

MOTORCYCLE 750 GT

TWO CYLINDERS

SINGLE SHAFT

DUCATI

197

SPECIFICATIONS - USE - MAINTENANCE



Every Motorcycle receives one copy of the present booklet.

GUARANTEE CARD

Every DUCATI MOTORCYCLE is supplied with a « Guarantee Card ».

The contents of this booklet are not binding and though the main specifications of the motorcycle described and illustrated in this booklet remain unchanged, the DUCATI MECCANICA S.p.A. will be free to introduce modifications of some details, or of some accessories, if these modifications will be judged necessary, or if they can improve the motorcycle, or finally for some technical-economical exigencies, but without being obliged to bring this booklet up-to-date.

Dear Sir,

We are very glad to welcome you among our clients, and feel sure that you will not fail to appreciate the magnificent performances of the DUCATI Motorcycles.

The magnificent performances and reliability of our machines reflect the experience gained throughout many years of successful racing both on track and road.

In order to obtain the fine service that the Ducati machine is capable of giving, it is essential that the instructions contained in this book be religiously adhered to.

If these instructions are followed closely, particularly during the running-in period of the machine, then you will be assured of many years trouble-free enjoyable riding.

We thank you and congratulate you on your wise choice of such a fine machine with unequalled performances.

DUCATI MECCANICA S.p.A.



MODEL ITALIA

MODEL U.S.A.

A FOREWORD

The main goal of the present instruction booklet is to enable the owner of a single-shaft DUCATI Motorcycle to use his vehicle in the best possible way.

The following notices are therefore only simple recommendations, suggestions, advices, and terms of reference, sufficient to enable anyone, having no experience or ignoring any special technical knowledge, to use his vehicle and to maintain it for a long time in perfect working condition.

In this booklet you will find the specifications of the new model of the precious series of « single-shaft motorcycles » produced by DUCATI.



DUCATI SERVICING GARAGES

It is advisable, when taking the machine to a garage for repairs, to be sure that the garage is a Ducati agent as the staff will have been specially trained and the garage will have been equipped with the necessary tools to carry out any repair required (see pictures at page 51 and following).

This way you will be sure that the possible replacement of groups or parts will be made with genuine Ducati spares, in order to avoid unforeseeable troubles and to ensure interchangeability, good operation, and long life.

SPARE PARTS

It is absolutely necessary that each order for spare parts clearly states the following data:

- 1) The catalogue code of the spare part obtained from the Spare Part Catalogue;
- 2) Serial number of the engine (when ordering spare parts of the engine);
- 3) Serial number of the frame (when ordering spare parts of the frame).
- 4) The reason why the spare part is required.

IDENTIFICATION NUMBERS

Every DUCATI 750 can be identified by its frame and engine serial number.

For the frame, the number is printed in the steering tube.

The engine serial number is stamped on the crankcase near the cylinder base.

On the engine supporting back right-hand plate is applied a metal label bearing engraved the data «E₃-9R-9596» relating to the international ratification of silencers.



