



RR 50 CC ENDURO / ENDURO STD / MOTARD / MOTARD STD / FACTORY / TRACK

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

The data and specifications provided 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.

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

For any servicing requirements, please get in contact with Beta-motor's authorized service network.

Operating instructions.....	5
Ecologic guide.....	5
Riding safety.....	6

CHAPTER 1 GENERAL INFORMATION..... 7

Vehicle identification data	8
Tyres	8
Familiarizing with your vehicle	10
Controls.....	11
Digital RPM indicator operating instructions	13
Keys	19
Steering lock	19
Specifications	20
Wiring diagrams RR 50	24
Recommended lubricants and liquids.....	26

CHAPTER 2 OPERATION..... 27

Checks and maintenance before and after use.....	28
Running-in	28
Refuelling.....	29
Starting the engine.....	30

CHAPTER 3 CHECKS AND MAINTENANCE..... 31

Gearbox oil	32
Brake pump oil	33
Air filter	34
Spark plug	35
Front brake.....	36
Rear brake	36
Coolant.....	37
Operations after cleaning	37
Scheduled maintenance.....	38

CHAPTER 4 ADJUSTMENTS..... 39

Brake adjustment	40
Clutch lever adjustment	40
Idling setting.....	41
Adjustment of gas clearance.....	41
Checking and adjusting the steering play.....	41
Tensioning the chain.....	42
Adjusting the shock absorber	43

CHAPTER 6 TROUBLESHOOTING	45
Troubleshooting.....	46
INDEX	47

OPERATING INSTRUCTIONS

- The vehicle must be accompanied by: number-plate, registration document, tax disc and insurance.
- Do not carry animals, pets or loose objects that can stick out from the vehicle.
- Riding without a crash helmet is forbidden.
- Always ride with the low beam on.
- Any modifications of the engine or other parts resulting in a power and/or speed increase 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.

WARNING

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

ECOLOGIC GUIDE

- Every vehicle powered by an internal combustion engine produces an amount of noise (noise pollution) and gases (air pollution) which varies with the riding style.
- The abatement of noise and air pollution levels is the duty of everybody. Avoid full-throttle starts, sudden acceleration and abrupt braking. This will reduce noise emission as well as the wear and tear of the tyres and mechanical parts, and will also allow a considerable reduction in fuel consumption.

RIDING SAFETY

- Observe the Highway Code.
- Always put on and fasten a homologated helmet.
- 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.
- Always pay attention and do not allow anything to distract you while riding.
- Do not eat, drink, smoke, use a mobile phone, etc. while riding.
- Do not wear headphones to listen to music while riding.
- 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 sit on the vehicle when it is on its stand.
- Do not start off while the vehicle is on its stand.
- Do not pull out the stand when the vehicle is facing downhill.
- 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.
- Do not start the engine in closed places.

CONTENTS

CHAPTER 1 GENERAL INFORMATION

Vehicle identification data

Tyres

Familiarizing with your vehicle

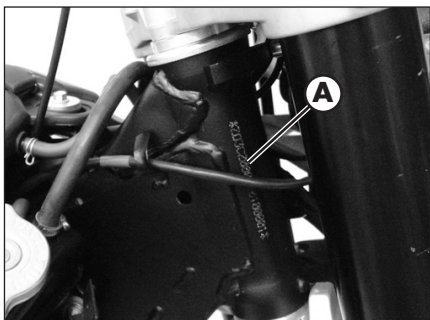
Controls

Digital RPM indicator operating instructions

Specifications

Wiring diagram

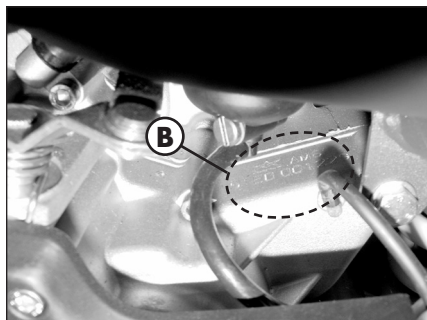
Recommended lubricants and liquids



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.

TYRES

WARNING:

For your riding safety, frequently check the tyres.



pressure is too low



pressure is correct



pressure is too high

- Keep the tyre pressures within the prescribed range.
- Check the tyre pressures every other week.
- Always measure the inflating pressures when the tyres are cold.

Enduro	front	rear
Size	80/90-21 48P or 90/90-21 54R (Factory)	110/80-18 58P 120/90-18 (Factory)
Bar	1	1
Motard	front	rear
Size	100/80-17 57H	130/70-17 62H
Bar	1,9	2

Note

The type, condition and pressure of the tyres affect the road holding of the vehicle. For this reason it is essential to check them before each journey.

- The size of the tyres is shown in the technical specifications and in the vehicle handbook.
- Check the condition of the tyres before each journey. Inspect the tyres for cuts and for nails or other pointed objects sticking out of them. Regarding the minimum allowable thickness of the tread, observe the regulations in force in your country. We recommend replacing the tyres at the latest when the tread is 2 mm thick.
- Check the inflating pressure on a regular basis while the tyres are cold. Proper pressure ensures optimum riding comfort and prolongs the life of the tyres.

FAMILIARIZING WITH THE VEHICLE



Main parts:

- | | |
|----------------|---------------------------------|
| 1 Tank cap | 8 Muffler |
| 2 Air filter | 9 Silencer |
| 3 Side stand | 10 Mixer oil tank cap |
| 4 Fuel cock | (not fitted on Factory version) |
| 5 Fuel tank | |
| 6 Radiator cap | |
| 7 Kick-starter | |

CONTROLS

CLUTCH LEVER

The clutch lever **1** is located on the left side of the handlebar. See the Adjustments chapter to adjust.

STARTER

The starter lever **2** is located on the left side of the handlebar. Turn the lever counter-clockwise to operate.

