

**aprilia**

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**ATLANTIC 125 - 200**

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|                            |          |
|----------------------------|----------|
| <b>FOREWORD</b>            | <b>0</b> |
| <b>GENERAL INFORMATION</b> | <b>1</b> |
| <b>ROUTINE MAINTENANCE</b> | <b>2</b> |
| <b>LUBRICATION</b>         | <b>3</b> |
| <b>FUEL SYSTEM</b>         | <b>4</b> |
| <b>COOLING SYSTEM</b>      | <b>5</b> |
| <b>ENGINE</b>              | <b>6</b> |
| <b>CHASSIS</b>             | <b>7</b> |
| <b>ELECTRICAL SYSTEM</b>   | <b>8</b> |

**SUMMARY**

0.1. FOREWORD ..... 3  
0.1.1. FOREWORD ..... 3  
0.1.2. REFERENCE MANUALS ..... 4  
0.1.3. ABBREVIATIONS/SYMBOLS/CONVENTIONS..... 5

## 0.1. FOREWORD

### 0.1.1. FOREWORD

- This manual provides the information required for normal servicing.
- This manual is intended for use by **aprilia** Dealers and their qualified mechanics. Certain information has been omitted intentionally, as this manual does not purport to provide a comprehensive treatise on mechanics. The persons who will use this manual must be fully conversant with the basics of mechanics and with the basic procedures of motorcycle repair. Repairing or inspecting a motorcycle when one does not possess such basic knowledge or training could result in improper servicing and make the motorcycle unsafe to ride. For the same reason, certain basic precautions have been omitted in the descriptions of repair and inspection procedures. Take special care to avoid damage to motorcycle components or injury to persons. **aprilia s.p.a.**'s mission is to constantly enhance the riding pleasure of final users through the on-going improvement of its products as well as of the relevant technical literature. All **aprilia** Points of Sale and Subsidiaries worldwide are kept updated on major engineering changes and modifications to repair procedures. Such changes and modifications are then reflected in the next release of the relevant manual. When in doubt about an inspection or repair procedure, please contact the **aprilia** CONSUMER SERVICE (A.C.S.) DEPARTMENT, who will be glad to provide full information on the procedure in question as well as on any updates or engineering changes affecting the motorcycle under consideration.

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For more detailed information, please read  [0.1.2.](#)

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## 0.1.2. REFERENCE MANUALS

## ENGINE WORKSHOP MANUALS

| aprilia part # (description) |    |
|------------------------------|----|
| 8140680                      | I  |
| 8140681                      | E  |
| 8140682                      | F  |
| 8140683                      | D  |
| 8140684                      | UK |

## PARTS CATALOGUES

| aprilia part # (description) |   |
|------------------------------|---|
| 6642                         | I |

## SPECIAL TOOLS CATALOGUES

| aprilia part # (description) |            |
|------------------------------|------------|
| 001M                         | I F D E UK |

## OWNER'S MANUALS

| aprilia part # (description) |       |
|------------------------------|-------|
| 8104577                      | I F D |
| 8104575                      | UK DK |
| 8104576                      | USA   |
| 8104582                      | E     |

## FRAME WORKSHOP MANUALS

| aprilia part # (description) |    |
|------------------------------|----|
| 8140670                      | I  |
| 8140671                      | E  |
| 8140672                      | F  |
| 8140673                      | D  |
| 8140674                      | UK |

**0.1.3. ABBREVIATIONS/SYMBOLS/CONVENTIONS**

|          |   |
|----------|---|
| #        | = number  |
| <        | = is less than  |
| >        | = is more than  |
| ≤        | = is less than or equal to                              |
| ≥        | = is more than or equal to                              |
| ~        | = approximately   |
| ∞        | = infinite  |
| °C       | = degrees Celsius (centigrade)                          |
| °F       | = degrees Fahrenheit                                    |
| ±        | = plus or minus   |
| a.c      | = alternated current                                    |
| A        | =ampere   |
| Ah       | =ampere per hour  |
| API      | = American Petroleum Institute                          |
| HT       | = High Tension  |
| AV/DC    | = Anti-Vibration Double Countershaft                    |
| bar      | = pressure measurement (1 bar =100 kPa)                 |
| DC       | = Direct Current  |
| cu cm    | = cubic centimeters                                     |
| CO       | = carbon oxide  |
| CPU      | = Central Processing Unit                               |
| DIN      | = German industrial standards (Deutsche Industrie Norm) |
| DOHC     | = Double Overhead Camshaft                              |
| ECU      | = Electronic Control Unit                               |
| rpm      | = revolutions per minute                                |
| HC       | = unburnt hydrocarbons                                  |
| ISC      | = Idle Speed Control                                    |
| ISO      | = International Standardization Organization            |
| kg       | = kilograms   |
| kgm      | = kilograms per meter (1 kgm =10 Nm)                    |
| km       | = kilometers  |
| km/h     | = kilometers per hour                                   |
| kΩ       | = kiloOhm   |
| kPa      | = kiloPascal (1 kPa =0.01 bar)                          |
| KS       | = clutch side (from the German "Kupplungseite")         |
| kW       | = kiloWatt  |
| /        | =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 per meter (1 Nm =0.1 kgm)                      |
| Ω        | =ohm  |
| PICK-UP  |   |
| BDC      | = Bottom Dead Center                                    |
| TDC      | = Top Dead Center                                       |
| PPC      | = Pneumatic Power Clutch                                |

|                 |                                   |
|-----------------|-----------------------------------|
| <b>RIGHT</b>    |                                   |
| <b>SIDE</b>     | = right side                      |
| <b>SAE</b>      | = Society of Automotive Engineers |
| <b>T.B.E.I.</b> | = crowned-head Allen screw        |
| <b>T.C.E.I.</b> | = cheese-headed Allen screw       |
| <b>T.E.</b>     | =hexagonal head                   |
| <b>TEST</b>     | = diagnostic check                |
| <b>T.P.</b>     | =flat head screw                  |
| <b>TSI</b>      | = Twin Spark Ignition             |
| <b>UPSIDE-</b>  |                                   |
| <b>DOWN</b>     | = inverted fork                   |
| <b>V</b>        | =volt                             |
| <b>W</b>        | =watt                             |
| <b>Ø</b>        | = Diameter                        |

