OWNER'S MANUAL

MRT 50-MRT SM 50
MRT 50 PRO-MRT SM 50 PRO

RIEJU

Start the rocket.

english

RIEJU S.A. is grateful for the confidence you have put in their company and would like to congratulate you on your choice of motorcycle.

The MRT 50/ MRT SM 50 and MRT 50 PRO / MRT SM 50 PRO are the resulted of the long-term experience that RIEJU has had in competitions, which has led to the development of a high performance vehicle.

The objective of this owner's manual is to denote the use and maintenance of your vehicle, we ask you to read the instructions and information that follow carefully.

We wish to remind you that the life of the vehicle depends on how it is maintained. Maintaining the vehicle in perfect working condition reduces the cost of repair.

This manual has to be considered as an integrate component of the motorcycle and must remain part of the basic equipment, and handed over in the event of a change of vehicle ownership.

In the event of any problems, please consult the RIEJU dealer who will assist you.

Please remember that for your motorcycle to perform correctly, you should always **fit original spare parts.**

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MOTORCYCLE DESCRIPTION

This motorcycle has a 49.7cc single cylinder; liquid cooled two stroke MINARELLI motor. With a piston diameter of 40,3 mm and it has a 39 mm bore.
The motor has an electronic Ignition system, CDI and a high-tension coil. The Generator provides 85 Watts and 12 volts via a regulator to supply power for the bike electrics. Engine power is delivered to final drive chain via a Multiple metal clutch with constant pressure springs, submerged in an oil bath.
The engine is anchored to a highly resistant perimeter type chassis, with tapered steering bearings.
The front suspension in MRT and MRT SM 50 models consists of a hydraulic fork with bars which have a diameter of 37 mm.
In PRO models with variable transmission, it consists of an inverted hydraulic fork with 40 mm-bars.
In MRT and MRT SM 50 models, the rear suspension consists of a highly resistant and comfortable hydraulic shock absorber.
The rear suspension in PRO models with variable transmission consists of a shock absorber anchored to a progressive articulated rod system (Progressive Racing System - PRS) which provides great operational smoothness PRO models with variable transmission also incorporate a gas shock absorber with spring preload adjustment.
The front disc brake is made of stainless steel and has a diameter of 220 mm and 180 mm with radial calipers in MRT50 and MRT SM 50 models.
PRO models with variable transmission are equipped with 260 mm-front discs and 220 mm-rear discs with a double-piston radial caliper.

IDENTIFICATION OF THE MOTORCYCLE

On the chassis you will find your motorcycle's identification number engraved .

The number is stamped on the right hand side of the front frame (Steering head.) is unique to every machine. This number is required to register your vehicle, this chassis or Vin number should be quoted when requesting warranty assistance or genuine Rieju spare parts.

PRINCIPAL ELEMENTS OF THE MOTORCYCLE

KEYS

With this model, you will be given a set of keys, which are used for the Ignition switch/Steering lock. These keys are joined together by a small plastic panel, where the key number is engraved. We recommend that this number is kept in a safe place in case the keys are lost.

INSTRUMENT AND INDICATORS

1-.MainIgnitionswitch

The Ignition switch has three positions: the Ignition off position, the start or Ignition on position and a third position which switches on the front and rear lights of the bike.

2-. Speedometer (Kmh and Mph)

The speedometer has the odometer fitted, which is calibrated in kilometres

4-. Out of gear (Neutral) indicator (Green.)

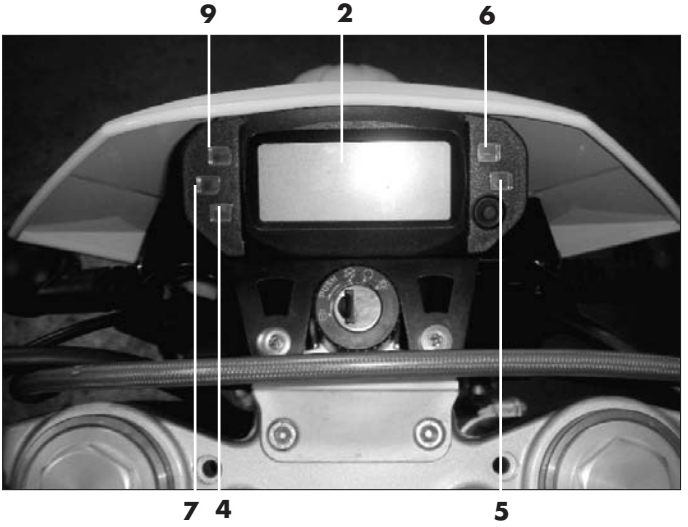
This light comes on when the gear change lever is in the neutral (N) position, that is to say, out of gear.

