125 RR-S
4-STROKE

Beta motorcycles

2019
OWNERS MANUAL

Rideability

WWW.BETAUSA.COM

RR 125 LC

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

Code 021.44.015.00.00

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 ride with the low beam on.
- Always keep the crash helmet visor clean.
- Avoid wearing garments with hanging ends.
- 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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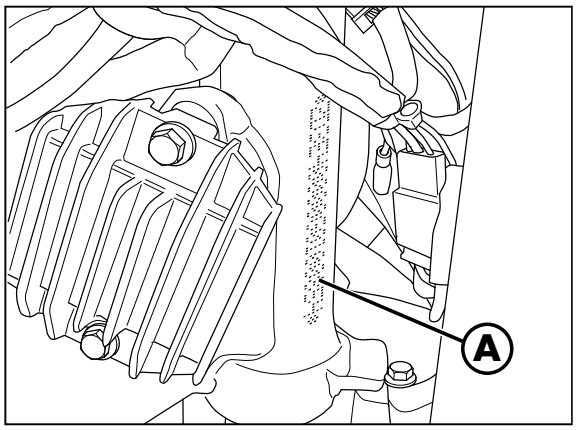
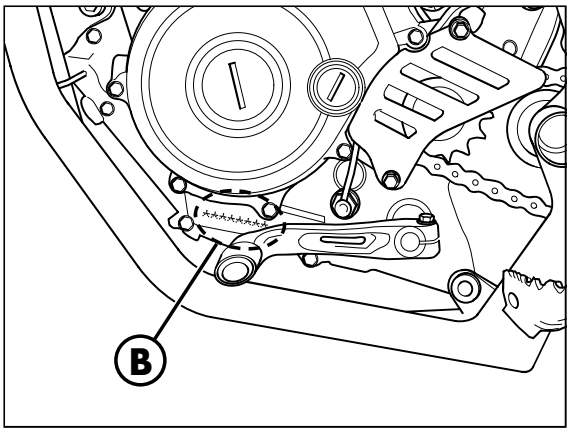


VEHICLE IDENTIFICATION DATA

FRAME IDENTIFICATION

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

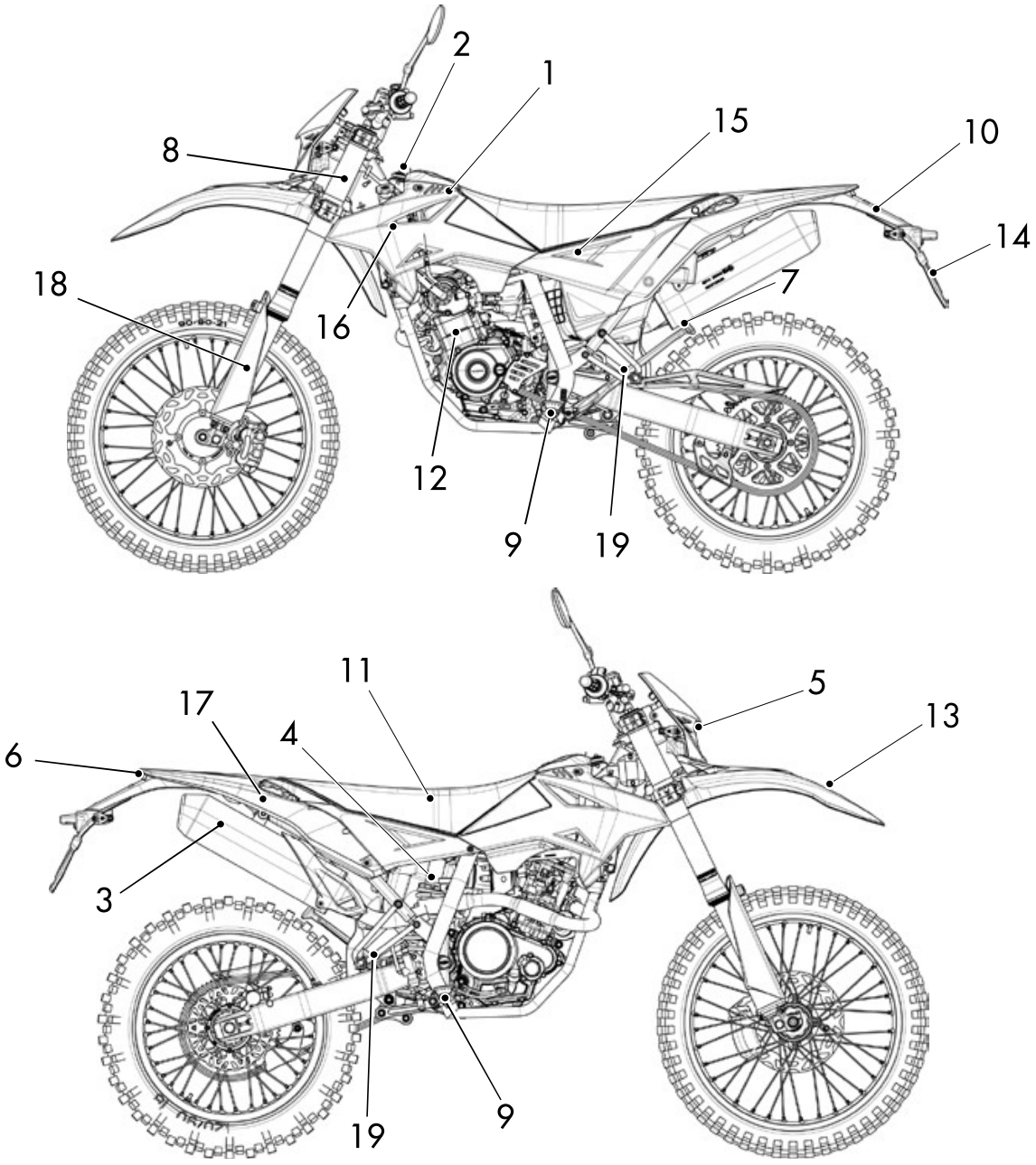


ENGINE IDENTIFICATION

Engine identification data **B** are stamped on the l.h. side half crankcase.

WARNING:
Tampering with the identification numbers is severely punished by law.

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 - Rear mudguard
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 - Passenger footrests

TECHNICAL DATA

Weight in running order.....115 kg

VEHICLE DIMENSIONS

Version	ENDURO	MOTARD
Maximum length [mm]	2250	2190
Maximum width [mm]	820	820
Maximum height from ground [mm]	1220	1185
Clearance from ground [mm]	330	294
Saddle height [mm]	917	886
Footrest height [mm]	400	365

Frame..... steel double cradle frame

TYRES

ENDURO			
Front tyre		**Rear tyre**	
Dimension	Pressure [Bar]	Dimension	Pressure [Bar]
90/90 - 21	1,5 (road use)	120/90 - 18	1,8 (road use)
	1 (off-road use)		1 (off-road use)

MOTARD			
Front tyre		**Rear tyre**	
Dimension	Pressure [Bar]	Dimension	Pressure [Bar]
110/80 - 17	1,8	130/70 - 17	2

CAPACITIES

fuel tank.....6,2 liters
including reserve.....1,7 liters
coolant circuit.....0,85 liters
engine oil.....1 liter

FRONT SUSPENSION

Fork leg diameter.....41 mm
K Spring ..... 9 N/mm
Oil type ..... SAE 15
Oil quantity each leg.....420 ml

REAR SUSPENSION

K Spring ..... 5,2 N/mm
Length (spring in its seat)..... 288 mm

FRONT BRAKE

Disk-type with hydraulic control Ø 260 mm

REAR BRAKE

Disk-type with hydraulic control Ø 210 mm and electronic brakeforce distribution on the front brake

ENGINE

Type ..... single-cylinder, 4-stroke
Bore x stroke ..... 52x58,6 mm
Displacement (cm^3) ..... 124,4 cm^3
Compression ratio 11,20:1
CO2 * ..... 48 g/km
Fuel consumption * 2,1 l/100km
Fuel system ..... with carburetor
Carburetor type ..... Keihin CVK
Main jet 122
Slow jet 35
Needle ..... NDVF
Fuel screw turns (from fully closed) ..... 2 + 3/4
Cooling system ..... forced liquid circulation by pump
Electric starter
Spark plug ..... NGK CR8E
Clutch ..... wet, multidisc

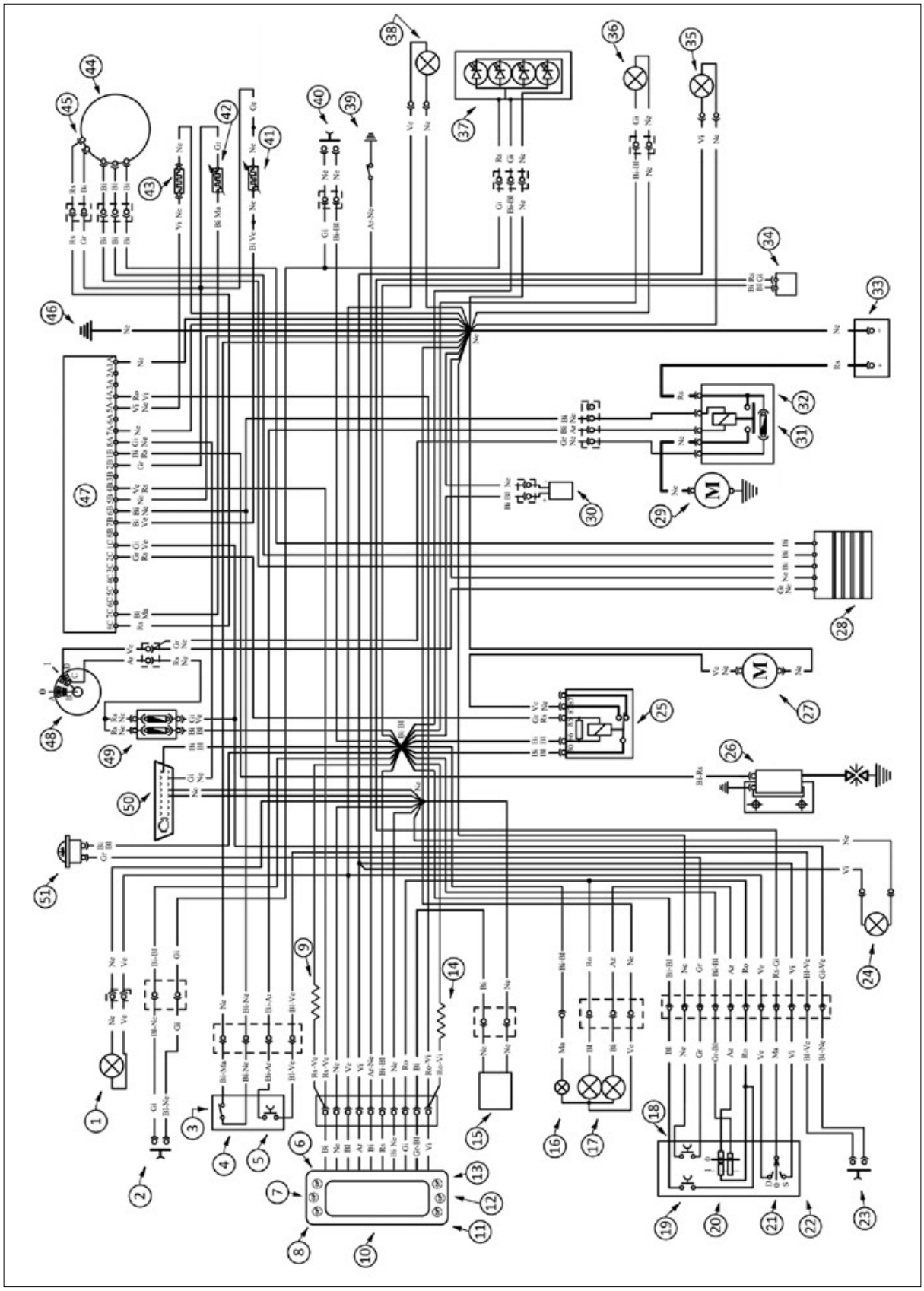
* WMTC cycle related data, for class L vehicles

Gear box .....6 speed

Version	Enduro	Motard
Primary drive	24/73	24/73
Gear ratio 1st gear	12/34	12/34
Gear ratio 2nd gear	16/30	16/30
Gear ratio 3rd gear	22/30	22/30
Gear ratio 4th gear	21/24	21/24
Gear ratio 5th gear	23/22	23/22
Gear ratio 6th gear	25/21	25/21
Secondary drive	14/63	14/56

ELECTRICAL SYSTEM

ELECTRICAL DIAGRAM



LEGEND ELECTRICAL DIAGRAM

1 - RIGHT-HAND FRONT TURN INDICATOR - BULB 12V 6W
2 - STOP FRONT BUTTON
3 - RIGHT-HAND CONTROL GROUP
4 - ENGINE STOP BUTTON
5 - START BUTTON
6 - MILL / FAULT WARNING LIGHT
7 - RIGHT TURN INDICATORS WARNING LIGHT
8 - NEUTRAL WARNING LIGHT
9 - RESISTANCE 3,9 KΩ
10 - DASHBOARD
11 - HIGH BEAM WARNING LIGHT
12 - LEFT TURN INDICATORS WARNING LIGHT
13 - ENGINE OVERHEATING WARNING LIGHT
14 - RESISTANCE 3,9 KOHM
15 - SPEED SENSOR
16 - POSITION LIGHT - BULB 12V 5W
17 - HEADLIGHT - BULB 35/35W
18 - HORN BUTTON
19 - FLASH-TO-PASS BUTTON
20 - HEADLIGHT SELECTOR
21 - TURN INDICATORS LAMPS SWITCH
22 - LEFT-HAND CONTROL GROUP
23 - CLUTCH SAFETY CONTACT
24 - LEFT-HAND FRONT TURN INDICATOR
25 - RELAY ELECTRIC FAN
26 - COIL
27 - ELECTRIC FAN
28 - REGULATOR
29 - STARTER MOTOR
30 - CONDENSATOR 25V 4700µF
31 - FUSE 10A
32 - STARTER RELAY
33 - BATTERY 12V 4AH
34 - TURN SIGNAL LAMPS UNIT
35 - LEFT-HAND REAR TURN INDICATOR
36 - NUMBER-PLATE LIGHT - BULB 12V 5W
37 - REAR STOP LIGHT - LED
38 - RIGHT-HAND REAR TURN INDICATOR
39 - NEUTRAL SWITCH
40 - REAR STOP BUTTON
41 - AIR TEMPERATURE SENSOR
42 - COOLING LIQUID TEMPERATURE SENSOR
43 - P.T.C. HEATER
44 - GENERATOR
45 - PICK-UP SENSOR
46 - FRAME EARTH
47 - ELECTRONIC CONTROL UNIT
48 - KEY SWITCH
49 - FUSES GROUP 10A
50 - OBD2 SOCKET
51 - HORN