GENERAL INFORMATION

1

**SUMMARY**

|        |   |    |
|--------|---|----|
| 1.1.   | MANUAL LAYOUT .....   | 3  |
| 1.1.1. | CONVENTIONS USED IN THE MANUAL .....  | 3  |
| 1.1.2. | SAFETY INFORMATION .....  | 4  |
| 1.2.   | GENERAL RULES.....  | 5  |
| 1.2.1. | BASIC SAFETY RULES .....  | 5  |
| 1.3.   | DANGEROUS ELEMENTS.....   | 8  |
| 1.3.1. | WARNINGS CONCERNING FUEL, LUBRICANTS, COOLANT AND OTHER COMPONENT PARTS ..... | 8  |
| 1.4.   | RUNNING-IN.....   | 12 |
| 1.4.1. | RUNNING-IN RECOMMENDATIONS .....  | 12 |
| 1.5.   | VEHICLE IDENTIFICATION DATA .....   | 13 |
| 1.5.1. | SERIAL NUMBERS LOCATION .....   | 13 |
| 1.6.   | USING TOOLS AND SPARE PARTS .....   | 14 |
| 1.6.1. | SPARE PARTS .....   | 14 |
| 1.7.   | TECHNICAL DATA.....   | 15 |
| 1.7.1. | TECHNICAL DATA.....   | 15 |
| 1.7.2. | DECALS INSTRUCTIONS.....  | 17 |
| 1.8.   | PRODUCTS .....  | 19 |
| 1.8.1. | LUBRICANT CHART .....   | 19 |
| 1.8.2. | USE OF PRODUCTS .....   | 20 |
| 1.9.   | TIGHTENING .....  | 21 |
| 1.9.1. | GENERAL TIGHTENING TORQUE SETTINGS.....                                       | 21 |

## 1.1. MANUAL LAYOUT

### 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. For quick reference, see the sections index.
- Unless expressly specified otherwise, reassemble by following disassembly procedure in the reverse order.
- The terms "left" and "right" are referred to the motorcycle when viewed from the riding position.
- Motorcycle operation and basic maintenance are covered in the "OWNER'S MANUAL".

In this manual any variants are identified with these symbols:

Frame # ZD4MP.....(IN ANY CASE STARTING FROM MODEL YEAR 2001)

|   |  |
|---|--|
|  | option                                 |
|  | catalysed version                      |
| -   | all versions                           |
| 11kw  | 11 kw derated version                  |
| 80km  | speed 80km/h                           |
| f.p   | full-power version                     |
| MP  | National homologation                  |
| SF  | European homologations (EURO 1 limits) |

#### VERSION:

|   |                |   |             |   |                          |
|---|----------------|---|-------------|---|--------------------------|
|   | Italy          |   | Greece      |   | Malaysia                 |
|  | United Kingdom |  | Netherlands |  | Chile                    |
|  | Austria        |  | Switzerland |  | Croatia                  |
|  | Portugal       |  | Denmark     |  | Australia                |
|  | Finland        |  | Japan       |  | United States of America |
|  | Belgium        |  | Singapore   |  | Brazil                   |
|  | Germany        |  | Slovenia    |  | Republic of South Africa |
|  | France         |  | Israel      |  | New Zealand              |
|  | Spain          |  | South Korea |  | Canada                   |

**1.1.2. SAFETY INFORMATION**

The following conventions are used to identify safety information throughout the manual:



**This symbol identifies safety-related information. Whenever you see this symbol in the manual or attached to the motorcycle, use utmost care to avoid the risk of injury. Disregarding the instructions identified by this symbol may put your safety, as well as that of other persons or of the motorcycle at risk!**



**DANGER**  
Disregarding these indications may lead to severe injury or death.



**WARNING**  
Disregarding these indications may lead to minor injury or motorcycle damage.

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

## 1.2. GENERAL RULES

### 1.2.1. BASIC SAFETY RULES

#### CARBON MONOXIDE

Should it be necessary to perform some operations with the vehicle running, make sure to work outdoors or in a well-ventilated room.

Avoid starting the engine in closed or badly-ventilated rooms.

In case you are working indoors, make use of an exhaust gases scavenging system.



#### DANGER

Exhaust gases contain carbon monoxide, which is extremely toxic if inhaled and may cause loss of consciousness or even lead to death by asphyxia.

#### 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.

**DO NOT DISPOSE OF FUEL IN THE ENVIRONMENT.**

**KEEP AWAY FROM CHILDREN.**

#### HIGH-TEMPERATURE COMPONENTS

The engine and the exhaust system parts become hot and continue to be hot even for some time after the engine has been stopped.

Before handling these parts, wear heatproof gloves or wait for the engine and the exhaust system to cool completely down.

#### USED GEARBOX AND FORK OILS



#### DANGER

In case any maintenance operation should be required, it is advisable to use latex gloves. Gear oil may cause serious damage to the skin if handled daily and for long periods.

Wash your hands carefully after use.

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 should be required, it is advisable to use latex gloves.

