RR 125 2T EUROPE - RR 125 2T

Thanks for you preference, and have a good time! This handbook contains the information you need to properly operate and maintain your motorcycle.

The data, specifications and images shown in this manual does not constitute an engagement on the part of BETAMOTOR S.p.A. BETAMOTOR reserves the right to make any changes and improvements to its models at any moment and without notice.

Code 035440030 000

IMPORTANT

We recommend you to check all the tightenings after the first one or two hours' ride over rough ground. Special attention should be paid to the following parts:

- rear sprocket
- ensure that the footrests are properly fixed
- front/rear brake levers/calipers/discs
- check that the plastics are properly fastened
- engine bolts
- shock absorber bolts/swingarm
- wheel hubs/spokes
- rear frame
- pipe connections
- tensioning the chain

IMPORTANT

In the event of interventions on the vehicle, contact Betamotor after-sales service.

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OPERATING INSTRUCTIONS

- The vehicle must be accompanied by: number-plate, registration document, tax disc and insurance.
- Any modifications of the engine or other parts are punishable by severe sanctions including the confiscation of the vehicle.
- To protect your safety and that of others, always drive carefully and with your helmet on and always keep low beams on.
- Do not sit on the vehicle when it is on its stand.
- Do not start the engine in closed places.

WARNING
Any modifications and tampering with the vehicle during the warranty period exempt the manufacturer from all responsibility and invalidate warranty.

SYMBOLS

SAFETY/ATTENTION
Failure to respect information marked with this symbol can entail a personal hazard.

INTEGRITY OF THE VEHICLE
Failure to respect information marked with this symbol can entail serious damage to the vehicle and termination of the warranty.

FLAMMABLE LIQUID HAZARD

Read the use and maintenance manual carefully.

MANDATORY TO WEAR PROTECTIVE CLOTHING
Use of the vehicle is subject to wearing specific protective clothing and safety footwear.

PROTECTIVE GLOVES MANDATORY
To perform the operations described, it is mandatory to wear protective gloves.

FORBIDDEN TO USE NAKED FLAMES OR POSSIBLE UNCONTROLLED IGNITION SOURCES

NO SMOKING

DO NOT USE MOBILE PHONE

CORROSIVE SUBSTANCES HAZARD
Liquids marked with this symbol are highly corrosive: handle with care

POISONING HAZARD

RIDING SAFETY

- Observe the Highway Code.
- Always wear approved personal protective equipment.
- Always keep the crash helmet visor clean.
- Do not keep sharp or brittle objects in your pockets while riding.
- Properly adjust the rearview mirrors.
- Always ride in a seated position, with both hands on the handlebars and both feet on the footrests.
- Never ride abreast with other vehicles.
- Do not tow and avoid being towed by other vehicles.
- Always keep a safe distance from other vehicles.
- Do not start off while the vehicle is on its stand.
- Avoid swaying and wheelies as they are extremely dangerous for your own and other people's safety as well as for your vehicle.
- Always apply both brakes on dry roads with no gravel and sand. Using one brake may be dangerous and cause uncontrolled skidding.
- To reduce the braking distance, always apply both brakes.
- On wet roads and in off-road riding, drive with care and at moderate speed. Take special care in applying the brakes.

CHAPTER 1 GENERAL INFORMATION

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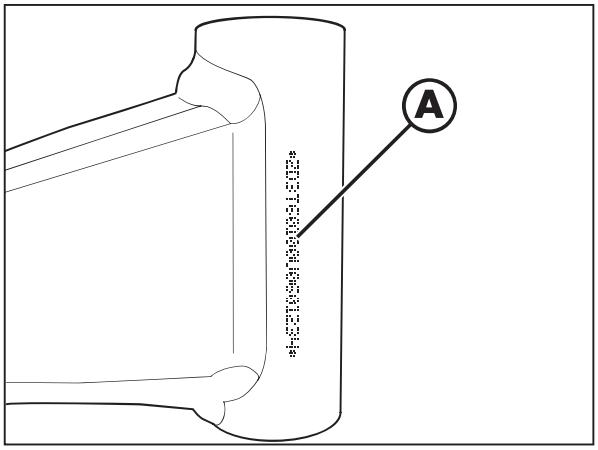
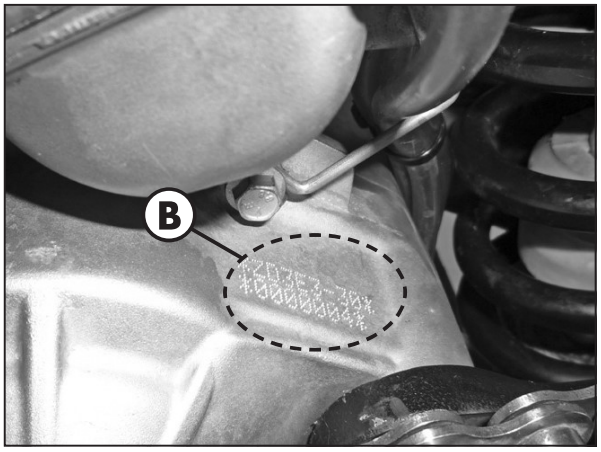


VEHICLE IDENTIFICATION DATA

FRAME IDENTIFICATION

Frame identification data **A** are stamped on the right side of the steering head tube.



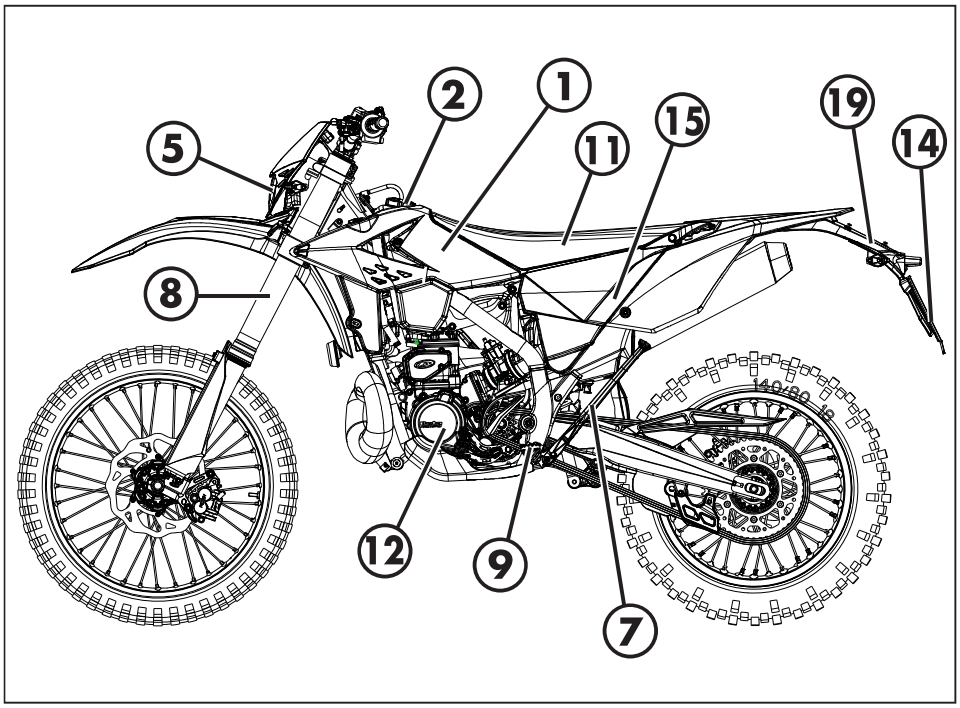
ENGINE IDENTIFICATION

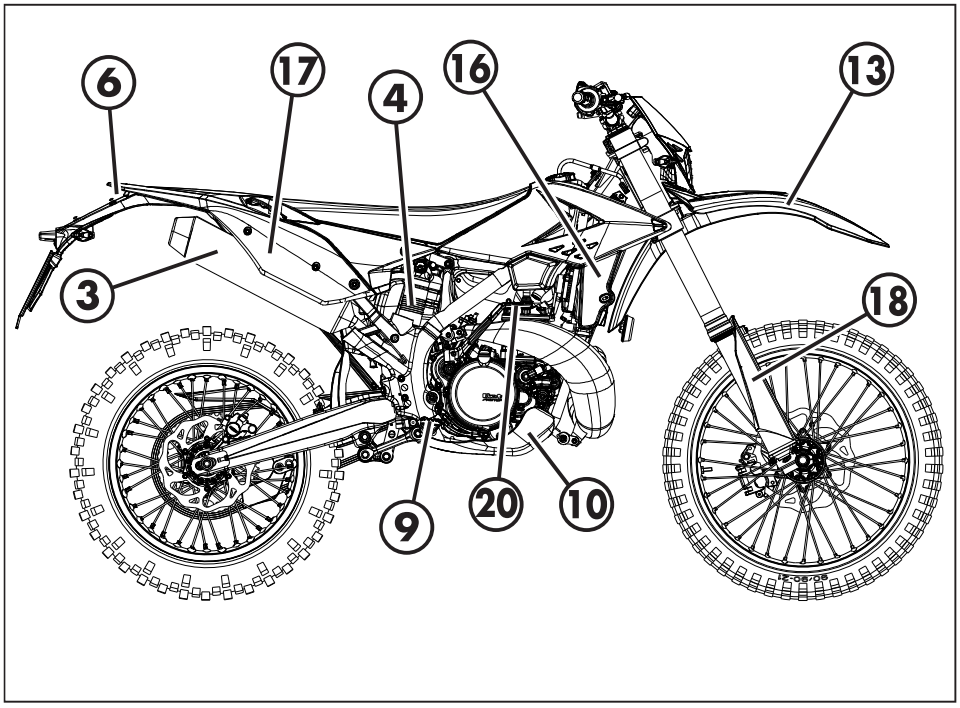
Engine identification data **B** are stamped in the area shown in the figure.

TOOLS KIT

The following items are supplied as standard: operation, maintenance manual, tool kit and the cable adapter to connect the CAN socket to a scantool.

FAMILIARIZING WITH THE VEHICLE





MAIN PARTS:

1 - Fuel tank
2 - Tank cap
3 - Silencer
4 - Rear shock absorber
5 - Headlight
6 - Rear light
7 - Side stand
8 - Fork
9 - Rider's footrests
10 - Lower bumper (Bumper kit)
11 - Saddle
12 - Engine
13 - Front mudguard
14 - Number-plate holder
15 - Side panel air filter cover
16 - Front side panel
17 - Rear side panel
18 - Fork covers
19 - Rear mudguard
20 - Kickstarter

SPECIFICATIONS

WEIGHT

Weight in running order with full fuel and optional
..... 107 kg (front 51 Kg; rear 56 Kg)

DIMENSIONS

maximum length (with plate holder) ..... 2270 mm
maximum width ..... 810 mm
overall height ..... 1255 mm
wheelbase..... 1477 mm
saddle height..... 910 mm
ground clearance..... 315 mm
footrest height..... 410 mm

FRAME ..... molybdenum steel with double cradle split above exhaust port

TYRES

Dimensions		Pressure [Bar]	
Front tyre	Rear tyre	Front tyre	Rear tyre
90/90-21 80/100-21	120/80-18 120/90-18 130/90-18	1,5 (road use)	1,8 (road use)
		1 (off-road use)	1 (off-road use)

front rim..... 21x1,6 - 36 holes
rear rim ..... 18x1,85 - 36 holes

CAPACITIES

fuel tank..... 8,5 liter
including reserve..... 1,5 liter
coolant circuit..... 1,3 liter
gear oil..... 690 ml following normal maintenance work
.....720 ml following a complete engine review

FRONT SUSPENSION

"Sachs" hydraulic upside-down fork (Ø48 mm shafts)
spring ..... K 4,0
oil type ..... Fuchs SAE 5W
oil quantity ..... 520 g
wheel excursion ..... 295 mm
compression clicks (from completely closed) 12
rebound clicks (from completely closed) 12

REAR SUSPENSION

Single shock absorber with compound lever
spring ..... K 4,8
static sag load - SAG - (see page 46) ..... 35 mm
shock absorber travel ..... 135 mm
rear wheel travel ..... 290 mm
compression clicks, high speeds (from completely closed) 16
compression clicks, low speeds (from completely closed) 20
rebound clicks (from completely closed) 22

FRONT BRAKE

Ø 260 mm disc and dual-piston floating caliper

REAR BRAKE

Ø240 mm disc and single-piston floating caliper

ENGINE

Version	RR 125
Type	Single-cylinder, 2-stroke, liquid cooled and electric start
Bore x stroke [mm]	54 x 54,5
Displacement [cm³]	124,8
Compression ratio	15:1
CO_2 [g/km] * #	74
Fuel consumption [l/100km] * #	3,21

* Only valid for EUROPA version
# WMTC cycle related data, for class L vehicles

Fuel system..... carburetor

Carburetor

Version	RR 125 Europe	RR 125
Main jet	95	175
Slow jet	35	50
Start jet	50	85
Needle	N84I	N0ZH
Needle position (from top)	3°	3°
Air screw turns (from all closed)	1+1/2	2+1/4

Cooling system ..... forced liquid circulation by pump

Spark plug BR9ECMVX

Clutch.....wet, multidisc

Gearchange

Version	RR 125 Europe	RR 125
Primary drive	23/73	23/73
Gear ratio 1st gear	12/33	12/33
Gear ratio 2nd gear	15/31	15/31
Gear ratio 3rd gear	17/28	17/28
Gear ratio 4th gear	19/26	19/26
Gear ratio 5th gear	21/25	21/25
Gear ratio 6th gear	20/20	20/20
Final drive	13/45	13/50

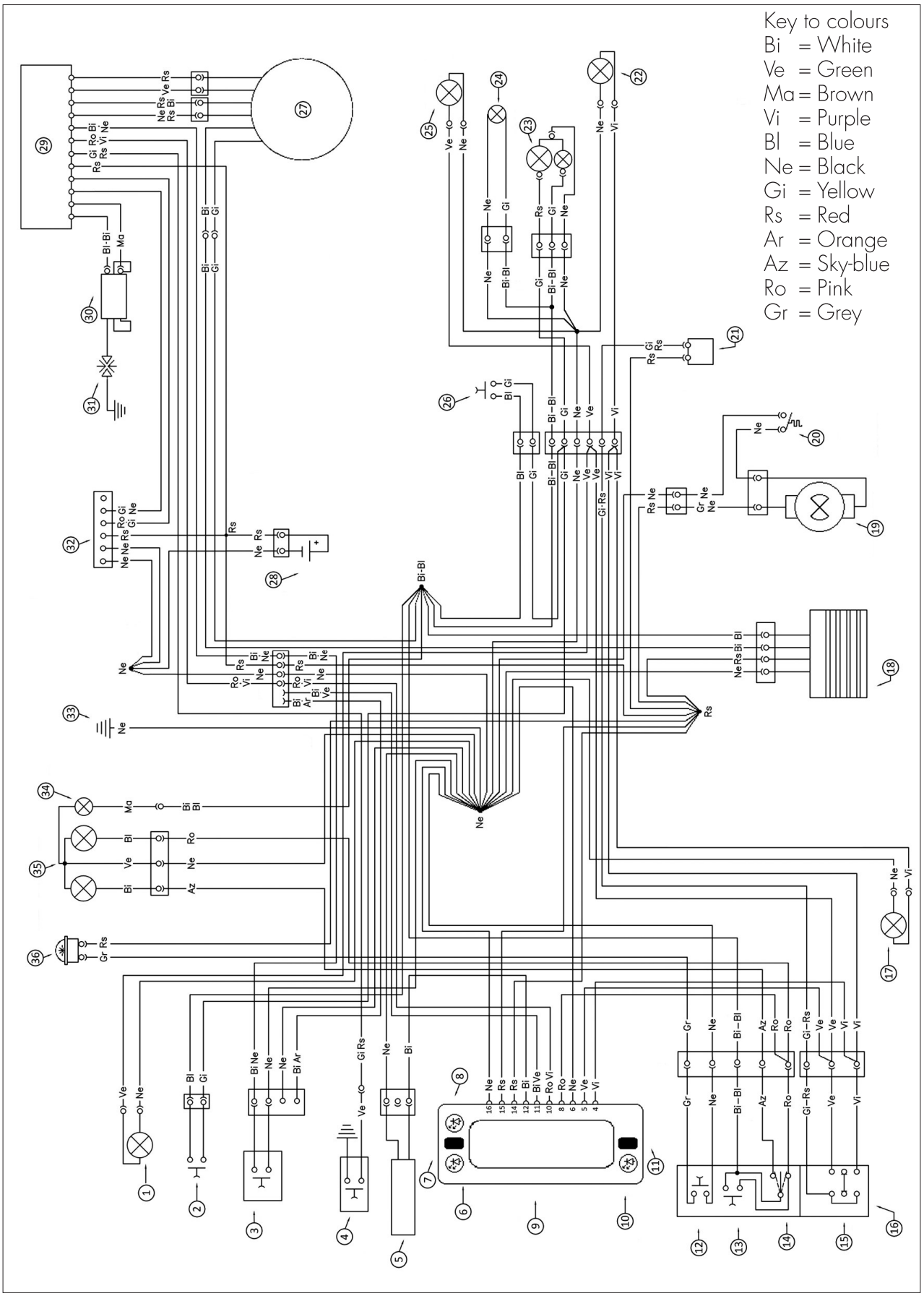
Exhaust valve.....centrifugal operation with reaction springs

Ignition ..... CDI without trembler, with digital variable spark advance

Starting.....Kick-starter

ELECTRICAL SYSTEM

ELECTRICAL DIAGRAM



LEGEND ELECTRICAL DIAGRAM

1) RIGHT-HAND FRONT TURN INDICATOR 12V 6W
2) FRONT BRAKE LIGHT BUTTON
3) ENGINE STOP BUTTON
4) SECOND MAP SWITCH (OPTIONAL)
5) WHEEL REVOLUTION SENSOR
6) TURN INDICATORS WARNING LIGHT
7) RIGHT BUTTON
8) DIAGNOSIS WARNING LIGHT
9) DASHBOARD
10) HIGH BEAM TELL TALE LAMP
11) LEFT BUTTON
12) HORN BUTTON
13) FLASH-TO-PASS BUTTON
14) HEADLIGHT SELECTOR
15) TURN SIGNAL LAMPS SWITCH
16) LEFT-HAND CONTROL GROUP
17) LEFT-HAND FRONT TURN INDICATOR 12V 6W
18) REGULATOR
19) ELECTRIC FAN (OPTIONAL)
20) THERMOSWITCH
21) UNIT TURN SIGNAL LAMPS
22) LEFT-HAND REAR TURN INDICATOR (12V 6W BULB)
23) TAIL LIGHT WITH LED
24) NUMBER-PLATE LIGHT
25) RIGHT-HAND REAR TURN INDICATOR (12V 6W BULB)
26) REAR STOP BUTTON
27) GENERATOR
28) CONDENSATOR 4700 µF
29) ELECTRONIC CONTROL UNIT
30) HT COIL
31) SPARK PLUG
32) DIAGNOSIS CONNECTOR
33) FRAME EARTH
34) PARKING LIGHT 12V 5W
35) HEADLIGHT (12V-35/35W BULB)
36) 12V HORN

1 RECOMMENDED LUBRICANTS AND LIQUID

To maximize the vehicle's performance and ensure many years of trouble-free operation, we recommend using the following products:

PRODUCT TYPE	SPECIFICATIONS
MIXTURE OIL	LIQUI MOLY RACING SYNTH 2T
GEAR AND CLUTCH OIL	LIQUI MOLY RACING 10W50
BRAKE OIL	LIQUI MOLY BRAKE FLUID DOT 5.1
CLUTCH ACTUATOR OIL	LIQUI MOLY BRAKE FLUID DOT 5.1
FORK OIL	FUCHS SAE 5W
TIE ROD GREASE	LIQUI MOLY SCHMIERFIX
LIQUID COOLANT	LIQUI MOLY COOLANT READY MIX RAF12 PLUS

Note:
It is essential that all renewals should be performed with the products listed in the table above.

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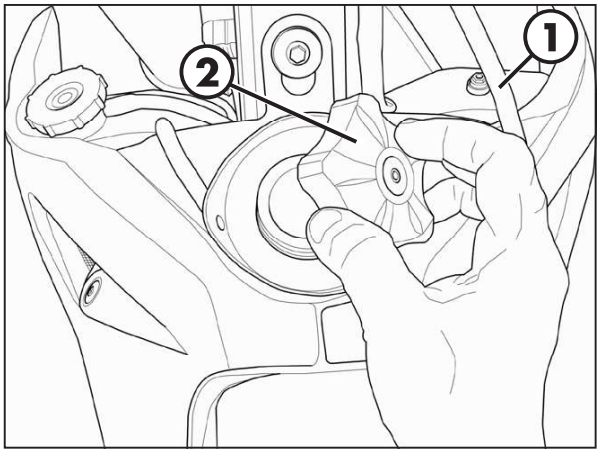


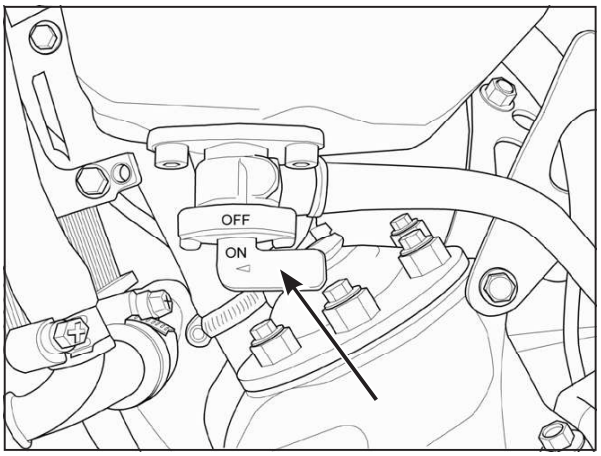
MAIN PARTS

FUEL TANK CAP

Use unleaded petrol (gasoline).

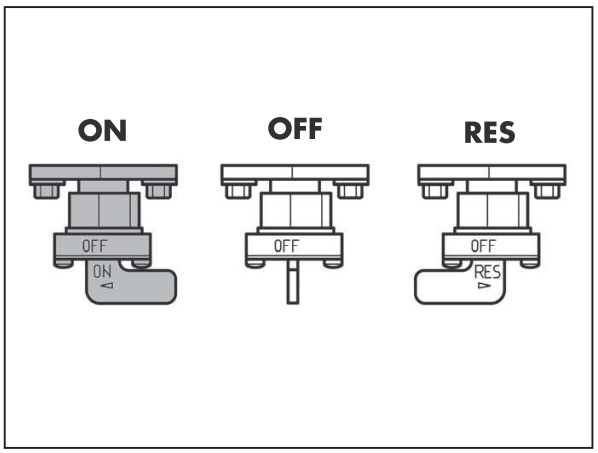
Disconnect the ventilation pipe **1**.
To open the tank turn the cap **2** anticlockwise.

