aprilia

1079 1
10/2002-00

ATLANTIC 500

www.serviceaprilia.com

workshopmanual

UK

8140632

LIST OF SECTIONS

Foreword

This manual provides basic information about ordinary vehicle servicing procedures.
The data and illustrations that make up the manual were up to date at the time of publication.
The manual is intended for **aprilia** dealers and their qualified mechanics. Many concepts have been intentionally omitted as they were considered superfluous.
Since this publication cannot provide exhaustive mechanical knowledge, it is assumed that people who make use of this manual have received a basic training in mechanics and possess a working knowledge of vehicle repairing techniques.
Repairing or checking the vehicle without such knowledge would be ineffective and even dangerous.
As the repairing and checking procedures are not described in full detail, special care should be taken to avoid damage to property and personal injury.
With a view to providing its customers with the best possible riding experience, aprilia is committed to continually improving its products and the accompanying documentation.
aprilia dealers and world branches are informed about all major technical modifications and changes in repairing procedures. Such modifications will be covered in later editions of this manual.
Should any need or doubt arise about repairing and checking procedures, do not hesitate to contact **aprilia**'s Consumer Service (A.C.S.): they will be pleased to provide any information you may require and let you know of any technical modifications and updates.
For further information, please refer to:
SPARE PARTS CATALOGUE 6801;
ROTAX ENGINE WORKSHOP MANUAL 10631-I
10641-E
10651-F
10661-D
10671-UK
10681-USA

The main features described herein remaining unchanged, aprilia reserves the right to change its models at any time.
The right to store this document in electronic form and to adapt or reproduce it in whole or in part is reserved worldwide.
The mention of third parties' products and services is made for the sole purpose of information and constitutes no engagement.
aprilia assumes no responsibility about the performance and use of such products or services.

First edition: september 2002

Produced and printed by:
CLD s.r.l. Editing division
Via D. Alighieri, 37/A - 56012 Fornacette (PI)
Tel. +39 (0)587 - 42 28 00
Fax +39 (0)587 - 42 28 01
www.cld.it
E-mail: cld@cld.it

On behalf of:
aprilia S.p.A.
Via G. Galilei, 1 - 30033 Noale (VE) - Italia
Tel. +39 (0)41 - 58 29 111
Fax. +39 (0)41 - 44 10 54
www.aprilia.com
www.serviceaprilia.com

TABLE OF CONTENTS

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

1

General Information

SAFETY WARNINGS

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

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

⚠ WARNING

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

⚠ CAUTION

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

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

PRECAUTIONS AND GENERAL INFORMATION

When repairing, disassembling and reassembling the vehicle, scrupulously observe the following recommendations.

⚠ WARNING

The use of open flames is forbidden under all circumstances.
Before performing any servicing or checks, switch off the engine, remove the ignition key, allow the engine and the exhaust system to cool down, and if possible lift the vehicle on solid level flooring using specific equipment.
To avoid burns, pay special attention to hot engine and exhaust parts.

The vehicle is made up of inedible parts. On no account must any parts be bitten, sucked, chewed or swallowed.

Unless otherwise specified, the reassembly of parts is carried out by following the disassembling procedures in reverse order.
Any overlapping operations in cross-references to other chapters should be interpreted logically so as to avoid unnecessary removal of components.

Never use fuel as a solvent to clean the vehicle.

Disconnect the battery negative (-) cable, control unit and spark plug lug, before performing any electric welding.

When two or more people are working at the same time, pay attention to the safety of each of them.

BEFORE REMOVING COMPONENTS

Remove any dirt, mud, dust and foreign bodies from the vehicle before removing any components.
Use the tools specially designed for this vehicle whenever necessary.

REMOVING COMPONENTS

Never loosen screws and nuts using tools other than the specific spanners.
Mark the positions on all connecting joints (pipes, cables, etc.) before separating them, and identify them with different marks.
Clearly mark each part so it can be easily identified during reinstallation.
Clean and wash the removed components with a low-flash detergent.
Keep mating parts together, as they have adapted to one another through wear and tear. Some components must be used in combination or replaced as a set.
Keep away from heat sources.

REPLACING COMPONENTS

⚠ CAUTION

Never reuse circlips. Always replace removed circlips with new ones.
When fitting a new circlip, take care not to part its ends more than is required to fit it on the shaft.
After fitting a circlip, ensure that it is fully and firmly inserted in its seat.

Never use compressed air to clean the bearings.

NOTE Bearings should always rotate freely, smoothly and silently, otherwise they must be replaced.

Only use GENUINE **aprilia** spares.
Always use the recommended lubricants and consumables.
If possible, lubricate parts before refitting them.
When tightening screws and nuts, start with the larger or the inner ones, and then proceed diagonally.
Carry out the tightening in successive steps before applying the full tightening torque.
Always replace self-locking nuts, seal rings, circlips, O-rings, cotter pins and screws (if the threads are damaged) with new ones.
Clean all mating surfaces, oil seal rims and gaskets before refitting.
Apply a film of lithium grease to the oil seal rims.
Replace the oil seals and the bearings so that the marks or serial numbers face outwards (side in view).
Generously lubricate the bearings before fitting them.
Check that every component has been fitted properly.
After repairing or servicing any parts, carry out preliminary checks and test the vehicle on private ground or in a low-traffic area.