**DO NOT DISPOSE OF OIL IN THE ENVIRONMENT**

**KEEP AWAY FROM CHILDREN.**

#### BRAKE FLUID



#### WARNING

When using the brake fluid, take care not to spill it on the plastic, rubber or painted parts, since it can damage them.

When carrying out the maintenance operations on the braking system, use a clean cloth to cover these parts.

Always wear eye protectors when working on the braking system.

The brake fluid is highly irritant. Avoid contact with your eyes.

If the brake fluid gets in contact with the skin or the eyes, carefully wash the parts of your body that get in contact with the fluid and consult a doctor.

**KEEP AWAY FROM CHILDREN.**

#### COOLANT

The coolant is composed of ethylene glycol that, under certain conditions, can become inflammable and send out invisible flames causing severe burns.

**DANGER**

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

In case any maintenance operation should be required, it is advisable to use latex gloves.

Even if toxic, coolant has a sweet flavour. Never leave it inside open containers or within the reach of animals to prevent the risk of drinking.

**KEEP AWAY FROM CHILDREN.**

Do not remove the radiator plug when the engine is hot. The coolant is under pressure and could cause severe burns.

**HYDROGEN GAS AND BATTERY ELECTROLYTE****DANGER**

The battery electrolyte is a toxic, caustic substance containing sulphuric acid and thus able to cause severe burns in case of contact.

Always wear tight gloves and protective clothes when handling this fluid.

If the electrolyte gets in contact with the skin, carefully wash the parts of your body that get in contact with the fluid with abundant fresh water.

Always use a protection for your eyes since also a very small amount of the battery fluid can cause blindness. In the event of contact with your eyes, carefully wash them with water for fifteen minutes and then consult immediately an eye specialist.

Should you accidentally drink some fluid, drink abundant water or milk, then drink magnesia milk or vegetable oil and consult immediately a doctor. Battery releases explosive gases. Keep flames, sparks, cigarettes and any other heat source away from the battery. Make sure the room is well-ventilated when servicing or recharging the battery.

**KEEP AWAY FROM CHILDREN.**

The battery fluid is corrosive

Do not pour it on the plastic parts.

Make sure that the electrolyte acid is suitable for the type of battery used.

**GENERAL PRECAUTIONS AND INFORMATION**

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

**DANGER**

Using bare 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.

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

Unless expressly specified otherwise, motorcycle assemblies are refitted or re-assembled by following the removal or disassembly procedure in the reverse order. 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, petrol 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.

Carefully read  1.3.1.

**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 a suitable spanner.
- 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 the motorcycle and its components well 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 disturbed.**

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

**Make 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 hardness or noise. Replace any bearings that do not meet these requirements.

- Use **aprilia** ORIGINAL 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 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 joint surfaces, oil seal edges and gaskets before assembly. Apply a light coat 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 connector, follow the procedures below. Failure to comply with these procedures may lead to irreparable damages 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 connectors 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 (if the special hooks are present, a click will be heard).

### 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 troubles affecting the vehicle maneuverability, and thus the risk of falls and serious injuries or death..**

### 1.3. DANGEROUS ELEMENTS

#### 1.3.1. WARNINGS CONCERNING FUEL, LUBRICANTS, COOLANT AND OTHER COMPONENT PARTS

**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 contact with bare flames, sources of sparks or any other source which may ignite the fuel or lead to explosion.

Take care not to spill fuel out of the filler, or it may ignite when in contact with hot engine parts. In the event of accidental fuel spillage, make sure the affected area is fully dry before starting the engine. Fuel expands from heat and when left under direct sunlight.

Never fill the fuel tank up to the rim. Tighten the filler cap securely after each 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 petrol, min. O.N. 95 (N.O.R.M.) and 85 (N.O.M.M.).

#### LUBRICANTS

**DANGER**

A good lubrication ensures the vehicle safety.

Failure to keep the lubricants at the recommended level or the use of a non-suitable new and clean type of lubricant can lead to the engine or gearbox seizure, thus leading to serious accidents, personal injury or even death.

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

Wash your hands carefully after use.

Do not dispose of 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 oil, take care not to spill it out since it could damage the vehicle paintwork.

In case of contact with oil, the tyres surface will become very slippery, thus becoming a serious danger for your safety.

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

#### ENGINE OIL

**DANGER**

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

Wash your hands thoroughly after handling engine oil.

Do not release into the environment.

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

Wear latex gloves during servicing.

Change engine after the first 1000 km (621 mi) and then every 6000 km (3728 mi),  [2.11.2.](#)

(Recommended) oil fork, see  [1.8.1.](#)

#### FRONT FORK OIL

**DANGER**

Modifying the suspension settings or the viscosity of the front fork oil will affect its response. Standard oil viscosity: SAE 20 W. Choose the oil viscosity to determine the type of response required (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.

 F.A. or  Agip Fork have special properties, which enable them to retain virtually the same viscosity regardless of temperature to give constant damping response.

(Recommended) front forks oil, see  [1.8.1.](#)

**BRAKE FLUID**

**NOTE** This vehicle is fitted with front and rear disc 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 parts that most ensure your safety and for this reason they must always be perfectly working. 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**

In case of wet ground the braking distance will be doubled, since both brakes and tyres drives on the road surface are extremely reduced by the water present on the road surface.

Any water on brakes, after washing the vehicle or driving on a wet road surface or crossing puddles or gips, can wet brakes so as to greatly reduce their efficiency.

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

Brakes are critical safety components. Do not ride the vehicle in case brakes are not working at their best.

Check for brakes proper operation 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 damage.