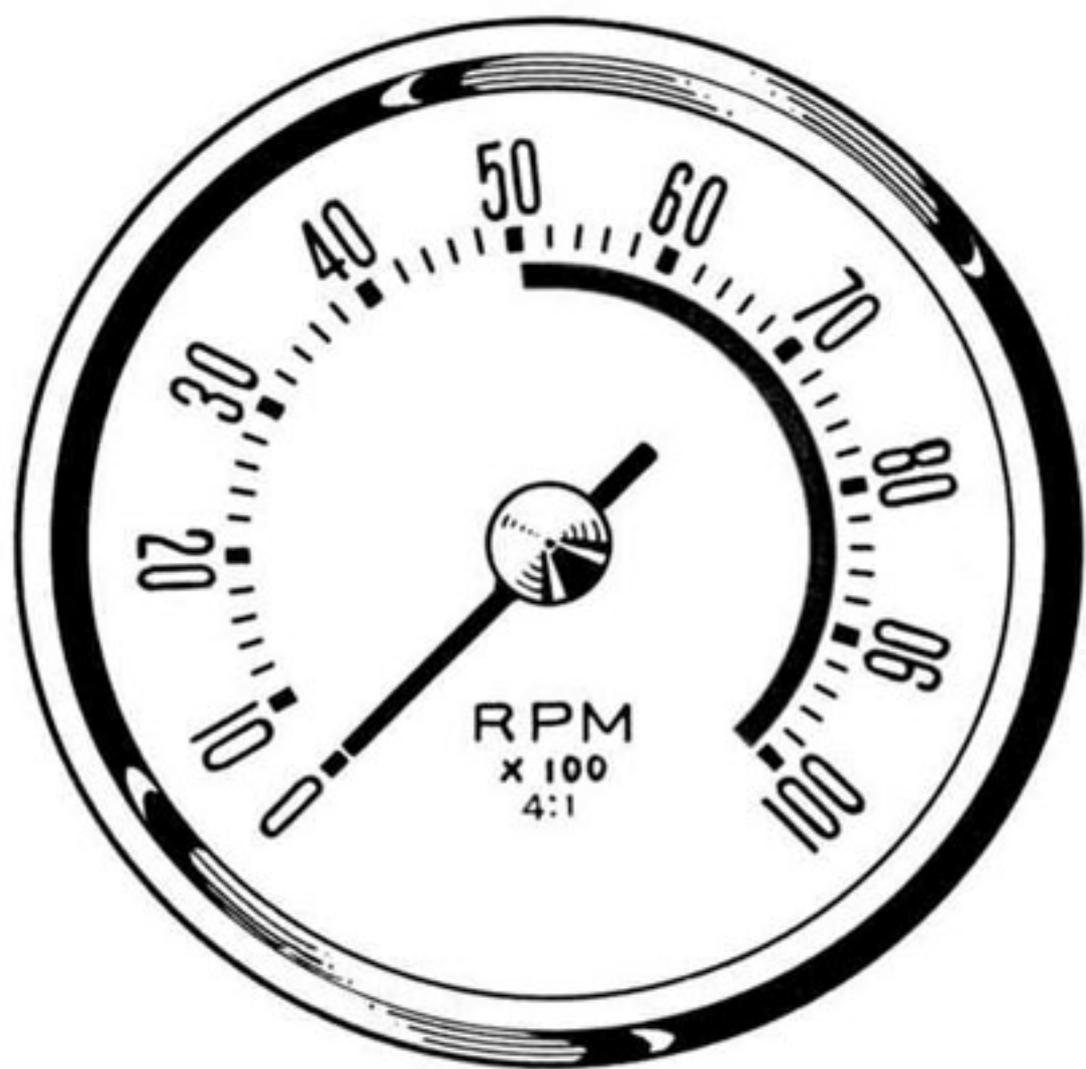
1 - Engine serial number

2 - Frame serial number

PRECAUTIONS

TO BE FOLLOWED DURING THE INITIAL RUNNING-IN PERIOD

During the first 1000 Km. (620 miles), the rev. counter must not exceed 4500 ÷ 5000 r.p.m.

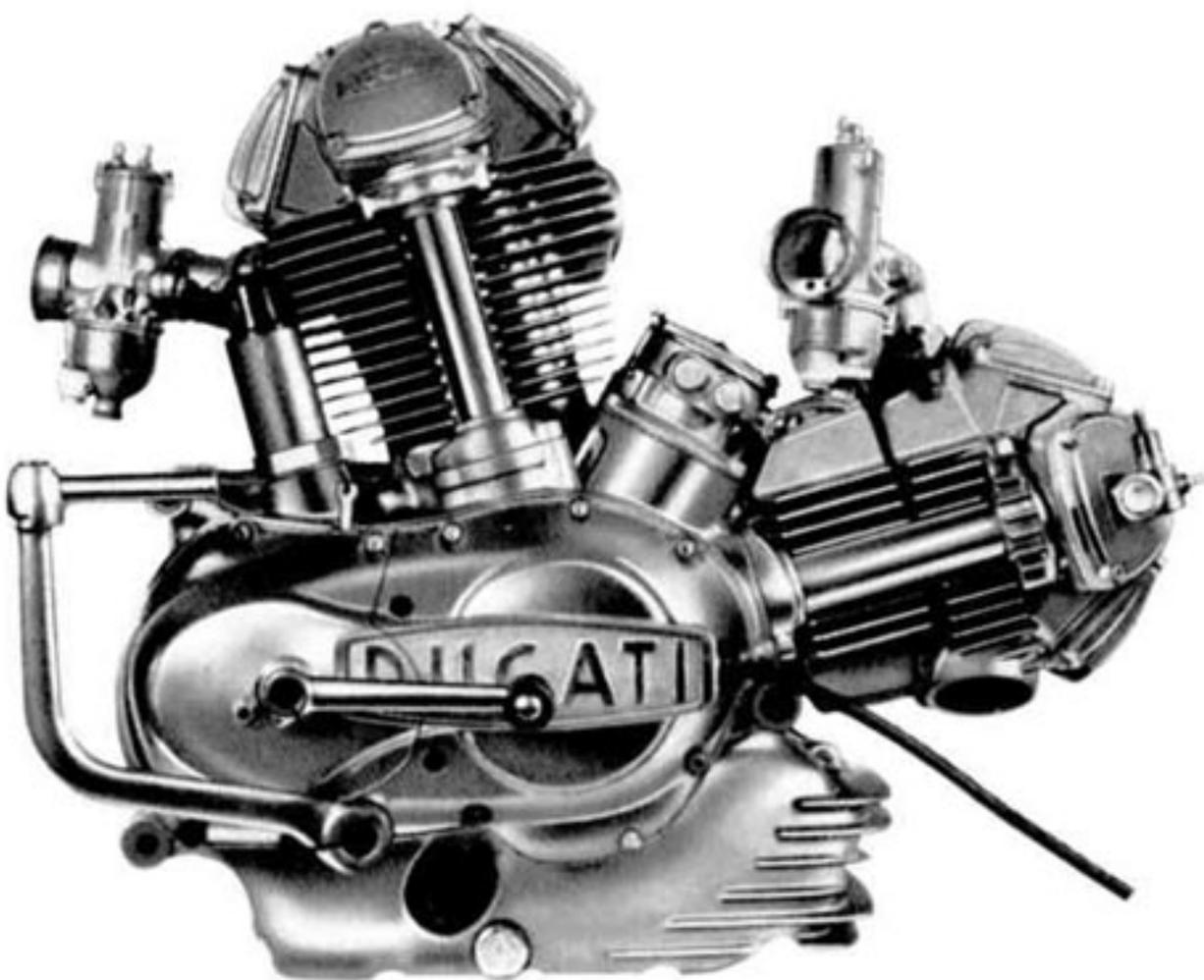


Moreover, it is advisable to act as follows:

- do not keep max. speeds allowed for long periods;
- do not force the engine, keeping it for a long time at a high number of revolutions, especially while going uphill;
- after the first 500 Km. (310 miles) and after the first 1000 Km. (620 miles), with the engine warm, completely change the oil in the crankcase; adjust the tappets, fitting the rocker appropriate shim; check if the tie rods securing the head and cylinder to the crankcase are tight, as well as bolts and nuts in general;
- adjust contact breaker platinum points.

The more strictly and accurately you follow the aforesaid recommendations, the longer will be the engine life and the lesser the need of overhauling and line-up.

