

MOTOMORINI®



*Super Scrambler*



## Introduction

- Congratulations on your excellent choice.
- Your new motorcycle is the result of the strictest tests and it represents the most up-to-date display of technology in this field.
- A trouble-free operation of the motorcycle through time depends on the use it will be subjected to and on appropriate maintenance. For this reason, we strongly suggest you conform to the information stated in this booklet, which must be carefully read before operating the motorcycle and will have to be consulted any time there is even the smallest doubt. In case you should lend your motorcycle (we strongly discourage doing so) to a friend, make sure they have read the paragraphs concerning riding safety and use of the motorcycle itself.
- For servicing, extraordinary maintenance, spare parts and accessories always and exclusively refer to Moto Morini S.r.l. Authorised Service Centres.
- This manual must be preserved for the whole life of the motorcycle and in case of transfer of title it will have to be handed over to the new owner.
- All information reported in this manual is up-to-date as of printing date.
- Moto Morini S.r.l reserves the right to apply all changes required by the evolution and development of its motorcycles without notice obligation.

***Always abide by the traffic laws, ride carefully and... Have a good journey!***

## Accompanying documentation of the motorcycle

- User and Maintenance Manual.
- Warranty booklet and servicing schedules.

## Motorcycle identification data

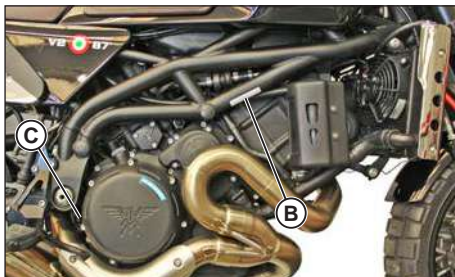
A = VIN ZLM100101.....

B = homologation tag

C = engine number FMVE12\* .....\*

### NOTE

Falsification of identification data is punishable by law. Do not remove the tag (B) reporting homologation data.



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## Consultation Notes

### Symbols

- Symbols highlighting situations of maximum attention, practical advice or information have been used in order to ensure a quick and practical reading.
- Said symbols can be located next to a text (thus referring to that text only) next to a picture (referring to the subject of the picture and its text) or at the top of the page (referring to all topics treated in the page itself).

### NOTE

Pay attention to the meaning of the symbols: their purpose is to avoid repetition of technical concepts or safety warnings.

	<p><b>WARNING!</b> Dangerous situations with grievous bodily harm or even death.</p>
	<p><b>IMPORTANT</b> Possibility of damage to the motorcycle or parts of it.</p>
	<p><b>NOTE</b> Topic of specific importance.</p>
	<p>Interventions pertaining to the Authorised Service Centre</p>
	<p>Operations to carry out with the engine off.</p>

### NOTE

Some pictures could differ from the motorcycle in use.

## Basic rules

- It is necessary to have all the requirements provided for by law in order to ride the motorcycle: minimum age, psychophysical eligibility, etc. in addition to the country-specific required documentation: driving licence, registration, road tax, insurance, number plate.
- Good psychophysical conditions are essential for safety while riding the motorcycle. Drugs, alcohol abuse, psychotropic drugs etc., in addition to physical weariness and sleepiness can cause very dangerous situations.
- It is advised to use a helmet, in compliance with the current regulations in the reference country.
- It is advised to use all protective devices, reinforced jacket, boots and gloves.
- It is advised to become familiar with the motorcycle by initially riding it in low-traffic areas.
- A good percentage of motorcycle accidents are caused by the rider's inexperience.
- Never lend the motorcycle to beginners or inexperienced riders.
- Ride in a seated position, both hands firmly placed on the handlebar and feet correctly placed on the footrests. Avoid standing up and stretching out the legs while riding. In case of numbness of the limbs on long-distance routes, do not hesitate to stop in specific rest areas and do some simple exercise to restore blood flow and tone up the muscles. Never ride in a state of physical weariness or drowsiness.
- Rigorously abide by signage and national/local rules.
- Keep a safe distance from other vehicles when riding in a straight line.
- Always ride with the low beam switched on, even in daylight.
- Avoid abrupt and potentially dangerous moves.
- Adjust your riding style according to road surface.



- Adjust your riding style according to the additional load carried on the motorcycle, especially in presence of a passenger.
- It is forbidden to challenge other vehicles' drivers on public roads.
- Avoid riding the motorcycle off-road as much as possible.
- When the road is wet or slippery, ride with maximum concentration. Use the brakes gently and mainly use the engine brake.
- Always ride so to be very visible in every condition. Do not ride in the “blind spots” of the vehicles in front of you.
- Pay extreme attention at crossroads that have no traffic lights, when close to an access to private areas or public parking areas, in entry lanes to ring roads or motorways.
- When refuelling the motorcycle, always switch the engine off. Do not smoke when performing the aforementioned operation.
- Remove the ignition key during stops (even short ones) if the motorcycle is left unattended.
- Park the motorcycle so that it cannot be bumped into, especially by pedestrians as the engine, the exhaust pipes and the silencer maintain a high temperature for a long time.
- Never park on rough or soft terrains or asphalt that has been softened by sunlight.
- Changes of direction or lane, side street turns, pull overs for parking or stopping must always be signalled well in advance by using the direction indicators.
- Whenever close to crossroads, stops, traffic lights, level crossings, holes, ditches, speed bumps and any other perceivable obstacle, slow down in time with moderation.
- When the engine is switched off and the ignition key is positioned to “ON”, the low beam switches off after a few seconds.

- Before every trip, always check: tyre wear and pressure, efficiency of the lighting and braking systems, engine oil and coolant levels.
- Only use the products recommended by Moto Morini S.r.l. In case of any top-ups, avoid mixing different, incompatible oils with one another.
- Do not ride with the helmet hanging off your arm or off the handlebar, even for short commutes. The helmet must be worn during every motorcycle ride (this applies to the passenger as well).
- Never distract oneself or get distracted while riding.
- Do not use mobile or audio devices while riding.
- Do not use earphones, only use appropriately homologated devices for these purposes.
- Alterations and tampering (even minor ones) exempt the manufacturer from any responsibility regarding any kind of damage and cause the termination of the warranty rights.

**WARNING!**

Do not ride in the stream of the vehicles ahead.

Do not ride paired up to other riders.

Do not tow or get towed by other vehicles.

Do not sit on the motorcycle while it is parked on the kickstand.

Do not put the motorcycle on the kickstand when the travel direction goes downhill.

Do not start the engine in indoor spaces.

Do not ride on pedestrians' walks, under covered walks, on public park lawns, etc.

Do not keep pointy or fragile objects in your pockets while riding.

Do not ride in case of adverse weather conditions (temperatures close to 0° C, ice, snow, heavy rain, etc.).

## **Clothing**

- Appropriate clothing consists of protective garments in light or refractive colours in order to always be perfectly visible even in poor visibility conditions. Avoid any loose-hanging tails, unbuttoned jackets, excessively heavy or tight gloves and inappropriate shoes.

## **Riding with a passenger**

- Carrying a passenger on the seat influences the riding to a great extent. The weight has a direct effect on the tyres, whose pressure will need to be increased and on the rear shock absorber, that will have to be calibrated properly. The braking distance is considerably longer and bends have to be taken at a wider range, with a reduced lean angle and measured throttle opening. A higher degree of caution is also mandatory.
- Both rider and passenger must necessarily wear homologated, properly tied up helmets. The helmet must be properly sized, intact and with a perfectly clean visor.
- Briefly instruct the passenger on the behaviour they will have to adopt before every trip (even short ones): do not make any abrupt move during the ride, do not place the feet on the ground during short rests such as stop signs or traffic light stops, do not look over the sides during the ride to look ahead, do not turn the head backwards and, above all, do not counterbalance the curve preparation set by the rider.
- Clear display of passenger anxiety must necessarily lead to highly cautious and careful driving.

