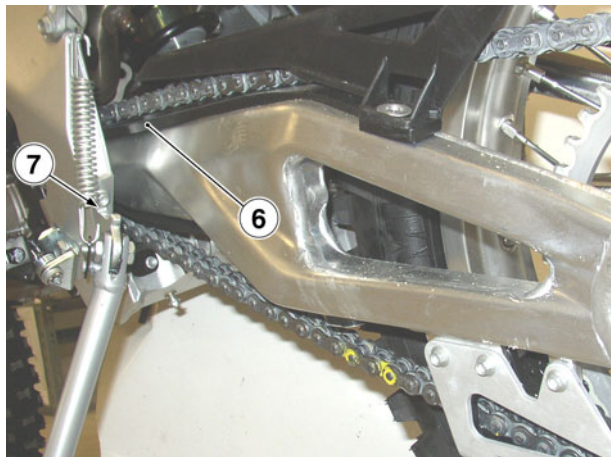
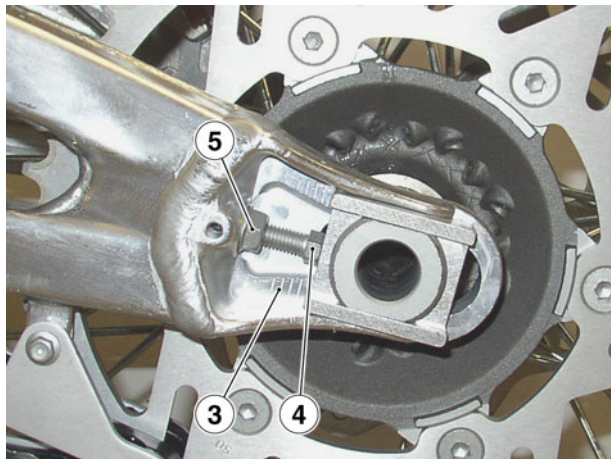
If the chain rollers are damaged, the pins are loose and/or the O-rings are damaged or missing, it is necessary to change the whole chain unit (both sprockets and chain).

- Check the chain guide sliding shoe (6) and stretcher (7) for wear.
- Finally, check the wear of the swing arm protection shoe.



DANGER

Lubricate the chain frequently, especially if there are dry or rusty parts.
The crushed or seized links must be lubricated and made work again.
If this is not possible, contact an aprilia Authorized Dealer, who will provide for changing the chain.



CLEANING AND LUBRICATION



DANGER

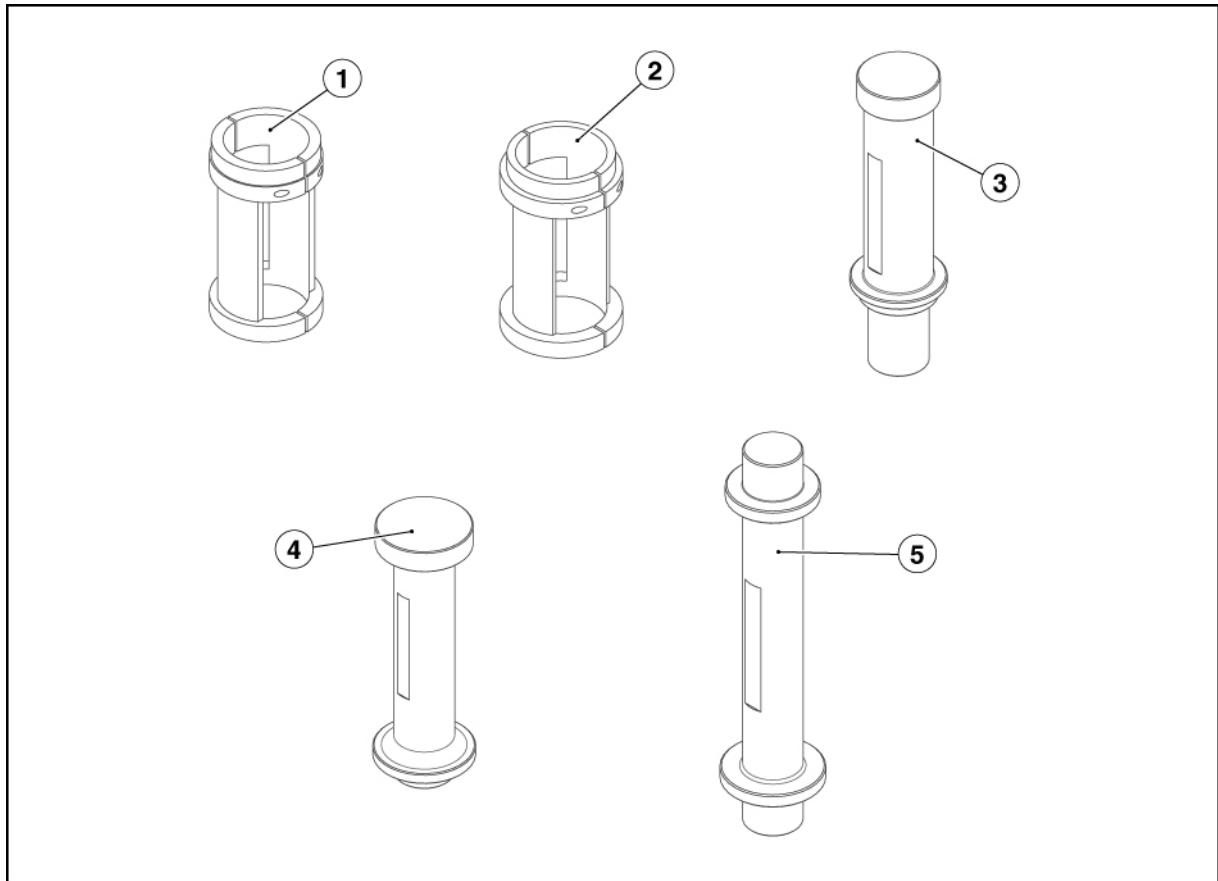
Carry out the adjustment, lubrication, cleaning and change of the chain with great care.

Lubricate the chain whenever necessary.

Lubricate the chain with aerosol grease suitable for chains, see (LUBRICANT TABLE).

Never wash the chain with water jets, steam jets, high-pressure water jets and highly inflammable solvents.

3.1.11. SPECIAL TOOLS



Pos.	Description	Part number
1	Tool for fitting fork oil seal Ø 1.77 in. (45 mm) RXV	9100903
2	Tool for fitting fork oil seal Ø 1.89 in. (48 mm) SXV	9100904
3	swing arm cages punch	9100898
4	Punch for left casing desmo + wheel hub	9100892
5	Punch for swing arm levers at cases	9100900

3.1.12. TIGHTENING TORQUE SETTINGS

DESCRIPTION	SCREW / NUT	TIGHTENING TORQUE SETTINGS	NOTES
		Nm (LbFt))	
HANDLEBAR AND CONTROLS			
Screw securing clutch control to handlebar	M6	10 (7.4)	
Throttle control screw	M6	4 (3.0)	
Ignition switch screw	M8	24 (17.7)	
FOOTRESTS			
Footrest support bracket screw	M12	55 (40.6)	loctite 243
Footrest support bracket screw	M8	25 (18.4)	loctite 243
CHASSIS			
Screw securing linkage to mudguard at front end	M6	12 (8.9)	
Screw securing linkage to mudguard at rear end	M6	12 (8.9)	
Screw securing mudguard to bottom yoke	M6	12 (8.9)	
Conveyors screw	M6	12 (8.9)	
Side body panels screw	M6	12 (8.9)	
Front screw securing tail end to subframe	M6	12 (8.9)	
Central nut securing tail end – mudguard – subframe	M6	12 (8.9)	
Rear screw securing tail end to subframe	M6	12 (8.9)	
Screw securing tail end to mudguard	M6	12 (8.9)	
Top screw securing under-tail end to number plate holder	M5	7 (5.2)	
Bottom screw securing under-tail end to number plate holder	M5	7 (5.2)	
Screw securing under-tail end – mudguard – starter contactor ext.	M6	12 (8.9)	
Shock absorber guard screw	M5	6 (4.4)	
Screw securing headlight fairing to instrument support	M5	6 (4.4)	
Instrument support screw	M5	6 (4.4)	
Under-tail end lower screw	M6	12 (8.9)	
LIGHTS AND INSTRUMENT PANEL			
Tail light screw	3.9	2 (1.5)	
Turn indicators nut	M8	6 (4.4)	
Digital instrument nut	M5	6 (4.4)	
Headlight screw	M6	6 (4.4)	
TANKS			
Screw securing plate to fuel tank	M6	12 (8.9)	
Screw securing fuel tank to frame	M6	12 (8.9)	
Screw securing pump body to fuel tank	M6	10 (7.4)	
Oil tank nut	M6	5 (3.7)	
FRAME			
Subframe screw	M10	49 (36.1)	
Upper chain roller screw	M8	22 (16.2)	
Lower slider rear screw	M5	4.4 (3.25)	
Lower slider front screw	M5	4.4 (3.25)	
STAND			
Stand plate screw	M8	22 (16.2)	loctite 243
Side stand nut	M10	34 (25.1)	loctite 243

DESCRIPTION	SCREW / NUT	TIGHTENIN G TORQUE SETTINGS	NOTES
		Nm	
EXHAUST SYSTEM			
Screw securing silencer to subframe	M8	22 (16.2)	
Exhaust pipes nut	M6	12 (8.9)	
Screw securing tubes to head	M6	12 (8.9)	
Screw securing brake to handlebar	M6	10 (7.4)	
COOLING SYSTEM			
Radiators upper screw	M6	5 (3.7)	
Radiators lower screw	M6	12 (8.9)	
FRONT BRAKE			
Front brake caliper screw - RXV 450/550	M8	25 (18.4)	
Front brake caliper screw - SXV 450/550	M10	50 (36.9)	
REAR BRAKE			
Rear brake master cylinder screw	M6	10 (7.4)	
Brake pedal screw	M8	25 (18.4)	loctite 243
FRONT WHEEL			
Wheel shaft cap	M22	60 (44.3)	
REAR WHEEL			
Wheel shaft nut	M25	127 (93.7)	
FRONT SUSPENSION			
Steering head screw	M8	24 (17.7)	
Bottom yoke screw	M8	22 (16.2)	
Wheel shaft pinch bolt - RXV 450/550	M6	10 (7.4)	
Wheel shaft pinch bolt - SXV 450/550	M8	22 (16.2)	
Handlebar upper clamps screw	M8	24 (17.7)	
Steering shaft nut	M26	108 (79.7)	
Steering shaft ring nut	M30	7 (5.2)	
Handlebar lower clamp nut	M10	32 (23.6)	
Leg guard screw	M6	12 (8.9)	
REAR SUSPENSION			
Nut securing frame to linkage	M12	80 (59.0)	
Nut securing linkage to rocker	M12	80 (59.0)	
Nut securing rocker to swing arm	M12	80 (59.0)	
Shock absorber nut	M10	52 (38.3)	
swing arm			
Chain guide nut	M6	12 (8.9)	
Nut securing swing arm shaft	M14	100 (73.8)	
Chain stretcher adjuster nut	M8	26 (19.2)	
Screw securing chain slider and tube guides to rear brake	4.8	4.4 (3.25)	
Rear chain guard screw	4.8	4.4 (3.25)	
Chain guide screw	M6	12 (8.9)	
ENGINE			
Nut securing engine to frame	M10	54 (39.8)	
Screw securing throttle body to head	M6	12 (8.9)	loctite 243
Screw securing control unit to plate	M4	4.4 (3.25)	loctite 243
Screw securing voltage regulator and control unit to frame	M6	12 (8.9)	
Coil screw	M6	12 (8.9)	
Screw securing sprocket cover and chain guide plate	M6	12 (8.9)	
Engine oil drain cap	M12x1.5	18 (13.3)	
Gearbox fluid drain cap	M10X1.5	18 (13.3)	

DESCRIPTION	SCREW / NUT	TIGHTENING TORQUE SETTINGS	NOTES
		Nm	
ENGINE			
Oil filter cover	M56x1.5	25 (18.4)	
Piston mounting hole plug	M30x2	30 (22.1)	
Spark plug	M10X1.25	12 (8.9)	
Gearbox fluid check screw	M6x1	9.8 (7.23)	
Water pump impeller	M7x1	12 (8.9)	
Head cover screw	M6x1	9.8 (7.23)	
Water pump cover screw	M6x1	9.8 (7.23)	
Clutch cover screw	M6x1	9.8 (7.23)	
Right casing cover screw	M6x1	9.8 (7.23)	
Casing jointing bolt	M6x1	13 (9.6)	
Ignition cover screw	M6x1	9.8 (7.23)	
Pick-up screw	M5x0.8	8 (5.9)	loctite 270
Stator fixing screw	M5x0.8	8 (5.9)	loctite 270
Chain stretcher sliding shoe screw	M6x1	9.8 (7.23)	loctite 270
Timing chain stretcher screw	M6x1	10 (7.4)	
Cable guide ring screw	M6x1	10 (7.4)	
Oil lines mounting plate screw	M6x1	9.8 (7.23)	loctite 270
Blow-by breather union	M12x1	18 (13.3)	Use sealant
Flywheel nut	M14x1	98 (72.3)	
Starter motor screw	M6x1	9.8 (7.23)	
Chain guide plate screw	M6x1	12 (8.9)	
Screw securing primary shaft bearing	M6x1	12 (8.9)	loctite 270
Screw securing lay shaft bearing	M6x1	12 (8.9)	loctite 270
Desmo bearing screw	M5x0.8	8 (5.9)	loctite 270
Gear indicator screw	M5x0.8	6 (4.4)	loctite 270
Gear change pedal screw	M6x1	12 (8.9)	
Head bolt (pre-torque)	M10X1.25	30 (22.1)	Smear screws and washers with oil
Head bolt	M10X1.25	50 (36.9)	
Head bolt	M6x1	12 (8.9)	
Timing gear nut	M12x1	50 (36.9)	
Timing compartment cover screw	M5x0.8	6 (4.4)	loctite 243
Primary sprocket nut	M18x1.25	160 (118.1)	
Gear selector stop plate screw	M6x1	12 (8.9)	loctite 270
Oil collector plate screw	M6x1	12 (8.9)	loctite 270
Gear selector shaft stop screw	M10X1.25	25 (18.4)	loctite 270
Gear ratchet rotation screw	M6x1	12 (8.9)	loctite 243
Selector shaft	M8x1.25	22 (16.2)	loctite 270
Clutch hub nut	M18x1.25	75 (55.3)	
Clutch spring screw	M6x1	12 (8.9)	
Pressure reducing valve	M14x1.5	20 (14.7)	
Feed pump retaining screw	M6x1	9.8 (7.23)	
Scavenge pump retaining screw	M6x1	9.8 (7.23)	
Head lubricating nozzle	M7x1	2.5 (1.84)	
Valve lift block screw	M5x0.8	9 (6.6)	loctite 270
Water union plate screw	M5x0.8	9 (6.6)	
Crankshaft stop screw	M8x1.25	22 (16.2)	loctite 270
Freewheel outer ring screws	M6x1	13 (9.6)	loctite 270
Throttle body screws	M6x1	13 (9.6)	
Camshaft gear retaining screw	M16x1	35 (25.8)	
ELECTRICAL COMPONENTS			
Screw securing solenoid starter and fuse holder	M5	7 (5.2)	loctite 243
Frame ground retaining screw	M6	12 (8.9)	
Solenoid starter cables screw	M6	12 (8.9)	
Horn screw	M8	22 (16.2)	

3.2. SCHEDULED MAINTENANCE

3.2.1. CHECKING BRAKE FLUID LEVEL AND TOPPING UP

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

The following information refers to a single braking system, but is valid for both.



DANGER

Sudden changes in brake lever play or a spongy feel of the lever may indicate problems with the hydraulic system.

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



Make sure that the brake disks are neither oily nor greasy, especially after maintenance or checking operations.

Make sure the brake lines are not twisted or worn.

Prevent water or dust from accidentally getting into the circuit.

Wear latex gloves when servicing the hydraulic circuit.

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



DANGER

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 BRAKE FLUID INTO THE ENVIRONMENT.

KEEP AWAY FROM CHILDREN.



WARNING

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

DISK BRAKES



DANGER

The brakes are the parts that most ensure your safety and for this reason they must always be perfectly working; check them before every trip. The brake fluid must be changed every year by an Aprilia Authorized Dealer. Use brake fluid of the type specified in the lubricant chart, see (LUBRICANT TABLE).

When the disk pads wear out, the level of the fluid inside tank decreases to automatically compensate for their wear.

The front brake fluid reservoir (1) is mounted near the front brake lever mount.

The rear brake fluid reservoir (2) is built in the master cylinder fixed to the frame, on the right, next to the swing arm.

NOTE Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

Before leaving, check brake fluid level in the reservoirs.

Have the brake fluid changed every two years by an Aprilia Authorized Dealer.



DANGER

Do not use the vehicle if the braking system leaks fluid.

FRONT BRAKE

Check

- Place the vehicle in vertical position and keep handlebar in the direction of travel.
- Make sure that the fluid level in tank (1) exceeds the "MIN" mark.

MIN = minimum level

MAX = maximum level

If fluid does not reach at least "MIN".



WARNING

When the disk pads wear out, the level of the fluid decreases progressively to compensate for their wear.

- Check the brake pad wear and the disk wear.

If the pads and/or the disk do not need replacing, provide for topping up.

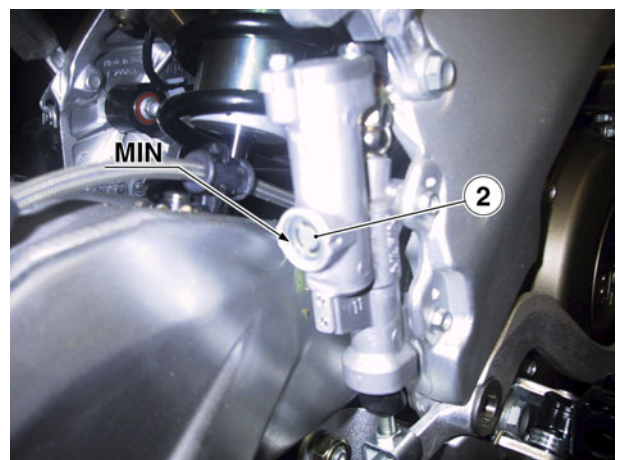
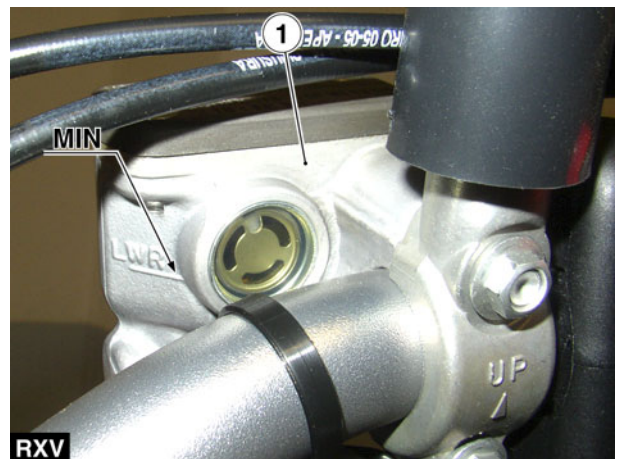
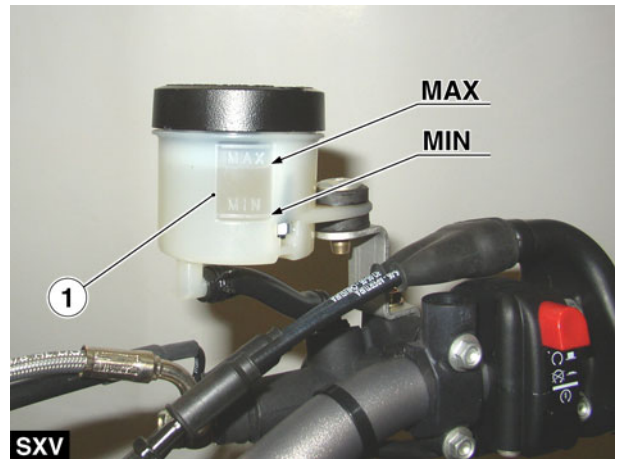
TOPPING UP - SXV



WARNING

The brake fluid may flow out of the tank. Do not operate the front brake lever if the screws (3) are loose or, most important, if the brake fluid tank cover (4) has been removed.

- Unscrew the screws (3) of the brake fluid reservoir by means of a short, crossheaded screwdriver.




WARNING

Avoid any prolonged exposure of the brake fluid to the air.
The brake fluid is hygroscopic and when in contact with the air it absorbs its humidity.
Leave the brake fluid tank (1) open **ONLY** for the time necessary for topping up.

- Raise and remove the cover (4) together with the screws (3) and the gasket (5).