5-. Temperature warning lamp (Red.)

This light is very important as it can tell us if there is an excessive increase in engine running temperature due to an engine fault or a low level of cooling liquid in the radiator.

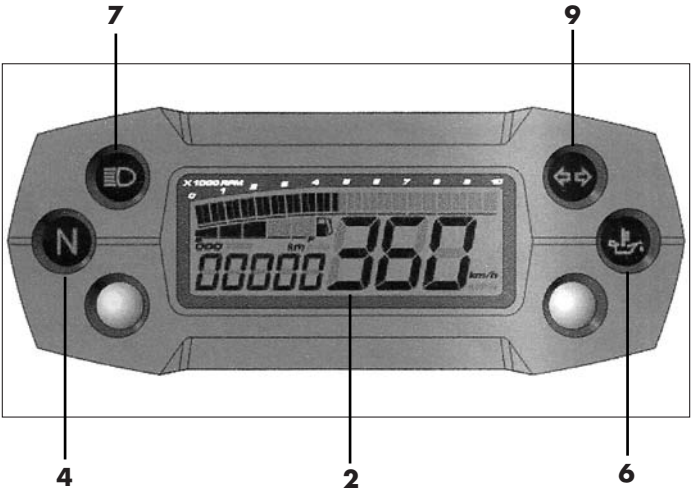
6-. 2 Stroke Oil level warning light (Red)

This lamp illuminates when the 2 stroke oil level is low, that is to say, when it reaches the reserve level. It is vitally important that when it lights up, the 2 stroke oil tank is filled as soon as possible, should the run without 2 stroke oil, it will cause serious damage to the engine

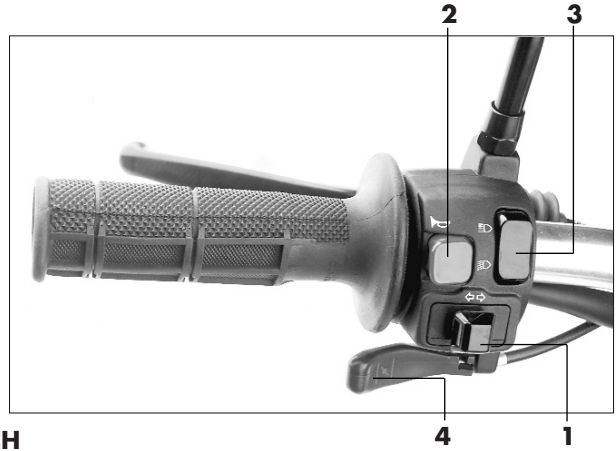


7-. Headlight Main beam warning light (Blue)
This indicator comes on when the headlights are on main beam.

9-. Direction indicator warning lamp (Green)
This indicator comes on when we activate the direction indicators.



HANDLE BAR SWITCHES
(Left hand side.)



1-. Indicator Switch
This has 3 positions: in the centre position it is deactivated, to indicate right it must be moved to the right and to indicate left it must be moved to the left. Note that the button always returns to the central position, to switch off the direction indicators push button.

2-. HORN BUTTON (Red)
Press the button to activate the horn.

3-. MAIN AND DIP BEAM LIGHT SWITCH
This switch has two positions: when it's down the dip beam is on and in the upper position the main beam is illuminated. The lights run directly from the engine, to switch the lights on the Ignition key has to be turned towards the lighting position, on all MRX models.

4-. COLD START (CHOKE)
When the motor is cold, the choke lever should be placed in the On position.
CAUTION: Once the motor has reached it's normal working temperature, return the choke lever go back to it's original position, otherwise it could cause the motor to misfire.

CLUTCH LEVER

The clutch lever is situated on the left-hand side of the handlebar. To activate it, pull the lever towards the grip or handlebar.