To close the fuel tank's cap, set it on the tank and crew it clockwise.



FUEL COCK

Fuel cock has three positions:



OFF: fuel supply closed. Fuel cannot pass from the tank to the carburettor.

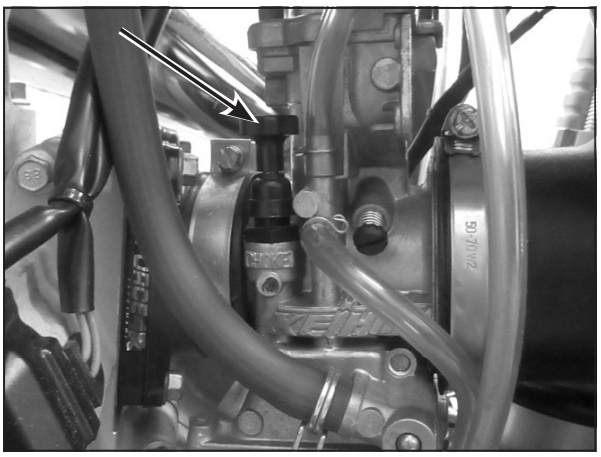
ON: fuel supply enabled. Fuel flows from the tank to the carburettor. The tank empties until it reaches the reserve level.

RES: reserve fuel supply. Fuel flows from the tank to the carburettor and the tank empties completely.

STARTER

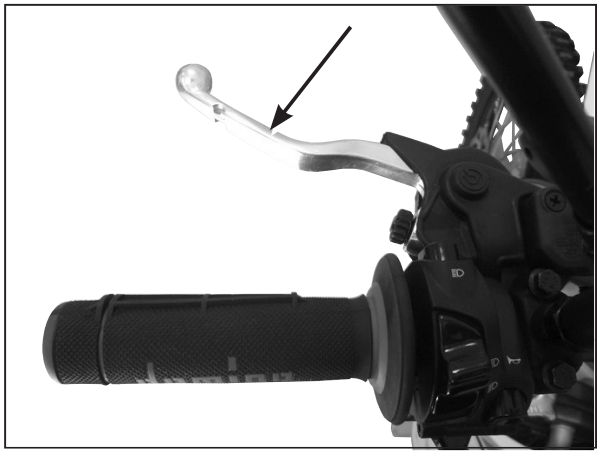
The starter lever is located on the carburettor.

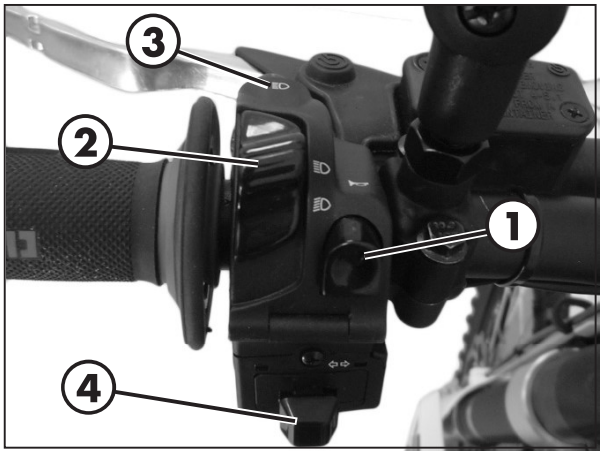
To operate the choke pull it upward.



CLUTCH LEVER

Clutch lever is fitted to the left-hand side of the handlebars.





LH SWITCH

The dip and service switch is located on the left side of the handlebar and is composed as follows:

1 - Horn button;

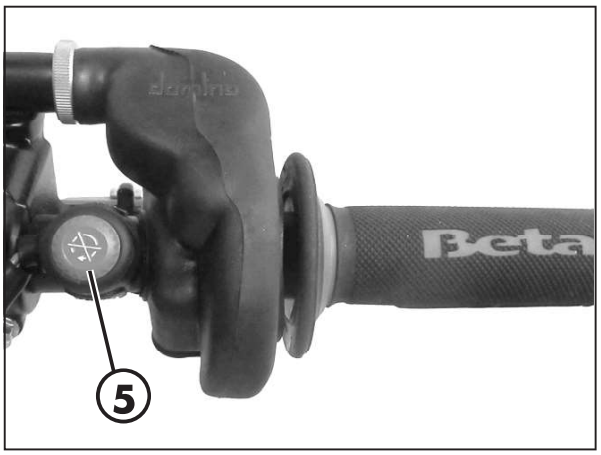
2 - Dip switch:

parking lights and high beam;

parking lights and low beam;

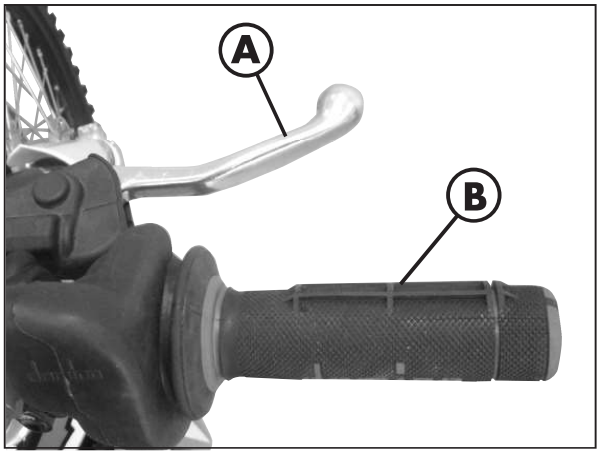
3 - Flash-to-pass button;

4 - Turn signal light switch: shifting lever left or right activates the left or right indicators. When released, the lever returns to the central position. Press it to turn the indicators off.



RH SWITCH

The button **5** turns off the engine.

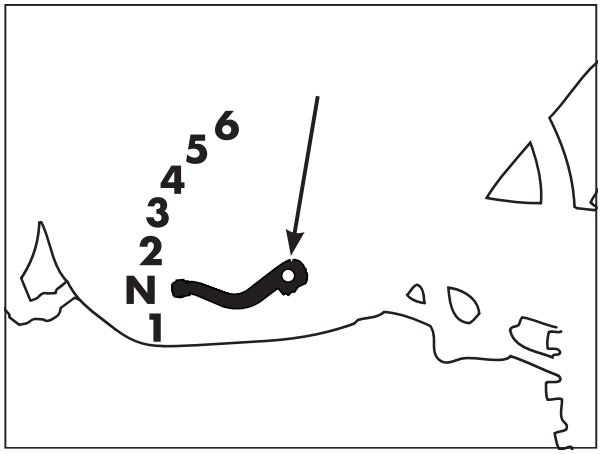


FRONT BRAKE LEVER AND GAS CONTROL

The front brake lever **A** and the gas throttle **B** are located on the right side of the handlebar.

GEAR CHANGE LEVER

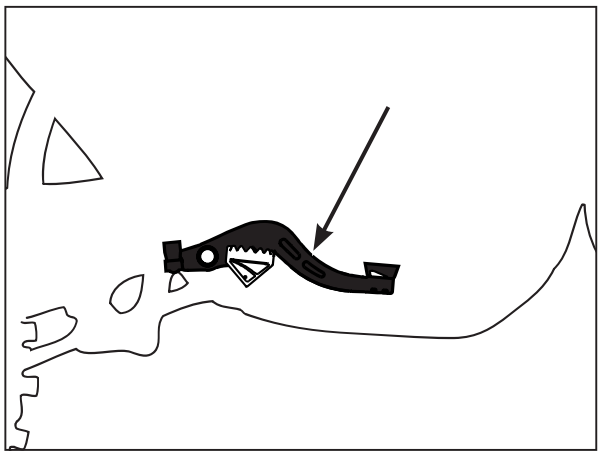
Gear change lever is fitted to the left side of the engine.
The positions corresponding to the different gears are shown in the figure.



BRAKE PEDAL

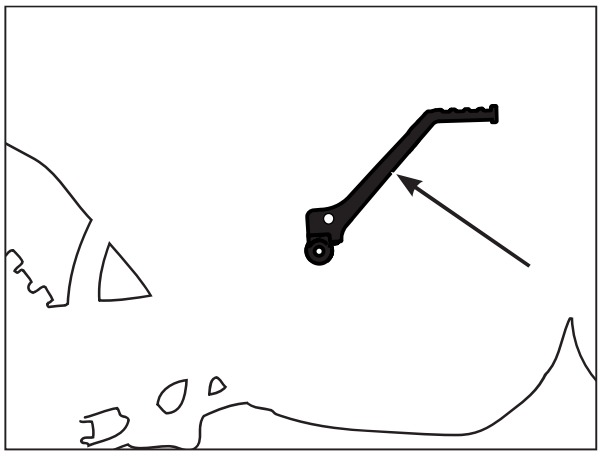
Brake pedal is located in front of the right-hand footrest.

The rear brake is operated by pressing down the pedal.



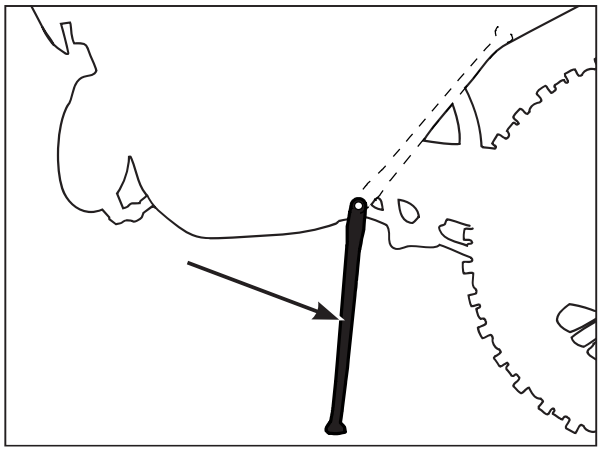
KICKSTART

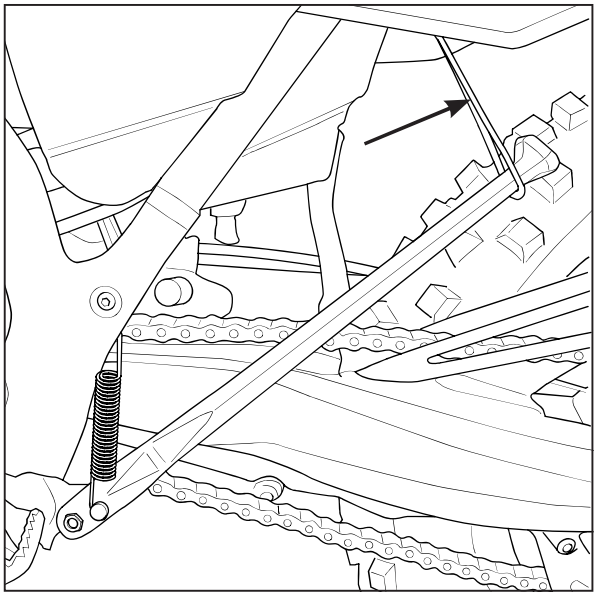
Kickstart is fitted to the right-hand side of the engine.
The upper part of the kickstart can be oriented.



SIDE STAND

Press down side stand with the foot and lean the vehicle against it.
Ensure that the ground is solid and the vehicle stands steadily.

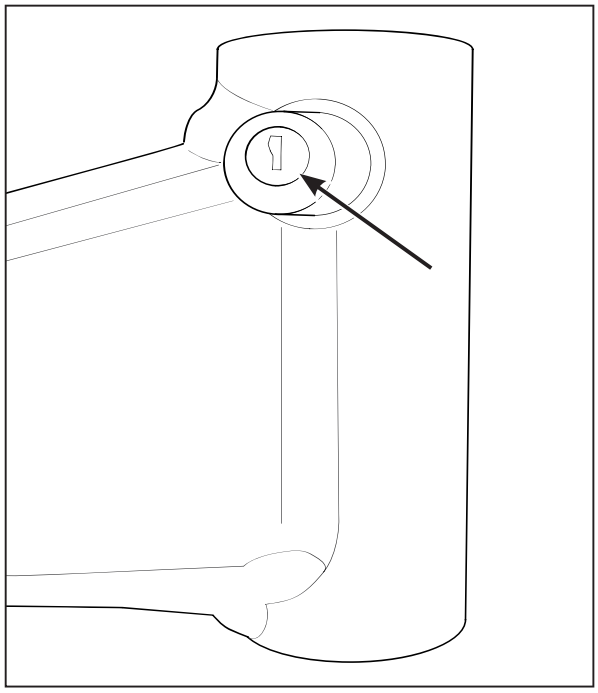




If the vehicle is used off-road, the closed stand can be further fastened by means of rubber band.

KEYS

The vehicle is supplied with two keys (one key and its spare).



STEERING LOCK

To activate the steering lock:
- turn the handlebar counter-clockwise;
- push the key and turn counter-clockwise;

Remove the key from this position.
To deactivate the steering lock:
- turn the key clockwise;
- turn the handlebar clockwise;

From this position, the handlebar is free to move, the key can be removed.

WARNING: do not keep the spare key inside the vehicle, but in a safe place.
We suggest you note the code number stamped on the keys. In this way you can obtain a duplicate.

DIGITAL RPM INDICATOR OPERATING INSTRUCTIONS

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3.2.9 Wheel length display
3.2.10 Motorbike battery level
3.2.11 Push Button Management Table
3.3 Telltales
4 Coin battery

1 GENERAL INFORMATION

The dashboard integrates these main blocks:

- LCD display for showing all required information
- 2 pushbuttons
- Coin battery

2 OPERATING CONDITION

Standard supply voltage:	10 to 16V
Minimum supply voltage w/o reset:	6.5V

3 GENERAL CHARACTERISTICS

3.1 DASHBOARD START-UP PROCESS

The dashboard do some start-up process when is turned ON. There are three different wakes up events for starting the dashboard.

This start-up process consists in turning ON the telltales and the LCD backlight and the LCD will show all the segments during 2 seconds.
After the start-up process, dashboard is kept ON during 30 seconds if there are no events as pushbutton press, speed signal or engine ON.

3.1.1 WAKE UP EVENTS

3.1.1.1 Motorbike power supply is activated

When the power supply of dashboard is activated (e.g. when engine is turned on), the dashboard does the normal start-up process and is kept ON while

3.1.1.2 Wheel revolution

If the motorbike generated a speed pulse, the dashboard will be turned ON doing the normal start-up process. After the start-up process the dashboard will display the normal mode, and will be ON during 30 seconds if no speed pulse is generated.

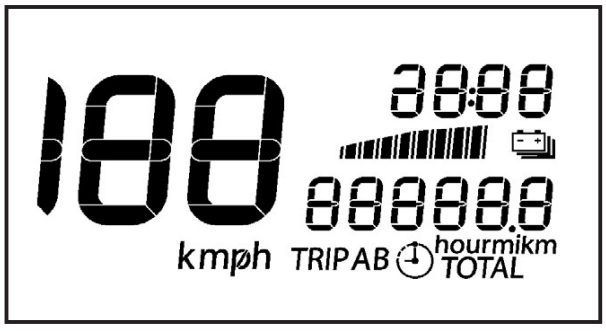
3.1.1.3 Button is pushed

If one or both buttons are pushed the dashboard will be turned ON doing the start-up process.
After the start-up process the dashboard will display the normal mode, and will be ON during 30 seconds if no pushbutton is pressed.

3.2 LCD DISPLAY

Dashboard is equipped with a LCD display for showing following information:

- Speed
- State of the power supply system
- Odometer (distance or ride time)
- Trip TOTAL-A-B (distance or ride time)
- Clock



Each information/data is refreshed independently at different rate, depending on information type and variability of this information.

3.2.1 LCD GENERAL CHARACTERISTICS

Each information/data is refreshed independently at different rates, depending on information type and variability of this information.

3.2.2 SPEED

Dashboard computes and displays the motorbike speed on LCD display. Speed information can be obtained from:
Dedicated digital input for measuring speed sensor frequency.

3.2.2.1 Speed digital input configuration

Configuration parameters for speed input and speed visualization.
Dimensions displayed: [km/h or mph]
Minimum speed indication: [5 km/h]
Speedometer advance: [5 %]

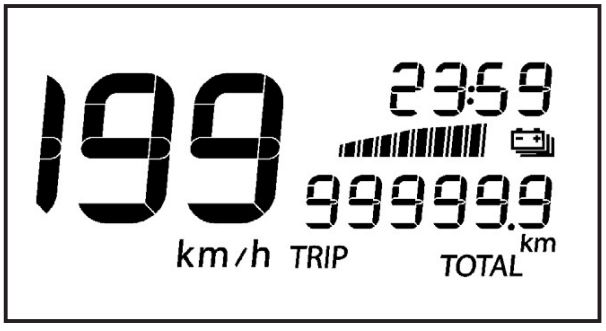
Wheel parameters:

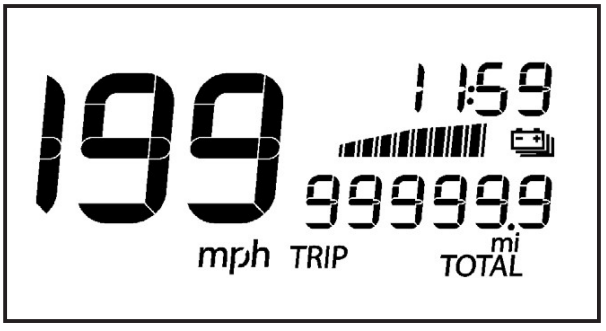
- Wheel perimeter selectable between 2 values:
  - Default wheel perimeter value: (enduro) 2100mm
  - 2nd wheel perimeter value: 1811mm

- Pulses per turn: [1 pulses/turn]

3.2.2.2 Speed LCD

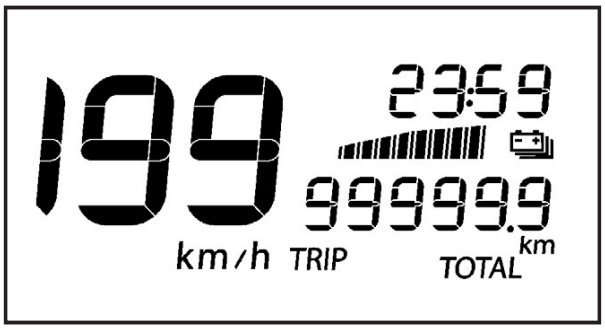
Speed and speed units are permanently displayed (km/h or mph).
km/h display range: 0 to 199km/h.
mph display range: 0 to 199mph.
Leading zeros suppressed.
Following picture shows LCD displaying speed in km/h and mph:





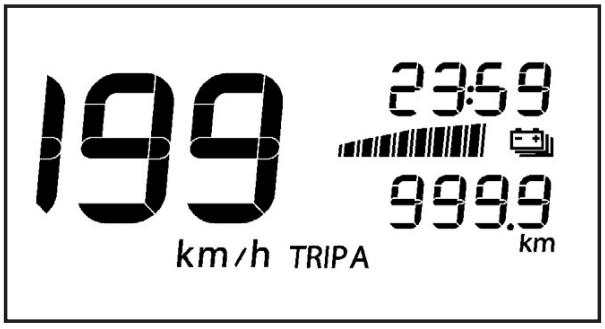
3.2.3 ODOMETER

Dashboard provides an odometer and is displayed on LCD display.
This option can be displayed scrolling by "MODE" button.
6 digits and "ODO" icon lighted.
Leading zeros not suppressed.
Display range from 000000 to 999999 km or miles. If odometer is greater than 999999 km, odometer will be fixed as 999999km.
Minimum display unit: 1 km or mile.



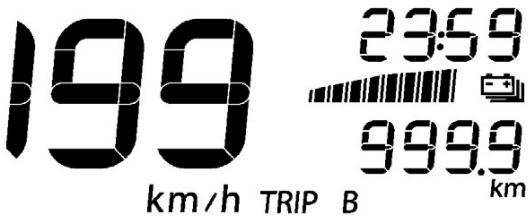
3.2.4 TRIP A

Dashboard provides 2 trips and is displayed on LCD display.
This option can be displayed scrolling by "MODE" dashboard button.
4 digits (3digits + decimal point + 1 digit), "TRIP" icon lighted and "A" on the left.
Leading zeros suppressed.
Display range from 0.0 to 999.9 km or miles.
Trip A counter counts from 0 up to 999.9 and then rolls over to 0 and continue counting.
Minimum display unit: 0.1 km or miles.
Trip A reset by pressing "SET" button more than 2 seconds.
Trip A display the Trip A ride time pressing "SET" button less than 2 seconds. Ride time is showed as an hour decimal number. Examples: 30 min is 0.5 or 1h20min is 1.3.



3.2.5 TRIP B

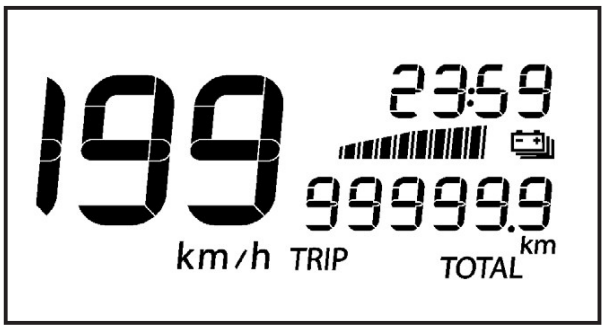
This option can be displayed scrolling by "MODE" dashboard button.
4 digits (3digits + decimal point + 1 digit), "TRIP" icon lighted and "B" on the left.
Leading zeros suppressed.
Display range from 0.0 to 999.9 km or miles.
Trip B counter counts from 0 up to 999.9 and then rolls over to 0 and continue counting.
Minimum display unit: 0.1 km or miles.
Trip B reset by pressing "SET" button more than 2 seconds.
Trip B display the Trip B ride time pressing "SET" button less than 2 seconds. Ride time is showed as an hour decimal number. Examples: 30 min is 0.5 or 1h20min is 1.3 .