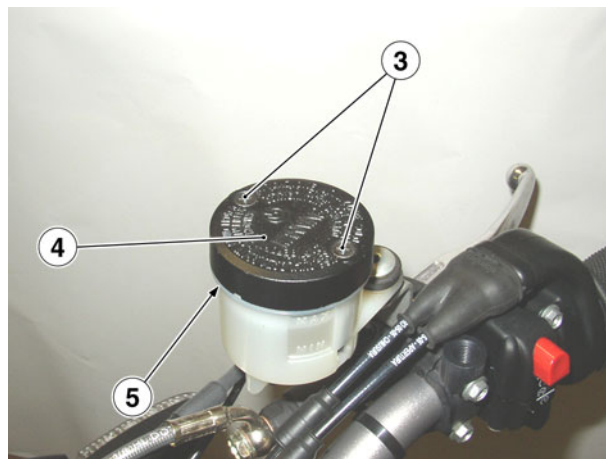

WARNING

In order not to spill the brake fluid while topping up, do not shake the vehicle.
Do not put additives or other substances into the fluid.
If you use a funnel or other similar items, make sure that they are perfectly clean.

- Top up the reservoir (1) by adding brake fluid, see (LUBRICANT TABLE), until exceeding "MIN" level mark.


WARNING

Top up to "MAX" level only after changing the brake pads. Do not reach the MAX level with worn out pads, since this will cause a fluid outflow when the pads are changed.
Check braking efficiency.
In case of excessive stroke of the brake lever or reduced efficiency of the braking system, contact an aprilia Authorized dealer, since it may be necessary to bleed the system.


TOPPING UP - RXV

WARNING

The brake fluid may flow out of the tank. Do not operate the front brake lever if the screws (6) are loose or, most important, if the brake fluid tank cover (7) has been removed.

- Unscrew the screws (6) of the brake fluid reservoir by means of a short, cross-headed screwdriver.


WARNING

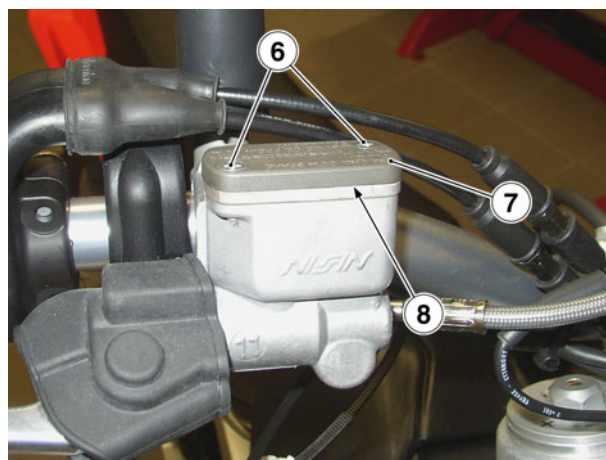
Avoid any prolonged exposure of the brake fluid to the air.
The brake fluid is hygroscopic and when in contact with the air it absorbs its humidity.
Leave the brake fluid tank (1) open **ONLY** for the time necessary for topping up.

- Raise and remove the cover (7) together with the screws (6) and the gasket (8).


WARNING

In order not to spill the brake fluid while topping up, do not shake the vehicle.
Do not put additives or other substances into the fluid.
If you use a funnel or other similar items, make sure that they are perfectly clean.

- Top up the reservoir (1) by adding brake fluid, see (LUBRICANT TABLE), until exceeding "MIN" level mark.




WARNING

Top up to "MAX" level only after changing the brake pads. Do not reach the MAX level with worn out pads, since this will cause a fluid outflow when the pads are changed.

Check the braking efficiency.

In case of excessive stroke of the brake lever or reduced efficiency of the braking system, contact an aprilia Authorized dealer, since it may be necessary to bleed the system.

REAR BRAKE

Check

- Set the vehicle in vertical position.
- Make sure that the fluid level exceeds the "MIN" mark.

MIN = minimum level

If fluid does not reach at least "MIN".


WARNING

When the disk pads wear out, the level of the fluid decreases progressively to compensate for their wear.

- Check the brake pad wear and the disk wear.

If the pads and/or the disk do not need replacing, provide for topping up.

TOPPING UP

WARNING

The brake fluid may flow out of the tank. Do not operate the front brake lever if the screws (9) are loose or, most important, if the brake fluid tank cover (10) has been removed.

- Using a wrench, loosen the two screws (9) from the brake fluid reservoir (2).


WARNING

Avoid any prolonged exposure of the brake fluid to the air.

The brake fluid is hygroscopic and when in contact with the air it absorbs its humidity.

Leave the brake fluid tank (2) open ONLY for the time necessary for topping up.

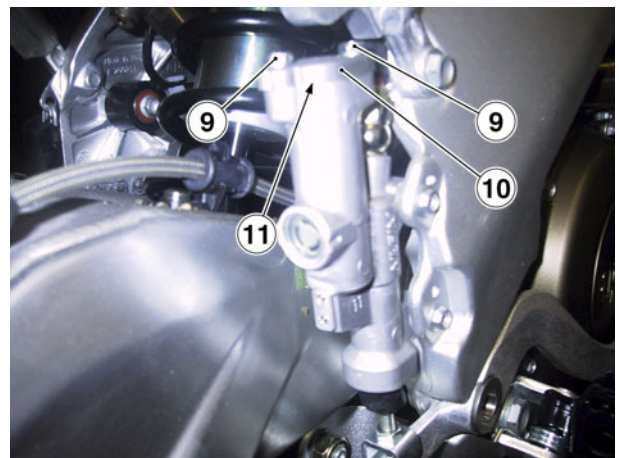
- Raise and remove the cover (10) together with the screws (9) and the gasket (11).


WARNING

In order to avoiding spilling brake fluid while topping up, do not shake the vehicle.

Do not put additives or other substances into the fluid.

If you use a funnel or other similar items, make sure that they are perfectly clean.



- Top up the reservoir (2) by adding brake fluid, see (LUBRICANT TABLE), until exceeding "**MIN**" level mark.

**WARNING**

Top up to "**MAX**" level only after changing the brake pads. Do not reach the **MAX** level with worn out pads, since this will cause a fluid outflow when the pads are changed.

Check braking efficiency.

In case of excessive stroke of the brake lever or reduced efficiency of the braking system, contact an aprilia Authorized Dealer, since it may be necessary to bleed the system.

3.2.2. CHECKING THE ENGINE OIL LEVEL AND TOPPING UP



DANGER

Engine oil may cause serious damage to the skin if handled daily and for long periods.
Wash your hands carefully after use.

KEEP AWAY FROM CHILDREN.

DO NOT RELEASE THE OIL INTO THE ENVIRONMENT.

Dispose of engine oil stored in a sealed container at the nearest waste oil reclamation firm or through the supplier.
Wear latex gloves when servicing.



WARNING

If the oil pressure light “” comes on during regular engine operation, it means that the engine oil pressure in the circuit is low.

If this is the case, check the engine oil level, see (CHECKING ENGINE OIL LEVEL AND TOPPING UP), if the level is not correct, stop the engine immediately and contact an aprilia Authorized Dealer.

Proceed with care.

Do not spill the oil!

Take care not to smear any component, the area in which you are working and the surrounding area. Remove any trace.

In case of leakage or malfunctions, contact an aprilia Authorized Dealer.

NOTE Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

For the check, proceed as follows:



WARNING

These vehicles are equipped with gearbox/clutch and engine separate from lubrication circuits. Level check and oil change are to be performed on both circuits.



WARNING

Engine oil must be checked when the engine is warm. If you check engine oil level with cold engine, oil could temporarily get below MIN level. This is not a problem as long as the oil pressure light “” does not come on, see (INSTRUMENTS AND INDICATORS).

NOTE To warm the engine and have the engine oil reach the operating temperature ride the vehicle for a while (10 - 15 min), then let the engine idle with the vehicle at rest for at least 30 seconds, and stop the engine.

- Keep the vehicle in vertical position, with the two wheels resting on the ground.
- Check oil level through clear hose (1).

MAX = maximum level

MIN = minimum level

- The level is correct when the oil almost reaches the **MAX** mark.

If necessary, top up the engine oil by proceeding as follows:



WARNING

If the vehicle is used for sport with the oil level too high, it is possible that some oil splashes reach the air box through engine breather hose.



WARNING

Never exceed the **MAX** mark, nor let the oil get below the **MIN** mark, in order to avoid serious damage to the engine.

- Unscrew and remove the filler plug (2).



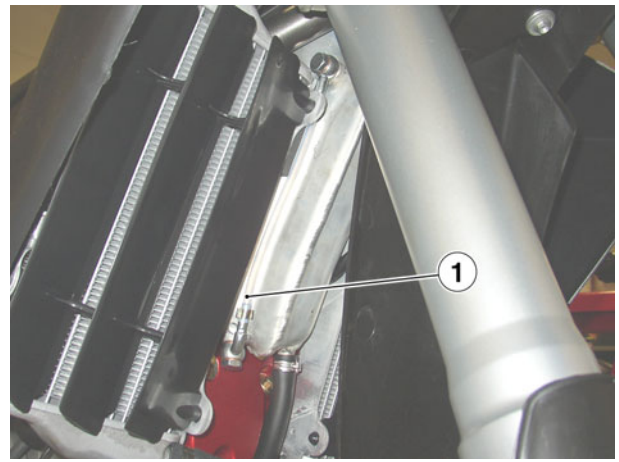
WARNING

Do not put additives or other substances into the oil.

If you use a funnel or other similar items, make sure that they are perfectly clean.

NOTE Use good quality oils, see (LUBRICANT TABLE).

- Top up the tank to correct level, see (LUBRICANT TABLE).



3.2.3. CHANGING ENGINE OIL AND OIL FILTER

- Move the sump guard down.
- Position the vehicle on firm and flat ground.
- Position the vehicle on the stand.



WARNING

Allow several minutes for the engine and exhaust system to cool down.

- Stop the engine and let it cool down to allow the oil to flow into the crankcase and to cool.
- Unscrew and remove the plug (1).



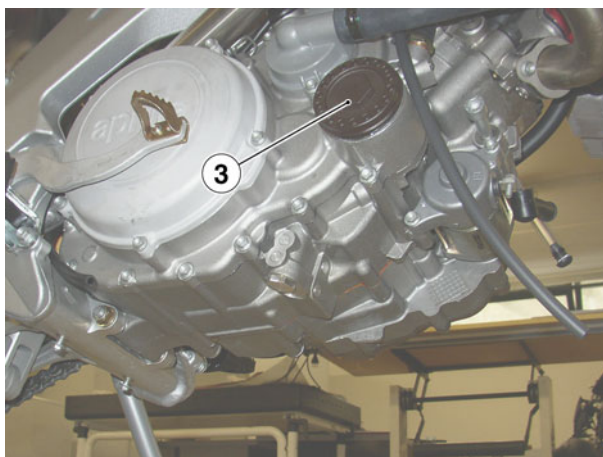
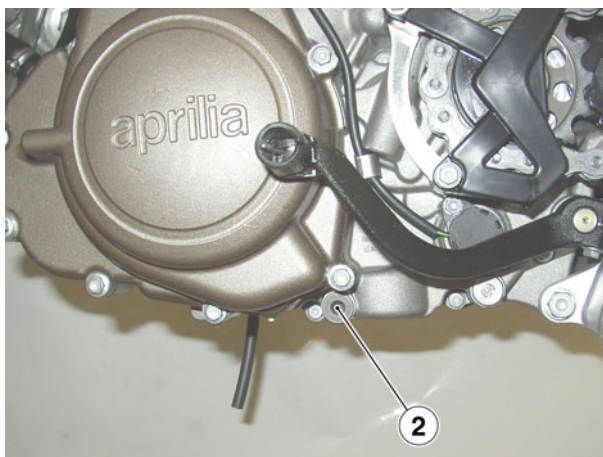
- Place a container under engine oil drain plug, on flywheel side.
- Loosen and remove the oil drain plug (2) and let oil drain off completely.



WARNING

Used oil contains substances that are very dangerous for the environment. Dispose of used oil in accordance with regulations.

- Take off the engine oil filter cover (3). Remove it with its gasket, keep the O-ring.
- Remove the oil filter.
- Install a new oil filter.
- Refit the engine oil filter cover (3).
- Screw and tighten the oil drain plug (2).
- Fill up with about 1250 cu.cm of engine oil (76.3 cu.in.).
- Screw and tighten the plug (1).
- Start the engine and let it run for a few minutes. Stop the engine and let it cool down.
- Check engine oil level, see (CHECKING THE ENGINE OIL LEVEL).



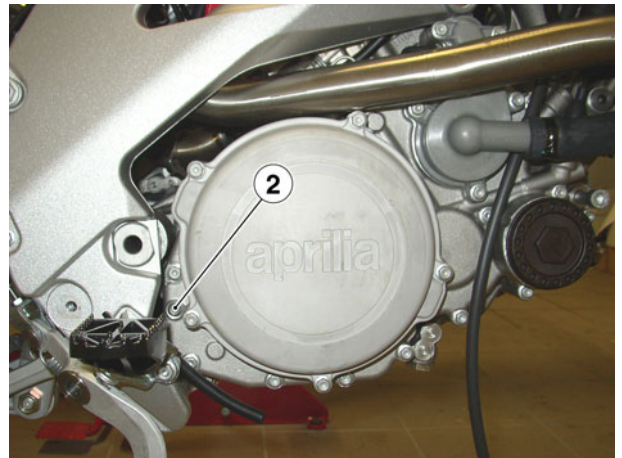
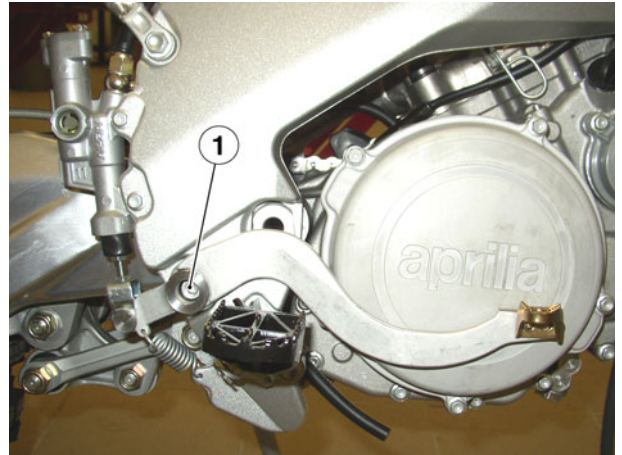
3.2.4. GEARBOX FLUID

CHECKING AND TOPPING UP



WARNING
gearbox oil level must be checked when the engine is warm.

- Stop the engine.
- Wait a few minutes to allow oil to get from the gearbox to the clutch.
- Keep the vehicle in vertical position, with the two wheels resting on the ground.
- Remove the rear brake lever loosening the screw (1) and collect the washer.
- Unscrew and remove the inspection plug (2).
- Level is correct if oil lightly touches the inspection plug hole (2).



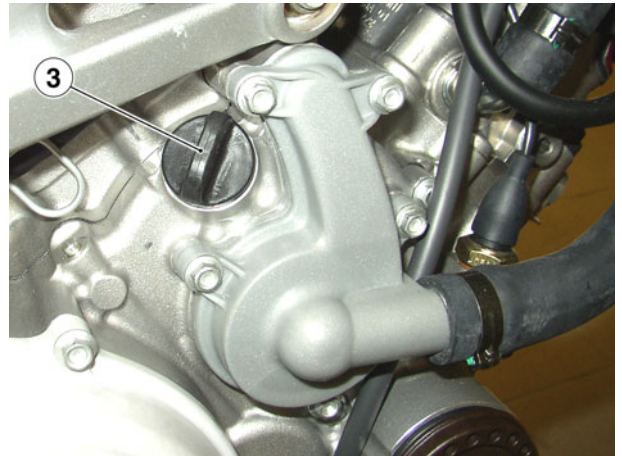
If necessary, proceed as follows:

- Remove the filler plug (3).
- Top up with oil, see (LUBRICANT TABLE), until oil reaches inspection plug hole (2).



WARNING
Do not put additives or other substances into the fluid.
If you use a funnel or other similar items, make sure that they are perfectly clean.

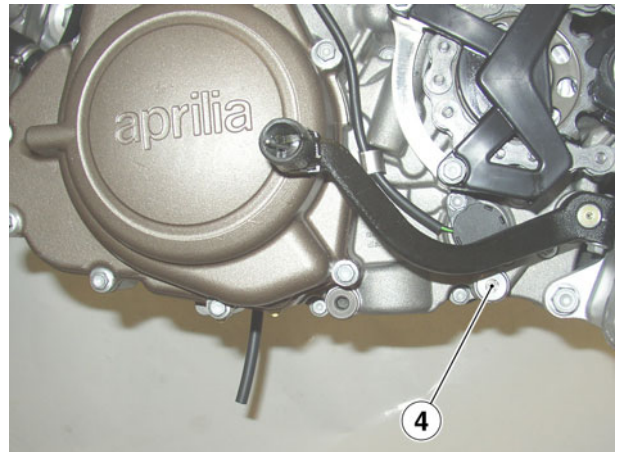
- Wait a few minutes to allow oil to get from the clutch to the gearbox, then check level again.



REPLACEMENT

NOTE Warm oil is more fluid and will drain out more easily.

- Move the sump guard down.
- Place a container of suitable capacity under the drain plug (4).
- Unscrew and remove the drain plug (4).
- Unscrew and remove the filler plug (3).
- Drain the oil and let it drip into the container for a few minutes.
- Check and replace, if needed, the drain plug (4) sealing washers.
- Screw and tighten the drain plug (4).
- Remove the rear brake lever loosening the screw (1) and collect the washer.



- Unscrew and remove the inspection plug (2).
- Fill with new oil, see (LUBRICANT TABLE), until oil reaches inspection plug hole (2).
- Wait a few minutes to allow oil to get from the clutch to the gearbox, then check level again.
- Tighten the filler plug (3).


WARNING

Oil flow from clutch to gearbox and vice versa can be particularly slow if the ambient temperature, oil or engine temperature is low.


WARNING

Do not put additives or other substances into the fluid.
If you use a funnel or other similar items, make sure that they are perfectly clean.

- Refit the rear brake lever, ensure you fit the washer in-between lever and casing, tighten screw (1).

3.2.5. COOLANT

Do not ride when coolant is below the minimum level.

NOTE Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions. Before leaving, check coolant level, see (CHECKING AND TOPPING UP), have it changed every two years by an *aprilia* Authorized Dealer.



DANGER

Coolant is toxic when ingested, contact with eyes or skin may cause irritation.

In the event of contact with eyes or skin, 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 BRAKE FLUID INTO THE ENVIRONMENT.

Be careful not to spill the coolant on the red-hot parts of the engine: it may catch fire and send out invisible flames.

If maintenance operation are required, it is advisable to use latex gloves.



WARNING

Have it changed by an *aprilia* Authorized Dealer.

Coolant mixture is a 50% solution of water and antifreeze.

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

This solution is also suited to warm weather, as it is less prone to evaporative loss and will reduce the need for top-ups.

The mineral salt deposits left in the radiator by evaporated water are thus reduced and the efficiency of the cooling system remains unchanged.

If the outdoor temperature is below 0 °C, check the cooling circuit frequently and if necessary increase the antifreeze concentration (up to maximum 60%).

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



DANGER

Do not remove the radiator plug (1) with hot engine. Coolant is hot and under pressure.

If it gets in contact with the skin or with clothes it may cause burns and/or damage.



CHECKING AND TOPPING UP



DANGER

Check the coolant level and top up the expansion tank with cold engine.

- Stop the engine and wait until it has cooled down.
- Position the vehicle on firm and flat ground.
- Keep the vehicle in vertical position, with the two wheels resting on the ground.
- Turn radiator plug (1) counter-clockwise by one click.
- Allow a few seconds for pressure to bleed.
- Turn radiator plug (1) anticlockwise again and remove it.

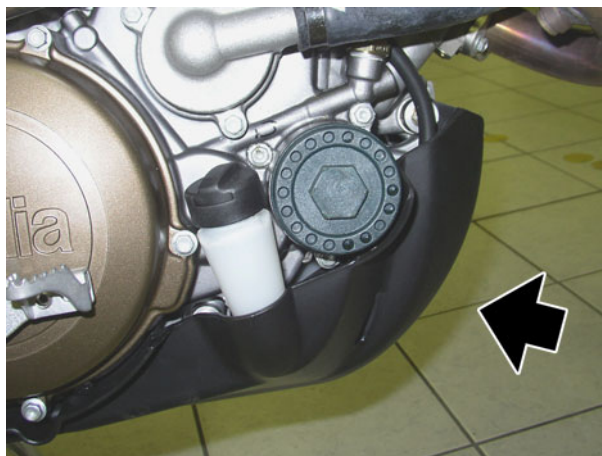


- Ensure that the fluid completely covers radiator plates.
- Also check fluid level in the expansion tank (under engine sump cover) using the suitable sight glass.
- Correct level is included between **MIN** and **MAX** references.



DANGER

Coolant is toxic when ingested. Contact with eyes or skin may cause irritation. Do not use your fingers or any other object to check if there is enough coolant. Do not put additives or other substances into the fluid.



WARNING

Do not put additives or other substances into the fluid. If you use a funnel or other similar items, make sure that they are perfectly clean.

- If necessary, top up coolant, see (LUBRICANT TABLE), until fluid completely covers radiator plates. Do not exceed this level, otherwise the fluid will flow out while the engine is running. If you use a funnel or other tools, make sure that they are perfectly clean.
- Refit the radiator plug (1).