Key to colours

Bi = White
Ve = Green
Ma = Brown
Vi = Purple
Bl = Blue
Ne = Black
Gi = Yellow
Rs = Red
Ar = Orange
Az = Sky-blue
Ro = Pink
Gr = Grey

BULBS

High beam/low beam .....HS1 12V - 35/35W

Parking/daytime .....12V - 5W

Turn indicators .....12V - 6W

RECOMMENDED LUBRICANTS AND LIQUIDS

For better operation and longer vehicle life, we advise you to use the products listed in the following chart:

PRODUCT TYPE	SPECIFICATIONS
ENGINE OIL	MOTUL 7100 10W40
GEAR AND CLUTCH OIL	MOTUL TRASOIL EXPERT 10W40
BRAKE OIL	MOTUL RBF 600
CLUTCH ACTUATOR OIL	MOTUL RBF 600
FORK OIL	MOTUL FACTORY LINE 5WT
TIE ROD GREASE	MOTUL TECH 300
LIQUID COOLANT	MOTUL MOTOCOOL EXPERT
AIR FILTER OIL	MOTUL AIR FILTER OIL

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

CHAPTER 2 OPERATION

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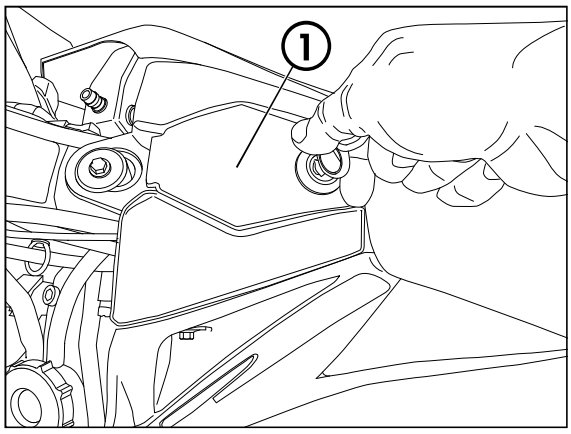
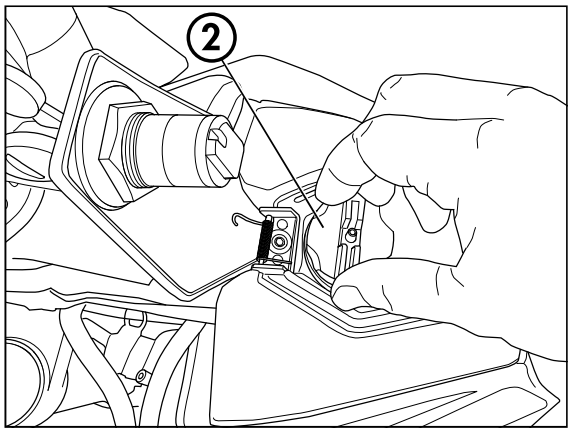


MAIN PARTS

FUEL TANK CAP

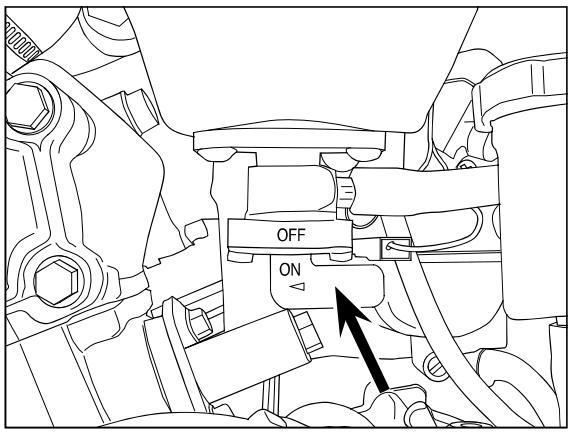
The cover **1** must be unlocked with the appropriate key and lifted in order to access the fuel tank's cap. Insert the key and turn clockwise. The cover opens automatically.



Turn the cap **2** anticlockwise.

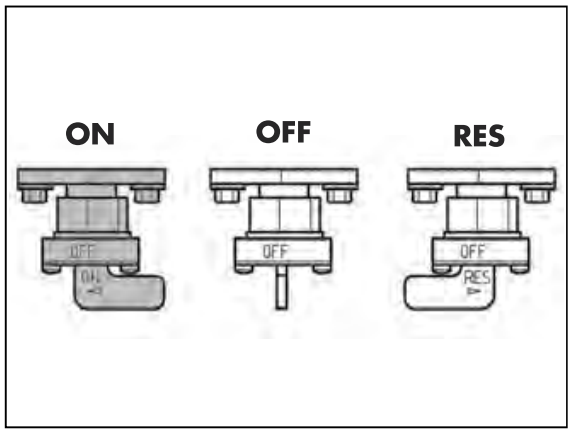
To close the fuel tank's cap, set it on the tank and crew it clockwise.

When you have completed this operation, close by pushing the cover **1** down until it locks.



FUEL COCK

Fuel cock has three positions:



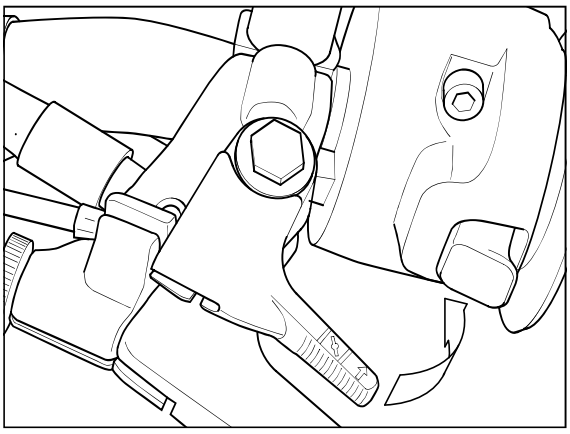
OFF: fuel supply closed. Fuel cannot pass from the tank to the carburettor.

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.

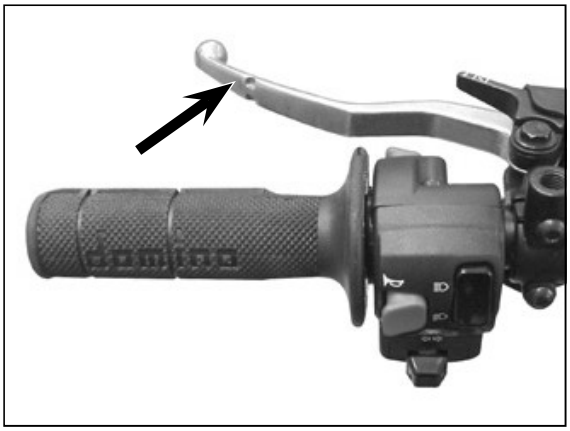
STARTER

The starter lever is located on the left side of the handlebar.
To operate the starter rotate the lever counterclockwise.



CLUTCH LEVER

The clutch lever is located on the left side of the handlebar. See the Adjustments chapter to adjust.



LH SWITCH

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

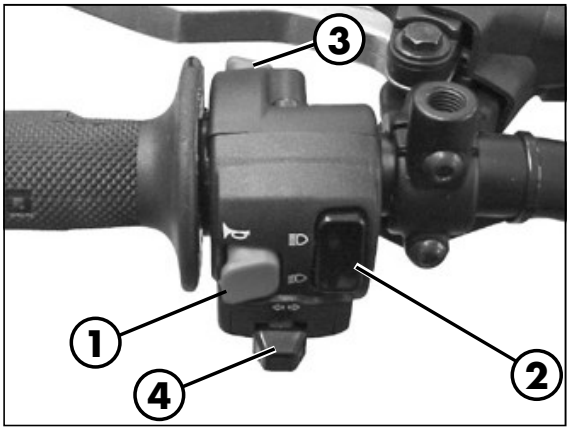
1 Horn button;

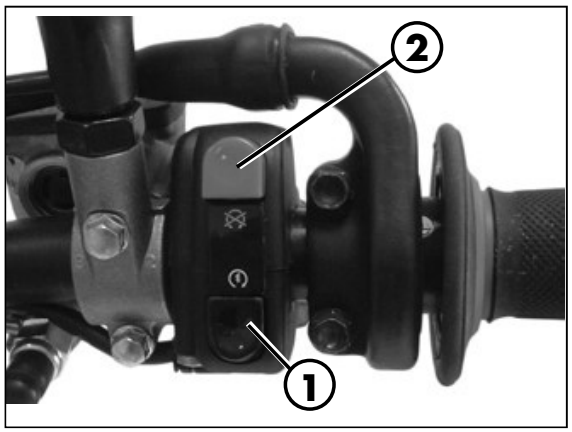
2 Dip switch:

- on position/daytime lights and high beam;
- on position/daytime 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.

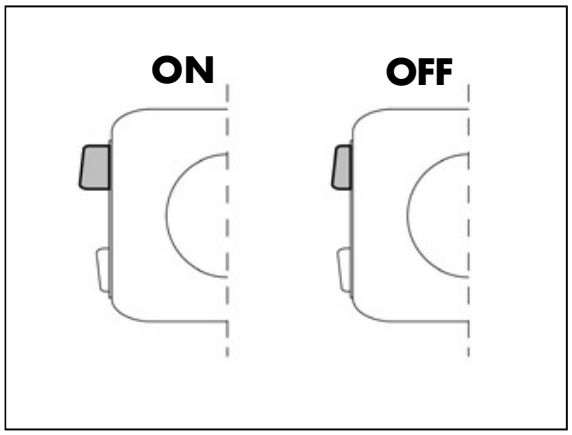




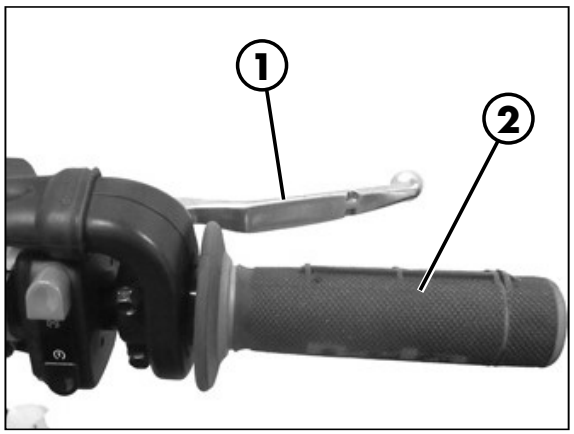
RH SWITCH

Starter button **1** is located on the right-hand side of the handlebars and operate the electric engine starter. Press and hold the button until the engine starts.
Do not press the button **1** while the engine is running.

The button **2** turns off the engine.

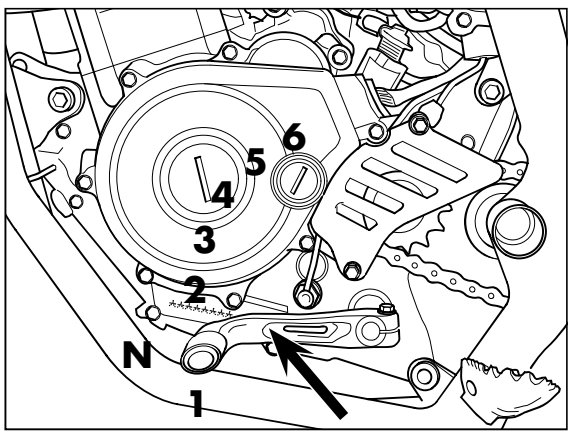


Caution:
Before starting the engine, make sure the **2** button is ON.



FRONT BRAKE LEVER AND GAS CONTROL

The front brake lever **1** and the gas throttle **2** are located on the right side of the handlebar.

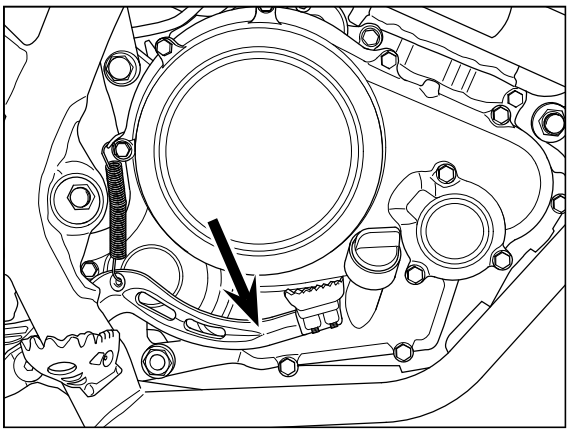


GEAR CHANGE LEVER

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

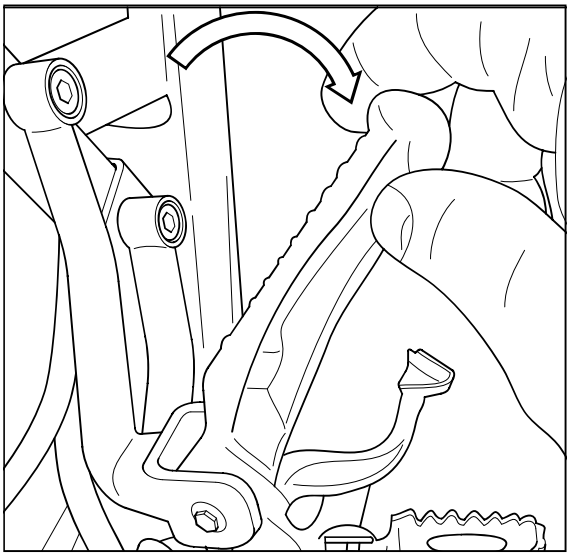
BRAKE PEDAL

Brake pedal is located in front of the right-hand footrest.
When the brake pedal is pressed, both the front and rear brakes are actuated simultaneously. The braking force is properly distributed between the two axles by a specific delay valve.



