

1.1 SAFETY INFORMATION

Precautions and general warnings

-  The clothing of the operator performing the repair operations must be adequate to avoid the risk of injury when working on moving parts (for example, too wide clothes that can get caught).
-  Do not wear personal items (e.g. rings, wristwatches, etc.) while performing repairs on the vehicle, and in particular on the electrical system.
-  Keep the work area tidy, to avoid that elements left on the ground interfere with the repair operations.
-  Clean the floors of the working areas from oil, grease or other residual fluids, to avoid slipping.
-  Perform compression or decompression operations on the springs, using only suitable tools to prevent the operations from causing damage to the operator.
-  Avoid inhalation of vapours from cleaning fluids: they can be highly toxic. Make sure the work area is properly ventilated.
-  Use suitable cleaning products for each operation, making sure that they are approved.
-  Wear eye protection when using electrical tools such as drills, grinders or milling machines.

Carbon monoxide

-  The exhaust fumes contain carbon monoxide, a poisonous gas that can cause death. Therefore, for certain operations, make sure you are in an open space, or in a suitable and well-ventilated room, never in enclosed spaces. If operating in enclosed spaces, use an evacuation system for the exhaust fumes.

Fuel

-  The fuel used is extremely flammable and can become explosive under certain conditions. Refuelling and maintenance operations must be carried out in a ventilated area and with the vehicle switched off. Do not smoke during refuelling and near fuel vapours; avoid contact with open flames, sparks and any other source that could cause ignition or explosion.
-  Do not disperse in the environment and keep away from children.

Hot components

-  The engine and certain components become very hot and remain hot for a while even when the engine is off. Before carrying out any operation near the engine or exhaust system, wear insulating gloves or wait for their cooling.

Used engine and gearshift oil

-  Used engine and gearshift oil is harmful to health, whether it is inhaled or swallowed. It is also irritating and can cause serious consequences if it comes into contact with the skin.
-  Spreading and dispersion into the environment is prohibited.
-  If swallowed, do not induce vomiting, but go urgently to a first aid centre, indicating the cause and how the accident occurred.
-  In case of contact with the skin, immediately wash the affected part with soap and water, repeating the operation until the affected part is free from residues.
-  In case of contact with eyes and ears, immediately rinse the affected parts with plenty of water and urgently go to a first aid center, indicating the cause and how the accident occurred.
-  In case of contact with clothing, undress and wash thoroughly with soap and water. Change the dirty clothes which must be specifically washed as soon as possible.
-  Always use gloves suitable to protect your hands during the maintenance operations.
-  Keep out of the reach of children.

-  **Used engine and gearshift oil must be collected in a sealed container, delivered to the nearest service station or at a waste oil collection centre where you will find personnel authorized to dispose of it.**

Electrolyte and hydrogen gas from the battery

-  **The electrolyte of the battery is toxic and caustic. In contact with skin it can cause burns, as it contains sulphuric acid. Wear gloves and protective clothing.**
-  **If the electrolyte liquid comes into contact with the skin, wash it thoroughly with fresh water.**
-  **Protect your eyes, as battery fluid can cause blindness. If it comes into contact with the eyes, wash thoroughly with water for fifteen minutes and promptly contact an eye specialist.**
-  **The battery emits explosive gases, it is advisable to keep away flames, sparks and any other source of heat. Provide adequate ventilation when servicing or recharging the battery.**
-  **Keep out of the reach of children.**
-  **The battery fluid is corrosive. Do not pour it or spread it, especially on plastic parts.**
-  **Provide for regular disposal.**
-  **If work is to be carried out involving the electrical system, check that the electrical connections, in particular the earth and battery connections, are correctly installed.**
-  **Do not disassemble and/or modify the battery and do not use it for purposes other than those for which it was manufactured.**
-  **If the battery is very hot, disconnect it and wait for it to cool down before proceeding with any work.**

Coolant

-  **Under certain conditions, the ethylene glycol present in the engine coolant is combustible and its flame is not visible. If ethylene glycol is ignited, its flame is not visible but it is able to cause serious burns.**
-  **Avoid pouring engine coolant to the exhaust system or on engine parts. These parts may be hot enough to ignite the liquid which then burns without visible flames. Coolant (ethylene glycol) can cause skin irritation and is poisonous if swallowed. Keep out of the reach of children. Do not remove the radiator cap when the engine is still hot. Coolant is under pressure and may cause burns.**
-  **Keep hands and clothes away from the cooling fan as it starts automatically.**

Specific safety information

All safety information regarding the use of this vehicle is contained in the user and maintenance booklet and the safety warnings booklet sold with the vehicle.

- The user and maintenance booklet contains all the information you need to familiarise yourself with your vehicle, to know its main components and technology, and to learn all the tips necessary for its correct and absolutely safe use.
- Read the safety warnings booklet carefully: knowledge of and compliance with the warnings prevents the risk of accidents to yourself, other people, animals or property and allows you to use your vehicle in an environmentally friendly manner.
- The documentation (the Use and Maintenance Booklet, the Safety Warnings Booklet, EC Declaration of Conformity, etc.) is an integral part of the vehicle and must be kept for the entire duration of its use.
- Ensure that the owner is always in possession of the vehicle's documentation. In the event of loss or damage of the user and maintenance booklet, inform the owner who may request a new copy at any time.

2.1 PREPARATION FOR MAINTENANCE

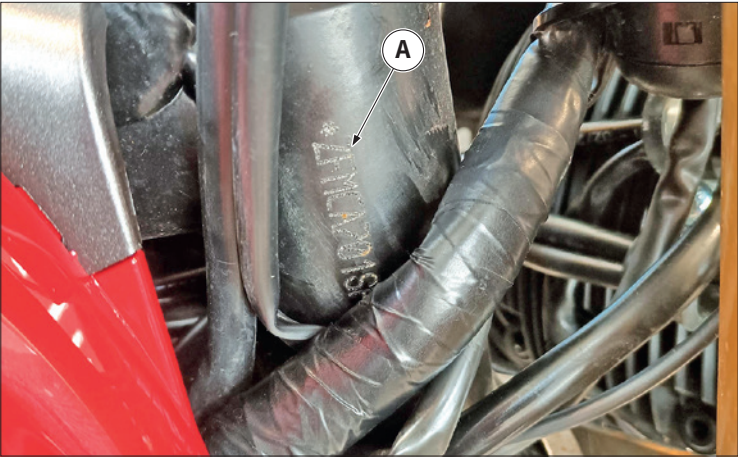
- ❗ Always use original Fantic Motor spare parts and lubricants recommended by the manufacturer. Non-original spare parts can damage the vehicle.
- ⚠ Use only the specific tools designed for this vehicle.
- ❗ Always use new gaskets, seals and O-rings during assembling.
- ❗ After disassembling, clean the components with non-flammable thinners.
- ❗ Lubricate all the work surfaces before assembling, except the tapered fittings.
- ⚠ Use only metric measuring tools for disassembling, overhaul and assembling operations. Metric screws, nuts and pins are not interchangeable with coupling parts having English units of measurement.
- ❗ All surfaces with gaskets, oil seals and O-rings must be cleaned with special care.
- ❗ Carefully examine all the retaining rings before replacing the deformed ones. Use the new piston pin retaining rings after each use.
- ❗ After assembling, check that all components have been correctly installed and are working perfectly.
- ❗ Always use high quality equipment. Use, for lifting the vehicle, equipment expressly made and complying with national and local laws and regulations.
- ❗ In case of interventions that involve the electrical system, check the correct installation of electrical connections, in particular the earth and battery connections

2.2 PREPARATION FOR INTERVENTIONS

- ❗ Before carrying out the disassembling operations, carefully clean the elements from dirt, dust, mud and foreign bodies.
- ♻ Use appropriate tools and cleaning products.
- ❗ When disassembling the vehicle always keep the coupled elements together, i.e. gears, cylinders, pistons and other elements adapted to each other through normal wear. These coupled elements must always be reused together or completely replaced.
- ⚠ During the motorcycle disassembling clean all the elements and place them in containers following the disassembling order, so as to facilitate assembling operations and allow a correct installation of all components. If necessary, mark parts or positions that could be exchanged with each other during assembling.
- ⚠ Keep all items away from heat sources.
- ❗ Keep, during the operations, the tools at hand, possibly according to a predetermined sequence and never on the vehicle or in hidden or inaccessible positions.
- ❗ Keep the working area tidy and clean.



- ⊘ Do not lift the vehicle grasping the license plate holder frame, in order to avoid damage.



3.1 IDENTIFICATION

i These numbers that identify the motorcycle model must be mentioned for the request for spare parts.

3.1.1 Vehicle Identification Number (V.I.N.)

Fantic Motorvehicles have a vehicle identification number (V.I.N.) "A" visible on the right-hand side of the steering head.