USING THE MANUAL

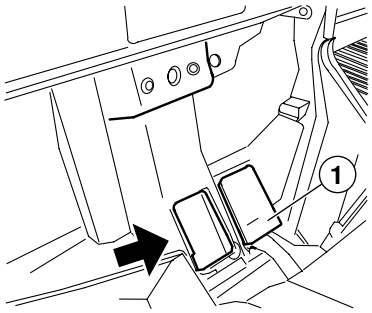
HOW TO CONSULT THE MANUAL

The manual is divided into chapters, each corresponding to a major type of components.
For easy reference, refer to the TABLE OF CONTENTS.
Unless otherwise specified, parts are reassembled by following the disassembling procedures in reverse order.
The terms “left” and “right” refer to the rider sitting on the vehicle in a normal riding position.
Refer to the “OPERATION AND MAINTENANCE MANUAL” for information on how to operate and maintain the vehicle.

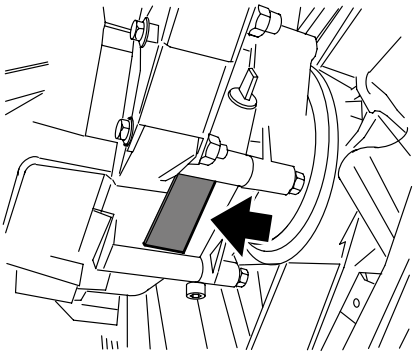
IDENTIFICATION DATA

The frame number may be used to order the spare parts.

NOTE Tampering with serial numbers is subject to severe penalties. In particular, tampering with the frame number immediately voids the warranty.



FRAME NUMBER
The frame number is stamped on the frame central tube. To read it, open the central glove compartment door and remove the cover (1).



ENGINE NUMBER
The engine number is stamped near the lower support of the rear shock absorber.

NOTES ON FUEL, LUBRICANTS, COOLANT AND OTHER ITEMS

FUEL

⚠ WARNING

The fuel used in internal combustion engines is highly flammable and can be explosive under certain conditions.
Refuelling and servicing should be carried out in a well ventilated place after switching off the engine.
Do not smoke while refuelling or in the presence of fuel fumes. Avoid contact with open flames, sparks and any other potential source of ignition or explosion.

Avoid spilling fuel from the tank filler as it may catch fire on contact with the hot engine surfaces.
Should any fuel be inadvertently spilled, be sure to dry up the area before starting the engine.
Since fuel expands when exposed to heat and direct sunlight, avoid filling the tank to the brim.
Carefully close the tank cap after refuelling.
Do not allow fuel to come into contact with the skin and avoid ingesting it or inhaling its fumes. Do not transfer fuel from one vessel into another using a length of tube.

DO NOT DISPOSE OF FUEL IN THE ENVIRONMENT.
KEEP OUT OF REACH OF CHILDREN.
Use only leaded (4 Stars (UK)) or unleaded premium grade petrol, min. O. N. 95 (N. O. R. M.) and 85 (N. O. M. M.).

ENGINE OIL

⚠ WARNING

Engine oil can cause serious damage to the skin if handled every day and for long periods.
Wash your hands carefully after using the oil.
Do not dispose of the oil in the environment.
Put it in a sealed container and take it to the filling station where you usually buy it or to an oil salvage center.

In case any maintenance operation has to be carried out, it is advisable to use latex gloves.

Check the engine oil after the first 1,000 km (625 mi) and then every 3,000 km (1,875 mi). Change the oil every 6,000 km (3,750 mi), see CHANGING THE ENGINE OIL AND THE ENGINE OIL FILTER.

Engine oil (recommended):
Synthetic oil SAE 5W/40 of the SELENIA HI Scooter 4Tech type. Alternatively, use brand-name oils with performance complying with or exceeding the A.P.I. SJ specifications.

TRANSMISSION OIL

⚠ WARNING

Transmission oil can cause serious damage to the skin if handled every day and for long periods.
Wash your hands carefully after using the oil.
Do not dispose of the oil in the environment.
Put it in a sealed container and take it to the filling station where you usually buy it or to an oil salvage center.

In case any maintenance operation has to be carried out, it is advisable to use latex gloves.

Renew the transmission oil after the first 1,000 km (625 mi) and then every 12,000 km (7,500 mi). Refer to the engine workshop manual.

Transmission oil (recommended):
SAE 80W/90 oil of the TUTELA ZC90 type.
Alternatively, use brand-name oils with performance complying with or exceeding the A.P.I. GL-3 specifications.

BRAKE FLUID

⚠ WARNING

Brake fluid can cause irritation if it comes into contact with the skin or the eyes.
Carefully wash any parts of the body that should happen to come into contact with the fluid. Contact an ophthalmologist or a physician if the fluid comes into contact with the eyes.

DO NOT DISPOSE OF THE FLUID IN THE ENVIRONMENT.

KEEP OUT OF REACH OF CHILDREN.

When handling brake fluid, take care not to spill it on plastic and painted parts as they would be damaged. Check the brake fluid level every 6,000 km (3,750 mi) (CHECKING AND RESTORING THE FRONT BRAKE FLUID LEVEL). Renew the fluid every 2 years (RENEWING THE FRONT BRAKE FLUID).

Brake fluid (recommended):
TUTELA TOP 4.
Alternatively, use brand-name brake fluids with performance complying with or exceeding the specifications.
Synthetic fluid SAE J1703, NHTSA 116 DOT 4, ISO 4925

⚠ CAUTION

Do not use brake fluids other than those prescribed. To avoid damaging the braking system, never mix different types of fluids when topping up.
Never use brake fluid taken from an old container, or from a container that has been open for a long time.
Sudden changes in brake play or a spongy feel of the brake levers are due to problems in the hydraulic circuits.
Take special care in ensuring that the brake discs and the brake linings are not oily or greasy, especially after checking or servicing the brakes.
Ensure that the brake lines are not twisted or worn.
Take care not to let any water or dust into the brake circuit.
Latex gloves are recommended for all maintenance operations involving the hydraulic circuit.