SWITCH

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

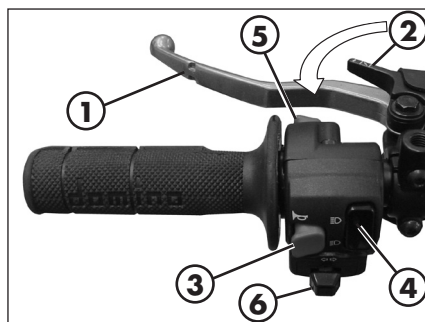
3 Horn button;

4 Dip switch

( high beam ;  low beam)

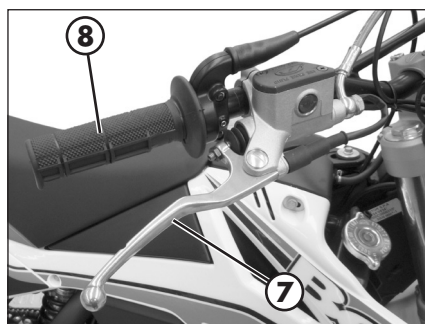
5 Shut-down;

6 Turn signal light switch



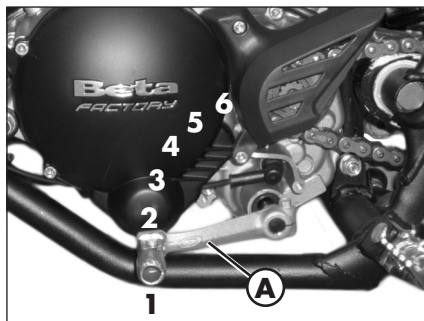
FRONT BRAKE LEVER AND GAS CONTROL

The front brake lever **7** and the gas throttle **8** are located on the right side of the handlebar.



GEARCHANGE LEVER

Gearchange lever **A** 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 **9** is located in front of the righthand footrest.



KICKSTART

The kick-starter pedal **10** is located on the right side of the engine. The upper part is rotatable. To start, depress the kick-starter outward and with a quick movement downward. The pedal will automatically return upwards. After starting, manually fold the pedal in the rest position.



DIGITAL RPM INDICATOR OPERATING INSTRUCTIONS

Series RR 50 Enduro - Enduro standard - Factory - Motard - Motard standard - Track

CONTENTS

1 GENERAL SPECIFICATIONS AND GENERAL INFORMATIONS

1.1 General specifications

1.2 General informations

2 SETTING THE PARAMETERS

2.1 Setup sequence

2.1.1 Selecting the unit of measure

2.1.2 Selecting the wheel size

2.1.3 Selecting the clock format

2.1.4 Setting the Time

2.1.5 Selecting the maintenance memo

3 SCREENS

4 FEATURES

5 SPEEDOMETER

6 ADJUSTING THE TRAVELLED DISTANCE METER

7 WARNING LIGHTS

1 GENERAL SPECIFICATIONS AND GENERAL INFORMATIONS

1.1 GENERAL SPECIFICATIONS

SPEED/DISTANCE SENSOR: Non-contact magnetic

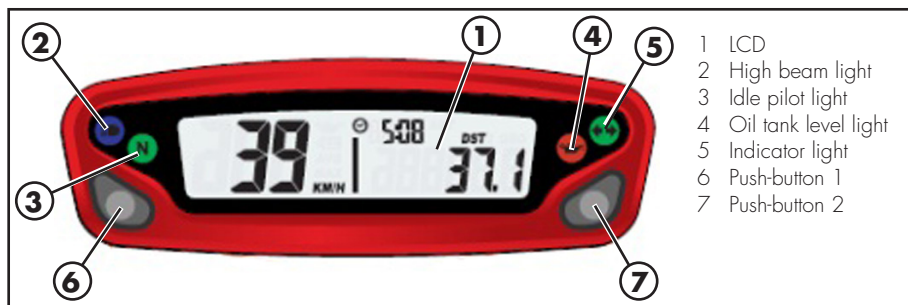
DISPLAY MEASUREMENTS: 125mm x 41mm x 34mm

STORAGE TEMPERATURE: -20°C to 80°C (-4°F to 176°F)

BATTERY: 3V CR2032

BATTERY LIFE: Approximately one year

EXTERNAL CURRENT SUPPLY: 12V DC



1.2 GENERAL INFORMATIONS

Backlight:

The digital speedometer/odometer is backlit to enable reading where there is poor or no lighting.

When using supplied power with the engine on:

- The back-lighting is on permanently when the engine is running.

Using only the internal battery:

- With the LO symbol, the backlighting will not switch on. The **LO** symbol appears when the battery voltage is lower than 2.45V.

Reset Button:

Using the Reset button, located on the back of the instrument, all travel data will be deleted, including date and time.

Internal battery:

The instrument houses a 3.0V internal button cell battery (CR2032). The instrument can only work with this battery. The **LO** symbol appears when the battery is running low. To change the battery, unscrew the cap located on the back of the instrument using a coin.

Once the battery has been changed, make sure that the positive side is facing outwards.

REPLACE THE BATTERY WITH ANOTHER CR2032-TYPE BATTERY.

2 SETTING THE PARAMETERS

General information:

Allowed settings:

- Km/h (kilometres per hour) or M/h (Miles per hour)
- Wheel size (rolling circumference) [mm]
- Clock format: 12-hour / 24-hour
- Current date
- Maintenance

TO ENTER THE PARAMETER SETTINGS MODE HOLD DOWN THE RIGHT AND LEFT BUTTONS FOR APPROX. 3s.

THE WORD "Unit" WILL FLASH ON THE DISPLAY.

The operational logic is structured as follows:

- The instrument enters SETUP mode displaying the parameters according to the sequence listed above.
- The instrument displays the parameter to be changed for a few seconds in flash mode.
- If you wish to change the parameter displayed for those few seconds simply edit the values by pressing the right and/or left buttons (according to the modes listed below), otherwise wait a few seconds (approx. 5 s) to proceed to the next parameter.
- When the parameter has been edited to the desired value, the instrument automatically moves onto the next setting, there is no need to press any button of confirmation.
- If you only wish to enter the setup mode to view the configured settings, simply wait without pressing any buttons; the instrument will display all of the set parameters and will then automatically go back to "Normal Mode".

2.1 SETUP SEQUENCE

Select unit of measure

Wheel size

Clock format

Setting the Time

Maintenance reminder

2.1.1 Selecting the unit of measure (Km/h or M/h):

TO SELECT THE UNIT OF MEASURE (Km/h or M/h), PRESS THE RIGHT OR LEFT BUTTON.

WAIT 5 SECONDS TO PROCEED TO THE NEXT SETTING.

DO NOT PRESS ANY BUTTONS.

2.1.2 Selecting the wheel size (rolling circumference):

The instrument has programmed two rolling circumference measurements for the front wheel: larger size (Enduro version - 21" rim) or smaller size (Motard version - 17" rim).

PRESS THE LEFT BUTTON TO SELECT ONE OF THE TWO OPTIONS.

WAIT 5 SECONDS TO PROCEED TO THE NEXT SETTING. DO NOT PRESS ANY BUTTONS.

2.1.3 Selecting the clock format (12- or 24-hour):

The default setting on the instrument is the 12-hour clock.

TO SELECT THE 12- OR 24-HOUR CLOCK, PRESS THE RIGHT OR LEFT BUTTON.

WAIT 5 SECONDS TO PROCEED TO THE NEXT SETTING. DO NOT PRESS ANY BUTTONS.