WARNING

In case of excessive consumption of coolant, make sure that there are no leaks in the circuit. Have the vehicle serviced by an aprilia Authorized Dealer.

3.3. ADJUSTMENTS

3.3.1. TENSIONING THE THROTTLE CABLES

Carefully read (MAINTENANCE).

NOTE Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

The idle stroke of the throttle grip must be 0.079 ± 0.118 (2 ± 3 mm), measured on the edge of the grip itself.

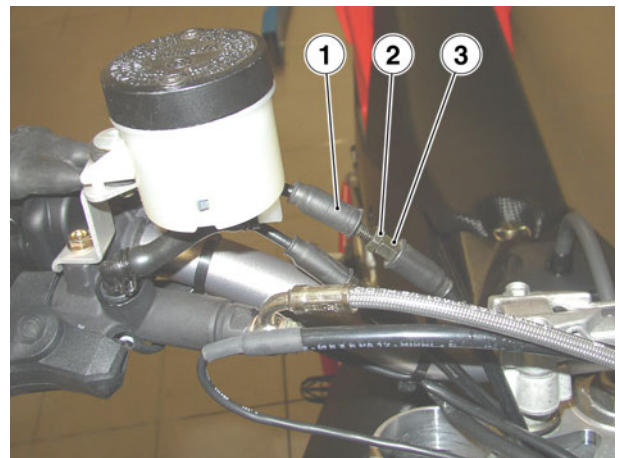
If not, proceed as follows:

- Place the vehicle on the stand, see (POSITIONING THE VEHICLE ON THE STAND).
- Withdraw the protection element (1).
- Loosen (by screwing) the lock nut (2).
- Rotate the adjuster (3) in such a way as to restore the prescribed value.
- After the adjustment, tighten the lock nut (2) (loosening it) and check the idle stroke again.
- Put back the protection element (1).



WARNING

After the adjustment, make sure that the rotation of the handlebar does not modify the engine idling rpm and that the throttle grip returns smoothly and automatically to its original position after being released.



3.3.2. SUSPENSIONS

CHECKING THE FRONT SUSPENSION



DANGER

To change the fork fluid, contact an aprilia Authorized Dealer, who will ensure you prompt and accurate servicing.

Carefully read (MAINTENANCE).

Change fork fluid more frequently if the vehicle is used in rainy or dusty areas and in off-road conditions.

Check for the following:

- With pulled front brake lever, press the handlebar repeatedly, thrusting the fork downwards.
- The fork should compress in a smooth movement and must show no traces of oil on the legs.
- Ensure that all components are properly tightened and check the front and rear suspension articulated joints for correct operation.



DANGER

In the event of faulty operation, or if qualified servicing is necessary, contact your aprilia Authorized Dealer.



FRONT SUSPENSION

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.



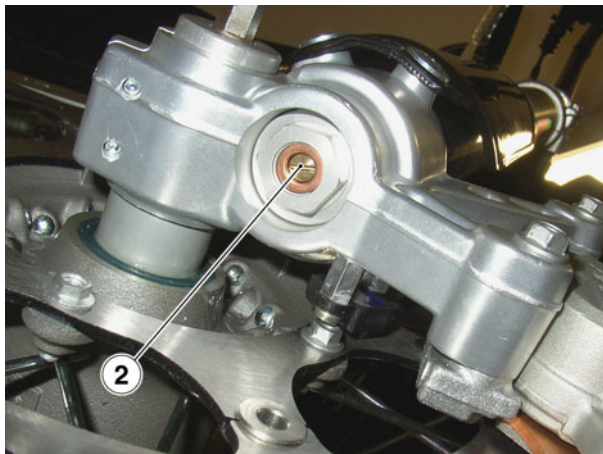
SETTING THE FRONT FORK



WARNING

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.

Factory setting is designed for any riding condition, low speed, with reduced or full load.



However, suspension setting may be modified to suit specific needs in accordance with vehicle use.



WARNING

For a correct setting of adjusters (1-2), first set the damper to the stiffest position (adjuster fully clockwise) then set desired position (clicks and/or turns).



DANGER

Racing settings may only be used during official competitions or sports events authorized by the competent authorities and taking place in closed circuits or, anyway, away from public roads.

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

SXV Front suspension	Standard setting
Hydraulic rebound adjustment, screw (1)	tighten fully (*) and then slacken (**) by 10 clicks
Hydraulic compression damping, screw (2)	tighten fully (*) (H) and then slacken (**) by 10 clicks
Fork height (A) (***) over top yoke (not including top cap)	Flush with plug

RXV Front suspension	Standard setting
Hydraulic rebound adjustment, screw (1)	tighten fully (*) and then slacken (**) by 12 clicks
Hydraulic compression damping, screw (2)	tighten fully (*) (H) and then slacken (**) by 12 clicks
Fork height (A) (***) over top yoke (not including top cap)	1 notch

(*) = clockwise

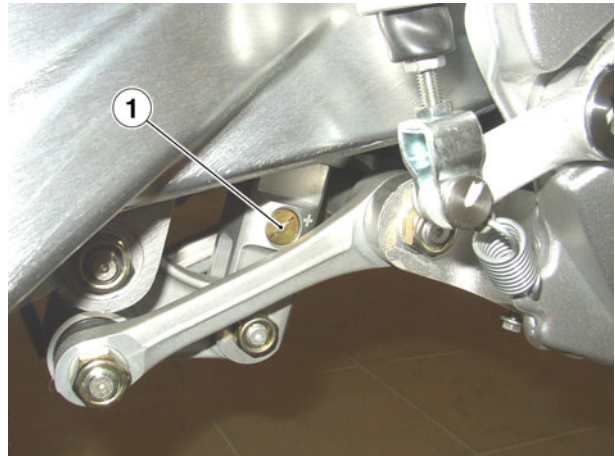
(**) = counter-clockwise

(***) = Please only contact an **aprilia** Authorized Dealer for these kinds of settings

REAR SUSPENSION

The rear suspension consists of a spring-shock absorber unit, fixed to the frame by means of a rubber cush drive and to the swing arm by means of lever systems.

The rear shock absorber is fitted with suitable adjusters to modify suspension set-up. An adjuster screw controls rebound damping, whereas an adjuster (2) controls compression damping. An adjuster ring nut controls spring (3) preload and features a locking ring nut (4).

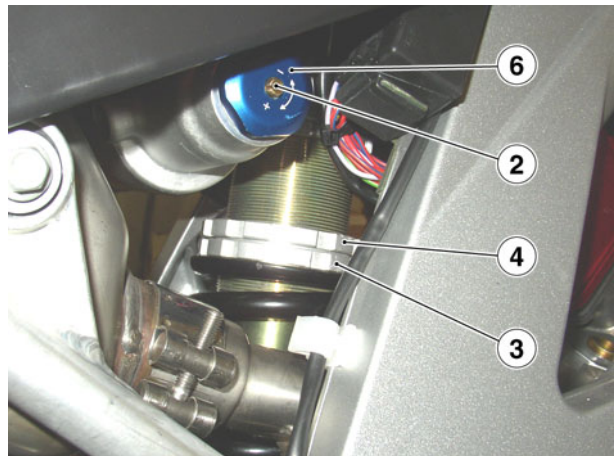


ADJUSTING THE REAR SHOCK ABSORBER

NOTE Halve maintenance intervals if you are riding in rainy or dusty conditions, on rough road surfaces or when the vehicle is used in competitions.

Factory setting is designed for any riding condition, low or high speed, with reduced or full load.

However, rear suspension setting may be modified to suit specific needs in accordance with vehicle usage.

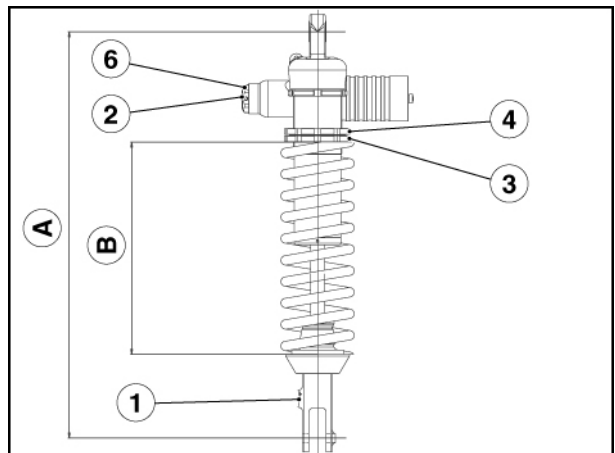


WARNING

For a correct setting of adjusters (1-2), first set the damper to the stiffest position (adjuster fully clockwise) then set desired position (clicks and/or turns).

Do not force the adjusters (1-2) beyond their limit stops in either direction, or the threads may strip.

- Slightly unscrew the locking ring nut (4) by means of the appropriate wrench.
- Adjust spring preload (B) through the adjusting ring nut (3) (see table).
- Once optimum track alignment has been reached, completely tighten the locking ring nut (4).



- Work the screw (1) to set shock absorber rebound damping (see table).
- Work the knob (2) to set compression damping (see table).



WARNING

Adjust the spring preload and the hydraulic rebound damping according to the conditions of use of the vehicle.

When the spring preload is increased, it is necessary to increase also the hydraulic rebound damping, in order to avoid sudden jerks while riding.

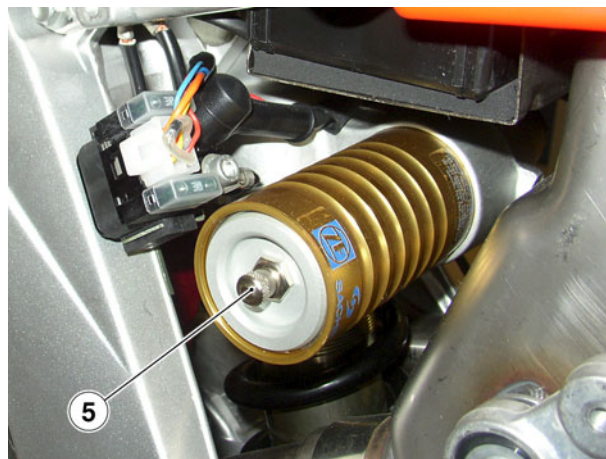
If necessary, contact an Aprilia Authorized Dealer.

**WARNING**

Do not loosen screw (5) or disturb the membrane underneath or the resulting nitrogen loss will impair shock absorber operation making the motorcycle unsafe to ride.

**DANGER**

Racing settings may only be used during official competitions or sports events authorized by the pertinent authorities and held in closed circuits or, in any case, away from public roads. It is strictly prohibited to carry out adjustments for the use of the vehicle on racetracks and then ride it on roads or highways.



SXV Rear suspension	Standard setting
Shock absorber center distance (A)	457 ± 1.5 mm (18 ± 0.06 in)
Spring length (preloaded) (B)	245 mm (9.6 in.)
Rebound adjustment, screw (1)	13 clicks
Compression adjustment, screw (2)	16 clicks
Bypass adjuster knob (6)	Fully open (-)

RXV Rear suspension	Standard setting
Shock absorber center distance (A)	18.6 ± 0.06 in (473 ± 1.5 mm)
Spring length (preloaded) (B)	9.7 in. (247 mm)
Rebound adjustment, screw (1)	23 clicks
Compression adjustment, screw (2)	Fully open
Bypass adjuster knob (6)	Fully open (-)

3.4. BLEEDING

3.4.1. BLEEDING THE FRONT BRAKE SYSTEM

The air, if any, present inside the hydraulic circuit will serve as "pad" by absorbing most of the pressure coming from the brake master cylinder and thus reducing the caliper efficiency during braking.

If some air is present inside the circuit, the brake control is "spongy" and the braking efficiency is reduced.



DANGER

It is fundamental that air is bled off the hydraulic circuit after the brakes have been refitted and the braking system has been restored to its standard operating conditions, since it would be very dangerous for the vehicle and the rider not to do so.

NOTE Bleed air with vehicle on flat ground. While bleeding the hydraulic circuit, top up reservoir with brake fluid as required. Make sure there is always some fluid in the reservoir throughout the process.

- Remove the bleed valve rubber cap.
- Insert one end of a transparent plastic tubing inside the front brake caliper bleed valve and the other end in a container for collection.
- Pull and quickly release the front brake lever a few times, then keep it pulled.

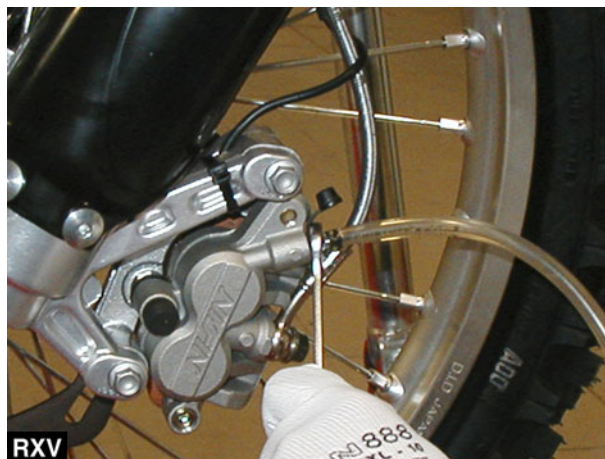


SXV / RXV 450 - 550

- Loosen the bleed valve by 1/4 of a turn so as the brake fluid flows in the container, this will remove any tension from the lever and help it travel fully home.
- Retighten the bleed valve before the lever is fully squeezed in.
- Repeat process until the fluid draining into the container is totally clear of air bubbles.

NOTE While bleeding the hydraulic circuit, top up reservoir with brake fluid as required. Make sure there is always some fluid in the reservoir throughout the process.

- Tighten the bleed valve and remove the tubing.
- Top up fluid inside tank.
- Refit the rubber cap.



3.4.2. BLEEDING THE REAR BRAKE SYSTEM

The air, if any, present inside the hydraulic circuit will serve as "pad" by absorbing most of the pressure coming from the brake master cylinder and thus reducing the caliper efficiency during braking.

If some air is present inside the circuit, the brake control is "spongy" and the braking efficiency is reduced.



DANGER

It is fundamental that air is bled off the hydraulic circuit after the brakes have been refitted and the braking system has been restored to its standard operating conditions, since it would be very dangerous for the vehicle and the rider not to do so.

NOTE Bleed air with vehicle on flat ground. While bleeding the hydraulic circuit, top up reservoir with brake fluid as required. Make sure there is always some fluid in the reservoir throughout the process.

- Remove the bleed valve rubber cap.
- Insert one end of a transparent plastic tubing inside the rear brake caliper bleed valve and the other end in a container for collection.
- Pull and quickly release the rear brake lever a few times, then keep it pulled.



- Loosen the bleed valve by 1/4 of a turn so as the brake fluid flows in the container, this will remove any tension from the lever and help it travel fully home.
- Retighten the bleed valve before the lever is fully squeezed in.
- Repeat process until the fluid draining into the container is totally clear of air bubbles.

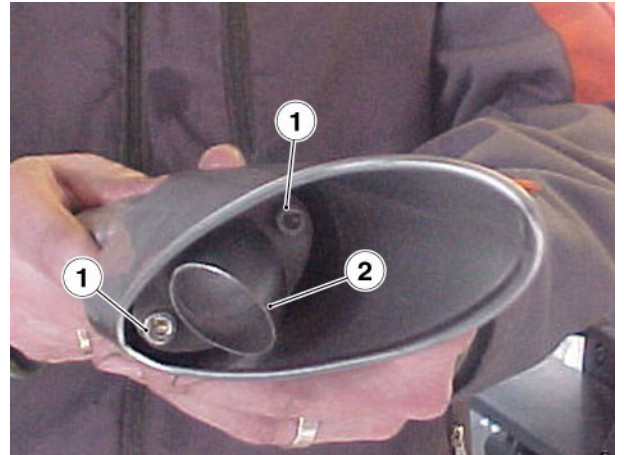
NOTE While bleeding the hydraulic circuit, top up reservoir with brake fluid as required. Make sure there is always some fluid in the reservoir throughout the process.

- Tighten the bleed valve and remove the tubing.
- Top up fluid inside tank.
- Refit the rubber cap.

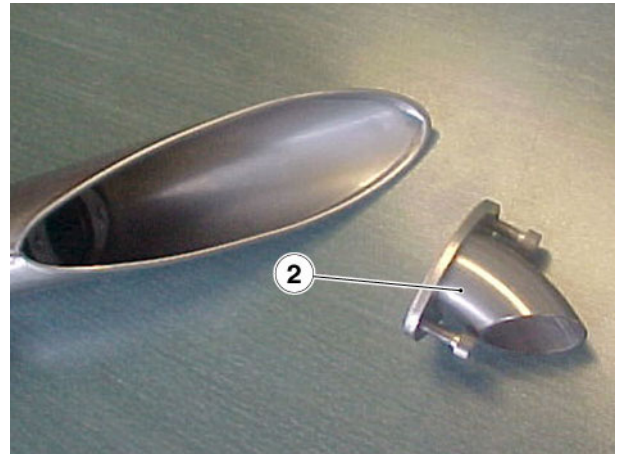


3.4.3. SPARK ARRESTOR

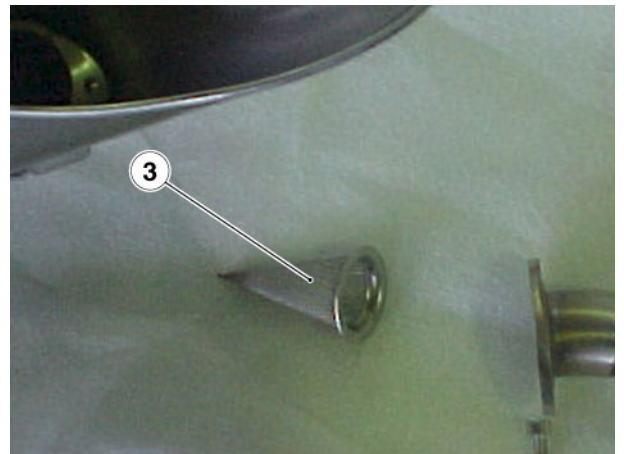
- Loosen and remove the two screws (1) on final closure (2).



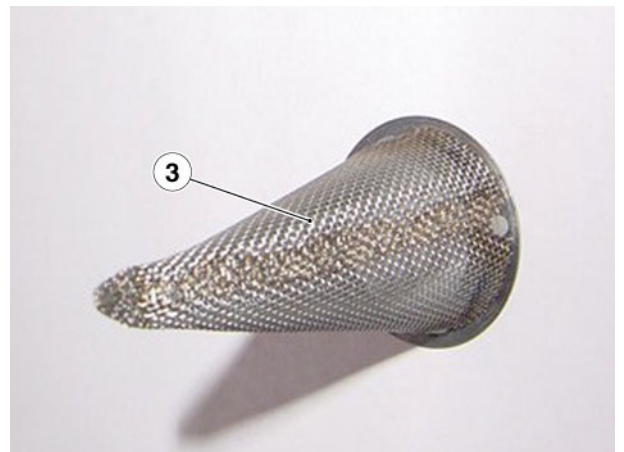
- Remove final closure (2).



- Slide off screen (3).



- Clean or replace screen (3) if damaged.



CHASSIS

4

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4.1. CHASSIS

4.1.1. REMOVING THE SEAT

- Turn the lip.



- Remove the seat.



4.1.2. REMOVING THE BATTERY

- Remove the seat, see (REMOVING THE SEAT).
- Loosen and remove the negative cable screw, keep the fastener.



- Loosen and remove the positive cable screw, keep the fastener.

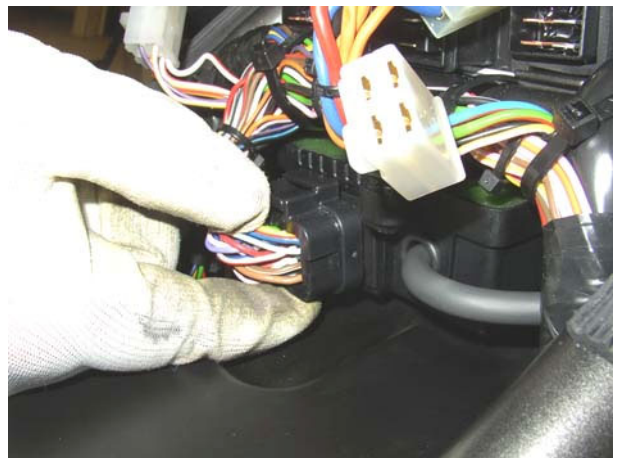


- Remove the battery.

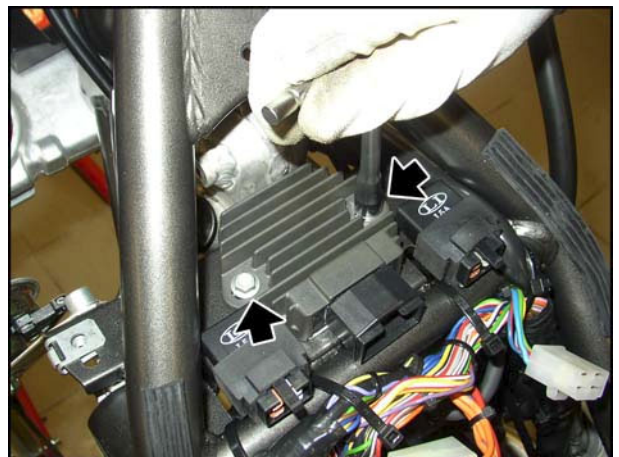


4.1.3. REMOVING THE CONTROL UNIT

- Remove the seat, see (REMOVING THE SEAT).
- Remove the fuel tank, see (REMOVING THE FUEL TANK).
- Detach the connectors.