FORK OIL

⚠ WARNING

Fork oil can cause serious damage to the skin if handled every day and for long periods.
Wash your hands carefully after using the oil.
Do not dispose of the oil in the environment.
Put it in a sealed container and take it to the filling station where you usually buy it or to an oil salvage center.

In case any maintenance operation has to be carried out, it is advisable to use latex gloves.

The response of the suspension can be partly altered by changing the adjustment of the shock absorbers and/or the viscosity of the oil they contain.

Viscosity grades can be chosen according to the desired vehicle geometry.

COOLANT

⚠ WARNING

**The coolant is harmful if ingested. Contact with the skin or the eyes may cause irritation. Should the liquid come into contact with the skin or the eyes, generously rinse with water and seek medical attention.
If the fluid is ingested, cause vomiting, generously rinse the mouth and throat with water and immediately seek medical attention.**

DO NOT DISPOSE OF THE COOLANT IN THE ENVIRONMENT.

KEEP OUT OF REACH OF CHILDREN.

⚠ WARNING

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

In case maintenance operations are to be performed, it is advisable to use latex gloves.

Do not use the vehicle if the coolant is below the minimum prescribed level"MIN".

Check the coolant level before starting off and every 2,000 km (1,250 mi) (CHECKING AND RESTORING THE COOLANT LEVEL). Renew the coolant every two years (RENEWING THE COOLANT).

The coolant is made up of 50% water and 50% antifreeze.This mixture is ideal for most running temperatures and ensures good protection against corrosion.

It is advisable to keep the same mixture also in the hot season, since in this way losses due to evaporation are reduced and it is not necessary to top up very frequently.
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°, check the cooling circuit frequently and if necessary increase the antifreeze concentration (up to maximum 60%).

For the cooling solution use distilled water, in order not todamage the engine.

Engine coolant (recommended):
PARAFLU 11 FE (diluted).
Alternatively, use brand-name coolants with performance complying with or exceeding the specifications.
Antifreeze fluid based on monoethylene glycol, CUNA NC 958-16.

NOTE Different antifreezes have different characteristics. The degree of protection provided by each product is specified on its label.

⚠ CAUTION

Only use nitrite-free antifreeze and anticorrosive providing protection to temperatures of at least -35° C (31° F).

CARBON MONOXIDE
Whenever the engine needs to be run in order to carry out some operation, ensure that this is done in the open air or in a well-ventilated room.
Never run the engine in a closed environment unless the place is equipped with an exhaust system.

⚠ WARNING

Exhaust gases contain carbon monoxide, a poisonous gas that may cause fainting or even death.
Run the engine in an open space or in a closed space equipped with an exhaust system.

HIGH TEMPERATURE COMPONENTS

⚠ WARNING

The engine and the exhaust components reach high temperatures during use and remain hot for some time even after the engine has been switched off.

Before handling these components, put on insulating gloves or wait for the engine and the exhaust system to cool down.

RUNNING-IN RULES

⚠ WARNING

After the first 1,000 km (625 mi), carry out the checking operations indicated in the column "After running-in" of the Regular Service Intervals Chart, see REGULAR SERVICE INTERVALS CHART, in order to avoid hurting your-self or other people and/ or damaging the vehicle.

The running- in of the engine is primary to ensure its working life and its correct functioning. If possible, drive on hilly roads and/or roads with many bends, so that the engine, the suspensions and the brakes undergo a more effective running-in.

NOTE Only after the first 1,000 km (625 mi) of running-in it is possible to obtain the best speed and acceleration performance from the vehicle.

Keep to the following indications:
- Do not open the throttle completely if the speed is low, both during and after the running-in.
- **0-100 km (0-62 mi)**
  During the first 100 km (62 mi) put on the brakes with caution, avoiding sharp and prolonged brakings.

This ensures a correct bedding-in of the pads on the brake disc.
- **0-500 km (0-312 mi)**
  During the first 500 km (312 mi), do not exceed the 80% of the maximum allowed speed.
- Avoid driving at constant speed for long distances.
- After the first 1,000 km (625 mi), progressively increase the speed until reaching the highest performance levels.

PRECAUTIONS AND GENERAL INFORMATION

When repairing, disassembling and reassembling the vehicle, scrupulously observe the following recommendations.

⚠ WARNING

The use of open flames is forbidden under all circumstances.
Before performing any servicing or checks, switch off the engine, remove the ignition key, allow the engine and the exhaust system to cool down, and if possible lift the vehicle on solid level flooring using specific equipment.
To avoid burns, pay special attention to hot engine and exhaust parts.
The vehicle is made up of inedible parts.
Non mordere, succhiare, masticare o ingerire nessuna parte dello stesso per nessun motivo.
Unless otherwise specified, the reassembly of parts is carried out by following the disassembling procedures in reverse order.

Avoid running the engine in closed or poorly ventilated places.

Petrol is highly flammable and explosive. Handle with the utmost care.

Never use fuel as a solvent to clean the vehicle.

When two or more people are working at the same time, pay attention to the safety of each of them.

– Only use GENUINE **aprilia** spares.
– Only use the recommended lubricants.
– Where provided, use the special tools designed for this type of vehicle.
– Start tightening the screws and nuts with a greater diameter or the inner ones, in a crosswise manner.
– Carefully clean the disassembled components using a detergent with a low degree of flammability.
– Lubricate the parts (when possible) before reassembling.
– Check that every component has been fitted properly.
– Always replace the gaskets, gas rings, piston rings, O rings and split pins with new ones.
– Mark the position on all the junction points (tubes, cables, etc.) before separating them.
Use different and clear identification marks as each part must be easily recognisable during the assembling operations.

⚠ CAUTION

Never reuse circlips.
Always replace removed circlips with new ones.
When fitting a new circlip, take care not to part its ends more than is required to fit it on the shaft.
After fitting a circlip, ensure that it is fully and firmly inserted in its seat.