FRONT BRAKE LEVER

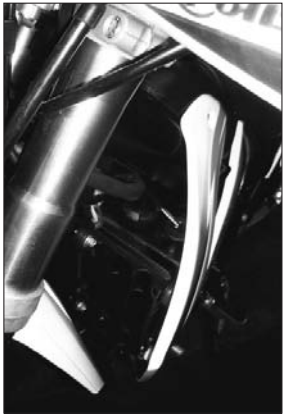
The front brake lever is situated on the right-hand side of the handlebar. To activate the front brake, pull the lever towards the handlebar.

REAR BRAKE PEDAL

The rear brake pedal is on the right-hand side of the motorcycle. To activate it, press downwards with the foot.

GEAR BOX PEDAL

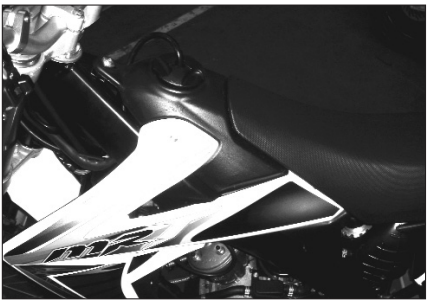
This is situated underneath the left part of the motor, it is activated with the foot taking it all the way and then letting it go back to its' original position before changing gear again. To put the motorcycle into first gear, the pedal has to be pressed downwards. To change the other gears, lift the lever upwards with the toe.



OIL TANK

Situated on the left-hand side of the vehicle, in front of the petrol tank, at the same height as the radiator, to get to it, unscrew the top and fill up with oil. The capacity of the tank is 1.2 litres.

We must never let it get empty of oil, otherwise it would be necessary to bleed the oil pump to remove any air. If the motorcycle has no oil left, the motor would seize up immediately with serious technical and costly consequences for the user. RIEJU recommends using Injection System oil.



PETROL TANK

To get to the tank, open it using the stopper of the tank, turning it anti-clockwise. Remember that petrol without oil must always be used.

The capacity of the tank is 6.3 litres.

PETROL TAP

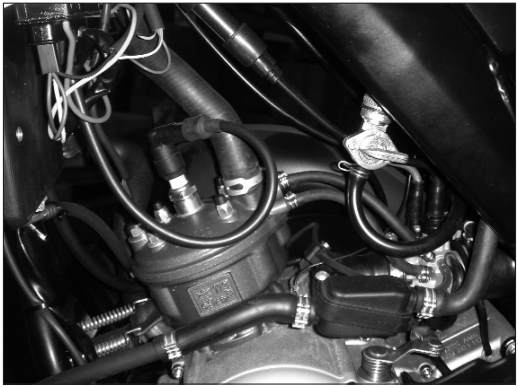
The petrol tap is situated on the left-hand side of the vehicle, under the fuel tank.

It has three positions:

OFF: with the lever in this position, the fuel will not go through. Put the lever in this position when the motor is not running when parked and garaged.

ON: with the lever in this position, the fuel goes to the carburettor. Normal driving is done with the lever in this position.

RES: this position is RESERVE. If you run out of fuel while you are driving with the lever in the "ON" position, turn the lever to this position. Fill the tank as soon as possible, then it is important to remember to turn the lever back to "ON".



CHECKS BEFORE USING MOTORCYCLE.

Check the following points before using your motorcycle:

Items to be checked	**Check-up**
2 Stroke Oil tank	Check the level and fill up if necessary
Lights and indicators	Check if they work correctly
Front and rear brakes	Check the brake pads for wear and test brakes
Accelerator grip	Check the set, regulate and lubricate if necessary
Petrol tank	Check level and fill if necessary
Tyres	Check the tyre pressure and wear
Indicators (Instrument panel.)	Check if they work correctly
Clutch	Check adjustment and smooth operation
Transmission chain	Check tension and condition of chain and sprockets plus lubricate.

Each time the vehicle is used, it should be checked as above.
A complete check does not take more than a few minutes.
If during these checks any abnormality is established, it should be repaired before using the motorcycle.

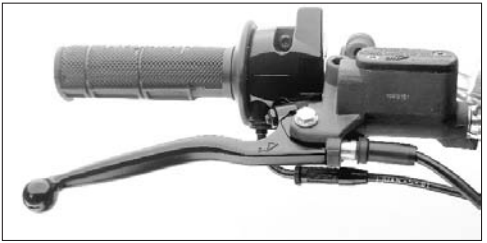
ROUTINE TESTING

FRONT BRAKE

Pulling in the front brake lever operates the front brake by pumping brake fluid from the master cylinder to the front brake calliper. The brake pads are pushed by the calliper pistons against the front disc. Slowing the bike down.