**WARNING!**

Do not carry elderly or disabled people, children or animals.  
Do not carry children on the motorcycle tank.

**Accessories**

- Moto Morini S.r.l. shall not be liable for any kind of damage resulting from the use of unexpected, non-homologated or in any way incompatible accessories according to the structural features of the motorcycle or accessories that have not been installed following the technical specifications of said accessory's manufacturer or Moto Morini S.r.l. (example: windscreen, luggage rack, top case, side panniers or bags, fairings, additional lights, etc.).
- The motorcycle user is responsible for the choice, set-up and practical use of the accessories. During set-up, it is important to verify that the visual and acoustic indication devices are not covered, the suspension travel and steering angle are not limited, the use of control devices is not hindered and ground clearance and leaning angle are not reduced.
- Always check that the accessories are properly attached to the motorcycle, especially in view of long journeys.
- Any accessory that modifies side and/or frontal clearances can cause vehicle imbalance, even if it is an original Moto Morini accessory. In these cases, it is advised not to exceed a 130 Km/h speed even if allowed.

## NOTE

Always use original Moto Morini S.r.l. Accessories, set up by the Authorised Service Centre.

## Load (Baggage)

- Baggage must be loaded so that its total weight is equally distributed on both sides of the vehicle, as close to its barycentre as possible. Baggage must be securely attached to the vehicle and it is good practice to check its correct anchoring during stops. A poorly anchored bag can make the motorcycle unsteady and cause extremely dangerous situations.



### WARNING!

Non posizionare ai lati del motociclo bagagli troppo ingombranti; potrebbero urtare ostacoli o persone, causando la perdita di controllo del motociclo stesso.

Non fissare oggetti di nessun genere sul manubrio.

Non fissare oggetti di nessun genere sul parafango anteriore o in prossimità della forcella. Si determinerebbe un inevitabile comportamento di scarsa maneggevolezza e si pregiudicherebbe il regolare flusso di aria al radiatore, con il pericoloso rischio di surriscaldamento del motore.

Non trasportare bagagli, o oggetti vari, che sporgano eccessivamente dal portabagagli o che coprono i dispositivi di illuminazione e di segnalazione.

Non superare il limite massimo di peso sopportabile dal portabagagli. Il sovraccarico è sempre una fonte di pericolosità nella guida del motociclo.

Non eccedere con il carico sul serbatoio, in modo particolare in altezza.

## Technical features

### Engine

Twin-cylinder .....	"V" 4-stroke - 4 valves per cylinder
Total displacement.....	1.187 cm <sup>3</sup>
Bore by stroke.....	107 x 66 mm
Compression ratio.....	12.2:1
Power .....	85,4 kW - 116 HP at 8.000 rpm.
Engine torque.....	108 Nm at 7.000 rpm.

### Timing system

Double overhead camshaft (with silent chain).

### Fuel system

Electronic fuel injection  **ATHENA** with Ø 54 mm throttle body.

### Exhaust system

Double silencer, 3-way catalytic converter and 2 LAMBDA sensors.

**Valve clearance**

Intake.....	0,20 - 0,25 mm
Exhaust.....	0,25 - 0,30 mm

**Lubrication**

Oli: .....	 Power Synt 10W50
Capacity*: draining .....	2.800 cm <sup>3</sup> with filter replacement ..... 3.000 cm <sup>3</sup>

**Cooling system**

Liquid type. Thermostat starts opening: .....	73 - 77° C
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**Transmission**




- 6-Speed gearbox
- Primary drive..... 31/55
- Final drive ..... 17/42
- Gear ratio: 1<sup>st</sup> - 13/36 - 2<sup>nd</sup> - 17/32 - 3<sup>rd</sup> - 20/30 4<sup>th</sup> - 22/28 - 5<sup>th</sup> - 23/26 - 6<sup>th</sup> - 24/25.
- Primary drive: spur gears
- Final drive: chain
- Clutch: multi-plate wet type



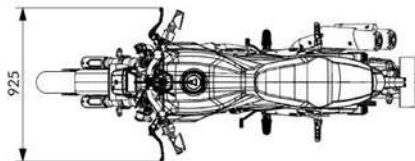
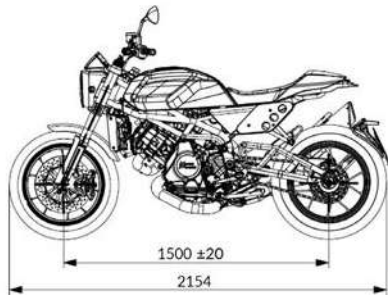
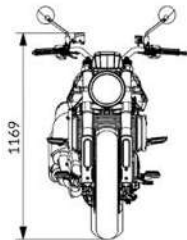
## Homologation

Euro 4

## Vehicle

- Chassis: ALS 450 steel tube trellis with a variable diameter  
Swingarm: tubular steel - Wheelbase: 1.490 mm - Rake: 25°  
Trail: 108 mm - Steering angle: 30°
- Front suspension: adjustable  UPSIDE-DOWN fork. Ø 46 mm fork legs.  
Travel: 120 mm
- Front wheel: Spoked - 3,50 x 17" - Tyre: 120/70 R17"
- Rear suspension: adjustable mono shock absorber  - Travel: 130 mm
- Rear wheel: Spoked - 5,50 x 17" - Tyre: 180/55 R17"
- Brakes  Front: double disc Ø 320 mm. Callipers with 4 pistons and 2 brake pads.  
Rear: single disc Ø 220 mm. Calliper with 2 pistons and 2 brake pads.
- Fuel tank, capacity: 14 l. Reserve 4 l
- Dry weight **kg. 200**

Overall dimensions





### Electrical System

- Battery: 12V - 7,5 Ah
- Instrumentation: Multi-function LCD Display.
- Spark plugs: NGK CR9EB - Electrode gap: 0,7 - 0,8 mm

### Fluids/Lubricants

- Fuel: Unleaded petrol R.O.N. 95

- Coolant:
- Engine oil:
- Brake and clutch fluid:

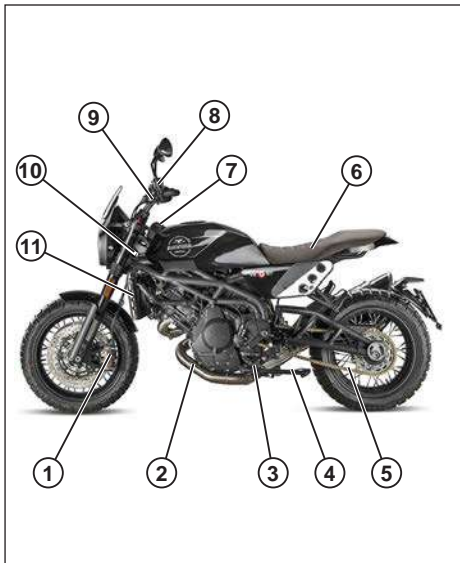


COOLANT M3.0  
POWER SYNT 10W50  
BRAKE FLUID DOT 5.1

## General Information

### Main component location (Left-hand side)

N.	Description
1	Front left brake calliper
2	Exhaust pipe (front cylinder)
3	Gear change lever
4	Side stand
5	Drive chain
6	Rider seat
7	Ignition switch
8	Clutch fluid reservoir
9	Clutch lever
10	Expansion tank Engine coolant
11	Radiator - Engine coolant



(Right-hand side)

N.	Description
1	Silencers
2	Rear brake calliper
3	Catalytic converter
4	Rear brake lever
5	Exhaust pipe (rear cylinder)
6	Front right brake calliper
7	Headlight
8	Front brake lever
9	Front brake fluid reservoir
10	Fuel tank cap
11	Rear brake fluid reservoir
12	Rear light



## Supplied equipment

- The motorcycle is delivered with the following equipment:
  - allen spanners: 2,5 - 3 - 5
  - reversible screwdriver: flat-head / phillips-head
  - TX 30 spanner
  - spark plug spanner
  - adjustable pliers

The accompanying equipment is located in the compartment under the passenger seat.