SPARE PARTS

Only use Genuine **aprilia** Spares.
All Genuine aprilia Spares are high-quality parts specially designed and manufactured for **aprilia** vehicles.

⚠ CAUTION

Using NON-genuine aprilia spares may result in damage and poor performance.

TECHNICAL DATA

DIMENSIONS	
Max. length	2270 mm (89.4 in)
Max. width	720 mm (28.3 in)
Max. height (front part of the fairing included)	1450 mm (57.0 in)
Seat height	780 mm (30.7 in)
Distance between centres	1575 mm (62.0 in)
Min. ground clearance	150 mm (5.9 in)
Weight ready for starting	200 Kg (440.9 lbs)

ENGINE	
Type	4-stroke single-cylinder, 4 valves, single camshaft in cylinder head controlled by chain system on the flywheel side
Number of valves	4
Number of cylinders	1
Total displacement	460 cm^3 (28.0 cu.in)
Bore / stroke	92 mm / 69 mm (3.6 in / 2.7 in)
Compression ratio	10.5 : 1
Starting	electric
Engine idling rpm	1450 ± 50 rpm(rpm)
Clutch	automatic, dry centrifugal clutch
Change	gear automatic
Lubrication system	forced-circulation by means of a trochoidal pump (inside the crankcase), oil filter and bypass for pressure adjustment
Cooling	liquid cooling, forced circulation with centrifugal pump

TRANSMISSION	
Speed change gear	automatic stepless
Primary	V-belt
Secondary	gears
Total engine/wheel ratio	short 1/11.988 long 1/4.86

CAPACITIES	
Fuel (reserve included)	17 ℓ (4.48 gal)
Fuel reserve	4 ℓ (1.05 gal)
Engine oil - engine oil change and engine oil filter replacement only - change for engine overhaul	 1500 cm^3 (91.5 cu.in) 1700 cm^3 (103.7 cu.in)
Transmission oil	~ 250 cm^3 (15.25 cu.in)
Coolant (50% water + 50% antifreeze with ethylene glycol)	1.5 ℓ (0.39 gal)
Front fork oil	220 cm^3 (13.42 cu.in) (for each rod)
Seats	2
Vehicle max. load (driver + luggage)	105 Kg (231.4 lbs)
Vehicle max. load (driver + passenger + luggage)	180 Kg (396.8 lbs)

THROTTLE BODY	
Model	Ø 38 mm (1.5 in) and single injector
Choke tube	diameter 39 mm (1.53 in)

FUEL SUPPLY	
Type	Electronic injection by electric fuel pump
Fuel	Lead free petrol (4 Stars (UK)) with minimum octane number 95 (N.O.R.M.) and 85 (N.O.M.M.)

FRAME	
Type	high resistance steel tubes
Steering inclination angle	28°, 50’
Fore stroke	118 mm (4.6 in)

SUSPENSIONS	
Front	hydraulically operated telescopic fork
Stroke	100 mm (3.93 in) rear
Rear	Two double-acting hydraulic shock absorbers with preload adjustment to five positions
Wheel stroke	100 mm (3.93 in)

BRAKES	
Front	disc brake - Ø 260 mm (10.23 in) - with hydraulic transmission
Rear, combined	disc brake - front 260 mm (10.23 in) combined with the rear brake 220 mm (8.66 in)

WHEEL RIMS	
Type	in light alloy
Front	15 x 3.00
Rear	14 x 3.75

TYRES	
Type	tubeless
Front	120 / 70 - 15 M/C 56R
Rear	140 / 60 - 14 M/C REINF. 64R
STANDARD INFLATION PRESSURE	
Front	210 kPa (2.1 bar/30.4 psi)
Rear	230 kPa (2.3 bar/33.3 psi)
INFLATION PRESSURE WITH PASSENGER	
Front	220 kPa (2.2 bar/31.9 psi)
Rear	260 kPa (2.6 bar/37.7 psi)

IGNITION	
Type	C.D.I. / Inductive
Spark advance	Variable spark advance controlled by the injection power unit

SPARK PLUG	
Standard	CHAMPION RG6YC
- Alternatively	NGK - CR7EKB
Spark plug gap	0.7 - 0.8 mm (0.027 - 0.031 in)

CONTINUED ›

ELECTRIC SYSTEM	
Battery	12 V - 14 Ah
Fuses	30 - 20 - 15 - 3 A
Generator (with permanent magnet)	14 V - 330 W

BULBS	
Low / high beam	12 V - 55 W / 12 V - 35 W
Front parking lights	12 V - 5 W
Direction indicators	rear 16 W - front 10 W
Rear parking light / stoplight	12 V - 5 / 21 W
Helmet compartment light	12 V - 3 W
Number plate	12 V - 5 W
Dashboard light	LED
Third stoplight	12 V - 2.3 W

WARNING LIGHTS	
Direction indicators	LED
Engine oil pressure	LED
Low beam	LED
High beam	LED
Low fuel	LED
Brake pads wear	LED
Coolant high temperature indicator	LED

LUBRICANT CHART

Engine oil (recommended): IP SUPERBIKE 4, SAE 5W - 40 or Agip 4T FORMULA RACING, SAE 5W - 40.
As an alternative to the recommended oil, it is possible to use high- quality oils with characteristics in compliance with or superior to the A.P.I. SJ specifications.

Transmission oil (recommended): IP F.C., SAE 75W - 90 or Agip GEAR SYNTH, SAE 75W - 90.
As an alternative to the recommended oil, it is possible to use high- quality oils with characteristics in compliance with or superior to the A.P.I. GL3 specifications.