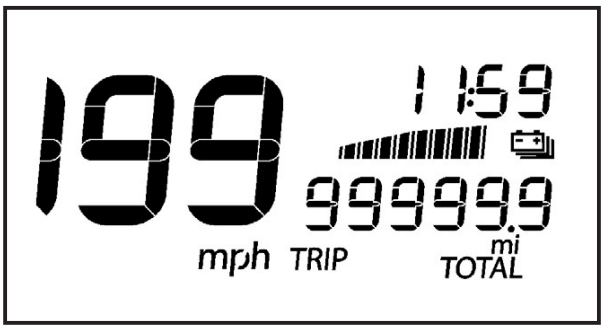


3.2.6 CLOCK

Dashboard provides a clock and is displayed on LCD display. Time is obtained from internal crystal quartz and is kept while dashboard is connected to coin battery.

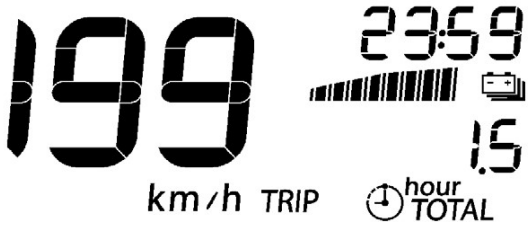
Clock format	If units of measure are km 24h
	If units of measure are mi12h





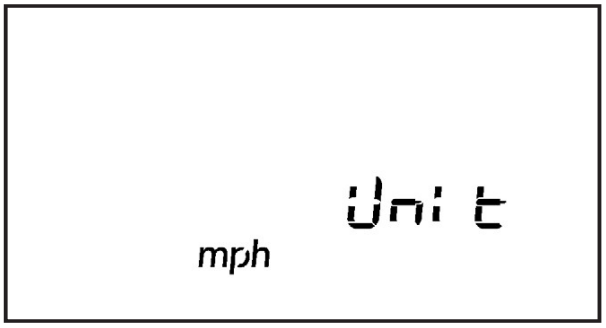
3.2.7 RIDE TIME

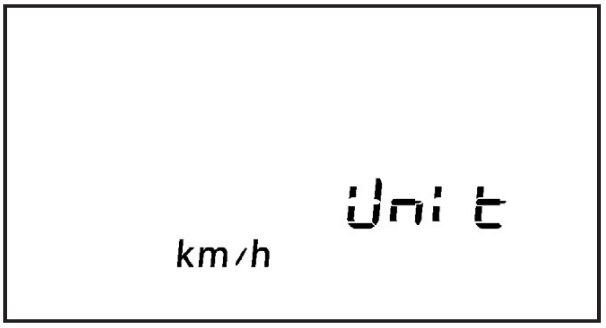
Dashboard provides a Ride Time and is displayed on LCD display. Time is obtained from internal crystal quartz and is kept with a push buttons. When the motorbike is turned on the ride time starts again.



3.2.8 UNIT OPTION DISPLAY

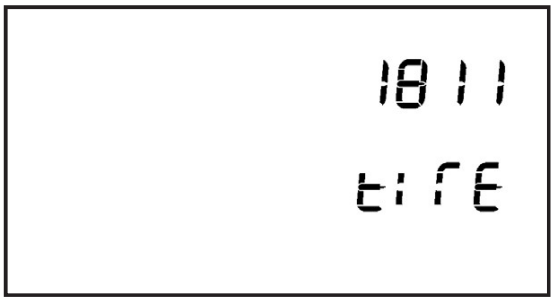
Dashboard provides the possibility to change the units and be displayed.

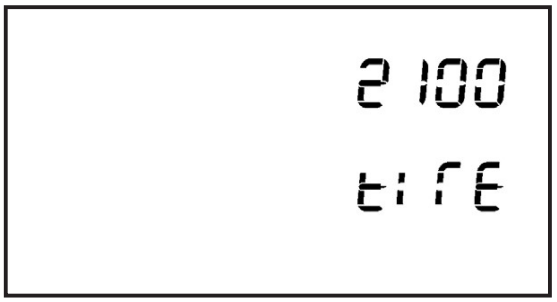




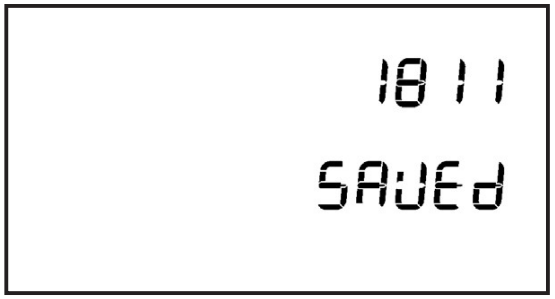
3.2.9 WHEEL LENGTH DISPLAY

Dashboard provides the possibility to change the wheel length and be displayed. The length can be selected between 2 fixed values:
2100mm (enduro)
1811mm





Pushing mode and set more than 2 seconds wheel length is saved. "Saved" will be displayed during 1second on Dashboard.



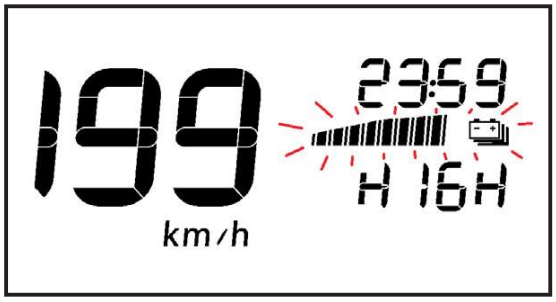
3.2.POWER SUPPLY SYSTEM LEVEL

Dashboard displays level of voltage of the power supply:
Relationship between bars and level of voltage:

Bars	Voltage [V]	Bars	Voltage [V]
0 → 1	11	4 → 5	13
1 → 2	11.5	5 → 6	13.5
2 → 3	12	6 → 7	14
3 → 4	12.5	7 → 8	14.5

The level is updated every 30 seconds. Each update increase or decrease 1 bar.

WARNING:
If the word "HIGH" appears with the indicator flashing, turn off the engine and contact authorised BETAMOTOR customer service.



3.2.11 PUSH BUTTON MANAGEMENT TABLE

Mode	Speed	Function	Button	Time (sec)	Activity
ODO			MODE	<2	TOTAL- TRIPA - TRIPB - TOTAL
			SET	<2	Ride time- km – Ride time
	0	CLOCK MODE	MODE&SET	>2	CLOCK MODE
	0	WHEEL LENGTH	MODE	>10	WHEEL LENGTH MODE
	0		SET	>10	Km/h - mph - Km/h
TRIPA			MODE	<2	TRIPA - TRIPB - ODO - TRIPA
			SET	<2	Ride Time- Km– Ride time
			SET	>2	Reset Trip A and Ride time
	0	CLOCK MODE	MODE&SET	>2	CLOCK MODE
TRIPB			MODE	<2	TRIPB - ODO – TRIPA - TRIPB
			SET	<2	Ride Time- Km– Ride time
			SET	>2	Reset Trip A and Ride time
	0	CLOCK MODE	MODE&SET	>2	CLOCK MODE

Mode	Speed	Function	Button	Time (sec)	Activity
CLOCK MODE	0	"On Entering Stop Clock Mode"	MODE	<2	Increase in the Hour digits
			MODE	>2	Speedy increase in the Hour digits
			SET	<2	Increase in the minutes digits
			SET	>2	Speedy increase in the minutes digits
			MODE&SET	>2	Exit clock set mode and save the value
			NO ACTION	>10	Auto exit without saving

Mode	Speed	Function	Button	Time (sec)	Activity
WHEEL LENGTH	0	On entering wheel length mode	MODE	<2	Change wheel 2100 – 1811
			MODE&SET	>2	Exit wheel length mode and save the value
			NO ACTION	>10	Auto exit without saving

3.3 TELLTALES

LED number indicator:

Telltales/Indicator lights specifications:
Number of telltales: 3

LED number	Function	Symbol
LED 1	Blinkers	
LED 2	High beam	
LED 3	MIL telltale (Engine management system fault)	

Power +12V are provided to the dashboard only when the bike is turned on (regulator line).

Blinkers LED

The system activates the indicator in synchrony with the activation of the direction indicators

High beam LED

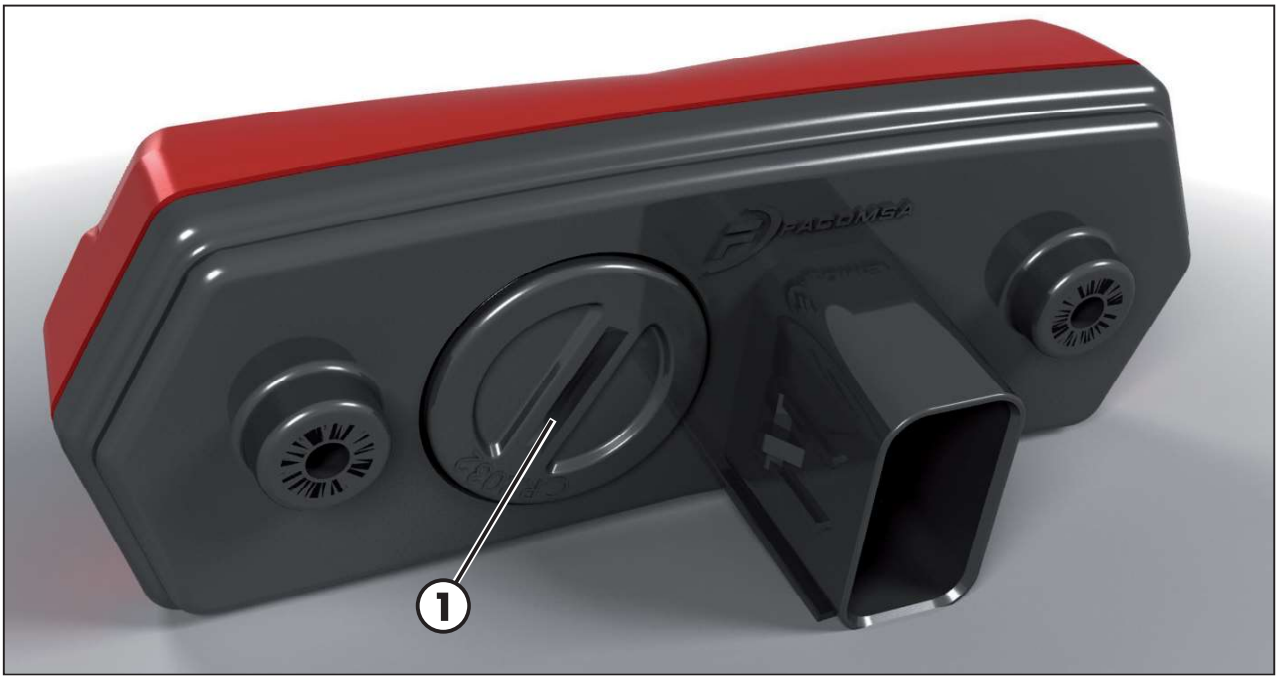
The system activates the indicator in synchrony with the activation of the high beam.

MIL LED

Indicates a fault in the engine management system. In case of prolonged lighting, consult an authorised Betamotor dealer as soon as possible.

4 COIN BATTERY

Dashboard is equipped with a coin battery (**1**) for keeping time when motorbike is off. Coin size: CR2032.



CHECKS BEFORE AND AFTER USE

For safe driving and long vehicle life you should:
1 Check all fluid levels.
2 Check the correct operation of the brakes and brake pad wear (page 60).
3 Check pressure, general condition and thickness of tread (page 72).
4 Check that the spokes are properly tightened.
5 Check the tensioning of the chain (page 73).
6 Check the adjustment and the operation of all the cable controls.
7 Inspect all the nuts and bolts.
8 With the engine running, check the operation of the headlight, the rear and brake lights, the indicators, the warning lights and the horn.
9 Wash the motorcycle thoroughly after off-road use (page 76).

RUNNING IN

The running-in period lasts approximately 5 hours, during which it is advisable to:
1 Make the first refuelling with a mixture of 3%.
2 Use the oil indicated on page 16 in the "Recommended lubricants and liquids" table.
3 During the first 3 hours of operation the engine should only be used to approximately 70 percent of its power. In addition, the engine speed should not exceed 11,000 rpm.
4 For the next 2 hours of operation the engine should only be used to about 90 percent of its power.
5 Use the vehicle after properly warming up the engine.
6 Avoid travelling at constant speed (changing the speed causes the different components to bed in evenly and more quickly).

This procedure should be followed each time piston, piston rings, cylinder, crankshaft or crankshaft bearings are replaced.

WARNING
Replace the transmission oil after the first 3 hours or after 15 l. of mixture.

2 REFUELLING

Use super-unleaded petrol mixed with oil according to the percentages shown in the table. Use the oil indicated on page 16 in the "Recommended lubricants and liquids" table.

RR 125 Europe	RR 125
2%	2,5%

Fuel tank capacity is shown on page 10.

To refuel open the tank cap (page 18).

After refuelling, screw the cap back and tighten securely.

WARNING
The refuelling should be performed with the engine off.

WARNING:
Fire hazard. Fuel is highly flammable.

Always stop the engine when refuelling and keep open flames and lighted cigarettes away.

Do not top up fuel while using a mobile phone.

Refuel in an open well ventilated area.

Pay special attention so that the fuel does not come into contact with hot parts of the vehicle. Immediately clean up any spilled fuel.

WARNING: Risk of poisoning.

Fuel is poisonous liquid and a health hazard.

Fuel must not come into contact with the skin, eyes, and clothing. Do not breathe in the fuel vapours. If contact occurs with the eyes, rinse immediately with plenty of water and seek medical advice. If contact occurs with skin, immediately clean contaminated areas with soap and water If fuel is swallowed, contact a doctor immediately. Change clothing that is contaminated with fuel.

WARNING: Environmental pollution hazard.

The fuel must not contaminate the ground water, the ground, or the sewage system.

STARTING THE ENGINE

Move the fuel tank valve in ON or RES position (page 18).

Check that the gears are in neutral (page 21).

Pull the clutch lever (page 19).

Close the side stand (page 21).

WITH KICK-STARTER (page 21):
Depress the kick-starter with a sharp movement of the foot.

ATTENTION
Once the pedal has been depressed, release it immediately. This avoids jolts to the entire ignition group and to the foot.

COLD STARTING:
Operate the starter (page 19), start the vehicle as described above, wait a few seconds, then move the starter back to its starting position.

ENGINE SHUT-DOWN

To shut-down the engine press the button on the left switch unit (page 20).

NOTE:
With the engine off, make sure the fuel cock is set to OFF (page 18).

CHAPTER 3 ADJUSTMENTS

CONTENTS

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Front brake 38
Rear brake 38
Clutch 38
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Handlebar adjustment 42
U-bolt position adjustment 42
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Adjusting fork 43
Adjusting the rebound damper 43
Shock absorber 44
Adjusting the rebound damper 44
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Adjusting the compression damper 44
Adjusting the spring preload 45
Suspensions settings according to the weight of the rider 46
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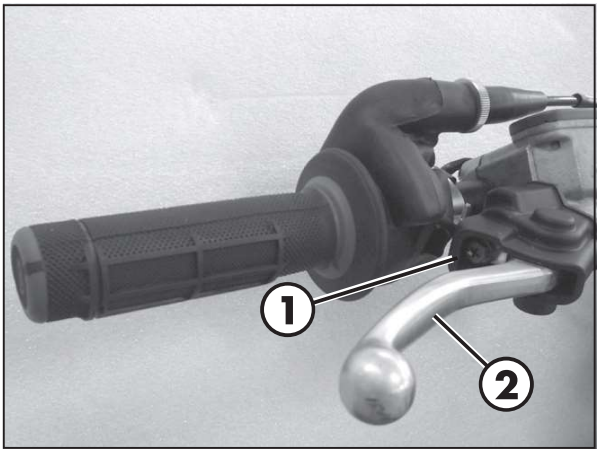
KEY TO SYMBOLS

Tightening torque

Threadlocker Medium

Grease

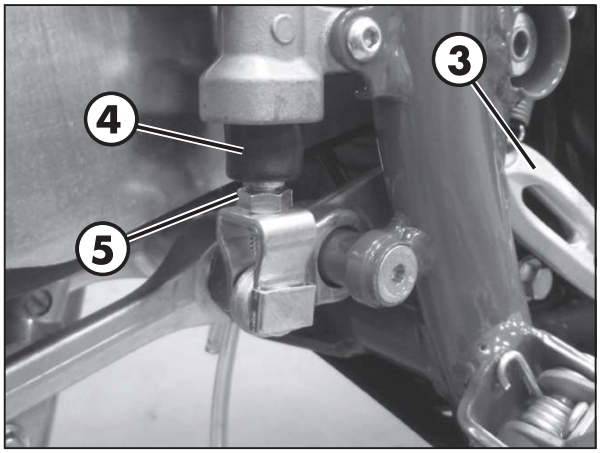


BRAKES

FRONT BRAKE

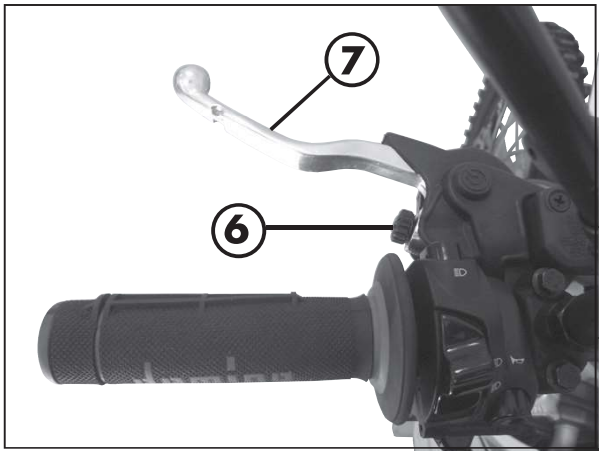
The front brake is disk type with hydraulic control.

The home position of brake lever **2** can be adjusted by means of screw **1**.



REAR BRAKE

The home position of brake pedal **3** can be altered by turning adjusting screw **5** after loosening the counternut located under dust cap **4**. Loosen the counternut and turn the adjusting screw until the desired height is obtained. Retighten the counternut after completing the operation.

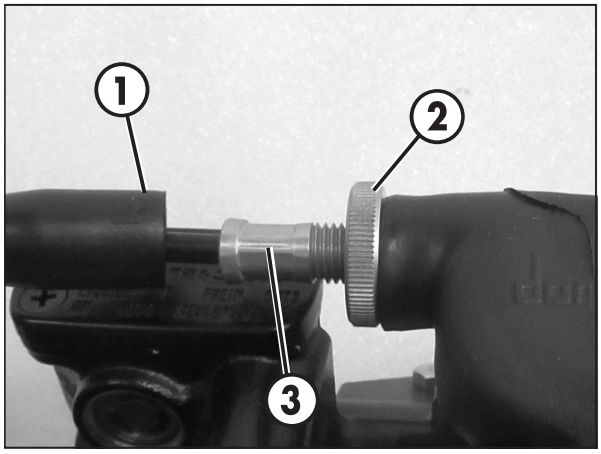


CLUTCH

The adjustment screw **6** allows adjustment of the distance of lever **7** from the knob. The empty run is recovered automatically.

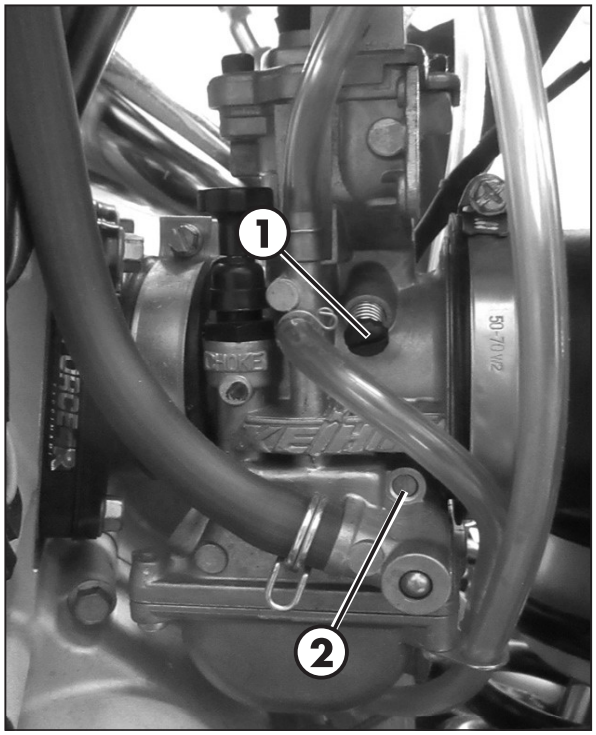
ADJUSTMENT OF GAS CLEARANCE

The throttle control cable should always have a 3-5 mm play. In addition, the idle speed should not change when the handlebars are fully rotated to the left or right. Push back protective cap **1**. Loosen counternut **2** and turn adjusting screw **3**. Tighten the counternut and check that the throttle twist grip turns smoothly.



ADJUSTING THE IDLE SPEED

Idling adjustment greatly affects the appropriate start-up and the accelerator response.
Idling is adjusted through adjustment screw **1** and air adjustment screw **2**. Adjustment screw **1** adjusts the basis position of the gas valve. Turn the screw clockwise to increase the rotation conditions and counterclockwise to diminish it. The air adjustment screw **2** adjusts the quantity of which is mixed to the fuel for idling. If the screw is turned counterclockwise, the quantity of air increases (thin mix), if turned clockwise, the quantity of air diminishes (fat mix).



To properly adjust the idle speed, follow these steps:

• Tighten the air adjustment screw no. 2 fully and then loosen it up to the value described in the carburetor setting table (page 12)

• Warm the engine for approx. 5 minutes, until the operational temperature is attained.

• Slowly turn the air adjustment screw **2** clockwise, until idling starts diminishing.

• Mark the position, then slowly turn the air adjustment screw no. **2** counterclockwise, until idling decreases again.

• Adjust the screw between these two positions, at the highest idling point..

If a remarkable increase in the rpm occurred during the adjustment above, idling is to be reduced and taken back to the normal level, and then execute the above procedure.

If no satisfactory results are obtained after the procedure, this may be due to an incorrect slow-running jet.

If the air adjustment screw has been thoroughly tightened, but the rpm have not varied, a lower size slow-running jet is to be used.

Execute the adjustment procedure again after replacing the jet.

NOTE:
The correct idling should be between 1700 and 1800 rpm.