- Loosen and remove the two screws securing the voltage regulator.
- Remove the voltage regulator.



- Remove the control unit.



4.1.4. REMOVING THE REAR WHEEL

- Place the vehicle on the suitable supports (OPT).
- Unscrew and remove the nut and collect the washer.



- Working on either side, loosen adjuster.
- Remove the chain.



- Using a rubber mallet, slide out the wheel shaft on the left side of the vehicle, collect the shims and remove the wheel from the rear end.





- Remove the bush.



4.1.5. REMOVING THE SWING ARM

- Loosen and remove the nut securing the swing arm/levers shaft and collect the washer.



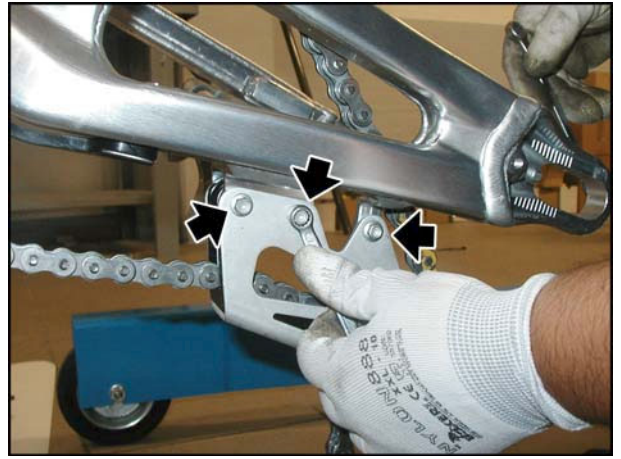
- Slide out the swing arm/levers shaft.



- Loosen and remove the screws from top protection cover and collect the spacer.
- Remove the top protection cover.



- Loosen and remove the three screws from chain guide and collect the two nuts.



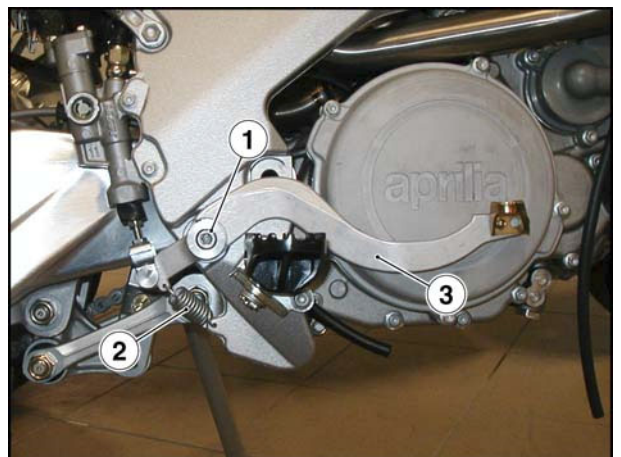
- Move the chain to the side completed with chain guide.



- Unscrew and remove the swing arm shaft nut.



- Unscrew and remove the threaded pin (1).
- Release the spring (2).
- Remove the rear brake pedal (3).



- Remove swing arm shaft.



4.1.6. INSTALLING THE REAR WHEEL

- Refit the bush.



- Fit the rear wheel.
- Refit the chain.
- Working on either side, fit the shims.
- Working on the left side, fit the wheel shaft.



- Working on the right side, fit the washer and start the wheel shaft nut, do not tighten it yet.
- Adjust chain tension using the suitable adjusters.



- Tighten the wheel shaft nut.

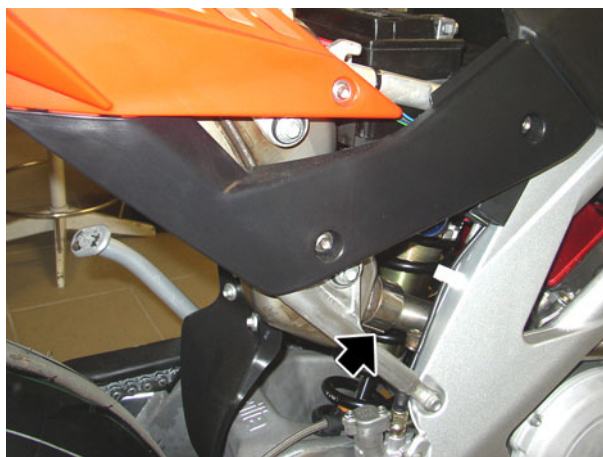


4.1.7. REMOVING THE EXHAUST SYSTEM

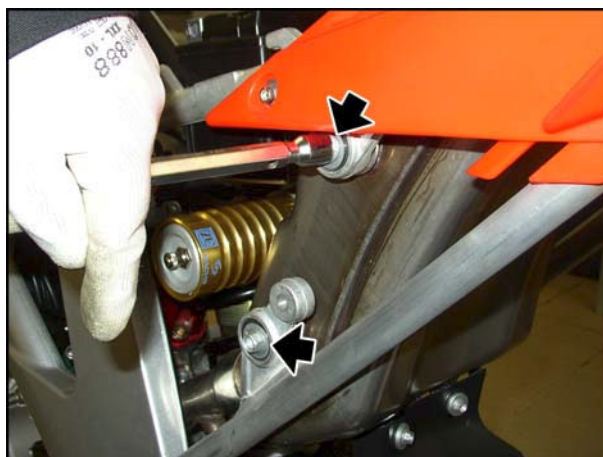
- Unscrew and remove the two retaining screws with washers and collect the nuts.
- Ensure that the T-shaped bushings stay in place.



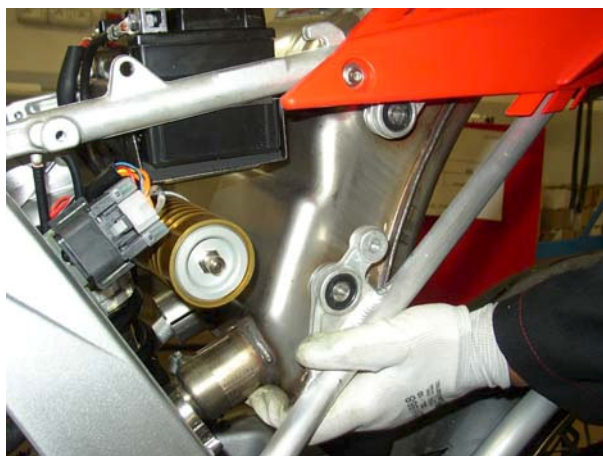
- Working on either side, remove the mounting spring.



- Working on either side, loosen and remove the two screws, collect the washers.



- Remove the exhaust silencer.



- Loosen and remove the two screws from front cylinder exhaust manifold.



- Remove the front cylinder exhaust manifold and collect the clamp.



- Loosen and remove the two screws from rear cylinder exhaust manifold.

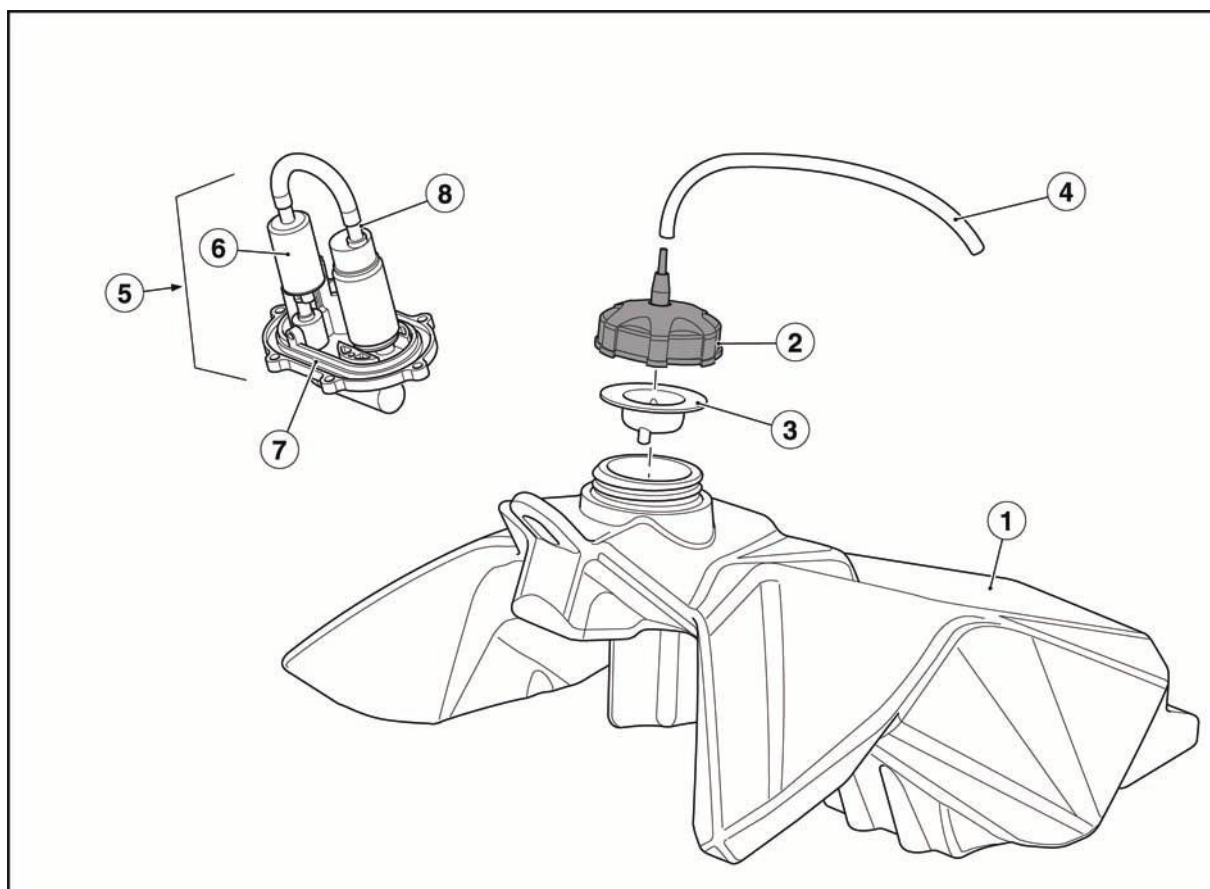


- Remove the rear cylinder exhaust manifold.



4.2. FUEL FEEDING SYSTEM

4.2.1. DIAGRAM

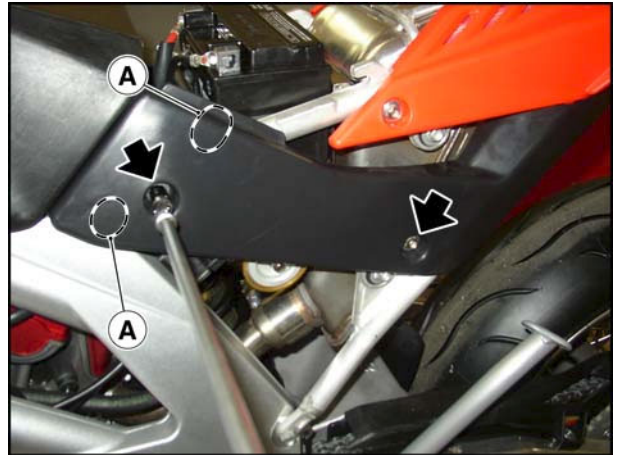
**Key:**

1. Fuel tank
2. Fuel tank filler cap
3. Plug gasket
4. 5x9 Tube
5. Fuel pump assy
6. Fuel filter
7. Gasket
8. Thermistor

4.2.2. REMOVING THE FUEL TANK

- Remove the seat, see (REMOVING THE SEAT).
- Working on one side, loosen and remove the two screws, collect the washer.
- Remove the lower side body panel.

NOTE Cutting the side body panel along marks (A) allows you to remove the tank without removing the lower side panel first.



- Unscrew and remove the tank retaining screw and collect the pilot bush.



- Remove the fuel tank plug breather hose.
- Raise the fuel tank.
- Hold the fuel tank up using a retaining cord.



WARNING

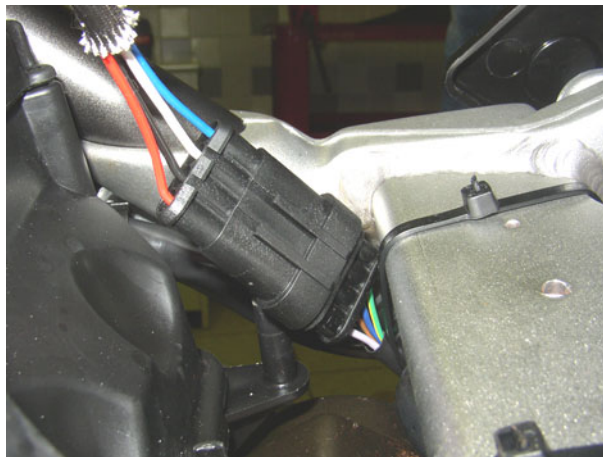
Make sure the tank retaining cord never touches the battery positive pole.



- Release the quick-release fitting.



- Disconnect the connector.



- Remove the split pin from the side still fitted with the side body panel.



- Remove the tank retaining pin from the side without lower side body panel.



- Remove the fuel tank.



4.2.3. REMOVING THE AIR FILTER

- Remove the seat, see (REMOVING THE SEAT).
- Raise the fuel tank, see (REMOVING THE FUEL TANK).
- Grasp and release the handles on either sides to release the air box cover.
- Slide the cover from the rear end completed with air filter.

NOTE Please ensure the air box is clean before refitting. Remove any dirt that might have entered during the removal procedure.
When refitting, pay attention to correctly refit the air scoops.



WARNING

Ensure the tank retaining cord never touches the battery positive pole.



WARNING

If it falls to the ground, carefully clean the air filter and the air box from oil possibly coming from the oil tank via the oil breather hose.



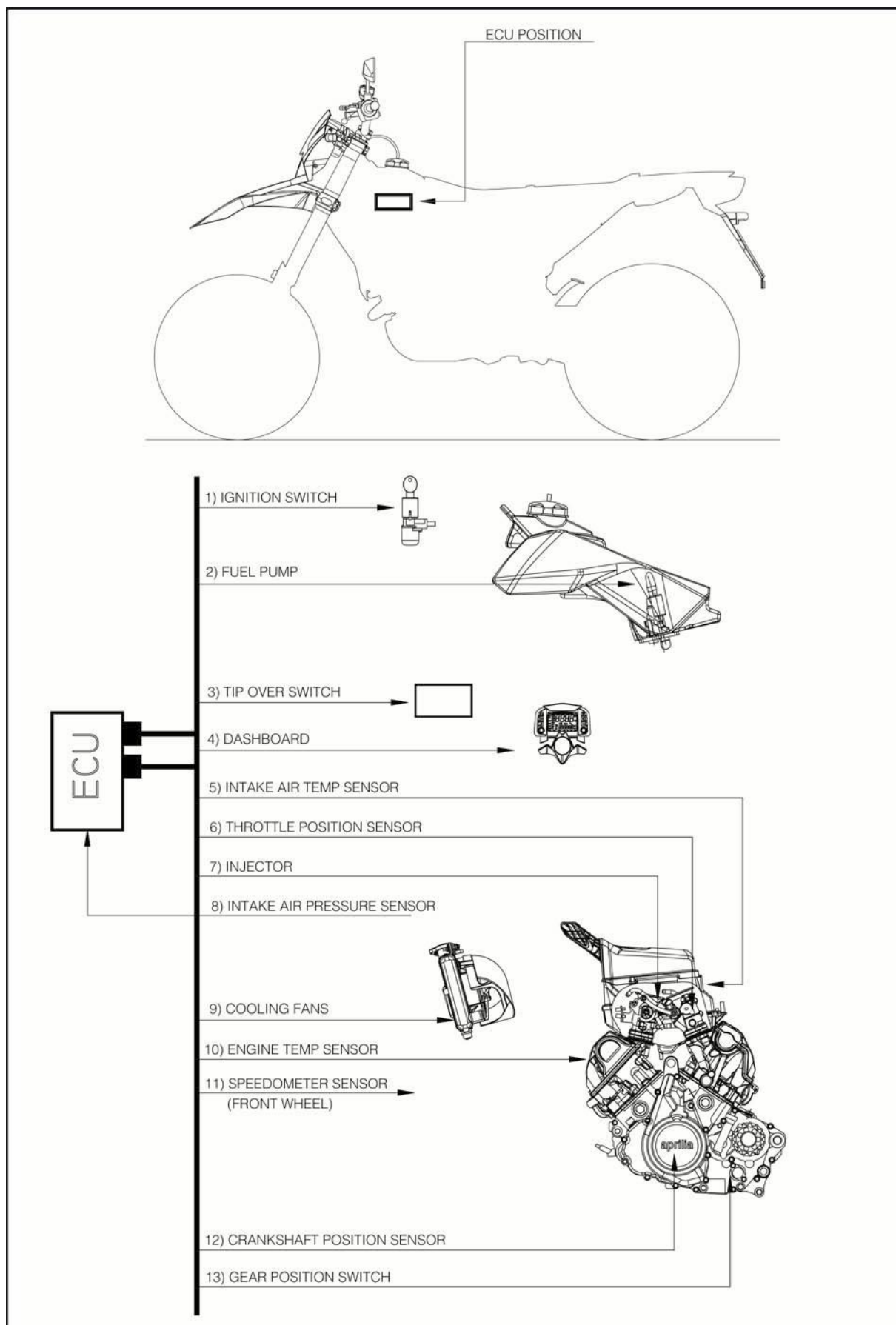
WARNING

To avoid foreign matter from entering the air box, remove the air box cover only when vehicle is clean.



4.3. INJECTION

4.3.1. DIAGRAM

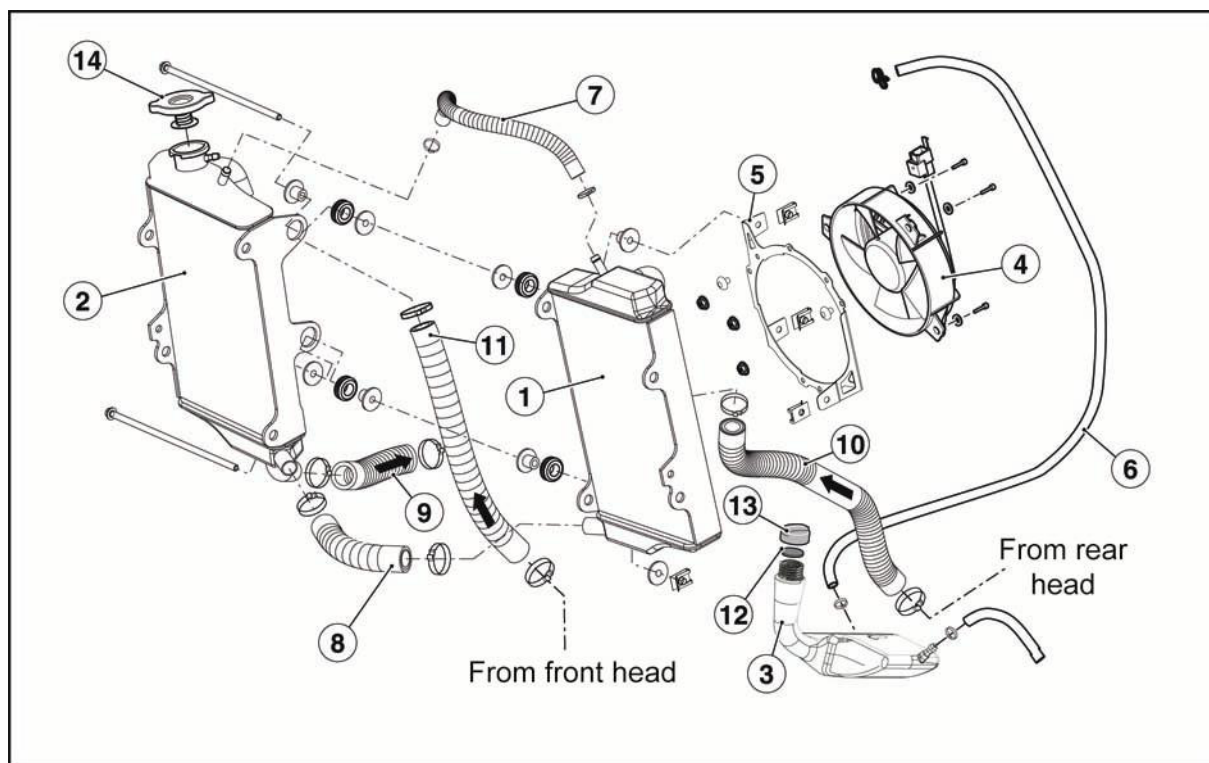


Key:

1. Ignition keys
2. Fuel pump
3. Ignition switch
4. Instrument panel
5. Intake air temperature sensor
6. Throttle position sensor
7. Injector
8. Intake air pressure sensor
9. Cooling fans
10. Engine temperature sensor
11. Speed sensor (front wheel)
12. Crankshaft position sensor
13. Gearbox position switch

4.4. COOLING SYSTEM

4.4.1. DIAGRAM



Key:

1. Left radiator
2. Right radiator
3. Expansion tank
4. Complete fan
5. Fan support
6. Tube D10 – d5.5
7. Tube connecting left to right radiator - upper
8. Tube connecting left to right radiator - lower
9. Tube connecting radiator to water pump
10. Tube connecting radiator to rear cylinder head
11. Tube connecting radiator to front cylinder head
12. Expansion tank gasket
13. Expansion tank plug
14. Radiator plug

4.4.2. REMOVING THE RADIATOR

- Working on either side, loosen and remove the three side body panel screws.
- Remove the side body panels.