Check brake fluid level after the first 1000 Km (621 mi) and then every 6000 Km (3728 mi). See  [2.10.1](#) and  [2.10.4](#); change brake fluid every two years, see  [2.10.2](#).

Recommended) brake fluid, see  [1.8.1](#).

**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 discs and friction material 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 water or dust from accidentally entering the circuit.

Wear latex gloves when servicing the hydraulic circuit.

## DISC 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 disc soils the pads.

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

Perform the maintenance operations with half the indicated frequency if the vehicle is used in rainy or dusty areas, on uneven surfaces or on racetracks, see [2.1.2.](#)

Check brake pads for wear, see [2.10.3.](#)

When the disc 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 and is an irritant, contact with eyes or skin may cause irritation.

In the event of contact with eyes, rinse repeatedly with abundant water and seek medical advice. In the event of ingestion, induce vomiting, rinse mouth and throat with abundant water and seek medical advice immediately.

**DO NOT RELEASE 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.

Check coolant level before each ride and every 1000 km (621 mi), see [2.9.1.](#) Change coolant every sixteen months, see [5.2.1.](#)

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

This solution is also suited to the warm season, as 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 temperature drops below zero degrees centigrade, check the cooling system frequently and add more anti-freeze (up to 60% maximum) to the solution.

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

(Recommended) engine anti-freeze, see [1.8.1.](#)

Refer to the table below and add water with the quantity of anti-freeze to obtain a solution with the desired freezing point:

| Freezing point C° | Coolant % of volume |
|-------------------|---------------------|
| -20°              | 35                  |
| -30°              | 45                  |
| -40°              | 55                  |

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

**WARNING**

Use nitrate-free coolant only, with a protection until at least -35°C.

## TYRES

**WARNING**

If tyres are excessively inflated, the vehicle will be hard and uneasy to ride, thus making you feel not at your ease.

In addition the roadworthiness, mainly on wet surfaces and during cornering, will be impaired.

Flat tyres (insufficient pressure) can slip on the rim and make you lose the control of the vehicle.

In this case too, both vehicle roadworthiness, maneuverability and brake efficiency will be impaired.

Tyres changing, repair, maintenance and balancing must be carried out by specialized technicians using suitable equipment.

When new, tyres can have a thin slippery protective coating. Drive carefully for the first kilometers (miles). Never use rubber treating substances on tyres.

In particular, avoid contact with fluids/fuels, leading to a rapid wear.

In case of contact with oil or fuel, do not clean but change tyres.

**DANGER**

Some of the factory-assembled tyres 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 tyres are worn and in this case have them changed.

If a tyre deflates while driving, stop immediately.

Avoid hard brakings or moves and do not close throttles too abruptly.

Slowly close throttle grip, move to the edge of the road and make use of the engine brake to slow down until coming to a halt.

Failure to comply with these recommendations can lead to serious accidents and consequent personal injuries or death.

Do not install tyres with air tube on rims for tubeless tyres and vice-versa.

## 1.4. RUNNING-IN

### 1.4.1. RUNNING-IN RECOMMENDATIONS

The running-in of the engine is essential to ensure its duration and 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.

During running-in, change speed.

In this way 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.



#### **WARNING**

**Only after the first 1500 km (932 mi) of running-in you can expect the best performance levels 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.
- During the first 100 km (62 mi) pull the brakes with caution, avoiding sharp and prolonged brakings. This ensures a correct bedding-in of the pads on the brake disc.
- During the first 1000 km (621 mi), never use the vehicle beyond 80% of the max. speed, do not fully open throttle and do not keep the vehicle at a constant speed for a long time.



#### **WARNING**

**After the first 1000 km (621 mi), carry out the checks indicated in the column "After running-in", see [2.1.2.](#), in order to avoid injuries to rider and/or other people and/or damaging the vehicle.**

- After the first 1000 km (621 mi), increase speed step by step until reaching top performance.

## 1.5. VEHICLE IDENTIFICATION DATA

### 1.5.1. SERIAL NUMBERS LOCATION

The vehicle serial numbers are used for its homologation.

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

#### FRAME NUMBER

The frame number is stamped on the steering column.



#### ENGINE NUMBER

The engine number is stamped on the rear part of the engine, near the shock absorber.



#### MANUFACTURER IDENTIFICATION PLATE

- Remove the right rubber pad.
- Raise block (1).



## 1.6. USING TOOLS AND SPARE PARTS

### 1.6.1. SPARE PARTS

Should some parts be replaced, use **aprilia** Original Spare Parts only.

**aprilia** high-quality Original Spare Parts have been expressly designed and manufactured for **aprilia** vehicles.



#### **WARNING**

**The use of aprilia non-original spare parts can impair the vehicle performance or cause serious damage to the vehicle itself.**