CARBURETOR SETTINGS ACCORDING TO THE WORKING CONDITIONS

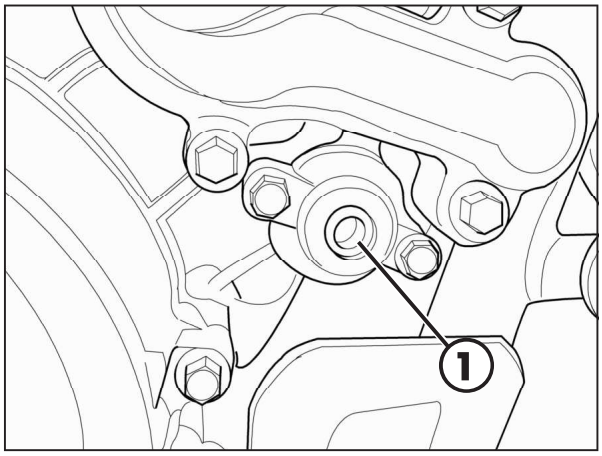
See the following tables to adjust the carburetor settings according to ambient temperature and altitude.

Legend:

SLM	Above sea level
AVA	Air screw opening (from all closed)
Gm	Slow jet
SPL	Needle
POS	Needle position (from top)
GM	Main jet
VLV	Valve

Standard settings

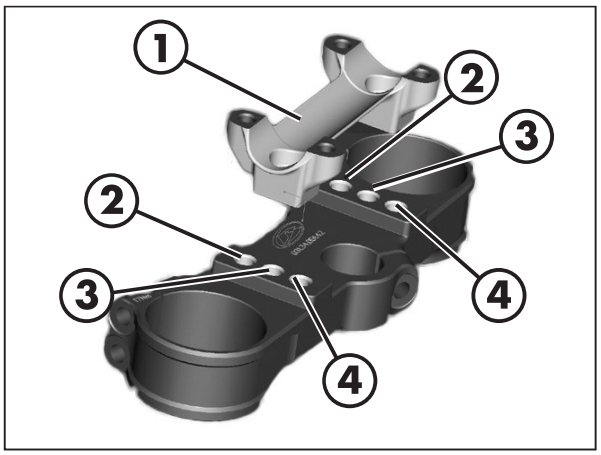
Version RR 125							
Altitude (SLM)	Carburetor setting	Ambient temperature					
		-20°C÷ ÷-7°C	-6°C÷ 5°C	6°C ÷ 15°C	16°C ÷ 24°C	25°C ÷ 36°C	37°C ÷ 49°C
		-2°F ÷ 20°F	19°F ÷ 41°F	42°F ÷ 60°F	61°F ÷ 78°F	79°F ÷ 98°F	99°F ÷ 120°F
3000 m	AVA	2,25	2,75	2,75	3,25	3,25	
10000 ft	Gm	50	48	48	48	48	
⬆	GM	175	172	170	168	165	
	SPL	NOZH	NOZH	NOZI	NOZI	NOZI	
2301 m	POS	3	3	2	2	2	
7501 ft	VLV	7	7	7	7	7,5	
2300 m	AVA	2,25	2,25	2,75	2,75	3,25	3,25
7500 ft	Gm	50	50	50	50	50	50
⬆	GM	178	175	172	170	168	165
	SPL	NOZH	NOZH	NOZH	NOZI	NOZI	NOZI
1501 m	POS	3	3	3	2	2	2
5001 ft	VLV	7	7	7	7	7	7,5
1500 m	AVA	2,25	2,25	2,25	2,75	2,75	3,25
5000 ft	Gm	52	50	50	50	50	50
⬆	GM	180	178	175	172	170	168
	SPL	NOZG	NOZH	NOZH	NOZH	NOZI	NOZI
751 m	POS	4	3	3	3	2	2
2501 ft	VLV	7	7	7	7	7	7
750 m	AVA	2,25	2,25	2,25	2,25	2,75	2,75
2500 ft	Gm	52	52	50	50	50	50
⬆	GM	182	180	178	175	172	170
	SPL	NOZG	NOZG	NOZH	NOZH	NOZH	NOZI
301 m	POS	4	4	3	3	3	2
1001 ft	VLV	7	7	7	7	7	7
300 m	AVA	1,75	2,25	2,25	2,25	2,25	2,75
1000 ft	Gm	55	52	52	50	50	50
⬆	GM	185	182	180	178	175	172
	SPL	NOZF	NOZG	NOZG	NOZH	NOZH	NOZH
0 m	POS	5	4	4	3	3	3
0 ft	VLV	7	7	7	7	7	7



EXHAUST VALVE CONTROL ADJUSTMENT

ATTENTION! The vehicle is provided with an exhaust valve whose fine tuning is performed during the final try-out of the engine. The position of adjustment valve **1** must not be modified for any reason.

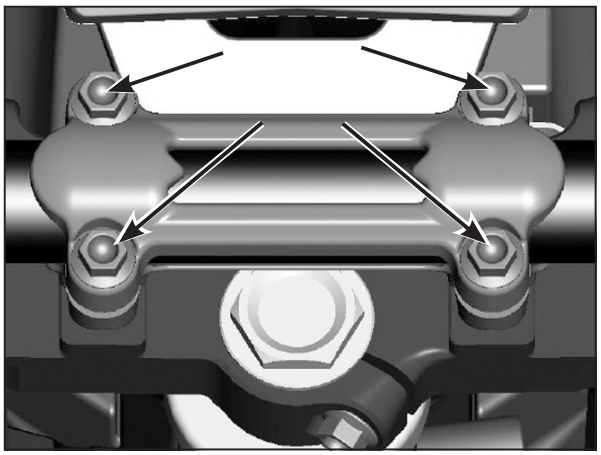
For any adjusting, please contact Betamotor's Authorized Service Network.



HANDLEBAR ADJUSTMENT

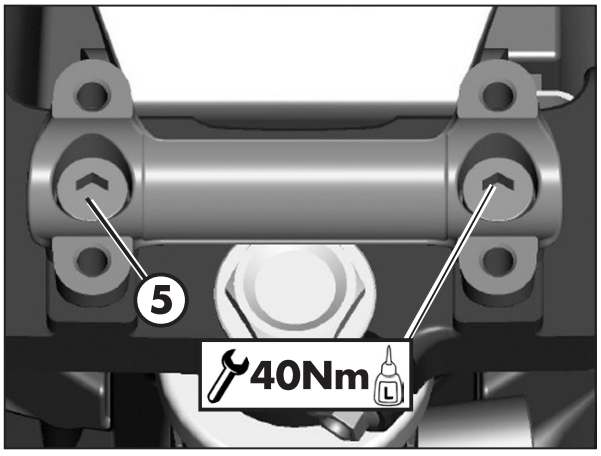
U-BOLT POSITION ADJUSTMENT

The lower bracket **1** can be mounted in correspondence of the holes nr. **2**, **3** or **4** respectively.



To adjust the position of the u-bolt remove the screws shown in the figure.

Remove the handlebar.



Remove the screws **5**.

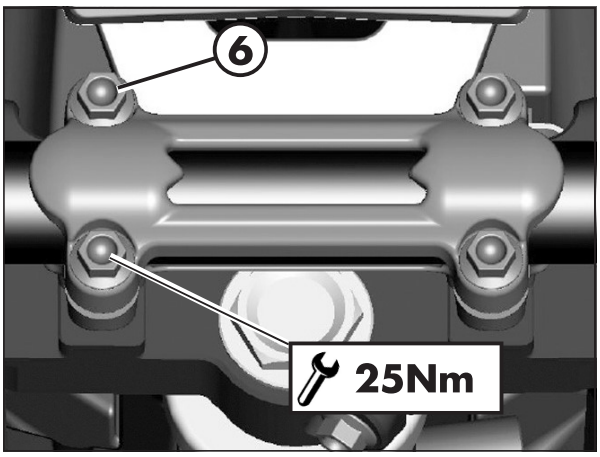
Position the U-bolt according to requirements.

At the end refit the screws **5** after the application of thread lock fluid and tighten to the torque indicated.

Apply the handlebar.

Apply the top u-bolt.

Refit the screws **6**. Tighten to the torque indicated.



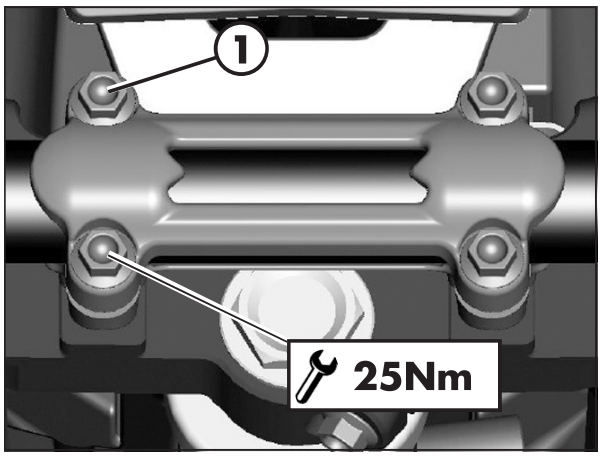
ADJUSTMENT OF THE HANDLEBAR POSITION

The handlebar can be adjusted by rotating it back and forth.

To adjust the handlebar loosen screws **1**.

Position the handlebar according to requirements.

Tighten to the torque indicated.

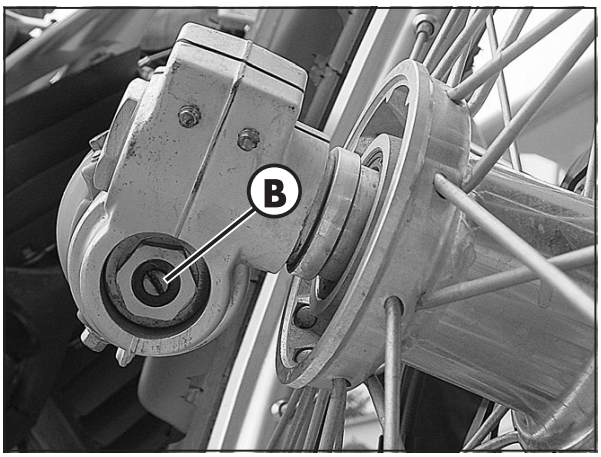


ADJUSTING FORK

ADJUSTING THE REBOUND DAMPER

The hydraulic rebound damper determines the behaviour of the telescopic fork during extension and can be adjusted by means of screw **A**. Turning the screw clockwise increases the action of the rebound damper; turning it anticlockwise decreases the action of the rebound damper.

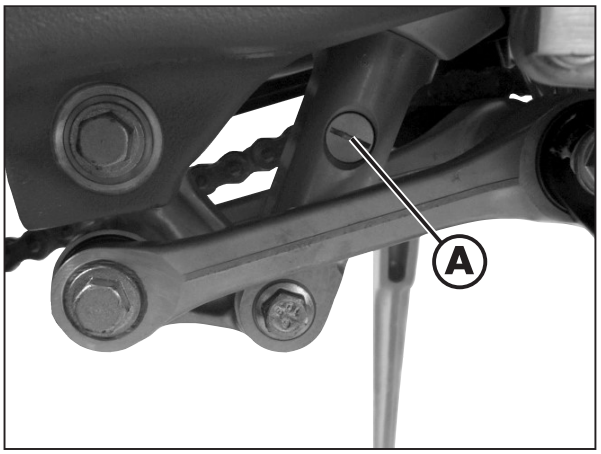
For standard calibration, refer to page 11.



ADJUSTING THE COMPRESSION DAMPER

The hydraulic compression damper determines the behaviour of the telescopic fork during compression and can be adjusted by means of screw **B** located at the lower end of the fork legs. Turning the screw clockwise increases the action of the compression damper; turning it anticlockwise decreases the action of the compression damper.

For standard calibration, refer to page 11.



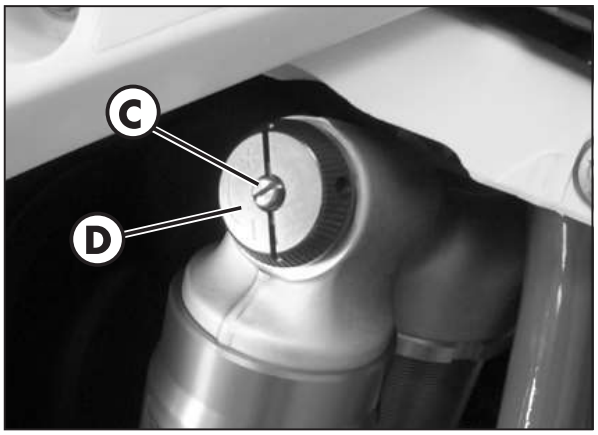
SHOCK ABSORBER

ADJUSTING THE REBOUND DAMPER

Turn screw **A** to adjust the hydraulic rebound damper.

Turning the screw anticlockwise (out) decreases the damping effect.

For standard setting, refer to page 11.



WARNING:
Starting from the standard position, turn the knob anticlockwise (with a closing action), the center screw will have an integral movement, then will rotate with the knob.

For standard setting, refer to page 11.

ADJUSTING THE HYDRAULIC COMPRESSION DAMPER (HIGH AND LOW SPEEDS)

Adjustment for low compression speed:
- Using a screwdriver, loosen screw **C** by turning it clockwise to increase the hydraulic compression damper.

For standard setting, refer to page 11.

Adjustment for high compression speed:
- Turn knob **D** anticlockwise to decrease the hydraulic compression damper.

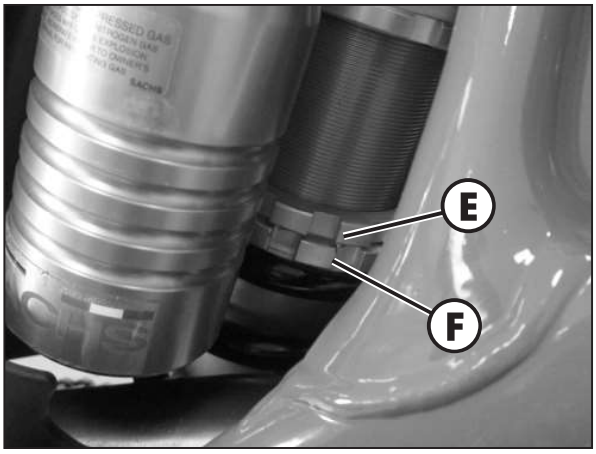
For standard setting, refer to page 11.

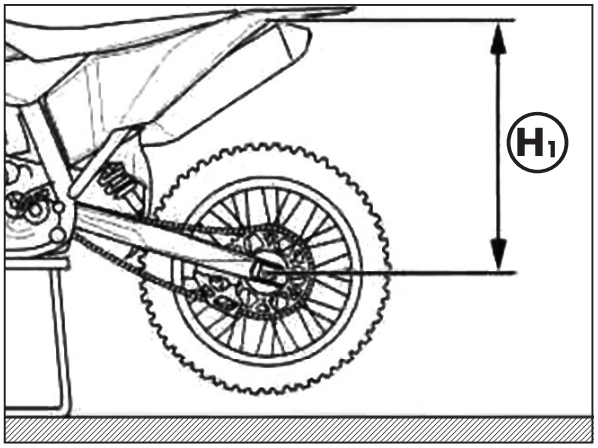
ADJUSTING THE SPRING PRELOAD

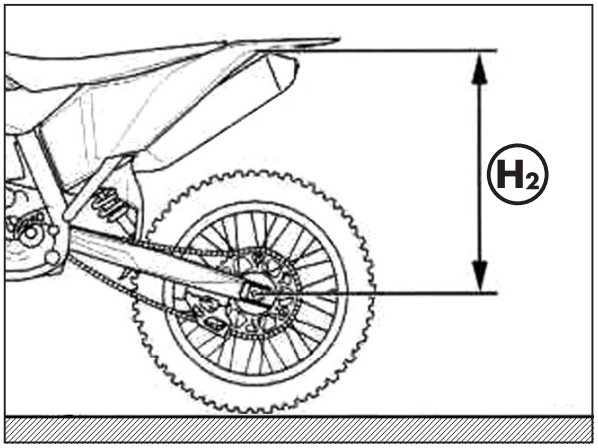
Loosen counter-ring **E**, rotate ring **F** clockwise to increase the spring preload (and consequently the shock absorber preload) or anticlockwise to decrease it. After obtaining the desired preload, turn counter-ring **E** until it stops against adjusting ring **F**.

For standard setting, refer to page 11.

NOTE: for the handling of ring nuts use the specific wrench provided in the standard tool kit shown in the figure.







STATIC SAG LOAD TEST

To verify the static sag of the shock absorber proceed as follows:
- Place the motorcycle on the work stand.
- Measure the vertical distance between the rear wheel axle and a reference point on the rear fairings.
- Write down the dimension H_1.
- Remove the work stand.
- Keep the motorcycle in vertical position and measure again the distance between the wheel axle and the reference point previously established.
- Write down the dimension H_2.

Verify that the value of the static compression $X = H_1 - H_2$ matches the one shown on page 11. Otherwise, perform the adjustment of the spring preload as described above.

SUSPENSIONS SETTINGS ACCORDING TO THE WEIGHT OF THE RIDER

The table below shows the spring constant K of the suspensions (fork and shock absorber) depending on the weight of the driver.
Refer to the accessories catalogue Betamotor to obtain the spring codes.

Fork	
Rider weight [kg]	K (Spring constant)
70 - 85	4,0
85 - 95	4,2
95 - 105	4,6
>105	4,8

Shock absorber	
Rider weight [kg]	K (Spring constant)
70 - 85	4,8
85 - 95	5,0
95 - 105	5,2
>105	5,4

☐ Standard settings

CHAPTER 4 CHECKS AND MAINTENANCE

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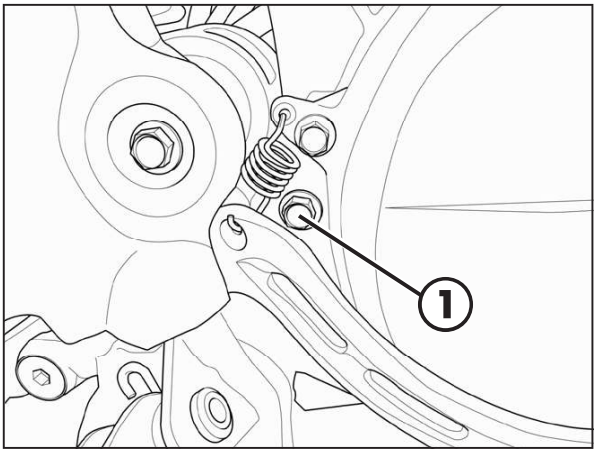
KEY TO SYMBOLS

Tightening torque

Threadlocker Medium

Grease



ENGINE OIL

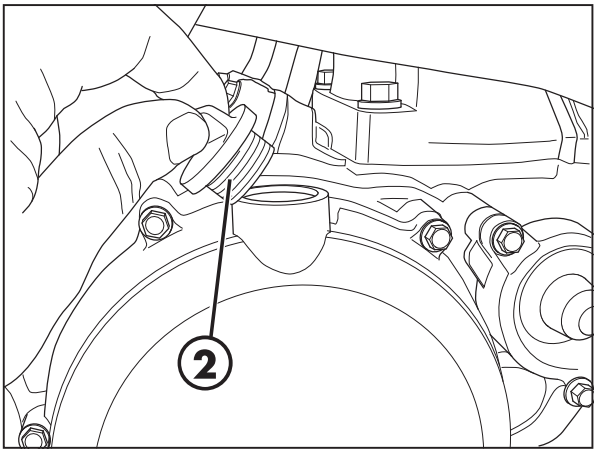
CHECK THE LEVEL

Hold the vehicle upright.
Position the drive on a flat base ensuring stability.

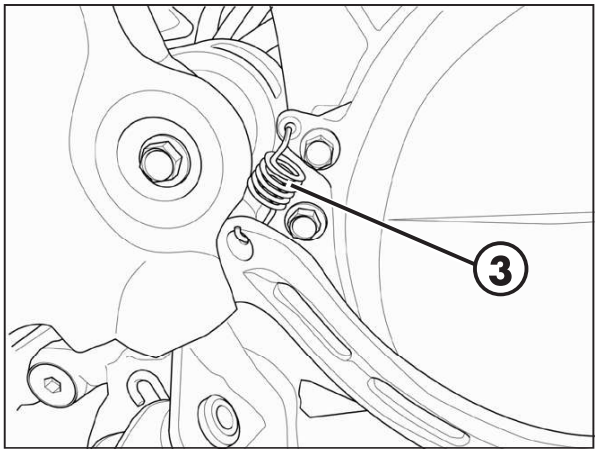
Remove the inspection cap **1**.

The oil level must arrive to the lower edge of check hole.

Otherwise restore the oil level through plug **2**.

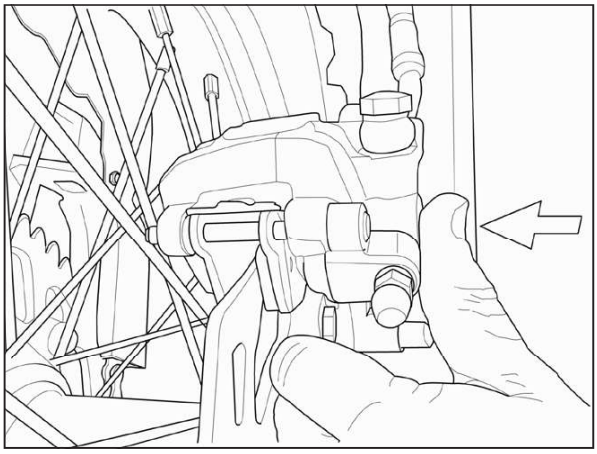


Use the oil indicated on page 16 in the "Recommended lubricants and liquids" table.

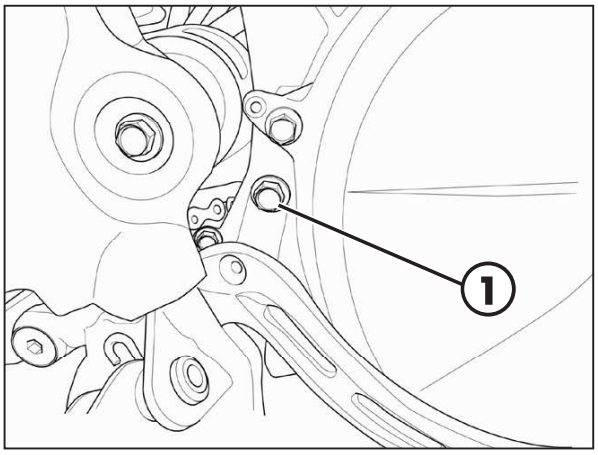


To facilitate this, it is recommended to remove spring **3**.

