

# TRIAL 303-243-125 Serie 2 Professional

## Operation and Maintenance

### A WELCOME TO THE FANTICMOTOR RIDER

Congratulations on your choice and thank you for choosing us.

The FANTIC TRIAL that you now own, is a new vehicle, well-tested and sturdy, that will give you a great deal of satisfaction; the instructions on the following pages will help you keep your FANTIC in perfect condition; we recommend you follow them carefully.

In order to offer an improved product, we reserve the right to introduce technical, aesthetic and color variations without notice.

### NOTE

In order to keep your FANTIC in perfect running order and to comply with the conditions of warranty in the sales contract, we advise that the lubricants recommended by us be used expressly and that any repairs on your FANTIC be performed exclusively by an authorized FANTICMOTOR dealer.

This guarantees your vehicle a longer life and optimal operation.

We recommend that you always ask for FANTICMOTOR original spare parts.

### TECHNICAL FEATURES

	TRIAL 303 serie 2	TRIAL 243 serie 2	TRIAL 125 serie 2																																																						
<b>Engine:</b>	Two stroke, single-cylinder, air cooled. Removal of cylinder and head possible without take away the engine.																																																								
<b>Bore and Stroke:</b>	74x58 mm	69x56,5 mm	55,2x52 mm																																																						
<b>Cylinder size:</b>	248,4 cc.	212 cc.	124,4 cc.																																																						
<b>Max. power:</b>	16,6 HP (KW 12,3) à 5.000 R.P.M.	16 HP (KW 11,7) à 5.750 R.P.M.	11,5 HP (KW 8,46) à 5.500 R.P.M.																																																						
<b>Max. torque:</b>	2,5 Kgm (24,5 Nm) à 4.000 R.P.M.	2,32 Kgm (22,7 Nm) à 3.750 R.P.M.	1,41 Kgm (13,88 Nm) à 5.000 R.P.M.																																																						
<b>Compression ratio:</b>	1:10,4	1:11,7	1:12																																																						
<b>Ignition:</b>	DUCATI ENERGIA electronic flywheel and ignition system. The weight of the flywheel is adjustable for individual preference.	DUCATI ENERGIA electronic flywheel and ignition system. The weight of the flywheel is adjustable for individual preference.	electronic flywheel																																																						
<b>Clutch:</b>	Multi disc in oil bath.	Multi disc in oil bath.	Multi disc in oil bath.																																																						
<b>Spark advance</b>	2,5 mm on the piston correspond. to 21°30'	2,5 mm on the piston correspond. to 21°30'	1,6 mm on the piston correspond. to 18°																																																						
<b>Spark plug:</b>	CHAMPION N 3	CHAMPION L 82	CHAMPION L 86																																																						
<b>Carburetor:</b>	DELLORTO PHBH 26 SD	DELLORTO PHBH 26 SD	DELLORTO PHBL 24 BD																																																						
Maximum jet	100	93	88																																																						
Minimum jet	42	42	48																																																						
Starting jet	70	70	60																																																						
Conical needle	Type X44 at second notch	Type X44 at second notch	Type D22 at second notch																																																						
Gas valve	No. 50	No. 50	No. 40																																																						
Spray nozzle	BN 264	BN 264	AQ 265																																																						
Float	g. 9,5	g. 9,5	g. 6,5																																																						
Open air screw	1 revolution	1 revolution	1/2 revolution																																																						
<b>Drive:</b>	Primary: straight-tooth gear Z-24/79 ratio 1:3,30 Secondary: 5/8" x 1/4" Z=12/39 chain, ratio 1:3,24	primary: straight-tooth gear Z-24/79 ratio 1:3,30 secondary: 5/8" x 1/4" Z=11/39 chain, ratio 1:3,54	primary: straight-tooth gear Z-20/81 ratio 1:4,05 secondary: 1/2" x 5/16" Z=13/52 chain ratio 1:4																																																						
<b>Gearbox:</b>	6 gear with frontal clutch gear <table border="1"> <tr><td>1a</td><td>Z-12/38 1/3,16</td><td>1/33,78</td></tr> <tr><td>2a</td><td>Z-12/30 1/2,50</td><td>1/26,73</td></tr> <tr><td>3a</td><td>Z-15/30 1/2,00</td><td>1/21,25</td></tr> <tr><td>4a</td><td>Z-20/28 1/1,40</td><td>1/14,88</td></tr> <tr><td>5a</td><td>Z-27/24 1/0,89</td><td>1/ 9,46</td></tr> <tr><td>6a</td><td>Z-30/20 1/0,67</td><td>1/ 7,12</td></tr> </table>	1a	Z-12/38 1/3,16	1/33,78	2a	Z-12/30 1/2,50	1/26,73	3a	Z-15/30 1/2,00	1/21,25	4a	Z-20/28 1/1,40	1/14,88	5a	Z-27/24 1/0,89	1/ 9,46	6a	Z-30/20 1/0,67	1/ 7,12	6 speed with frontal clutch gear <table border="1"> <tr><td>1a</td><td>Z-12/38 1/3,16</td><td>1/36,91</td></tr> <tr><td>2a</td><td>Z-12/30 1/2,50</td><td>1/29,20</td></tr> <tr><td>3a</td><td>Z-15/30 1/2,00</td><td>1/23,36</td></tr> <tr><td>4a</td><td>Z-20/28 1/1,40</td><td>1/16,35</td></tr> <tr><td>5a</td><td>Z-27/24 1/0,89</td><td>1/10,39</td></tr> <tr><td>6a</td><td>Z-30/20 