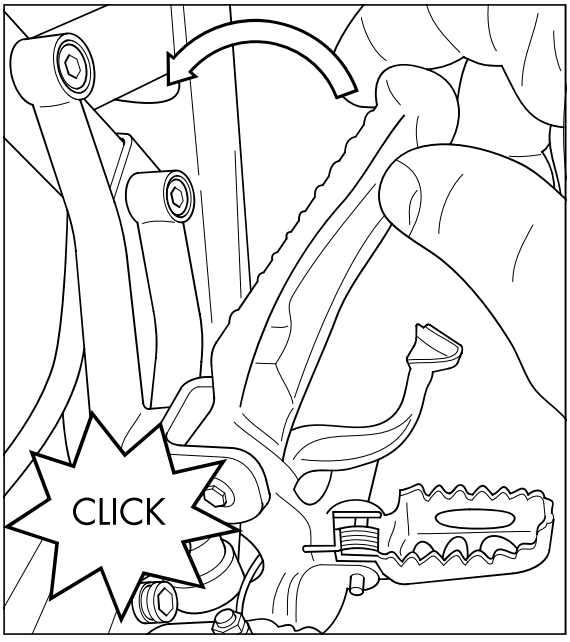
PASSENGER FOOTRESTS

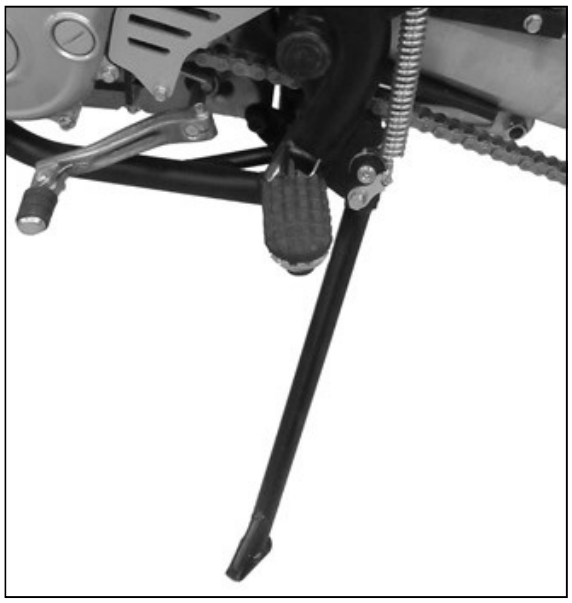
The passenger footrests are located on the rear frame.
To open the footrests turn them outwards.



To close the footrests turn them inwards until they lock

Warning
If there is no passenger, always ride with the passenger footrests closed.



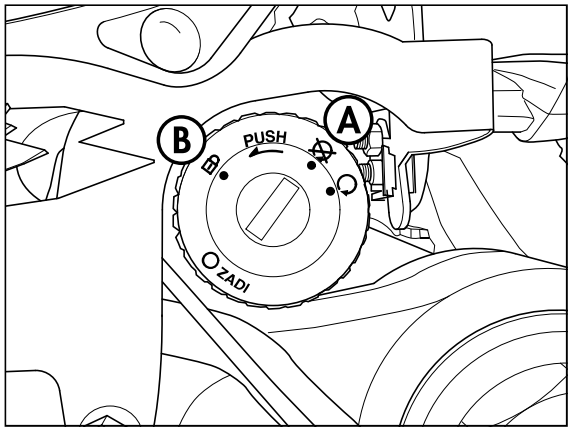


SIDE STAND

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

Warning! Once you lift the vehicle off the side stand, the stand automatically returns to its rest position.

Do not sit on the vehicle when it is on its stand.



KEYS

The vehicle is supplied with two keys (one key and its spare), each of which can be used for the steering lock switch, for switching the engine on and off, the refuelling door and the saddle removal.
- Turn the key to to start up the engine.
- Turn the key to to switch off the engine.

STEERING LOCK

A The steering lock is off.
B The steering lock is on.
To activate the steering lock:
- turn the handlebar counter-clockwise;
- push the key and turn counter-clockwise;

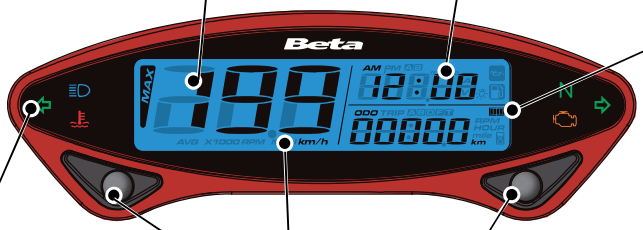
Remove the key from this position. The engine cannot be started.
To deactivate the steering lock:
- insert the key
- push and turn the key clockwise;
- turn the handlebar clockwise;

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.

DASHBOARD OPERATING INSTRUCTIONS

MAIN PARTS



Time
Clock: 12/24 MODE
Stopwatch: According to setup distance to record the testing time.
Speed Log: Average speed and max speed record.

Speedometer
Display range: 0~360km/h (0~225 MPH)
Display unit: km/h or MPH

Battery
Inner Battery Level:
Display range: 4 levels.

Indicator lights
High beam light (Blue)
Temperature alarm (Red)
MIL (Engine management system fault)
Turn indicators (Green)
Neutral (Green) N

Adjust Button
Press the **Adjust button** in the main screen to switch between ODO, TripA/B, Total Hour meter, Hour meter A/B.
Press and hold the **Adjust button** for 3 seconds in Trip A/B screen to reset.
Press and hold the **Adjust button** for 3 seconds in Hour meter A/B screen to reset.

Select button
Press the **Select button** in the main screen to switch between 12/24 hour mode, speedometer record, topwatch , and MAX record.

Odo meter
Display range: 0~99999 km (miles), reset automatically after 99999 km (miles).
Display unit: 1 km (mile).

Trip meter
Display range: 0~9999.9 km (miles), reset automatically after 999.9 km (miles).
Display unit: 0.1 km (mile).

WARNING LIGHTS

1 Headlight indicator
The system activates the indicator in synchrony with the activation of the mains beams.

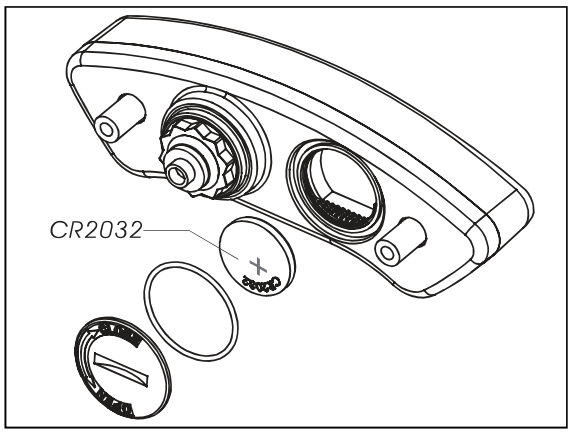
2 Turn indicator lights
The system activates the indicator in synchrony with the activation of the turn indicators.

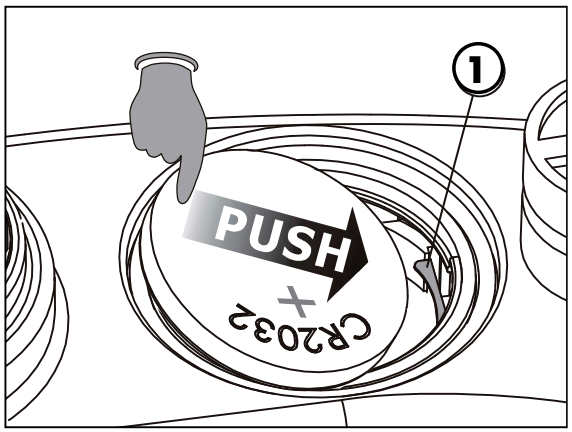
3 Neutral indicator light
The system activates the indicator in synchrony with the engaging of the neutral.

4 Engine overheating indicator light
If the warning light comes on, stop the engine. Immediately contact an authorised Betamotor dealer.

WARNING: Do not open the radiator cap when the engine is hot.

5 MIL indicator light (Engine management system fault)
Indicates a fault in the engine management system. Contact as soon as possible an authorized Betamotor.





BATTERY REPLACEMENT

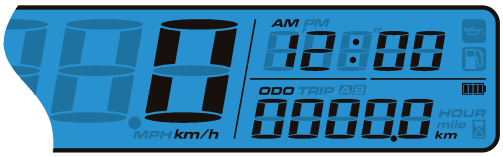
Follow this procedure for proper installation.
The meter includes an internal battery (CR2032). This battery shall be replaced only when power runs out.

For replacement remove the headlight mask. Remove the battery cover located behind the instrument and pull out the battery.

In order to install the battery properly, push the battery as shown on figure to make sure the battery is placed underneath the metal tab (**1**).

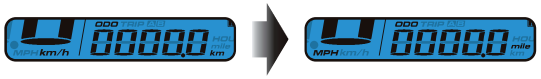
WARNING:
Not following this procedure could result in permanent damage to the meter.

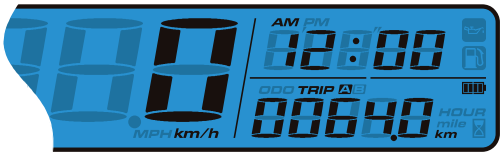
ADJUST BUTTON FUNCTION INSTRUCTION



In main screen, press the **Adjust button** once to switch the function from odometer to trip.

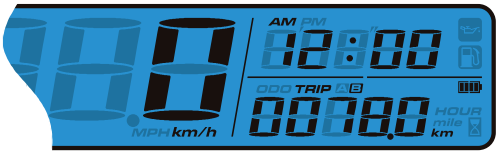
In main screen, you could hold pressing the **Adjust button** for 3 seconds to change the speed unit.



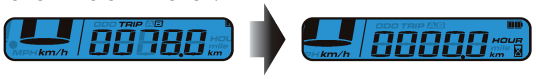


Press the **Adjust button** to switch from trip A to trip B.

Hold pressing the **Adjust button** for 3 seconds to reset the trip A.

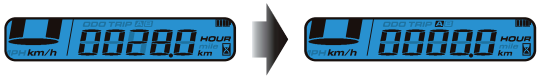


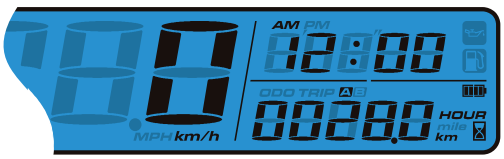
Press the **Adjust button** to switch from trip B to total hour meter.



Hold pressing the **Adjust button** for 3 seconds to reset the trip B.

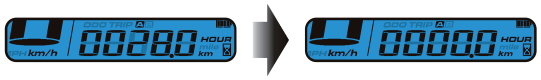
Press the **Adjust button** to switch from total hour meter to hour meter A.

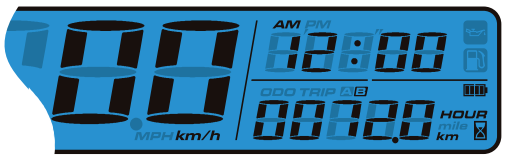




Press the **Adjust button** to switch from hour meter A to hour meter B.

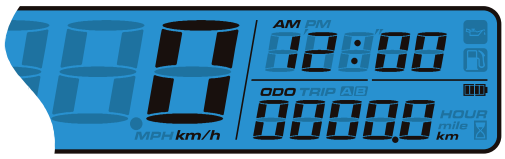
Press and hold the **Adjust button** for 3 seconds to reset the hour meter A.





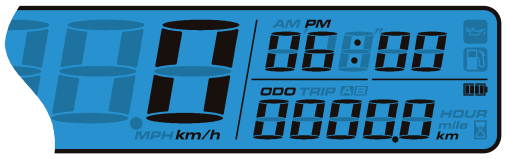
Press the **Adjust button** to switch from Hour Meter B back to the main screen.

Press and hold the **Adjust button** for 3 seconds to reset the Hour Meter B



The main screen.

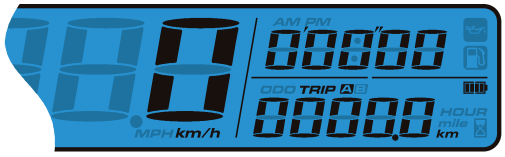
SELECT BUTTON FUNCTION INSTRUCTION



Press the **Select button** during main screen to switch from Clock to Stopwatch.

Press and hold the **Select button** for 3 seconds to change between 12/24hour mode.

NOTE: If 24hour mode is chosen, then the AM/PM symbol will not be displayed.

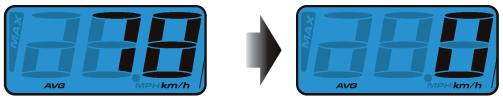


Press the **Select button** to switch from Stopwatch to Speed Record.

Press and hold the **Select button** for 3 seconds to reset the Stopwatch.

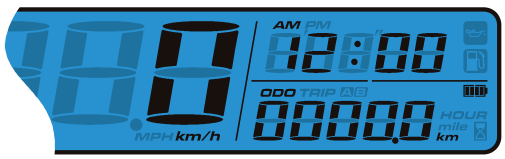
Press the **Select button** to switch from Speed Record back to main screen.