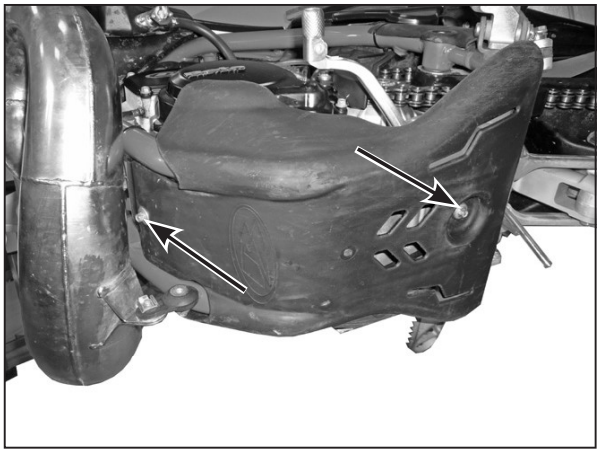
Push the brake caliper towards the inside of the vehicle.

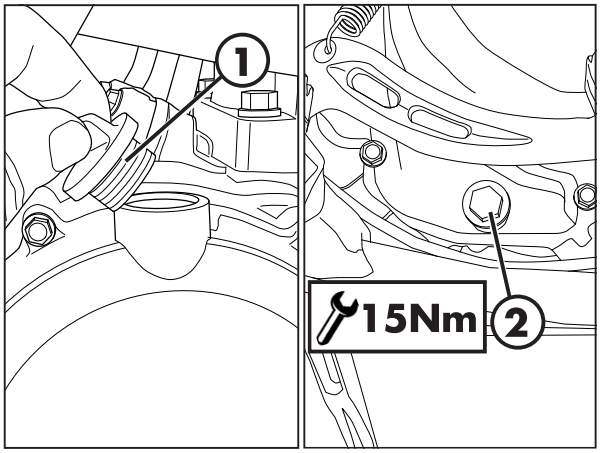


This way, screw **1** is uncovered.
Once this is completed, tighten screw **1** to 10Nm and reapply spring **3**.



WARNING! Once completed, actuate the brake pedal repeatedly so as to make the rear brake operational again.





REPLACEMENT

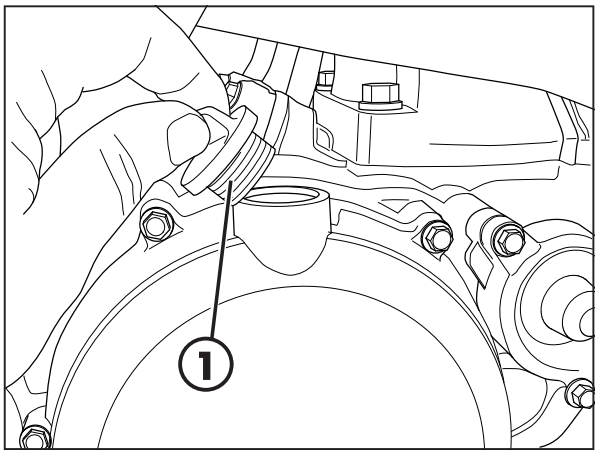
Always perform the replacement when engine is hot:
- Position the drive on a flat base ensuring stability.
- Remove the engine casing by loosening the screws shown in the figure.
- Place a container under the engine.

WARNING:
Hot oil can cause severe burns!
Screw on filler cap **1** again.

- Unscrew filler plug **1** and drain plug **2**.
- Drain all the oil from the crankcase.
- Place the cap **2** and tighten to specified torque.

Pour in the quantity of liquid indicated on page 10.
Use the oil indicated on page 16 in the "Recommended lubricants and liquids" table.

WARNING:
Dispose of used oil in compliance with the regulations in force.



Screw on filler cap **1** again.

WARNING:
Dispose of used oil in compliance with the regulations in force.

LIQUID COOLANT

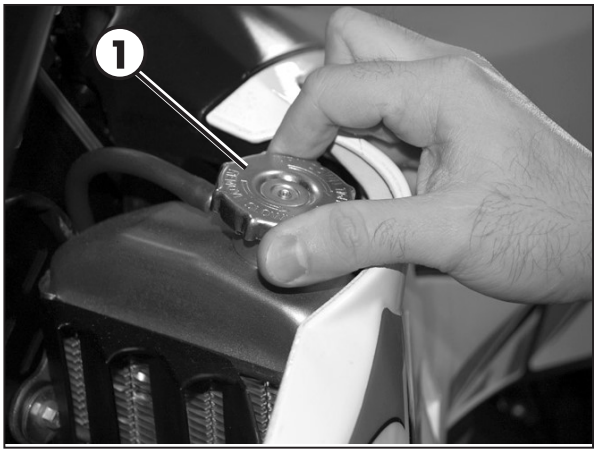
CHECK THE LEVEL

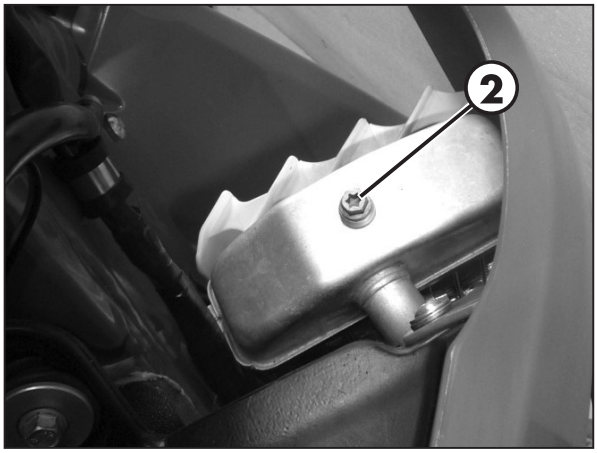
Keep the vehicle in vertical position relative to the ground.

The level of the coolant must be checked when the engine is cold. Use the following procedure:

- Unscrew cap **1** and ensure that the liquid is visible in the lower portion of the loading tube.
- In the case in which the liquid is not visible remove the vent screw **2** and proceed topping up.
- At the end of operation refit the filler cap and the vent screw.

Use the oil indicated on page 16 in the "Recommended lubricants and liquids" table.





WARNING: Never unscrew the filler cap of the radiator when the engine is hot. Danger of burning!

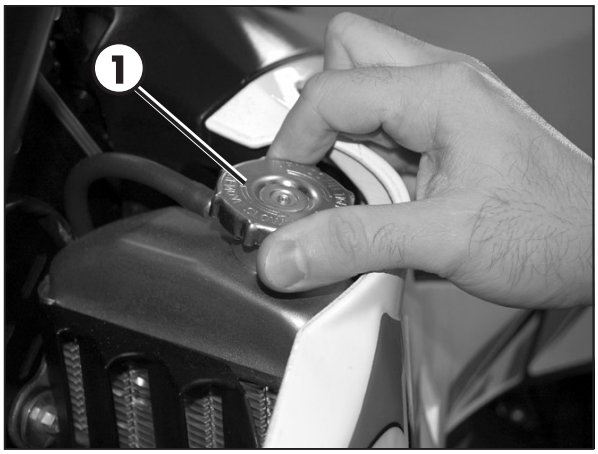
WARNING:
Wear appropriate protective clothing and protection gloves.

Keep coolant out of reach of children.

Avoid any direct contact of the coolant with skin, eyes or clothing. If this happens:

- with the eyes, rinse immediately with plenty of water and seek medical advice;
- with skin, Immediately clean contaminated areas with soap and water Change clothing that is contaminated with coolant.

If coolant is swallowed, contact a doctor immediately.

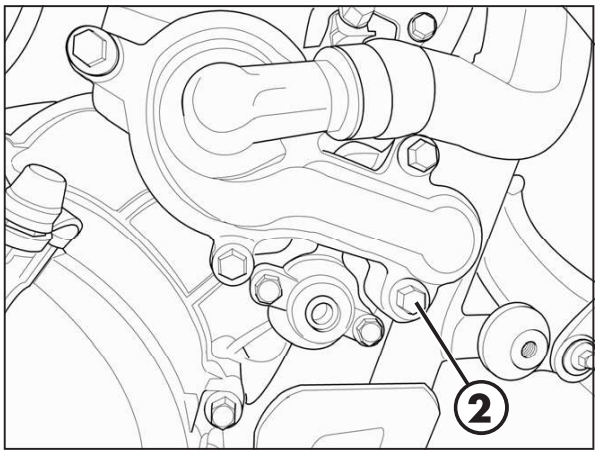


REPLACEMENT

Keep the vehicle in vertical position relative to the ground.

Replacement of the coolant must take place when the engine is cold.

- Unscrew cap **1**.

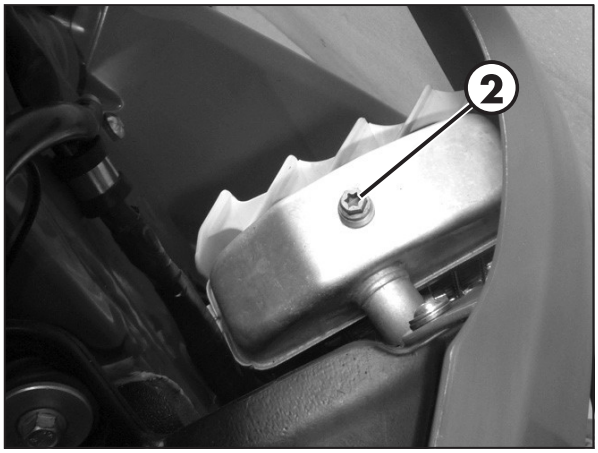


- Place a container under screw **2**.

- Unscrew the screw **2**.

- Drain the liquid.

- Tighten screw **2** applying the specific washer.



- Unscrew drain screw **3**.

- Proceed to filling.

- Reapply the loading cap and the bleeding screw.

The amounts of liquid are shown on page 16.

Use the liquid indicated on a page 16 in the "Recommended lubricants and liquids" table.

WARNING:
Never unscrew the filler cap of the radiator when the engine is hot. Danger of burning!

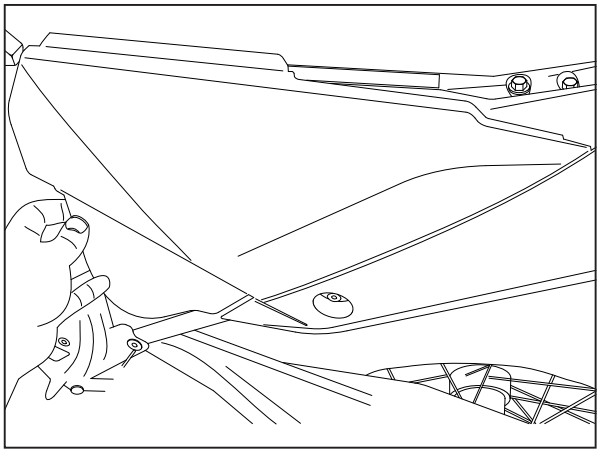
WARNING:
Wear appropriate protective clothing and protection gloves.

Keep coolant out of reach of children.

Avoid any direct contact of the coolant with skin, eyes or clothing. If this happens:

- with the eyes, rinse immediately with plenty of water and seek medical advice;
- with skin, Immediately clean contaminated areas with soap and water Change clothing that is contaminated with coolant.

If coolant is swallowed, contact a doctor immediately.

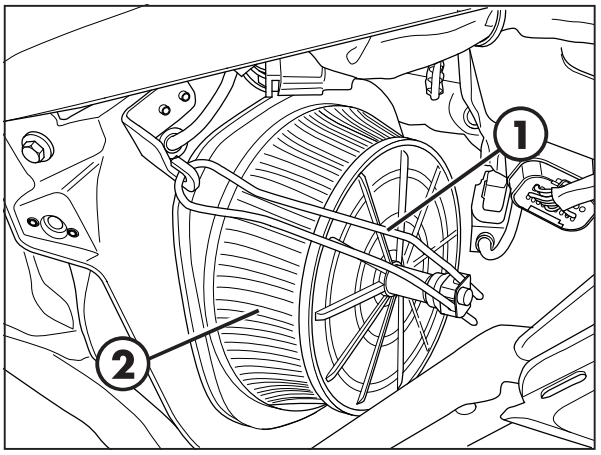


AIR FILTER

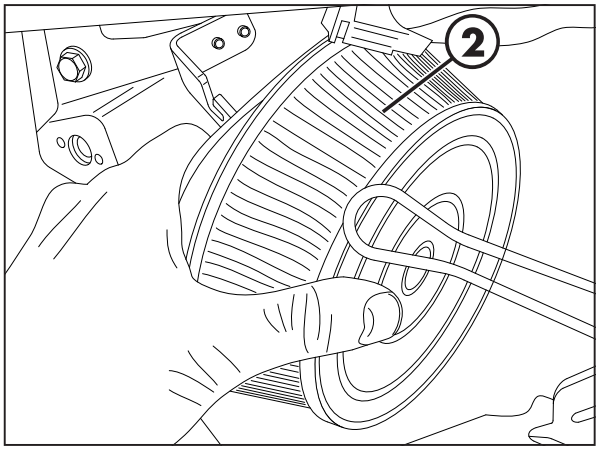
Check after every ride.

REMOVING AND INSTALLING AIR FILTER

To access the filter is necessary:
•Remove the saddle (page 82).
•Pull the cover air filter (page 83).



•Release filter fastener **1**.



•Pull out air filter **2**.

WARNING:
After every intervention, check that nothing has been left inside the filter box.

NOTE:
If the filter is damaged, replace it immediately.
To replace, contact authorised Beta-motor customer service.

WARNING:
Never use the vehicle if the air filter is not in place. The infiltration of dust and dirt can cause damage and considerable wear.

WARNING:
After every intervention, check that nothing has been left inside the filter box.

Reassemble by performing the operations in reverse order.

AIR FILTER CLEANING - RR 125 EUROPE

Blow the filter with compressed air.

AIR FILTER CLEANING - RR 125

- Thoroughly wash the filter with water and soap.
- Dry the filter.
- Wet the filter with filter oil and then remove the excess oil to prevent it from dripping.

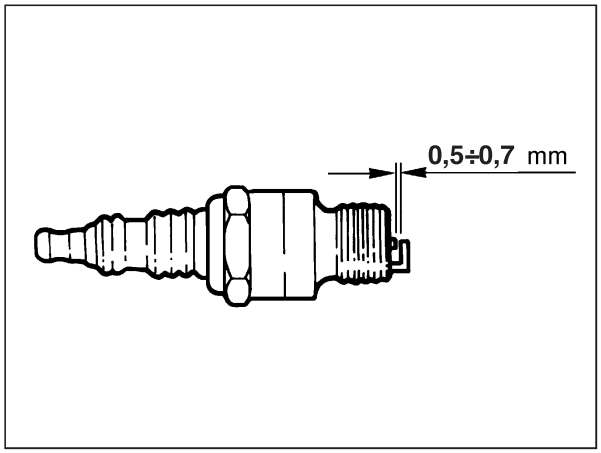
SPARK PLUG

Keeping the spark plug in good condition will reduce fuel consumption and increase engine performance.

To accede to spark plug, is necessary to take off the fuel tank with side fairings (page 83).

To perform the check, just extract the spark plug cap and unscrew the spark plug by means of the provided wrench.
Carefully clean the electrodes using a wire brush. Blow the spark plug with compressed air to prevent any residues from getting into the engine.

Examine the distance between the electrodes with a feeler. This distance should be from 0,5 - 0,7 mm. If it is not, it may be corrected by bending the earth electrode.



The spark plug may appear:
black ■ "fat" carburation
light brown ■ appropriate carburation
white □ "thin" carburation

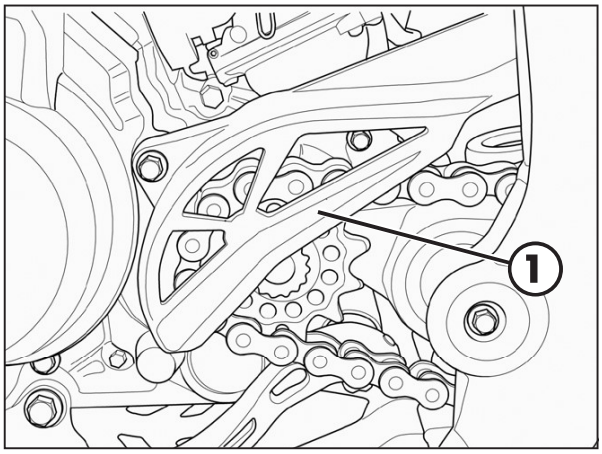
Check as well that there are no cracks in the insulation or corroded electrodes. If so, replace immediately.
Lubricate the spark plug thread, and then (when the engine is cold) screw in the spark plug by hand to its abutting end. Finally tighten the spark plug with the spanner.

WARNING:
Do not check while the engine is hot.

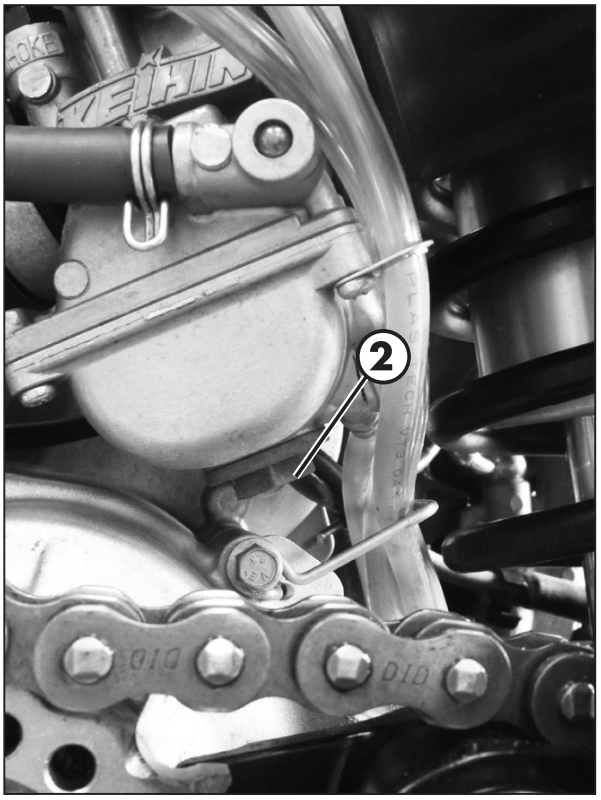
CARBURETTOR

DRAINING THE CARBURETTOR FLOAT CHAMBER

If the carburettor tank needs to be emptied, proceed as described.



Remove the chain protection **1**, close the tank tap and put a cloth under the carburettor, so that you can collect the running out fuel.



Open the drain screw **2** to drain the fuel.
Close the drain screw.
Apply the chain protection and tighten the screws at 10Nm.

WARNING:
Follow action on a cold engine.

WARNING:
Fire hazard. Fuel is highly flammable.

Always stop the engine when refuelling and keep open flames and lighted cigarettes away.
Refuel in an open well ventilated area.

Immediately clean up any spilled fuel.

WARNING:
Risk of poisoning!
Fuel is poisonous liquid and a health hazard.
Wear appropriate protective clothing and protection gloves.

Fuel must not come into contact with the skin, eyes, and clothing. Do not breathe in the fuel vapours. If contact occurs with the eyes, rinse immediately with plenty of water and seek medical advice. If contact occurs with skin, immediately clean contaminated areas with soap and water If fuel is swallowed, contact a doctor immediately. Change clothing that is contaminated with fuel.

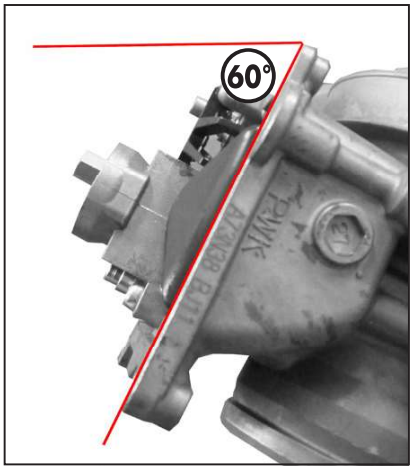
WARNING:
Environmental pollution hazard!
The fuel must not contaminate the ground water, the ground, or the sewage system.

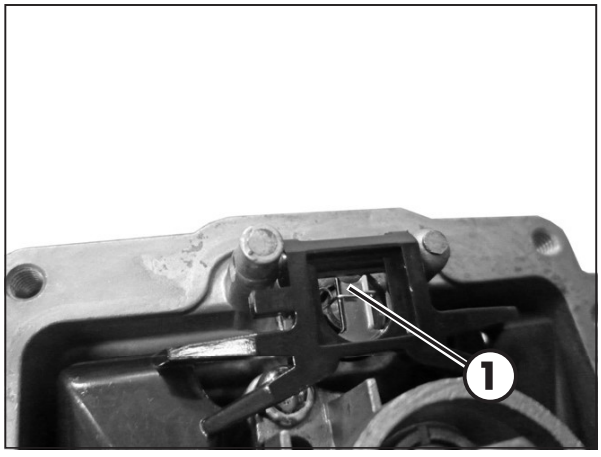
CHECKING THE FLOAT LEVEL

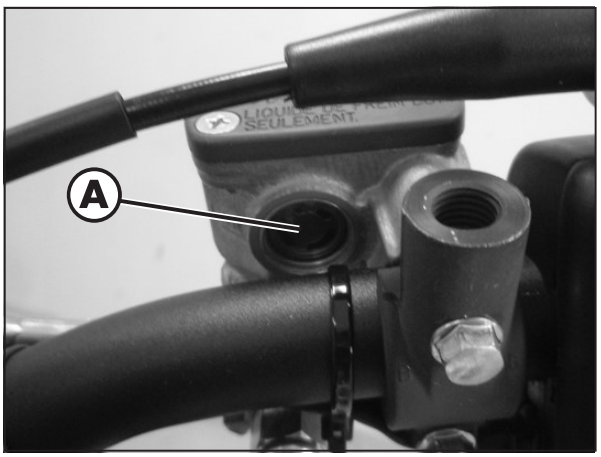
Remove the carburettor from the vehicle after following the procedure for emptying the carburettor bowl (page 56)

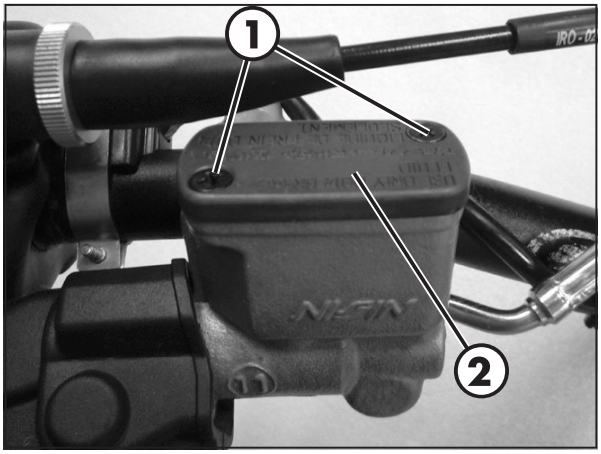
Remove the float chamber.