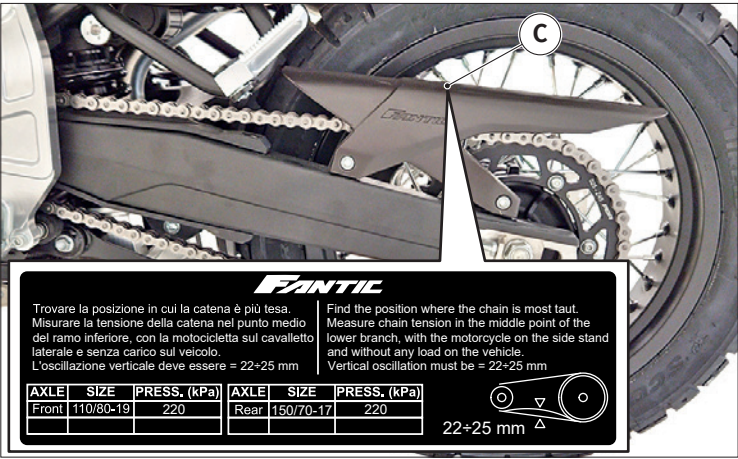
⚠ Do not change the vehicle identification data (V.I.N.) to avoid voiding the warranty and incurring serious criminal and administrative penalties.

i The VIN corresponds to the moped chassis number.



3.1.2 Engine number

The engines of Fantic Motor vehicles have a specific identification number "B" punched on the left-hand side of the crankcase.



3.1.3 Tire and chain specification stickers

On the upper surface of the chain guard, located on the left side of the vehicle's rear swingarm, there is the sticker "C", which shows the tyre inflation pressures and chain tension.

Trovare la posizione in cui la catena è più tesa.
Misurare la tensione della catena nel punto medio del ramo inferiore, con la motocicletta sul cavalletto laterale e senza carico sul veicolo.
L'oscillazione verticale deve essere = 22+25 mm

Find the position where the chain is most taut.
Measure chain tension in the middle point of the lower branch, with the motorcycle on the side stand and without any load on the vehicle.
Vertical oscillation must be = 22+25 mm

AXLE	SIZE	PRESS. (kPa)	AXLE	SIZE	PRESS. (kPa)
Front	110/80-19	220	Rear	150/70-17	220

22+25 mm Δ

We recommend using only original Fantic Motor parts for all the needs. It is recommended to use lubrication products such as greases and oils recommended by Fantic Motor.

Seals, oil seals and o-rings

-  **When performing engine repairs, always use new gaskets, O-rings and oil seals. Also, clean all mating surfaces and edges of sealing rings and O-rings.**
-  **Prior to assembling, lubricate the coupled elements and bearings with the specified oil and apply the prescribed grease to the edges of the sealing rings.**

Washers, plates and split pins

-  **If washers, plates and split pins are disassembled, always use new elements during assembling. The locking tabs must be folded over the tops of the relative nut or bolt after they have been properly tightened.**

Bearings and oil seals

-  **Install bearings and oil seals with the manufacturing identification markings facing outwards, i.e. towards the visible side. When installing the oil seals, apply a thin layer of lithium grease on their edges.**
-  **To avoid damaging the rolling surfaces, do not dry the bearings with compressed air.**

Retaining rings

-  **Check all the retaining rings before installing them. Always replace the retaining rings that have been removed during disassembling. Replace the deformed elastic rings. When mounting a new retaining ring, turn it so that the side with the sharp edge is on the side opposite the point where pressure is applied.**

5.1 FRAME TIGHTENING TORQUES

Component	Dim. Fil.	Q.ty	Tightening torque	Remarks
Bodywork				
Seat lock linkage nut	M5	2	2 Nm (0.2 kgf, 1.5 lbf)	
Rear mudguard reinforcement nut	M6	3	10 Nm (1 kgf, 7.4 lbf)	
Seat lock linkage rivet	M5	2	2 Nm (0.2 kgf, 1.5 lbf)	
Sprocket housing screw	M6X20	3	5 Nm (0.5 kgf, 3.7 lbf)	
Side kickstand screw	M8	1	23 Nm (2.3 kgf, 17.0 lbf)	
Lower licence plate holder fastening screw	M5X16	1	1.5 Nm (0.15 kgf, 1.1 lbf)	
Upper licence plate holder fastening screw	M5X16	2	1.5 Nm (0.15 kgf, 1.1 lbf)	
Front mudguard side screw	M6X12	4	5 Nm (0.5 kgf, 3.7 lbf)	
Seat lock linkage screw	M5X20	2	2 Nm (0.2 kgf, 1.5 lbf)	
Front mudguard screw	M6X20	4	5 Nm (0.5 kgf, 3.7 lbf)	
Rear mudguard reinforcement screw	M6X12	3	10 Nm (1 kgf, 7.4 lbf)	
Side kickstand rotation sensor screw	M6X20	1	10 Nm (1 kgf, 7.4 lbf)	
Fork				
Steering ring nut	M30X1.5	2	see tightening sequence ❶ a page 16	
Fork leg locking screw	M6X25	10	10 Nm (1 kgf, 7.4 lbf)	
Handlebar fastening screw	M8X25	4	23 Nm (2.3 kgf, 19.9 lbf)	
Steering limit stop sheet metal screw	M8X50	2	18 Nm (1.8 kgf, 13.3 lbf)	
Fork proctor screw	M6X12	4	10 Nm (1 kgf, 7.4 lbf)	
Clutch cable gland screw	M6X16	1	10 Nm (1 kgf, 7.4 lbf)	
Front wheel axle screw	M6X30	4	10 Nm (1 kgf, 7.4 lbf)	
Steering clamping screw	–	1	30 Nm (3 kgf, 22.1 lbf)	
Headlight support bracket screw	M6X20	2	10 Nm (1 kgf, 7.4 lbf)	
Lower handlebar support screw	M10X35	2	35 Nm (3.5 kgf, 33.2 lbf)	
Swingarm and connecting rods				
Swingarm linkage nut	M12	1	50 Nm (5 kgf, 36.9 lbf)	
Pin fastening connecting rod rocker arm to frame	M12 L121	1	50 Nm (5 kgf, 36.9 lbf)	
Connecting rod rocker arm fastening pin	M12 L88	1	40 Nm (4 kgf, 29.5 lbf)	
Rear shock absorber lower screw	M10X50	1	40 Nm (4 kgf, 29.5 lbf)	
Swingarm linkage screw	M12	1	50 Nm (5 kgf, 36.9 lbf)	
Engine assembly, intake, exhaust				
Exhaust manifold fastening nut	–	4	18 Nm (1.8 kgf, 13.3 lbf)	
Engine fastening nut (fastening on frame centre plate)	M10	2	50 Nm (5 kgf, 36.9 lbf)	
Filter casing side cover screw	M5X16	10	1 Nm (0.1 kgf, 0.7 lbf)	
Engine fastening screw (fastening to upper support bracket)	M10X30	2	50 Nm (5 kgf, 36.9 lbf)	 Copper grease
Engine fastening screw (upper front fastener)	M12X35	2	60 Nm (6 kgf, 44.2 lbf)	 Copper grease
Screw fastening motor bracket to frame	M8X20	4	23 Nm (2.3 kgf, 17.0 lbf)	
Filter casing intake sleeve screw	M4X12	6	1 Nm (0.1 kgf, 0.7 lbf)	
Exhaust nut support screw	M6X10	1	10 Nm (1 kgf, 7.4 lbf)	
Tank unit				