The braking surface of the disc should be free of oil and dirt to ensure maximum braking efficiency. If for any reason the master cylinder is empty of brake fluid after checking for pad wear it should be topped up as necessary. If there is air in the system the brakes will need to be bled.

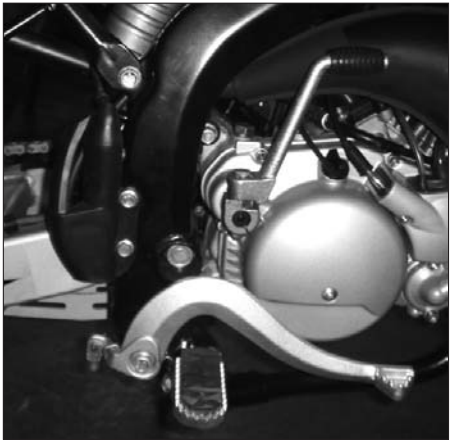
Loosen the bleed nipple on the front calliper, putting a petrol tube onto the nipple. This tube should be put in a recipient so as not to spill brake fluid. Undo the brake nipple on the calliper 1 or 2 turns only and gently operate the front brake lever so that the brake fluid goes down, until it comes out through the tube without any air bubbles. At this point, hold the brake lever in and close the bleed nipple. Top up the master cylinder reservoir as necessary with DOT 4 brake fluid. Replace the top and check brake efficiency.



Bleed nipple

REAR BRAKE

Periodically check the brake fluid level in the reservoir situated on top of the rear brake master cylinder and under the rear right hand panel, to top up, use Dot 4 brake fluid. If the reservoir is empty please go to your local Rieju dealer.



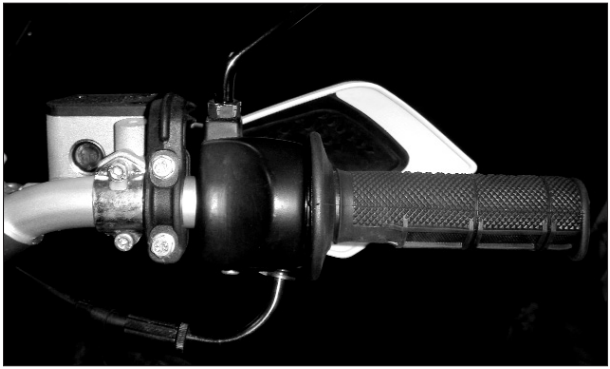
BRAKE FLUID LEVEL AND BRAKE PAD WEAR

Check that the level of brake fluid is correct, if not, Check for brake pad wear. If the pad material is less than 2mm thick, the pads should be replaced. If the pads are not worn out, top up the brake reservoir with brake fluid.
(WARNING Brake fluid is corrosive and will damage paintwork, if spilt wash off with water immediately)

Always remember that the above must be carried out by a RIEJU official service.

THROTTLE TWIST GRIP

Ensure it works correctly, by turning the grip and verifying if the free play is correct. The grip should return to closed position when released.



LIGHTS, INDICATORS AND WARNING LAMPS

Check operation of all lights, and direction indicators plus the oil warning lamp and petrol reserve panel lights. Replace bulbs as necessary.

TYRES

The tyre pressure directly effect the road holding ride comfort and braking distance, the, therefore check the tyre pressures regularly for your own safety. Make sure that the rim is central and not damaged, as well as the wear on the tyres. Do not overload the vehicle as this will effect stability, and increases tyre wear.

CAUTION: when the pressure is very high, the tyres can no longer absorb any shocks, transmitting any road surface defects directly to the chassis, handlebar and rider.

PRESSURES		
Tyre	Front	Rear
MRT	1,7 Kg/Cm^2	1,8 Kg/Cm^2
MRT-SM	1,8 Kg/Cm^2	1,9 Kg/Cm^2

MOTORCYCLE OPERATION

It is very important to know how to operate your vehicle correctly.
NOTE: remember that you must not leave the motor running in an enclosed area, as the toxic gas from the exhaust could cause serious health problems.