MAIN SPECIFICATION



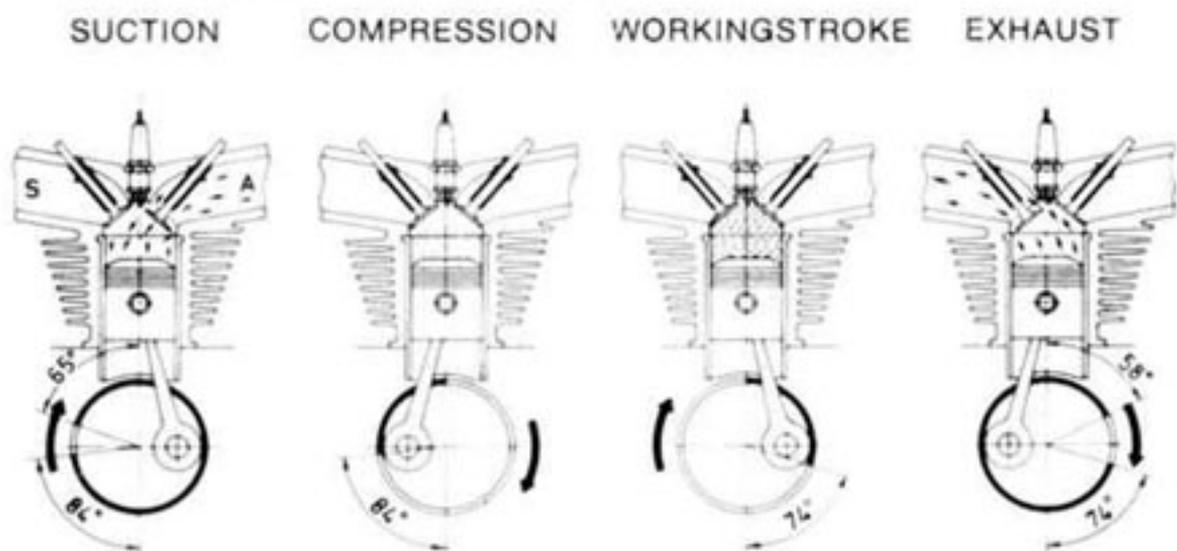
ENGINE

- two cylinders, 4 strokes, « L » longitudinal-type of 90° - supported by a cradle formed frame;
- bore: 80 mm. (3.1496");
- stroke: 74,4 mm. (2.9291");
- cylinder capacity: 748 cc. (45.628 cu. in.);
- compression ratio: 8.5:1;
- combustion chamber with hemispherical ceiling;

- deeply finned cylinders in light alloy, with special cast iron liners inserted;
- connecting rods in special steel, with roller cage at the big end (crank pin) and little end bushed to take the gudgeon pin;
- pistons in light alloy, pressforged with skirt in one piece, and 3 piston rings, 1 of which is a slotted oil scraper;
- cylinder heads cast in light alloy and closely finned, with inserted valve seats.

TIMING

The timing system is provided with overhead valves, inclined at 80° , timed by an overhead camshaft. The valves are made of special steel.



Data

The timing data, with a clearance between valve and rocker of 0.10 mm. (0.0039") for suction and exhaust, are the following:

Valve	Opening $\pm 5^\circ$	Closing $\pm 5^\circ$
Suction	65° before TDC	84° after BDC
Exhaust	74° before BDC	58° after TDC

Adjustment

The tappets are adjusted by means of the appropriate rocker shim on the end of the valve stem.

Clearance

The working clearance between valves and rockers, when the engine is cold, is of about 0.10 mm. (0.0039") for the suction, and the exhaust.

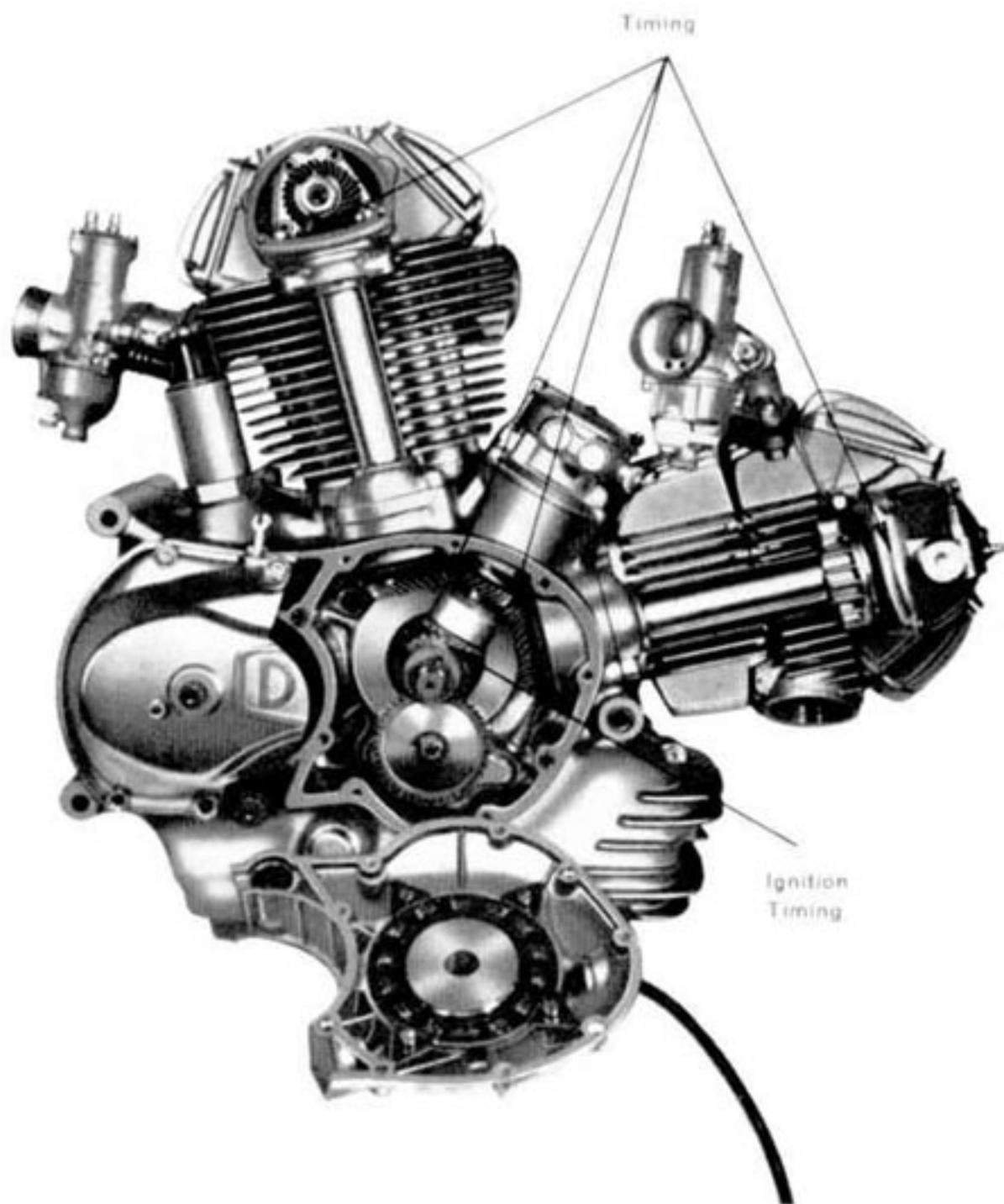
The clearance has to be adjusted and checked with a feeler gauge, after the said timing data have been controlled.