2.1.4 Setting the Time:

The time is set by increasing or decreasing it by 1 minute steps.

PRESS THE LEFT BUTTON TO DECREASE THE TIME.

PRESS THE RIGHT BUTTON TO INCREASE IT.

WAIT 5 SECONDS TO PROCEED TO THE NEXT SETTING. DO NOT PRESS ANY BUTTONS.

2.1.5 Selecting the maintenance reminder 

The instrument displays the countdown to maintenance operations based on the data entered by the user. The data is based on the kilometres and miles travelled according to the unit of measure selected by the user. The factory setting is on "OFF".

PRESS THE LEFT BUTTON TO LOWER THE NUMBER. PRESS THE RIGHT BUTTON TO RAISE IT (max value 10000Km).

WAIT 5 SECONDS TO EXIT SETUP MODE.

DO NOT PRESS ANY BUTTONS.

3 SCREENS

Switching between 3 normal modes

All of the information that the instrument is capable of providing is displayed on one of these 3 screens.

The instrument will stay on the set screen until a button is pressed to switch to another screen.

TO SWITCH FROM ONE SCREEN TO ANOTHER, PRESS EITHER THE RIGHT OR LEFT BUTTON BRIEFLY.

Screen 1:

- Speed • Distance 1 (DST) • Time

Screen 2:

- Speed • Distance 2 (DST2) • Time

Screen 3:

- Maximum speed (MAX) • Average speed (AVG)
- Accumulated running time (ART) • Odometer (ODO)

* Note: The maximum and average speeds are updated automatically when the user accesses screen 3.

4 FEATURES

General information:

During normal use the instrument is in "Normal" mode.

Available modes:

- Sleep Mode
- Choose from 3 "Normal" screens
- Clear Distance 1 (DST1)
- Clear Distance 2 (DST2)
- Clear Maximum/Average Speed (MAX/AVG)

Sleep Mode:

If the instrument does not receive any input for 5 minutes (either from the movement of the wheel or a button), it will go into "Sleep Mode". In "Sleep Mode" only the time appears on the screen.

To exit "Sleep Mode" all the instrument requires is an input, either from the movement of the sensor or by pressing a button.

5 SPEEDOMETER

Speed

The speed is displayed in the centre of screens 1 or 2 and can range from 0 to 399.9 km/h or M/h. The unit of measure (km/h or M/h) appears next to the speed reading.



Maximum (Max) and Average (AVG) speed

The Maximum (MAX) or Average (AVG) speeds are displayed on screen 3 to the left of the display. The instrument automatically updates both the maximum (MAX) and average (AVG) speeds. To clear the maximum (MAX) and average (AVG) speeds, hold the right button down for 5 seconds.

Note: you must be on screen 3 to clear the speeds.



6 ADJUSTING THE TRAVELLED DISTANCE METER

Description

The travelled distance meter displays the distance that has been travelled since it was last cleared. It has two different distinguishing distances.



Travelled distance (DST)

The travelled distance can range from 0 to 9999.9 miles or kilometers and appears on the right side of screen 1. To clear the travelled distance, hold the right button down for 5 seconds.

Note: you must be on screen 1 to clear the travelled distance.



Travelled distance 2 (DST 2)

Travelled distance 2 can range from 0 to 9999.9 miles or kilometers and appears on the right side of screen 2. To clear the travelled distance, hold the right button down for 5 seconds.

Note: you must be on screen 2 to clear the travelled distance.



7 WARNING LIGHTS

7.1 Headlight indicator

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

7.2 Direction indicator lights

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

7.3 Neutral indicator light

Indicates the position of the gear lever in neutral.



7.4 Mixer oil indicator light

Indicates a low level of mixer oil.

If the warning light comes on, IMMEDIATELY STOP THE MOTORBIKE AND TURN OFF THE ENGINE. Refuel with special oil as indicated in the "Table of Lubricants and Recommended Liquids" on page 26.

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 and the refuelling door.

- 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:

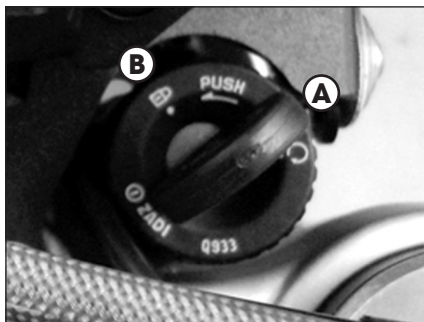
- turn the handlebar counter-clockwise;
- push the key and turn counter-clockwise;

Remove the key from this position. The engine cannot be started.

To deactivate the steering lock:

- turn the key clockwise;
- turn the handlebar clockwise;

From this position, the handlebar is free to move, the key can be removed and the engine cannot be started.



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.

TECHNICAL DATA

dry weight (all models) 85 kg

Dimensions (ENDURO)

total length 2.085 mm

total width 815 mm

total height 1.225 mm

wheelbase 1.415 mm

saddle height 935 mm

clearance from ground 350 mm

footrest height 405 mm

Dimensions (MOTARD and TRACK)

total length 2.000 mm

total width 805 mm

total height 1.155 mm

wheelbase 1.390 mm

saddle height 900 mm

clearance from ground 315 mm

footrest height 365 mm

Dimensions (FACTORY)

total length 2.085 mm

total width 815 mm

total height 1.225 mm

wheelbase 1.415 mm

saddle height 935 mm

clearance from ground 350 mm

footrest height 405 mm

Dimensions (STD)

total length 2.052 mm

total width 805 mm

total height 1.190 mm

wheelbase 1.385 mm

saddle height 930 mm

clearance from ground 345 mm

footrest height 395 mm

Dimensions (MOTARD STD)

total length 2.000 mm

total width 805 mm

total height 1.155 mm

wheelbase 1.390 mm

saddle height 900 mm

clearance from ground 315 mm

footrest height 365 mm

FRAME steel double cradle frame

WHEEL DIMENSION (ENDURO, ENDURO STANDARD)

front tyre 80/90 - 21
 rear tyre 110/80 - 18
 front rim 21x1,6
 rear rim 18x1,85

WHEEL DIMENSION (FACTORY)

front tyre 90/90 - 21
 rear tyre 120/80 - 18
 front rim 21x1,6
 rear rim 18x1,85

WHEEL DIMENSION (MOTARD, MOTARD STANDARD and TRACK)

front tyre 100/80 - 17
 rear tyre 130/70 - 17
 front rim 17x2,50
 rear rim 17x3,50

FILLING CAPACITY

fuel tank 6 liters
 including reserve of 1 liter
 cooling circuit liquid
 All the models 500cc
 FACTORY 850cc
 crank case transmission oil 10W/30 - 820cc