Keep the carburettor on a 60° approx. inclined, so that float leans on the needle valve without pressing it.
In this position the float edge should be parallel with the float chamber sealing surface (see figure).
If the float height does not correspond to the nominal value, check the float needle valve and if necessary replace it.
If the needle valve is in working order, adjust the float height by bending float lever **1**.
Assemble the carburettor tank, assemble the carburettor and check idling.









FRONT BRAKE

CHECK THE LEVEL OF THE FRONT BRAKE FLUID

Check the level of the brake fluid through sight **A**. The level of the fluid should never fall below the mark in the sight.

RESTORING THE LEVEL OF THE FRONT BRAKE FLUID

To restore the level of the brake fluid, loosen the two screws **1**, lift cap **2** and add brake fluid until its level is 5 mm below the upper rim of the reservoir.

Use the liquid indicated on page 16 in the "Recommended lubricants and liquids" table.

WARNING:
The clutch fluid is extremely corrosive. Take care not to spill it on the paintwork.

Wear appropriate protective clothing and protection gloves.

Keep coolant out of reach of children.

WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:

- with the eyes, rinse immediately with plenty of water and seek medical advice.
- with skin, immediately clean contaminated areas with soap and water. Change clothing that is contaminated with liquid.

If liquid is swallowed, contact a doctor immediately.

BLEEDING THE FRONT BRAKE

To bleed air from the front brake circuit, proceed as follows:

- •Remove the rubber cap **1** from the valve **2**.
- •Open the sump cap.
- •Place one end of a small transparent tube into the valve **2**, and the other end inside a container.
- •Pump with the brake lever 2/3 times and keep the lever pressed.
- •Unscrew the valve and let the oil drain.
- •If are still visible in the tube repeat above operation until obtaining a continuous outflow of oil within no air bubbles.
- •Close the valve and release the lever.

NOTE:
during this procedure, continuously top up the brake pump thank to replace the oil that is out flowing.

- •Remove the tube.
- •Replace the rubber cap.
- •Close the oil reservoir cap.

Use the liquid indicated on page 16 in the "Recommended lubricants and liquids" table.

WARNING:
The brake fluid is extremely corrosive. Take care not to spill it on the paintwork.

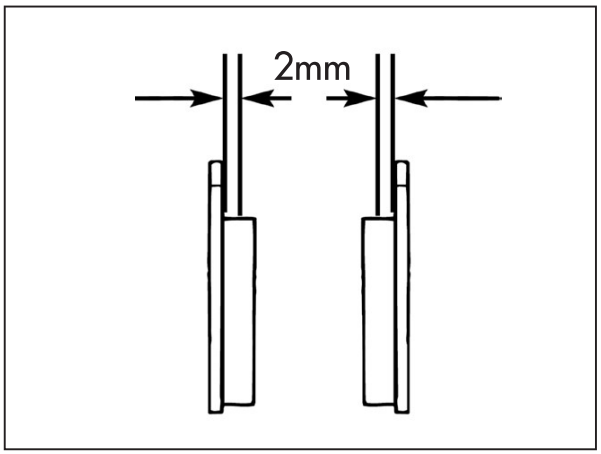
Wear appropriate protective clothing and protection gloves.

Keep coolant out of reach of children.

WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:

- with the eyes, rinse immediately with plenty of water and seek medical advice.
- with skin, immediately clean contaminated areas with soap and water. Change clothing that is contaminated with liquid.

If liquid is swallowed, contact a doctor immediately.

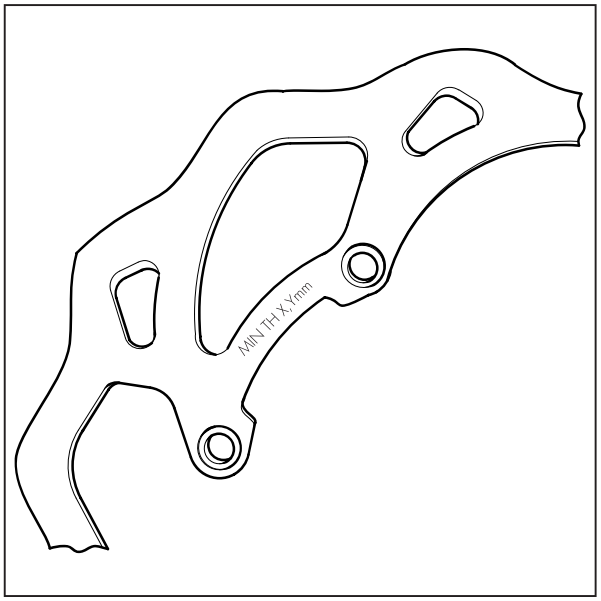


FRONT BRAKE LINING CONTROL

In order to verify the wear condition of front brake is enough to view the caliper from the bottom, where is possible to glimpse the brake lining tails which will have to show a brake of 2 mm in thickness. If the stratum is lesser let's start replacing them.

Note:
Perform the check according to the times shown in the table on page 78.

To replace, contact authorised Betamotor customer service.



BRAKE DISC THICKNESS CONTROL

Periodically verify disc condition. In case signs of damage , veins, or deformations are present, proceed with replacement.
Verify disc thickness. The minimum thickness is engraved on the disc.
Once the limit is in proximity or has been reached, proceed with brake disc replacement.
For replacement, contact an authorised Betamotor after-sales service centre.

REAR BRAKE

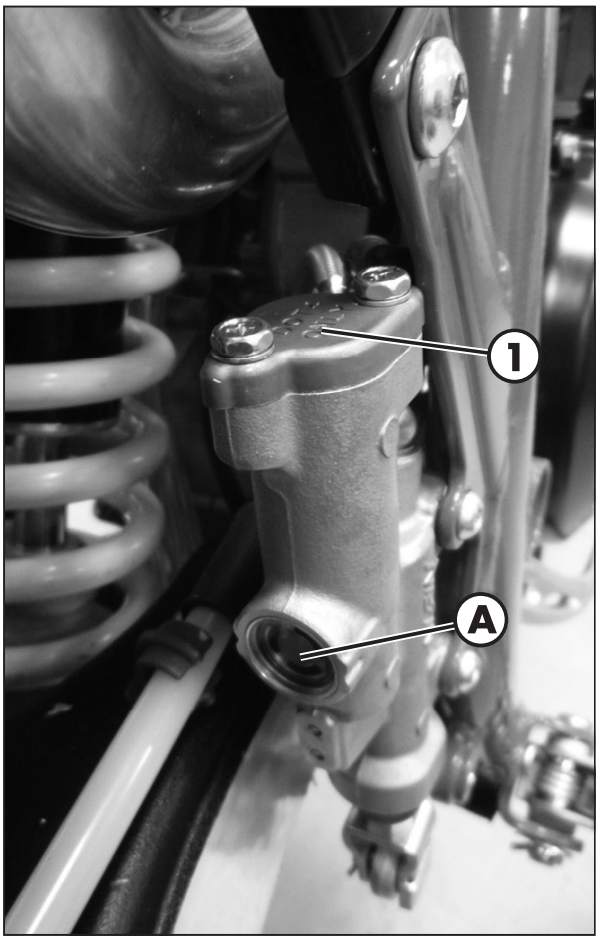
CHECK THE LEVEL OF THE REAR BRAKE FLUID

Check the level of the brake fluid through sight **A**. The level of the fluid should never fall below the mark in the sight.

RESTORING THE LEVEL OF THE REAR BRAKE FLUID

To restore the oil level, top up by means of oil filler cap **1**.

Use the liquid indicated on page 16 in the "Recommended lubricants and liquids" table.



WARNING:
The brake fluid is extremely corrosive. Take care not to spill it on the paintwork.

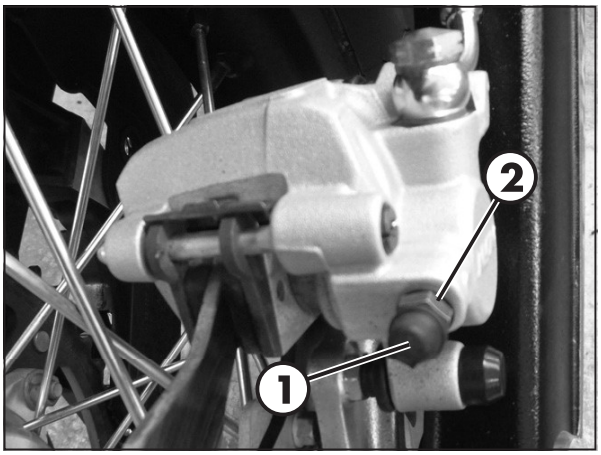
Wear appropriate protective clothing and protection gloves.

Keep coolant out of reach of children.

WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:

- with the eyes, rinse immediately with plenty of water and seek medical advice.
- with skin, immediately clean contaminated areas with soap and water. Change clothing that is contaminated with liquid.

If liquid is swallowed, contact a doctor immediately.



BLEEDING THE REAR BRAKE

To bleed air from the rear brake circuit, proceed as follows:

- Remove the rubber cap **1** from the valve **2**.
- Open the sump cap.
- Place one end of a small transparent tube into the valve **2**, and the other end inside a container.
- Pump with the brake lever 2/3 times and keep the pedal pressed.
- Unscrew the valve and let the oil drain.
- If are still visible in the tube repeat above operation until obtaining a continuous outflow of oil within no air bubbles.
- Close the valve and release the lever.

NOTE:
During this procedure, continuously top up the brake pump thank to replace the oil that is out flowing.

- Remove the tube.
- Replace the rubber cap.
- Close the oil reservoir cap.

Use the liquid indicated on page 16 in the "Recommended lubricants and liquids" table.

WARNING:
The brake fluid is extremely corrosive. Take care not to spill it on the paintwork.

Wear appropriate protective clothing and protection gloves.

Keep coolant out of reach of children.

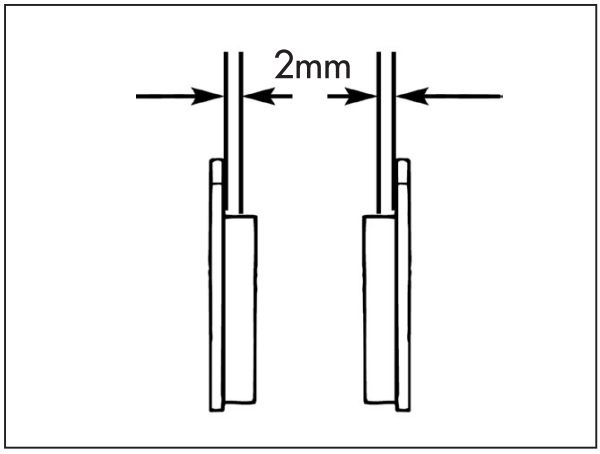
WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:

- with the eyes, rinse immediately with plenty of water and seek medical advice.
- with skin, immediately clean contaminated areas with soap and water. Change clothing that is contaminated with liquid.

If liquid is swallowed, contact a doctor immediately.

REAR BRAKE LINING CONTROL

In order to verify the wear condition of rear brake is enough to view the caliper from above, where is possible to glimpse the brake lining tails which will have to show a brake of 2 mm in thickness. If the stratum is lesser let's start replacing them.

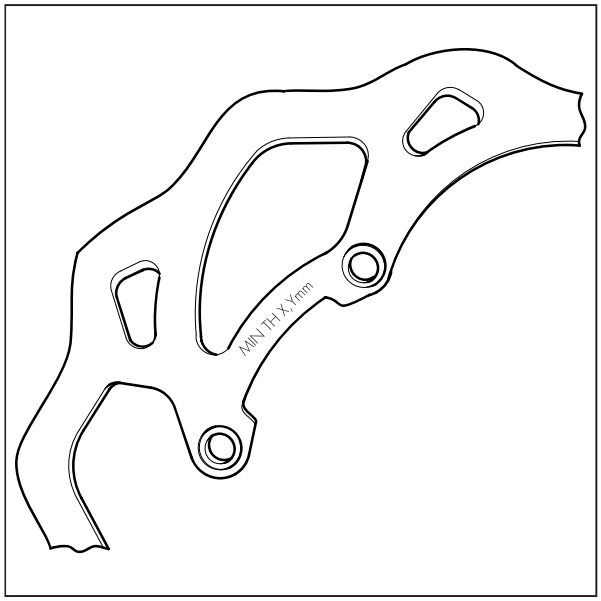


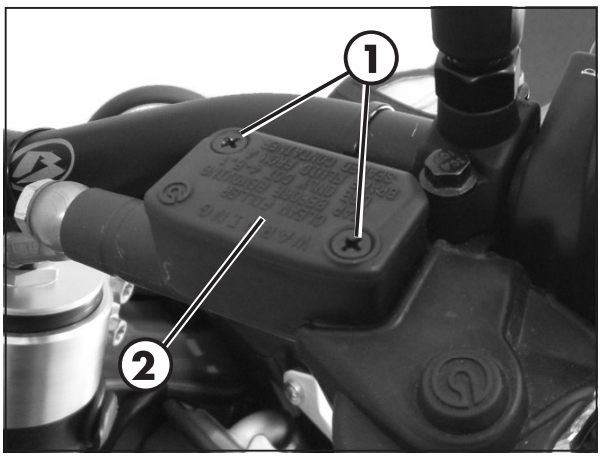
Note:
Perform the check according to the times shown in the table on page 78.

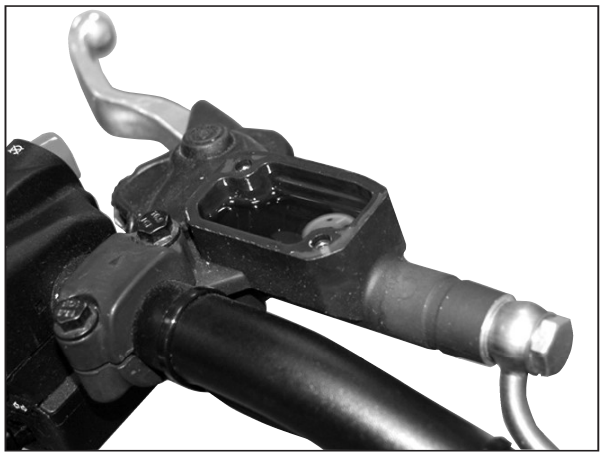
To replace, contact authorised Betamotor customer service.

BRAKE DISC THICKNESS CONTROL

Periodically verify disc condition. In case signs of damage , veins, or deformations are present, proceed with replacement.
Verify disc thickness. The minimum thickness is engraved on the disc.
Once the limit is in proximity or has been reached, proceed with brake disc replacement.
For replacement, contact an authorised Betamotor after-sales service centre.







CLUTCH CONTROL

CHECK THE LEVEL

To check the oil level in the clutch pump, first remove cover **2**.
Remove the two screws **1** and take off cover **1** together with the rubber bellows.
With the clutch pump in a horizontal position, the level of the oil should be 5 mm below the upper rim.
In the case where the level is lower than specified top up.

Use the liquid indicated on page 16 in the "Recommended lubricants and liquids" table.

WARNING:
The clutch fluid is extremely corrosive. Take care not to spill it on the paintwork.

Wear appropriate protective clothing and protection gloves.

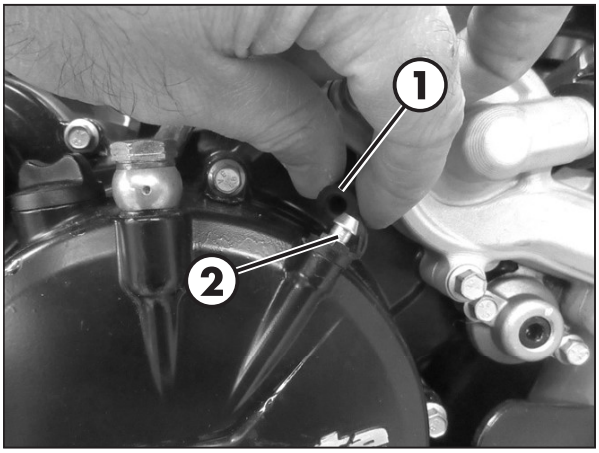
Keep coolant out of reach of children

WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:

- with the eyes, rinse immediately with plenty of water and seek medical advice.
- with skin, immediately clean contaminated areas with soap and water. Change clothing that is contaminated with liquid.

If liquid is swallowed, contact a doctor immediately.

BLEEDING



To bleed air from the clutch pump, proceed as follows:
- Remove the rubber cap **1** from the valve **2**.
- Open the sump cap.
- Place one end of a small transparent tube into the valve **2**, and the other end inside a container.
- Pump with the clutch lever 2/3 times and keep the lever pressed.
- Unscrew the valve and let the oil drain.
- If are still visible in the tube repeat above operation until obtaining a continuous outflow of oil within no air bubbles.
- Close the valve and release the lever.

NOTE:
During this procedure, continuously top up the pump tank to replace the liquid that is out flowing.
- Remove the tube.
- Replace the rubber cap.

Use the liquid indicated on page 16 in the "Recommended lubricants and liquids" table.

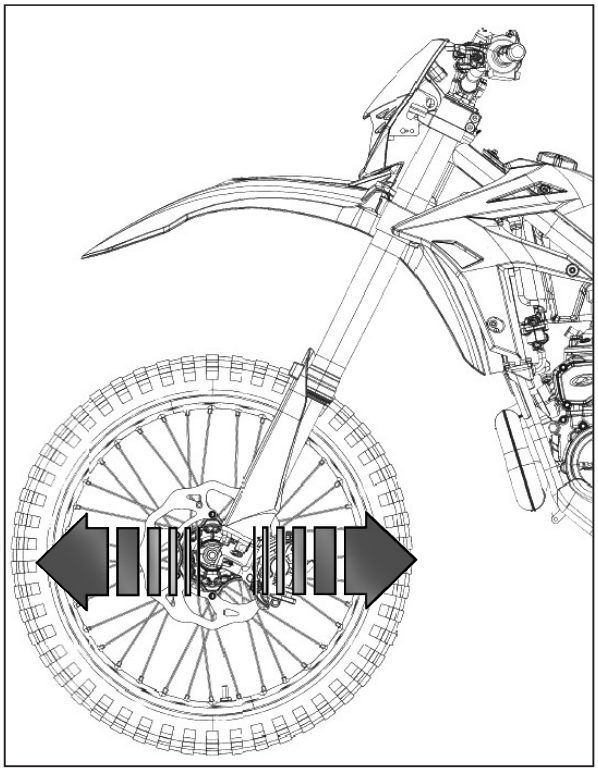
WARNING:
The clutch fluid is extremely corrosive. Take care not to spill it on the paintwork.

Wear appropriate protective clothing and protection gloves.

Keep coolant out of reach of children.

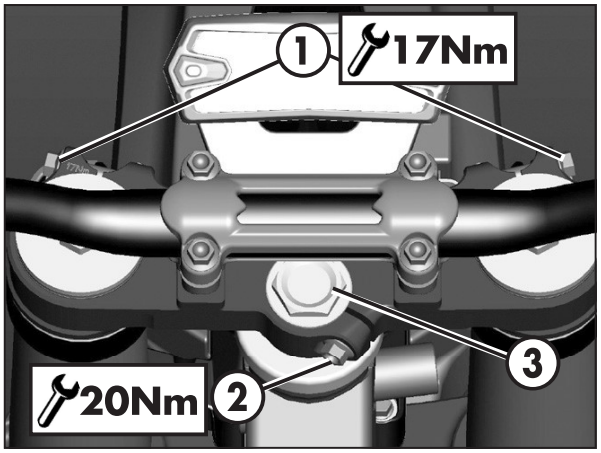
WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:
- with the eyes, rinse immediately with plenty of water and seek medical advice.
- with skin, immediately clean contaminated areas with soap and water. Change clothing that is contaminated with liquid.

If liquid is swallowed, contact a doctor immediately.



CHECK AND ADJUSTING OF STEERING PLAY

Periodically check the play in the steering sleeve by moving the fork back and forth as shown in the figure. Whenever you feel play, adjust as described below:



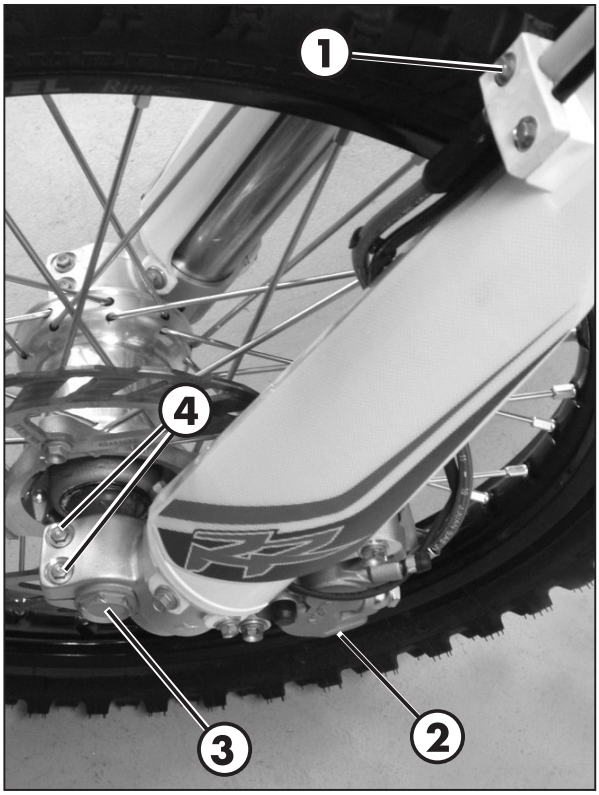
- Loosen the screws **1**
- Loosen the screw **2**
- Reduce the play by turning nut **3**

Tighten the screws to the prescribed torque values.

WARNING:
Tightening of the screws should be carried out by adjusting the torque wrench to the stability torque with repeated tightening until stability torque has been achieved.

