

### 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.

**FANTICMOTOR WISH YOU WILL ENJOY DRIVING YOUR NEW TRIAL. ENCLOSED YOU WILL FIND FREE OF CHARGE VHS VIDEO "TRIAL'S TECHNIQUE" WITH SUGGESTIONS OF FANTIC TRIAL TEAM CHAMPIONS, TO IMPROVE YOUR DRIVING STYLE.**

### TECHNICAL FEATURES

	TRIAL 305	TRIAL 245	TRIAL 125.5
Engine:	Two stroke, single-cylinder, air cooled. Induction by means of reed valve. Removal of cylinder and head possible without take away the engine.		Two stroke, single-cylinder, air cooled.
Bore and Stroke:	74x58 mm	69x56,5 mm	55,2x52 mm
Cylinder size:	249,4 cc.	212 cc.	124,4 cc.
Max. power:	20,4 HP (KW 15) à 6.000 R.P.M.	19 HP (KW 13,97) à 5.500 R.P.M.	11,5 HP (KW 8,46) à 5.500 R.P.M.
Max. torque:	2,9 Kgm (28,4 Nm) à 3.750 R.P.M.	2,7 Kgm (26,5 Nm) à 4.800 R.P.M.	1,41 Kgm (13,88 Nm) à 5.000 R.P.M.
Compression ratio:	1:10,4	1:11,7	1:12
Ignition:	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
Clutch:	Multi disc in oil bath.	Multi disc in oil bath.	Multi disc in oil bath.
Spark advance	3 mm on the piston correspond. to 24°	3 mm on the piston correspond. to 24°	1,6 mm on the piston correspond. to 18°
Spark plug:	CHAMPION N 2 C	CHAMPION N 3 C	CHAMPION L 86
Carburetor:	DELLORTO PHBH 26 CS	DELLORTO PHBH 26 CS	DELLORTO PHBL 24 BS
Maximum jet	108	106	90
Minimum jet	40	34	48
Starting jet	70	70	60
Conical needle	Type X67 at second notch	Type X67 at second notch	Type D22 at second notch
Gas valve	No. 45	No. 45	No. 40
Spray nozzle	EQ 260	EQ 280	AQ 265
Float	g. 6,5	g. 6,5	g. 6,5
Open air screw	1-3/4 revolution	1-1/2 revolution	1/2 revolution
Drive:	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
Gearbox:	6 gear with frontal clutch gear 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 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 1/18,35 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 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
Starting:	Forward-moving kick starter, function with any gear engaged.		
Fuel & lubrication:	Gas mixture of 97 N.O. SUPER to 2% oil IP SUPER DUE T		
Frame:	Single tube split and frame with open cradle in Chrome Molybdenum steel. The sub-frame and swinging arm are constructed in light alloy, which is anodized for greater protection. The sump shield (bash plate) is constructed in light alloy. The frame is now fully equipped with sealed roller bearings at all pivot points.		
Rear suspension:	Rear Suspension mounting linkage: Swinging arm in treated light alloy, and anodized "kinematic" functioning system with caged roller bearings. There is an external regulating control used for varying the damping of the typical "Duoshock" system in both compression and extension. Stroke 57 mm. Wheel travel stroke 180 mm. Swinging arm spindle in light alloy.		
Front suspension:	Telehydraulic forks with forward pivot. Featuring a new FANTIC system of extension and compression control by use of a floating cartridge equipped with double adjustment. (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.		
Electric installations:	flywheel magnetos, 12V/51W with regulating tension. 3-light head lamp, tail lamp with brake and license plate lights.		
Rims:	Anodized light-alloy, front WM/1x21", rear WM/2x18".		
Brakes:	Wheel hubs in light alloy, exclusive to FANTIC, mounted on bearings, front and rear, with floating discs. Front 184 mm. Rear 160 mm.		
Tyres:	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.		
Gas tank:	Shock-resistant thermoplastic resin, 3,5 lt. capacity including reserve.		
Consumption (CUNA) lt/100 Km:	4,3 lt.	4 lt.	3,1 lt.
Size:			
wheel base		mm. 1.310	
saddle height		mm. 700	
maximum length		mm. 2.000	
maximum width		mm. 830	
maximum height		mm. 1.085	
minimum height		mm. 350	
weight		Kg. 82	
Maximum velocity:	99 km/h.	99 km/h.	90 km/h.
Maximum road grade:		No limit.	



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 of 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% IP SUPER DUE T.

After the first 300 km. it is absolutely necessary to substitute the gearbox oil with 500 cc. of IP PONTIAX DB 80W.

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

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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

3) Passing beam on

2) Parking light 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 (A Fig. 11)
- Unscrew the drain plug underneath the motor (C Fig. 11)
- Keep the motorcycle perpendicular to the ground and let the oil drip for

- Replace the oil drain plug check that the gasket is not worn out
- Refill from the top with 500 cc. of IP PONTIAX DB 80W 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 (C 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. 13) 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.

### CLUTCH

Clutch adjustment is made by unscrewing "A" (Fig. 14), and loosening "D", which is a lock nut. Adjust by unscrewing or screwing up "C". Secure by locking nut "D" and replace screw A.