FRONT SUSPENSION

Hydraulic fork with Ø40 mm shaft (ENDURO - MOTARD - TRACK)

Hydraulic fork with Ø37 mm shaft (ENDURO STANDARD - MOTARD STANDARD)

Hydraulic fork with Ø41 mm shaft (FACTORY)

Level with tube at its limit 110 mm

Q = 390 ±5cc (Right and left stem)

- Viscosity at 40 °C Right stem 32,45

- Viscosity at 40 °C Left stem 46,00

front wheel travel (ENDURO) 245 mm

front wheel travel

(ENDURO STANDARD - MOTARD - MOTARD STANDARD) 210 mm

front wheel travel (FACTORY) 250 mm

front wheel travel (TRACK) 190 mm

REAR SUSPENSION

single shock absorber with spring preload adjustment with compound leverage (ENDURO)

single shock absorber (ENDURO STANDARD - MOTARD STANDARD)

single shock absorber with spring preload adjustment with rebound and compression damping (FACTORY)

single shock absorber with spring preload adjustment (MOTARD - TRACK)

shock absorber travel (ENDURO).....124 mm

shock absorber travel (ENDURO STANDARD - MOTARD STANDARD)50 mm

shock absorber travel (FACTORY)114 mm

shock absorber travel (MOTARD)55 mm

shock absorber travel (TRACK)62,5 mm

rear wheel travel (ENDURO - FACTORY)250 mm

rear wheel travel

(ENDURO STANDARD - MOTARD - MOTARD STANDARD)200 mm

rear wheel travel (TRACK)240 mm

FRONT BRAKE

disk-type with hydraulic control Ø 260 mm

disk-type with hydraulic control Ø 300 mm (only for TRACK version)

REAR BRAKE

disk-type with hydraulic control Ø 220 mm

ENGINE RR 50

type	single-cylinder, two-stroke
bore x stroke	40,3x39 mm
displacement (cm ³)	49,7 cm ³
compression ratio	12:1
liquid cooled	
ignition	electronic MORIC - 120W
kick-starter	
spark plug	NGK BR9 ES
clutch	wet, multidisc
gearchange	6 speed
primary drive	Z 20/71
final drive (MOTARD)	Z 11/50
final drive (ENDURO)	Z 11/51

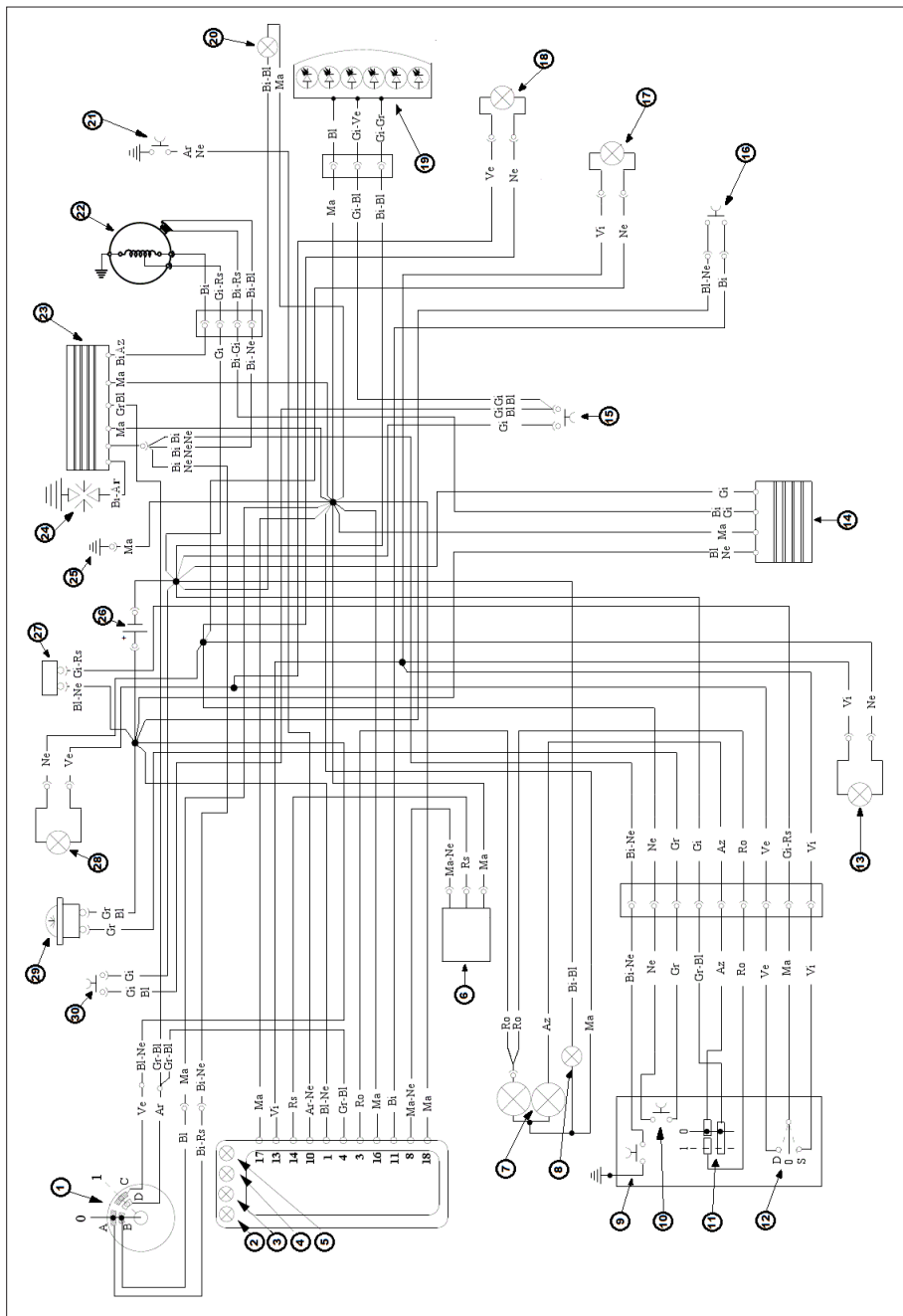
FUEL SYSTEM RR 50

carburetor	DELL'ORTO PHBN 16 HS
running on a mixture of unleaded petrol and oil:	
- synthetic oil.....	1,5%
- mineral oil	3%

IMPORTANT:

Since the Factory version is not equipped with an oil mixer, pour a mixture of petrol and oil directly into the fuel tank taking care to observe the percentages mentioned above. See refuelling section on page 29.