Engine timing

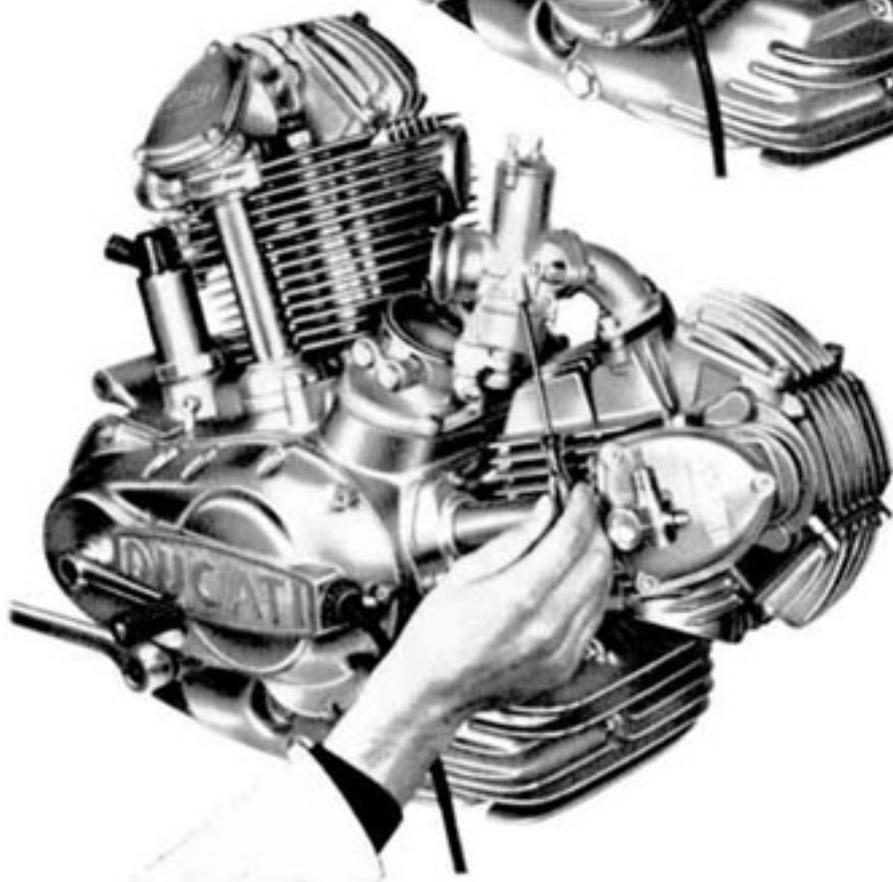
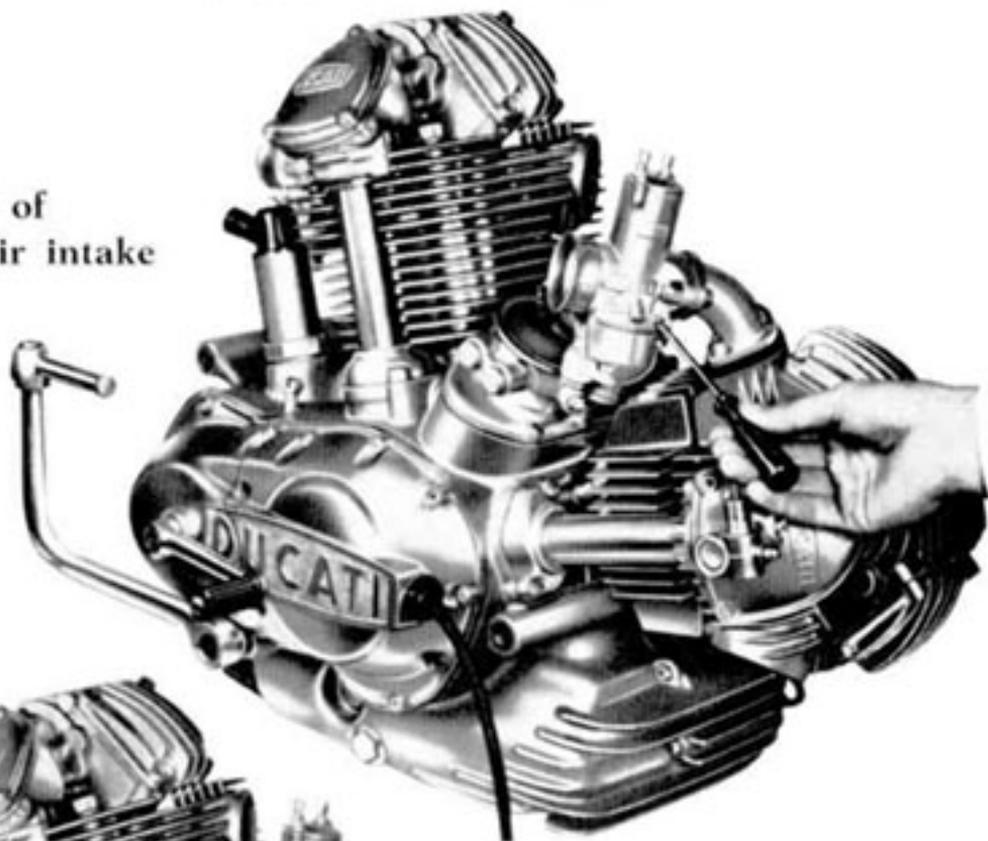
The timing gears in the crankshaft and on the camshaft, are provided with reference marks engraved on the toothed periphery.