## 1.7. TECHNICAL DATA

## 1.7.1. TECHNICAL DATA

| DIMENSIONS                                       |   |
|--|---|
| Max. length                                      | 2100 mm   |
| Max. width (rear-view mirrors included)          | 900 mm  |
| Seat height                                      | 790 mm  |
| Max. height (front part of the fairing included) | 1400 mm   |
| Min. ground clearance                            | 190 mm  |
| Unladen weight (in the direction of travel)      | 160 kg  |
| Wheel base                                       | 1470 mm   |
| ENGINE   |   |
| Make   | Piaggio Leader 125 4T 4V water-cooled   |
| Make (200)                                       | Piaggio Leader 200 4T 4V water-cooled   |
| Type   | Single-cylinder, four-stroke with four valves, wet forced lubrication, overhead camshaft. |
| Number of cylinders                              | 1   |
| Total displacement                               | 124 cu. cm  |
| Total displacement (200)                         | 197.75 cu. cm   |
| Bore/stroke                                      | 57 mm /48.6 mm  |
| Bore/stroke (200)                                | 72 mm /48.6 mm  |
| Intake valve clearance                           | 0.10  |
| Exhaust valve clearance                          | 0.15  |
| Compression ratio                                | 12.5 ± 0.5: 1   |
| Compression ratio (200)                          | 11.5 ± 0.5: 1   |
| Starting   | Electric  |
| Engine idling rpm                                | 1750 ± 100 rpm  |
| Clutch   | Centrifugal type  |
| Gearbox  | Automatic   |
| Cooling system                                   | Liquid-type (50% water + 50% coolant), with forced circulation                            |
| CAPACITY   |   |
| Fuel (with reserve)                              | 10.5 liters   |
| Fuel reserve                                     | 1.5 liters  |
| Engine oil                                       |   |
| - changing engine oil only                       | 1000 cu. cm   |
| - changing engine oil and engine oil filter      | 1100 cu. cm   |
| - changing for engine overhaul                   | 1150 cu. cm   |
| Transmission oil                                 | 250 cu. cm  |
| Coolant  | 1.2 liters  |
| Seats  | 2   |
| Vehicle max. load (rider + passenger + luggage)  | 210 kg  |
| TRANSMISSION                                     |   |
| Variator   | Continuous automatic  |
| Primary  | With V-belt   |
| Secondary  | Gear-type   |
| Engine/wheel total ratio (125)                   |   |
| - short  | 1:28.03   |
| - long   | 1:8.41  |
| Total wheel/engine ratio (200)                   |   |
| - short  | 1:21.05   |
| - long   | 1:7.37  |
| CARBURETOR                                       |   |
| Model (125)                                      | WVF 7C* ø29 WALBRO  |
| Model (200)                                      | CVK 7C* 30 KEIHIN   |
| Model (200)                                      | WVF 7D* ø29 WALBRO  |
| FUEL SUPPLY                                      |   |
| Type   | Vacuum pump   |
| Fuel   | Premium-grade petrol, min. O.N. 95 (N.O.R.M.) and 85 (N.O.M.M.)                           |
| FRAME  |   |
| Type   | Single-beam with twin overlapped cradle   |
| Steering inclination angle                       | 27°   |
| Trail  | 104 mm  |

| SUSPENSIONS                                |   |
|--|---|
| Front                                      | telescopic fork with hydraulic operation                                |
| Stroke                                     | 110 mm  |
| Rear                                       | n. 1 Hydraulic monoshock  |
| Stroke                                     | 105 mm  |
| BRAKES                                     |   |
| Front                                      | Hydraulic disc brake - $\varnothing$ 240 mm                             |
| Rear                                       | Hydraulic disc brake - $\varnothing$ 190 mm (combined with front brake) |
| WHEELS                                     |   |
| Rims                                       |   |
| Front                                      | E – 13 x 3.00 DOT - D   |
| Rear                                       | E – 13 x 3.50 DOT - D   |
| TYRES                                      |   |
| Front                                      | 110/90 – 13" 56P  |
| Rear                                       | 130/70 – 13" 63P  |
| STANDARD INFLATING PRESSURE                |   |
| Front                                      | 210 kPa   |
| Rear                                       | 220 kPa   |
| INFLATING PRESSURE WITH PASSENGER          |   |
| Front                                      | 220 kPa   |
| Rear                                       | 240 kPa   |
| STARTING                                   |   |
| Type                                       | Magneti Marelli capacity-discharge type with variable advance           |
| Ignition advance                           | 15° ± 1 – 2000 rpm      10° ± 1 – 2000 rpm                              |
| Ignition advance (200)                     | 34° ± 1 – 6000 rpm      32° ± 1 – 6500 rpm                              |
| Standard spark plug                        | NGKCR8EB  |
| Spark plug gap                             | 0.7 0.8 mm  |
| ELECTRIC SYSTEM                            |   |
| Battery                                    | 12 V – 12 Ah  |
| Fuses                                      | 20 – 15 – 7.5 A   |
| Generator (with permanent magnet)          | 12 V – 180 W  |
| BULBS                                      |   |
| Low beam                                   | 12 V – 55 W   |
| High beam (F)                              | 12 V – 55 W   |
| Parking light                              | 12 V – 16 W   |
| Direction indicators                       | 12 V – 10 W   |
| Tail lights/Number plate light/ Stop light | 12 V – 5 W / 21 W   |
| WARNING LIGHTS                             |   |
| Instrument panel lights                    | 12 V – 1.2 W  |
| Direction indicators                       | 12 V – 1.2 W  |
| Engine oil pressure                        | 12 V – 1.2 W  |
| Low beam                                   | 12 V – 1.2 W  |
| High beam                                  | 12 V – 1.2 W  |
| Fuel reserve                               | 12 V – 1.2 W  |

### 1.7.2. DECALS INSTRUCTIONS

Should some frame parts be removed:



#### NOTE

**Plastic and painted parts shall be handled with care. Do not score or damage them. Operate with care. Do not damage keys and/or keyways. When sticking decals, carefully follow the instructions listed below.**

Recommended tools:

- Medium-strength spatule (1);

**NOTE** Soft spatules, such as those used on windshield wipers, do not usually sufficiently remove the water under the decal.