### FRONT BRAKE

Front brake is hydraulic. 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:

- remove the cover of the reservoir and refill with IP AUTOFLUID FR (Fig. 15)

### 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 IP AUTOFLUID FR.

### 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 pinners. (Fig. 17-18)
- 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.
- 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.

### FORK OIL CHANGE

The operation should be proceed in the following manner:

#### Oil draining

- Put the motorcycle on its stand



- 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.

Replacement of fork oil in compression leg. The operation should be proceeded in the following manner:

Unscrew top nut (Fig. 20)

Remove drain screw (Fig. 19C)

Remove carefully (Fig. 20A) spring guide (Fig. 20B) and the main spring (Fig. 20C).

Care to be taken during this operation to avoid oil spillage.

Use a grade of oil that is suited to the riders weight. For the average rider, it is recommended to use 7,5 grade oil. The level is 140 mm from the top of the fork tube.

Re assemble in the reverse order.

Replacement of fork oil in extension.

Unscrew top nut (Fig. 19C).

Using a 4 mm. allen key, approximately 500 mm. in length, unscrew allen screw and remove. Care must be taken to avoid the valve unit falling inside fork leg. Compress the fork leg in order to remove the valve assembly. Remove the internal tube along with the spring (Fig. 21B).

Use a grade of oil that is suited to the riders weight. For the average rider it is recommended to use a 7,5 grade oil. The level is 140 mm from the top of the fork tube.

Re assemble in reverse order.

## 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. (A Fig. 22)
- 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 IP PONTIAX DB 80W.

## 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. 23) 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 23.
- Alternate adjustment on the chain stretchers until the chain reaches the correct tension.
- Tighten the wheel nut.

**IMPORTANT:** Do not fit a new chain if there are signs of wear on either front or rear sprockets, or indeed, do not use new sprockets with a worn chain.

## 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 (F Fig. 24) 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 305-245)

Flywheel rotor is fixed with screws and has 2 links (A + B Fig. 24) which are removed or added to allow 4 possible variations in the weight of the flywheel.

- 1) A+B+C (PD<sup>2</sup> = 420 KGcm<sup>2</sup>): SOFTNESS, muddy ground
- 2) A+B (PD<sup>2</sup> = 380 KGcm<sup>2</sup>): FLUIDITY, heavy ground
- 3) A+C (PD<sup>2</sup> = 280 KGcm<sup>2</sup>): PERFORMANCE, friable ground
- 4) A (PD<sup>2</sup> = 240 KGcm<sup>2</sup>): RESPONSIVE, rocky ground

## DISMOUNTING THE MONOSHOCK ASSEMBLY

Inspection facility is provided by simply unscrewing screw "A" (Fig. 25).

## 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 500 km. or even more frequently if you ride in dusty areas.

For this operation, proceed as follows:

Dismount the monoshock assembly. Unscrew and take away the cover of the filter cassette, positioned on the left side. Remove the filter (Fig. 26) and clean with neutral shampoo or soap.

Re-oil filter and re-assemble.

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

The FANTIC trial is equipped with a monoshock oilpneumatic system of the duoshock type, which has a dual adjustment both in compression and extension.

Driven by kinematism with connecting rods, this unit requires particular care and maintenance. Therefore, we recommend that regular greasing of the roller bearing boxes, by means of a grease gun is necessary.

To adjust the monoshock unit, turn the head "A" (Fig. 27).

• to increase the damping

## Damping regulation settings for compression.

To regulate the control (A Fig. 28) adjust it to coincide the arrow with the desired number, i.e. (0 = soft - 9 = hard).

## 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 IP SUPER DUET oil for addition to premium grade fuel.

To prepare the mixture, proceed as follows:

- Close the petrol feed cock;
- Your NEW FANTIC is equipped with a two stroke engine, which means the fuel mixture is of 4-star petrol, plus 2% oil to be added, using a correct self-mix oil. 1 litre of petrol requires 20cc. of oil;
- 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 screws (Fig. 29) 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.

## CARBURETTOR

See technical specification on page 1.

The carburettor is a vital and sensitive part of the engine, and requires careful and regular maintenance and adjustment.

FANTIC recommend that regular servicing of the carburettor be carried out by official FANTIC service agents. However, the owner can carry out the following as part of the regular maintenance.

Tick-over adjustment:

The engine must be run until reaching normal running temperature. Carburettor adjustment must NOT be made on a cold engine.

Adjust the screw of tick-over "A" (Fig. 30) in order to obtain an even, but slow revolution of the engine to the riders particular requirements.

Mixture:

To adjust the mixture, screw or unscrew the screw "B" (Fig. 30) until the maximum engine revolution can be obtained without the use of throttle. Then adjust the screw in order to obtain the lowest possible revolution of the engine, but smooth and constant.

## REED VALVE

Regularly check the reed valve petals ensuring that they lay perfectly on the rubber bracket support, otherwise they should be replaced (Fig. 32). When re-assembling, check the gasket. If damaged replace it.