Press and hold the **Select button** for 3 seconds to reset the Speed Record.



NOTE: If Engine Oil Light goes up, reset the Engine Oil Light in this screen to re-calculate the mileage.

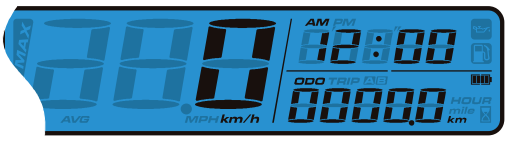
NOTE: Average speed and the Max speed display in the 3 seconds rotation.



The main screen.

TO ENTER THE SETTING MODE

Adjust+SelectX3 function instruction



In main screen, press down the Adjust+SelectX3 to enter the tire circumference and sensing point setting (for changing different size tire.)

The tire circumference and sensor point setting.

Press the **Adjust button** to enter the tire circumference setting.

The tire circumference and sensing point setting

EX. The tire circumference is 1890 mm.

Press the **Select button** to change the setting.

NOTA: The tire circumference setting range 2190mm / 1890mm.

EX. The tire circumference setting is changed from 2190 mm to 1890 mm.

Press **Adjust button** to go back to tire circumferences value setting screen.

From d 1 switch to d 2 screen.

Press the **Adjust button** to enter the the clock (Hour) setting

Press the **Select button** to enter the the clock (Hour) setting.

2 The clock (Hour) setting

EX: You want to set the hour at 14.

Press the **Select button** to choose the hour you want to set.

NOTE: Setting range: 0~23 H.

NOTE: The sequent of cursor movement: Hour>Ten-Digit of Minute>Single Digit of Minute

EX. Now the setting is changed from 0:00 to 14:00.

Press the to enter the **Adjust button** minute setting.

The clock (minute) setting

EX. To change the setting to 14:05.

Press the **Select button** to choose the minute you want to set.

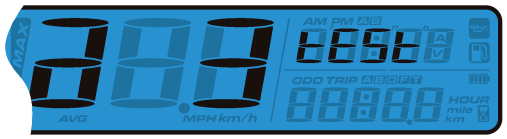
NOTE: Setting range: 0~59 minutes..

EX. Now the minute is changed from 14:00 to 14:05.

Press **Adjust button** to get back to Clock setting screen.

Switch from d2 to d3

Press **Select button** to switch to Stopwatch distance setup entering screen.

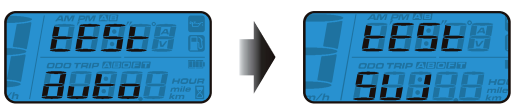


Press Adjust button to enter the distance setup for Stopwatch.

Distance setup for Stopwatch

Press the **Select button** to choose auto/ manual stopwatch function.

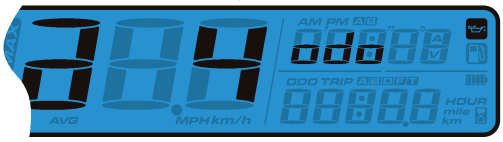
If Auto is chosen, press the **Adjust button** to exit the stopwatch setting function.



NOTE: Default:AUTO

Switch from a 3 to a 4

Press **Select button** to switch to Engine Oil Light Mileage setting screen.

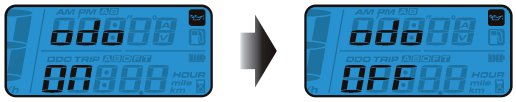


Press **Adjust button** to enter the Engine Oil Light Mileage setting.

Maintenance Light Mileage Setting

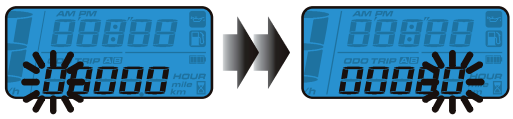
Press the **Select button** to choose maintenance mileage ON or OFF.

NOTE: Default:OFF



If ON is chosen, press **Adjust button** to enter the maintenance mileage setting

Press the **Adjust button** to move the cursor to the digit that would like to set.



If OFF is chosen then press the **Adjust button** to exit the maintenance mileage setting.

Press Select button to switch the ODO setting. screen from a 4 to a 5

Press the **Adjust button** to enter the Backlight Brightness setting

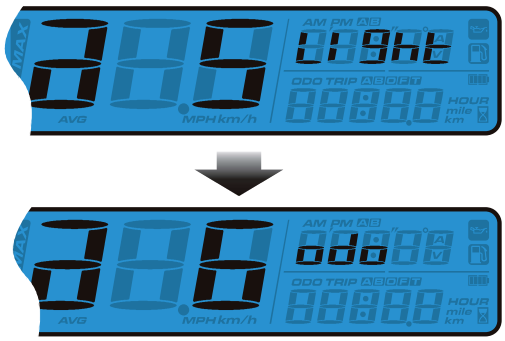
2 Backlight brightness

Press the **Select button** to adjust the brightness of the backlight

NOTE: Adjustable Range: 1 ~ 5

NOTE: Default: 5

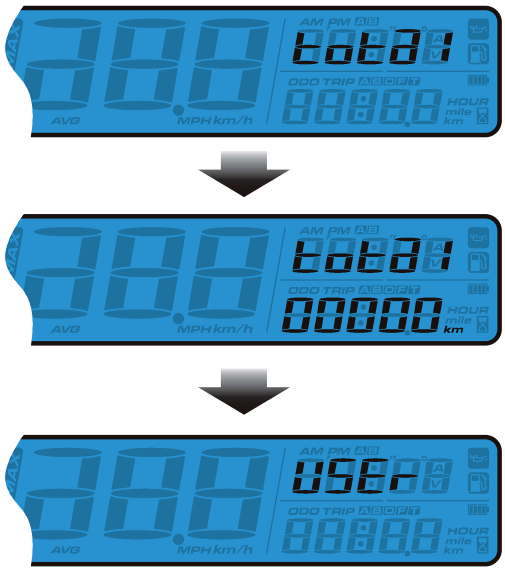
Press the **Adjust button** to exist from the Backlight Brightness setting.



From 05 switch to 06 screen

Press **Adjust button** to enter the mileage setting.

ODO setting.



Press the **Adjust button** to enter the actual ODO viewing display (ODO).
Press the **Select button** to enter the User ODO setting (user).

Press **Adjust button** to enter the User ODO setting.

Press the **Adjust button** to back to ODO adjust function

Press **Select Button** to switch to ODO viewing adjusting function.

In Setting Screen, press and hold the both **Adjust** and **Select button** for 3 sec. to exist the setting.

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 44-46).


3 Check pressure, general condition and thickness of tread (page 52).

4 Check that the spokes are properly tightened.

5 Check the tensioning of the chain (page 53).


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 58).

BREAKING IN

Breaking in takes approximately 1000 km/700 miles. During this time:

- Avoid travel at high speeds
- Change speed often so that the parts will break in uniformly and in a shorter time
- Avoid turning the throttle more than 3/4 of the way.

WARNING:
- After the first 1000 km/700 miles, change the motor oil.
- After the first off-road use, check all of the nuts and bolts.

2 REFUELLING

See page 16 for the fuel specifications.

Fuel tank capacity is shown on page 11.

To refuel open the tank cap (page 18).

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 cock in ON or RES position (page 18).

Turn the key to  (page 22).

Make sure the right switch on the handlebar is ON (page 20).

Check that the gears are in neutral (page 20).

Pull the clutch lever (page 19).

Close the side stand.

WHIT ELECTRIC STARTER (page 20):
Push the button until the engine starts.
Do not press the button while the engine is running.

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

ENGINE SHUT-DOWN

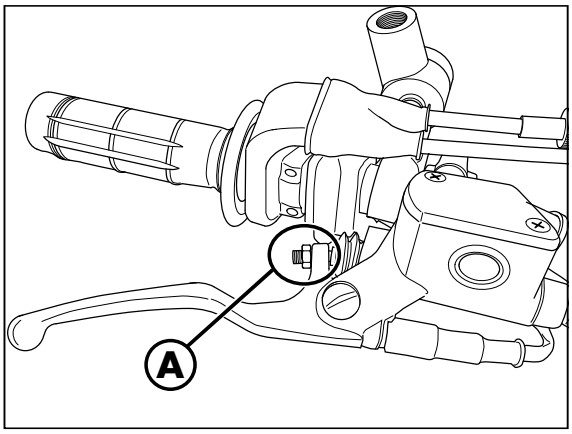
To shut-down the engine, proceed in one of the two following ways:
- turn the key to  (see page 22).

- press the button  on the switch unit (see page 20).

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

CHAPTER 3 ADJUSTMENTS

CONTENTS

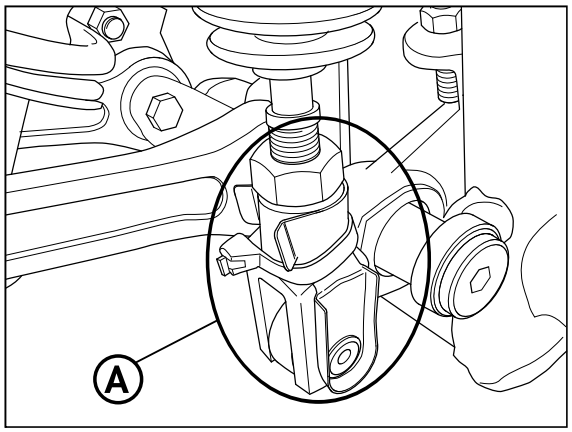


BRAKES

FRONT BRAKE

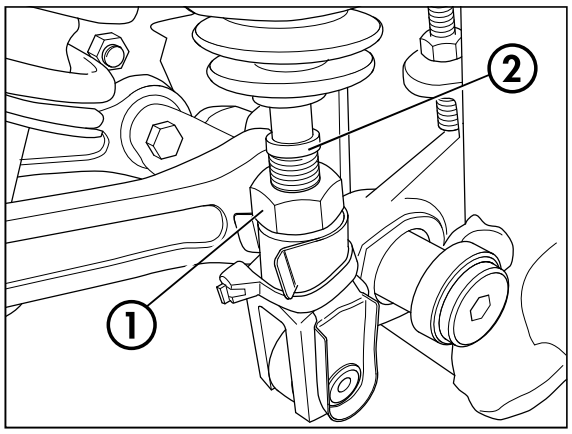
The front brake is disk type with hydraulic control.
You can adjust lever height by means of the register **A**.

WARNING: reduced play causes brake overheating leading to sudden lockup.



REAR BRAKE

You may adjust pedal height by means of register **A**.

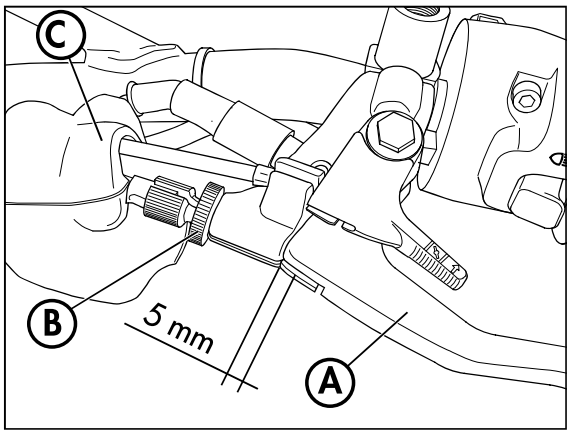


To do this, loosen nut **1** and turn lever **2** to adjust as required.
After it has been adjusted, tighten nut **1**.

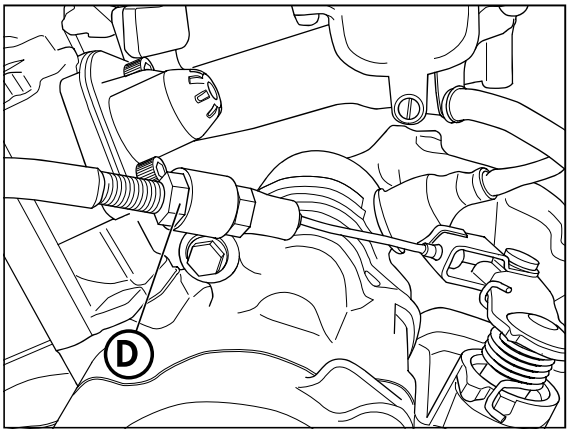
WARNING: reduced play causes brake overheating leading to sudden lockup.

ADJUSTMENT OF CLUTCH LEVER

Generally, the only operation that is performed on the clutch is adjustment of the position of lever **A**.
To perform the adjustment, lift rubber dust cover **C** and turn adjuster **B**.
The lever must have 5 mm of idle stroke.

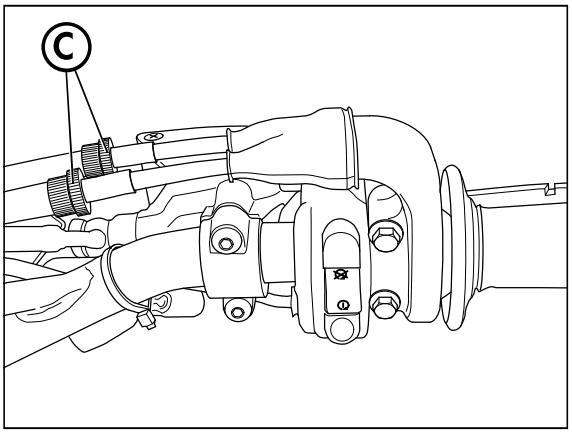


In order to adjust the play of the clutch transmission you also can operate on the control clutch lever adjusting nut **D**, located on the engine.