STARTING AND RIDING.
Open the petrol tap.
If the motor is cold, fully open the choke lever.
Turn the ignition key one position clockwise and check the engine is in neutral, with the throttle closed depress the kick start to turn the engine over.
After a few kicks the engine should fire, allow the kick start to return to its rest position.

TO RIDE AWAY
Pull in the clutch lever and put the motorcycle in first gear (Down one click), slowly release the clutch lever while at the same time accelerating slowly once moving allow the clutch lever to go its rest position (OUT) and ride away.
Do not accelerate too much until the motor is warm enough.

CAUTION: Before riding the motor should be warm, never accelerate or ride hard when the motor is cold. This will prevent pre-mature damage to your engine.

RUNNING IN

The most important period of your motorcycle's life is between 0 and 500 kilometres and because of this we ask you to read the following instructions carefully. In the first 500 kilometres, the motorcycle must not be overworked as the motor is new and the different parts of the motor have to wear in, until it works perfectly. During this period, avoid prolonged use of the motorcycle at high revolutions or in conditions that could cause overheating.

ACCELERATION

Riding speed and acceleration is controlled by opening or closing the throttle. Operating the twist grip toward you increases the speed and away from decreases the engine revolutions.

TO BRAKE (SLOWING DOWN)

Close the throttle; activate the front and rear brakes simultaneously, increasing the pressure progressively.

NOTE: Sudden braking can cause skidding

STOPPING

Close the throttle and activate both brakes simultaneously and when the vehicle has reduced speed, Pull in the clutch lever all the way. To stop the motor, switch off the ignition and remove key.
Once the motor has stopped always close the petrol tap.

GEAR BOX PEDAL

The Gear lever is located near the left hand engine case of the motor and is activated with the foot taking it all the way down or up, letting it come back to its' original position before changing gear again. To put the motorcycle into first gear, the pedal has to be pushed downwards, to put in the 2,3,4,5,6 gears lift the lever up as far as it will go with the toe. Gear changing should be done carefully to ensure the gear you want is selected before releasing the clutch.

CARBURETTOR

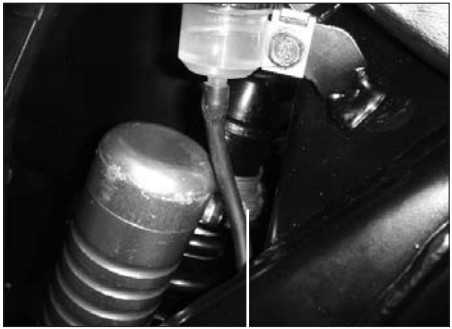
The carburettor provides the correct petrol air mixture to the engine. It the settings are tampered with poor performance and/or overheating may occur. If you have any problems please refer to your Rieju dealer.

FRONT SUSPENSION

The front suspension consists of a hydraulic fork which has been crafted to the highest standards of technology and design.

Fork MRT / MRT SM 50
Ø 37 mm. fork tubes
Oil capacity: 245 c.c. per leg
Type oil recommended: SAE 15W/20

Fork MRT 50 PRO/SRT SM 50 PRO
Ø 40 mm. fork tubes
Oil capacity: 325 c.c. per leg
Type oil recommended: SAE 10W



Threaded brass rings
MRT PRO/MRT SM PRO

REAR SUSPENSION

The rear suspension is made up of a rectangular-pipe swing arm anchored to a hydraulic mono-shock absorber.

The MRT PRO / MRT SM PRO model is equipped with a gas-assisted hydraulic mono-shock absorber with separate gas reservoir and spring preload adjustment via the nut located under the shock absorber spring by means of the PRS progressive articulated rod system.

COOLING SYSTEM

The radiator is mounted on the front right-hand side of the motorcycle behind a protective grill; The radiators propose is to maintain a constant engine temperature by cooling the hot water which is pumped around the engine.
To check the level of coolant, carefully undo the radiator cap off and top up if necessary.

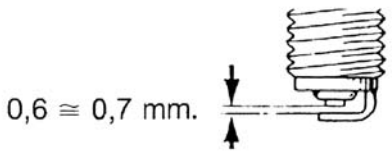
NOTE: never open the top of the radiator when the motor is hot, because the boiling liquid could escape under the pressure, which is dangerous.
It is strongly recommended that you use a closed circuit anti-freeze liquid. In this way we can avoid the water freezing causing damage to the water pump and water pipe ruptures. Do not top up with tap water as the calcium content could damage the radiator.