Component	Dim. Fil.	Q.ty	Tightening torque	Remarks
Seat connection screw	M6X45	1	8 ÷ 10 Nm (0.8 ÷ 1 kgf, 5.9 ÷ 7.4 lbf)	
Fuel tank cover screw	M5X16	4	2 Nm (0.2 kgf, 1.5 lbf)	
Fuel tank cover screw	M5X12	8	2 Nm (0.2 kgf, 1.5 lbf)	
Fuel tank rear fastening screw (fastening sheet metal)	M6X12	2	5 Nm (0.5 kgf, 3.7 lbf)	
Fuel pump screw	M6X16	5	5 Nm (0.5 kgf, 3.7 lbf)	
Fuel tank cap screw	M5X30	3	5 Nm (0.5 kgf, 3.7 lbf)	
Fuel tank cap screw	M5X16	4	5 Nm (0.5 kgf, 3.7 lbf)	
Electrical system				
Oxygen sensor	-	1	22 Nm (2.2 kgf, 16.2 lbf)	
EFI ECU screw	M5X20	2	5 Nm (0.5 kgf, 3.7 lbf)	
IMU control unit screw	M5X16	4	1.5 Nm (0.15 kgf, 1.1 lbf)	
Room air temperature sensor screw	M5X10	1	3 Nm (0.3 kgf, 2.2 lbf)	
Front wheel speed sensor screw	M5X20	1	5 Nm (0.5 kgf, 3.7 lbf)	
Rear wheel speed sensor screw	M5X20	1	5 Nm (0.5 kgf, 3.7 lbf)	
Fuse box support bracket screw	M5X12	2	5 Nm (0.5 kgf, 3.7 lbf)	
Braking system				
Rear foot brake stroke adjustment screw nut	M5	1	5 Nm (0.5 kgf, 3.7 lbf)	
Rear brake light switch	M10X1	1	4 ÷ 5 Nm (0.4 ÷ 0.5 kgf, 2.9 ÷ 3.7 lbf)	
Rear brake master cylinder oil reservoir cap	-	1	1.7 ÷ 2 Nm (0.17 ÷ 0.2 kgf, 1.2 ÷ 1.5 lbf)	
Braking system load screw	-	6	23 ÷ 26 Nm (2.3 ÷ 2.6 kgf, 17 ÷ 19.1 lbf)	
Front brake calliper bleed screw	-	1	5 ÷ 7 Nm (0.5 ÷ 0.7 kgf, 3.7 ÷ 5.2 lbf)	
Rear brake calliper fastening screw	M8X20	2	18 Nm (1.8 kgf, 13.3 lbf)	
ABS control unit fastening sheet metal screw	M6X12	6	10 Nm (1 kgf, 7.4 lbf)	
Rear brake tube cable gland screw	M4X12	2	1.5 Nm (0.15 kgf, 1.1 lbf)	
Rear brake pedal screw and gearshift	-	1	18 Nm (1.8 kgf, 13.3 lbf)	 Copper grease
Rear brake pedal rod screw	M8X20	1	18 Nm (1.8 kgf, 13.3 lbf)	
Front brake master cylinder oil reservoir screw	-	2	1.2 ÷ 1.5 Nm (0.12 ÷ 0.15 kgf, 0.9 ÷ 1.1 lbf)	
Front brake calliper special fastening screw	-	1	45 Nm (4.5 kgf, 33.2 lbf)	 Loctite® 243
Lighting system				
Tail light cap locking screw	M4X10	2	1.5 Nm (0.15 kgf, 1.1 lbf)	
Tail light cap fastening screw	M3X8	3	1.5 Nm (0.15 kgf, 1.1 lbf)	
Front turn signal screw	M6X16	2	2 Nm (0.2 kgf, 1.5 lbf)	
Rear turn signal screw	M6X16	2	2 Nm (0.2 kgf, 1.5 lbf)	
Headlight side screw	M8X20	2	15 Nm (1.5 kgf, 11.1 lbf)	
Throttle cable gland screw (behind headlight)	M6X16	1	10 Nm (1 kgf, 7.4 lbf)	
Rear brake tube cable gland screw (behind headlight)	M6X16	1	10 Nm (1 kgf, 7.4 lbf)	

Component	Dim. Fil.	Q.ty	Tightening torque	Remarks
Headlight support screw	M6X12	3	10 Nm (1 kgf, 7.4 lbf)	
Cooling system				
Radiator fan screw	M6X12	6	5 Nm (0.5 kgf, 3.7 lbf)	
Handlebars and controls				
Key block screw	M8X35	2	20 Nm (2 kgf, 14.7 lbf)	
Throttle control locking screw	-	2	3 ÷ 4 Nm (0.3 ÷ 0.4 kgf, 2.2 ÷ 2.9 lbf)	
Clutch lever locking screw	-	2	6 ÷ 7 Nm (0.6 ÷ 0.7 kgf, 4.4 ÷ 5.2 lbf)	
Handlebar counterweight screw	M6X90	2	10 Nm (1 kgf, 7.4 lbf)	
Dashboard screw	M5X12	3	3 Nm (0.3 kgf, 2.2 lbf)	
Right steering switch screw	-	1	2 ÷ 2.5 Nm (0.2 ÷ 0.25 kgf, 1.5 ÷ 1.8 lbf)	
Left steering switch screw	-	2	1.5 ÷ 2 Nm (0.15 ÷ 0.2 kgf, 1.1 ÷ 1.5 lbf)	
Dashboard light support screw	M6X25	2	2 Nm (0.2 kgf, 1.5 lbf)	
Wheels and chain				
Rear wheel adjustment plate retainer nut	-	2	80 Nm (8 kgf, 59.0 lbf)	
Front wheel axle nut:	M25X1	1	50 Nm (5 kgf, 36.9 lbf)	
Front brake plate screw	M8X25	6	22 Nm (2.2 kgf, 16.2 lbf)	
Chain slider screw	M5	2	5 Nm (0.5 kgf, 3.7 lbf)	
Frame				
Rear handle screw	M6X16	2	10 Nm (1 kgf, 7.4 lbf)	
Rear handle screw	M6X20	2	10 Nm (1 kgf, 7.4 lbf)	
Right side plate screw	M8X75	1	10 Nm (1 kgf, 7.4 lbf)	
Left side plate screw	M8X60	1	10 Nm (1 kgf, 7.4 lbf)	

5.1.1 Frame parts tightening sequences**Tightening sequence ❶:**

Proceed as follows to tighten the steering ring nut:

- Initially tighten the 1st ring nut to 30 Nm (3 kgf, 22.1 lbf);
- Retighten the 1st ring nut to 5 Nm (0.5 kgf, 3.7 lbf);
- Tighten the 2nd ring nut to 5 Nm (0.5 kgf, 3.7 lbf).

5.2 ENGINE TIGHTENING TORQUES

Component	Dim. Fil.	Q.ty	Tightening torque	Remarks
Exhaust pipe nut	M8	4	20 N·m (2.0 kgf·m, 15 lb·ft)	
Silencer support bolt	M6	4	10 N·m (1.0 kgf·m, 7.4 lb·ft)	
	M8	2	20 N·m (2.0 kgf·m, 15 lb·ft)	
Silencer cover bolt	M6	3	10 N·m (1.0 kgf·m, 7.4 lb·ft)	
Spark plug	M10	2	13 N·m (1.3 kgf·m, 9.6 lb·ft)	
Exhaust camshaft sprocket bolt	M7	2	24 N·m (2.4 kgf·m, 18 lb·ft)	
Intake camshaft sprocket bolt	M7	2	24 N·m (2.4 kgf·m, 18 lb·ft)	
Generator cover bolt	M6	2	12 N·m (1.2 kgf·m, 8.9 lb·ft)	
		8	12 N·m (1.2 kgf·m, 8.9 lb·ft)	
Exhaust camshaft cap bolt	M6	6	10 N·m (1.0 kgf·m, 7.4 lb·ft)	
Intake camshaft cap bolt	M6	6	10 N·m (1.0 kgf·m, 7.4 lb·ft)	
Timing chain tensioner bolt	M6	2	10 N·m (1.0 kgf·m, 7.4 lb·ft)	
Timing chain tensioner cap bolt	M6	1	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Access bolt to reference for timing	M8	1	15 N·m (1.5 kgf·m, 11 lb·ft)	
Crankshaft end cover	M36	1	10 N·m (1.0 kgf·m, 7.4 lb·ft)	
Oil filter cartridge	M20	1	17 N·m (1.7 kgf·m, 13 lb·ft)	
Oil filter cartridge connection bolt	M20	1	40 N·m (4.0 kgf·m, 30 lb·ft)	
Coolant draining bolt	M6	1	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Oil drain bolt	M14	1	43 N·m (4.3 kgf·m, 32 lb·ft)	

5.3 GENERAL TIGHTENING TORQUES

5.3.1 General tightening torque specifications

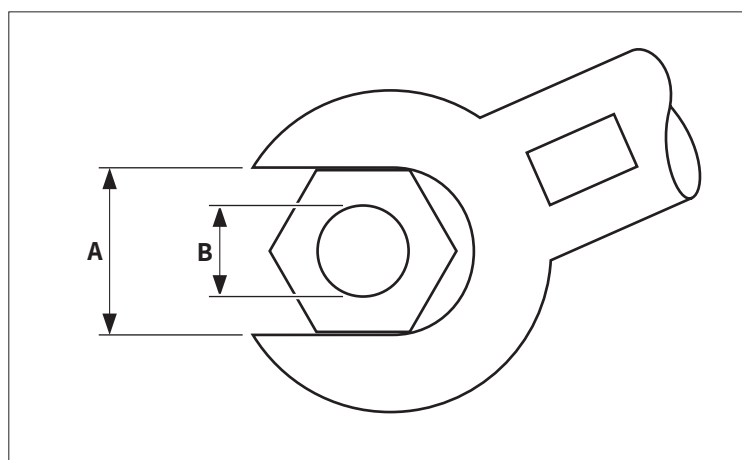
The table below contains tightening torques for standard nuts and bolts with standard ISO thread pitch.

i The tightening torques of components or special units can be found in the relevant chapters of this manual.

! To avoid deformation, tighten the bolt or nut assemblies gradually until the specified torque is reached.

! Unless otherwise specified, the tightening torques indicated are intended with clean and dry threads.

! The components must be at room temperature.