Fork oil (recommended): IP F.A. 5W or IP F.A. 20W; an alternative Agip FORK 5W or Agip FORK 20W.
If you wish to have an intermediate performance between the products offered, IP F.A.5 W and IP F.A.20W or Agip FORK 5W and Agip FORK 20W, these can be mixed as indicated below:

SAE 10W = IP F. A. 5W 67% of the volume + IP F. A. 20W 33% of the volume, or
Agip FORK 5W 67% of the volume + Agip FORK 20W 33% of the volume.
SAE 15W = IP F. A. 5W 33% of the volume + IP F. A. 20W 67% of the volume, or
Agip FORK 5W 33% of the volume + Agip FORK 20W 67% of the volume.

Bearings and other lubrication points (recommended): IP BIMOL GREASE 481 - Agip GREASE SM2.

As an alternative to the recommended product, use high- quality grease for rolling bearings, working temperature range -30 °C …+140 °C (-22 °F....+284 °F), dripping point 150 °C …230 °C (302 °F.....446 °F), high protection against corrosion, good resistance to water and oxidation.

Protection of the battery poles: neutral grease or Vaseline.

⚠ WARNING

Use new brake fluid only.

Brake fluid (recommended): IP F.F. DOT 5 (DOT 4 compatible) - Agip BRAKE 5.1 DOT 5 (DOT 4 compatible).

Alternatively, use brand-name fluids with performance complying with or exceeding the specifications.
Synthetic fluido SAE J1703, NHTSA 116 DOT 4, ISO 4925.

⚠ WARNING

Use only antifreeze and anticorrosive without nitrite, ensuring protection at -35° C (-31 °F) at least.

Engine coolant (recommended): IP ECOBLU - 40° C - Agip COOL.
Alternatively, use brand-name coolants with performance complying with or exceeding the specifications.
Antifreeze fluid based on monoethylene glycol, CUNA NC 956-16.

TIGHTENING TORQUES TABLE

DESCRIPTION	ftlb	Nm
FRAME ASSEMBLY		
Footrest fixing screw	14.75	20
Steering stop plate screw	8.68	12
Locking ring	36.88	50
Key switch break-off screw	7.23	10
Threaded bushing	0.22	0.3
Key switch fixing screw	7.23	10
WINDSCREEN SUPPORT ASSEMBLY		
Windscreen support fixing screw	7.23	10
Windscreen support stop nut	7.23	10
STEERING DAMPER ASSEMBLY		
Damper to frame fixing screw	7.23	10
Nut	7.23	10
Damper fixing screw, fork side	7.23	10
FOOTBOARDS ASSEMBLY		
Footboard fixing screw	14.75	20
ENGINE MOUNT CONNECTING RODS ASSEMBLY		
Socket hexagonal-head screw	59	80
Frame connecting rod pin	44.25	60
Engine connecting rod pin	44.25	60
STAND ASSEMBLY		
Stand screw	33.19	45
Lower nut	22.12	30
Side stand screw	7.23	10
FRONT SUSPENSION ASSEMBLY		
Nut	11.06	15
Steering series self-locking nut	79.59	110
Flanged screw	18.44	25
REAR SUSPENSIONS ASSEMBLY		
Screw	36.88	50
Screw	18.44	25
FRONT BRAKE ASSEMBLY		
Socket hexagonal-head screw	19.91	27
REAR BRAKE ASSEMBLY		
Socket hexagonal-head screw	19.91	27
HANDLEBAR AND CONTROLS ASSEMBLY		
Screw	29.50	40
Right and left switch	1.47	2
U bolts fixing screws	7.23	10
Hexagonal-head screw	7.23	10
Vibration-damping weights fixing screws	7.23	10
ENGINE ASSEMBLY		
Shock absorber support fixing screw	18.44	25
EXHAUST ASSEMBLY		
Plate to engine fixing screw	36.88	50
Silencer fixing screw	36.88	50
Manifold clamp	7.23	10
Serpress Nut	18.44	25
Heat guard protections fixing screw	0.59	0.8

DESCRIPTION	ftlb	Nm
FRONT WHEEL ASSEMBLY		
Wheel pin	36.88	50
Speedometer sensor screw	0.66	0.9
Hub screw	7.23	10
REAR WHEEL ASSEMBLY		
Nut	110.64	150
PASSENGER HANDLE SUPPORTS ASSEMBLY		
Passenger handles support fixing screw	14.75	20
PASSENGER SEAT BACK SUPPORT ASSEMBLY		
Seat back support fixing screw	7.23	10
HEADLIGHT CARRIER BOW LOWER SUPPORT ASSEMBLY		
Seat back support fixing screw	7.23	10
WINDSCREEN SUPPORT ASSEMBLY		
Windscreen support self-locking nut	7.23	10
PASSENGER HANDLES ASSEMBLY		
Passenger handle fixing screw	18.44	25
BUMPER TUBES ASSEMBLY		
STAINLESS STEEL flanged screw	7.23	10
ELECTRICAL COMPONENTS ASSEMBLY		
Coil fixing screw	1.47	2
Nut	1.47	2
Rotary switch screw	7.23	10
Rotary switch screw	7.23	10
Harness to relay clamp	3.68	5
Reflector nut	1.10	1.5
M5 self-locking nuts fuel pump flange	2.21	3
COOLING SYSTEM ASSEMBLY		
Sleeve clamps	2.21	3
FILTER BOX ASSEMBLY		
Sleeve clamps	2.21	3
SEAT ASSEMBLY		
Seat hinge nut	5.90	8
FUEL TANK ASSEMBLY		
Nut	5.16	7

Periodic Maintenance Operations

2

This section describes the operations to be performed periodically when servicing the main vehicle components.

⚠ CAUTION

Before performing any servicing or checks, switch off the engine, remove the key, allow the engine and the exhaust system to cool down, and if possible lift the vehicle on solid level flooring using specific equipment.
To avoid burns, be sure to keep away from hot engine and exhaust parts.