SPARK PLUG CHECK

The spark plug is an important part of the motor and it is easy to check. Take the spark plug out and check it periodically, the high combustion temperatures and carbon deposits may effect the efficiency of the engine. If the electrode is too eroded or carbon deposits are excessive, change the spark plug.

The correct plug is a NGK BR 9 ES

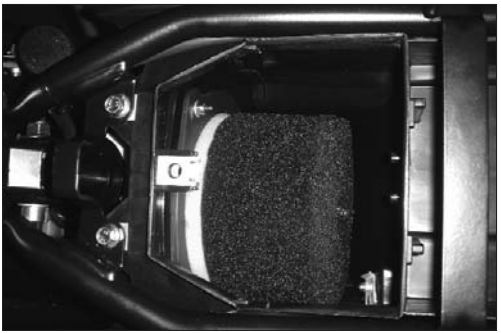
Before fitting a new spark plug, check the gap between electrodes. This gap must be between 0,6-0,7mm.



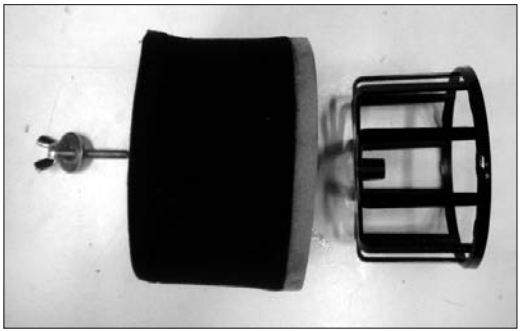
When installing the spark plug, always clean the area, around the plug hole to prevent any dirt etc. from entering the combustion chamber. Screw the spark plug in by hand, trying to make sure that it is not cross threaded finally tighten it $^{1}/_{8}$ or $^{1}/_{4}$ a turn with the plug spanner.

AIR FILTER

To ensure that the engine runs correctly, the air filter must be kept clean and oiled.
In order to access the air filter, disassemble the motorcycle seat, allowing free access to the filter box.
Remove the cover, which is attached to the box by a screw, and remove the filter housing.



After removal, check to see if the foam filter is blocked, in which case wash in paraffin, apply some air filter foam oil then squeeze the filter material between your hands to remove surplus oil. Do not wring out the filter element, as this will damage the foam. When refitting the air filter sure that the foam fits the box correctly so that no air can enter the engine without being filtered. It must be cleaned more frequently if the motorcycle is used in humid or dusty places.

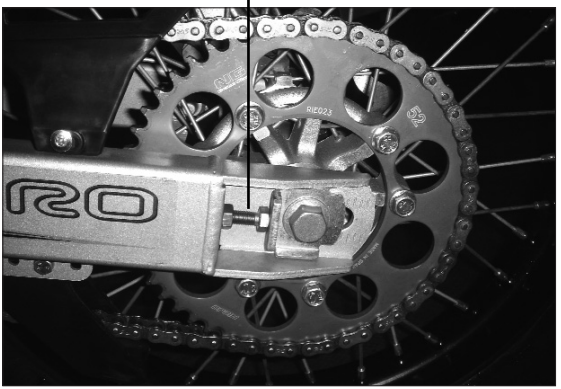


TRANSMISSION CHAIN ADJUSTING AND LUBRICATION

To correct the chain tension, loosen the rear axel bolts and turn the adjustment plates of the rear wheel axle clockwise to tighten the chain and anti-clockwise to loosen the chain. Turn the rear wheel several times and check the tension in various areas to find the point at which the chain is at its tightest point.
To check the chain adjustment the chain tensioner must be pulled away from the chain. The chain should have 35 – 45 mm of movement.

Chain tolerance 35-45 mm.

Chain tensioner



Try not to over tighten the chain, as it will stretch and wear the sprockets much quicker and may damage the gearbox.

If the wheel and chain are badly aligned, this can cause the chain to come off, and severely affect the bikes handling.