The engine is timed when the above mentioned marks are disposed as indicated by the arrows in the following illustration.



IDLING ADJUSTMENT

Adjustment of
minimum air intake



Throttle
adjustment

PETROL FEED

The petrol feed of the engine is by gravity.
No. 2 Carburettors AMAL with air filter.

Model	Carburettor	Atomizer	Diffuser	Main jet	Idling jet	Pin position
RIGHT	R 930/76	106	30	190	25	2nd notch
LEFT	L 930/77	106	30	190	25	2nd notch

The tank has a capacity of 17 liters (3.74 Imp. gal., = 4.49 U.S. gal.) with 2 three-position cocks: closed - open - reserve. The reserve is about 1.6 liters (0.35 Imp. gal., = 0.42 U.S. gal.).

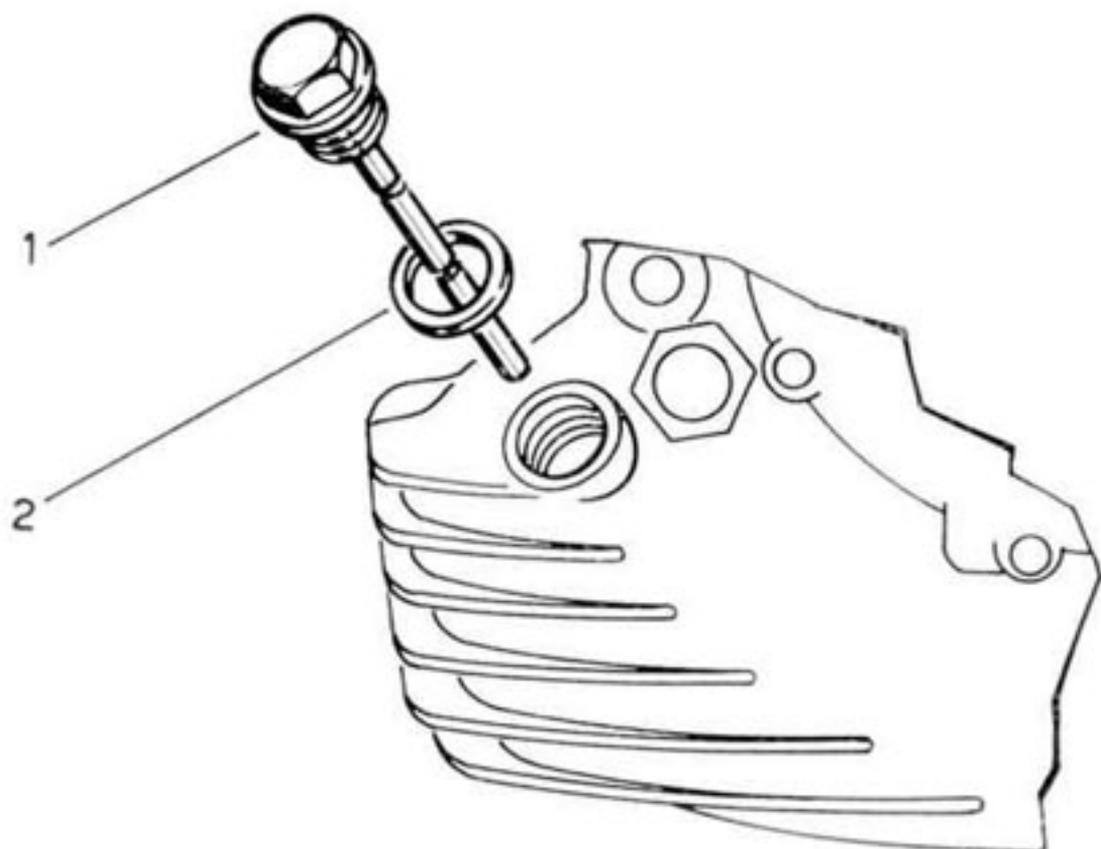
LUBRICATION

The engine is pressure lubricated, by means of a gear pump driven by the shaft; this pump takes the oil through a filter, from the lowest point of the crank-case which acts as an oil sump, and forces it through proper oil-ways, to all parts of the engine which have to be lubricated. The oil returns by gravity.

The sump capacity is of about 4.5 Kg. (10 lbs) = lt. 5 (1.10 imp. gal. = 1.32 US gal.).

An Oil-filler with stick consisting of:

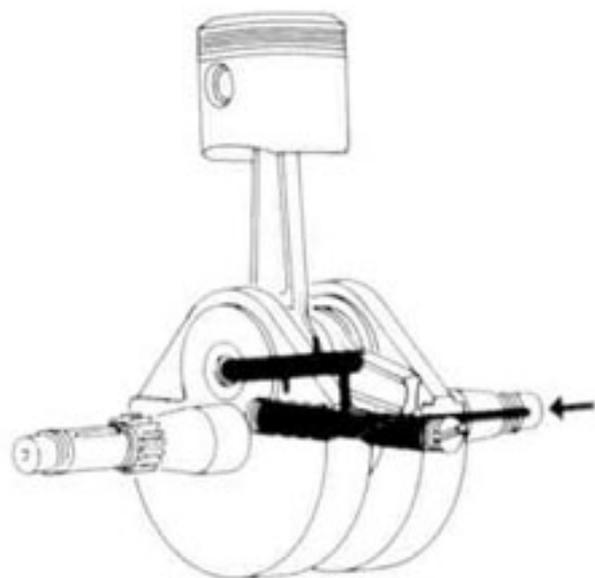
- 1) Stick-provided filler plug;
 - 2) Sealing gasket;
- allows the oil level measurement.