### Provided keys

- The motorcycle is delivered with no. 2 identical keys, both encoded.

### NOTE

Separate the two keys and store one of them in a safe place.



### IMPORTANT

It is advised to use a keyring made out of soft material that will not mark the exterior of the motorcycle.

### NOTE

Together with the keys, a tag is provided giving a code which is to be used in order to request an additional key.

- In case of a key loss, report it as lost and, if necessary, head to the Service Centre for locks replacement.



## Ignition switch

- It is located between the handlebar and the fuel tank.

Modes:

A = OFF: no power supply

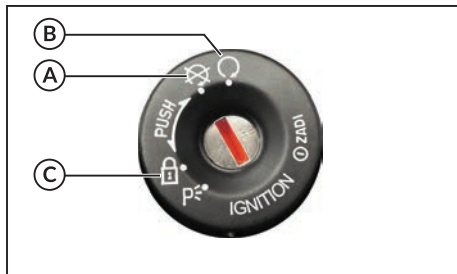
B = ON: ignition power supply

C = Steering lock



### IMPORTANT

Press the key downwards in order to rotate it and shift it through the different modes.





## Fuel tank cap

### Opening

- Lift the protective flap and tilt it to the rear.
- Insert and rotate the key clockwise, then tilt the cap to the rear.



### IMPORTANT

After every refuelling, check that the cap is properly closed.



## Passenger seat lock

### Opening







- Insert and rotate the key clockwise until the lock snaps.
- Press and lift the seat in the travel direction, unfastening the front hooks.



Instrument panel



## Instrument panel warning lights (Specific functions)

Warning lights	Description
	DIRECTION INDICATORS - It blinks when the left/right direction indicator is on or the "Hazard" or emergency indicators are on.
	HIGH BEAM - It switches on when the headlight is set to high beam.
	FUEL RESERVE - It switches on when there are about 2.5 litres of fuel remaining in the tank.
	NEUTRAL - It switches on when the gear is in neutral.
	ENGINE/VEHICLE DIAGNOSTICS It switches on in case of "engine" and/or "vehicle" errors. In some cases it causes an engine block.
	ABS When blinking, it indicates ABS disabled; when steady on, it indicates ABS not working.

## Button functions

1. MENU / ◀ PREVIEW
2. ▶ NEXT
3. MEM / OK
4. VIEW / QUIT

## MENU

Access button to the Set-Up of a series of functions:

- Date Time (setting date and time)
- Config Param (parameter settings)
- Backlight (adjusting display backlight intensity)
- Counters (Odometer, Trip meters)
- GPS & TRACKS (optional feature paired up with data logger)
- System Info (shows the System version)



The dynamic functions are on the sides of the MENU screen and correspond to the buttons:

- PREV
- NEXT
- ENTER
- EXIT

#### ◀ PREVIEW / ▶ NEXT

Scroll through the different functions with the buttons of the Set-Up MENU until you reach the desired one.

#### MEM / OK

This button activates the dynamic ENTER button and opens the submenu of the function to be set; within the submenu, the button switches to CHANGE so as to set the parameters and to OK in order to confirm the change.

#### VIEW / QUIT

Scroll through the main screens and go back to the submenu or “EXIT” to go back to instrument panel default view.

## Display functions

It is possible to enter the Set-Up menu only when the engine is off, with the ignition key positioned to “ON” by pressing the “MENU” button. The display shows the Set-Up screen; at this point, pressing the “MENU” button again and “◀” and “▶”, scroll through the different functions until the desired one, then press the MEM / OK (dynamic ENTER) button to enter the adjusting mode. Once the adjusting is done, it will be possible to return to the standard operating mode by pressing the VIEW / QUIT button where the EXIT function is found.

### NOTE

Once into the adjusting menu, if after 20 sec. the button has not been pressed or if the vehicle is started, or if the key is switched to OFF, the system will automatically enter standard operating mode.

### Adjusting current time and date (Date Time)

Find the “Date Time” function and press the “MEM / OK” button to view said information. It is possible to set the current time according to time zone, daylight saving time and 12/24h format.

Select the correct parameter by scrolling the submenu list with the “◀”, “▶” buttons, then press MEM / OK to enable the function, choose the correct parameter with the “◀” and “▶” buttons and confirm by pressing the MEM / OK button. Once the parameter is set, the system automatically returns to submenu scrolling mode to set the next parameter.

Proceed likewise to set the date. After enabling the field, choose the format.

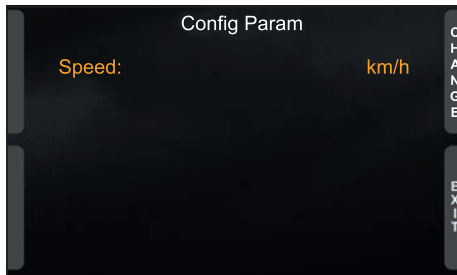
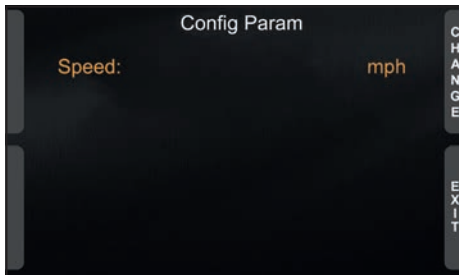
To return to the Set-Up menu, press the button indicating the EXIT function.



### Parameter settings

Open the function (Config Param) to set the units of measurement to be displayed as required.

Manually set units of measurement by pressing MEM / OK (CHANGE dynamic key) and toggle between km/h and mph. When required setting is displayed, press VIEW / QUIT to go back to main page; the selected unit of measurement will now be shown.







### Backlight adjustment

Press the “MEM / OK” button at the BACKLIGHT icon in order to enable the submenu, where it is possible to select AUTO or MANUAL mode. The latter enables the user to increase or decrease the instrument panel backlight intensity as a percentage, by using the “◀” and “▶” buttons until desired value is found, then confirm by pressing MEM / OK and return to Set-Up MENU.



### Total km count (Counters)

The total km count (System) can be found within Odometer submenu. It counts and shows the total mileage of the vehicle.

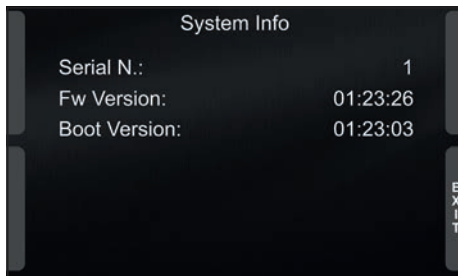
The total km count value is saved permanently and it is not possible to reset it.

There are four partial trip counters, called "User", showing the mileage and travel time. These values can be reset by using the "◀" and "▶" buttons to scroll the list and select the desired string, then press MEM / OK to reset.



## System Info

Shows the System version.