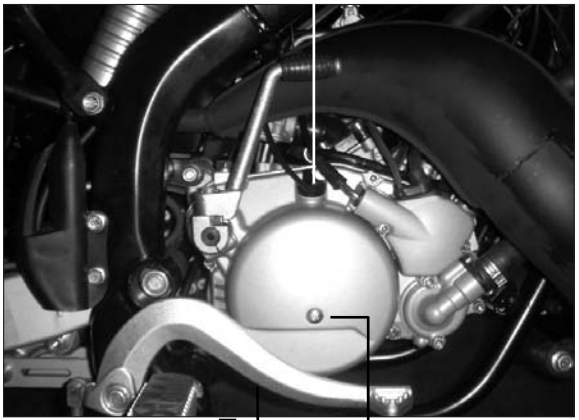
Periodically, it is necessary to clean and grease the chain. The chain is made up of many pieces which all work together. If the chain is not maintained properly, it will wear very quickly, therefore, it is advisable to grease the chain periodically with the correct chain lubricant.
Before lubrication, it is necessary to clean the chain to remove the dirt and the mud with a brush or a cloth and then apply the chain lube to all the chain links and sprockets.

GEARBOX OIL CHANGE.

The gearbox and the clutch are lubricated by the action of the same gearbox oil. The recommended oil is SAE 10W/30, with a total gearbox capacity of 820c.c.

A drainage bolt situated in the bottom right-hand side of the motor empties the gearbox. It is recommended that you change the oil when the motor is still warm, as the oil will flow easier. Remove the drain plug and wait for the gearbox to empty completely.

Once it's empty, replace the drain plug. Remove level plug (See picture.) Fill the gearbox through the black plastic filler cap on the top of the gearbox), until the oil just starts to run out of the level hole.



CLEANING, LUBRICATION AND STORAGE

CLEANING. Frequent and thorough cleaning of your vehicle is an important part of maintenance and will reduce the risk of corrosion and help the resale value if the vehicle looks good. Near to areas in the sea or high mountain where salt is used on the road, we recommend a cleaning or the vehicle after use to prevent corrossion by the effects of salt. It is important to make a good clean at those points where the salt cumul.

I. Before cleaning:
   a) Cover the end of the exhaust to stop water getting inside.
   b) Make sure that the spark plug and filler caps are fitted correctly.

2. If the motor is very dirty or greasy, use a degreasing agent (Refer to note above.) Do not apply this to the wheel axles or the chain, because that would remove any protective layer of lubricant.

3. Using a hose pipe remove the degreasing agent and dirt, but only with the pressure that is necessary. (DO NOT USE A PRESSURE WASHER.)

NOTE: Rieju is not responsible for the use of degreasing agents that may stain or mark the body work or chassis.
Rieju is not responsible for the possible damage and wear and tear due to using a pressure hose to clean the vehicle.

4. Once the dirt has been removed, wash all the surfaces with warm water and soft detergent. To get to the difficult areas, use a bottle-washing brush or something similar.
5. Immediately rinse with cold water and dry all the surfaces.
6. Clean the seat with a combination vinyl upholstery cleaner to keep it lustre and flexible.
7. To finish off, start the motor and let it run slowly for a few minutes. This way we can dry the bike out completely
8. When dry inspect the bike for any corrosion, it way be necessary to repaint the exhaust with a heat protective paint and touch up stone chips on the frame to prevent further corrosion.

LUBRICATION

Apply lubrication to all cables, Chain and sprockets if necessary. Plus a water repellent agent to all electrical switches and exposed connections.

STORAGE.

Storage of the motorcycle for a long period of time demands certain care to prevent deterioration. Once it is clean and lubricated, prepare to store the motorcycle in the following manner:
1. Drain the petrol tank, petrol pipes and the carburettor bowl.
2. Take the spark plug out and put a spoonful of SAE 10/30 oil through the plug hole and replace the spark plug.
3. Cover the exhaust with a plastic bag to stop the humidity getting in.
4. Completely cover a bike with a sheet to keep of dust