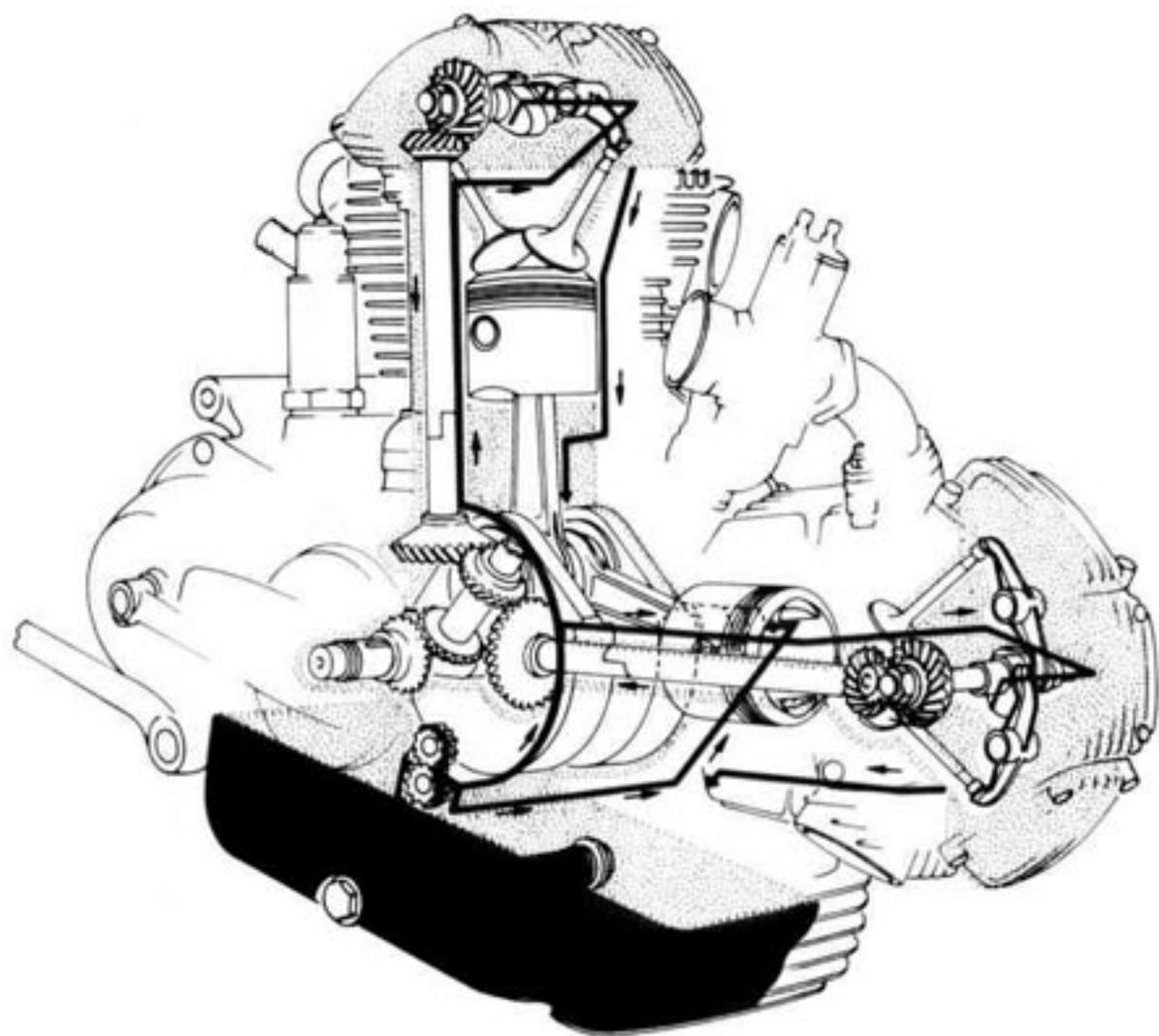


The filler plug stick is marked by two notches in the spots where the oil level is respectively at its lowest and at its highest point.

The oil level is measured by just resting the plug on the filler.

- The lubricating system of the DUCATI 750 GT motorcycles with single-shaft engine is quite simple and requires no special maintenance except the renewal of the oil level every 500 Km. (about 310 miles) and the total change of the oil, including the cleaning of the filter every 2000 Km. (about 1240 miles).





COOLING

Cooling of the engine is achieved by close finning of both the cylinder and cylinder head.

IGNITION

The ignition is battery-coil.

The partially automatic advance ignition is:

Advance with stopped engine	10°
Amplitude of automatic advance	26°
Total advance with engine running at more than 1200 r.p.m	38°