1/0,67</td><td>1/ 7,82</td></tr> </table>	1a	Z-12/38 1/3,16	1/36,91	2a	Z-12/30 1/2,50	1/29,20	3a	Z-15/30 1/2,00	1/23,36	4a	Z-20/28 1/1,40	1/16,35	5a	Z-27/24 1/0,89	1/10,39	6a	Z-30/20 1/0,67	1/ 7,82	6 speed with frontal clutch gear <table border="1"> <tr><td>1a</td><td>Z-12/38 1/3,16</td><td>1/51,19</td></tr> <tr><td>2a</td><td>Z-12/30 1/2,50</td><td>1/40,50</td></tr> <tr><td>3a</td><td>Z-15/30 1/2,00</td><td>1/32,40</td></tr> <tr><td>4a</td><td>Z-20/28 1/1,40</td><td>1/22,68</td></tr> <tr><td>5a</td><td>Z-27/24 1/0,89</td><td>1/14,41</td></tr> <tr><td>6a</td><td>Z-30/20 1/0,67</td><td>1/10,85</td></tr> </table>	1a	Z-12/38 1/3,16	1/51,19	2a	Z-12/30 1/2,50	1/40,50	3a	Z-15/30 1/2,00	1/32,40	4a	Z-20/28 1/1,40	1/22,68	5a	Z-27/24 1/0,89	1/14,41	6a	Z-30/20 1/0,67	1/10,85
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<b>Starting:</b>	Forward-moving kick starter, function with any gear engaged.																																																								
<b>Fuel &amp; lubrication:</b>	Gas mixture of 97 N.O. SUPER to 2% oil CASTROL TTS pre-mix.																																																								
<b>Frame:</b>	Front: single tube opening to twin tube with open cradle. Rear: double tube sub-frame in special steel, decomposable to two pieces and support struts on motor. Motor base protector in light alloy. Handlebars mounted on tapered roller bearings protected by rubber sealing rings. Footrest can be positioned for preferential choice in three positions. Handlebar in aircraft alloy. (TRIAL 303-125)																																																								
<b>Rear suspension:</b>	The steel swinging arm has a rectangular section with an exclusive single shock suspension unit system, which is oilpneumatic for use in softening. There is an external regulating control used for varying the damping of the typical "Duoshock" system in both compression and extension. Stroke 60 mm. Wheel travel stroke 180 mm. Swinging arm spindle in light alloy.	Rear floating forks in Chrome-Molybdenum steel on rectangular section and hydro-pneumatic mono-shock suspension unit with single regulating control to vary damping of this unit in both contraction and expansion 56 mm. stroke, wheel travel stroke 180 mm.	The steel swinging arm has a rectangular section with an exclusive single shock suspension unit system, which is oilpneumatic for use in softening. There is an external regulating control used for varying the damping of the typical "Duoshock" system in both compression and extension. Stroke 60 mm. Wheel travel stroke 180 mm. Swinging arm spindle in light alloy.																																																						
<b>Front suspension:</b>	Front telehydraulic fork type M1 BIBOL with forward pivot, diameter 35 mm. featuring a new adjustable system which can be regulated to harden (use hydraulic control on left staunchion), and to soften (use hydraulic control on right staunchion). Staunchions are 35 mm. in diameter, flowing on steel bushes. Fork sliders cast in light alloy. Stroke 170 mm.																																																								
<b>Electric installations:</b>	flywheel magnetos, 12V/51W with regulating tension. 3-light head lamp, tail lamp with brake and license plate lights.																																																								
<b>Rims:</b>	Anodized light-alloy, front WM/1x21", rear WM/2x18".																																																								
<b>Hubs:</b>	Light alloy bearings mounted. Front and rear hydraulically operated disc brake. (Front disc protected by disc cover. With master cylinder situated in protected area). Wheel spindles in light alloy.																																																								
<b>Tyres:</b>	TUBELESS front 2.75x21", rear 4.00x18". Recommended pressure: For road use and mixed use, front and rear 0,7 bar. For off-road use, front and rear 0,4 bar. NOTE: wheels are already balanced; be careful when changing them.																																																								
<b>Gas tank:</b>	Shock-resistant thermoplastic resin, 4 lt. capacity including reserve.																																																								
<b>Consumption (CUNA) lt/100 Km:</b>	4,3 lt.	4 lt.	3,1 lt.																																																						
<b>Size:</b>																																																									
wheel base		mm. 1.330																																																							
maximum length		mm. 2.000																																																							
maximum width		mm. 830																																																							
maximum height		mm. 1.100																																																							
minimum height		mm. 350																																																							
weight		Kg. 85																																																							
<b>Maximum velocity:</b>	99 km/h.	99 km/h.	90 km/h.																																																						
<b>Maximum road grade:</b>		No limit.																																																							