There are different main screen layouts to choose from by pressing the VIEW / QUIT button.

Information displayed on the main screen:

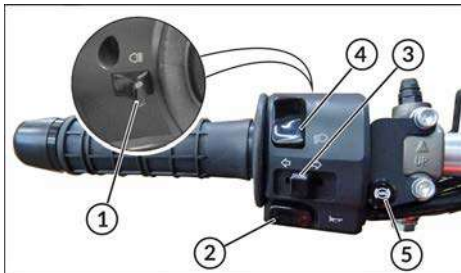
1. Engine RPM bar graph
2. Gear indicator
3. Vehicle speed
4. Engine RPM
5. Coolant temperature
6. Ambient temperature
7. Total km count
8. Trip 1
9. Trip 2
10. Battery charge indicator
11. Clock





**Handlebar controls  
(Left-hand side)**

1. "FLASHING"
2. HORN
3. DIRECTION INDICATORS:  
off/left/right
4. LIGHT SWITCH:  
Low/high beam
5. ABS OFF



**NOTE**

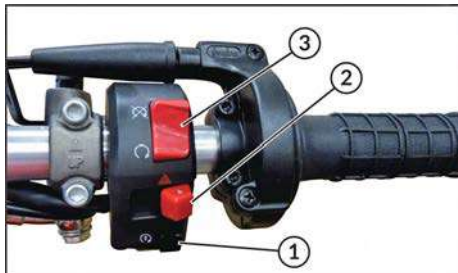
When starting the engine, the low beam switches on automatically.

**(Right-hand side)**

1. ENGINE START
2. EMERGENCY INDICATORS (HAZARD)
3. "ON/OFF" SWITCH

When set to "OFF", if the ignition key is switched to ON the engine stops but the electrical system remains on.

If the switch is used, it is necessary to cycle the ignition key to "OFF" and the switch to "ON" before restarting the engine.



## Clutch control lever

- The lever (A) disengages the clutch.
- By pulling the lever towards the handlebar, the drive from the engine to the gearbox (as well as to the rear wheel) is interrupted.

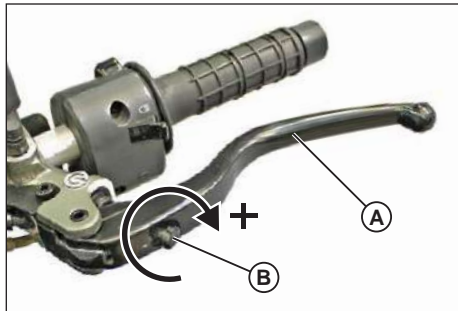


### IMPORTANT

To avoid deteriorating the clutch components prematurely, do not pull the lever with the engine in acceleration.

## Adjusting the position

- The distance between the clutch control lever and the handgrip can be adjusted according to the size of the hand, the thickness of the glove or other special needs or riding habits of the rider. Adjust by working the adjusting screw (B). Tighten the screw to move the lever away from the handgrip; unscrew to move the lever nearer the handgrip.



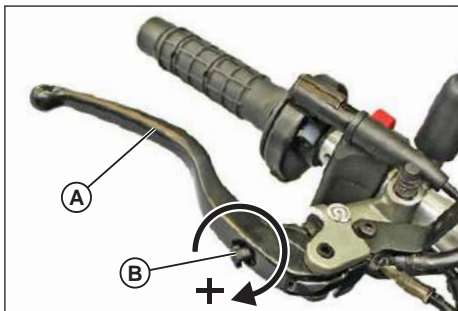


### Front brake control lever

- Pulling the lever (A) towards the throttle grip, both front brake callipers are activated.

### Adjusting the position

- As with the clutch control lever, the front brake lever can also be adjusted according to the size of the hand or thickness of the glove by working the adjusting screw (B). Tighten the screw to move the lever away from the handgrip; unscrew to move the lever nearer the handgrip.



## Throttle control

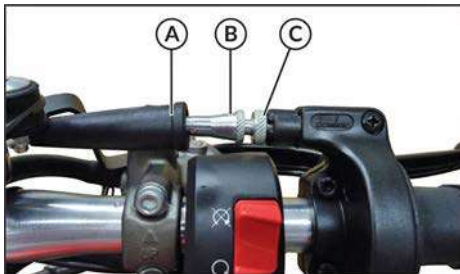
- The throttle control is located on the right-hand side of the handlebar and it controls the opening of the throttle body.

## Adjusting the throttle control

- Throttle body is controlled via a steel cable which does not deteriorate but can undergo stretching.

To adjust clearance:

- Partially remove the protection cap (A).
- Loosen the ring nut (C).
- Work adjuster (B) to take up any clearance.
- Tighten the ring nut (C).
- Re-place the protection cap (A).



## NOTE

Optimum play is to be set according to riding habits.



**NOTE**

Do not excessively stretch the cable, so as to not change the idling rpm of the engine.

**NOTE**

Leaving too much free play or not at all may cause the unfastening of the throttle control cable.

## Fork

### NOTE

The fork legs are calibrated for a 75 kg standard weight. It is possible to perform adjustments in accordance with a heavier weight or special riding needs.



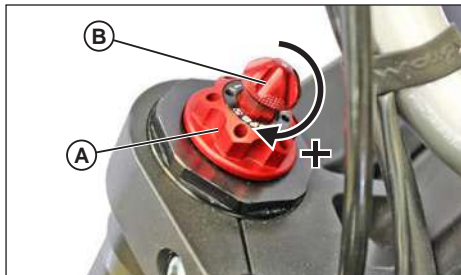
### Adjustments

#### Spring pre-load

- Spring pre-load (for both fork legs) is set through the adjuster (A). The factory setting equals no. 2 clicks from the completely loosened position of the adjuster.

### NOTE

The adjustments must be identical on both fork legs.



### Compression (Adjuster (B) - LH leg)

- It is possible to adjust the compression rate through the adjuster (B) placed on the left-hand fork leg. The factory setting equals no. 31 clicks counter-clockwise from the adjuster fully home position, i.e. completely tightened.

#### NOTE

Turn the adjuster (B) clockwise to decrease the compression rate (the suspension gets harder).

### Rebound (Adjuster (B) - RH leg)

- It is possible to adjust the rebound rate through the adjuster (B) placed on the right-hand fork leg. The factory setting equals no. 20 clicks counter-clockwise from the adjuster fully home position, i.e. completely tightened.

#### NOTE

Turn the adjuster (B) clockwise to decrease the rebound rate (the suspension gets harder).



#### IMPORTANT

To set the initial position of the adjustment, do the adjusting screw completely while counting the clicks.

## Rear shock absorber

- The rear shock absorber is equipped with external adjusters so as to set the motorcycle according to the different load conditions.

### NOTE

The default setting of the rear shock absorber is calibrated for a rider weight of 75 kg.



### Adjustments

#### Spring pre-load

- The spring pre-load adjuster (A) is placed on the passenger left-hand footrest. Use it to adjust spring pre-load as follows:
- SCREW it (clockwise) to INCREASE the pre-load
- UNSCREW (counter-clockwise) to DECREASE the pre-load



### Rebound

- Use the adjusting knob (A) to adjust the extension (return) speed of the shock absorber.
- Turn knob clockwise to progressively slow down extension speed.
- Turn knob counter-clockwise to progressively increase extension speed.
- The factory setting equals no. 28 clicks counter-clockwise from the knob fully home position, i.e. completely tightened.



### Saddle height adjustment

it is possible to adjust the height of the saddle from the ground by working on the interaxle spacing of the rear suspension.

For the adjustment, please refer to Moto Morini's authorized assistance centre.