ELECTRICAL DIAGRAM RR 50



LEGND ELECTRICAL DIAGRAM RR 50

- 1) KEY SWITCH
- 2) OIL PILOT LAMP
- 3) NEUTRAL INDICATOR LIGHT
- 4) HIGH BEAM WARNING LIGHT
- 5) DIRECTION INDICATOR WARNING LIGHT
- 6) WHEEL REVOLUTION SENSOR
- 7) HEADLAMP (DOUBLE FILAMENT BULB)
- 8) SIDE/TAILLIGHT BULB 12V - 5W
- 9) ENGINE STOP BUTTON
- 10) HORN BUTTON
- 11) HEADLIGHT SELECTOR
- 12) TURN SIGNAL LAMPS SWITCH
- 13) L.H. FRONT TURN INDICATOR
- 14) REGULATOR
- 15) ENGINE STOP BUTTON
- 16) OIL LEVEL SENSOR (NOT FITTED ON FACTORY)
- 17) L.H. REAR TURN INDICATOR
- 18) R.H. REAR TURN INDICATOR
- 19) REAR LIGHT LIT BY LED
- 20) PLATE ILLUMINATION
- 21) NEUTRAL SENSOR
- 22) GENERATOR
- 23) ELECTRONIC CONTROL UNIT
- 24) SPARK PLUG
- 25) FRAME EARTH
- 26) CONDENSATOR 4700 UF
- 27) BLINKING UNIT
- 28) R.H. FRONT TURN INDICATOR
- 29) HORN 12V
- 30) FRONT BRAKE LIGHT BUTTON

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

RECOMMENDED LUBRICANTS AND LIQUIDS

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

TYPE OF PRODUCT	TECHNICAL SPECIFICATION
TRANSMISSION OIL	PANOLIN GEAR BLEND 10W/30
OIL FOR MIXTURE	PANOLIN OFF ROAD 2T RACE
BRAKE OIL	DOT 4
FORK OIL: - RR50 Enduro - RR50 Motard - Track - RR50 Factory - RR50 STD - Motard STD	FORC. Ø 40 LIQUI MOLY RACING S FORC. Ø 41 USD (Viscosity at 40°C - Right stem 32,45 - Left stem 46,00) FORC. Ø 37 AGIP H LIFT 46 (~ SAE 15W)
GREASE FOR JOINTS AND RODS	PANOLIN MOLYGRASE 23
LIQUID COOLANT	PANOLIN ANTI-FROST MT-325

CONTENTS

CHAPTER 2 OPERATION

Checks and maintenance before and after use

Running-in

Refuelling

Starting and stopping the engine

CHECKS AND MAINTENANCE BEFORE AND AFTER USE

In order to avoid problems connected to the operation of the vehicle, it is advisable to perform a number of checks and maintenance operations before and after use. Just a few minutes given to these procedures will save you time and money, and will make riding much safer.

Proceed as follows:

- Check pressure, general condition and thickness of tread.
- Check that you have the vehicle identification documents.
- On cold days, warm up the engine by running it at minimum for a few minutes before starting off.
- Wash the vehicle carefully after every off-road use.

BREAKING IN

Breaking in takes approximately 500 km/350 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 500 km/350 miles, change the gear oil.
- After the first off-road use, check all of the nuts and bolts.

FUELING

The cover **A** must be unlocked with the appropriate key and lifted in order to access the fuel tank's cap.

Remove cap **B**.

The fuel tank will hold approximately 6 liters, 1 liters of which is reserve.

Breather pipe **C** is designed to allow the outflow of gases from the tank.

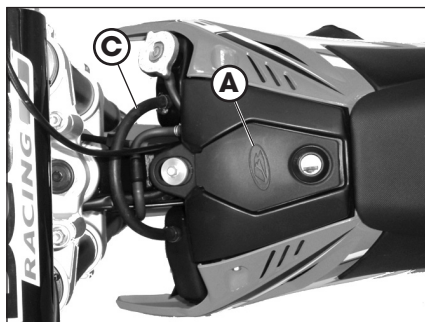
Injection system oil-refueling (not fitted on Factory version)

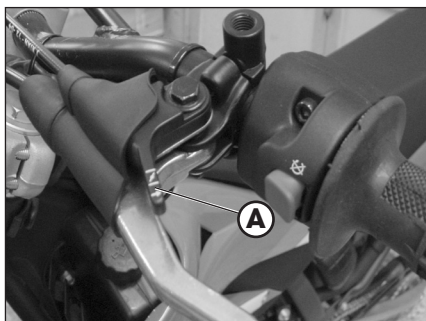
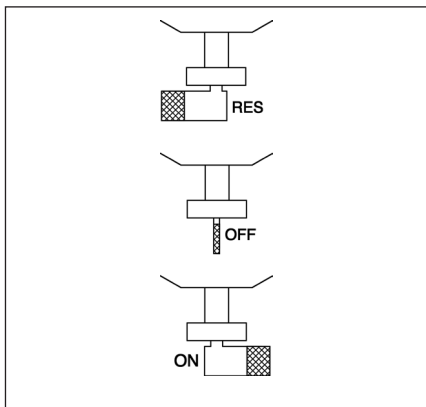
Remove cap.

Oil suggested: PANOLIN OFF ROAD 2T RACE.

IMPORTANT:

Since the Factory version is not equipped with an oil mixer, pour a mixture of petrol and oil directly into the fuel tank. Observe the oil percentages shown on page 23.





STARTUP (only with kickstarter)

- Open fuel tank valve **A**

OFF = closed

ON = open

RES = reserve

- Check that the gears are in neutral

- Position the key to  (see page 19).

- Depress the kick-starter with a sharp movement of the foot and slightly turn the gas control.


NOTE:

When the engine is cold, use choke **A**, start and wait a few seconds; and then return the lever 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 19).

- press the button  on the switch unit (see page 11).

NOTE:

Always close the fuel tank valve when the engine is off.

CONTENTS

CHAPTER 3 CHECKS AND MAINTENANCE

Gearbox oil

Brake pump oil

Air filter

Spark plug

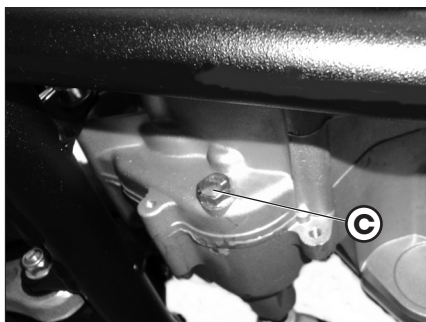
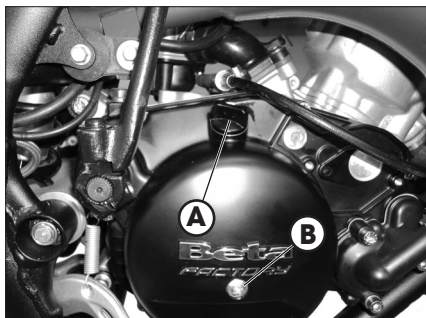
Front brake

Rear brake

Coolant

Operations after cleaning

Scheduled maintenance



GEARBOX OIL

Check

Hold the vehicle upright.
Remove screw **B**: the oil must arrive at the lower edge of the hole.
Remove filler cap **A** and top up with fresh oil.