**NOTE: Always replace both pads.**

To replace brake pads act as follows:

- Strip lid (A Fig. 38-39)
- Strip the split pin (B Fig. 38-39)
- Take out the pad.

**NOTE: When the pad is taken out. Do not pull to the full extent on the brake lever, use only moderately.**

To reassemble, reverse the operation.

### SUMMARY TABLE OF LUBRICATION AND PERIODIC MAINTENANCE

Procedure	After the first 300 km.	After the first 750 km.	After the first 3.000 km.	Every 3000 km.	Every 3000 km.
Gas control and brake pump adjustment		●	●	●	
Brake check and adjustment		●	●	●	
Clutch check and adjustment		●	●	●	
Carburetor check and adjustment		●	●		●
Gearbox oil change	●		●	●	
Spark advance check		●			●
Screws and nuts priving torques		●			●
Tyre pressure check		●	●	●	
Chain adjustment			●	●	
Wearing check brake pad			●		●
Fork oil change			●		●
Filter change				●	
Fork lubrication					●
Wheel bearings lubrication					●
Steering bearings lubrication					●
Muffler cleaning					●

### TROUBLE AND TROUBLESHOOTING

When the vehicle is not operating correctly, it is necessary to make the following checks and follow the instructions given.

If, after following all the given instructions, the trouble persists, we suggest that you contact a FANTICMOTOR sales and service location, which has at its disposal any equipment necessary for repairs and tune-ups.