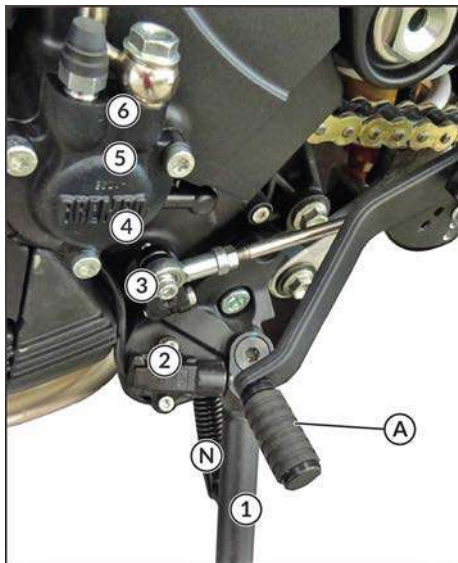
#### **WARNING!**

After any adjustment to the suspension, it is advised to ride at moderate speed, in order to become familiar with the new set-up of the motorcycle.



## Gear change pedal

- Every pedal (A) movement up or down corresponds to engaging a different gear (one gear at a time).

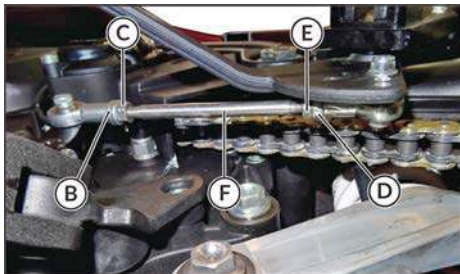


### Adjusting the position

- It is possible to adjust the gear change pedal according to the rider's requirements.

To adjust, operate as follows:

- Hold the load cell steady by operating on the groove (B), then unscrew the lock nut (C).
- Hold the tie-rod steady by operating on the groove (D), then unscrew the lock nut (E).
- By operating on the groove (F), on the transmission rod, it is possible to decrease or increase the distance between centres so as to lift or lower the gear change pedal.
- Check the position by sitting on the seat.
- Fully tighten the lock nuts (C) and (E), while holding both ends (B) and (D).

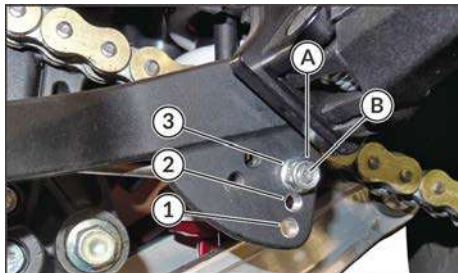


It is also possible to adjust the type of stroke of the gear change pedal, thus changing the gear change sensitivity. The adjustment can be performed by changing the threaded fixing hole of the transmission lever (1), (2) or (3), considering that:

POSITIONE	STROKE	LEVER
1	Short	Hard
2	Medium	Medium
3	Long	Soft

The position can be changed as required. To change hole, proceed as further described:

- Unscrew the fixing nut (A).
- Unscrew the screw (B) operating on the side behind the lever.
- Re-assemble the components on the desired hole, re-positioning the spacer (C) so as to not change geometry.



### Rear brake pedal

- The rear brake is activated by hydraulic action on the pedal.

### Adjusting the position of the rear brake pedal

- Adjust the ground clearance of the rear brake pedal by unscrewing the lock nut (A) and working the adjuster (B) until the lever reaches the desired position.
- Check the position by sitting on the seat.
- Tighten the lock nut (A).
- After adjusting the ground clearance, check that the free play of the pedal measures at least 5 mm. If not, unscrew the lock nut (C), work the adjusting screw (D) until the required measurement is reached, then tighten the lock nut (C).



## Side stand



### IMPORTANT

Before operating the side stand, check consistency and uniformity of the leaning surface. Lawn, muddy or rough terrain, asphalt that has been softened by sunlight, etc. can make the motorcycle fall thus causing severe damage.

In case of longitudinal slope, park the motorcycle with the front wheel pointing upwards.

In case of transverse slope or bump, open the kickstand in the straightest section.

Periodically check that the return springs and the safety sensor (A) are operating properly.



### WARNING!

Do not remain seated on the seat when the motorcycle is placed on the side stand.



## Tyres

Type: Tubeless Sizes:

- front 120/70 R17 M/C (58W) TL
- rear 180/55 R17 M/C (75W) TL

	PRESSURE (bar)	
	Front	Rear
Rider-only	2,4	2,5
Rider and passenger	2,4	2,9



## NOTE

Check and restore tyre pressure with cold tyres.

**NOTE**

An adequate tyre pressure, as regards the load (i.e. the overall weight of the motorcycle) is an extremely important element in order to guarantee a safe ride.

**IMPORTANT**

Check tyre condition before every journey. Whenever cuts, cracks, bulges etc. appear, have tyre immediately replaced.

**WARNING!**

Minimum thickness of the tread on both tyres, according to law, is 1.6 mm.

## Fuel tank

### Refuelling

- Open the tank cap only after stopping the engine and placing the motorcycle on the kickstand.
- Do not smoke or light naked flames while refuelling.

Fuel tank	Litres
Overall capacity	14
Reserve	4



### IMPORTANT

Dry off any fuel spillages on the tank or other parts of the motorcycle immediately.

The range of the vehicle while on reserve is influenced by riding style and route.



## Terms of use

### Warning

- The owner of the motorcycle is personally responsible for the maintenance of the motorcycle's optimal condition.
- Poorly performed maintenance, lying idle long-term and weather agent exposure, etc. can cause severe damage and threaten both longevity and performance of the motorcycle.
- Fluid leaks or air leakage from tyres can have severe consequences. It is therefore extremely important to run a thorough check of the motorcycle and its main components prior to its use.
- In case of any irregular operation of the motorcycle the rider must stop immediately and kill the engine. Contact an affiliated Service Centre and/or Roadside Assistance.

## Running-in period (1,000 km)



### **IMPORTANT**

A good run-in is essential for the longevity of all moving parts, so as to guarantee their proper operation in the long run.

It is advisable during the run-in period, not to travel with the throttle control constantly at the same position.



### **WARNING!**

Remember to have the 1st service performed after the first 1.500 km.

## Checks before use

Description	Checks
FUEL	Adequate quantity
ENGINE OIL	Optimum level and absence of leakage
COOLANT	Optimum level and absence of leakage
TYRES	Pressure - Wear - Potential damage
STEERING	Free rotation in both directions
SUSPENSIONS	Adjustment and absence of leakage
BRAKES	Operation - Wear - Absence of leakage
CHAIN	Proper tension and lubrication
THROTTLE CONTROL	Its operation has to be "gentle" and with no play. Lubricate and adjust if necessary.
LIGHTS AND INDICATORS	Check the correct operation.

## Use and riding tips

- Heat the engine up for a few minutes before moving off by letting it “run” at idle speed.
- Do not keep the engine idling for long periods of time.
- Do not start the engine indoors or in poorly aerated spaces. Exhaust gases are extremely toxic.
- Do not speed up too fast when starting and do not turn the throttle twistgrip abruptly.
- Do not do wheelies and never “zig-zag”.
- On rough terrain and off-road routes, slippery roads etc. use the brakes carefully, preferably using the engine brake.
- Always signal road turns, lane changes, etc. by using the direction indicators.
- Do not accelerate when the brakes are operating.
- On normal road surface conditions, preferably use the front brake.
- After a long journey in hot weather conditions, it is advised to keep the engine idling for a few minutes before stopping it.