When the operation is completed, screw on cap **A** and screw **B**.

Changing the oil

Always renew the oil while the engine is hot:

- Place a container under the engine
- Unscrew filler cap **A** and drain plug **B**
- Empty the crankcase completely
- Close plug **C**
- Pour in 850 gr. / 820 cc of oil
- Verify the level as described above
- Screw on filler cap **A** again.

WARNING:

Hot oil can cause severe burns!

WARNING:

Dispose of used oil in compliance with local regulations.

NOTE:

Change the gear box oil after the first 500 km / 350 miles. For subsequent oil changes, follow the instructions given on the chart on page 38, using the lubricants recommended on page 26.

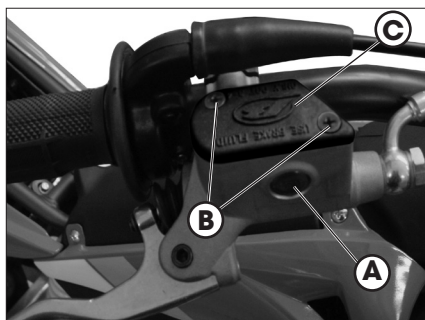
BRAKE PUMP OIL

Front brake

Check the oil level by means of oil window **A**.

Minimum oil level must never be below the level of window **A**.

To restore the oil level, top up by unscrewing the two screws **B**, lifting cap **C** 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:

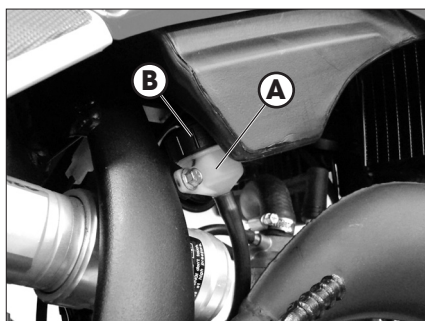
For oil changes, follow the instructions given on the chart on page 38, using the lubricants recommended on page 26.

Rear brake

Check oil level by means of oil container **A**.

Oil level must never be below the minimum level mark on container.

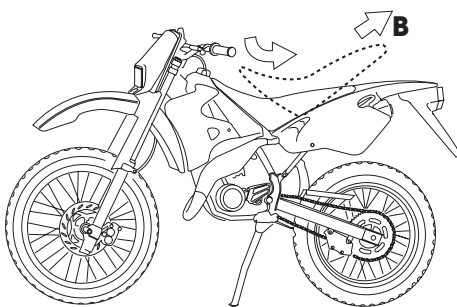
To restore the oil level, top up by means of oil filler chap **B**.

**WARNING:**

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

NOTE:

For oil changes, follow the instructions given on the chart on page 38, using the lubricants recommended on page 26.



AIR FILTER

To access the filter:

- Remove screw **A** and remove the saddle in the direction **B** indicated in the figure
- Remove the filter box cover
- Remove screw **E** and pull out the filter

Sponge filter (Enduro, Enduro Factory)

- wash the filter with soap and cold water
- Dry the filter
- Wet the filter with filter oil, removing any excess oil so that there is no dripping; we suggest to grease the side that touches the filter box.

Paper filter (Motard, Trak, Enduro standard)

- Blow the filter with compressed air.
- If necessary also clean the interior of the filter box
- Reassemble proceeding in the reverse order.

NOTE:

If the filter is damaged, replace it immediately.

WARNING:

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

Clean the filter every time the vehicle is used cross-country.

Important for the FACTORY version:

If used on the race track, clean the air filter after each race.

SPARK PLUG

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

To perform the check, simply slide off the electrical connection and unscrew the spark plug.

Examine the distance between the electrodes with a feeler. This distance should be from 0.5 to 0.6 mm. If it is not, it may be corrected by bending the earth electrode.

Check as well that there are no cracks in the insulation or corroded electrodes. If so, replace immediately.

Observe the chart on page 38 when performing the check.

When replacing the spark plug, screw it in by hand until it stops, then tighten with a wrench.

NOTE:

- The use of low-quality oil will cause an increase in carbon deposits. We therefore advise the use of a qualitatively good oil.
- Always use NGK BR9 ES spark plugs.



FRONT BRAKE

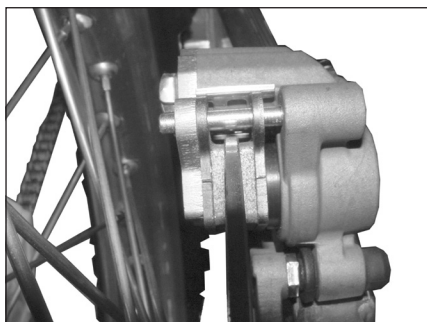
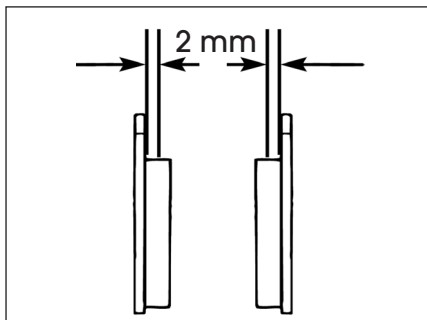
Check

To check the wear of the front brake pads, visually inspect the caliper from below. The lining on the visible ends of the two brake pads should be at least 2 mm thick. If this layer is thinner than 2 mm, replace the pads immediately.

Note:

Check the brakes every 2.500 km/1.500 miles.

To replace, contact authorised Betamotor customer service.



REAR BRAKE

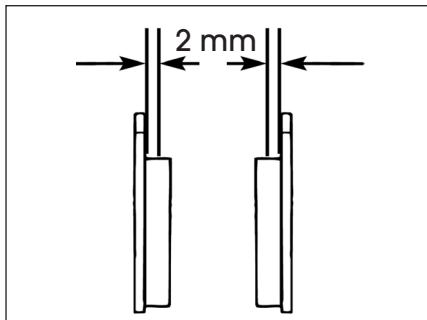
Check

To check the wear of the rear brake pads, visually inspect the caliper from below. 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:

Check the brakes every 2.500 km/1.500 miles.