Troubleshooting	Cures
<b>Starting difficulty</b>	
Fuel, carburetion, ignition - the petrol feed cock is closed or the fuel tank is empty	- open the feed cock or fill the tank
- jet, carburetor body or petrol feed cock obstructed or dirty	- remove and wash in petrol. Dry with compressed air spray
- flooded engine	- close the petrol feed cock, open the gas control grip all the way and depress the pedal until it starts. If the motor still does not start, remove the spark plug, clean it or change it. Before replacing the spark plug, idle the motor to expel the excess fuel.
- air filter clogged or dirty	- see Air Filter

### Troubleshooting

### Cures

- |  |  |
|--|--|
| 1) Fading exhaust noise  | - See Expansion tank   |
| 2) Tendency of the engine to stop at the max. gas opening:<br>- dirty jet.<br>- poor carburation   | - disassemble and clean<br>- Replace the jet with an up-rated one after checking that:<br>- the jet is not dirty or oxidized<br>- the spark plug is not dirty or defective<br>- the carburetor is clean<br>- the petrol flows regularly<br>- the gaskets are not defective |
| 3) Engine exhaust irregular, cracklings in pickup or in climbing<br>- Petrol too rich<br>- Flooded carburetor due to impurities in the fuel  | - Disassemble and wash in petrol. Dry with compressed air jet.   |
| 4) High consumption<br>- Air filter clogged or dirty, or air control set on the "closed" position or not completely open.<br><br>- other causes (carburetor, poor compression, etc.) | - clean the filter<br>- Release the air lever and lubricate:<br><br>- contact sales and service location   |
| 5) Engine noise, poor clutch functioning, spontaneous gear release, missed connection in starter assembly, inefficient suspension.   | - contact sales and service location.  |

### TORQUE WRENCH SETTING

Description	Q.ty	Ø mm.	Torque Nm.
<b>MOTOR</b>			
Flywheel nut (Trial 125)	1	12	48÷53
Flywheel nut (Trial 303-243)	1	15	65÷70
Motor head studbolts (Trial 303-243)	6(4)	9	27÷32
Motor head studbolts (Trial 125)	4	8	22÷24
Front motor fixing screw	1	10	50÷60
Rear motor fixing screws	4	8	25÷30
Motor cover fixing screws	16	6	9÷11
Clutch drum nut	1	14	45÷55
<b>FRAME</b>			
Single shock absorber screws	2	10	65÷75
Monoshock mounting levers with fix. screws	4	10	65÷75
Monoshock mounting levers with fix. screws	2	12	85÷90
Front wheel nut	1	15	39÷44
Rear wheel nut	1	16	98÷117
Handlebar clamp screws	4	8	19÷22
Sleeves-to-wheel bolt fixing screws	4	6	7÷9
Steering series nut	1	20	39÷49
Crown fixing screws	6	8	19÷22
Fork leg blocking screws	8	6	9÷11
Disc brake fixing screws	10	6	10÷12

### ELECTRIC SCHEMATIC

- 1 - Lamp 12V - 5W
- 2 - Double light bulb 12V - 25/25W
- 4 - Horn
- 5 - Light control
- 6 - Magneto flywheel
- 7 - Electronic ignition exchange
- 8 - Spark plug
- 9 - Brake light switch
- 10 - Lamp 12V - 10W
- 11 - Voltage regulator

- marrone - brown
- verde - green
- blu - blue
- nero - black
- grigio - gray
- bianco - white
- rosso - red
- giallo - yellow
- rosa - pink
- arancio - orange
- viola - purple



**FABBRICA MOTOVEICOLI S.P.A.**

**FANTIC  
MOTOR**

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- Repeat until only oil is coming out of the tube. At this time secure, very firmly, the valve. Put back protection lid and after having topped up to oil level to correct level, put back top.

#### FOOTREST

Footrest can be positioned for preferential choice in three positions (Fig. 20).

#### FORK OIL CHANGE

In practice, this is the only maintenance that has to be carried out periodically on the fork. The change must be made every 5000 Km., while it is advisable to check the level and make a topping-up every 3000 Km. This operation is done in two parts:

##### Oil draining

- Put the motorcycle on its stand
- Unscrew the drain plugs sleeves (Fig. 23/a) and let the oil flow out.
- Grasping the handlebars, slide the fork up until it completely empties.
- Check the seal gaskets on the drain plugs, replace them if necessary, and screw in the plugs.

##### Oil refill

- Remove the fork plugs (A Fig. 24/a)
- Pour in each leg Marzocchi SAE 15 fork oil, until the oil arrives 130 mm. away from the top of the tube (Fig. 24/a)
- Check the seal gasket of the two plugs and change them if necessary, then replace them.