"A" (nut)	"B" (bolt)	General tightening torques		
10 mm	6 mm	6 Nm	0.6 m-kgf	4.3 ft-lbf
12 mm	8 mm	15 Nm	1.5 m-kgf	11 ft-lbf
14 mm	10 mm	30 Nm	3.0 m-kgf	22 ft-lbf
17 mm	12 mm	55 Nm	5.5 m-kgf	40 ft-lbf
19 mm	14 mm	85 Nm	8.5 m-kgf	61 ft-lbf
22 mm	16 mm	130 Nm	13.0 m-kgf	94 ft-lbf

A. Key opening

B. Thread outside diameter

5.3.2 Conversion table

i All specifications in this manual follow the International System (SI) and Metric System units.

Use the following table to convert the values expressed with units of the Metric System into values expressed with units of the English System.

Characteristic	Unit of the metric system	Factor of Multiplication	Unit of the Imperial system
Tightening torque	m·kg	7,233	ft·lb
	m·kg	86,794	in·lb
	cm·kg	0.0723	ft·lb
	cm·kg	0.8679	in·lb
Counterweight	kg	2,205	lb
	g	0.03527	oz
Speed	km / h	0.6214	mph
Distance	km	0.6214	mi
	m	3,281	ft
	m	1,094	yd
	cm	0.3937	in
	mm	0.03937	in
Volume / Capacity	cc (cm ³)	0.03527	oz (IMP liq.)
	cc (cm ³)	0.06102	cu.in
	l (litres)	0.8799	qt (IMP liq.)
	l (litri)	0.2199	gal (IMP liq.)
Other	kg / mm	55,997	lb / in
	kg /cm ²	14,2234	psi (lb/in ²)
	degrees centigrade (°C)	9/5 + 32	degrees Fahrenheit (°F)

6.1 FRAME PARTS AND ELECTRONICS TECHNICAL DATA

Technical data	Value(s)
Frame parts technical data	
Maximum length	2164 mm (85.20 in)
Maximum width	890 mm (35.04 in)
Maximum height	1136 mm (44.72 in)
Wheel base	1453 mm (57.20 in)
Weight in running order	185 kg (407.85 lb)
Fully laden weight (vehicle, rider, luggage and passenger)	380 kg (837.76 lb)
Seats	2
Maximum allowable weight (rider, passenger, baggage)	195 kg (429.90 lb)
Frame	Single beam chassis made of chrome molybdenum steel with forged aluminium elements
Swingarm	Steel swingarm with variable section
Steering angle (with extended suspensions)	25.5°
Steering angle (both sides)	35° ± 3°
Front suspension	Upside down fork ø45 Stroke 150 mm (5.90 in)
Rear suspension	Mono-shock absorber in adjustable compression and progressive linkage Stroke 147.1 + 2 mm (5.79 + 0.07 in)
Front brake	Four-piston caliper 32 mm (1.33 in) Floating disc 330 mm (12.99 in) Minimum front brake disc thickness : 5 mm (0.20 in) Minimum rear brake disc thickness : 4.5 mm (0.18 in)
Rear brake	Two-piston calliper 34 mm (1.25 in) , 245 mm disk (9.64 in)
Rims/tyres	Aluminium spoked rims with inner tube tires: Front 110/80-19 2.50 x 19" Rear 150/70-17 4.25 x 17". Inflation pressure: Front .2.2 bar (220 kPa ± 10) (31.90 PSI) Rear 2.2 bar (220 kPa ± 10) (31.90 PSI)
Electronic systems and electrical system technical data	
ABS system	ABS system on two independent and disconnectable channels with cornering function
Battery	12 V - 11.8 Ah
Fuses	Main fuse: 30 A Secondary fuses: 30 A (1), 10 A (1), 7.5 A (1), 5 A (3), 2 A (1).
Generator	14.0 V, 29.3 A at 5000 rpm
Charging system	AC magnet
Stator coil resistance	0.128–0.192 Ω
Spark plugs:	
Spark plug model	NGK-LMAR8A-9
Distance between the electrodes	0.8–0.9 mm (0.031–0.035 in)
Ignition system: ignition timing (PPMS)	8.0–12.0°/1350 rpm
Ignition coil:	
Primary coil resistance	1.19–1.61 Ω
Secondary coil resistance	8.50–11.50 kΩ

Technical data	Value(s)
Starter motor:	
Total brush length limit	6.5 mm (0.26 in)
Mica coating (depth)	0.70 mm (0.03 in)
Type of injection	electronic injection
Injector resistance(s)	12.0 Ω
Fuel injection sensor:	
Crankshaft position sensor resistance	228–342 Ω
Intake air temperature sensor resistance	5400–6600 Ω at 0 °C (5400–6600 Ω at 32 °F)
	290–390 Ω at 80 °C (290–390 Ω at 176 °F)
Intake air pressure sensor output voltage	3.59–3.67 V at 101.3 kPa (3.59–3.67 V at 1.01 kgf/cm ² , 3.59–3.67 V at 14.7 psi)
Coolant temperature sensor resistance	2513–2777 Ω at 20 °C (2513–2777 Ω at 68 °F)
	210–221 Ω at 100 °C (210–221 Ω at 212 °F)
Lighting	
Turn signals	Led
High/low beam light	Led
Position/brake light	Led
License plate light	Led
ABS warning light	Led
Fuel reserve indicator light	Indication on display
Turn signal indicator light	Indication on display
Neutral indicator light	Indication on display
Oil pressure warning light	Indication on display
Engine warning light	Indication on display
High beam light indicator	Indication on display

6.2 ENGINE TECHNICAL DATA

Engine main technical data table

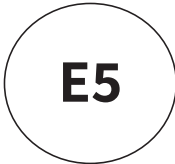
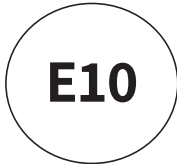
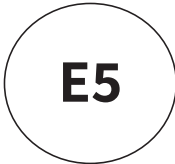
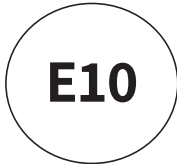
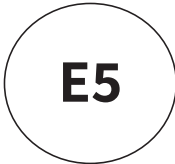
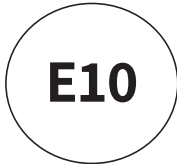
Technical data	Value(s)
Engine	
Engine type	2-cylinder 4-stroke
Number of cylinders	2, in line
Total displacement	689 cc (42.04 cu in)
Bore/Stroke	80.0 mm / 68.6 mm (3.15 in / 2.70 in)
Compression ratio	11.5:1
Compression pressure (cylinder no. 1)	765–985 kPa/355 rpm (7.7–9.9 kgf/cm ² /355 rpm, 108.9–140.2 psi/355 rpm)
Compression pressure (cylinder no. 2)	687–884 kPa/355 rpm (6.9–8.8 kgf/cm ² /355 rpm, 97.8–125.8 psi/355 rpm)
Valve train	DOHC (Double Over Head Cam)
Starting type	Electric
N ° of engine revolutions at idle speed	1250 ± 1450 rpm
Air filter	Paper (coated with filter oil)
Minimum conditions	
Idle speed	1250-1450 rpm
O2 feedback control	Active
Coolant temperature	85–105 °C (185–221 °F)
Difference in vacuum pressure between cylinders	0 kPa-1.3 kPa (0 mmHg-10 mmHg, 0 inHg-0.4 inHg)
CO%	0.0–2.0%
Fuel circuit pressure (at idle speed)	300–390 kPa (3.0–3.9 kgf/cm ² , 43.5–56.6 psi)
Throttle control grip clearance	3.0–5.0 mm (0.12–0.20 in)
Fuel	
Fuel system	Electronic fuel injection with 38 mm throttle body
Type of Fuel	95-98 octane super lead-free petrol
Tank capacity (including reserve)	13.5 l (2.96 UK gal, 3.56 US gal)
Capacity of the fuel reserve only	2.5 l (0.54 UK gal, 0.66 US gal)
Cooling system	
Type of cooling	Liquid
Coolant	1.6 l (0.35 UK gal, 0.42 US gal)
Thermostat: valve opening temperature	80.0–84.0 °C (176.00–183.20 °F)
Thermostat: complete valve opening temperature	95.0 °C (203.00 °F)
Engine lubrication	
Lubrication system	Casing in oil bath. Pressure system regulated by trochoid pump
Engine oil	Quantity (disassembled) 3.0 l (0.66 UK gal, 0.79 US gal) Without oil filter change 2.3 l (0.50 UK gal, 0.60 US gal) With oil filter change 2.6 l (0.57 UK gal, 0.68 US gal)
Engine oil filter type	Cartridge
Oil pump : engine oil pressure	280.0 kPa/5000 rpm (2.80 kgf/cm ² /5000 rpm, 40.6 psi/5000 rpm)
Clutch	
Clutch type	Multidisk in oil bath Control on the left side of the handlebar
Clutch lever clearance	5.0–10.0 mm (0.20–0.39 in)
Friction disc 2 thickness	2.92–3.08 mm (0.115–0.121 in)
Number of plates	5 pieces