FORK OIL

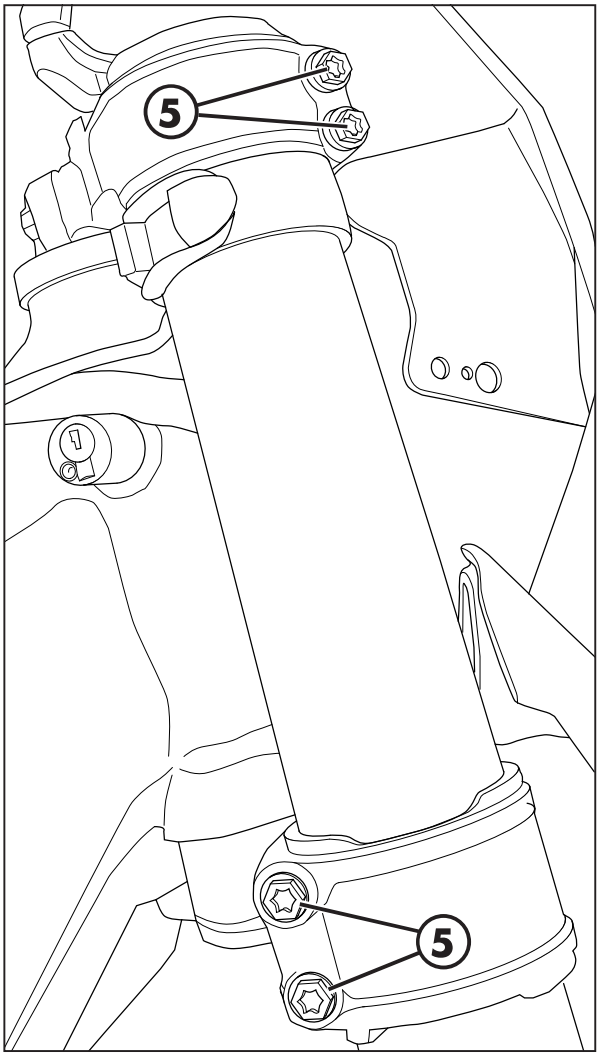
Right/left-hand rod
The procedure for changing the oil in the forks is provided only for information. We recommend having the operation performed by a BETAMOTOR authorized workshop.



REMOVING LEGS

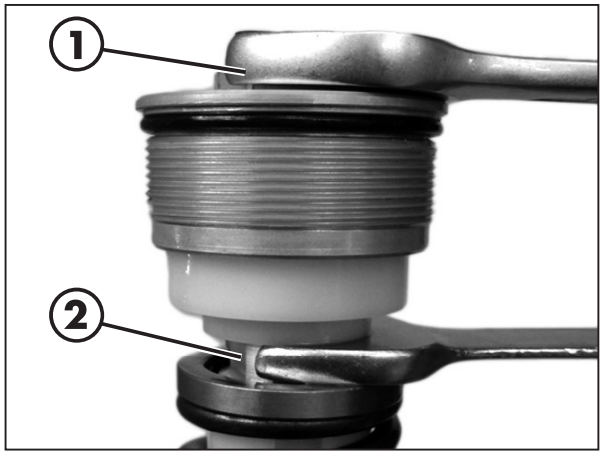
To replace, proceed as follows:

- Position the vehicle on the central bike stand.
- Remove the cable gland U-bolt **1**.
- Remove the brake caliper **2**.
- Remove cap **3**, loosen the screws **4**, slide the wheel pin out and remove the front wheel.
- Loosen shaft lock screws **5** and take off the slider.

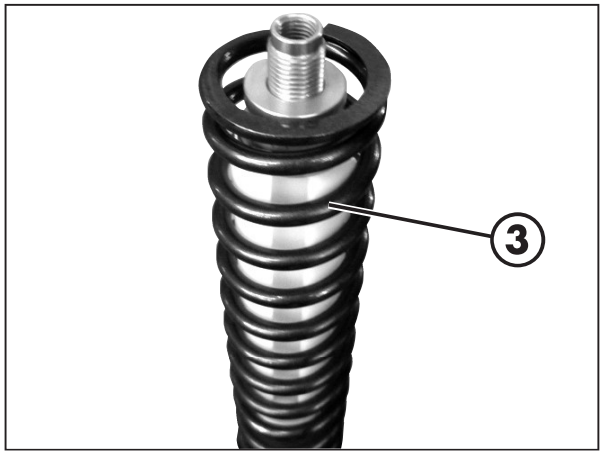


OIL REPLACEMENT

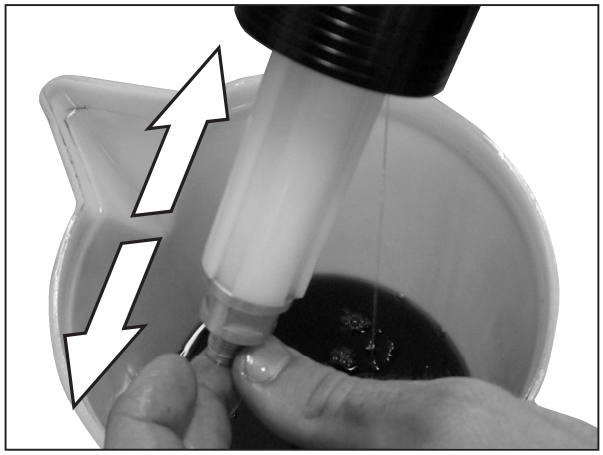
- Place the legs vertically with cap **1** facing upwards. Loosen the upper cap **1**.



• Loosen the counter-nut **2** and remove cap **1**.

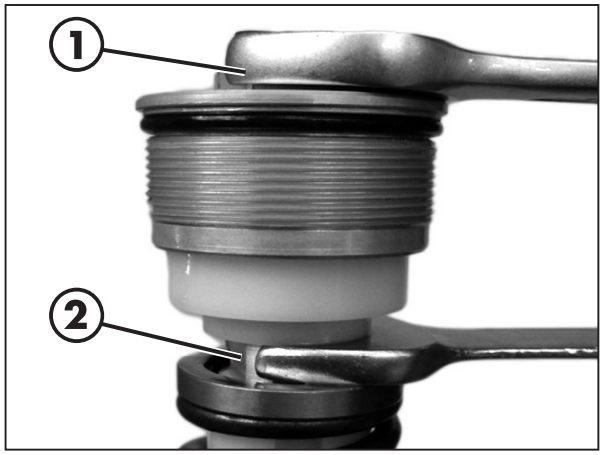


• Extract the spring **3** and overturn the pipe, making the oil escape.



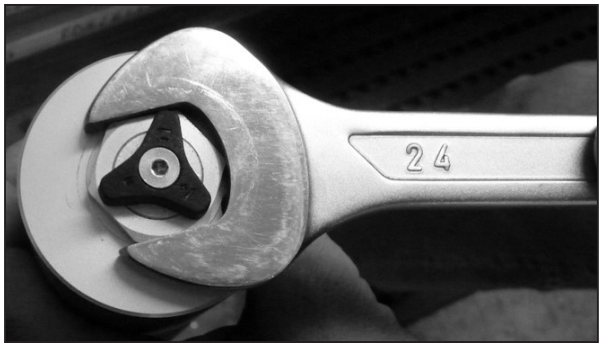
• Move the pumping unit and drain the remaining oil.

When the oil has been drained completely, introduce the amount of new oil described in chapter 1 .



• Bleed the pumping unit of air, making it rise and fall until complete loading. Introduce the spring and screw the cap **1** until it is completely inserted on the pumping rod. Block the cap to the pumping rod via the counter-nut **2**.

• Tighten the cap to the completely extended leg.

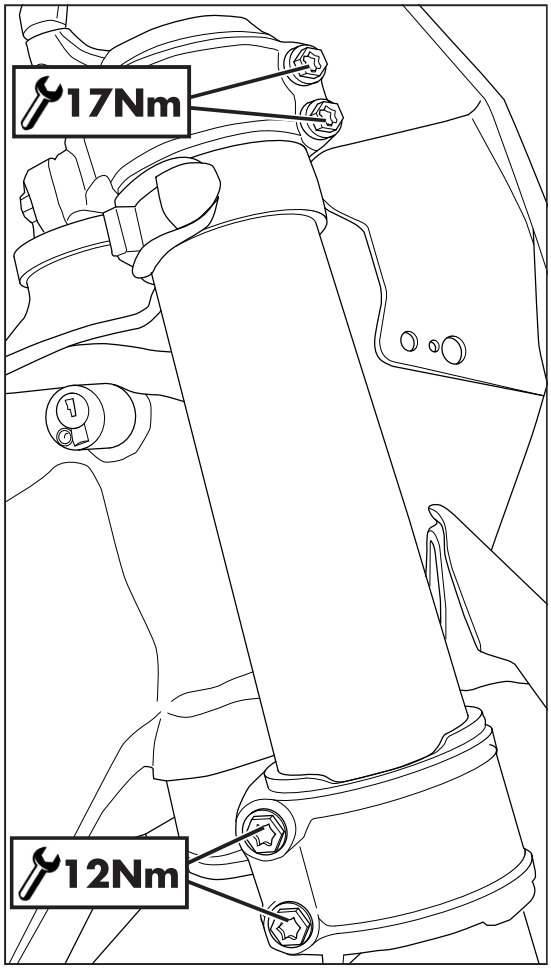


LEGS ASSEMBLY AND PARTS

Apply the legs to the vehicle and tighten the screws to the torque indicated.

WARNING:
grease the screws before their application.

WARNING:
Tightening of the screws should be carried out by adjusting the torque wrench to the stability torque with repeated tightening until stability torque has been achieved.

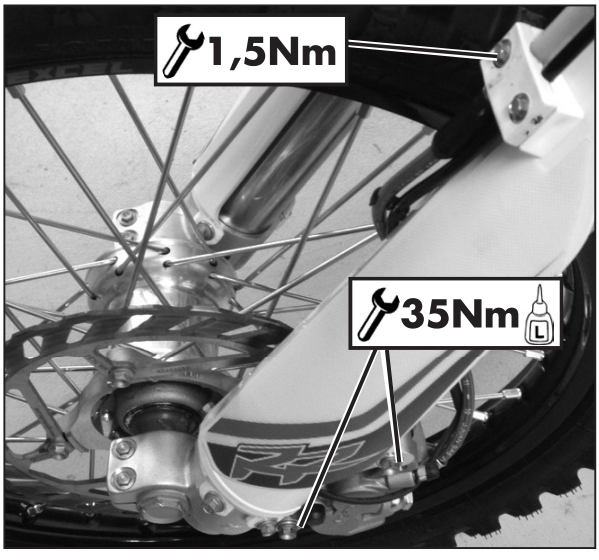


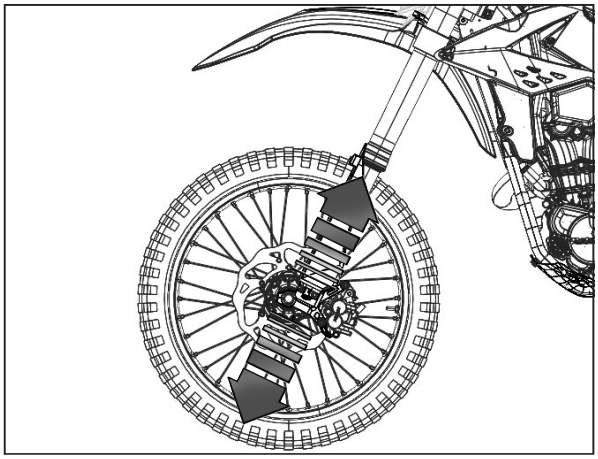
Apply wheel and wheel bolt.

Apply brake caliper, disc cover and fender.

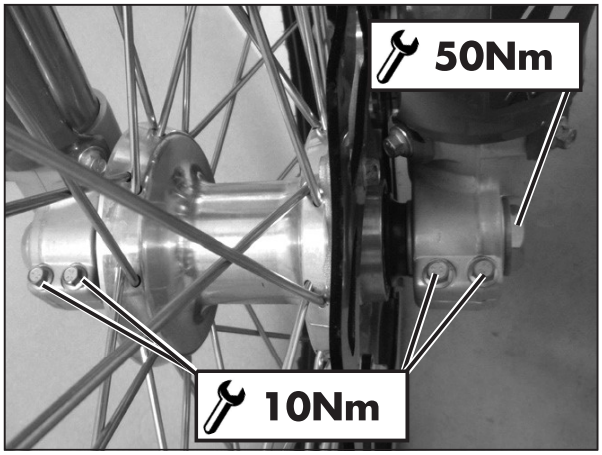
Tighten brake calliper and U-bolt to the indicated torque, after depositing medium resistance threadlocker.

Place the vehicle on the ground.





Compress and release the fork 3-4 times.



Tighten the wheel bolt and the screws of the foot-leg.

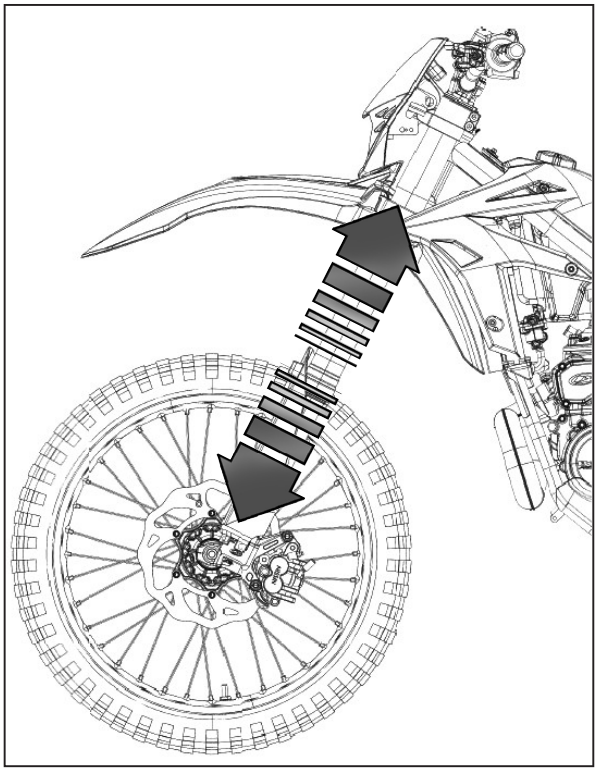
WARNING:
Tightening of the screws should be carried out by adjusting the torque wrench to the stability torque with repeated tightening until stability torque has been achieved.

FRONT WHEEL

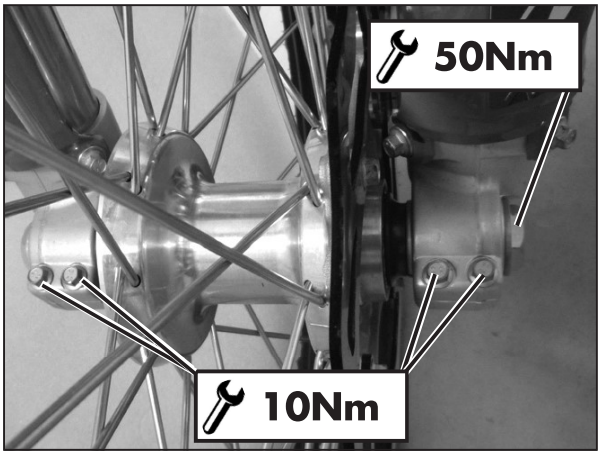
TIGHTENING

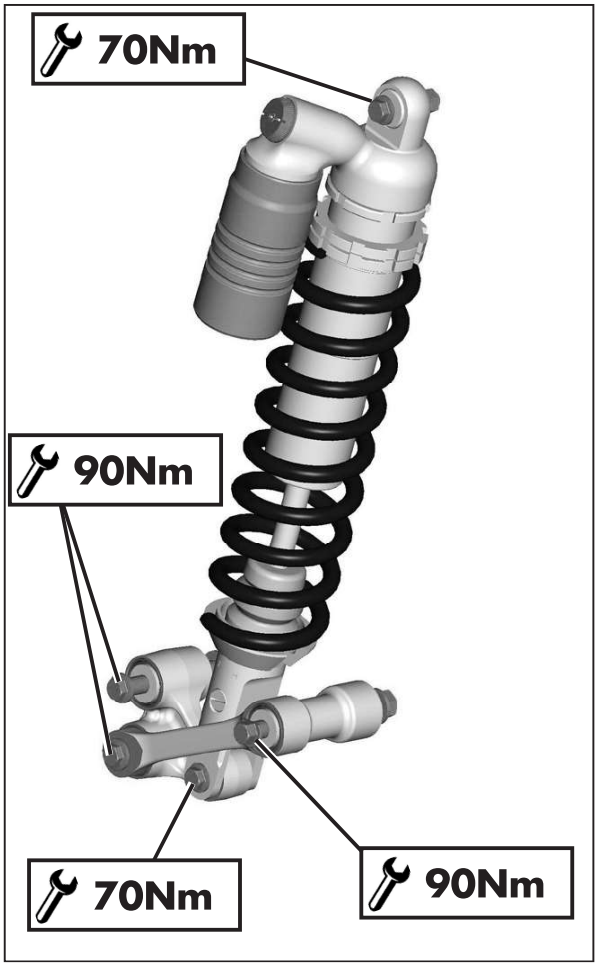
Following removal of the wheel:

- Compress and release the fork 3-4 times.



- Tighten the wheel bolt and the screws of the foot-leg.





REAR SUSPENSION LEVERAGE

In order to guarantee optimal operation and duration over time of the progressive leverage of the rear suspension, it is recommended to periodically check correct tightness of nuts and bolts.

Verify that suspension nuts and bolts are at the indicated torque.

TYRES

Only fit tyres approved by BETAMOTOR.
Unsuitable tyres can adversely affect the road holding of the vehicle.

- To protect your safety, immediately replace any damaged tyres.
- Slick tyres adversely affect the road holding of the vehicle, especially on wet roads and in off-road riding.
- Insufficient pressure results in abnormal wear and overheating of the tyres.
- The front and rear tyres must have the same tread design.
- Always measure the inflating pressures when the tyres are cold.
- Keep the tyre pressures within the prescribed range.

CHAIN

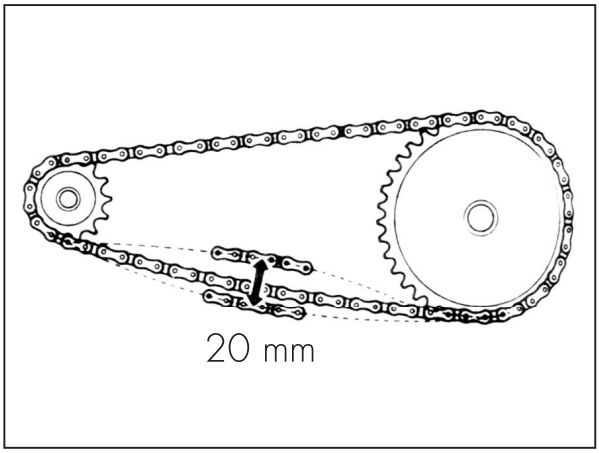
Checking the drive chain periodically to ensure longer chain life. Always keep it lubricated and clean of deposited dirt.

Take special care in preventing the lubricant from coming into contact with the rear tyre or brake disc, otherwise the tyre grip and the action of the brake would be greatly reduced, making it very difficult to control the vehicle.

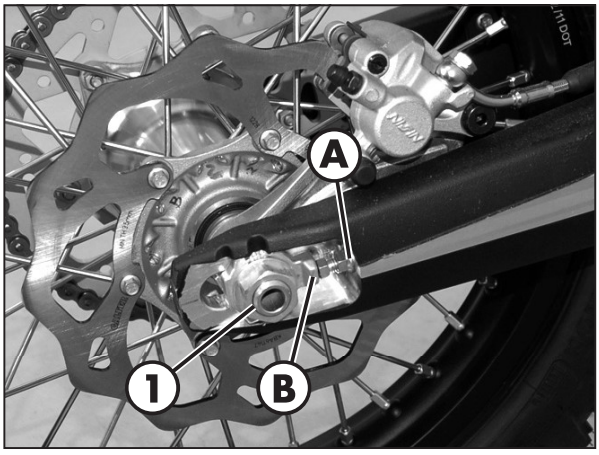
CHECK AND ADJUST TIGHTENING CHAIN

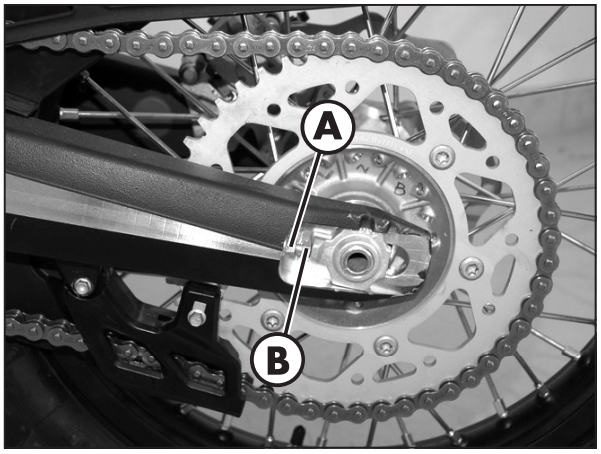
Position the drive on a flat base ensuring stability.

If the chain play exceeds 20 mm tension the chain.

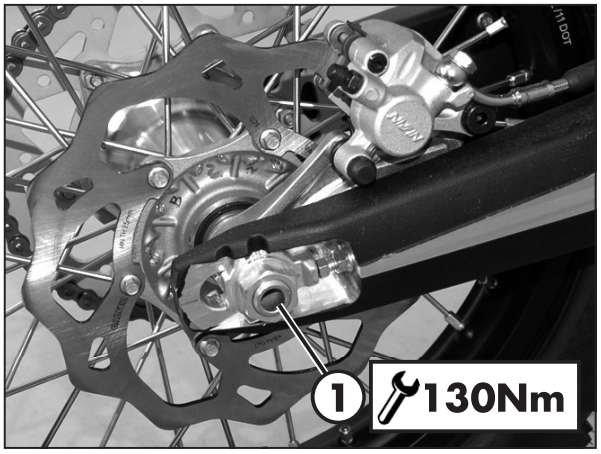


• Loosen the pin **1**.