#### CHAIN

The FANTIC TRIALS are equipped with a pre-lubricated chain. This part is very important and requires the utmost care and maintenance; with the correct adjustment and lubrication, you should be able to avoid chain problems.

We recommend that:

- the chain always be stretched, that the slack be maintained at 30-35 mm. (Fig. 25)
- the chain be lubricated after it is washed with petroleum, after riding the cycle in the mud, or when it is dirty, with highly fluid oil of viscosity SAE 20-30.

#### REMOVING AND REMOUNTING THE CHAIN

The following must be done to remove the chain:

- Loosen the rear wheel bolt and loosen the two chain stretchers.
- With the aid of a plier remove the stopping spring (1) (Fig. 26) and after taking off the master link, pull out the chain.
- To remount the chain, proceed as follows:
- Remount the chain, making sure to insert the stopping spring as shown in Figure 26.
- Alternate adjustment on the chain stretchers until the chain reaches the correct tension.
- Tighten the wheel nut.

#### FLYWHEEL

This type of flywheel does not require any particular maintenance either. The only occasional check that must be made is the ignition phase, which can be checked after having removed inductor. Ignition phase is exact when the arrow on the stator (Fig. 27) lines up with the notch in the motor carter. If such is not the case, loosen the fixing nuts and move the stator to the correct position.

**NOTE:** Whenever you check the ignition phase, also check the tightness of the stator fixing nuts.

#### ELECTRONIC FLYWHEEL WITH WEIGHT VARIATION (TRIAL 303-243)

Flywheel rotor is fixed with screws and has 2 links (A + B Fig. 28) which are removed or added to allow 4 possible variations in the weight of the flywheel.

- 1) A+B+C ( $PD^2 = 420 \text{ KGcm}^2$ ): SOFTNESS, muddy ground
- 2) A+B ( $PD^2 = 380 \text{ KGcm}^2$ ): FLUIDITY, heavy ground
- 3) A+C ( $PD^2 = 280 \text{ KGcm}^2$ ): PERFORMANCE, friable ground
- 4) A ( $PD^2 = 240 \text{ KGcm}^2$ ): RESPONSIVE, rocky ground

#### REMOVE THE SADDLE GROUP AND LATERAL SIDES

Remove the saddle group and lateral sides, and proceed as follows:

- unscrew the two screws
  - grasp the sides from the underside (Fig. 29).
- Lift the saddle, unhook from the tank.

#### AIR FILTER

Poor engine performance may be due to nothing more than an air filter in bad condition. Therefore, we suggest that you clean it thoroughly every 1000 km. or even more frequently if you ride in dusty areas.

For this operation, proceed as follows:

- Strip the saddle and lateral sides (as explained above).
- Unscrew the three screws and remove the lid from the filter housing.
- Remove the filter panel and the special element (Fig. 30), and blow clean with an air jet.

Change it ever 3000 km. But if there is a high concentration of dust or other impurities in the filter, we suggest changing it immediately.

#### SINGLE SHOCK SUSPENSION UNIT WITH AN EXTERNAL LIGHT ALLOY REGULATOR FOR COMPENSATION (TRIAL 303 - 125)

**Damping regulation settings for compression.**

To regulate the control (Fig. 31/a) adjust it to coincide the arrow with the desired number, I.E. (0 = soft - 9 = hard).

**Damping regulation settings for extension.**

To regulate the control (Fig. 32/a) (0 = soft - 5 = hard).

#### MONOSHOCK ABSORBER (TRIAL 243)

The FANTIC TRAIL hydropneumatic monoshock suspension unit with single regulating control to vary damping of this unit in both contraction and expansion.

If you require to adjust the mono-shock hydraulic system, you turn the shock head rotating in a clockwise direction for increasing the dampening, and in an anti-clockwise direction for decreasing the dampening (Fig. 31). (Strip the saddle group and lateral sides).

To adjust the spring tension, use the apposite key and lower the castelated rings to soften the springing, and raise the castelated rings to increase the springing.