- Prepare a container of suitable capacity under the hose.
- Release the clamp.



- Remove the hose.
- Drain the fluid in the container.
- Open radiator plug to drain all fluid.



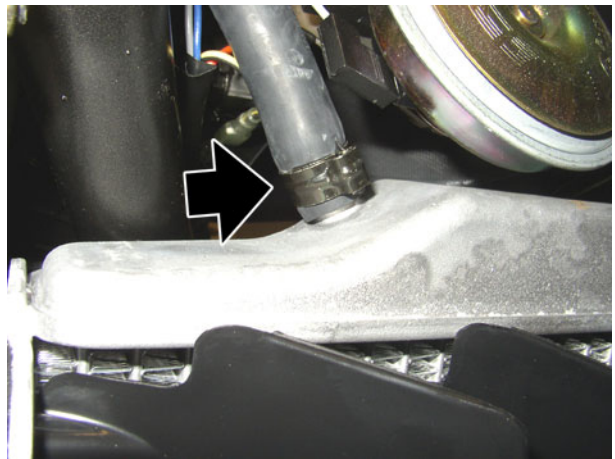
- Working on either side, release the clamps.



- Remove the right and left delivery hoses.



- Working on the left side, release the clamp and disconnect the hose.



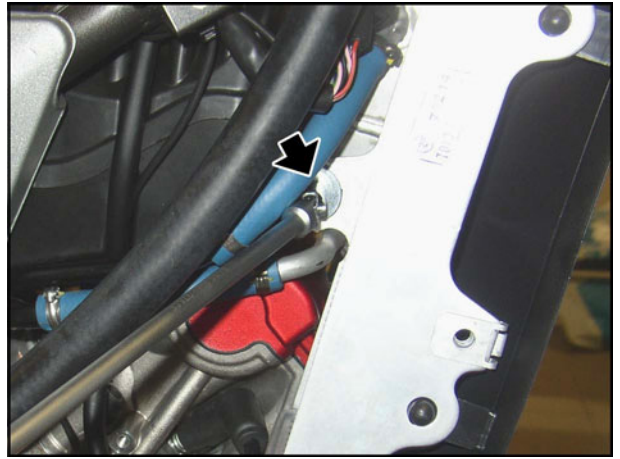
- Working on the right side, slide out the hose.



- Remove the radiator breather hose.



- Working on the right side, loosen the lower screw and collect the nut and washer on the left side.



- Working on the right side, loosen the upper screw and collect the nut and washer on the left side.



WARNING

Before removing the screw, support the cooling fan or it will fall down.



- Slide out the radiators in a downward motion.



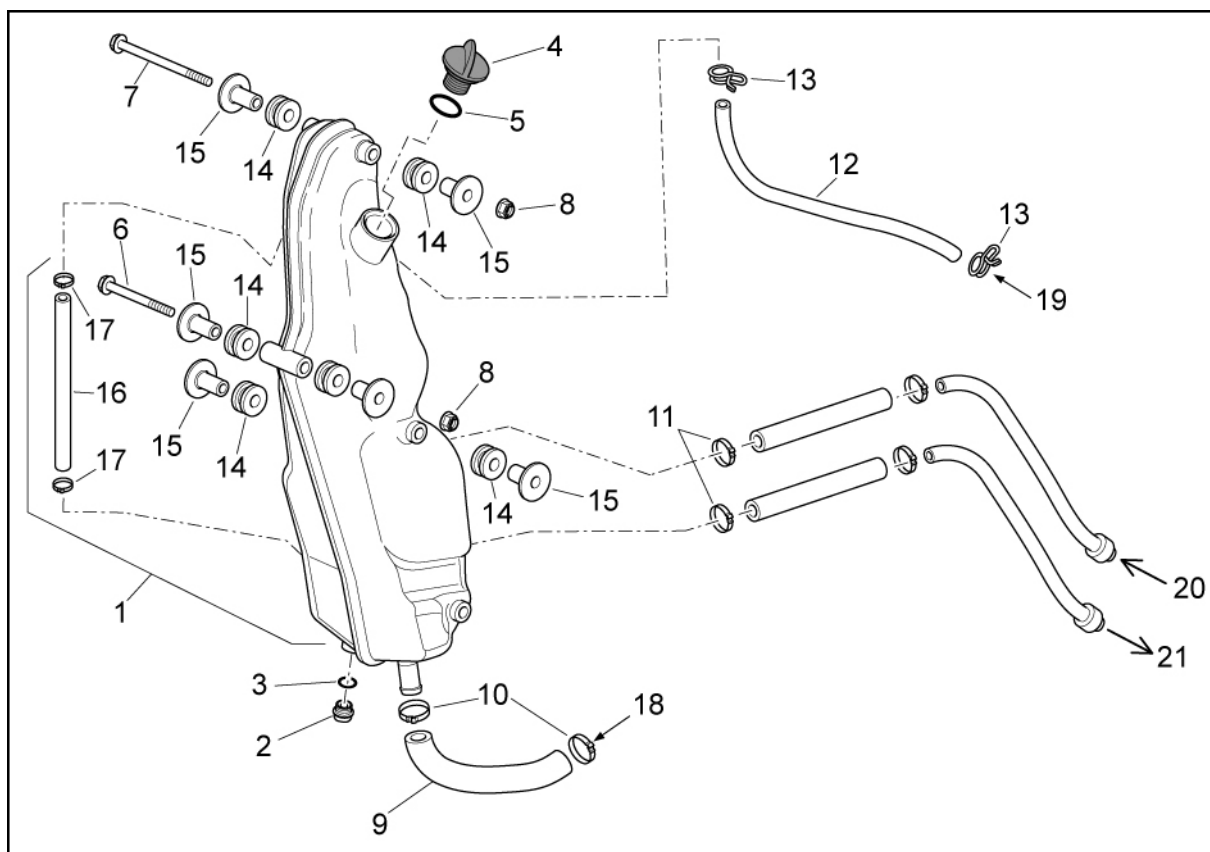
WARNING

The radiators are connected one to the other by means of the lower hose.



4.5. LUBRICATION SYSTEM

4.5.1. DIAGRAM

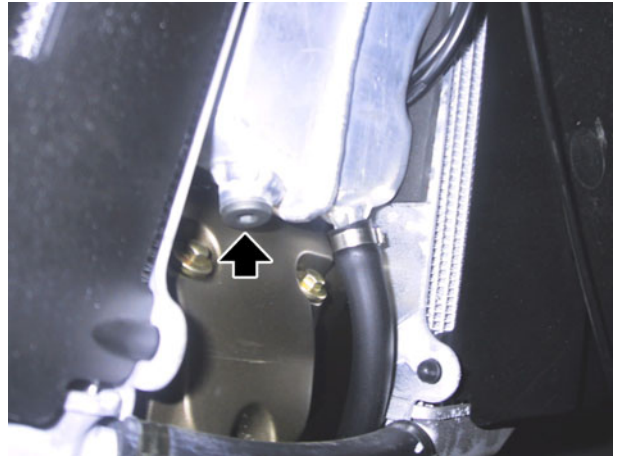


Key:

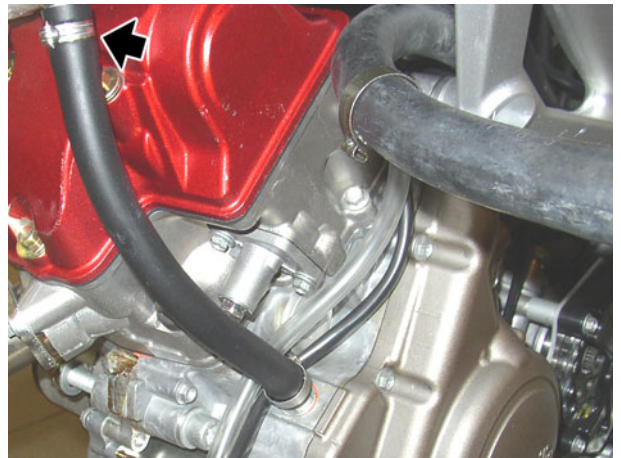
1. Oil tank assembly
2. Oil drain plug
3. Washer 12x18x1.5
4. Oil filler plug M20x1.5
5. O-ring 3075
6. Flanged hex.head screw M6x70
7. Flanged hex.head screw M6x95
8. Narrow self-locking nut M6x1
9. Blow-by hose L=215
10. Click clamp 16.5x6.6
11. Click clamp 15.5x6.6
12. Oil breather hose 9x14
13. Cock clamp
14. Rubber block
15. Tank bushing
16. Oil sight glass
17. Click clamp
18. From engine
19. To air box
20. Inlet
21. Outlet

4.5.2. REMOVING THE OIL TANK

- Remove the seat, see (REMOVING THE SEAT).
- Raise the fuel tank, see (REMOVING THE FUEL TANK).
- Remove the radiators from the cooling system, see (REMOVING THE RADIATORS).
- Prepare a container of suitable capacity under the oil tank plug.
- Loosen and remove oil drain cap.



- Remove the top clamp.
- Slide out the blow-by hose.



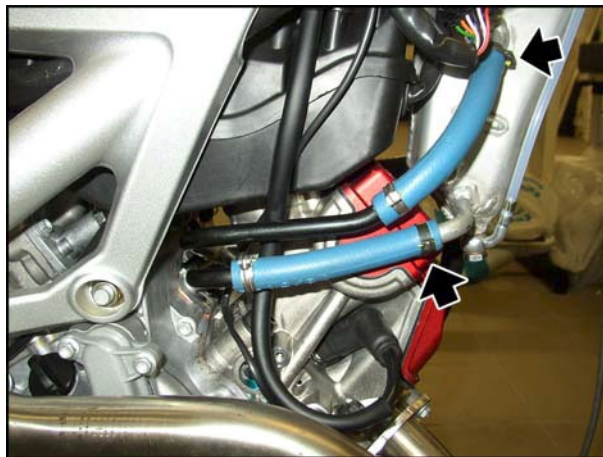
- Release the clamp.



- Remove the hose.



- Release the two clips.
- Remove the two hoses.



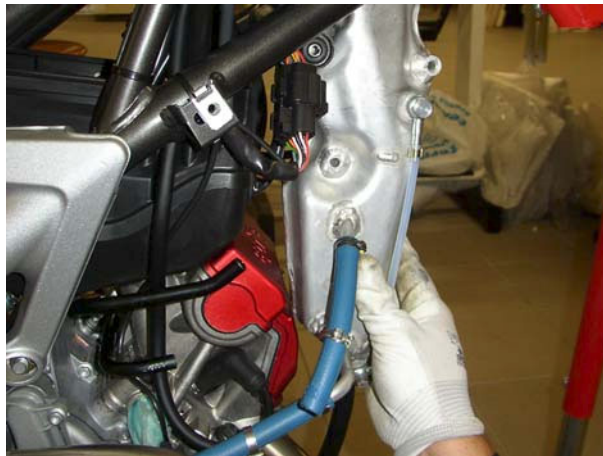
- Working on the right side, loosen and remove the two screws.
- Working on the left side, remove the two nuts.



- Remove oil filler plug.



- Remove the oil tank from below.



CYCLE PARTS

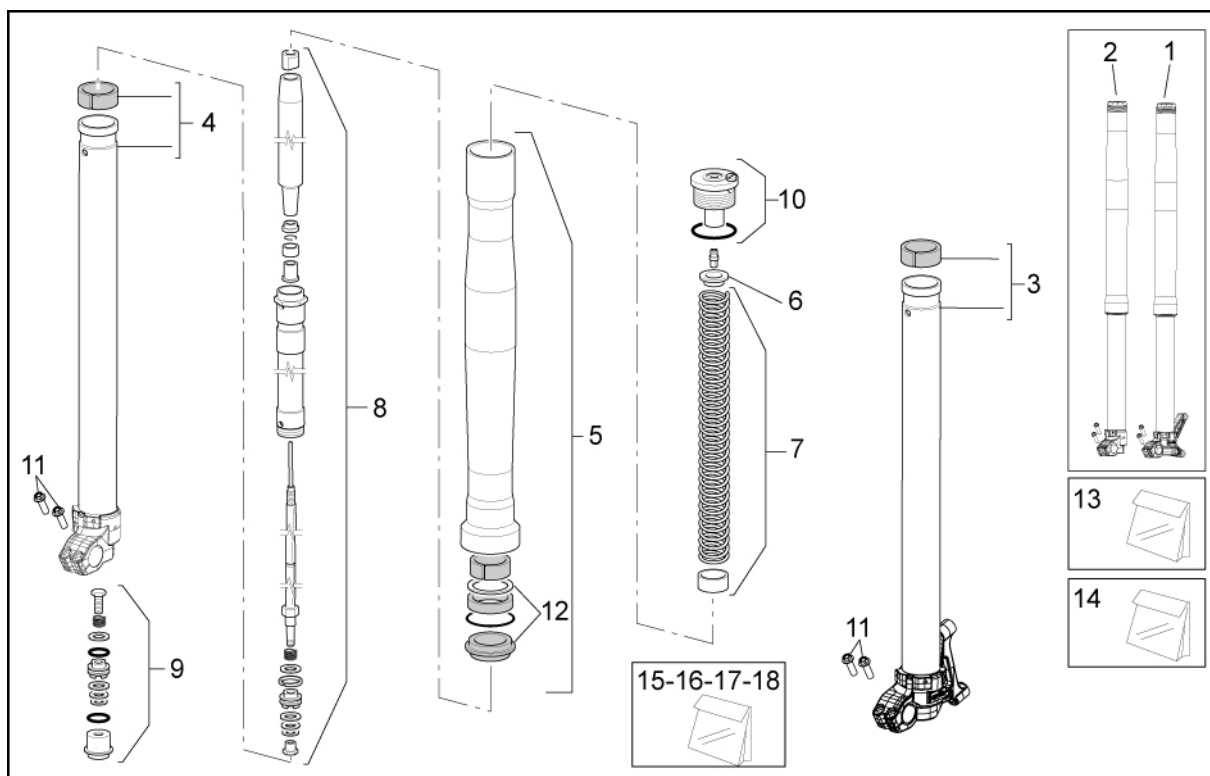
5

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5.1. FRONT FORK (SXV)

5.1.1. DIAGRAM (SXV)



Key:

1. Left fork assembly
2. Right fork assembly
3. Left stanchion
4. Right stanchion
5. Complete sleeve
6. Ring for spring
7. Spring Kit
8. Complete damper rod
9. Complete valve
10. Complete plug
11. Flanged TE screw
12. Dust seal + oil seal kit
13. Seal Kit Ø 1.89 in (48 mm)
14. Bushing Kit
15. Adjust kit thickness 0.0039 in (0.1 mm)
16. Adjust kit thickness 0.0059 in (0.15 mm)
17. Adjust kit thickness 0.0079 in (0.2 mm)
18. Adjust kit thickness 0.0118 in (0.3 mm)

5.1.2. REMOVING THE FORK LEGS (SXV)

- Loosen and remove the two front screws securing the mudguard.



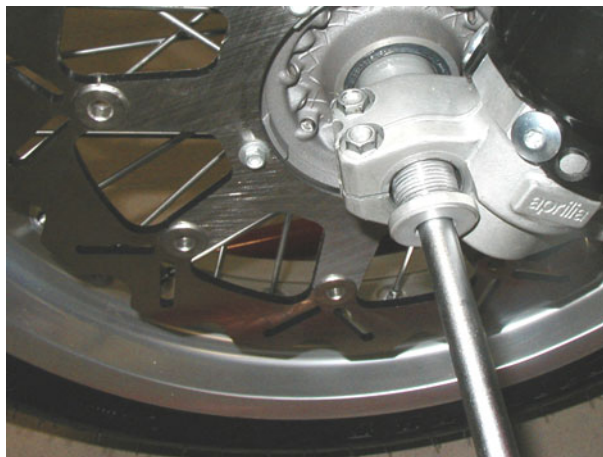
- Loosen and remove the four screws securing the mudguard.
- Remove the front mudguard



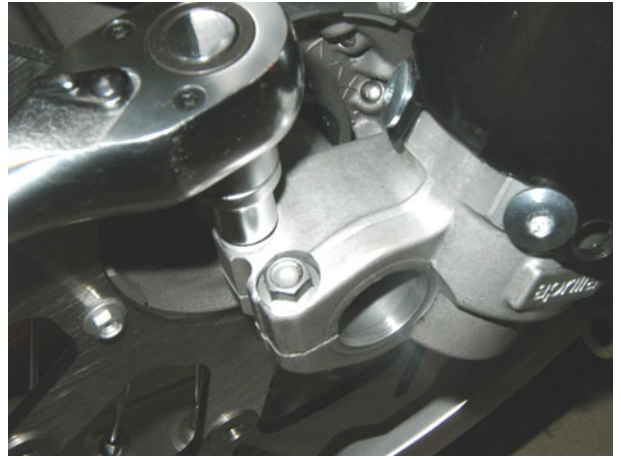
- Place the front stand (OPT) in the fork bottom plate.
- Loosen and remove the two screws securing the brake caliper.
- Remove the brake caliper.



- Working on the left side, loosen and remove the front wheel shaft nut.



- Working on either side, loosen the wheel shaft pinch bolts.



- Working on the right side, slide out the wheel shaft.



- Remove the wheel.



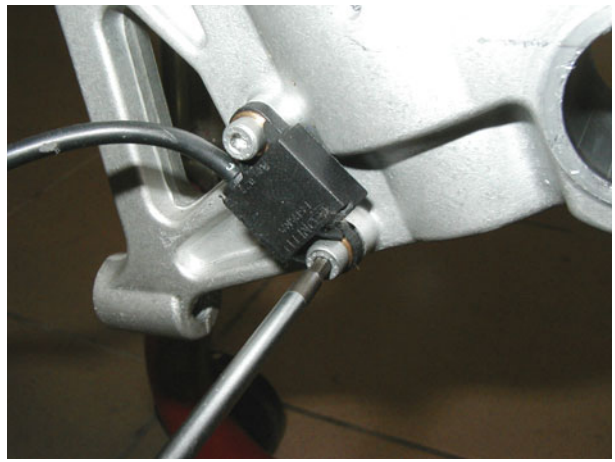
- Collect the bush.

NOTE The next three operations only apply to the left fork leg.

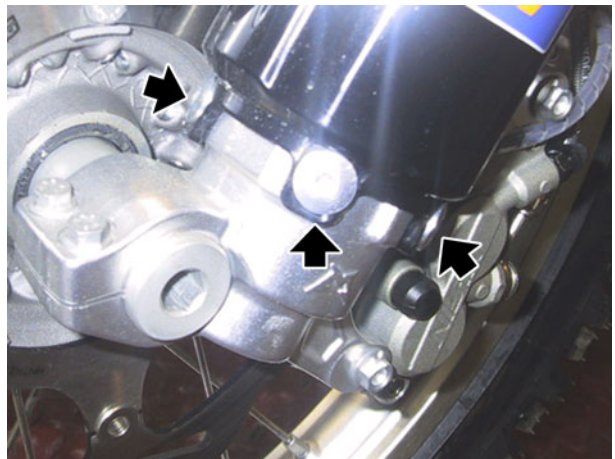
- Remove cable ties from the fork leg.



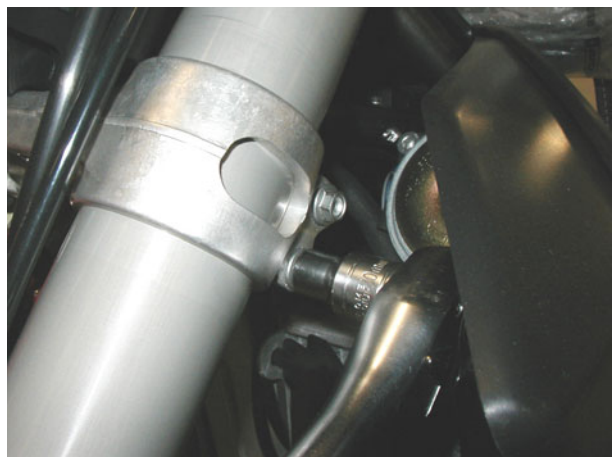
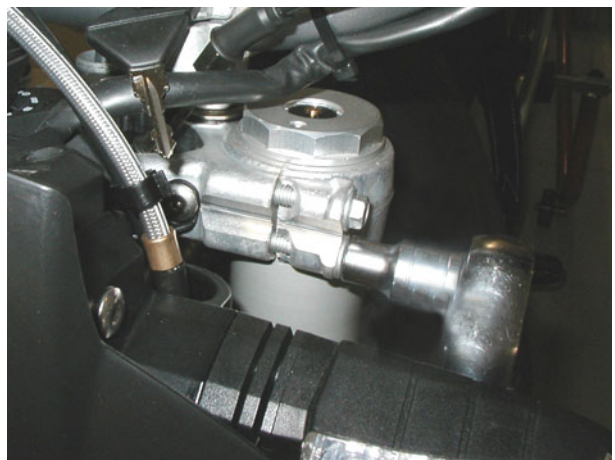
- Loosen and remove the two speed sensor screws.
- Remove the speed sensor.