Technical data	Value(s)
Wear limit	2.82 mm (0.111 in)
Friction disc 1 thickness	2.90–3.10 mm (0.114–0.122 in)
Number of plates	2 pieces
Wear limit	2.80 mm (0.110 in)
Clutch plate thickness	1.90–2.10 mm (0.075–0.083 in)
Number of plates	6 pieces
Deformation limit	0.10 mm (0.004 in)
Clutch spring free length limit	47.50 mm (1.87 in)
Transmission unit	
Type of gearshift	6-speed mechanical Pedal control on the left side of the engine
Drive chain	525 DID, 112 links
Transmission ratios	Primary transmission: 1.925 (77/40) 1st gear ratio: 2.846 (37/13) 2nd gear ratio: 2.125 (34/16) 3rd gear ratio: 1.632 (31/19) 4th gear ratio: 1.300 (26/20) 5th gear ratio: 1.091 (24/22) 6th gear ratio: 0.964 (27/28) Secondary transmission: 2.688 (45/16)
Primary shaft misalignment limit	0.08 mm (0.0032 in)
Secondary shaft misalignment limit	0.08 mm (0.0032 in)
Length of installed gearshift pedal rod	217.5–219.5 mm (8.56–8.64 in)

Engine technical data supplementary table

Technical data	Value(s)
Cylinder head	
Deformation limit	0.10 mm (0.0039 in)
Camshaft	
Camshaft cap inner diameter	22.000–22.021 mm (0.8661–0.8670 in)
Camshaft journal diameter	21.959–21.972 mm (0.8645–0.8650 in)
Camshaft journal-camshaft cap clearance limit	0.080 mm (0.0032 in)
Camshaft lobe dimensions:	
Lobe height limit (intake)	35,510 mm (1.3980 in)
Lobe height limit (exhaust)	35,610 mm (1.4020 in)
Camshaft misalignment limit	0.030 mm (0.0012 in)
Valve, valve seat, valve guide	
Valve clearance (cold):	
Intake	0.11–0.20 mm (0.0043–0.0079 in)
Exhaust	0.24–0.30 mm (0.0094–0.0118 in)
Valve dimensions:	
Valve seat contact width limit (intake)	1.6 mm (0.06 in)
Valve seat contact width limit (exhaust)	1.6 mm (0.06 in)
Valve stem diameter limit (intake)	4,445 mm (0.1750 in)
Valve stem diameter limit (exhaust)	4,430 mm (0.1744 in)
Valve guide internal diameter (intake)	4,500–4,512 mm (0.1772–0.1776 in)
Valve guide internal diameter (exhaust)	4,500–4,512 mm (0.1772–0.1776 in)
Valve stem-valve guide clearance limit (intake)	0.080 mm (0.0032 in)

Technical data	Value(s)
Valve stem-valve guide clearance limit (exhaust)	0.100 mm (0.0039 in)
Valve stem misalignment	0.010 mm (0.0004 in)
Valve spring	
Free length limit (intake)	38.29 mm (1.51 in)
Free length limit (exhaust)	39.32 mm (1.55 in)
Cylinder	
Boring	80.000–80.010 mm (3.1496–3.1500 in)
Wear limit	80.060 mm (3.1520 in)
Piston	
Diameter	79,970–79,985 mm (3.1484–3.1490 in)
Measuring point (from the lower side of the piston skirt)	8.0 mm (0.31 in)
Clearance between the piston and cylinder	0.015–0.040 mm (0.0006–0.0016 in)
Pin hole inside diameter limit	18,045 mm (0.7104 in)
Pin outside diameter limit	17,970 mm (0.7075 in)
Piston ring	
Upper piston ring:	
Clearance limit between ends	0.50 mm (0.0197 in)
Lateral clearance limit	0.115 mm (0.0045 in)
2nd piston ring:	
Clearance limit between ends	0.80 mm (0.0315 in)
Lateral clearance limit	0.115 mm (0.0045 in)
Connecting rod	
Piston rod pin - piston rod head bushing clearance	0.027–0.051 mm (0.0011–0.0020 in)
Bushings colour code:	
Code 1	Blue
Code 2	Black
Code 3	Brown
Code 4	Green
Crankshaft	
Misalignment limit	0.030 mm (0.0012 in)
Crankshaft journal- crankshaft journal bearing clearance	0.018–0.042 mm (0.0007–0.0017 in)
Bushings colour code:	
Model identification colour	Rose
Code -1	Violet
Code 0	White
Code 1	Blue
Code 2	Black
Code 3	Brown
Balancer	
Balancer countershaft misalignment limit	0.030 mm (0.0012 in)
Bushings colour code:	
Code 1	Blue
Code 2	Black
Code 3	Brown
Code 4	Green
Code 5	Yellow
Balancer countershaft pin - balancer countershaft pin bearing clearance	0.020–0.054 mm (0.0008–0.0021 in)

Product	Characteristics	Remarks				
4-stroke gear engine oil	SAE 10W40. API service type SG or greater, JASO standard MA	Do not use mineral oils. See table in section “13.3 Engine oil level check” on page 154.				
Grease for bearings, joints, articulations and linkage	Lithium grease					
Coolant	Antifreeze liquid based on ethylene glycol with organic additives	Do not dilute with water.				
Fork oil	Fork Oil ISO HV 32					
Transmission chain lubricant	Spray grease for transmission chains					
Brake oil	Brake fluid Dot 4					
Cleaner for electrical contacts	Contact cleaner					
Fuel	95 or 98 octane super lead-free petrol	<table><tr><th colspan="2">PETROL FUEL TYPE</th></tr><tr><td></td><td></td></tr></table>	PETROL FUEL TYPE			
PETROL FUEL TYPE						
						
Paste for carter and engine covers coupling	Three Bond N. 1215®					
Safety lock medium tightening	Medium threadlocker					
Safety lock strong tightening	Strong threadlocker					
Lubricant for bolts unlocking	Unblocking protective lubricant					
Anti-friction lubricant for screw tightening torques	Generic engine oil					
Oil seals and O-rings lubricant for rubber parts	Lithium soap grease					
Battery terminals	White vaseline grease					
Vehicle wash	Low pressure water at room temperature Ecological neutral liquid soap	Avoid aggressive detergents. Wash with ignition key not inserted.				
External cleaning of the brake system (brake plates and seats)	Disc Brake Spray Cleaner	Do not use to clean brake pads and plastic parts.				

This chapter includes all the information necessary to perform the recommended checks and adjustments. These preventive maintenance procedures, if complied with, will ensure more reliable operation and longer vehicle life and will limit the need for costly overhaul work. This information applies to both vehicles already in use and new vehicles in preparation for sale. All maintenance technicians must be familiar with the instructions contained in this chapter.

⚠ Carry out maintenance operations more frequently if the vehicle is used in rainy, dusty areas, rough roads or in the case of fast riding.

⚠ It is essential to make the first inspection and servicing by the end of the first year of use of the vehicle even if the deadline of 1,000 km (600 mi) has not been reached.

i Timely servicing is necessary for proper use of the warranty.

i Scheduled servicing for this Fantic Motor vehicle is a regular service interval of one service every 10.000 km or 6,000 miles (with the exception of the first service at 1,000 km or 600 miles, scheduled at the end of the running-in period).

Position	Operation	Service (x 1.000 km / 600 mi)					Specific period	Specific distance
		1	10	20	30	40		
Fuel circuit	– Check that the fuel pipes are not cracked or damaged.		✓		✓			
Additional fuel filter	– Replace			✓		✓		
Mapping check	– Check that the engine control unit is updated to the latest version.	✓	✓	✓	✓	✓		
Air filter	– Clean.		✓		✓			
	– Replace.			✓		✓		
Spark plugs	– Check status; – Clean and restore the electrode distance.	✓	✓		✓			
	– Replace.			✓		✓		
Valves	– Check the valves clearance. – Adjust if necessary.					✓		
Engine oil	– Check the level and absence of leaks in the vehicle.	–						every 1,000 km (600 mi)
	– Replace.	✓	✓	✓	✓	✓	every year	
Engine oil filter	– Replace.	✓	✓	✓	✓	✓	every year	
Cooling system	– Check the coolant level and the absence of leaks in the vehicle.	✓	✓	✓	✓	✓	every year	
	– Coolant change.	–					every 3 years	
Injection system	– Adjust synchronisation.	✓	✓	✓	✓	✓		
Airbox sleeve	– Clean.	✓	✓	✓	✓	✓		
Drive chain	– Check the tension, alignment and conditions of the drive chain; – Check the rim and sprocket. – Check the clearance on the rear sprocket flexible coupling. – Adjust and lubricate if necessary.	–						every 1,000 km (600 mi)
	– Replace if necessary.	①					–	–
Battery	– Check the charge level		✓	✓	✓	✓	every year	
Braking system	– Check the brakes operation.	✓	✓	✓	✓	✓	every year	
Brake fluid	– Check the level.	✓	✓	✓	✓	✓	every year	
	– Replace	–					every 2 years	
Brake pads	– Check for wear. – Replace if necessary	✓	✓	✓	✓	✓		
Brake discs	– Check for wear. – Replace if necessary	✓		✓		✓		
Brake tubes	– Check for cracks or damage. – Check that the installation and tightening are correct.	✓		✓		✓	every year	
	– Replace.	–					every 4 years	
Brake lever rotation pin	– Lubricate with silicone grease.		✓	✓	✓			
Gearshift pedal rotation pin	– Lubricate with lithium soap grease.		✓	✓	✓			