- Unblock the counter ring nut (A) then tighten the ring (B) until the desired adjustment is obtained (Fig. 32).
- Block the counter ring nut.
- The monoshock absorber needs no particular care, only occasional cleaning of visible parts.

**N.B. If there is a regular passenger carried, it is necessary to adjust it to be more rigid, in order to permit absorber to accept the heavy duty. The absorber must not touch either end.**

#### PREPARING THE FUEL MIXTURE

To maintain the features and the efficiency of your engine over time, we suggest that you prepare the mixture yourself, using CASTROL TTS premix or CASTROL 2T oils for addition to premium grade fuel.

To facilitate this operation, your fuel tank has been equipped with a cap which can be used for measuring oil.

To prepare the mixture, proceed as follows:

- Close the petrol feed cock;
- Unscrew the cap on the fuel tank, and after having filled it to the correct measure with oil, pour it directly into the tank;
- Repeat the operation as many times as there are litres of mixture to be prepared (1 measure contains 10 cc. which is sufficient to prepare 1/2 lt. of 2% mixture);
- Pour the premium grade fuel into the tank;
- Shake the vehicle so that the petrol and oil mix together;
- Reopen the fuel feed cock.

#### EXPANSION TANK AND MUFFLER

Another cause of poor engine performance may be due to carbon deposits in the expansion tank. Every 5000 km. check that there are no deposits on the edge of the pipe which connected to the cylinder at the point where it connects to the cylinder or just inside the cylinder itself. If there are, remove them by scraping them off with a stiff cylindrical brush.

This operation must be repeated on the muffler endpiece, cleaning both the inlet tubes and the exhaust gas outlet tube.

To perform this operation, remove the two springs (Fig. 33) attached to the cylinder. Remove the expansion tank and proceed with cleaning off the deposits.

Unscrew the screw (Fig. 34) and take off the muffler endpiece. Before replacing the expansion, we suggest that you replace the cylinder mouth gasket.

#### CARBURETOR

The carburetor is connected to the cylinder by means of a flexible coupling sleeve and to the intake chamber by a rubber hose, and is fastened with clamps. It is advisable to periodically check the cylinder-carburetor coupling sleeve (A Fig. 35) and to change it when it has deteriorated so that proper carburation will not be hampered.

#### IDLING ADJUSTMENT

The idling adjustment must be made as follows, when the engine is hot: Letting the engine run with the gas control grip released, unscrew or screw the screw (B Fig. 35), until reaching the lowest possible, but still constant number of revolutions of the engine.

#### FRONT WHEEL REMOVAL

Before beginning this operation, it will be necessary to support the motorcycle in some way so that the front wheel is off the ground. Such a support could be made of wood or any other material suitable for this purpose.

At this point, proceed as follows:

- Unscrew the speedometer connection from the drive located on the right side of the vehicle between the fork leg and the wheel hub. (A Fig. 36).
  - Loosen the screws holding the sleeves (B Fig. 36).
  - Remove the bolt and then the wheel.
- For remounting, perform the above in reverse order being sure to insert the speedometer catch in its correct place on the hub. Tighten the sleeve screws on the fork legs. (Torque wrench setting).

#### REAR WHEEL REMOVAL

As is the case for the front wheel, the motorcycle must be supported so that the rear wheel is a few centimeters above the ground before proceeding as follows:

- Release the wheel bolt and loosen the chain stretcher (Fig. 37)
  - Pull off the chain after having removed the stopping clip and the master link.
  - Pull out the wheel bolt and remove the wheel.
- For remounting, perform the above in reverse order being sure that the stopping clip is in the correct position as shown in Fig. 26.

#### WEARING CHECK AND BRAKE PAD REPLACEMENT

To control the degree of wearing, or consumption, on the brake, look at the brake and brake pincers and the results should be visible. The brake should be 4 mm in thickness. If they have arrived at a thickness of no more than 1-1.5 mm. they should be replaced.

The operation is the same for both the front and rear brakes.