## Safety precautions for the first period of motorcycle use

Up to a mileage of 800 km - Do not exceed 5.500 rpm, in all gears.



### IMPORTANT

It is advised to change the engine speed frequently without exceeding the specified limit. It is also advised to frequently check chain tension and lubrication.



### IMPORTANT

In order to ensure proper bedding-in of the friction material (brake pads and discs), avoid aggressive and prolonged braking.

From a mileage of 800 to 1.000 km, do not exceed 7.500 rpm, in all gears.



### IMPORTANT

Upon reaching the first 1.500 km have the first inspection carried out at a MOTO MORINI Authorised Service Centre only.

## Pre-start information



### IMPORTANT

Become familiar with the controls before starting the engine for the first time, as every movement must be smooth and without any kind of distraction.



### WARNING!

Never start the engine indoors. Exhaust gases are extremely toxic and may provoke unconsciousness as well as death.

## Engine start

- The engine can be started with the kickstand down, as long as the engine is in neutral and the clutch lever pulled.
- To start the engine when in gear, it is necessary to pull the clutch lever; the kickstand must be up.

## NOTE

The starting circuit does not require any manual cold start device. The electronic control unit, depending on the temperature, humidity, atmospheric pressure and internal temperature of the engine, manages engine starting and automatically determines the most appropriate idle speed.

### To start the engine:

- Turn the key to the “ON” position.
- The position lamp lights up.
- Press and immediately release the start button (A) without touching the throttle control.



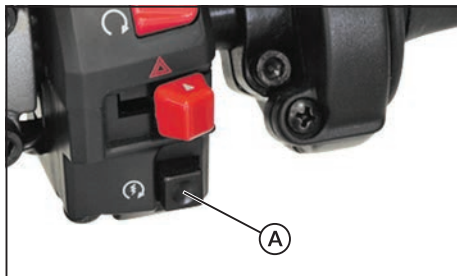
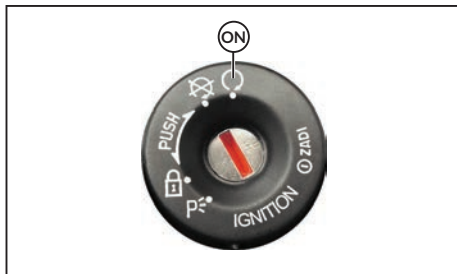
#### IMPORTANT

The oil pressure warning light must switch off a few seconds after the engine starts. If said light stays on, stop the engine immediately and check the oil level. If the oil level is correct, contact Moto Morini S.r.l. Service.




#### IMPORTANT

Do not run the engine at excessive speed. The oil must heat up gradually in order to reach all spots where lubrication is necessary.



**WARNING!**

The warning light  switches on upon starting the engine. Beyond 5 km/h, the warning light switches off.

If the light stays on, stop the engine immediately, then restart the motorcycle. If the warning light does not switch off, contact Moto Morini S.r.l. Service.

It is advised to keep the system always on. However, the ABS (Anti-lock Braking System) can be disabled.

To disable the ABS, proceed as follows:

- With the motorcycle stationary, insert the key in the ignition switch and turn it to switch instrument panel ON.
- Press the ABS-OFF button until the LED light blinks 3 times.

**NOTE**

A slow blinking LED indicates that the ABS is disabled.

To re-activate the ABS system, repeat the procedure; at the end of the procedure, the LED will remain off.

**WARNING!**

After disabling, the ABS system reactivates automatically after restarting the motorcycle.



## Starting off

### Moving off and speeding up

- After starting the engine as previously described, let it run at idle speed for a few minutes. To move off, pull the clutch lever completely and firmly push the gear change lever with the front part of the left foot in a downward motion, in order to engage the first gear. When released, the gear change lever will move back to its rest position.
- Accelerate gradually and slowly releasing the clutch lever at the same time.
- To shift into second gear, close the throttle control, pull the clutch lever, lift the gear change lever with the top of the foot, release the clutch lever and accelerate at the same time. Use the same procedure for all the other gears. To down shift, release the throttle control, pull the clutch lever, briefly accelerate to sync the gearbox sprockets, then engage the lower gear and release the clutch lever.



#### **IMPORTANT**

Use the controls timely. On winding roads, such as mountain roads, when the engine speed decreases, down shift without hesitation.

### Slowing down and braking

- Apart from sudden obstacles, the brakes must be used gently, in order to avoid the lock-up of the wheels and a likely, inevitable loss of control of the motorcycle.
- Slow down by down shifting and using the engine brake, then brake modulating the use of both brakes.
- On slippery or bumpy roads, roads with holes, poorly patched up road surfaces, grainy debris, etc. the braking action must be “adapted”. As a matter of fact, in these cases traction is undoubtedly compromised, so it is necessary to use the brakes carefully.
- On long and steep slopes, shift gear and rely on the braking capacity of the engine. Alternatively and briefly use the brakes; continuous use may inevitably cause overheating of the friction material, thus resulting in a reduction in braking efficiency.

### Stop

- Closing the throttle control will result in a gradual slowdown. Downshift and set the gear to neutral (between first and second gear) while operating the clutch lever, then stop the motorcycle using the brakes.



#### **IMPORTANT**

Do not leave the key switched to ON with the engine off in order to avoid damage to the electrical components.

## Parking

- Place the motorcycle on the side stand.
- Block the handlebar by engaging the steering lock.
- Do not park the motorcycle in close proximity of heat sources.
- During short stops in poor visibility conditions, keep the parking lights on.
- Do not leave the lights on for long periods of time in order to avoid running down the battery.
- Do not leave the ignition key in and the motorcycle unattended, not even for a few minutes.
- Do not park on dried leaves, plastic materials or wooden surfaces as the high temperature of the silencer with catalytic converter could lead to dangerous situations.
- Do not park under the trees. As a matter of fact, in some seasons resin residues, fruits or leaves may fall from trees. These elements may contain chemicals that can damage paint and plastic components.

## General cleaning



### IMPORTANT

Do not wash the motorcycle immediately after use. Water evaporating from close contact with hot surfaces could cause stains.

- Do not wash the motorcycle in direct sunlight, especially in summer, as the shampoo may dry out before rinsing, causing paint damages.
- Avoid high pressure water or air streams on electric components, air vents, exhaust silencer edges, instrument panel and handlebar controls.

**IMPORTANT**

In case of extremely dirty engine parts, use a specific degreasing product. Avoid contact with painted parts, chain, sprocket, brake discs, etc. To clean plastic and rubber parts, absolutely do not use solvents or thinners.

**NOTE**

To preserve the gloss of the painted and metal parts, periodically clean and wash the motorcycle if used in the following conditions or circumstances: weather pollution, atmospheric salinity and humidity, salt or de-icing products used during winter months. Pay attention that the body of the motorcycle is free from industrial powder residues, tar stains, dead insects, etc.

To remove dirt on painted parts, use a low-pressure water jet, wet thoroughly and remove mud and other dirt with the help of a soft sponge soaked with water and body shampoo. Always use good quality, organic products, avoid harsh detergents and solvents. Rinse with clean, warm water and carefully dry all surfaces using a buckskin wash cloth.

**WARNING!**

After washing, the brakes may perform irregularly. Braking may temporarily be compromised due to water on the friction surfaces of the braking system. Brake discs must be cleaned with oil-free solvents: acetone or trichloroethylene.

### **Long inactivity**

- Before storing the motorcycle for a long period, the winter season for example, perform the following operations:
  - General cleaning.
  - Lift the motorcycle in order to lift the tyres from the ground and deflate them.
  - Remove the battery, which will have to be kept constantly charged (check and charge once a month).
  - Cover the motorcycle with a suitable cloth to preserve the paint and protect the vehicle from humidity. Do not use plastic or waterproof materials.