NOTE to refit the components follow the reverse procedure, unless otherwise specified.

PERIODIC MAINTENANCE PROGRAMME

To maintain the vehicle in perfect running order, **aprilia** recommends observing the scheduled maintenance intervals for the various components.

⚠ CAUTION

ENGINE CODE	BELT REPLACEMENT
8106810	6,000 Km (3,750 mi)
8106983	12,000 Km (7,500 mi)

PERIODIC MAINTENANCE SCHEDULE

TO BE PERFORMED BY aprilia authorized dealer

COMPONENTS	End of running-in 1,000 km (625 mi)	Every 6,000 km (3,750 mi) or 8 months	Every 12,000 km (7,500 mi) or 16 months
Accelerator cable (adjustment)	C	C	
Variator belt		S (code 8106810)	S (code 8106983)
Steering bearings and steering	C	C	
Wheel bearings		C	
Engine oil filter		every 6,000 km (3,750 mi): S	
Clutch shoes - clutch housing		C	C
Valve clearance		R	every 18,000 Km (11,250 mi)
Braking systems	C	C	
Cooling system	C	C	
Stop light switches		C	
Brake fluid	every 6,000 km (3,750 mi): C / every 2 years: S		
Coolant	every 2,000 km (1,250 mi): C / every 2 years: S		
Engine oil	every 3,000 km (1,875 mi): C / every 6,000 km (3,750 mi): S		
Fork oil	every 30,000 km (18,750 mi) or 4 years: S		
Transmission oil	S	C	every 24,000 km (15,000 mi): S
Variator rollers and variator plastic guides			C
Wheels/ tyres and inflation pressure			every 16,000 km (10,000 mi): C
Nut, bolt, screw tightening	C	C	
Brakes fluid bleeding	C		
Fuel pipes	C	C	every 4 years: S
Fuel filter		every 24,000 km (15,000 mi): C	every 48,000 km (30,000 mi):S
Battery/ electrolyte level	C	C	
Spark plug		C	S
Carburation - slow running	C		C
Air cleaner		P	every 18,000 km (11,250 mi):S
Accelerator operation	C	C	
Brake locking operation	C	C	
Light system	C	C	
Light direction - operation		C	
Suspensions	C	C	
Engine oil pressure warning light	on every start: C (*)		
Front and rear brake pad wear	C	every 2,000 km (1,250 mi): C	

(*) to check, see TABLE OF INSTRUMENTS AND INDICATORS

C = check and clean, adjust, lubricate or replace as necessary; **P** = clean; **S** = renew; **R** = adjust.

The above operations must be performed at shorter intervals if the vehicle is used in rainy or dusty areas, or on rough roads.

LUBRICATING POINTS

A proper lubrication is important to ensure the correct operation and duration of the vehicle components.

NOTE Before proceeding with lubrication, thoroughly clean all the components to remove any traces of oxidation, grease, dirt and dust. All exposed parts that are subject to rust must be lubricated with engine oil or grease. Please refer to the TABLE OF LUBRICANTS.

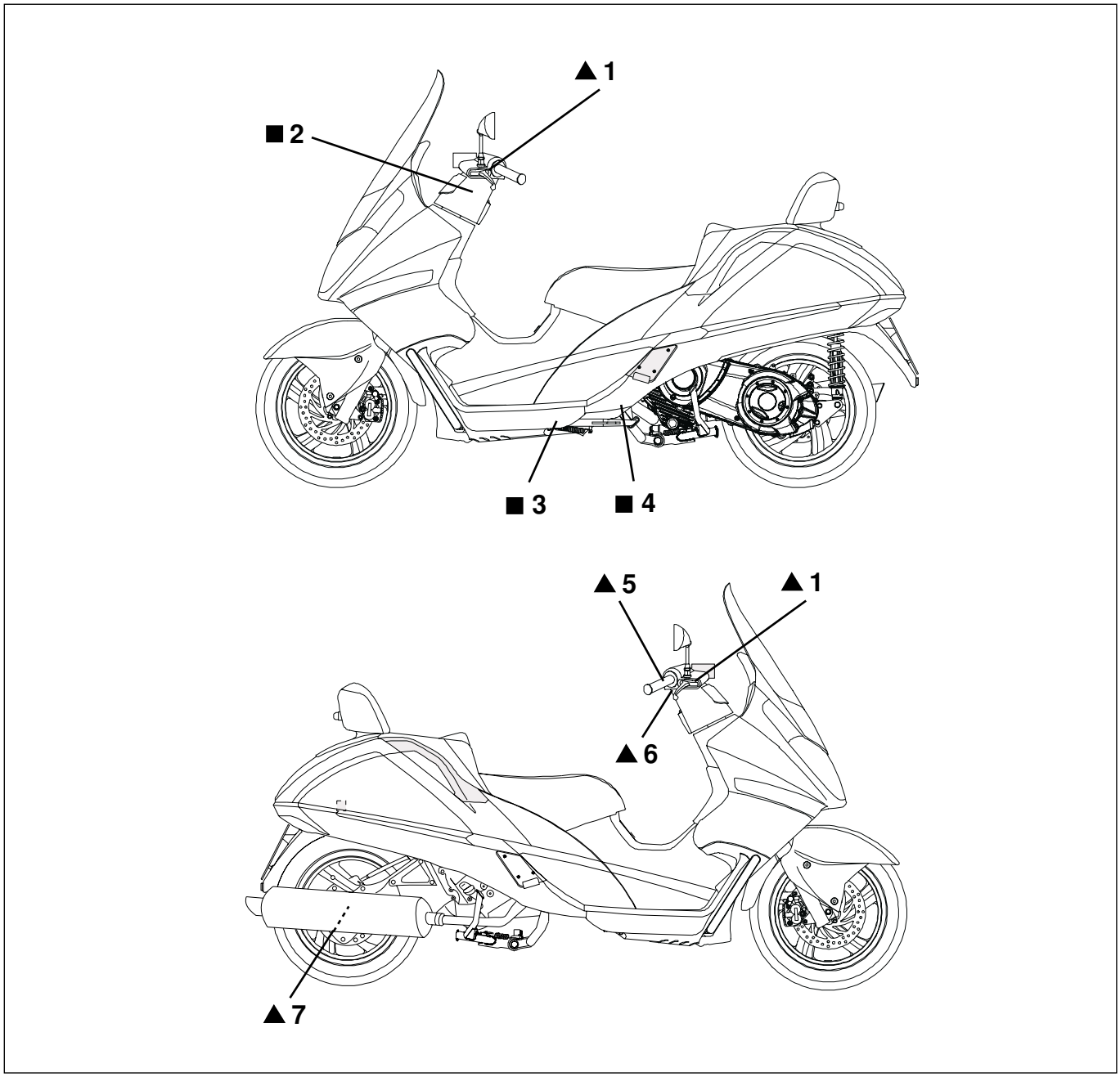
The points to lubricate are shown in the LUBRICATION CHART.