- Loosen and remove the three leg guard screws.
- Remove the fork leg guard.



- Support the fork leg and loosen the screws from top and bottom plate.



- Remove the fork leg.



5.1.3. CHANGING THE FORK FLUID (SXV)

NOTE The following procedure applies to both fork legs.

Periodically change the fork fluid, see (REGULAR SERVICE INTERVALS CHART).

NOTE While draining and filling fork fluid, the stanchion and its parts should be clamped in a vice; be careful not to tighten them too much or damage them; always use aluminum protections.

DRAINING

Drain oil as follows:

- Remove the fork leg, see (REMOVING THE FORK LEGS - SXV).
- Set sleeve (3) in a vice with safety jaws. Use a hexagonal wrench to loosen the top cap 1.

NOTE Make sure the O-ring (2) is not damaged during removal.

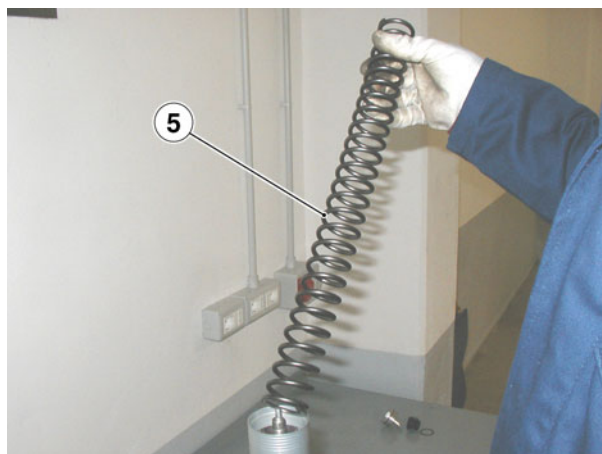
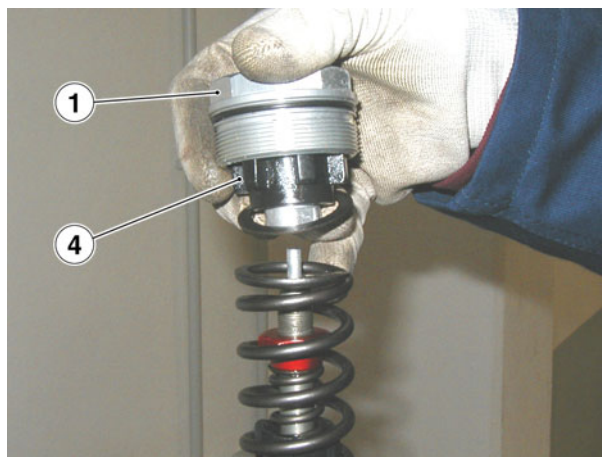
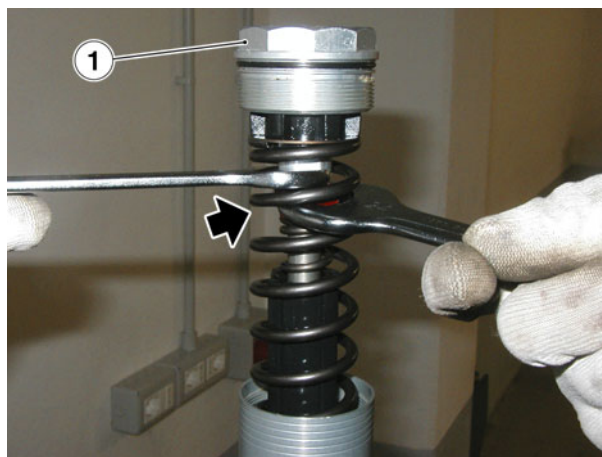
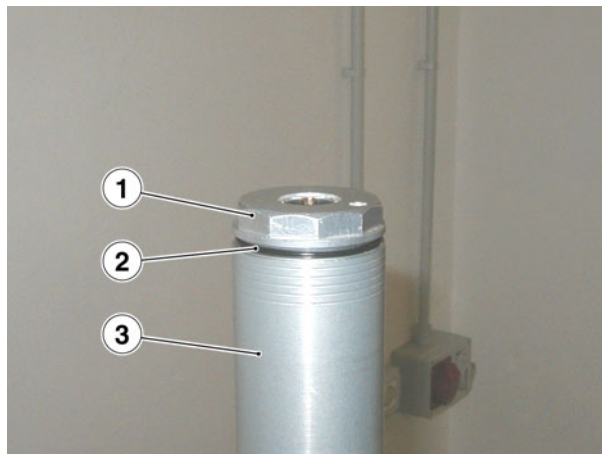
- Push the fork leg into the sleeve.



WARNING

The fork leg/sleeve unit is filled with oil; do not tilt it too much or turn it upside-down during removal.

- Loosen the lock nut indicated by the arrow, holding the plug (1) with a suitable hexagon wrench.
- Remove plug (1) together with plastic bushing (4) and aluminum shim.
- Remove the spring (5). Let oil drip from the spring into the sleeve to avoid topping up or fluid change.



- Drain all oil inside the container as shown.

NOTE Pump the leg inside the sleeve to help oil drain out completely from the damper rod.



FILLING UP:

- Pour fork fluid inside the sleeve (3) up to the correct level that can be measured by inserting a graduated rod inside sleeve (3).

Oil level: 4.92 ± 0.079 in (125 ± 2 mm)
(from leg edge)

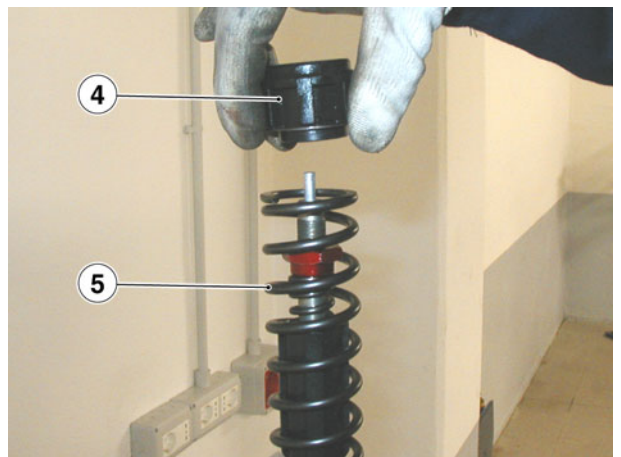
NOTE To correctly measure the fluid level, ensure that sleeve (3) is perfectly vertical and fully home in the leg. Fluid level shall be the same in both fork legs.



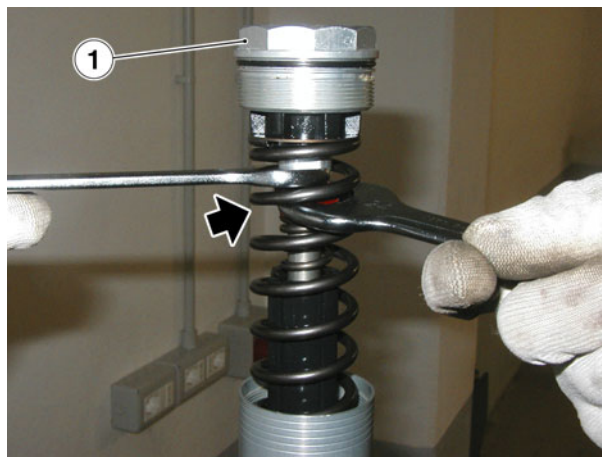
- Fit spring (5) in the sleeve.



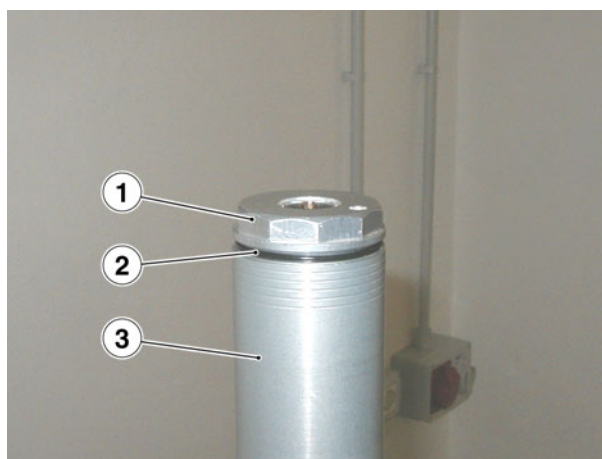
- Fit aluminum shim and plastic bushing (4) onto spring (5).



- Ensure that O-ring (2) is fitted to top cap (1).
- Hold the lock nut and tighten the top cap (1) finger tight onto damper rod.

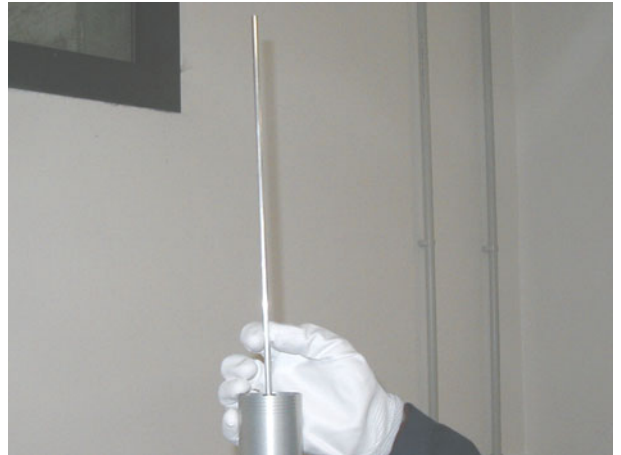


- Tighten the cap (1) onto sleeve (3).



5.1.4. DISASSEMBLING THE FRONT FORK (SXV)

- Drain all fluid from inside the fork leg, see (CHANGING THE FORK FLUID - SXV).
- Slide out the damper rod.



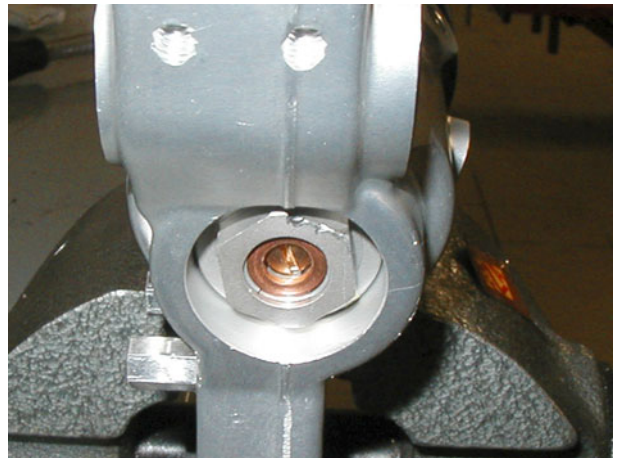
- Clamp the sleeve in a vice, in horizontal position.



WARNING

Place a container under the bottom plug.

- Loosen and remove the bottom plug using an air gun.



NOTE Make sure the O-rings are not damaged during removal.



- Slide out the complete damper rod.



- Slide out the dust seal (1) from the sleeve prising it out with a screwdriver.

**WARNING**

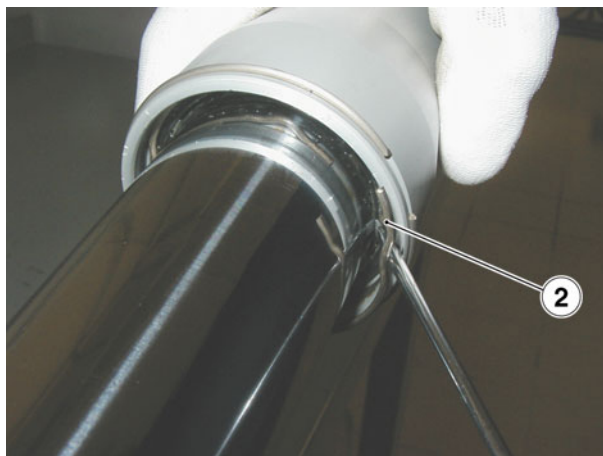
Be careful not to damage the tube edge and the dust seal (1).



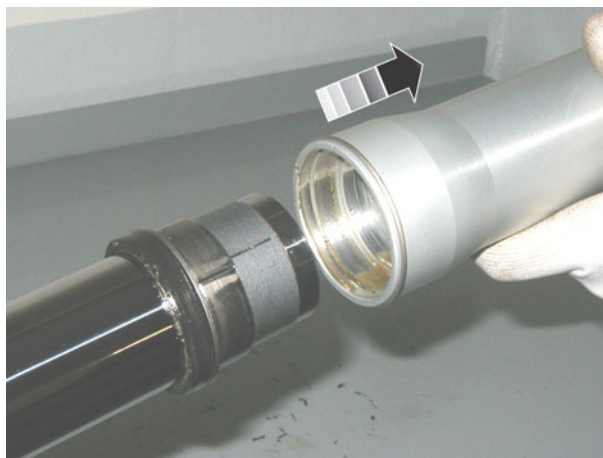
- Remove the snap ring (2) from inside the sleeve, using a screwdriver.

**WARNING**

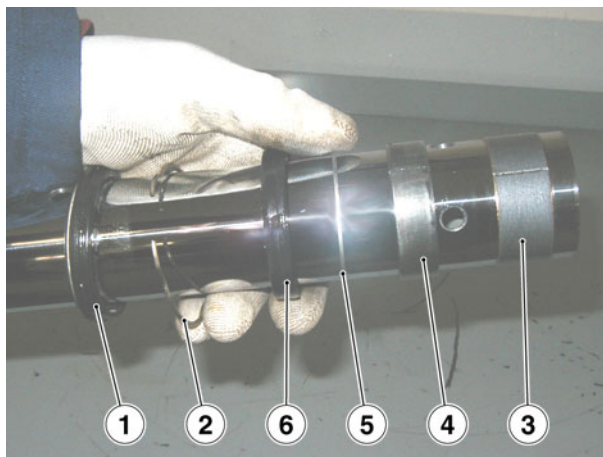
Be careful not to damage the sleeve edge.



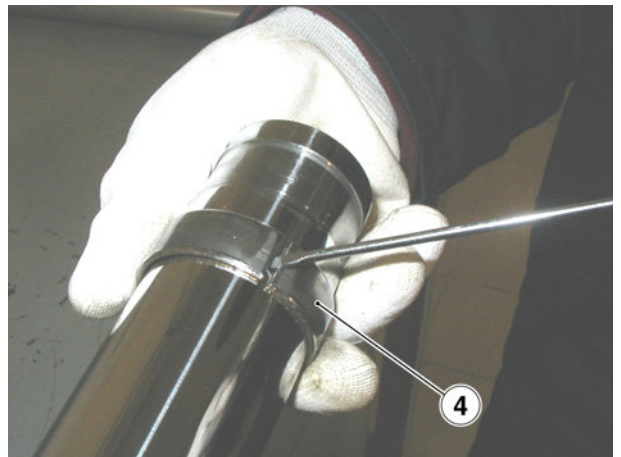
- Firmly remove the sleeve.



- The fork leg still holds:
 - bushing (3);
 - guide ring (4);
 - shim (5);
 - oil seal (6);
 - stop ring (2);
 - dust scraper seal (1).



- Bushing (3) and guide ring (4) can be removed using a small screwdriver; then the following parts can also be removed:



shim (5),



oil seal (6),

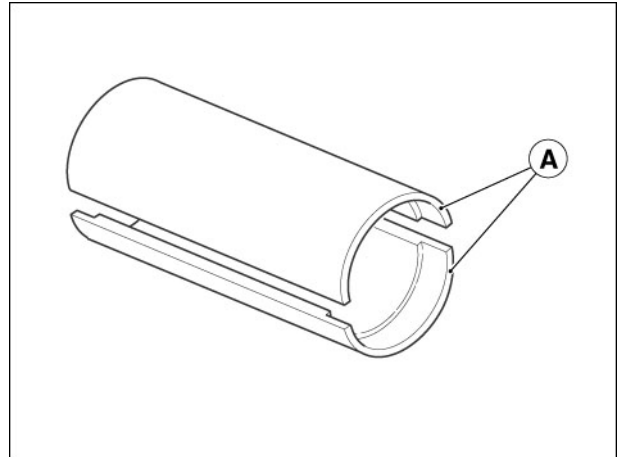


snap ring (2) and dust scraper seal (1).



5.1.5. REASSEMBLING THE FRONT FORK (SXV)

NOTE Take the suitable special tool **OPT (A)** (part no. 9100904) before proceeding and smear the gaskets and bushings with fork fluid before refitting them.

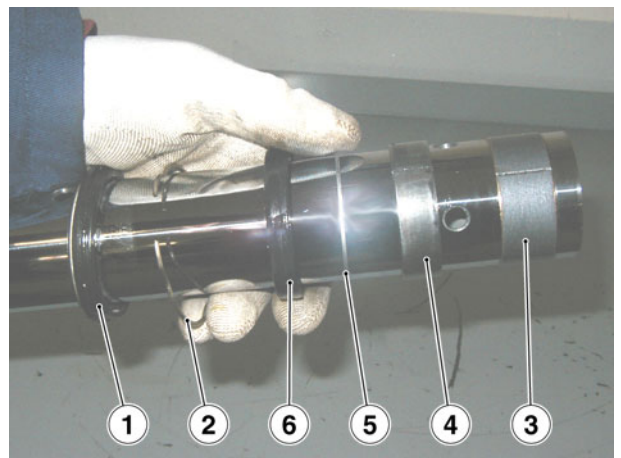


- Fit the components onto the fork leg in the following order:
 - dust scraper seal (1);
 - stop ring (2);
 - oil seal (6);
 - shim (5);
 - guide ring (4);
 - bushing (3);

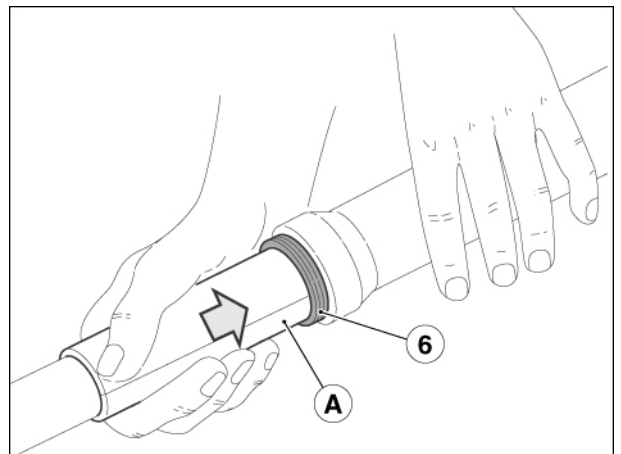


WARNING

Tape the bushing (3) groove before fitting the oil seal so to avoid damaging the seal lip.



- Vice the fork leg using pads in soft material to avoid damages (such as aluminum).
- Fit bushing (3) in its seat on the fork leg.
- Fit the sleeve to the fork leg.
- Take the guide ring (4) and shim (5) fully home against the sleeve.
- Using the suitable insertion tool (A), push oil seal (6) fully home in the sleeve.



- Fit the snap ring (2).



- Fit the dust scraper ring (1).



- Fit the complete damper rod fully home in the fork leg.



- Fit and tighten the bottom plug.