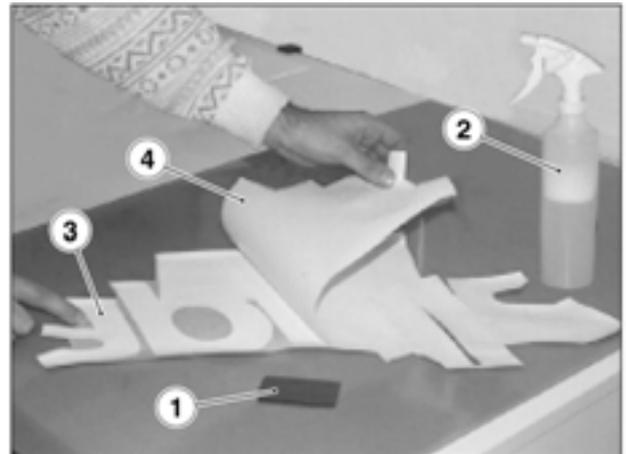
- sponge or sprayer (2) with water.

**NOTE** Add some detergent (1-3%) to water and then shake it to produce foam bubbles.

To apply decals, proceed as follows:

- Position the decal (3) in upside-down position on the work bench.
- Keep the decal flat and pressed on the work bench and remove the protective film (4) completely.

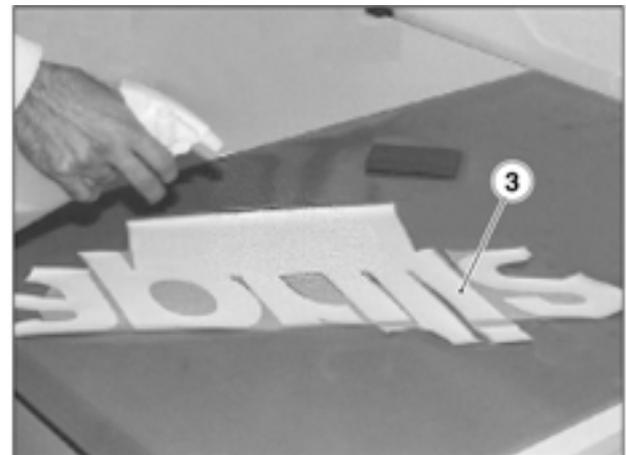
**NOTE** The use of a sprayer (2) is recommended.



In case you are using a sponge, apply it on the surface without exerting any pressure in order not to damage the adhesive.

- Wet the adhesive surface with suds.
- Apply the decal (3) on the surface you wish to decorate and position it correctly.

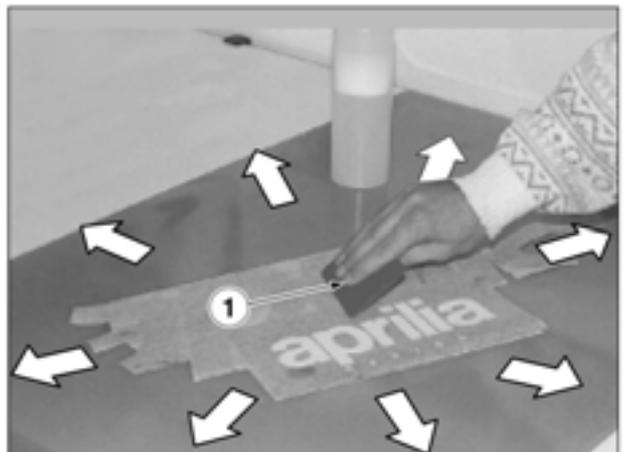
**NOTE** Press the spatule with constant movements, working from the center towards the edge of the decal.



- Apply a moderate pressure on the decal surface with the spatule (1) until all the excess soap and water under the decal itself have been completely removed.

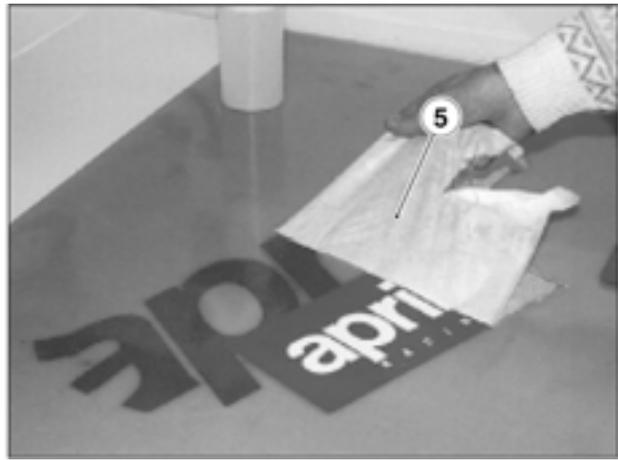
**NOTE** Do not lift the decal corners and/or edges.

- Using a cloth and working from inwards to outwards, dry the decal.
- Use again the spatule. Press evenly as much as possible. Always work starting from the center to the outside and take special care to the corners and edges in order to ensure an even adhesion on the whole surface.



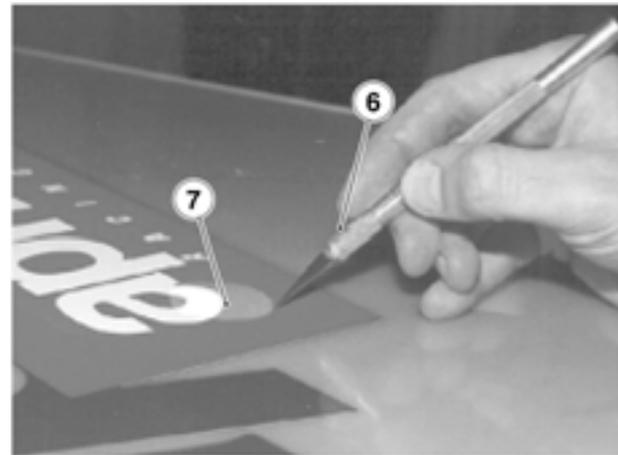
**NOTE** If present, remove the application tape (5) 20 to 30 minutes after applying the decal.