Fig. 1 - Frame number

Fig. 2 - Motor number

## IDENTIFICATION DATA AND INSTRUCTIONS FOR RUNNING-IN AND USING THE VEHICLE

Before using the motorcycle, make sure that:

- the motor oil is at the right level
- the tyres are the proper pressure
- the tank is filled
- check for the correct level of brake oil.

### IMPORTANT

FANTIC motors have been studied and developed using only the lubricants suggested for use in this manual. The use of different types or brands or lubricants will inevitably cause irregular functioning of the motor and premature wear of the internal parts. **We therefore advise using only the recommended lubricants including, and most importantly, the oil used in the fuel mixture.**

### RUNNING-IN

Since the first period of use for the motorcycle is very important for the subsequent efficiency of the motor, we recommend a careful running-in during the first 750 km.

During the first 750 km., never operate the engine at its maximum speed, nor turn the gas command grip more than halfway; after 750 km., speed can be increased slowly. Both during and after the running-in, use premium grade fuel with 2% **CASTROL TTS pre-mix.**

**After the first 300 km. it is absolutely necessary to substitute the gearbox oil with 500 cc. of CASTROL HYPOY 80W80.**

At the first oil change, after draining the oil, we suggest removing the clutch cover and washing the internal parts thoroughly with petrol or oil and drying them with a compressed air spray; this must be done to eliminate eventual metallic residues as a result of the bedding of the parts. Afterwards, change the oil every 3000 or 4000 km.

Check that the screws and bolts which secure the main parts of the motorcycle are not loose, especially those that hold the engine to the frame that secure the handle bars, and that secure the head and the single shock absorber.

Make sure that the hose clamps of the carburetor-cylinder and carburetor-intake sleeves are well-tightened.

### LIGHT SWITCH

The light switch is located on the left-hand side of the handlebars and is operated as shown in Fig. 3-4-5-6.

Fig. 3. Light switch in off position; lights off.

A. Motor cut-off

B. Horn

Fig. 4. Parking light on

Fig. 5. Passing beam on

Fig. 6. High beam on

### LIGHT SWITCH

The light switch is located on the left-hand side of the handlebar and is operated as shown in Fig. 7:

A) Motor cut-off

B) Horn

C) Light switch

1) Lights off

2) Parking light on

3) Passing beam on

4) High beam on

### STARTING

- Put the transmission in neutral (Fig. 8)
- Open the petrol feed cock (Fig. 9). If the motor is cold, lower the starter level on the carburetor (Fig. 10)
- Turning the gas controls grip only slightly, push hard on the starter pedal.
- After having run the motor in neutral for a few minutes to bring it to optimal operating temperature and having let down the starter pedal, squeeze the clutch lever all the way in and engage the 1st gear (pedal downwards Fig. 8)
- Gradually release the clutch lever, turning the gas control grip at the same time.

### RUNNING

To change gears, release the gas control grip, squeeze the clutch lever all the way in and engage the next gear. Release the clutch lever slowly, turning the gas control grip at the same time.

### STOPPING THE MOTOR

Release the gas, put the transmission in neutral, press the cut-off button on the light switch and close the petrol feed cock.

To facilitate putting the motor in "neutral", we suggest doing so before the motorcycle is completely stopped.

### MAINTENANCE INSTRUCTIONS

High efficiency and long life for the vehicle depends mainly on good maintenance. Before any maintenance and adjustment of the various parts, it is necessary to generally clean the motorcycle by using petrol and a brush for the mechanical parts, while the painted and plastic parts must be cleaned with soap and water and then dried a buckskin.

### OIL CHANGE

The oil must be changed after 300 km., and should be done again every 3000 or 4000 km.

The oil changes must always be done when the engine is hot.

Proceed as follows:

- Stop the motor and put the motorcycle on its stand
- Remove the oil cap on the left upper part of the motor (Fig. 11)

- Unscrew the drain plug underneath the motor (Fig. 12)
- Keep the motorcycle perpendicular to the ground and let the oil drip for about 3 minutes
- Replace the oil drain plug check that the gasket is not worn out
- Refill from the top (Fig. 11) with 500 cc. of **CASTROL HYPOY 80W80** motor oil. If you don't have a graduated container, in order to determine the exact amount of oil to pour in, look through the petrole (Fig. 13) until the oil not quite reached the "maximum" level marked on the name plate.
- Tighten the oil cap.