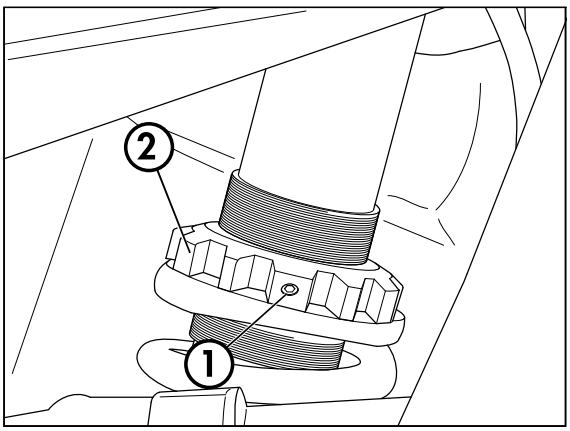
ADJUSTING THE THROTTLE PLAY

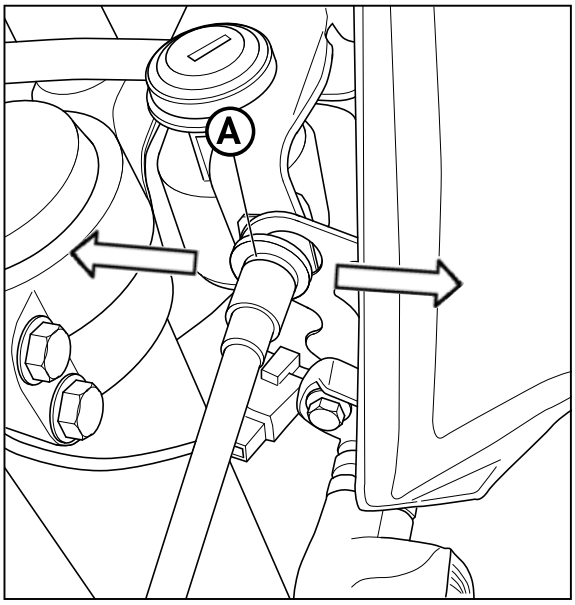
Should the throttle twist grip have an idle travel in excess of 3 mm measured on the grip rim, adjust the play by turning rings **C** as shown in the figure.

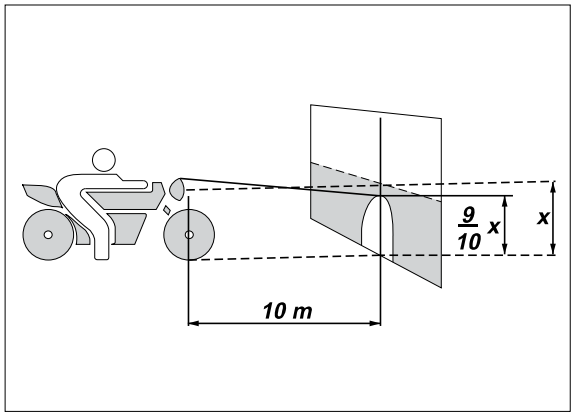


ADJUSTING THE SPRING PRELOAD

To adjust the spring preload, use the procedure described below:
Looser the dovel **1**.
Turn the ring nut **2** to increase or decrease the spring preload.
Tighten the dovel **1**.







ADJUSTING THE HEADLIGHT

The beam is adjusted by loosening the left and right fixing screws **A** of the mask and manually changing the inclination of the mask's complete optical unit by sliding the fixing screws into the support slots.

Periodically check the direction of the beam. The beam can only be adjusted vertically.

Place the vehicle on level ground (but not on the stand) 10 metres from a vertical wall.

Measure the height of the headlight centre above the ground and then draw a cross on the wall at 9/10 of the height of the headlight centre.

Turn on the low beam, get on the motorbike and check that the headlight beam on the wall is slightly lower than the cross drawn previously.

CHAPTER 4 CHECKS AND MAINTENANCE

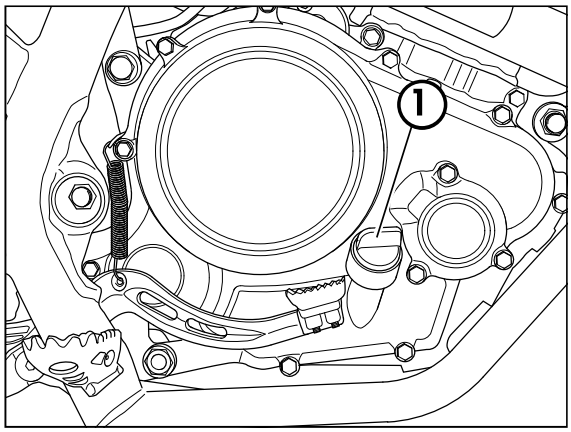
CONTENTS

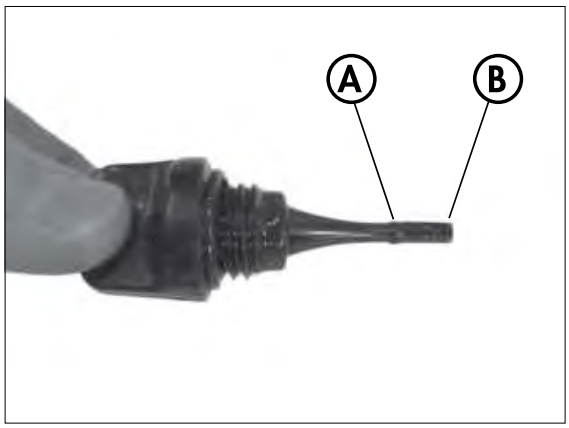
KEY TO SYMBOLS

Tightening torque

Threadlocker Medium

Grease





ENGINE OIL

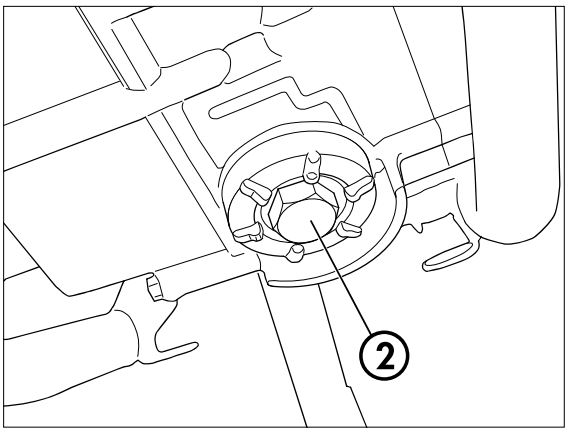
CHECK

Hold the vehicle upright.

Remove filler cap 1 and make sure the level is between the two notches **A** (Max) and **B** (Min).
If the level is below notch **B** (Min), add oil up to notch **A** (Max).

WARNING: Do not start the engine if the oil level is below notch **B**. Never fill the engine with oil above notch **A** (Max).

REPLACEMENT



Always renew the oil while the engine is hot:

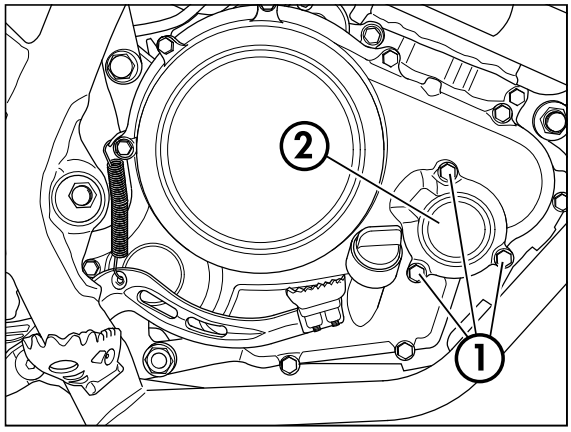
- Place a container under the engine
- Unscrew filler cap **1** and drain plug **2**
- Empty the crankcase completely
- Clean the oil filter on top of the drain plug
- Close plug **2**
- Add the following amount of oil:
  0,95 l without oil filter replacement
  1 l with oil filter replacement
- Verify the level as described above
- Screw on filler cap **1** again.

WARNING:
Hot oil can cause severe burns!

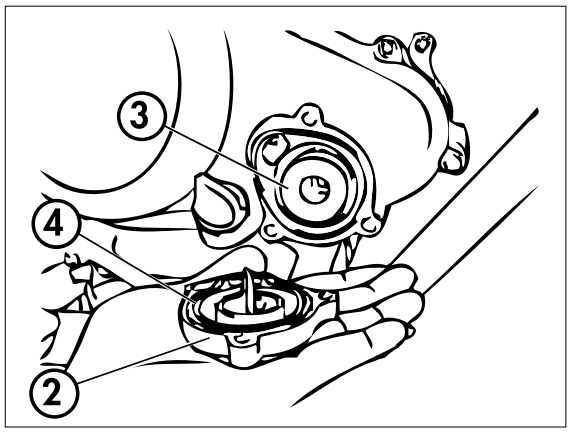
WARNING:
Dispose of used oil in compliance with local regulations.

NOTE: For subsequent oil changes, follow the instructions given on the chart on page 60, using the lubricants recommended on page 16.

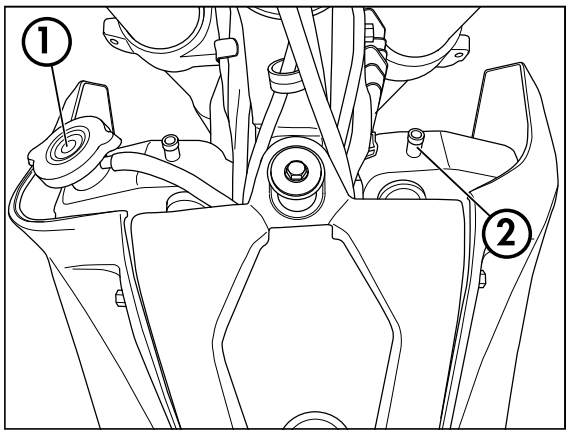
OIL FILTER REPLACEMENT



- Unscrew the three fixing screws **1** to remove the oil filter element cover **2** and the oil filter element **3**.



- Install a new O-ring **4**.
- Install a new oil filter element and the filter cover.



LIQUID COOLANT

The level check must be performed with the engine cold, as follows:

- 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 fluid 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.

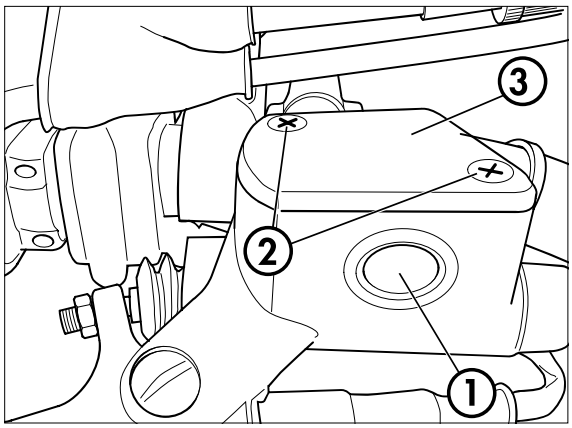
Keep coolant out of reach of children.

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.

FRONT BRAKE



CHECK THE LEVEL OF THE FRONT BRAKE FLUID

Check the oil level by means of oil window **1**.
Minimum oil level must never be below the level of window.

RESTORING THE LEVEL OF THE FRONT BRAKE FLUID

To restore the oil level, top up by unscrewing the two screws **2**, lifting cap **3** and adding oil.

WARNING:
If the lever feels soft, there may be an air bubble in the circuit, then contact authorised Betamotor authorised service immediately.

NOTE:
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.

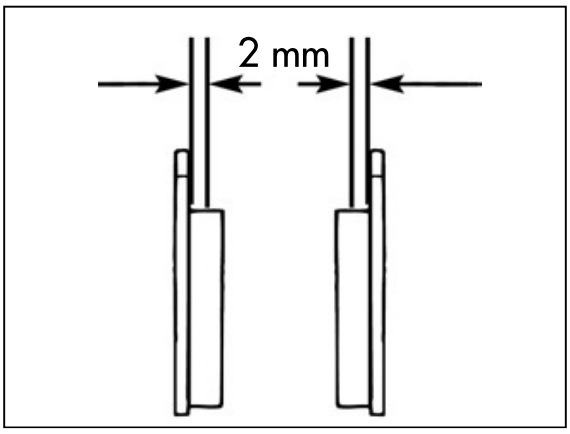
WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:

- 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 FRONT BRAKE

To bleed the braking system, please contact an authorised Betamotor service centre.

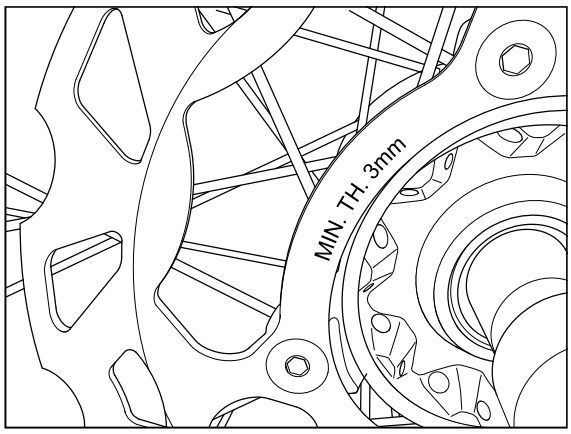


FRONT BRAKE LINING CONTROL

In order to verify the wear condition of front brake is enough to view the caliper from the top, 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 60.

To replace, contact authorised Betamotor customer service.



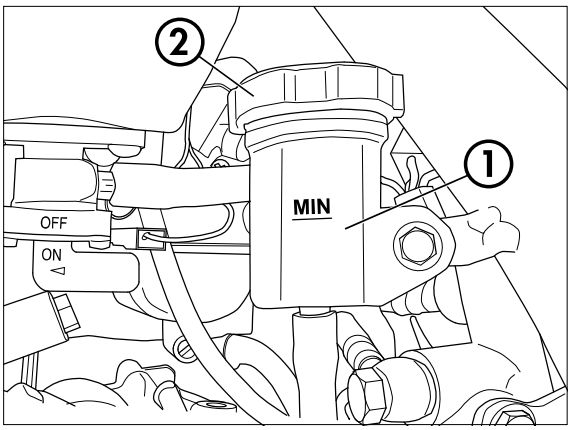
BRAKE DISC THICKNESS CONTROL

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 oil level by means of oil container **1**.
Oil level must never be below the minimum level mark on container.