- Remove the application tape (5) from the decal surface.
- To ensure a good adhesion, use the spatule again by taking special care to the corners and edges.



**NOTE** When using the wet method, the decal final adhesion level will be reached around 48 hours after the application.

- After having removed the application tape, make sure that no blisters are present on the surface.
- Should some blisters be present, proceed as follows:
- Using a pin or a cutter (6) cut the blister (7).
  - Use the spatule (1) starting from the side opposite to the cut and press the blister to make the air come out.



The application tape is used to make the makes and letters application easier, namely to position them correctly on the surface you wish to decorate and to reinforce the adhesive during application.

## 1.8. PRODUCTS

## 1.8.1. LUBRICANT CHART

| LUBRICANT                             | PRODUCT   |
|---------------------------------------|---|
| Engine oil                            | <p>RECOMMENDED:  SUPERBIKE 4, SAE 5W - 40 or  4T FORMULA RACING, SAE 5W - 40.</p> <p>As an alternative to the recommended oils, it is possible to use select oils having properties in compliance with or even above A.P.I. SJ specifications.</p>  |
| Transmission oil                      | <p>RECOMMENDED:  F.C., SAE 75W 90 or  GEAR SYNTH, SAE 75W - 90.</p> <p>As an alternative to the recommended oil, use select oils having properties in compliance with or even above A.P.I. GL3 specifications</p>   |
| Fork oil                              | <p>RECOMMENDED:  F.A. 5W or  F.A. 20W, as an alternative  FORK 5W or  FORK 20W.</p> <p>Should you wish to reach an average behavior between those offered by  F.A. 5W and by  F.A. 20W or  FORK 5W and by  FORK 20W, mix the products as follows:</p> <p>SAE 10W =  F.A. 5W 67% of the volume, +  F.A. 20W 33% of the volume.</p> <p> FORK 5W 67% of the volume +  FORK 20W 33% of the volume.</p> <p>SAE 15W =  F.A. 5W 33% of the volume, +  F.A. 20W 67% of the volume.</p> <p> FORK 5W 33% of the volume +  FORK 20W 67% of the volume.</p> |
| Bearings and other lubrication points | <p>RECOMMENDED:  BIMOL GREASE 481 +  GREASE SM2.</p> <p>As an alternative to the recommended product, use select oil for rolling bearings, useful temperature range -30°C...+140°C, dripping point 150°C...230°C, highly anticorrosive, water and oxidization resistant.</p>  |
| Battery terminals                     | Neutral grease or vaseline.   |
| Brake fluid                           | <p>The braking system is filled with  Autofluid FR. DOT 4 (DOT 5 can be used as well) +  BRAKE 5.1 DOT 4 (DOT 5 compatible).</p> <p><b>NOTE</b> Before mixing different makes or types of oil, check their compatibility.</p> <p>As an alternative to the recommended fluid, use fluids having properties in compliance with or even above SAE J1703, NHTSA 116 DOT 4, ISO 4925 specifications.</p>   |
| Engine coolant                        | <p>RECOMMENDED:  ECOBLU - 40° C +  COOL.</p> <p>As an alternative to the recommended fluid, use fluids having properties in compliance or even above basic ethylene glycol CUNA NC 956-16 specifications.</p>   |

## 1.8.2. USE OF PRODUCTS

For all maintenance operations, use the product listed below only.

The listed materials have been tested for many years and are suitable for all the applications specified by the manufacturer.

**NOTE** Consumer goods with part numbers are available upon request (see table)

## PRODUCT SPECIFICATIONS

| Description  | Use   |
|--|---|
| Molykote 111 / N. ROTAX 897 161<br>           | <ul style="list-style-type: none"> <li>- Clearance between the two oil seals of the coolant pump.</li> <li>- Starting driving gears.</li> </ul>   |
| LOCTITE ANTI-SEIZE 76710 N. ROTAX 297 431<br> | <ul style="list-style-type: none"> <li>- Crankshaft ball-bearing housings.</li> <li>- Countershaft ball-bearing housings.</li> <li>- Gearshafts ball-bearing housings.</li> </ul>   |
| Lubricate  | - All ball bearings, sintered discs, gears, cylinder walls, if not otherwise specified.   |
| Grease   | - Oil seals lips, if not otherwise specified.   |
| Gearbox oil  | - Engine oil SAE 30, 0.6 l  |
| Engine oil   | - Premium 2-stroke engine oil   |
| LOCTITE 221 / N. ROTAX 899 785<br>          | <ul style="list-style-type: none"> <li>- Countershaft bearing locking washer retaining oval-headed screw. Starter pedal gear washer retaining oval-headed screw (RX only).</li> <li>- Coupling gear stopper retaining socket head screw.</li> <li>- Electric starting device retaining socket head screws.</li> <li>- Oil pump retaining socket head screws.</li> <li>- All "Taptite" screws for casing and clutch cover reassembly.</li> </ul> |
| LOCTITE 648 / N. ROTAX 899 788<br>          | <ul style="list-style-type: none"> <li>- Flywheel-to-crankshaft fixing hexagon nut.</li> <li>- Water tube into casing.</li> <li>- Electric starting device hole cover into casing (RX only)</li> </ul>  |
| Silastic 732 RTV / N. ROTAX 297386<br>      | <ul style="list-style-type: none"> <li>- Neutral indicator contact screw.</li> <li>- Ignition cable seal.</li> </ul>  |

## 1.9. TIGHTENING

### 1.9.1. GENERAL TIGHTENING TORQUE SETTINGS

The table shows the tightening torque settings for 8.8 class screws made of steel/aluminum or other similar materials.