## Maintenance

### Scheduled maintenance

Maintenance operations by the Moto Morini Service Network.

	km mi	1.500 930	10.000 6.200	20.000 12.400	30.000 18.600	40.000 24.800	50.000 31.000
Engine oil		S	S	S	S	S	S
Oil filter		S	S	S	S	S	S
Mesh oil filter		C	C	C	C	C	C
Air filter		C	C	C	C	C	C
Fuel filter						S	
Throttle control and cable (**) cable only		C	C	C	C	C	S**
Throttle body balance		C	C	C	C	C	C
Spark plugs				S		S	
Valve clearance adjustment			C		C		C
Timing chains						S	
Hydraulic controls (brakes, clutch)		C	C	C	C	C	C
Hydraulic lines (brakes, clutch)		C	C	S (48*)	C	S (96*)	C

Cooling system hoses	C	C	C	C	C	C
Brake-clutch fluid	C	S(24*)	S(48*)	S(72*)	S(96*)	S(120*)
Brake pads	C	C	C	C	C	C
Brake discs	C	C	C	C	C	C
Fork fluid			S(48*)		S(96*)	
Fork		C	C	C	C	C
Rear suspension		C	C	C	C	C
Steering play	C	C	C	C	C	C
Wheel bearings		C	C	C	S	C
Drive chain	Lubricate every 700 km					
Coolant	C	S(24*)	S(48*)	S(72*)	S(96*)	S(120*)
Electric fan	C	C	C	C	C	C
Lighting and signalling system	C	C	C	C	C	C
Tightening of exhaust pipes and silencer	C	C	C	C	C	C
Tightening of frame nuts	C	C	C	C	C	C
Tightening of wheel bolts	C	C	C	C	C	C

S - Replacement. It indicates the components or products needing replacement.

C - Check and/or Adjust. It indicates checks, cleaning, adjustments, level restoring, etc.

(\*) the value in brackets indicates a time period in months. Replacement is mileage-related or time-related.

### **Routine maintenance**

These maintenance tasks must be taken into consideration and must be performed scrupulously by the owner; motorcycle long life and performance depend on these operations to a great extent.

#### **NOTE**

Routine maintenance operations can normally be carried out by the owner, but they can often require adequate technical training and specific tools; when in doubt, it is advised to contact the Moto Morini S.r.l. Authorised Service Centre which will provide a safe and competent service. Before starting any maintenance work or check, place the motorcycle on flat, solid ground, in a sheltered but well-aerated space and check that the engine and exhaust system are sufficiently cooled, in order to avoid burning yourself.




Maintenance operations marked with these symbols are the exclusive competence of authorised personnel and they must be performed at a Moto Morini S.r.l. Authorised Service Centre or a specialised garage.

Failure to comply with these rules exempts the manufacturer from all responsibilities and claims and will make the warranty void, if not yet expired, as it is considered to be “vehicle tampering”. Moto Morini s.r.l. also discourages the do-it-yourself performance of these operations as they may lead to consequences such as severe damage or death.



## Engine oil

Check level every km: **1.000**

- The engine oil level must be checked on cool or hot engine; if the engine is hot, wait a few minutes in order to let the oil stabilise in the oil sump. Keep the motorcycle perpendicular to the ground.
- The level can be checked from the sight glass on the oil sump and it is correct when it is in the middle of the sight glass.
- If the level is under the centre line of the indicator, top up from the upper filler (T).
- Use oil:  Power Synt 10W50





## IMPORTANT

Check the oil level during stops on long journeys.



## IMPORTANT

If using a funnel or similar tool when topping up the engine oil, check that it is perfectly clean. Foreign bodies or water getting into the engine may cause severe damage.

- Once the top up is complete, close the filler cap, start the engine and let it idle for a few minutes, checking that there is no oil leakage and that the warning light on the instrument panel switches off after a few seconds. Otherwise, stop the engine and carry out the necessary checks.
- Check the oil level again, about three minutes after switching off the engine.



## WARNING!

Do not mix different, incompatible oils in order to avoid any damage to the engine. If the recommended oil is not available, use a compatible one. Oil compatibility can usually be checked on specific charts in petrol stations or specialised shops.

Moto Morini S.r.l does not take responsibility for any kind of damage due to use of oils having different characteristics than the recommended one.

## Brake / clutch fluid



Brake Fluid DOT 5.1



### IMPORTANT

Check at **1.000-10.000** km, every **10.000** km

Brakes are the element that most ensures safety while riding, they must always be in perfect conditions. The motorcycle is equipped with hydraulic-action disc brakes on both wheels.



### WARNING!

The brake and clutch fluid is extremely corrosive and may cause severe injury to the owner as well as damage to the motorcycle. The level must always be over the "MIN" indicator, shown on both reservoirs.

A low brake fluid level may result in braking system inefficiency.



### IMPORTANT

Only use the recommended fluid, taken from a sealed container. Pay attention not to let foreign bodies, water etc. enter together with the fluid.

In case a change of the fluid brand is desired or necessary, it is necessary to drain the full system. This operation must be performed by authorised personnel only.

Never mix different, possibly incompatible fluids.

## Level check (Brake and clutch fluid))

- Tilt the motorcycle so that the fluid in the reservoirs lies horizontally.

Level indicators (L):

- L1 - clutch
- L2 - front brake
- L3 - rear brake



### WARNING!


If the brake fluid decreases, do not use the motorcycle, do not top up the fluid and contact a Moto Morini Authorised Service Centre immediately. A higher clutch fluid level is generally caused by wear of the clutch. Always keep level between minimum and maximum level indicators.

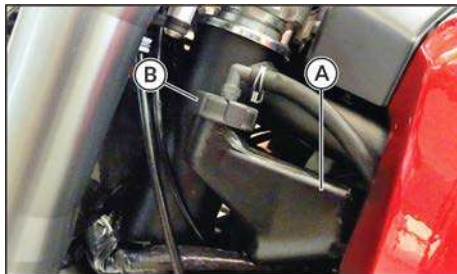


## Coolant

- The coolant expansion tank (A) is placed between the fork and the fuel tank.

### Level check:

- Checking of the level of the coolant inside the tank must be performed with a cool engine and the motorcycle perpendicular to the ground.
- The proper fluid level is between the “MIN-MAX” indicators that can be viewed on the outer surface of the tank, on the right-hand side of the motorcycle.
- Any fluid top-ups must be performed by removing the cap (B).
- Use fluid:  Coolant M3.0.





**WARNING!**

Never top up with water unless in obvious emergency situations.

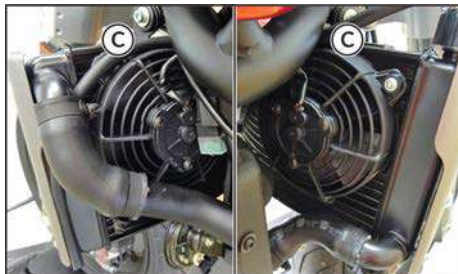
**NOTE**

The cooling system includes two electric fans (C) that operate automatically to cool the radiator down if the fluid temperature is too high. Electric fans are protected by a fuse.



**WARNING!**

In case of irregular coolant consumption or cooling system leakage, do not use the motorcycle and contact the Moto Morini S.r.l. Authorised Service Centre.