CHECK THE LEVEL OF THE REAR BRAKE FLUID

To restore the oil level, top up by means of oil filler cap **2**.

WARNING:
If the pedal feels soft, there may be an air bubble in the circuit, then contact authorised Betamotor authorised service immediately.

NOTE:
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.

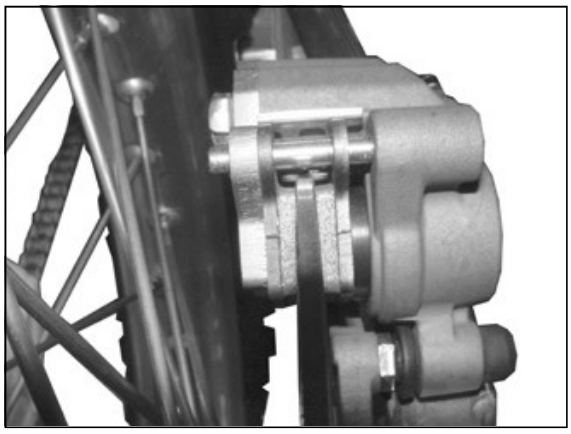

WARNING: Avoid any direct contact of the liquid with skin, eyes or clothing. If this happens:

- 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

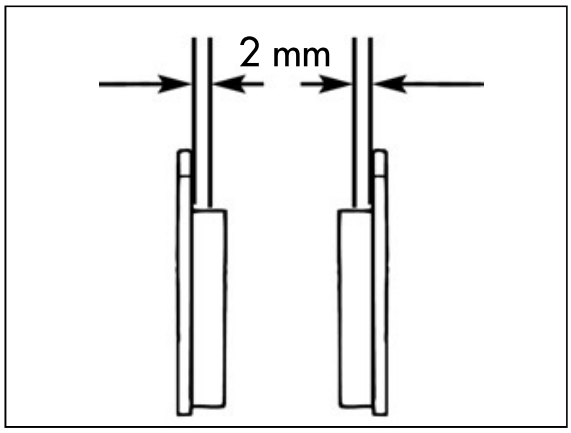
To bleed the braking system, please contact an authorised Betamotor service centre.



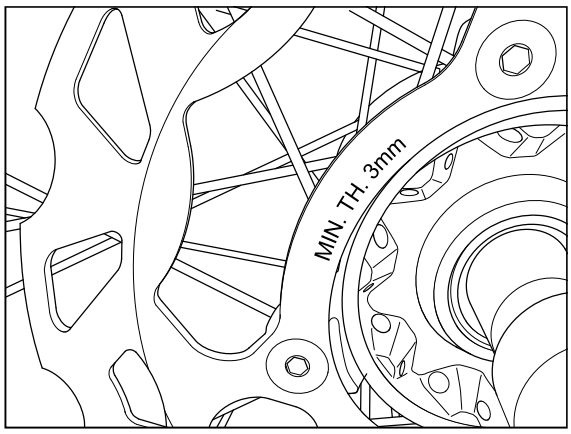
REAR BRAKE LINING CONTROL

To check the wear of the rear brake pads, visually inspect the caliper from the rear side. The lining on the visible ends of the two brake pads should be at least 2 mm thick. Should the lining be thinner, immediately replace the brake pads.

Note:
Perform the check according to the times shown in the table on page 60.



To replace, contact authorised Betamotor customer service.

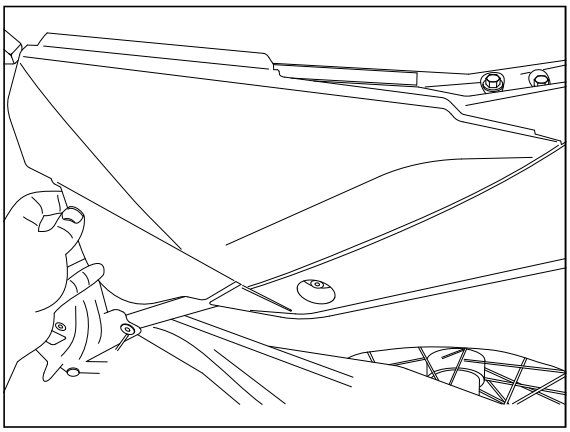


BRAKE DISC THICKNESS CONTROL

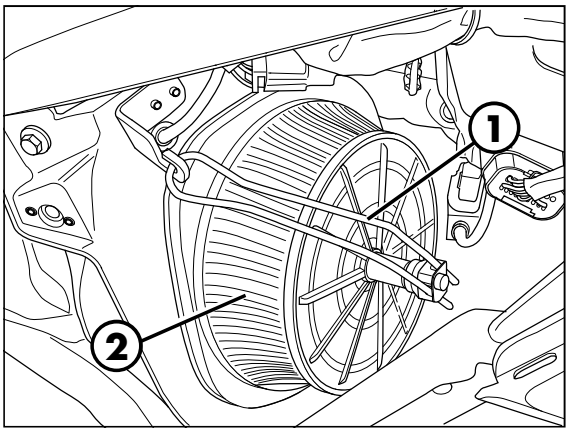
Periodically verify disc condition. In case signs of damage , veins, or deformations are present, proceed with replacement.
Verify disc thickness. The minimum thickness is engraved on the disc.
Once the limit is in proximity or has been reached, proceed with brake disc replacement.
For replacement, contact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

AIR FILTER

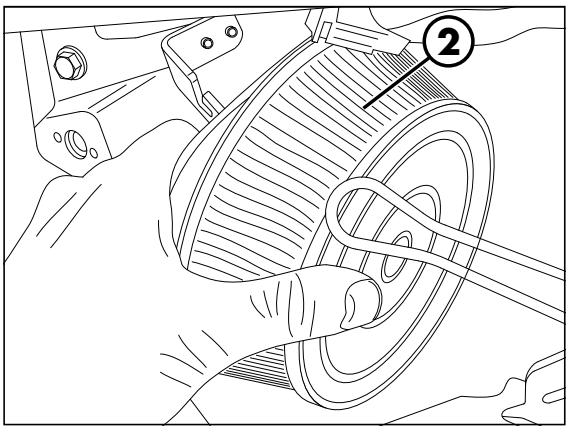
To access the filter:
•Unhook the side filter cover (page 63).



•Release filter fastener **1**



•Pull out air filter **2**



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

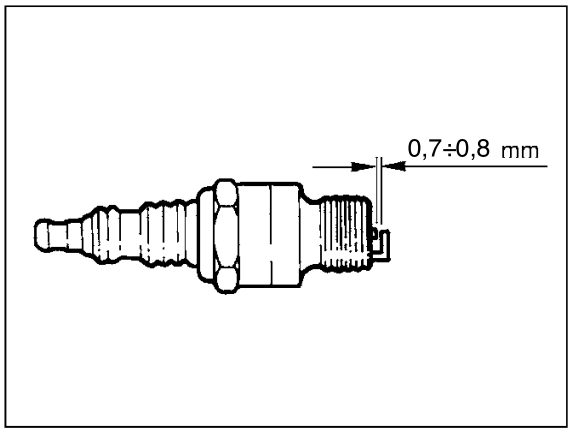
Blow the filter with compressed air.

Reassemble by performing the operations in reverse order.

NOTE:
If the filter is damaged, replace it immediately.
To replace, contact authorised Betamotor 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.



SPARK PLUG

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

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 0,7 - 0,8 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.

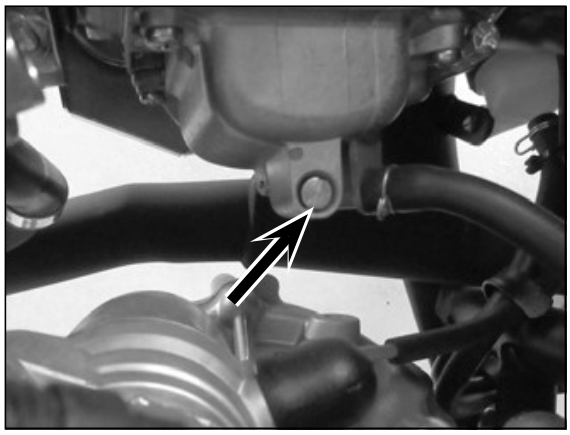
CARBURETTOR

DRAINING THE CARBURETTOR FLOAT CHAMBER

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

Close the tank tap and place a container under the carburettor pipe, so that you can collect the running out fuel.

Open the drain screw to drain the fuel. Close the drain screw.



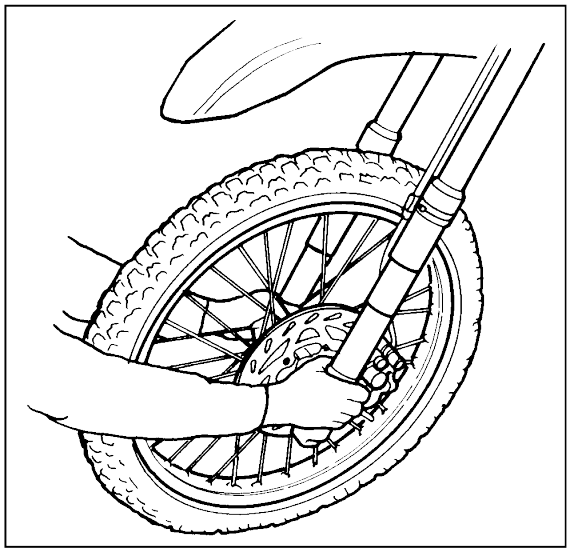
WARNING:
Follow action on a cold engine.

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.

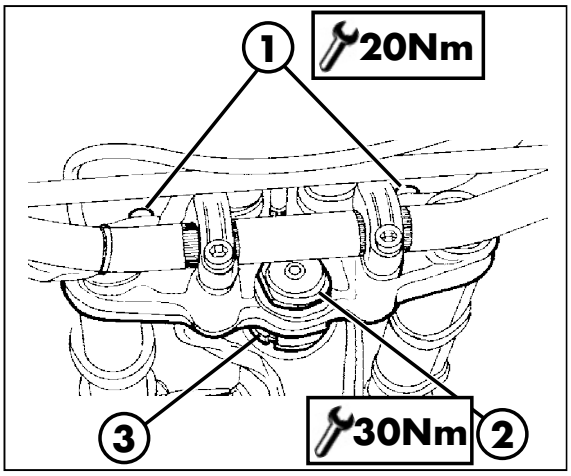
Immediately clean up any spilled fuel.



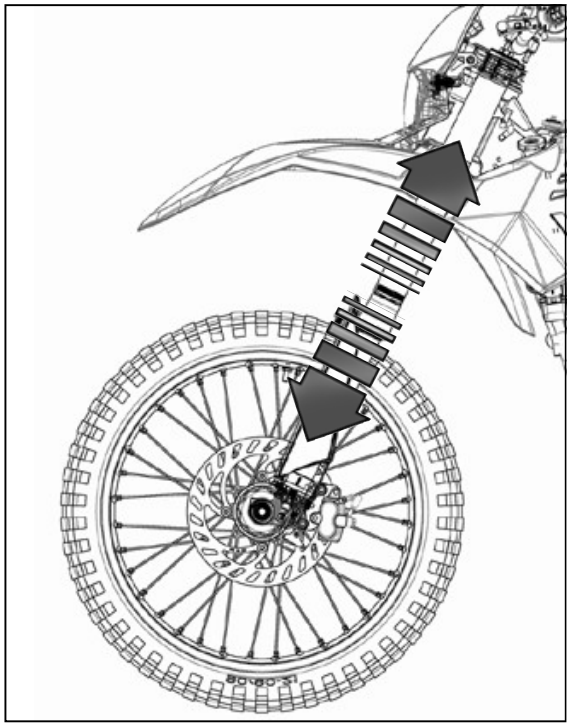
CHECK AND ADJUSTING OF STEERING PLAY

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:
- Unscrew the screws **1**
- Loosen nut **2**
- Take up the play by means of ring nut **3**

Tighten the screws to the prescribed torque values.



NOTE: Correct adjustment, in addition to not leaving any play, should not cause difficulty or irregularity in turning the handlebar.



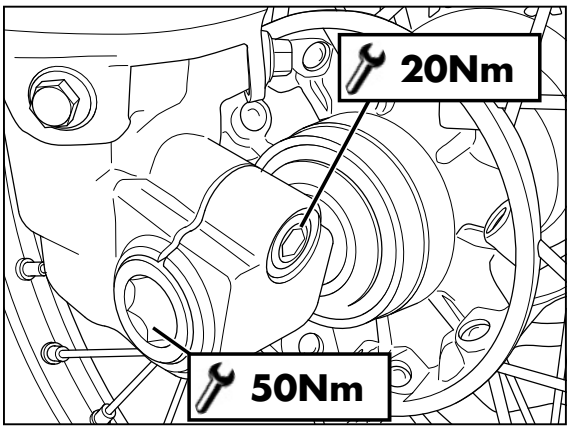
FRONT WHEEL

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.