To replace, contact authorised Betamotor customer service.



LIQUID COOLANT

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

- Hold the motorcycle vertical to the ground
- remove the cap **A** and check that the level of the liquid covers all the radiator elements. If it does not, add liquid until all elements are covered.

WARNING:

To avoid burns, never unscrew the radiator filler cap when the engine is hot.

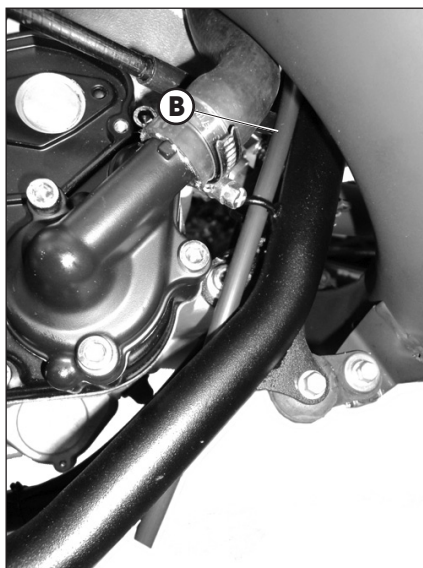
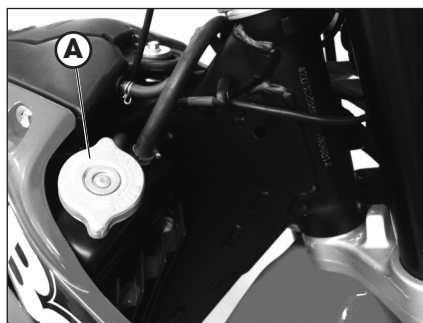
Check that breather pipe **B** is not kinked.

Note:

The FACTORY version is equipped with a dual radiator.

Note:

The circuit capacity of the Factory version is 850cc, while for all other versions, it is 500 cc. Use the fluids specified in the table on page 26.



OPERATIONS AFTER CLEANING

After washing the motorcycle:

- push handlebar control protections back so any penetrated water can evaporate.
- lubricate all pour points and working points.
- clean the chain.
- treat all plastic and powder coated parts with specific non-aggressive detergents and products for the care of the vehicle.
- to avoid electrical problems, treat electrical contacts and switches with electrical contact spray.

MAINTENANCE SCHEDULE

		End of running in 500 km	1st service - 4,000 km	2nd service - 8,000 km	3rd service - 12,000 Km	4th service - 16,000 Km	5th service - 20,000 Km	6th service - 24,000 Km	7th service - 28,000 km	8th service - 32,000 km	9th service - 36,000 km
Engine	spark plug	p	p every 1000 Km s every 3000 Km	s				s			s
	carburettor		p		p		p		p		
	mixer oil filter		p		p		p		p		
	clutch		c	c	s	c	c	s	c	c	s
	clutch play	r	r	r	r	r	r	r	r	r	r
	cooling system	c	c	c	c	c	c	c	c	c	c
	carbon formation in exhaust port		c-p	c-p	c-p	c-p	c-p	c-p	c-p	c-p	c-p
	coolant	c every 2,000 Km - s every 2 years									
	mixer oil level	c every 500 Km									
	transmission oil	s	c	s	c	s	c	s	c	s	c
	piston and piston rings		c		s		c		s		
	idle speed	r	c	c	c	c	c	c	c	c	c
Cycle parts	rear shock absorber			c		c		c		c	
	nuts and bolts *	t	t	t	t	t	t	t	t	t	t
	transmission cables and controls	c	c	c	c	c	c	c	c	c	c
	wheel alignment		c	c	c	c	c	c	c	c	c
	steering bearings and steering play	c	c	c	c	c	c	c	c	c	c
	wheel bearings		c	c	c	c	c	c	c	c	c
	air filter	c	p	p	s	p	p	s	p	p	s
	general vehicle operation	c	c	c	c	c	c	c	c	c	c
	braking system	c	c	c	c	c	c	c	c	c	c
	lights	c	c	c	c	c	c	c	c	c	c
	general greasing *	c	c	c	c	c	c	c	c	c	c
	brake fluid	s every year									
	silencer		p	p	p	p	p	p	p	p	p
	fork oil and oil seals				s			s			s
	headlight		c	c	c	c	c	c	c	c	c
	adjustment/operation										
	tyre condition and pressure	c every month									
	tensione e lubrificazione catena trasmissione	c every 300 Km									
	spoke tension	c	c	c	c	c	c	c	c	c	c
	final drive		c	c	s	c	c	s	c	c	s
	fuel lines		c		c		c		c		c
	(replace every 2 years)										
	mixer oil lines		c		c		c		c		c
	(replace every 2 years)										
	brake pad wear	c	c every 1,000 Km								

* Recommended after each off-road ride.

Key: c - check (clean, adjust, lubricate and replace as necessary)
s - replace/renew p - clean r - adjust t - tighten

CONTENTS

CHAPTER 4 ADJUSTMENTS

Brake adjustment

Adjustment of clutch lever

Adjustment of idling speed

Adjustment of gas clearance

Check and adjustment of steering gear

Tightening the chain

Adjustment of rear shock absorber

4

 ADJUSTMENT OF BRAKES

Front brake

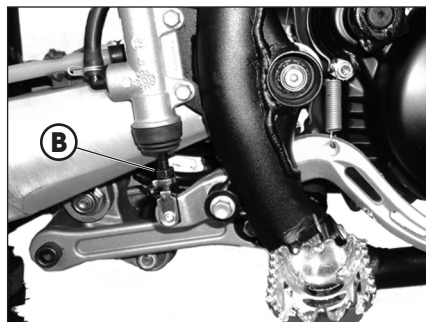
The front brake is disk type with hydraulic control, and therefore requires no adjustment.

You can adjust lever height by means of the register **A**.



Rear brake

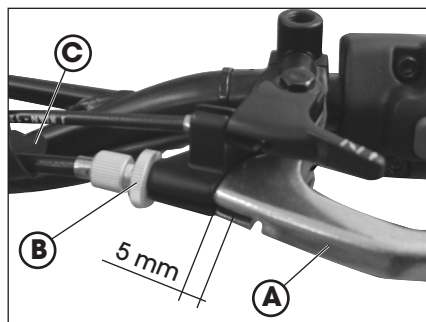
The rear brake is disk type with hydraulic control. You may adjust pedal height by means of register **B**.