## Brake pads

Wear check

Check: every 2.000 km



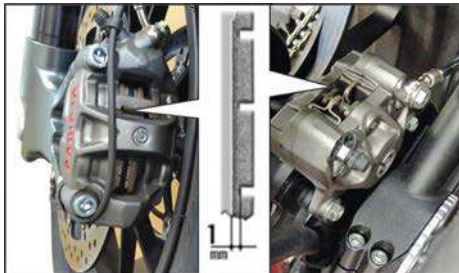
### IMPORTANT

Using the motorcycle on dusty routes, wet roads, winding or mountain roads requires a higher frequency of pad wear checks.

- It is not necessary to remove the brake pads to perform the check.
- There are grooves on the friction material of the front pads that act as wear indicators.
- When the pads are still in good condition, the grooves are visible.



The minimum thickness of the friction material of the pads is 1 mm. If even one pad is excessively worn, both of them must be replaced. Always use original brake pads.



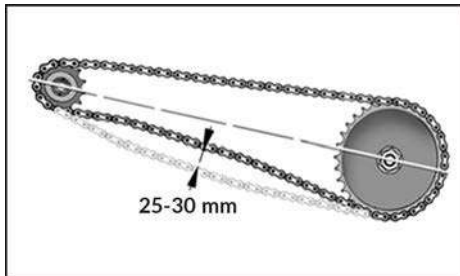
## Final drive chain

### NOTE

The user is only allowed to check the tension and lubrication of the final drive chain.

Tension check every **1.000** km

- Place the motorcycle ready to leave, on a straight surface, without rider and with the kickstand up.
- Press the chain upwards, at the mid-length of the swingarm.
- If the chain is properly placed, it will move by 25-30 mm maximum. In presence of a higher slack, have the tension adjusted at a Moto Morini S.r.l. Authorised Service Centre or by a trusted specialised garage.

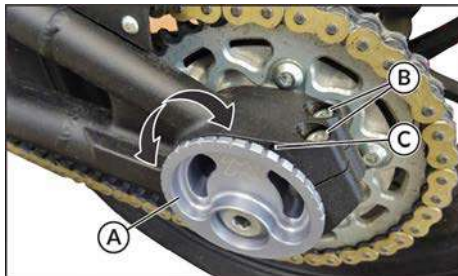




## Chain tensioning adjustment

To adjust the chain tensioning, work as follows:

- Loosen the screws (B).
- Rotate the locking (A):
  - anticlockwise to increase tensioning;
  - clockwise to decrease it.
- After having correctly tensioned the chain, tighten the screws (B).
- Count the notches on the locking with respect to the reference (C) and apply the same adjustment to the opposite side of the wheel.





**WARNING!**

An improper chain tension may result in early wear of the front and rear sprockets and of the chain itself.

Lubricate every 700 km (or more often in case of long journeys on dusty or wet roads).

Lubricate with special products, carefully following the terms of use reported on the packaging of the product.

Use  MOTOREX CHAIN LUBE ROAD.

## Spokes tensioning check

Regularly check the spokes tension, especially on new motorbikes.



### WARNING!

A shaky spoke unbalances the wheel and quickly causes the loosening of the other spokes. If the spokes are excessively tightened, they may break due to a local overloading.

Briefly hit each spoke with the blade of a screwdriver. If different tones are obtained on spokes of the same length and thickness, it means that the spokes tension is not even.



For correct tensioning of the spokes, please refer to Moto Morini's authorized assistance centre.



## Electrical components

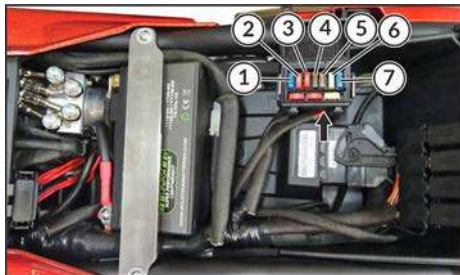
### Fuses

- Remove the passenger seat.
- Work the side retainers and open the lid of the fuse box.
- Before replacing a fuse, try to solve the situation that made it “blow”.
- Locate and remove the blown out fuse and replace it with another one of identical rating.



#### WARNING!

Do not replace fuses with fuses having a higher rating as it may severely damage the electrical system and cause fire due to short-circuit.



N°	Ah	Functions
1	15	Cooling fan
2	10	Fuel pump
3	10	Lambda sensor
4	7,5	Parking lights
5	5	ABS ignition switch
6	25	ABS VR
7	15	ABS MR
8	40 (*)	Main Fuse

(\*) alternatively, n° 2 20Ah

## 12 V - 7,5 Ah Lithium Phosphate battery

To reach the battery, proceed as follows:

- Remove the seat.



## Recharging the battery

### NOTE

The battery can only be charged with lithium battery-specific chargers, available at your Moto Morini dealer.



### WARNING!

Do not charge or leave the battery in close proximity of heat sources or naked flames.  
Keep out of children's reach.

## Removing the battery

- Unscrew the screws retaining the cables on the battery terminals.
- Remove the battery.



### WARNING!

Considering the particular tilt of the battery, it can only be replaced with a sealed type one.



### WARNING!

Never open the battery, never add distilled water or electrolyte.



## Reassembling the battery

Perform the removal operations in the opposite order.



### IMPORTANT

Pay attention to the position of the terminals and cable polarity.

RED = positive (+)

BLACK = negative (-)

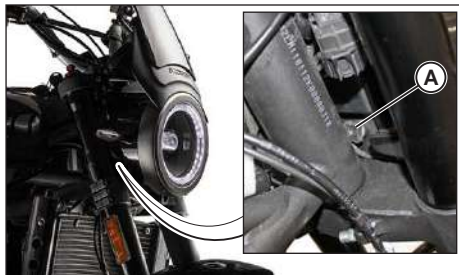
## Headlight



### Adjusting the headlight beam

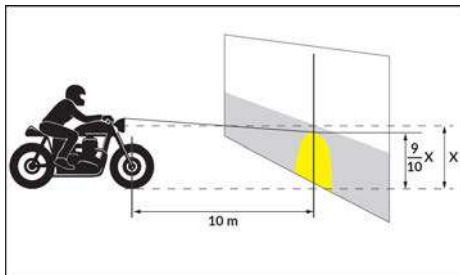
Periodically check the beam pattern of the headlight at a Moto Morini Authorised Service Centre or at a trusted garage for electrical repairs.

- Adjustment is carried out by working on the adjusting screw (A). Screw it to lower the beam, undo it to raise it.



## Direction indicators

Direction indicators operate with a set of non-replaceable LEDs. If the indicator does not work in spite of the system integrity, the whole indicator must be replaced at a Moto Morini S.r.l. Authorised Service Centre.



### **Front light**

The front light uses a set of non-replaceable LEDs. If the light does not work in spite of the integrity of the system, the whole light must be replaced at a Moto Morini Authorised Service Centre.

### **Number plate light**

Number plate light uses a set of non-replaceable LEDs. If the light does not work in spite of the integrity of the system, the whole light must be replaced at a Moto Morini Authorised Service Centre.

### **Tail light**

The tail light uses a set of non-replaceable LEDs. If the light does not work in spite of the integrity of the system, the whole light must be replaced at a Moto Morini Authorised Service Centre.





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*Super Scrambler*

The information and data enclosed in this publication are under recurring updating, in order to acknowledge technical evolution of the vehicle and to correct any inaccuracy. Such changes will be incorporated in the new editions of the publication and performed without forewarning, at any time.

**Moto Morini S.r.l.** Via Beri, 24 - 27020 Trivolzio (PV) - Italy  
Phone +39 0382 193881 - Fax +39 0382 930496  
[www.motomorini.eu](http://www.motomorini.eu)

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