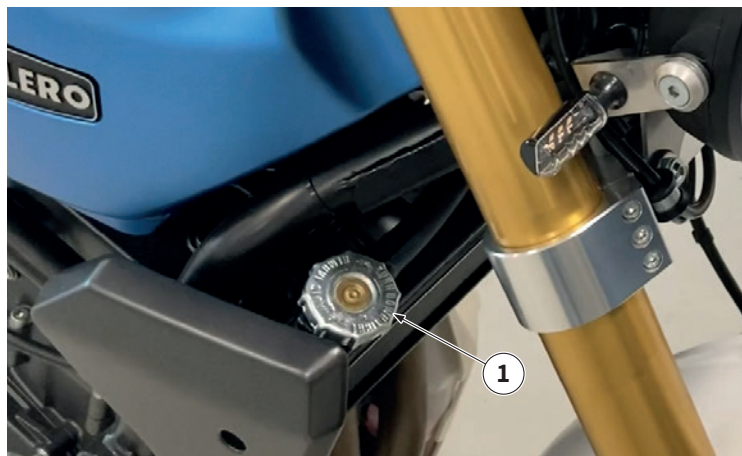
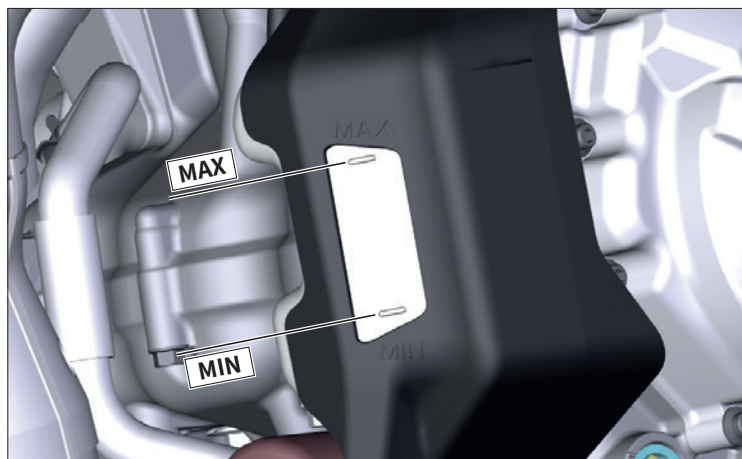
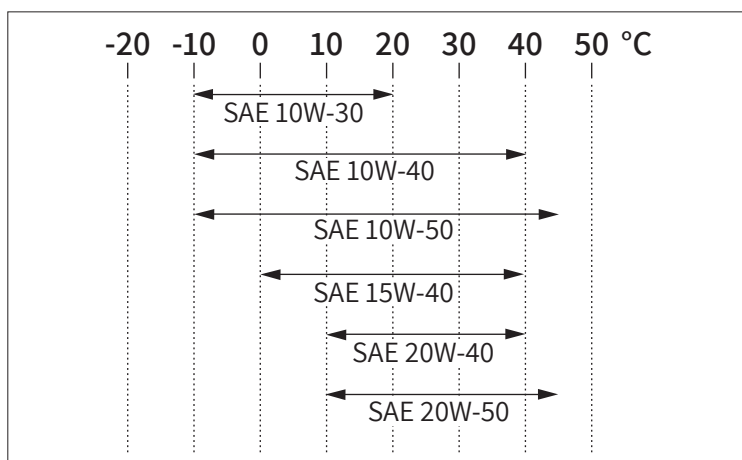
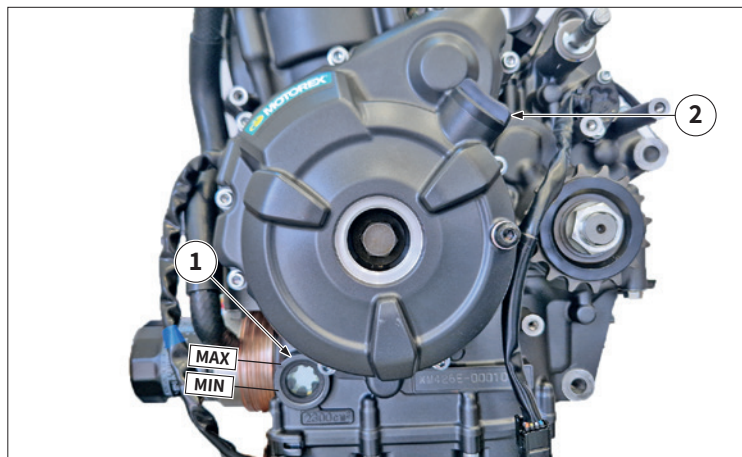
Position	Operation	Service (x 1.000 km / 600 mi)					Specific period	Specific distance
		1	10	20	30	40		
Brake pedal rotation pin	– Lubricate with lithium soap grease.	✓	✓	✓	✓	✓		
Throttle control	– Check its operation. – Check the grip clearance and adjust if necessary. – Lubricate the grip cables and body if necessary.	✓	✓	✓	✓	✓		
Clutch control	– Check its operation. – Check the grip clearance and adjust if necessary. – Lubricate the grip cable and body if necessary.	✓	✓	✓	✓	✓		
Clutch lever rotation pin	– Lubricate with lithium soap grease.		✓	✓	✓	✓		
Wheels and Tires	– Check its status.		✓	✓	✓	✓		
Wheel bearings	– Check that the bearings are not loose or damaged.		✓	✓	✓	✓		
Handlebar bearings	– Check the bearing clearance and the handlebar hardness.	✓	✓	✓	✓	✓		
	– Lubricate with lithium soap grease.			✓		✓		
Fork	– Check its operation and the absence of oil leaks.	✓	✓		✓			
	– Replace oil.			✓		✓		
	– Oil seals replacement			✓		✓		
Rear shock absorber	– Check its operation and the absence of oil leaks.		✓	✓	✓	✓	every year	
Rear suspension rotation points	– Check the swing arm operation; – Check the junction arm operation;		✓	✓	✓	✓		
	– Lubricate the rotation points of the suspension with a non-washable anti-corrosion lubricant.			✓		✓		
Passenger foot pegs	– Lubricate.	✓	✓	✓	✓	✓	every year	
Side kickstand	– Check its operation; – Lubricate with lithium soap grease.	✓	✓	✓	✓	✓	every year	
Side Kickstand switch	– Check its operation.	✓	✓	✓	✓	✓		
Brake Switches	– Check its operation.	✓	✓	✓	✓	✓		
Fastening elements and moving parts ②	– Check for correct movement and lubricate with lithium soap-based grease if necessary. – Check that there is no clearance and adjust if necessary (check tightening). – Check the wear condition and replace if necessary.	✓	✓	✓	✓	✓		

① Drive chain : replace only in the following cases:

- worn and/or deformed chain;
- difficulty or impossibility of adjusting the tension;
- excessive elongation beyond the limit (more than 2% of the maximum permitted length);
- lack of alignment between rim and sprocket.

② Fastening elements and moving parts : check the following components:

- Wheel fastening screws and nuts;
- Screws, nuts and bolts for fastening the rear suspension linkage;
- Steering locknuts;
- Handlebar fastening bolts and nuts;
- Front fork stems fastening screws;
- Front and rear brake calliper fastening bolts;
- Headlight fastening screws;
- Handlebar controls fastening screws;
- Rear-view mirrors fastening screws and nuts.
- Driver's and passenger's footboards fastening pins and bolts;
- Seat fastening knob.



9.1 ENGINE OIL LEVEL CHECK

Place the vehicle on a level surface.

- i** Place the vehicle on a suitable support and make sure that it is straight.

Start the engine, warm it up for a few minutes, then turn it off.

Check the engine oil level by looking at inspection window "1": it should be between the minimum "MIN" and maximum "MAX" marks.

If the level is below the minimum level reference, remove the cap "2" and top up with the recommended engine oil up to the correct level.

- i** Before checking the engine oil level, wait for the oil to settle completely inside the engine block.

♻️ Type: SAE 10W-30. 10W-40. 15W-40. 20W-40 o 20W-50.
Recommended engine oil grade: API service type SG or greater, JASO standard MA

⚠️ The engine oil also lubricates the clutch; an incorrect type of oil or chemical additives can cause the clutch to slip. Therefore, do not add chemical additives or use engine oil with a "CD" grade or higher and do not use oils labelled "ENERGY CONSERVING II".

⚠️ Do not allow foreign material to enter the crankcase.

Start the engine, warm it up for a few minutes, then turn it off. Check the engine oil level again.