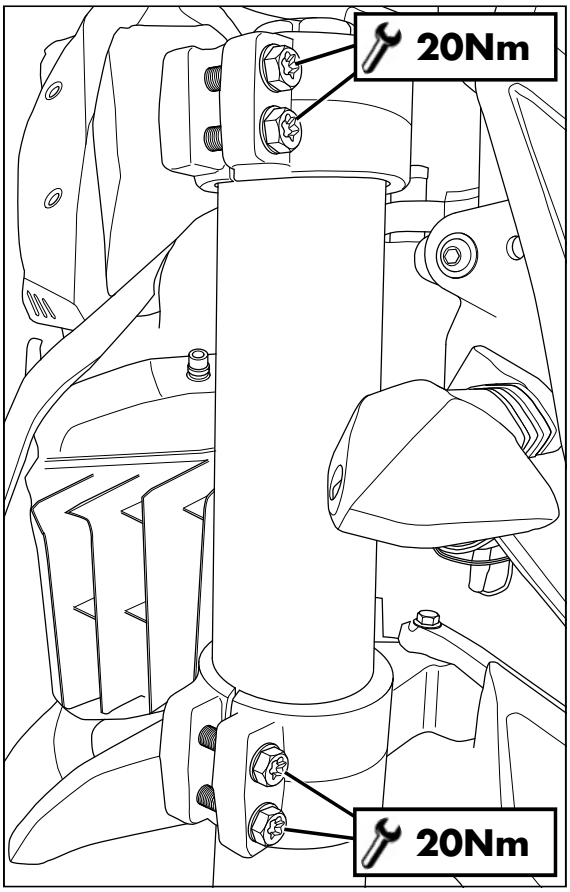


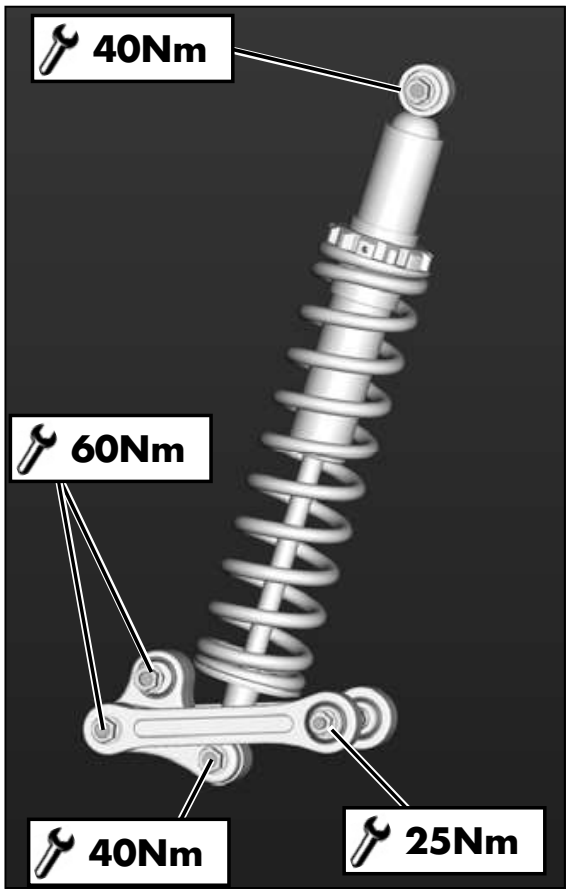
FORK

To maintenance refer at an authorized service center Betamotor.

To check the tightening torques see as shown in the figure.

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.





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

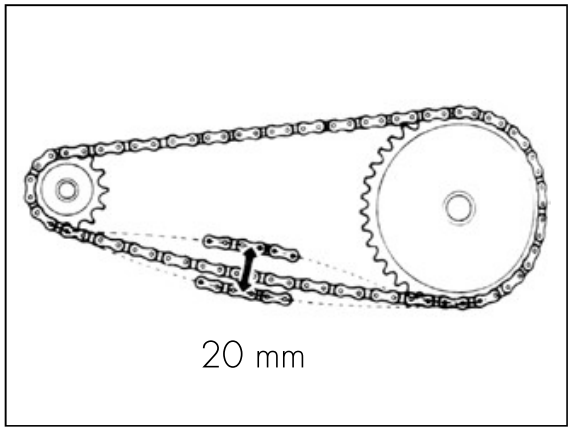
Checking the drive chain periodically to ensure longer chain life. Always keep it lubricated and clean of deposited dirt.

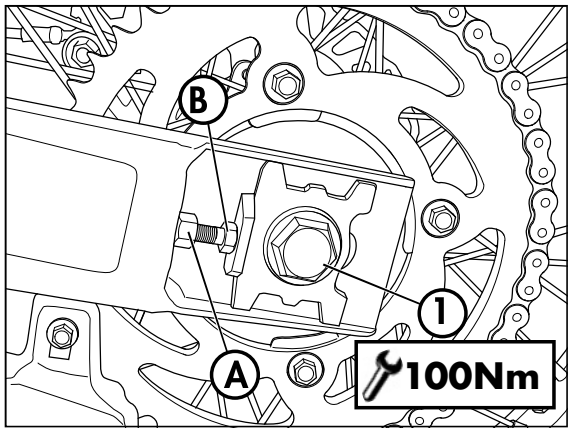
Take special care in preventing the lubricant from coming into contact with the rear tyre or brake disc, otherwise the tyre grip and the action of the brake would be greatly reduced, making it very difficult to control the vehicle.

CHECK AND ADJUST TIGHTENING CHAIN

Checking the drive chain periodically to ensure longer chain life.
Always keep it lubricated and clean of deposited dirt.
If play exceeds 20 mm tighten the chain as follows:

- 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.

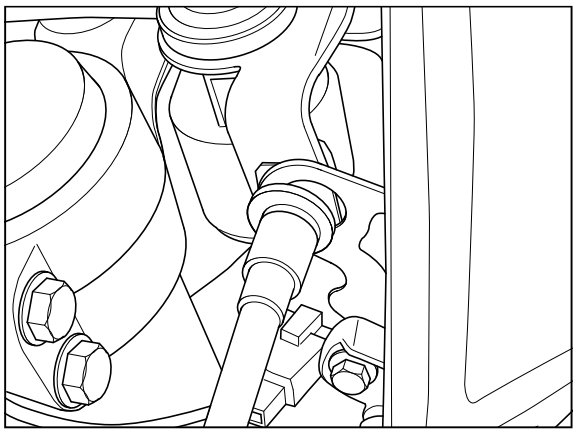


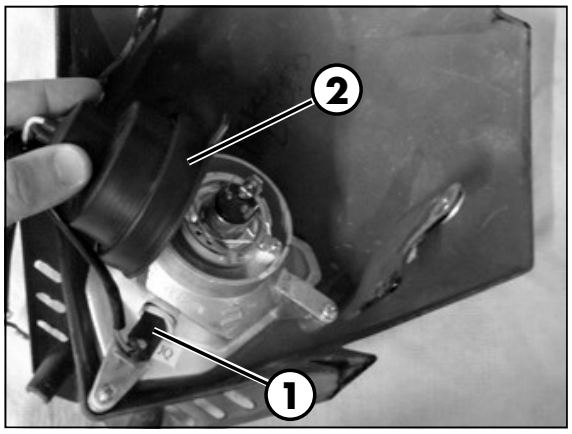


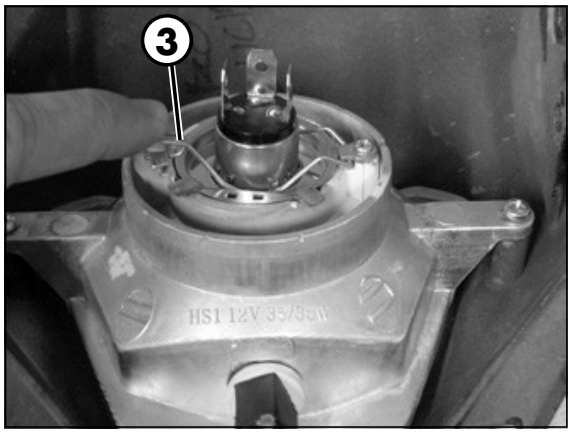
HEADLIGHT

Keep the headlight glass clean at all times (see page 58).

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.

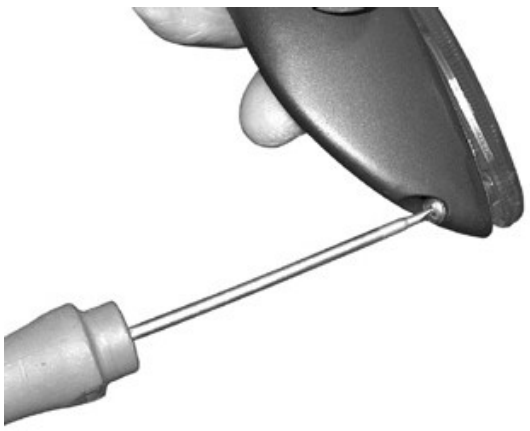
NOTE: When you have completed this operation, check the direction of the beam (page 38).

TAIL LIGHT

Keep the tail light glass clean at all times (see page 58).

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.

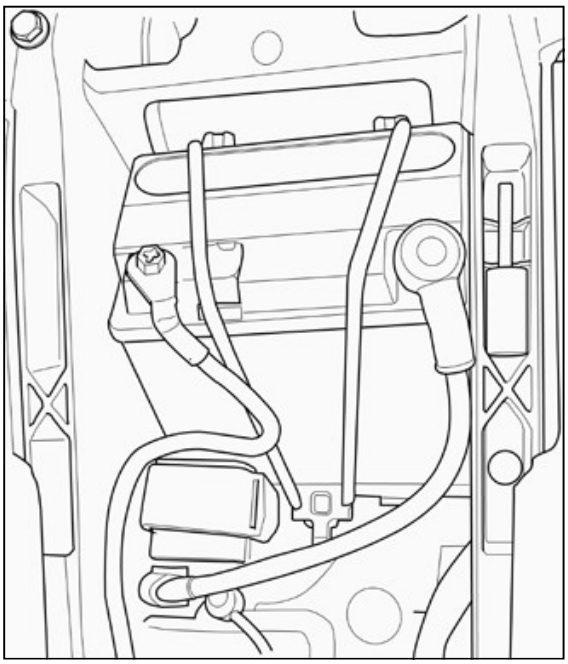


TURN INDICATORS

To reach the bulb, remove the glass cover by loosening screw **1**.

Remove the bulb from the lamp holder and replace.

BATTERY



Battery is located under the saddle and requires no maintenance.

Keep the battery terminals clean. If necessary, protect them with a thin film of acid-free grease.

BATTERY REMOVAL AND ASSEMBLY

Remove the saddle (page 63).

Release the rubber band.

FIRST disconnect the negative connector (black) from negative (-) pole and THEN positive connector (black) from negative (+) pole.

Remove the battery.

When fitting the battery, insert it with the terminals as shown in picture.

FIRST connect the positive connector (red) from positive (+) pole and then negative connector (black) from negative (-) pole.

Reattach the rubber band.

WARNING:
Exercise extreme caution if, for any reason, the electrolyte (sulphuric acid) should come out of the battery. The electrolyte can cause serious burns. In case of contact with the skin, rinse abundantly with water.
Should the electrolyte come into contact with the eyes, rinse with water for at least 15 minutes and immediately seek medical attention.
Even though the battery is sealed, there is a possibility that explosive gases may leak out.
Keep sparks and open flames away from he battery.
Keep spent batteries out of the reach of children and dispose of them as prescribed by law.
Do not remove the protections.
When installing the battery, be sure to observe the polarity of the terminals.

INACTIVITY

If the vehicle is not going to be used for a long time, remove the battery and charge it every 15 days using a suitable charger.

Store the battery in a dry place at a temperature of 5 to 35°C and out of the reach of children.

CHARGING THE BATTERY

Using an open-circuit multimeter (10-12 hours after the activation), check that the voltage is greater than 12.6 V. If it is lower, it is advisable to recharge the battery.

Based on the type of charger available, charge the battery using either of the following procedures:

- Constant voltage (14.4-15 V) - Charge the battery for about 12 hours. Check the voltage 10-12 hours after the end of recharge as described above.
- Constant current: Charge battery at 0.5-0.8 A until the voltage between the terminals stabilizes at ~14.5 V.

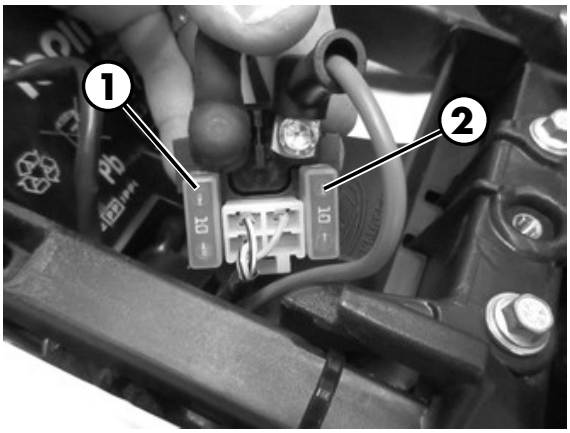
WARNING:
The battery is sealed. When recharging it, do not remove the seal nor add any liquid.

FUSES

The vehicle has two fuse units:
- One is located under the seat
- One is located under the left side panel

MAIN CIRCUIT

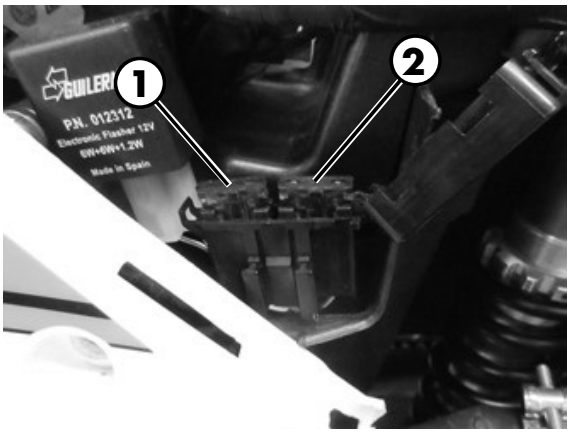
To reach the fuse of the main circuit remove the seat (page 62) and the control unit (page 64).
Fuse **1** (10A) protects the main circuit.
Fuse **2** (10A) is a spare one
If the vehicle breaks down and stops/ does not start.



SECONDARY CIRCUITS

The fuses protecting the secondary circuits are located under the right side panel; to remove it see page 63.