| Screw or bolt thread | Wrench | Tightening torque |      |
|----------------------|--------|-------------------|------|
|                      |        | Nm                | kgm  |
| M 4                  | 7      | 3                 | 0.3  |
| M 5                  | 8      | 6                 | 0.6  |
| M 6                  | 10     | 10                | 1.0  |
| M 8                  | 12     | 25                | 2.5  |
| M 10                 | 14     | 50                | 5.0  |
| M 12                 | 17     | 80                | 8.0  |
| M 14                 | 19     | 135               | 13.5 |
| M 16                 | 22     | 210               | 21.0 |

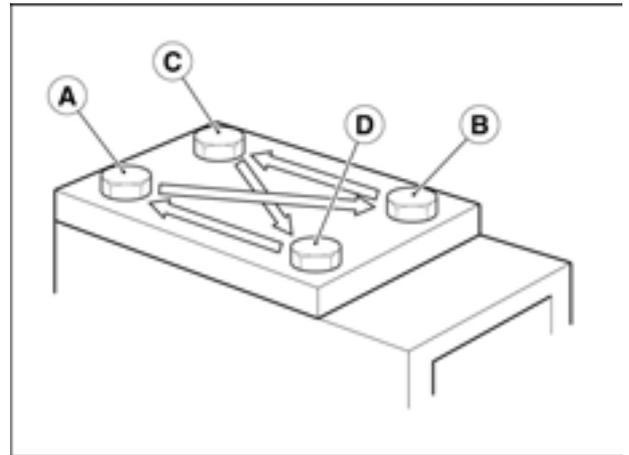
For special couplings on this vehicle, refer to [2.3.2.](#)

If not otherwise specified, the tightening torque settings refer to clean, dry and ambient temperature threads.

**NOTE** In order to avoid any possible deformation and/or wrong coupling, please tighten screws and bolts as follows:

- Tighten all fasteners by hand.
- Apply half of the recommended tightening torque value and tighten the opposite parts: (A) and (B); (C) and (D).
- Repeat the above operation by tightening to the specified torque value.

**NOTE** The pressure on the fastening parts will be thus evenly distributed on the coupling surface.



ROUTINE MAINTENANCE

2

**SUMMARY**

- 2.1. ROUTINE MAINTENANCE ..... 3
  - 2.1.1. INTRODUCTION ..... 3
  - 2.1.2. ROUTINE MAINTENANCE TABLE ..... 4
- 2.2. POINTS TO BE LUBRICATED ..... 5
  - 2.2.1. POINTS TO BE LUBRICATED ..... 5
- 2.3. TIGHTENING ..... 6
  - 2.3.1. NUT, BOLT, SCREW TIGHTENING ..... 6
  - 2.3.2. FASTENING ELEMENTS ..... 7
- 2.4. BATTERY ..... 9
  - 2.4.1. BATTERY ..... 9
  - 2.4.2. CHECKING AND CLEANING THE TERMINALS ..... 10
  - 2.4.3. CHECKING THE BATTERY ELECTROLYTE LEVEL ..... 11
  - 2.4.4. RECHARGING THE BATTERY ..... 12
  - 2.4.5. LONG INACTIVITY OF THE BATTERY ..... 13
- 2.5. ELECTRICAL PARTS ..... 14
  - 2.5.1. ELECTRICAL PARTS ..... 14
- 2.6. SPARK PLUGS ..... 15
  - 2.6.1. SPARK PLUGS ..... 15
- 2.7. AIR CLEANER ..... 17
  - 2.7.1. AIR CLEANER ..... 17
- 2.8. TUBES ..... 18
  - 2.8.1. TUBES ..... 18
- 2.9. COOLANT ..... 19
  - 2.9.1. CHECKING AND TOPPING UP THE COOLANT LEVEL ..... 19
  - 2.9.2. CLEANING THE RADIATOR ..... 20
- 2.10. BRAKE FLUID ..... 21
  - 2.10.1. CHECKING AND TOPPING UP THE BRAKE FLUID ..... 21
  - 2.10.2. CHANGING THE BRAKE FLUID ..... 23
  - 2.10.3. CHECKING THE BRAKE PAD WEAR ..... 24
  - 2.10.4. BLEEDING THE BRAKING SYSTEMS ..... 25
- 2.11. ENGINE OIL ..... 28
  - 2.11.1. CHECKING THE ENGINE OIL LEVEL AND TOPPING UP ..... 28
  - 2.11.2. CHANGING THE ENGINE OIL AND THE OIL FILTER ..... 29
- 2.12. TRANSMISSION OIL ..... 30
  - 2.12.1. CHECKING AND TOPPING UP THE TRANSMISSION OIL ..... 30
  - 2.12.2. CHANGING THE TRANSMISSION OIL ..... 31
- 2.13. THROTTLE ..... 32
  - 2.13.1. THROTTLE ..... 32
  - 2.13.2. IDLING ADJUSTMENT ..... 34
- 2.14. FRONT END ..... 35
  - 2.14.1. STEERING ..... 35
  - 2.14.2. FRONT SUSPENSION ..... 36
- 2.15. REAR AXLE ..... 37
  - 2.15.1. CHECKING THE ENGINE AXLE ..... 37
  - 2.15.2. REAR SUSPENSION INSPECTION ..... 38
- 2.16. WHEELS ..... 39
  - 2.16.1. WHEELS ..... 39
- 2.17. TYRES ..... 40
  - 2.17.1. TYRES ..... 40
- 2.18. EXHAUST SYSTEM ..... 41
  - 2.18.1. EXHAUST MANIFOLD NUTS ..... 41