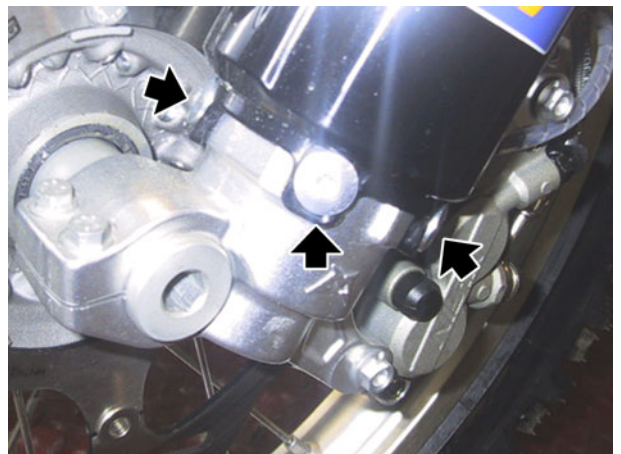
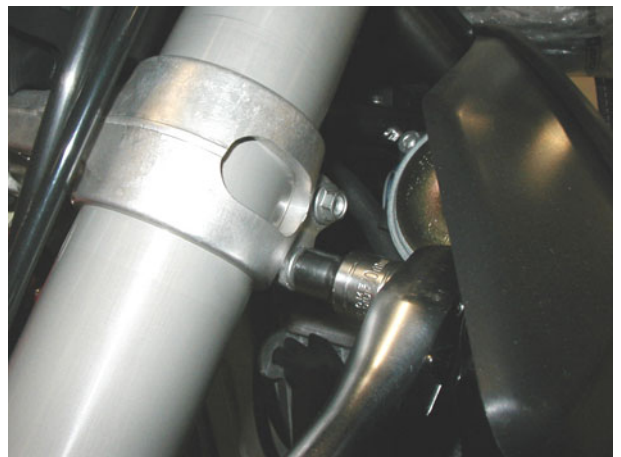
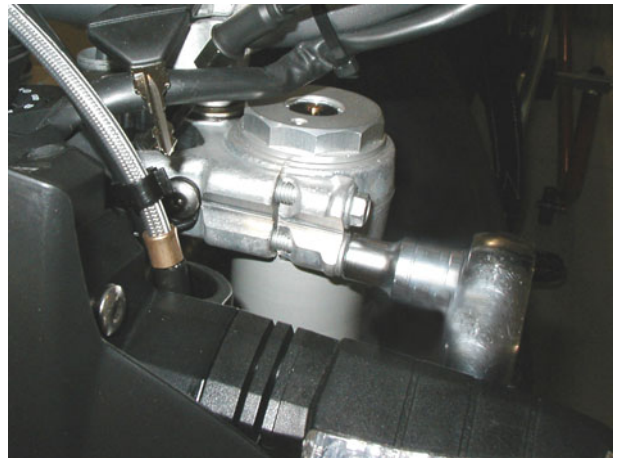


- Fit the damper rod.
- Proceed by filling with fluid, see (CHANGING THE FORK FLUID - SXV).

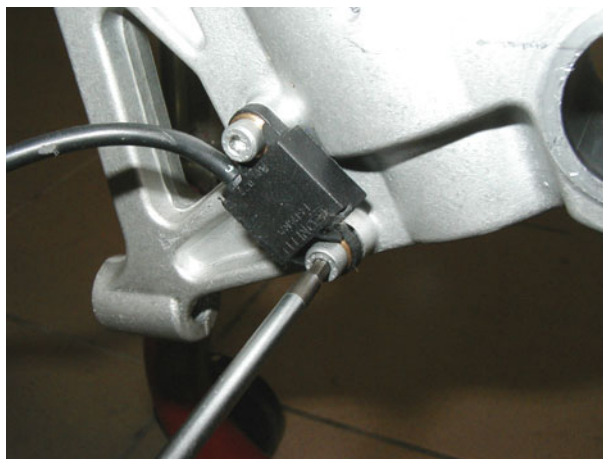


5.1.6. INSTALLING THE FORK LEGS (SXV)

- Fit the fork leg.
- Support the fork leg and tighten the two screws on top and bottom plate.
- Install the leg guard, position and tighten the three screws.



- Fit the speed sensor and tighten the two screws.



- Refit the bush.



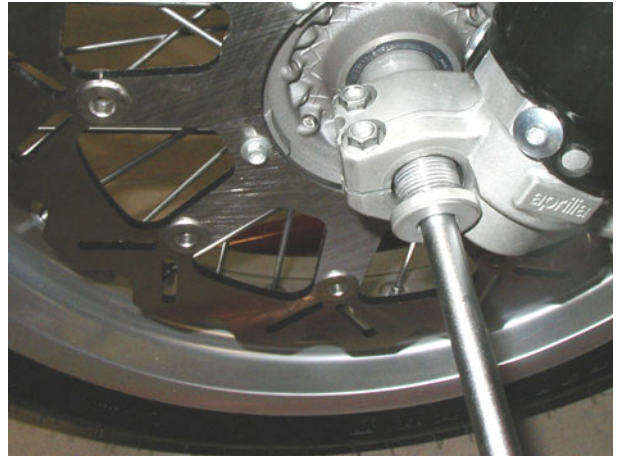
- Refit the wheel.



- Working on the right side, fit the wheel shaft.



- Working on the left side, partially tighten the front wheel shaft nut.



NOTE To lock wheel shaft rotation tighten the two screws on fork clamp, right side.

- Working on the left side, tighten the front wheel shaft nut.
- Tighten the two screws on wheel shaft left fork clamp.



- Position the brake caliper in its seat.
- Tighten the two brake caliper screws.
- Remove the front support (OPT), and place the vehicle on the side stand, see (POSITIONING THE VEHICLE ON THE STAND).
- Secure the sensor cable using a tie.



- Fit the mudguard and tighten the four screws.

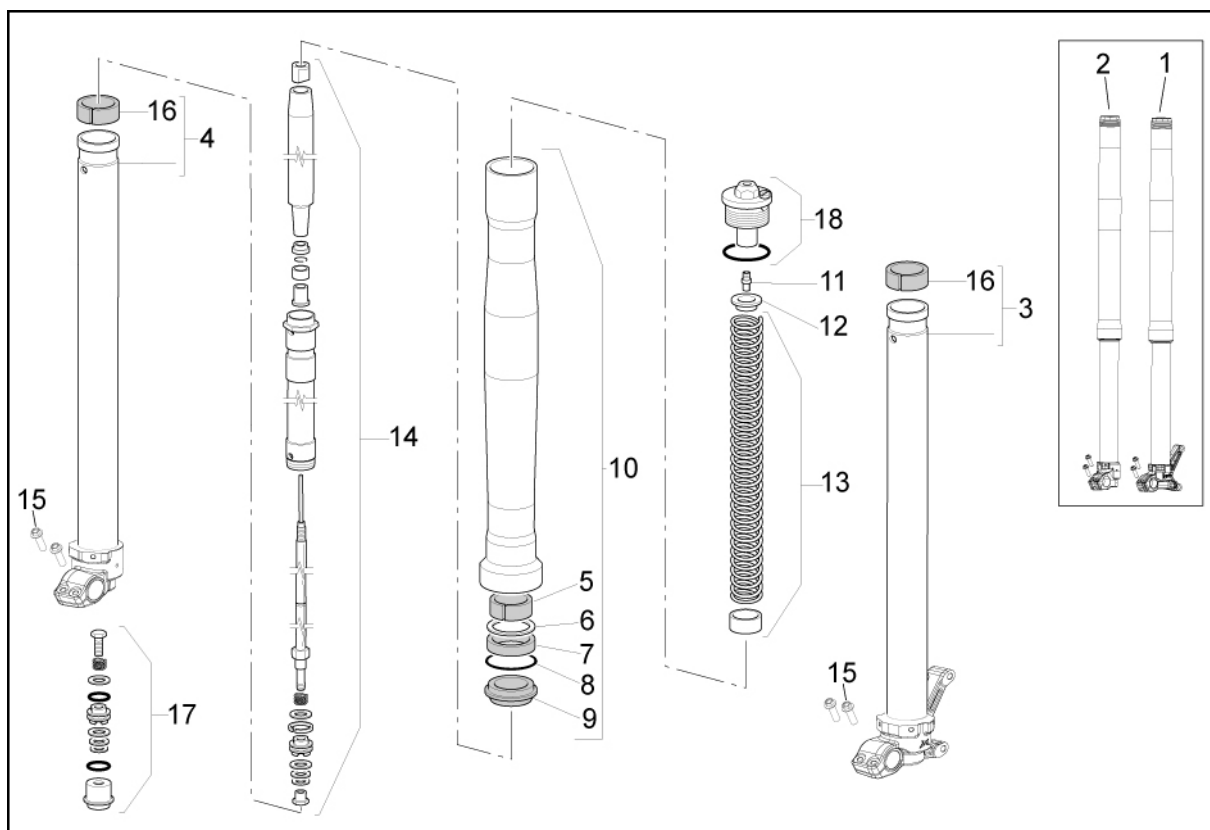


- Tighten the two mudguard front screws.



5.2. FRONT FORK (RXV)

5.2.1. DIAGRAM (RXV)



Key:

1. Left fork assembly
2. Right fork assembly
3. Left stanchion
4. Right stanchion
5. Upper bushing
6. Seal
7. Retainer
8. Snap ring
9. Dust scraper ring
10. Complete sleeve
11. Dowel + O-ring
12. Ring for spring
13. Spring Kit
14. Complete damper rod
15. Flanged TE screw
16. Tube lower bushing
17. Complete valve
18. Complete plug

5.2.2. REMOVING THE FORK LEGS (RXV)

- Loosen and remove the two front screws securing the mudguard.

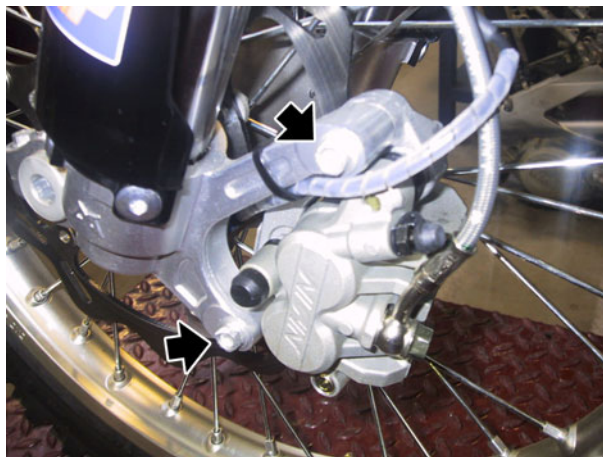


- Loosen and remove the four screws securing the mudguard.
- Remove the front mudguard.

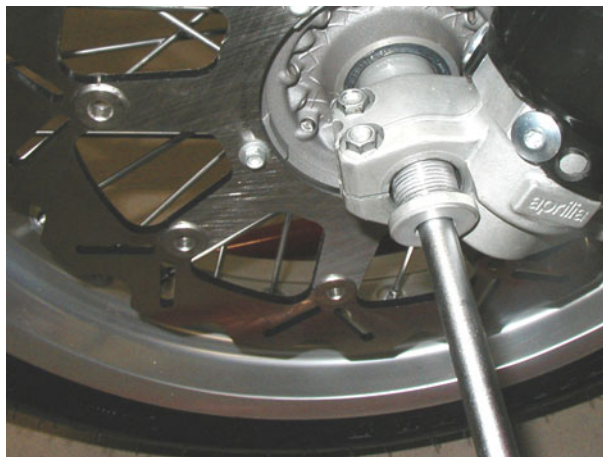


- Place the front stand (OPT) in the fork bottom plate.
- Loosen and remove the two screws securing the brake caliper.
- Remove the brake caliper.

NOTE The speed sensor cable is routed outside the brake caliper and is fitted with a protection.



- Working on the left side, loosen and remove the front wheel shaft nut.



- Working on either side, loosen the wheel shaft pinch bolts.



- Working on the right side, slide out the wheel shaft.



- Remove the wheel.



- Collect the bush.

NOTE The next three operations only apply to the left fork leg.

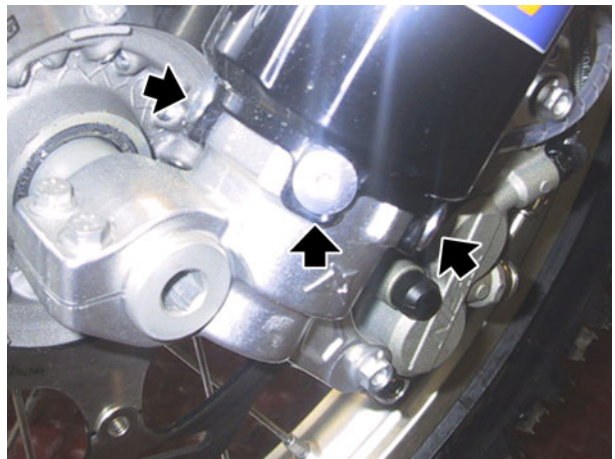
- Remove cable ties from the fork leg.



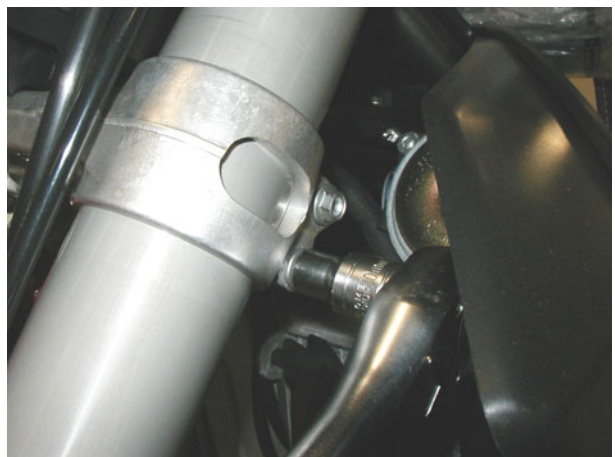
- Loosen and remove the two speed sensor screws.
- Remove the speed sensor.



- Loosen and remove the three leg guard screws.
- Remove the fork leg guard.



- Support the fork leg and loosen the screws from top and bottom plate.



- Remove the fork leg.



5.2.3. CHANGING THE FORK FLUID (RXV)

NOTE The following procedure applies to both fork legs.

Periodically change the fork fluid, see (REGULAR SERVICE INTERVALS CHART).

NOTE While draining and filling fork fluid, the stanchion and its parts should be clamped in a vice; be careful not to tighten them too much or damage them; always use aluminum protections.

DRAINING

Drain oil as follows:

- Remove the fork leg, see (REMOVING THE FORK LEGS - RXV).
- Set fork leg (3) in a vice with safety jaws. Use a hexagonal wrench to loosen the top cap 1.

NOTE Make sure the O-ring (2) is not damaged during removal.

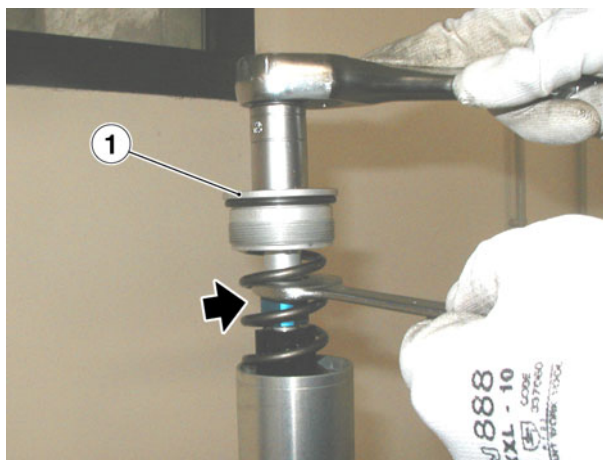
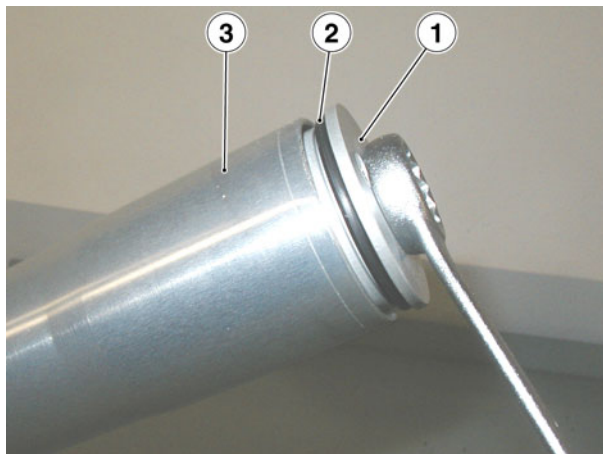
- Push the fork leg into the sleeve.



WARNING

The fork leg/sleeve unit is filled with oil; do not tilt it too much or turn it upside-down during removal.

- Loosen the lock nut indicated by the arrow, holding the plug (1) with a suitable hexagon wrench.
- Remove the cap (1).



- Remove the plastic bushing (4)



- Remove the spring (5). Let oil drip from the spring into the sleeve to avoid topping up or fluid change.



- Drain all oil inside the container as shown.

NOTE Pump the tube inside the stanchion to help oil drain out completely from the damper rod.

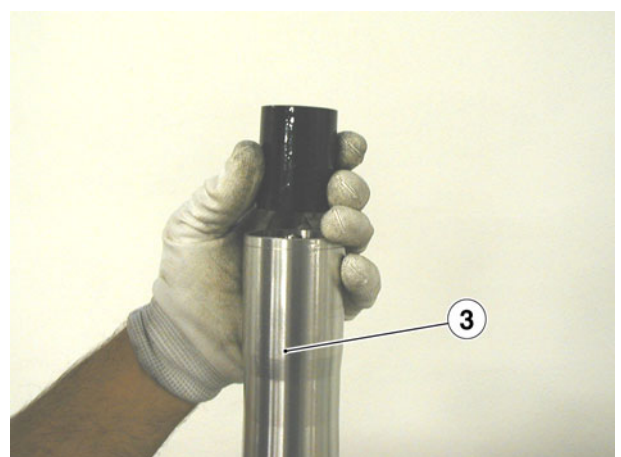


- Remove the preload tube.



FILLING UP:

- Install the preload tube in the sleeve (3).



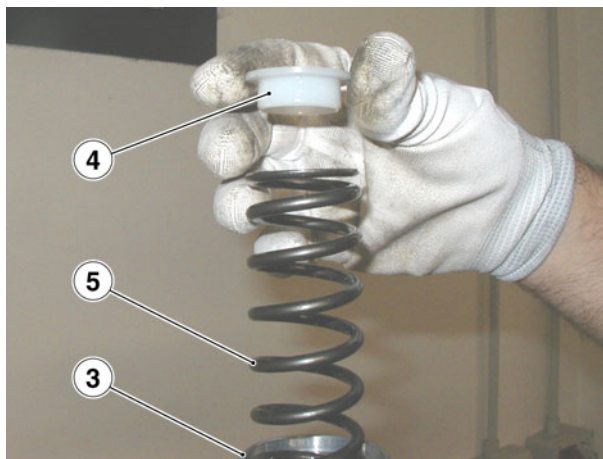
- Pour fork fluid inside the sleeve (3) up to the correct level that can be measured by inserting a graduated rod inside sleeve (3).

Oil level: **3.94** ± **0.079** in
(100 ± 2 mm) (from leg edge)

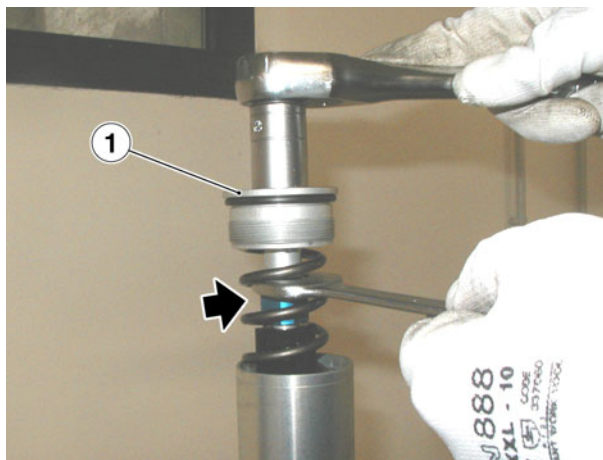
NOTE To correctly measure the fluid level, ensure that fork leg (3) is perfectly vertical and fully home in the sleeve. Fluid level shall be the same in both fork legs.



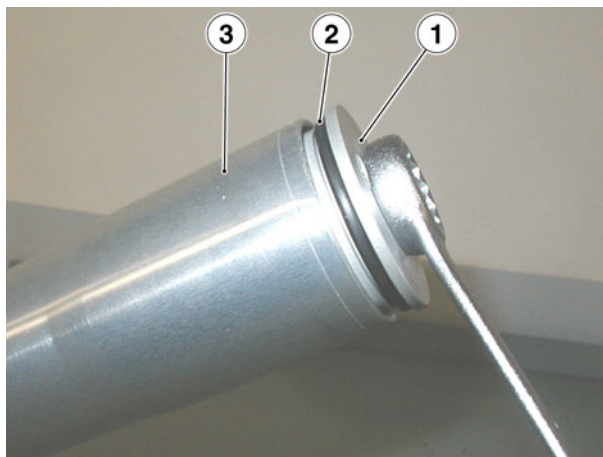
- Install in sleeve (3) the spring (5) completed with plastic bushing (4).



- Ensure that O-ring (2) is fitted to top cap (1).
- Hold the lock nut and tighten the top cap (1) finger tight onto damper rod.

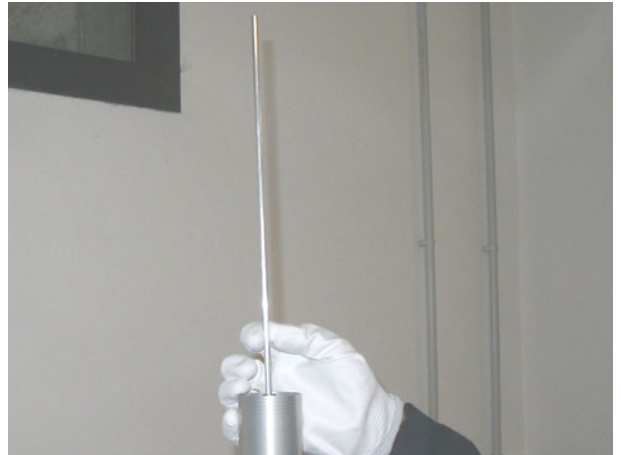


- Tighten the cap (1) onto sleeve (3).