KEY TO LUBRICATION CHART

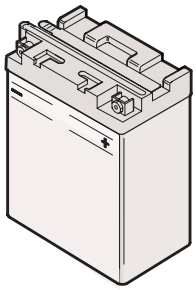
1) Brake lever pin
2) Steering bearings
3) Sidestand pivot
4) Central stand pivot
5) Throttle control
6) Throttle cable
7) Rear axle

■ = Grease
▲ = Oil

LUBRICATION CHART



BATTERY



Carefully read (PRECAUTIONS AND GENERAL INFORMATION).
Check the electrolyte level and the tightening of the terminals after the first 1,000 km (625 mi) and then every 6,000 km (3,750 mi).

⚠ WARNING

The electrolyte in the battery is toxic and caustic and if it gets in contact with the skin it can cause burns, since it contains sulphuric acid. Wear protection clothes, a face mask and/ or goggles during maintenance operations.

In case of contact with the skin, rinse with plenty of water.

In case of contact with the eyes, rinse with plenty of water for fifteen minutes, then consult an doctor without delay.

If the electrolyte is accidentally swallowed, drink a lot of water or milk, then continue drinking milk of magnesia or vegetable oil and consult a doctor without delay.

The battery gives off explosive gases; keep it away from flames, sparks, cigarettes and any other source of heat.

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

⚠ WARNING

Never invert the connection of the battery cables.

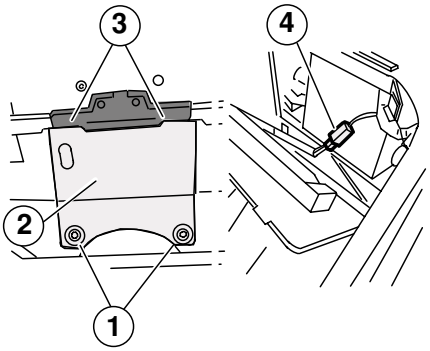
Do not incline the vehicle too much, in order to avoid dangerous leaks of the battery fluid.

KEEP AWAY FROM CHILDREN.

Connect and disconnect the battery with the ignition switch in position "⊗".
Connect first the positive cable (+) and then the negative cable (-).
Disconnect following the reverse order.

The electrolyte is corrosive.
Do not pour or spill it, especially on the plastic parts.

REMOVING THE BATTERY COVER

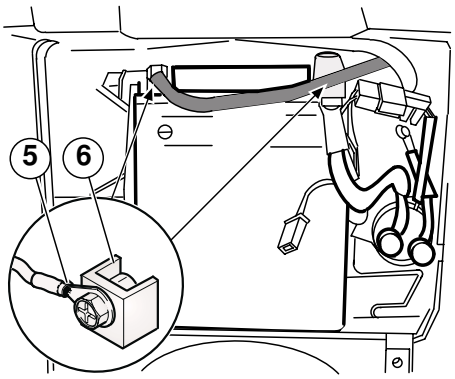


Read through paragraph BATTERY.

NOTE Put the vehicle on a solid and flat surface

- Make sure the ignition lock switch is turned to "⊗".
- Lift the saddle, see (UNLOCKING/ LOCKING THE SEAT).
- Remove the mat from the helmet compartment.
- Unloose and remove the two screws (1).
- Remove the battery cover from the bottom (2) paying attention to the upper tangs (3).
- Disconnect the electrical connector (4) of the helmet compartment light.
- Remove the battery cover (2)

CHECKING AND CLEANING THE TERMINALS



- Remove the battery cover, see (REMOVING THE BATTERY COVER).

- Make sure that the cable terminals (5) and the battery terminals (6) are:

– in good conditions (and not corroded or covered with deposits);
– covered with neutral grease or Vaseline.

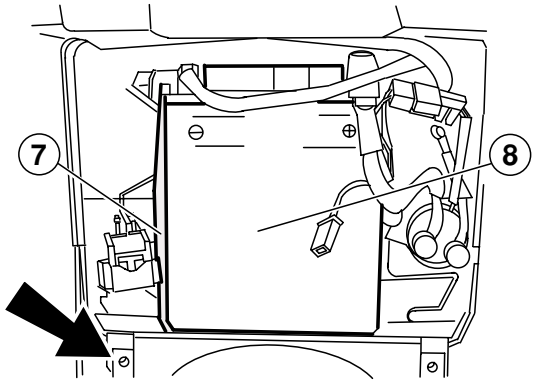
If necessary:

- Disconnect first the negative (–) and then the positive cable (+).
- Brush with a wire brush to eliminate any sign of corrosion.
- Reconnect first the positive (+) and then the negative cable (–).
- Cover the terminals of the cables and of the battery with neutral grease or Vaseline.