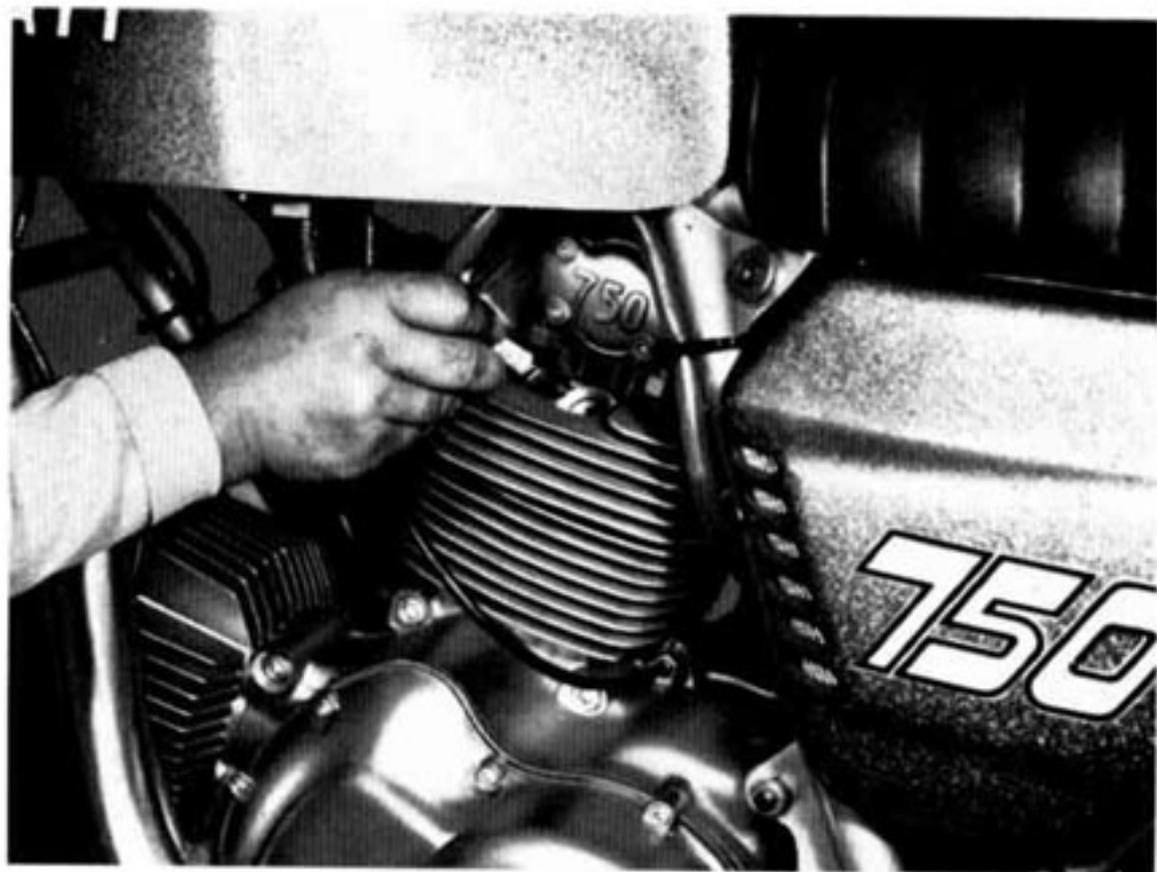


For setting up the ignition, see figure on page 14.

The clearance between the platinum plated contacts is of 0.3 to 0.4 mm. (0.0118" to 0.0157") and has to be checked by means of the feeler gauge (see figure of the previous page).

The sparking plugs are LODGE 3 HN, or a similar model, and are located on the left side of the top of the cylinder head.

When replacing the sparking plug, make sure the angle of the plug, relative to the plughole, is correct, otherwise there is a risk of stripping the thread in the cylinder head. Screw the plug lightly at first, then tighten it.



HOW TO CHECK IGNITION SPARK ADVANCE

Check periodically the ignition spark advance (after the first 600 and, later, every 1200 miles); be sure that the automatic device works properly, that it is well lubricated and that the springs are neither *out of shape* nor *out of place*.