5.2.4. DISASSEMBLING THE FRONT FORK (RXV)

- Drain all fluid from inside the fork leg, see (CHANGING THE FORK FLUID - RXV).
- Slide out the damper rod.



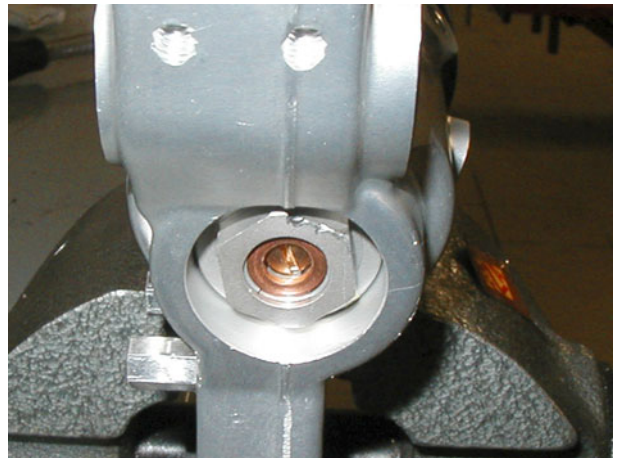
- Clamp the sleeve in a vice, in horizontal position.



WARNING

Place a container under the bottom plug.

- Loosen and remove the bottom plug using an air gun.



NOTE Make sure the O-rings are not damaged during removal.



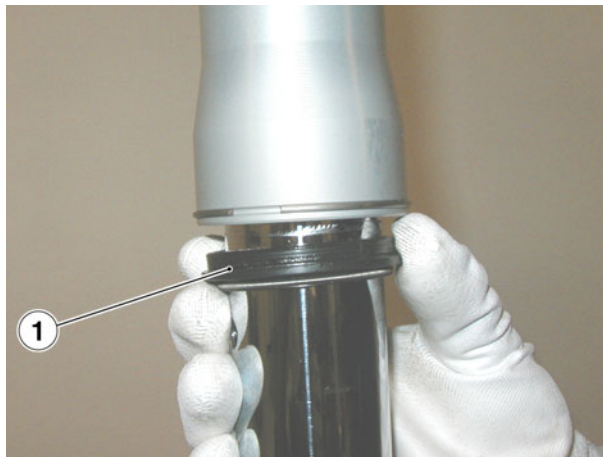
- Slide out the complete damper rod.



- Slide out the dust seal (1) from the sleeve prising it out with a screwdriver.

**WARNING**

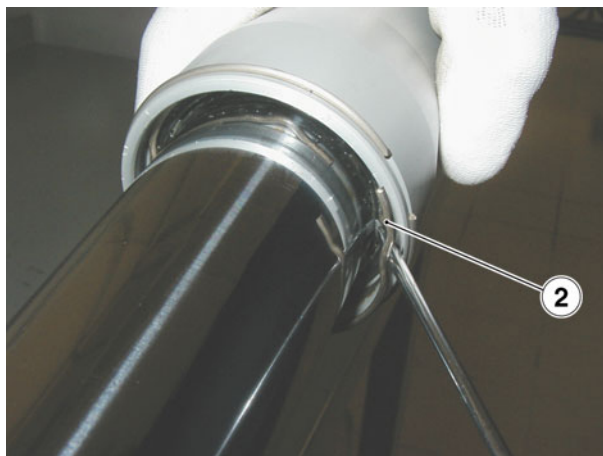
Be careful not to damage the tube edge and the dust seal (1).



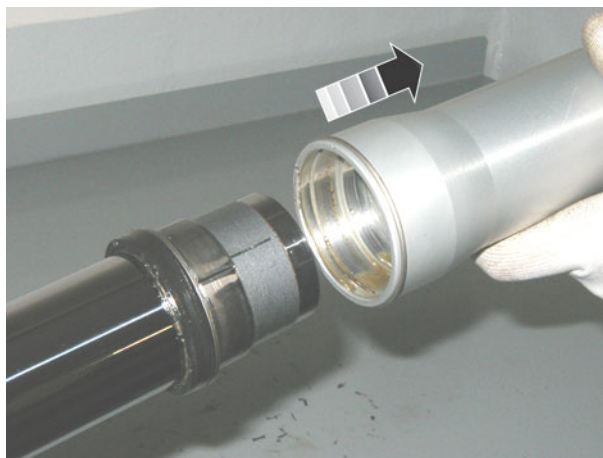
- Remove the snap ring (2) from inside the sleeve, using a screwdriver.

**WARNING**

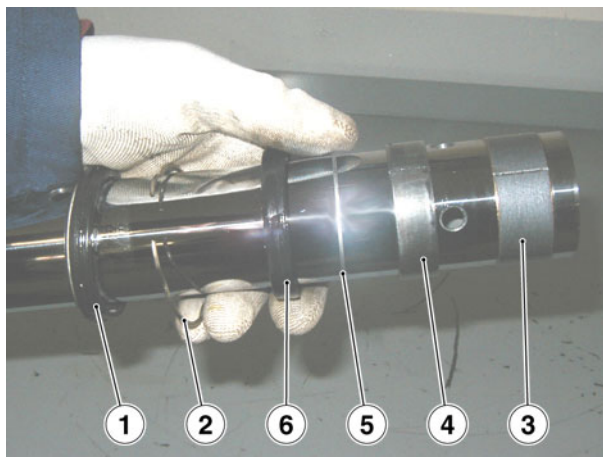
Be careful not to damage the sleeve edge.



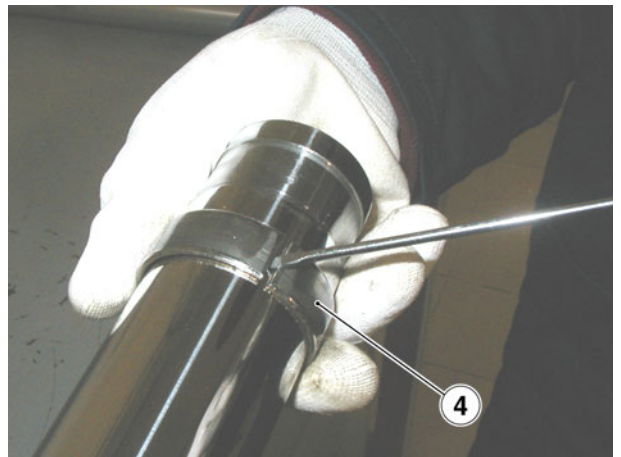
- Firmly remove the sleeve.



- The fork leg still holds:
 - bushing (3);
 - guide ring (4);
 - shim (5);
 - oil seal (6);
 - snap ring (2);
 - dust scraper seal (1).



- Bushing (3) and guide ring (4) can be removed using a small screwdriver; then the following parts can also be removed:



shim (5),



oil seal (6),



snap ring (2);

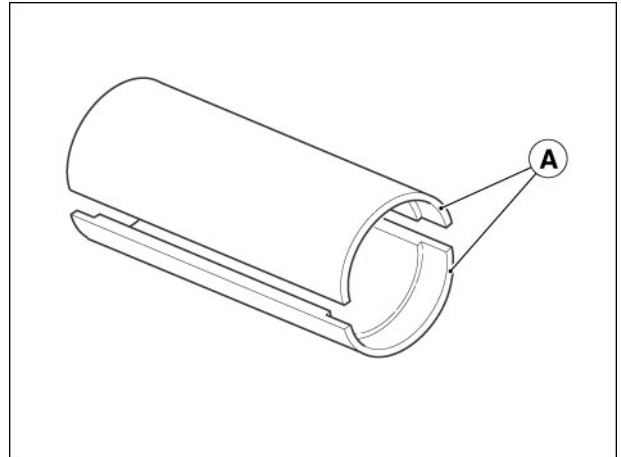


dust scraper seal (1).



5.2.5. REASSEMBLING THE FRONT FORK (RXV)

NOTE Take the suitable special tool **OPT (A)** (part no. 9100903) before proceeding and smear the gaskets and bushings with fork fluid before refitting them.

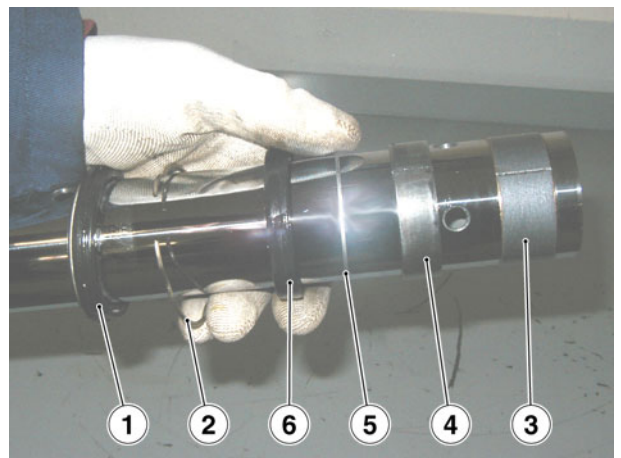


- Fit the components onto the fork leg in the following order:
 - dust scraper seal (1).
 - snap ring (2);
 - oil seal (6);
 - shim (5);
 - guide ring (4);
 - bushing (3);

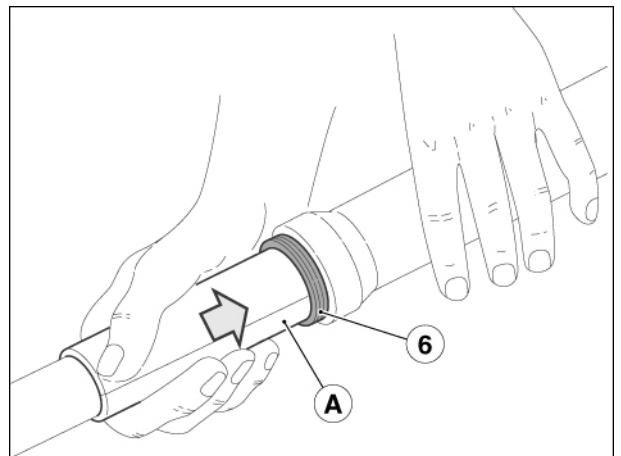


WARNING

Tape the bushing (3) groove before fitting the oil seal in order to avoid damaging the seal lip.



- Vice the fork leg using pads in soft material to avoid damages (such as aluminum).
- Fit bushing (3) in its seat on the fork leg.
- Fit the sleeve to the fork leg.
- Take the guide ring (4) and shim (5) fully home against the sleeve.
- Using the suitable insertion tool (A), push oil seal (6) fully home in the sleeve.



- Then fit the snap ring (2) and the dust scraper seal (1).





- Fit the complete damper rod fully home in the fork leg.



- Fit and tighten the bottom plug.

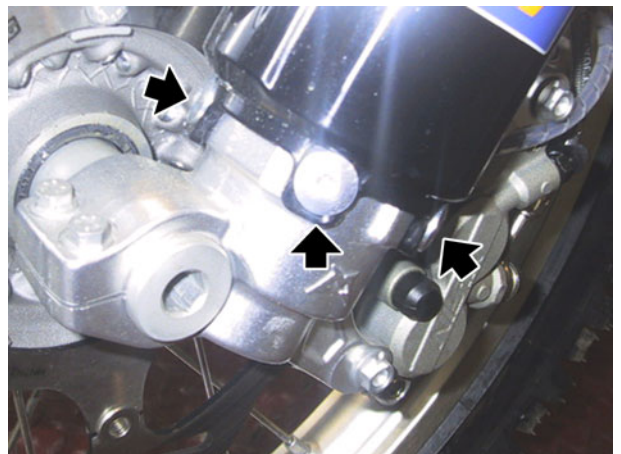
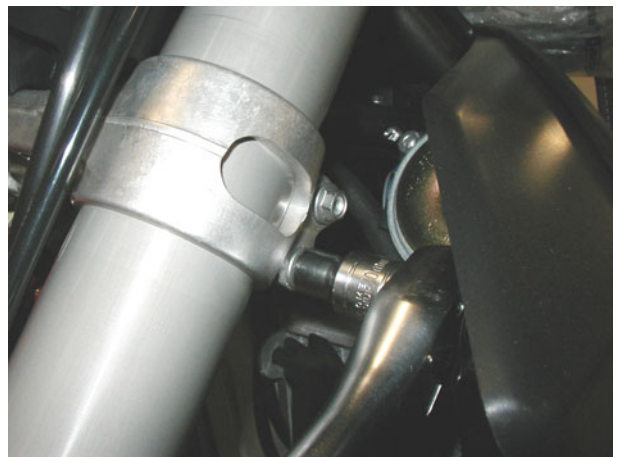


- Fit the damper rod.
- Proceed by filling with fluid, see (CHANGING THE FORK FLUID - RXV).



5.2.6. INSTALLING THE FORK LEGS (RXV)

- Fit the fork leg.
- Support the fork leg and tighten the two screws on top and bottom plate.
- Install the leg guard, position and tighten the three screws.



- Fit the speed sensor and tighten the two screws.



- Refit the bush.



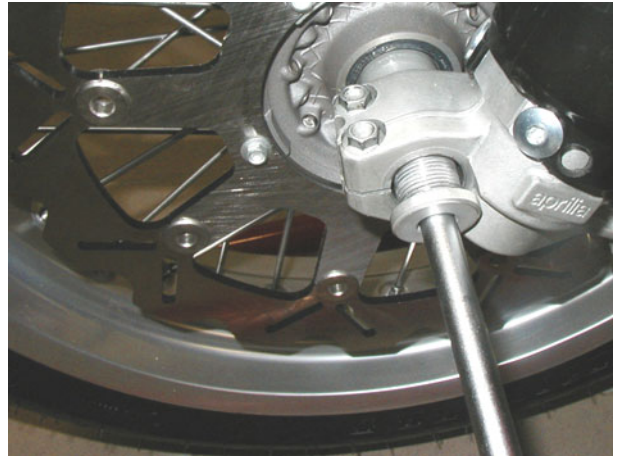
- Refit the wheel.



- Working on the right side, fit the wheel shaft.



- Working on the left side, partially tighten the front wheel shaft nut.



NOTE To lock wheel shaft rotation tighten the two screws on fork clamp, right side.

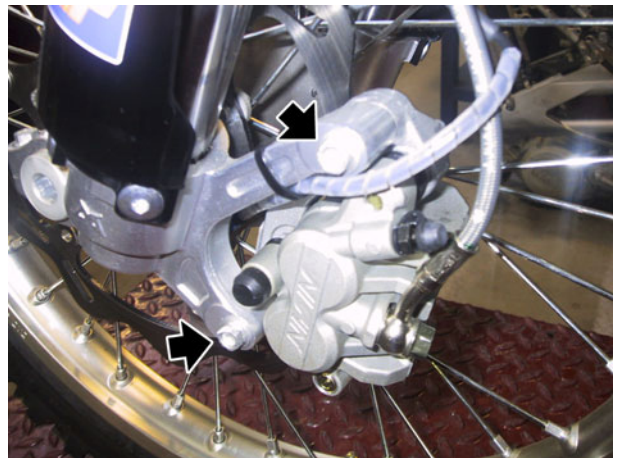
- Working on the left side, tighten the front wheel shaft nut.
- Tighten the two screws on wheel shaft left fork clamp.



- Position the brake caliper in its seat.
- Tighten the two brake caliper screws.
- Remove the front support (OPT), and place the vehicle on the side stand, see (POSITIONING THE VEHICLE ON THE STAND).

NOTE The speed sensor cable is routed outside the brake caliper and is fitted with a protection.

- Secure the sensor cable using a tie.



- Fit the mudguard and tighten the four screws.



- Tighten the two mudguard front screws.



ELECTRICAL SYSTEM

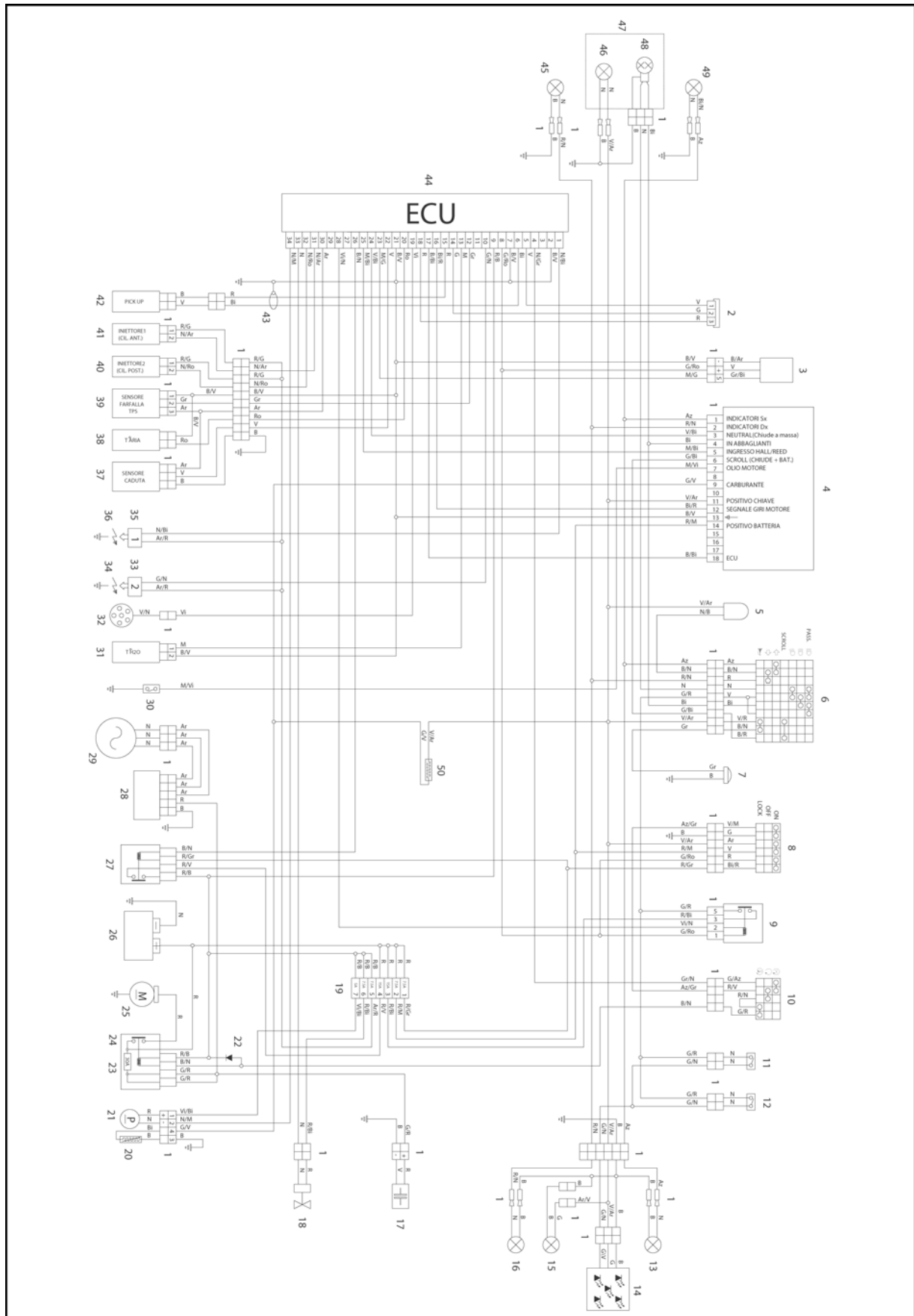
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6.1. ELECTRICAL SYSTEM

6.1.1. SXV - RXV DIAGRAM



Key:

1. Multiple connectors
2. Diagnosis connector
3. Speed sensor
4. Instrument panel
5. Repeater
6. LH dimmer switch
7. Horn
8. Ignition switch
9. Light relay
10. RH dimmer switch
11. Rear stop switch
12. Front stop switch
13. Rear LH turn indicator
14. Tail light
15. Number plate light
16. Rear RH turn indicator
17. (Buffer) capacitor
18. Fan
19. Auxiliary fuses
20. Fuel level sensor
21. Fuel pump
22. Safety diode
23. Main fuse
24. Starter relay
25. Starter motor
26. Battery
27. "ECR" relay
28. Voltage regulator
29. Generator
30. Oil pressure sensor
31. Water temperature sensor
32. Gear sensor
33. Coil 2 (rear cyl.) (mounted to the left)
34. Spark plug 2
35. Coil 1 (front cyl.) (mounted to the right)
36. Spark plug 1
37. Bank angle sensor
38. Intake air temperature sensor
39. Throttle position sensor (TPS)
40. Injector 2 (rear cylinder)
41. Injector 1 (front cylinder)
42. Pick-up
43. Pick-up cable shielding
44. ECU
45. Front RH turn indicator
46. Parking light
47. Headlight
48. Low/high beam light
49. Front LH turn indicator
50. Resistance

CABLE COLOR CODE

Ar	orange
Az	light blue
B	blue
Bi	white
G	yellow
Gr	gray
M	brown
N	black
R	red
Ro	pink
V	green
Vi	violet