Fuse **1** (10A) protects the ECU supply line.
If the vehicle breaks down and stops/ does not start.
Fuse **2** (10A) protects the following services:



Front lights
Rear lights
Stop
Tachometer and control lights
Turn lights
Horn
Electric fan

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.

To prevent malfunction of the electrical system, treat electric contacts and switches with electrical contact spray.

ATTENTION: any oxidation of electrical contacts may result in serious malfunctioning to the power supply system.

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.
- Remove the battery and keep it in a dry place. Charge the battery every 15 days.
- Protect the vehicle with a dust cover.

AFTER PROLONGED INACTIVITY

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

4 MAINTENANCE SCHEDULE

		End of running - 1000 km	Coupon 1 - 3000 km	Coupon 2 - 6000 km	Coupon 3 - 9000 km	Coupon 4 - 12000 km	Coupon 5 - 15000 km	Coupon 6 - 18000 km	Coupon 7 - 21000 km	Coupon 8 - 24000 km	Coupon 9 - 27000 km
Engine	Spark plug		C	S	C	S	C	S	C	S	C
	Engine oil filter	S		S		S		S		S	
	Clutch	C	C	C	C	S	C	C	C	S	C
	Valve play	C	C	C	C	C	C	C	C	C	C
	Engine oil	S	S	S	S	S	S	S	S	S	S
	Idle speed adjustment	C	C	C	C	C	C	C	C	C	C
	Engine oil filter	P	P	P	P	P	P	P	P	P	P
Cycle parts	Rear shock absorber	C		C		C		C		C	
	Battery		C	C	C	S	C	C	C	S	C
	Nuts and bolts *	T	T	T	T	T	T	T	T	T	T
	Steering bearings and steering play	C	C	C	C	C	C	C	C	C	C
	Air filter (paper) **	blow every 2.500km			S			S			S
	Front fork	C		C		C		C		C	
	Electrical system	C	C	C	C	C	C	C	C	C	C
	Braking system	C	C	C	C	C	C	C	C	C	C
	Brake fluid (renew every 2 years)	C	C	C	C	C	C	C	C	C	C
	Tyre pressure and condition	C	C	C	C	C	C	C	C	C	C
	Drive chain tension and lubrication (every 1.000 km)	C	C	C	C	C	C	C	C	C	C
	Brake lines (replace every 2 years)	C	C	C	C	C	C	C	C	C	C
	Fuel lines (replace every 2 years)	C	C	C	C	C	C	C	C	C	C

Key

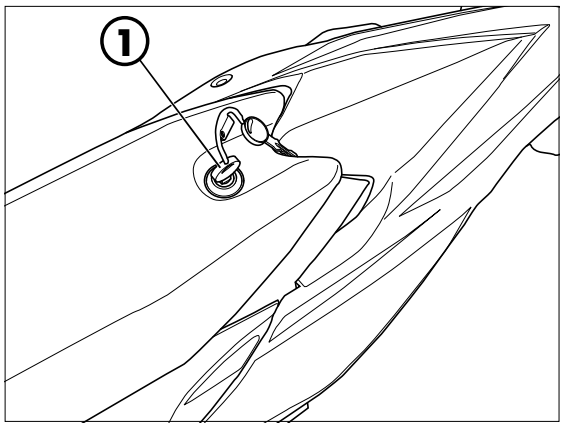
C **Check** (Clean, adjust, lubricate, replace as necessary)
S **Replace/renew**
R **Adjust**
P **Clean**
T **Tighten**

* Recommended after each off-road ride.

** Blowing the filter from the inside to outside after each use off-road is recommended. Replace the filter if necessary.

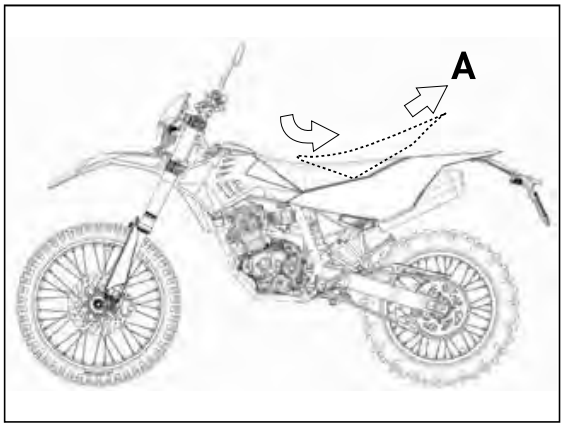
CHAPTER 5 REMOVING AND INSTALLING SUPERSTRUCTURES

CONTENTS

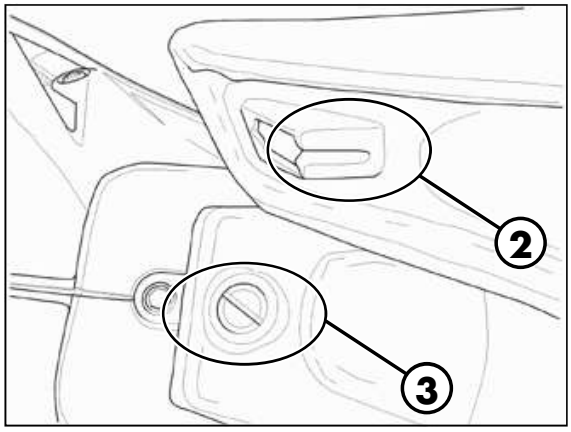


REMOVING AND INSTALLING OF THE SADDLE

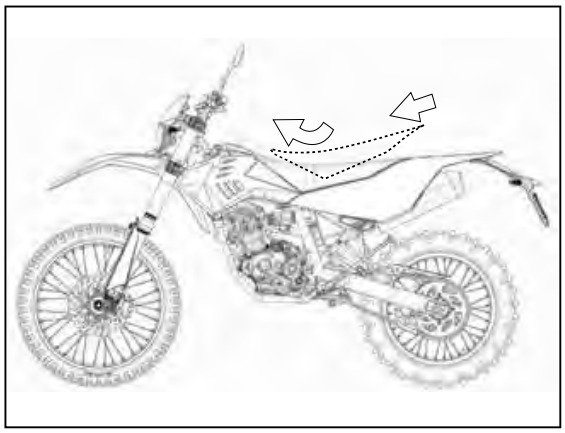
To remove the seat, insert the key into lock **1** and turn clockwise.



Remove the saddle in the direction **B** indicated in the figure.



To re-assemble:
Insert the cavity **2** of the saddle in slot **3**.



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

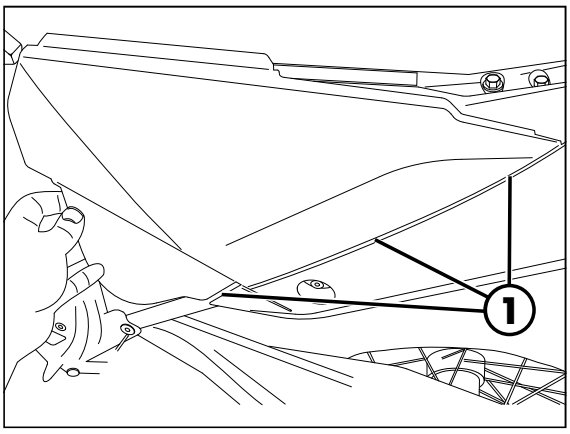
REMOVING AND INSTALLING AIR FILTER COVER PANEL

Remove the saddle (page 62).

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

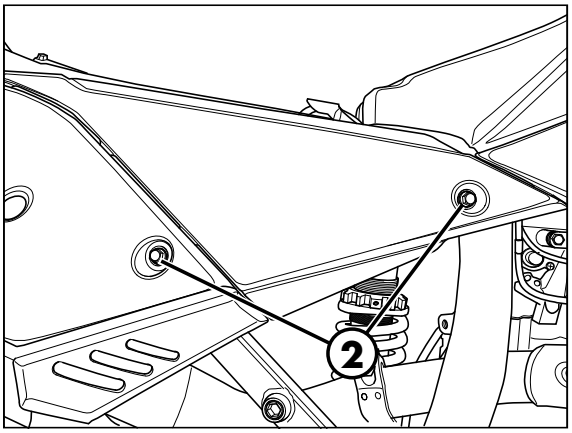
To refit insert the tabs **1** into their slots.

Slide the side panel toward the vehicle.

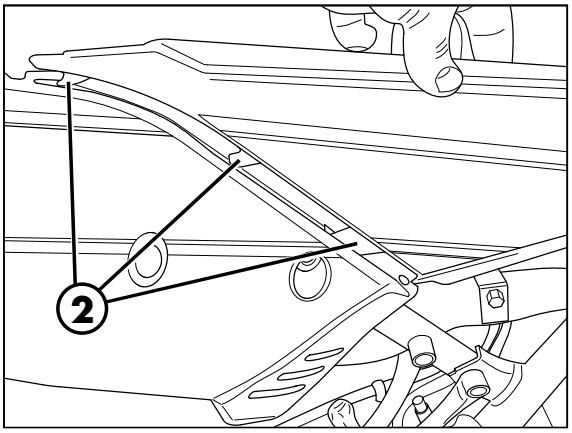


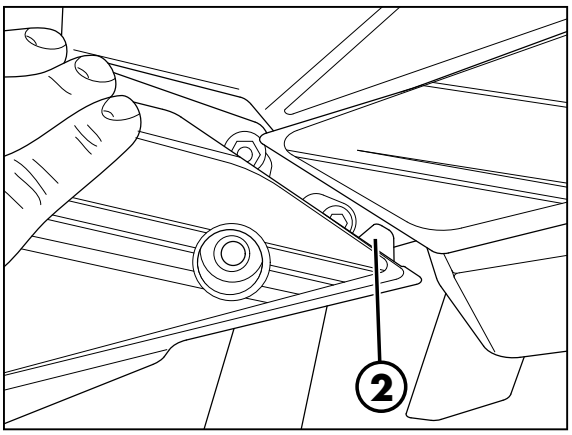
REMOVING AND INSTALLING SIDE RIGHT PANEL

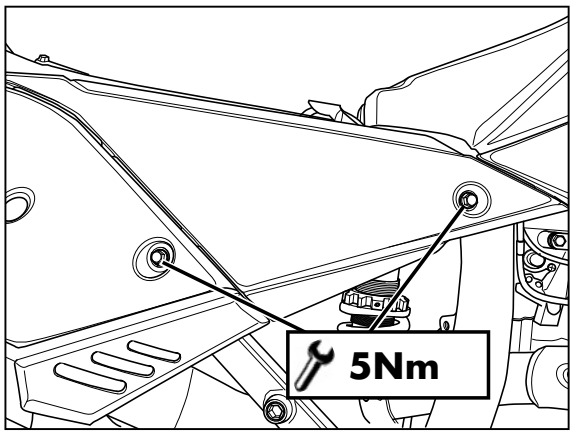
Remove the seat (page 62), the two screws **1** and release the side panel from the mudguard.



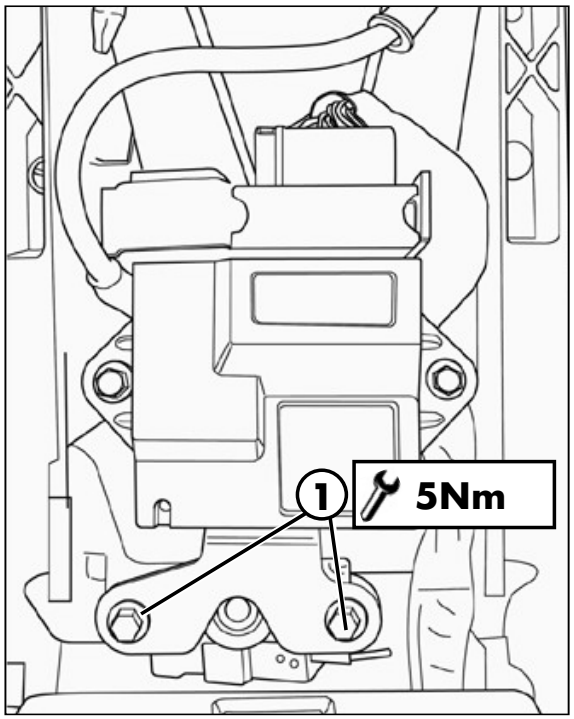
Reassemble by inserting clips **2** into the slots.







Put the screws back in and tighten to the specified torque.



REMOVING AND INSTALLING THE CONTROL UNIT

To remove the control unit it is necessary to remove the saddle (page 62), and the two screws **1**.

To refit, follow the procedure above but in reverse order. Tighten the screws to the specified torque.

CHARTER 6 TROUBLESHOOTING

CONTENTS

PROBLEM	CAUSE	REMEDY
The engine starts but the telltale "MIL" lights on	- Engine management system fault	Contact authorised BETAMOTOR customer service
The engine doesn't start	-Fuel system (tubes, fuel tank, valve) is blocked	Clean the system
	-Air filter is very dirty	Proceed as indicated on page 47
	-No current arriving at spark plug	Clean or replace spark plug. If the problem persists, contact authorised Betamotor customer service.
	-Engine is flooded	With gas completely open, continue trying to start engine for a few moments. If engine still doesn't start, remove the spark plug and dry it off.
Engine misfires	-Spark gap wrongly adjusted	Restore the spark gap.
	-Spark plug dirty	Clean or replace the spark plug
Engine overheats and loses power	-Silencer partly clogged	Contact authorised BETAMOTOR customer service
	-Exhaust clearance partially obstructed	Contact authorised BETAMOTOR customer service
	-Mixture too lean	Contact authorised BETAMOTOR customer service
	-Ignition delayed	Contact authorised BETAMOTOR customer service
Front braking poor	-Brake pads worn	Contact authorised BETAMOTOR customer service
	-Air or humidity in the hydraulic circuit	Contact authorised BETAMOTOR customer service
Rear braking poor	-Brake pads worn	Contact authorised BETAMOTOR customer service
	-Air or humidity in the hydraulic circuit	Contact authorised BETAMOTOR customer service

ALPHABETICAL INDEX

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