BASIC MAINTENANCE CHECKS	1st REVISION	2nd REVISION	3rd REVISION
	500 KMS.	3.500 KMS.	3.000 KMS
Brake efficiency check and brake pad wear.	•	•	•
Check level of gearbox oil	Change	•	Change
Check tension and wear on chain and sprockets	•	•	•
Check suspension	•		•
Check, adjust and grease controls and cables	•	•	•
Check tension of wheel spokes and wheel alignment	•	•	•
Clean and oil air filter	•	•	•
Check and adjust carburettor if necessary	•		•
Check and adjust spark plug or change it	•	•	•
Check all screws and chassis screw – plastic parts	•		•
Check electric system, lights horn and indicators etc	•		•
Check wear on all bearings, steering head and wheel			•
Check coolant level of in radiator	•	•	•
Check exhaust system.(Remove corrosion and paint)			•
Check oil pump function	•		•

TECHNICAL SPECIFICATIONS AND CHARACTERISTICS

Model	MRT / MRT - SM
Dimensions:	
Total length	2150 mm. / 2070 mm.
Total width	800 mm. / 800 mm.
Total height	1165 mm. / 1145 mm.
Total seat height	890 mm. / 870 mm.
Distance between axles	1405 mm. / 1380 mm.
Minimum distance to the floor	310 mm. / 288 mm.
Basic weight:	85 Kg.
Engine:	**MRT / MRT - SM**
Type	2 stroke water cooled
Number of gears	6 gears
Make	Minarelli
Model	AM 6 (EU2)
Cylinders	1 inclined forwards
Engine capacity	49,7 c.c.
Piston size, bore	40,3 mm., 39 mm
Starter system	Kick start
Lubrication system	Automixing
Oil type	Full synthetic Castrol TTS

Huile de transmission:	
Type	SAE 10W 30
Quantity	820 c.c.
Air filter	Humid rubber foam
Petrol:	
Type	Unleaded petrol 95
Tank capacity	6,3 L
Carburettor	Dellorto PHBN 16 HS
Bougie:	
Type	NGK BR 9 ES
Electrodes separation	0,6 - 0,7 mm
Clutch type	Multidiscs in oil bath
Primary transmission	
Clutch rim	Z = 71
Pinion thrust	Z = 20
Transmission relation	1 : 3,55
Secondary transmission	
Front sprocket	Z = 11
Rear sprocket	Z = 52
Transmission relation	1 : 4,36
Chain	420 x 132 pas

SPEED CHANGE				
Speed	Primary tree	Secondary tree	Gear change ratio	Output ratio
1ª	Z = 12	Z = 36	1 : 3,00	1 : 10,65
2ª	Z = 16	Z = 33	1 : 2,06	1 : 7,31
3ª	Z = 19	Z = 29	1 : 1,53	1 : 5,43
4ª	Z = 22	Z = 27	1 : 1,23	1 : 4,37
5ª	Z = 24	Z = 25	1 : 1,04	1 : 3,69
6ª	Z = 25	Z = 24	1 : 0,96	1 : 3,40

Suspension: MRT 50 / MRT SM 50	
Front	Upside down forks Ø 37 mm. OIL FORK 15W 20, 245 cc each leg.
Rear	Hydraulic shock absorber.
MRT 50 PRO / MRT SM 50 PRO	
Front	Upside down forks Ø 40 mm. OIL FORK SAE 10W, 325 cc each leg.
Rear	Gas shock absorber with a bottle and manual adjustment for pre load spring.

Brakes: **MRT 50 / MRT SM 50**	
Front	Disc 220 mm ∅
Rear	Disc 180 mm ∅
MRT 50 PRO / MTR SM 50 PRO	
Front	Type disc Wave 260 mm ∅
Rear	Type disc Wave 200 mm ∅
Tyres: **MRT 50 / MRT 50 PRO**	
Front	80/90 - 21, with inner tube, 1'7 kg/cm^2
Rear	110/80 - 18, with inner tube, 1'8 kg/cm^2
MRT SM 50 / MRT SM 50 PRO	
Front	100/80 - 17, with inner tube, 1'8 kg/cm^2
Rear	130/70 - 17, with inner tube, 1'9 kg/cm^2
Electric equipement:	
Ignition	Electronic C. D. I.
Generator	Ducati 85W regulated to 12 volts ac.
Ignition timing	20°, 1'4 mm before the P.M.S.

Voltage and bulb output:	
Light	12 v 35/35 w
Rear pilot light	12 v 21/5 w
Instrument cluster	12 v 1,2 w
Indicators	12 v 10 w
Odometer lighting	12 v 1,2 w