⚠ WARNING

Tighten the clamp screws.

REMOVING THE BATTERY



- Remove the battery cover, see (REMOVING THE BATTERY COVER).
- Remove the battery breather pipe (7).
- Remove the battery (8) from its seat by slightly turning it to the right, as shown by the arrow.
- Disconnect first the negative (–) and then the positive cable (+).
- Remove the battery (8) from its compartment and put it on a flat surface, in a cool and dry place.

⚠ WARNING

Once it has been removed, the battery must be stored in a safe place and kept away from children.

- Refit the battery cover, see (REMOVING THE BATTERY COVER).

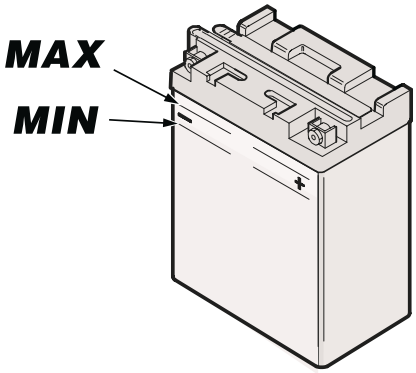
⚠ CAUTION

Handle with care to prevent the electrolyte leakage.

LONG INACTIVATY OF THE BATTERY

Read through the paragraphs BATTERY.
When the vehicle is to remain inactive for a long period, remove the battery and place it in a cool and dry place. Fully charge the battery with a slow recharge.
If the battery is left on the vehicle, disconnect the cables from the terminals.
Check the charge periodically (about once a month) during the winter or when the vehicle is left inactive, to prevent the battery from deteriorating.

CHECKING THE ELECTROLYTE LEVEL



To check the electrolyte level, proceed as follows:
- Remove the battery cover, see (REMOVING THE BATTERY COVER).
- Make sure that the fluid level is included between the two "**MIN**" and "**MAX**" notches stamped on the battery side.

Otherwise:
- Remove the element plugs.

⚠ CAUTION

Top up with distilled water only. Do not exceed the "MAX" mark, since the electrolyte level increases during the recharge.

- Top up by adding distilled water.

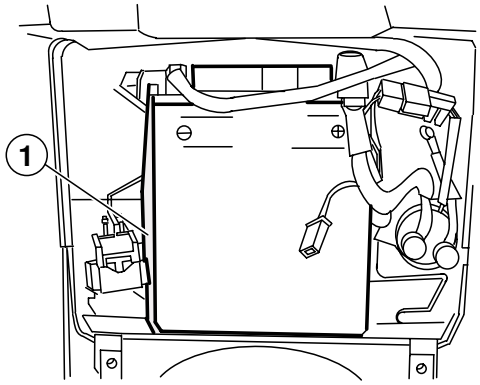
RECHARCING THE BATTERY

- Remove the battery, see (REMOVING THE BATTERY). Remove the element plugs.
- Remove the element plugs.
- Check the electrolyte level, see beside (CHECKING THE ELECTROLYTE LEVEL).
- Connect the battery with a battery charger.
- A recharge with an amperage equal to 1/10th of the battery capacity is recommended.
- After the recharging operation, check the electrolyte level again and if necessary top up with distilled water.
- Put back the element plugs.

⚠ CAUTION

Reassemble the battery only 5-10 minutes after disconnecting the recharger, since the battery continues to produce gas for a short lapse of time.

INSTALLING THE BATTERY



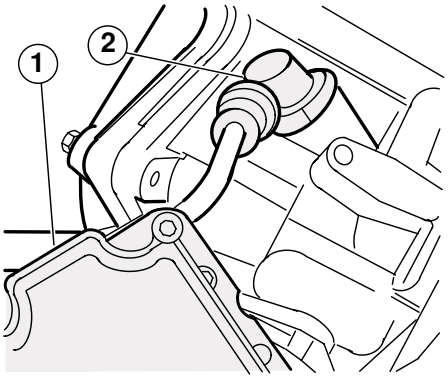
- Remove the battery cover, see (REMOVING THE BATTERY COVER).
- Put the battery in its container.

⚠ CAUTION

Always connect the battery breather pipe, to prevent the sulphuric acid vapours from corroding the electric system, painted parts, rubber elements or gaskets when they exit the breather pipe itself.

- Connect, in order, the positive (+) and negative (–) cable.
- Cover the terminals of the cables and of the battery with neutral grease or Vaseline.
- Connect the battery breather pipe (1).
- Refit the battery cover, see (REMOVING THE BATTERY COVER).

SPARK PLUG



Read through the paragraphs MAINTENANCE.

Check the spark plug every 6,000 km (3,750 mi) and replace every 12,000 Km (7,500 mi).
Periodically remove the spark plug, eliminate any carbon deposits and change it if necessary.
To reach the spark plug:

- Remove the left inspection cover, see (REMOVING THE RIGHT AND LEFT INSPECTION COVERS).

To remove and clean the spark plug:

⚠ WARNING

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

- Move the coolant pipe (1) to gain access to the spark plug.
- Disconnect the cap (2) from the spark plug high voltage cable.
- Remove all the dirt from the base of the spark plug, then unscrew it with the spanner you will find in the tool kit and extract it from its seat, taking care that neither dust nor other substances enter the cylinder.
- Make sure that there are neither carbon deposits, nor corrosion marks on the electrode and on the central porcelain part; if necessary, clean them with the special cleaners for spark plugs, with an iron wire and/or a metal brush.