- i** Before checking the engine oil level, wait for the oil to settle completely inside the engine block.

9.2 COOLANT LEVEL CHECK

- i** Check the coolant level with the engine cold, off and with the vehicle resting on the side kickstand on the left.

Check that the coolant is firmly within the minimum and maximum limits shown in the figure, visible on the outside of the expansion tank at the front left side of the vehicle.

If the vehicle needs topping up, add distilled water only. If the liquid has to be completely restored, add a mixture of water and antifreeze fluid.

♻️ Recommended product:
Antifreeze liquid based on ethylene glycol with organic additives.

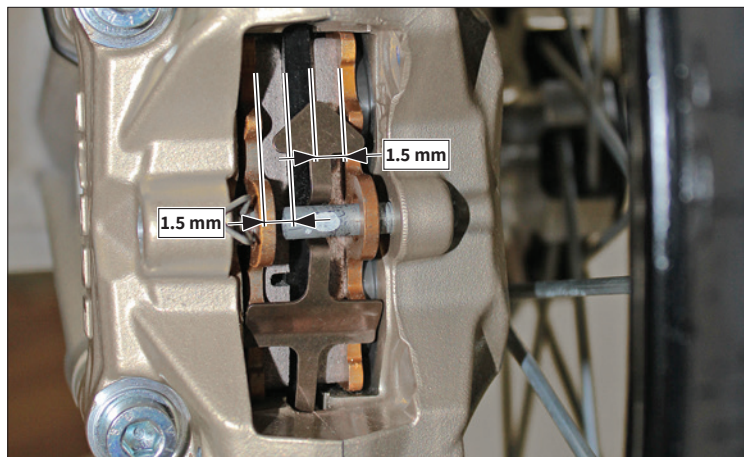
To top up the coolant, open the radiator cap "1" at the front right side.

⚠️ Do not remove the radiator cap if the vehicle is very hot. The system is under pressure and hot liquid and steam may escape. Wait until the engine has cooled down.

⚠️ Press the rubber tubes several times to facilitate the release of any air bubbles.

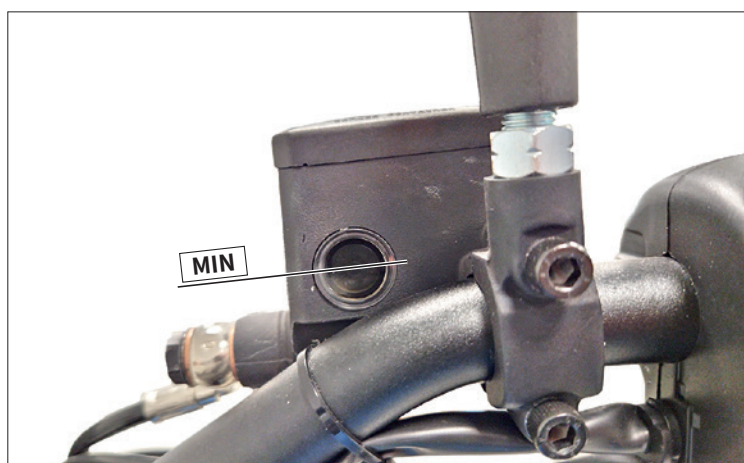
Close the cap "1" and start the vehicle: keep it on for at least one minute, before re-checking the level.

- i** Repeat the procedure until the coolant level has settled.



9.3 PADS WEAR CHECK

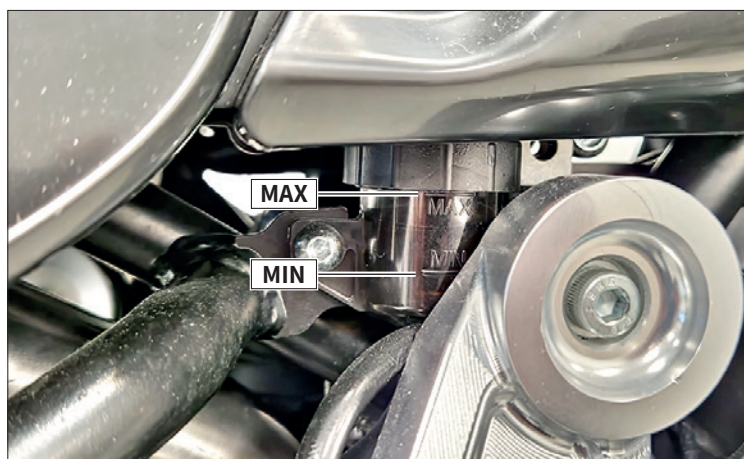
- ⚠ Check the wear condition of the front brake pads by looking from the bottom upwards in the direction of the calliper wheel axle, where it is possible to see the ends of the pads, which should have at least a 1.5 mm (0.05 in) layer of lining. If the layer is lower, proceed immediately to replace them.
- ⚠ Check the wear condition of the rear brake pads by looking at the rear from above, where it is possible to see the ends of the pads, which should have at least a 1.5 mm (0.05 in) layer of lining. If the layer is lower, proceed immediately to replace them.
- ℹ Perform the check following the times indicated in the scheduled maintenance table of the use and maintenance booklet.



9.4 CHECK THE FRONT BRAKE MASTER CYLINDER OIL LEVEL

To check the front brake fluid level, position the vehicle on the kickstand and turn the handlebar, so that the liquid contained in the brake oil reservoir is parallel to the cap. Check that the liquid is over the "MIN" mark.

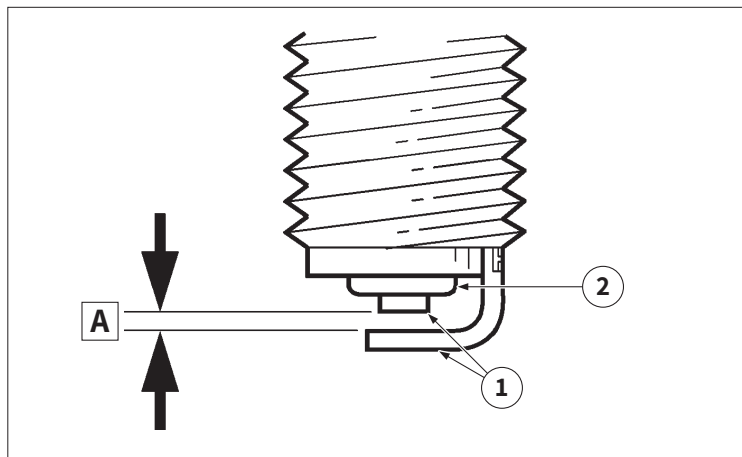
- ⚠ If the liquid level does not reach at least the "MIN" mark, check the brake disc and pads wear.



9.5 CHECK THE REAR BRAKE MASTER CYLINDER OIL LEVEL

To check the rear brake fluid, keep the vehicle in vertical position, so that the liquid contained in the brake oil reservoir is parallel to the cap. Check that the liquid is between the "MIN" and "MAX" marks.

- ⚠ If the liquid level does not reach at least the "MIN" mark, check the brake disc and pads wear.



9.6 SPARK PLUG CHECK

Disconnect the spark plug cap and remove the spark plug.

⚠ Before removing the spark plug, remove the impurities, if any, accumulated in the sump, using compressed air, to prevent them from entering the cylinder.

Check the type of spark plug and if it is not correct replace it with the correct model.

♻ Spark plug:
 – model NGK-LMAR8A-9;

Check the Electrode "1": if it shows any damage or signs of wear replace the spark plug.

Check the isolator "2": if it's colour is anomalous replace the spark plug.

i The normal colour varies between medium reddish brown and light reddish brown.

Clean the spark plug with a spark plug cleaner or a wire brush. Measure the distance between the electrodes "A" with a thickness gauge: if the distance does not comply with the specifications, restore the distance.

✂ Distance between the electrodes: 0.8–0.9 mm (0.031–0.035 in).

i Before installing the spark plug, clean the surfaces of the gasket and of the spark plug.

Install the spark plug and connect the spark plug cap.

🔧 Tightening torque
 Spark plug: 13 Nm (1.3 m·kg, 9.4 ft·lb).

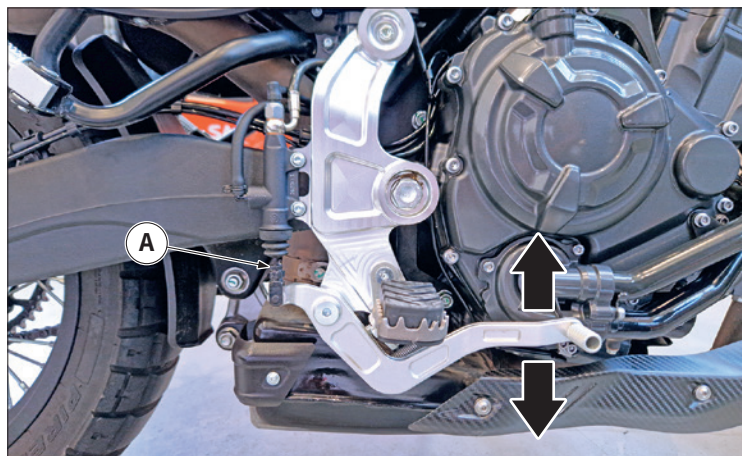


9.7 FRONT BRAKE ADJUSTMENT

The front brake lever is equipped with a ring nut "A" for adjusting the distance of the lever from the grip on the half-handlebar.