### SPARK PLUG

The spark plug is very important for good engine output and requires particular care.

Before unscrewing the spark plug it absolutely necessary to clean the head with a compressed air spray in order to prevent grains of sand or mud deposited on it from falling inside the cylinder.

### SPARK PLUG REMOVAL AND CLEANING

- Loosen the spark plug (the engine must be cold) by using the proper wrench and then unscrew it by hand until it comes out completely.
- Clean it with a metal brush and check the distance between the electrodes, which must be 0.5-0.6 mm. This must be done about every 3000 km.
- The spark plug must be changed every 6000 km.
- Then replace the spark plug by screwing it in by hand. A wrench should be used only for tightening.

### GAS CONTROL ADJUSTMENT

Turning the gas control grip opens or closes the conical needle gas valve in the carburetor and the consequent acceleration or deceleration of the engine and therefore, of the vehicle, depending on which way it is turned. When the grip is released, it returns automatically to zero.

The gas control must always be in good working order and without any slack which would prevent the immediate response of the engine at acceleration. The gas control cable should also always be at the right tension. To adjust the slack, screw or unscrew the cable adjuster on the carburetor (B) Fig. 10).

### CLUTCH CABLE ADJUSTMENT

This operation is required when it becomes difficult to squeeze the clutch lever in order to disengage the clutch. Make this adjustment as follows:

- Take off the protective cover from the clutch control;
- Loosen the ring nut and screw the cable adjuster (B) (Fig. 16) clockwise in order to increase the slack in the clutch cable or counter clockwise in order to decrease it. Once this operation is completed, replace the protective cover on the cable adjuster.

**NOTE:** A slack length of 10-20 mm., measured at the end of the lever, is normally left on the clutch lever, before the disengagement of the clutch begins. If, after this adjustment, the slack in the lever is still excessive, it will be necessary to check the condition of the clutch plates. For this procedure, it is advisable to contact a FANTICMOTOR sales and service location.

### FRONT BRAKE

Front brake hydraulic with master cylinder situated in protected area behind the headlamp. The front brake reservoir for the visual control of the oil level. The oil is to be maintained constantly in view in the reservoir. If the level should lower, act immediately as follows:

- stand machine upright
- remove the cover of the reservoir and refill with **CASTROL OIL DISC BRAKE FLUID** (B Fig. 17).

### CONTROL OF FRONT BRAKE

Front the adjustment of the front brake lever, turn the adjustment provided for personal preference (Fig. 18).

### REAR BRAKE

Rear brake is hydraulic (Fig. 19). The oil reservoir (positioned underneath the saddle) has a transparent window in order that you can maintain the correct oil level. (Fig. 19). If the level should lower, act immediately as follows:

- remove the cover of the reservoir and refill with **CASTROL OIL DISC BRAKE FLUID.**

### IMPORTANT:

**Never top up completely the oil container. Never overfill. Never mix oil. For cleaning, never use any petrol based materials, or solutions derived from petroleum.**

### BLEEDING THE BRAKING SYSTEM

The operation is the same for both the front and rear brakes.

The object of this operation is for the eventual elimination of the formation of air bubbles. The cause of this dangerous situation can be attributed to the oil level not being observed, or maintained at the correct level, or oil seals not working properly. (In this case it is recommended to get the assistance of FANTICMOTOR agents).

Bleeding of brake operation must be executed in the following manner:

- Remove protection cap from breather valve which is on the brake pin-cers. (Fig. 21-22)
- Avoid spilling hydraulic fluid, which is a dangerous substance.
- It is advise covering valve with transparent plastic tube connected to a recipient. Remove the lid of the braking pump tank and check that the oil is at its right level. Then pump, very slowly, 2 or 3 times. (Pull braking lever 2/3 times to pump oil to right level)
- Maintain lever at same level
- Unscrew the breather valve. (1 turn is sufficient)
- You will see oil and air bubbles in air tube. At this time release lever.