## 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. 33).
  - Loosen the screws holding the sleeves (B Fig. 33).
  - 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. 34)
  - 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. 23.

## 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 5 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.

**NOTE: Always replace both pads.**

To replace disc pads follow this procedure:

- Dismantle the pincers.
- Strip the split pin (Fig. 35)
- Take out the pad (Fig. 36)

**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.

## STEERING BEARINGS

Check the clearance of the bearings, by placing the machine on a stand allowing the front end to be clear of the ground or obstructions.

Place the forks and wheel forward in line with the machine and by holding the fork base, move forward and backward. If any play adjust as in fig. 37-



Fig. 1 - Frame number  
Fig. 2 - Motor number

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

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- 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 of 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% IP SUPER DUE T.

**After the first 300 km. it is absolutely necessary to substitute the gearbox oil with 500 cc. of IP PONTIAX DB 80W.**

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

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C) Light switch

1) Lights off

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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.

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

Proceed as follows:

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- Keep the motorcycle perpendicular to the ground and let the oil drip for

- Replace the oil drain plug check that the gasket is not worn out
- Refill from the top with 500 cc. of IP PONTIAX DB 80W 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 (C 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. 13) 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.

### CLUTCH

Clutch adjustment is made by unscrewing "A" (Fig. 14), and loosening "D", which is a lock nut. Adjust by unscrewing or screwing up "C". Secure by locking nut "D" and replace screw A.

### FRONT BRAKE

Front brake is hydraulic. 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:

- remove the cover of the reservoir and refill with IP AUTOFLUID FR (Fig. 15)

### 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 IP AUTOFLUID FR.

### 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 pinners. (Fig. 17-18)
- 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 bracing 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.
- 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.

### FORK OIL CHANGE

The operation should be proceed in the following manner:

#### Oil draining

- Put the motorcycle on its stand



To slacken, unscrew "A", this will free the handlebars.  
Slacken screw "B" and nut "C", then adjust screw "D" until bearing play is removed.  
Re-assemble tightly.

#### STORAGE OF VEHICLE

If the machine is to be put in storage for a period of several months, or more, we recommend the following:

- Clean and protect all painted areas by coating in suitable waxes.
- Remove carburettor and empty out of all fuel.
- Remove spark plug and pour in 1 spoonful of oil into cylinder.
- Replace spark plug and gently kick-over 3 times slowly to avoid starting the engine.
- Grease the chain and regularly check tyre pressures.

#### SUMMARY TABLE OF LUBRICATION AND PERIODIC MAINTENANCE

Maintenance operation:	After the first 300 Km	Every 500 Km on one competit.	Every 1500 Km on three competit.	Every 3000 Km	Every 5000 Km
Replace fork oil			■		
Replace engine oil	■			■	
Clean air filter		■			
Lubricate swinging arm					■
Check ignition timing					■
Lubricate chain	■	■			
Check all nuts, bolts and screws for correct tightness	■				■
Check clutch adjustment	■		■		
Chain check adjustment	■		■		
Clean spark plug and reset gap. Replace if necessary.			■	■	
Check and adj. steer. head bearing			■		
Clean carburettor		■			
Check brake system			■		
Check disc pad wear, and replace if necessary				■	
Grease monoshock linkage system				■	
Clean internal of silencer system					■
Grease wheel bearings					■
Check reed valve					■

The above check list is for normal use, if the machine is used heavily then the maintenance should be carried out more frequently.

#### 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 locations 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. - dirty jet. - poor carburation	- disassemble and clean - Replace the jet with an up-rated one after checking that: the jet is not dirty or oxidized the spark plug is not dirty or defective the carburetor is clean the petrol flows regularly the gaskets are not defective.
3) Engine exhaust irregular, cracklings in pickup or in climbing - Petrol too rich - Flooded carburetor due to impurities in the fuel	- Disassemble and wash in petrol Dry with compressed air jet.
4) High consumption - Air filter clogged or dirty, or air control set on the "closed" position or not completely open.  - other causes (carburetor, poor compression, etc.)	- clean the filter - Release the air lever and lubricate.  - 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.

#### COUPLES DE SERRAGE

Description	Q.ty	Ø mm.	Torque Nm.
<b>MOTOR</b>			
Flywheel nut (Trial 125.5)	1	12	48-53
Flywheel nut (Trial 305-245)	1	15	65-70
Motor head studbolts (Trial 305-245)	5	8	22-24
Motor head studbolts (Trial 125.5)	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	6	10	65-75
Monoshock mounting levers with fix. screws	4	10	65-75
Frontwheel 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	12	6	10-12

#### ELECTRIC SCHEMATIC

1 - Lampe - 12V - 5W	giallo - yellow
2 - Double light bulb - 12V - 25/25W	grigio - gray
4 - Horn	verde - green
5 - Light control	bianco - white
6 - Magneto flywheel 12V/51W	nero - black
7 - Electronic ignition exchange	rosso - red
8 - Spark plug	viola - purple
9 - Brake light switch	marrone - brown
10 - Lamp 12V - 10W	arancio - orange
11 - Voltage regulator	blù - blue
	rosa - pink