Turning the ring nut clockwise moves the lever away from the throttle grip. Conversely, turning the lever anti-clockwise brings it closer.

i Check the clearance of the front brake lever; if it is excessive, top up the front brake fluid reservoir.

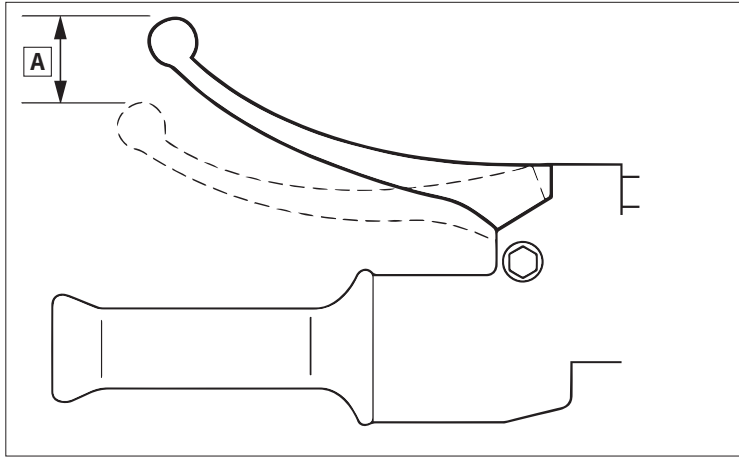


9.8 REAR BRAKE ADJUSTMENT

Check the clearance of the rear brake lever: if it is excessive, act on the adjuster "A".

i If the adjustment is not enough to reduce the lever clearance, top up the rear brake fluid reservoir.

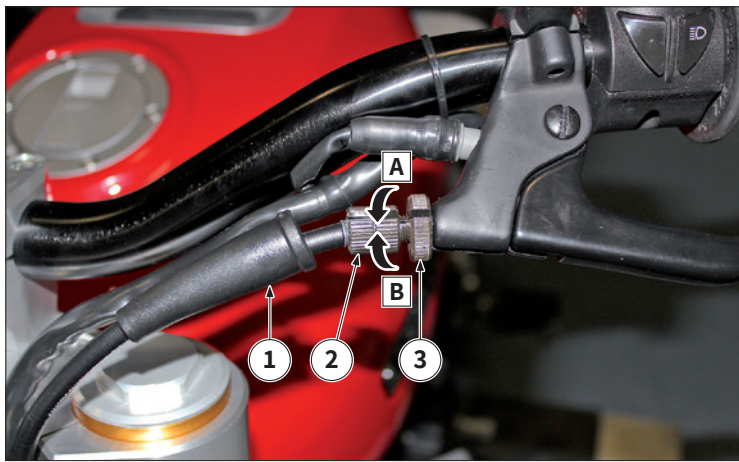
⚠ Keep 1 mm free clearance on the brake pedal for the master cylinder operation.



9.9 CLUTCH LEVER CLEARANCE

Check the clutch lever clearance: if it does not comply with the prescribed values, proceed with the adjustment.

Clutch lever clearance: 10.0–15.0 mm (0.39–0.59 in).



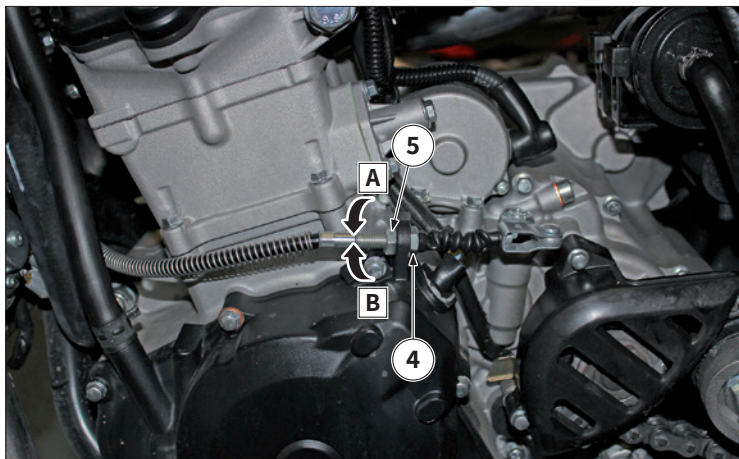
Adjust the clutch lever clearance by operating on the end of the handlebar:

- Pull back the rubber cover "1".
- Loosen the locknut "2";
- Turn the adjustment bolt "3" in direction "A" or "B" until the prescribed clutch lever clearance is obtained.

i **Direction "A": the clearance increases;**
Direction "B": the clearance decreases.

- Tighten the locknut;
- Replace the rubber cover in the original position.

i **If the clutch lever clearance cannot be achieved with the nut on the cable end on the handlebar side, use the nut on the engine side.**



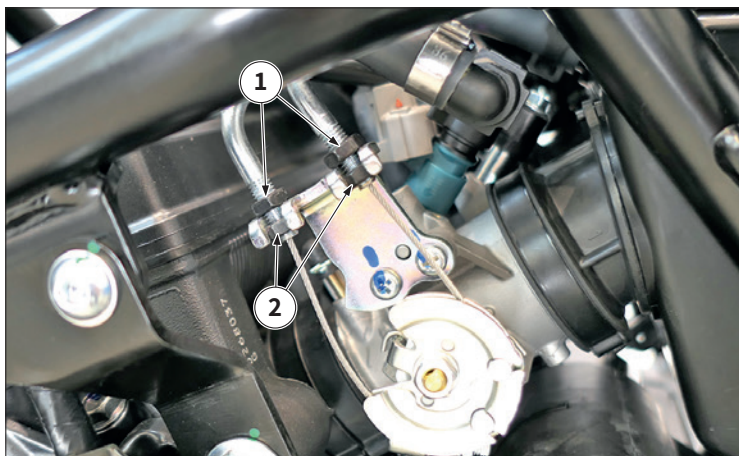
Adjust the clutch lever clearance acting on the drive side of the cable:

- Loosen the locknut "4";
- Turn the adjustment nut "5" in direction "C" or "D" until the prescribed clutch lever clearance is obtained.

i **Direction "C": the clearance increases;**
Direction "D": the clearance decreases.

- Tighten the locknut.

Tightening torque
clutch lever lock nut: 8 Nm (0.8 m·kg, 5.8 ft·lb).



9.10 THROTTLE CABLE ADJUSTMENT

Throttle body side adjustment

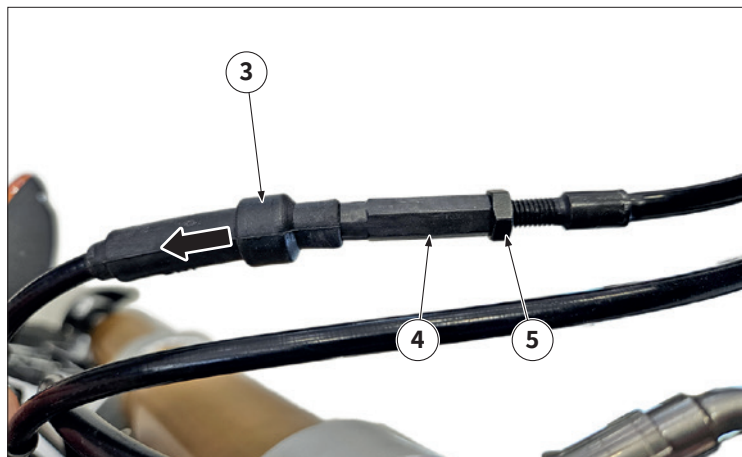
Working on the left side of the vehicle, under the tank, loosen the locknuts "1" of the two throttle cables.

Turn the adjusting nuts "2" until the prescribed clearance for the throttle grip is obtained.

Tighten the locknuts "1" on the throttle cables.

Tightening torque
Throttle cable locknuts (throttle body side):
4.5 N·m (0.45 kgf·m, 3.3 lb·ft)

i **If the prescribed throttle grip clearance cannot be obtained on the throttle body side of the cable, use the adjustment nut on the handlebar side.**


Adjustment on the handlebar side

Slide the rubber cover "3" of the throttle cable adjuster to the side.

Loosen the lock nut "5" of the adjuster.

Turn the throttle cable adjuster "4" until the prescribed clearance for the grip is obtained.

Tighten the lock nut "5" of the adjuster.


Tightening torque

Throttle cable adjuster retainer nut (handlebar side):

4.3 N·m (0.43 kgf·m, 3.2 lb·ft)

Close the rubber cover "3" on the throttle cable adjuster.



Ensure that the cable adjuster is completely covered by the rubber cover.