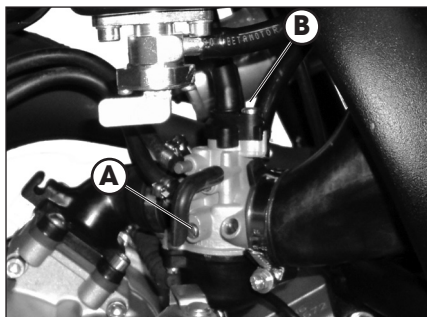


ADJUSTMENT OF CLUTCH LEVER

Adjust the lever **A** by means of the register **B**, lift rubber dust cover **C** and turn adjuster **B**.

The lever must have 5 mm of idle stroke.



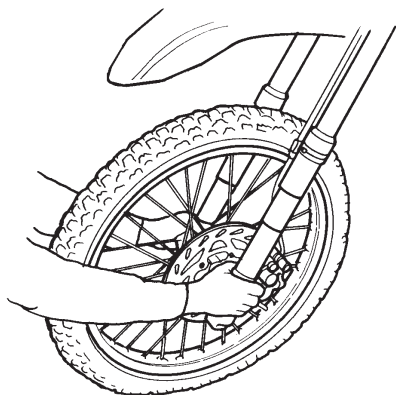


ADJUSTMENT OF IDLING SPEED

In order to perform this operation correctly, we advise you to do it when the engine is hot, connecting an electric revolution counter to the spark plug wire. Then use a screwdriver on register screw **A** to calibrate the minimum with 1900 R.P.M.

ADJUSTMENT OF GAS CLEARANCE

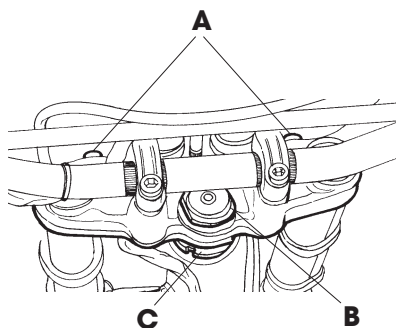
Whenever the accelerator shows unloaded travel exceeding 3 mm, measured from the edge of the handle, you should adjust it by means of carburettor register **B**.



CHECK AND ADJUSTMENT OF STEERING GEAR

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 **A**
 - Loosen nut **B**
 - Take up the play by means of ring nut **C**
- For reassembly, proceed in the reverse order.



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

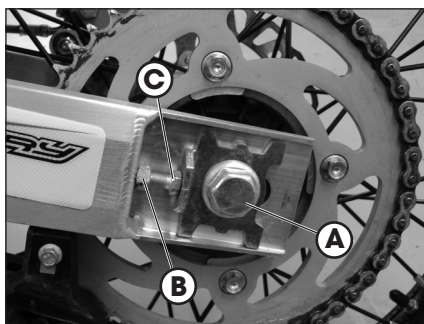
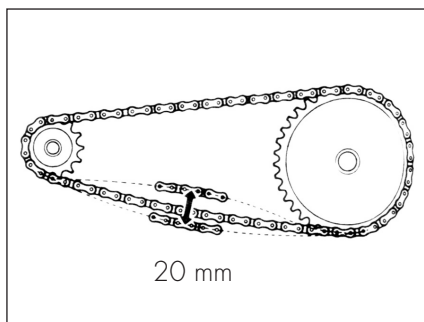
TIGHTENING THE CHAIN

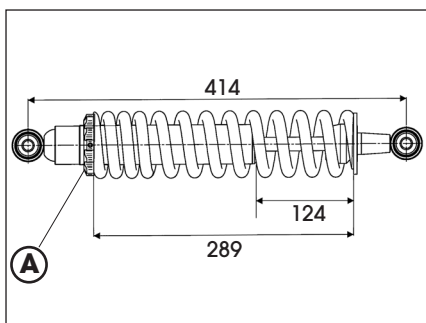
Checking the drive chain periodically to ensure longer chain life.

Always keep it lubricated and clean of deposited dirt.

If play exceeds 20 mm tighten the chain as follows:

- Loosen the pin **A**
- Loosen counternut **B**
- Turn screw **C**
- Use the same procedure on the other side, bringing it into the same position.
- Check wheel alignment.
- Tighten and block pin **A** keeping the chain adjuster to knob to the register.
- Retighten counternut **B**.

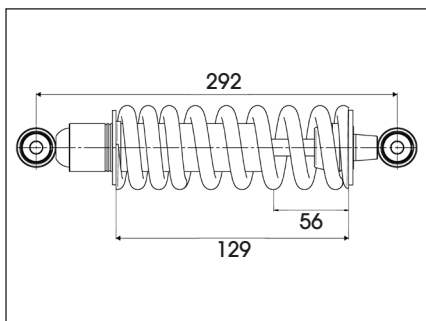




ADJUSTMENT OF REAR SHOCK ABSORBER (ENDURO)

Adjustment of spring load

Use ring nut **(A)** to adjust the damping action of the shock absorber. The damping action is adjusted by changing the standard 260 mm spring preload. Adjusting range: 295 mm to 289 mm. see figure.



ADJUSTING THE REAR SHOCK ABSORBER ON THE (ENDURO FACTORY)

The rear shock absorber on the FACTORY version is equipped with external adjusters which allow the vehicle geometry to be adapted to different load conditions.

Adjuster **(B)**, located near the lower shock absorber mount, is used to adjust the hydraulic damping during the rebound (return) phase.

Knob **(C)**, located on the expansion tank of the shock absorber, adjusts the hydraulic damping during the compression phase. Turning knobs **(B)** and **(C)** clockwise increases the damping action; conversely, turning them anticlockwise decreases it.

WARNING:

The shock absorber contains high-pressure gas. To prevent serious damage, it should be removed and disassembled only by skilled personnel.

In the event of any malfunction, contact our authorized customer service network.

CONTENTS

CHAPTER 5 TROUBLESHOOTING

Troubleshooting

INDEX

PROBLEM	CAUSE	REMEDY
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 34
	-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
	-Mix 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

Air filter	34
Brake: front	36
Brake pump oil	33
Brake: rear.....	36
Brakes adjustment.....	40
Breaking in	28
Chain: Tightening	42
Checks and maintenance before and after use.....	28
Clutch lever adjustment	40
Controls.....	11
Digital RPM indicator	13
Electrical diagram RR 50	24
Fueling operations	29
Gas clearance adjustment.....	41
Gearbox oil	32
Idling speed adjustment	41
Keys	19
Liquid coolant.....	37
Lubricants and liquids	26
Maintenance schedule	38
Operations after cleaning	37
Rear shock absorber: adjustment	30
Spark plug	35
Startup	30
Steering: check and adjustment.....	41
Steering lock	19
Technical data	20
Troubleshooting.....	46
Tyres	8
Vehicle: familiarizing with.....	10
Vehicle identification data	8