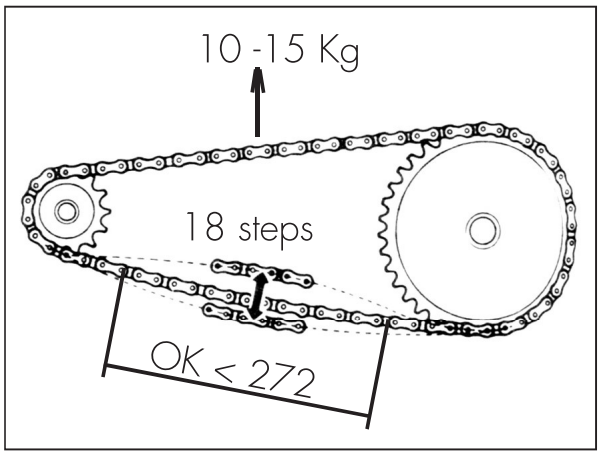




- Loosen counternuts **A** on either side of the fork.
- Turn adjusting screws **B** on either side until the desired chain tension is obtained.
- Tighten counternuts **A** on either side of the fork.



- Tighten the pin **1** to the torque indicated.



CHECK FOR CHAIN WEAR

Shift into neutral, pull up the upper stretch of the chain with a force of 10 - 15 kg (see figure). Measure the length of 18 links on the lower stretch of the chain. If the length is ≥ 272 mm, replace the chain. Chains do not always wear evenly. For this reason it is important that the measurement is taken at different points along the chain.

When fitting a new chain, be sure to replace the chainring and sprocket as well. New chains wear more quickly if fitted on old and worn sprockets. After replacing the chain, adjust its tension as described on page 73.

HEADLIGHT

Keep the headlight glass clean at all times (see page 76).

Periodically check the correct angle of the light beam.

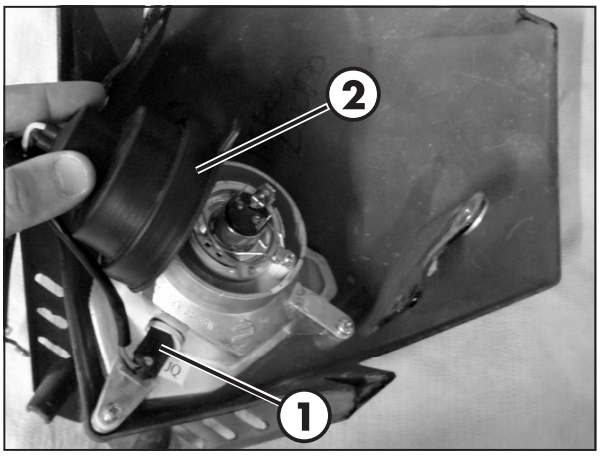
REPLACING THE HEADLIGHT BULBS

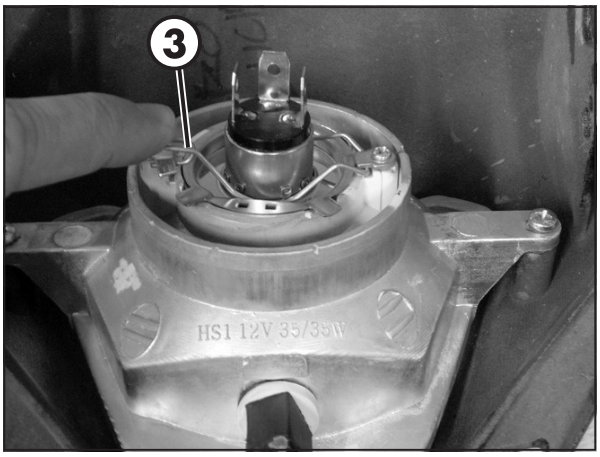
Remove the fixing screws and move forward the lamp holder front cowl.

Carefully remove the headlight bulb **1** together with lamp holder. To replace the high beam/low beam, lift the rubber cover **2**, release connector, push on the spring **3** and remove the lamp holder and replace the light bulb with a new one. Be careful not to touch the bulb so as not to compromise its efficiency.

To refit, follow the procedure above but in reverse order.

Fasten the lamp holder front cowl to the supporting pins and fix it with the two elastics.





TAIL LIGHT

Keep the tail light glass clean at all times (see page 76).

The LED tail light is sealed. In the case of burnout of one or more LEDs it is necessary to replace the entire group.

To replace, contact authorised Betamotor customer service.

4 CLEANING THE VEHICLE

GENERAL PRECAUTIONS

WARNING: Do not clean your vehicle with a high-pressure device with a strong jet of water. Excessive pressure can reach electrical components, connectors, flexible cables, bearings, etc and can damage or destroy them.

WARNING: Wash motorbikes frequently with cold water that are used near the sea (salty air) and on roads subject to salt spreading in winter. Cover with a film of oil or silicone spray unpainted parts and the most exposed parts such as wheels, forks and swingarm. Do not treat rubber parts and brakes.

When cleaning, avoid direct exposure to sunlight.

Close off the exhaust system to prevent water from entering.

Avoid directing the jet of water onto the air filter box cover and the throttle body.

WASHING MODE

Use water jet to soften the dirt and mud accumulated on the paintwork, then remove them with a soft bodywork sponge soaked in water and shampoo. Subsequently rinse well with water, and dry with air and cloth or suede leather.

Detergents pollute water. Always wash the vehicle in areas equipped for collection and purification of the washing liquids.

AFTER WASHING

Proceed to the emptying of the filter box using the appropriate ventilation and drying.

After cleaning, ride a short distance until the engine reaches operating temperature.

WARNING: braking effect is reduced with wet brakes. Operate the brakes cautiously to allow them to dry.

Push back the handlebar control covers, so that water can evaporate.

When the bike is completely dry and cooled down, lubricate all moving parts.

Treat all plastic and painted components with non-aggressive detergents or products that are specific for the care of the motorcycle.

PROLONGED INACTIVITY

A few simple operations should be performed to keep the vehicle in good condition whenever it is to remain inactive for a long period (e.g. during the winter):

- Thoroughly clean the vehicle.
- Reduce the tyre pressures by approximately 30 percent, and if possible raise the tyres off the ground.
- Cover the unpainted parts, excepting the brakes and the rubber parts, with a film of oil or spray silicone.
- Protect the vehicle with a dust cover.

AFTER PROLONGED INACTIVITY

- Restore the tyre inflating pressures.
- Check the tightening of all the screws having an important mechanical function.

4 SCHEDULED MAINTENANCE VEHICLE

		End of running-in - **3** hours	Coupon **1 - 30** hours	Coupon **2 - 60** hours	Coupon **3 - 90** hours	Coupon **4 - 120** hours	Coupon **5 - 150** hours	Coupon **6 - 180** hours
Engine	Gear and clutch oil	**S**	**S**	**S**	**S**	**S**	**S**	**S**
	Spark plug	**C**		**S**		**S**		**S**
	Head screws	**T**						
	Engine clamping screws *	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Kick start and gearchange lever screws	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Spark plug cap	**P**	**P**	**P**	**P**	**P**	**P**	**P**
	Driving and driven clutch disks		**C**	**S**	**C**	**S**	**C**	**S**
	Clutch springs length		**C**	**C**	**S**	**C**	**C**	**S**
	Clutch/bell hub		**C**	**C**	**C**	**C**	**C**	**C**
	Gearbox bearing (drive shaft side)				**S**			**S**
	Cylinder			**C**		**C**		**C**
	Piston and segments	**Every 40 hours**						
	Connecting rod			**S**		**S**		**S**
	Drive shaft bearings and seals			**S**		**S**		**S**
	Surface appearance of the gearbox				**C**			**C**
	Water pump oil seal				**S**			**S**
	Exhaust valve			**C/P**			**C/P**	
	Reed valve			**C**		**C**		**C**
Carburetor	Tightness	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Idling setting	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Fuel pipe	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Breather pipe	**C**	**C**	**C**	**C**	**C**	**C**	**C**
Assembling groups	Coolant system tightness and coolant level	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Exhaust manifold tightness	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Drives sliding and regulation	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Liquid level clutch pump	**C**	**C**	**C**	**C**	**C**	**C**	**C**
	Airbox and air filter	**P**	**P**	**P**	**P**	**P**	**P**	**P**
	Chain, plate wheel and pinion	**C**	**C**	**C**	**C**	**C**	**C**	**C**

Key

C **Check** (Clean, adjust, lubricate, replace as necessary)
S **Replace/renew**
R **Adjust**
P **Clean**
T **Tighten**

		End of running-in - 3 hours	Coupon 1 - 30 hours	Coupon 2 - 60 hours	Coupon 3 - 90 hours	Coupon 4 - 120 hours	Coupon 5 - 150 hours	Coupon 6 - 180 hours
Brakes	Liquid level, pads thickness	C	C	C	C	C	C	C
	Disc thickness	C	C	C	C	C	C	C
	Pipe tightness	C	C	C	C	C	C	C
	Idle travel levers and drives sliding	C	C	C	C	C	C	C
Cycling	Shock absorber and telescopic fork	C	C	C	C	C	C	C
	Rear suspension linkage	C	C	C	C	C	C	C
	Fork cover	P	P	P	P	P	P	P
	Bearings of stearing	C	C	C	C	C	C	C
	Bolts	T	T	T	T	T	T	T
Wheels	Wheel spokes and rim coaxiality	C	C	C	C	C	C	C
	Tyres (wear and pressure)	C	C	C	C	C	C	C
	Bearings clearance	C	C	C	C	C	C	C

Key

C **Check** (Clean, adjust, lubricate, replace as necessary)
S **Replace/renew**
R **Adjust**
P **Clean**
T **Tighten**

(*) Attachment	Screw	Thread locker	Torque [Nm]
Engine to chassis	Special screw M10		45
Head brackets fastening front fixing	M8x16	M	35
Head brackets fastening rear fixing	M8x55		35
Brackets to attach the head to the engine	M8x16	M	35

WARNING:
For any service requirements, please contact Betamotor's Authorized Service Network.

4 TIGHTENING TORQUE OVERVIEW

Here below is an overview of the tightening torque of all pieces subject to adjustment or maintenance:

Forecarriage		
	Tightening torque [Nm]	Threadlock
Wheel pin	50	
Fork foots - wheel pin	10*	
Brake caliper - Fork	35	M
Cavallotto parastelo sinistro	1,5	
Steering head base - fork legs	12*	
Steering head - fork legs	17*	
Stem pin on steering head	20	
Lower handlebar u-bolt - steering head	40	M
Upper handlebar u-bolt - lower handlebar u-bolt	25	

Rear axle		
	Tightening torque [Nm]	Threadlock
Wheel pin	130	
Rear shock absorber - frame	70	
Rear shock absorber - rocker arm	70	
Connecting rod - frame	90	
Connecting rod - rocker arm	90	
Rocker arm - swinging arm	90	

Engine		
	Tightening torque [Nm]	Threadlock
Gearbox oil drain plug	15	

Engine - Frame		
	Tightening torque [Nm]	Note
Pins motor - frame	45	
Brackets to attach the head - frame (front fixing)	35	M
Brackets to attach the head - frame (rear fixing)	35	M
Brackets to attach the head - motor	35	

M Medium strength threadlock

* WARNING:
Tightening of the screws should be carried out by adjusting the torque wrench to the stability torque with repeated tightening until stability torque has been achieved.

CHAPTER 5 REMOVING AND INSTALLING SUPERSTRUCTURES

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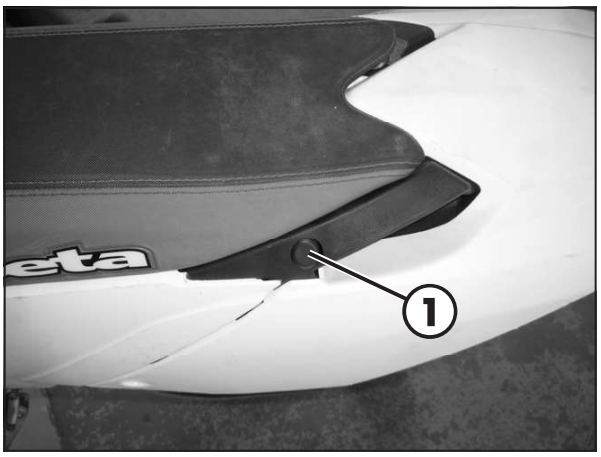
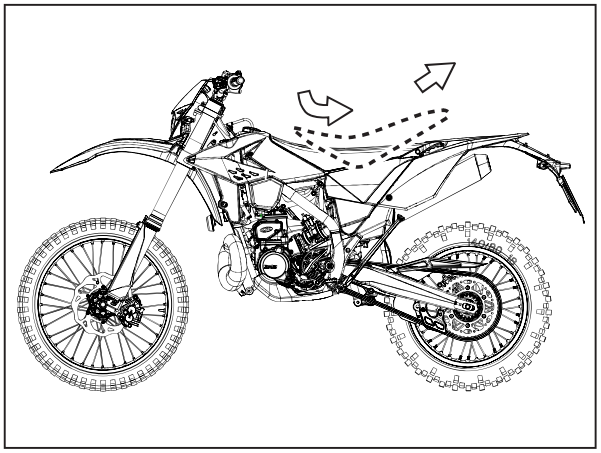
Removing and installing air filter side panel..... 83
Removing and installing of the complete tank..... 83

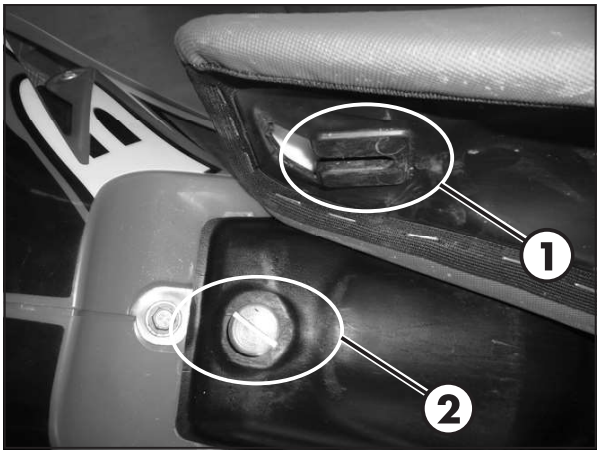


REMOVING AND INSTALLING OF THE SADDLE

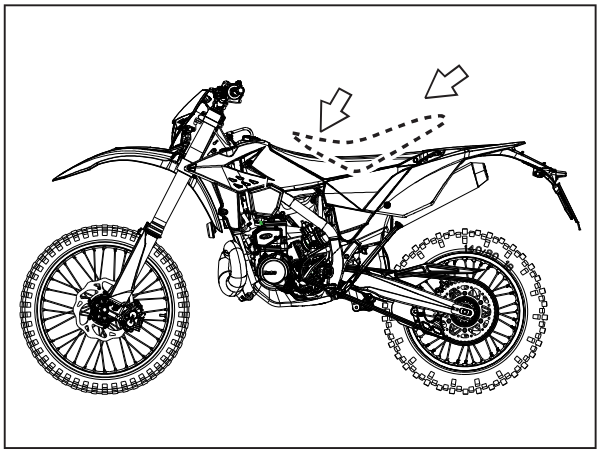
Press button **1**.



Remove the saddle towards the rear of the motorcycle.

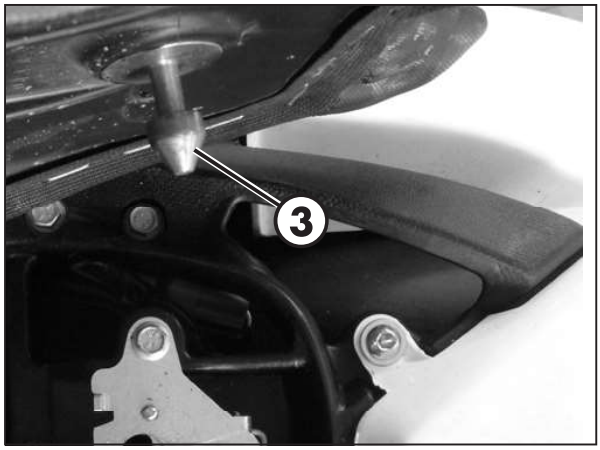


To re-assemble:
Insert the cavity **1** of the saddle in slot **2**.



Press the saddle down in the middle and at the same time, push it forwards until the bayonet joint engages in its seat.

WARNING
Make sure the bayonet joint **3** is firmly inserted into the button lock.



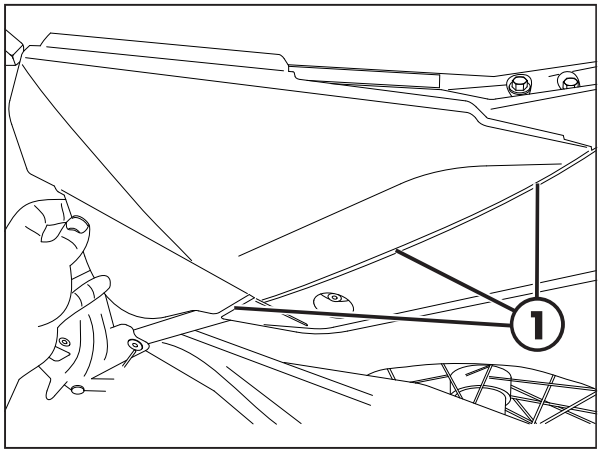
REMOVING AND INSTALLING AIR FILTER SIDE PANEL

Remove the saddle (page 82).

Grab the side panel in the front side and pull out.

To refit insert the tabs **1** into their slots.

Slide the side panel toward the vehicle.



REMOVING AND INSTALLING OF THE COMPLETE TANK

Disconnect the fuel tank vent pipe.

Turn the fuel cock to OFF position (page 18) and disconnect the fuel hose from the fuel cock.

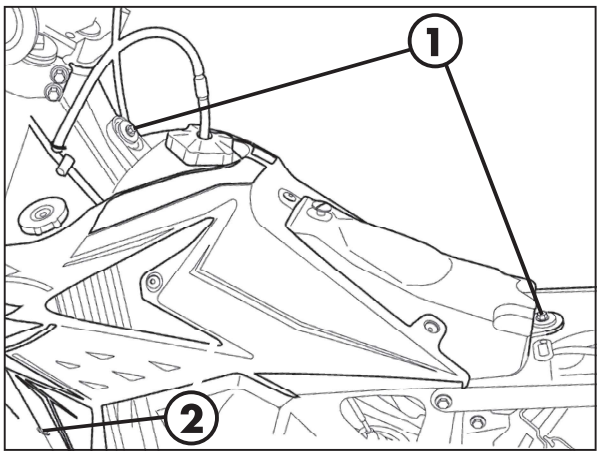
WARNING:
Follow action on a cold engine.

WARNING:
Fire hazard. Fuel is highly flammable.

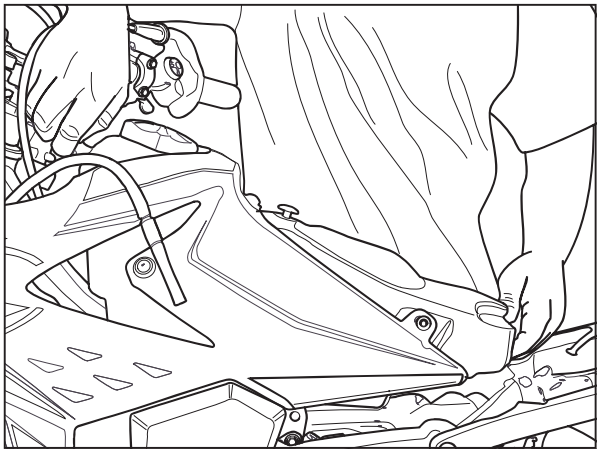
Always stop the engine when refuelling and keep open flames and lighted cigarettes away.

Immediately clean up any spilled fuel.

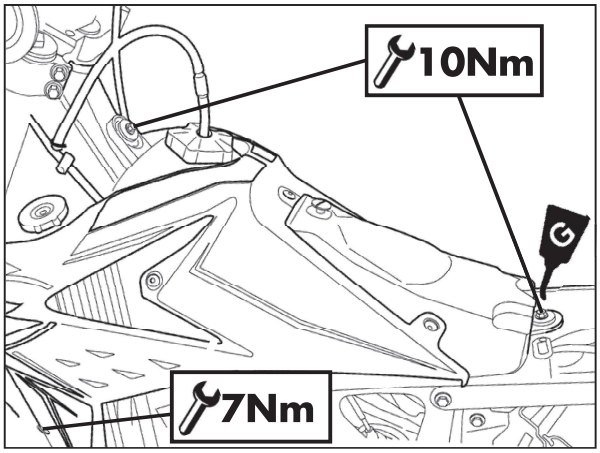
Remove the air filter side panel (page 83).



Remove the two screws **1** fastening the tank to the frame and the screw **2** (one per side) securing the fairing to the radiator.



Lift the tank complete with side panels.



Replace the previously removed components following the disassembly procedures inversely.
Tighten the tank screws to the torques given.

CHAPTER 6 TROUBLESHOOTING

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PROBLEM	CAUSE	REMEDY
Engine does not start	-Fuel system clogged (fuel lines, fuel tank, fuel cock)	Contact authorised BETAMOTOR customer service
	- Air filter dirty	Check the air filter
	- No current supplied to spark plug	Clean or replace the spark plug. If the problem persists, contact authorised BETAMOTOR customer service
	- Engine flooded	Operate the electrical starter push button 2 times for 5 seconds. If the vehicle does not start, remove and dry the spark plug
	- Excessive distance between the electrodes	Check the distance between the electrodes
	- Ignition connector or coil slackened or oxidized	Clean with a spray product for electric contacts and tighten
	- Presence of water in the carburettor	Empty the carburettor tank
The engine starts but the telltale "MIL" lights on	- Engine management system fault	Contact authorised BETAMOTOR customer service
"High Voltage" appears on the instrument	- Overcharging	Turn off the engine and contact authorised BETAMOTOR customer service
Engine misfires	- Spark gap wrongly adjusted	Restore the spark gap
	- Spark plug dirty	Clean or replace the spark plug
The engine does not hold idling	- Idling air jet clogged	Contact authorised BETAMOTOR customer service
	- Adjustment screws poorly adjusted	Adjust
	- Faulty spark plug	Replace the spark plug
	- Faulty ignition system	Check the coil and the spark plug cap
Engine overheats and loses power	- Silencer partly clogged	Contact authorised BETAMOTOR customer service
	- Laminar pack damaged	Contact authorised BETAMOTOR customer service
	- Fault in the ignition system	Contact authorised BETAMOTOR customer service
Excessive smoke	- Possible mixer system fault	Contact authorised BETAMOTOR customer service
Front braking poor	- Brake pads worn	Contact authorised BETAMOTOR customer service
	- Air or humidity in the hydraulic circuit	Follow the procedure described on page 59
Rear braking poor	- Brake pads worn	Contact authorised BETAMOTOR customer service
	- Air or humidity in the hydraulic circuit	Follow the procedure described on page 62

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