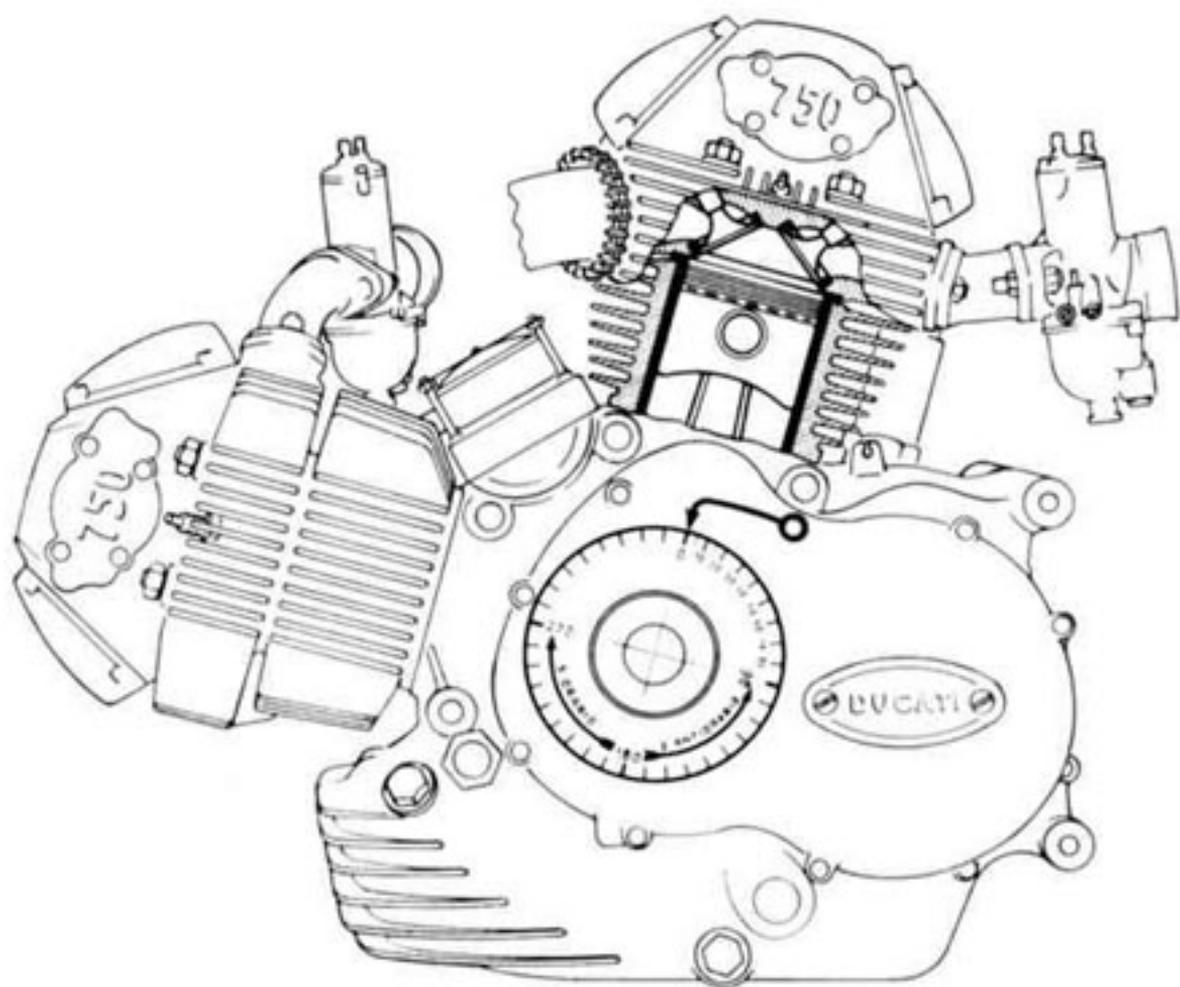
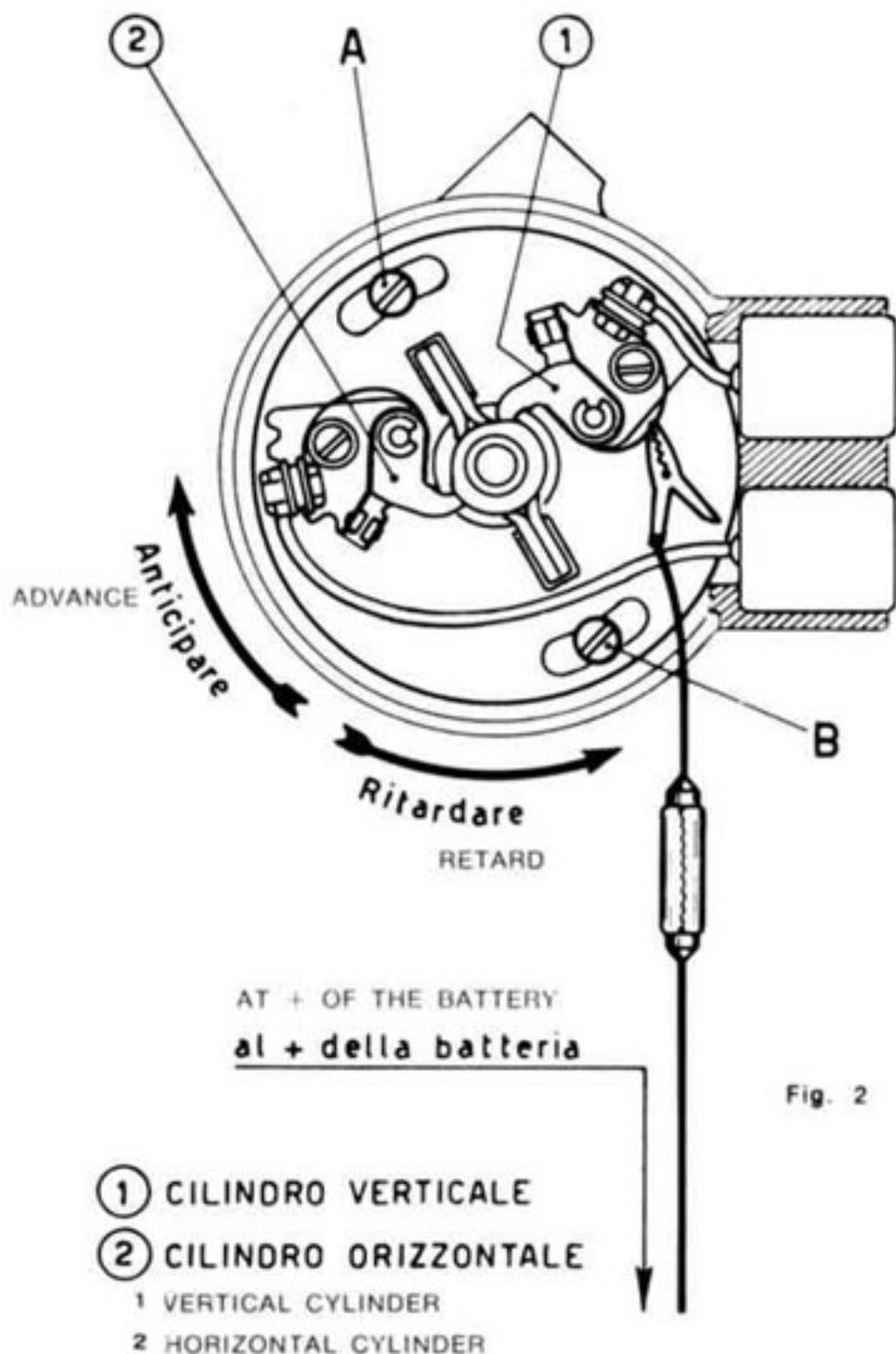


Fig. 1

The rotary amplitude of the automatic advance must be 14° , equal to 28° on the driving shaft whereas the fixed advance is 10° on the driving shaft. If you have any doubt, get it checked by a specialized workshop. To check the spark advance, proceed as follows:

FIXED ADVANCE CHECKING BY TIMING CHART



- 1st. - Remove the threaded plug which is at the driving shaft level, and fit a suitable timing chart (Fig. 1).
- 2nd. - Fit an indicator on one of the screws that secure the cover (Fig. 1).
- 3rd. - Bring the piston of the vertical cylinder to TDC of compression stage and set the indicator at « O » of the timing chart (Fig. 1).
- 4th. - Rotate the driving shaft clockwise for about a quarter of a turn.
- 5th. - To the spring of the mobile part of the contact breaker connect a 12V. - 3W. lamp in series with the + of the battery (Fig. 2). The lamp should light up.

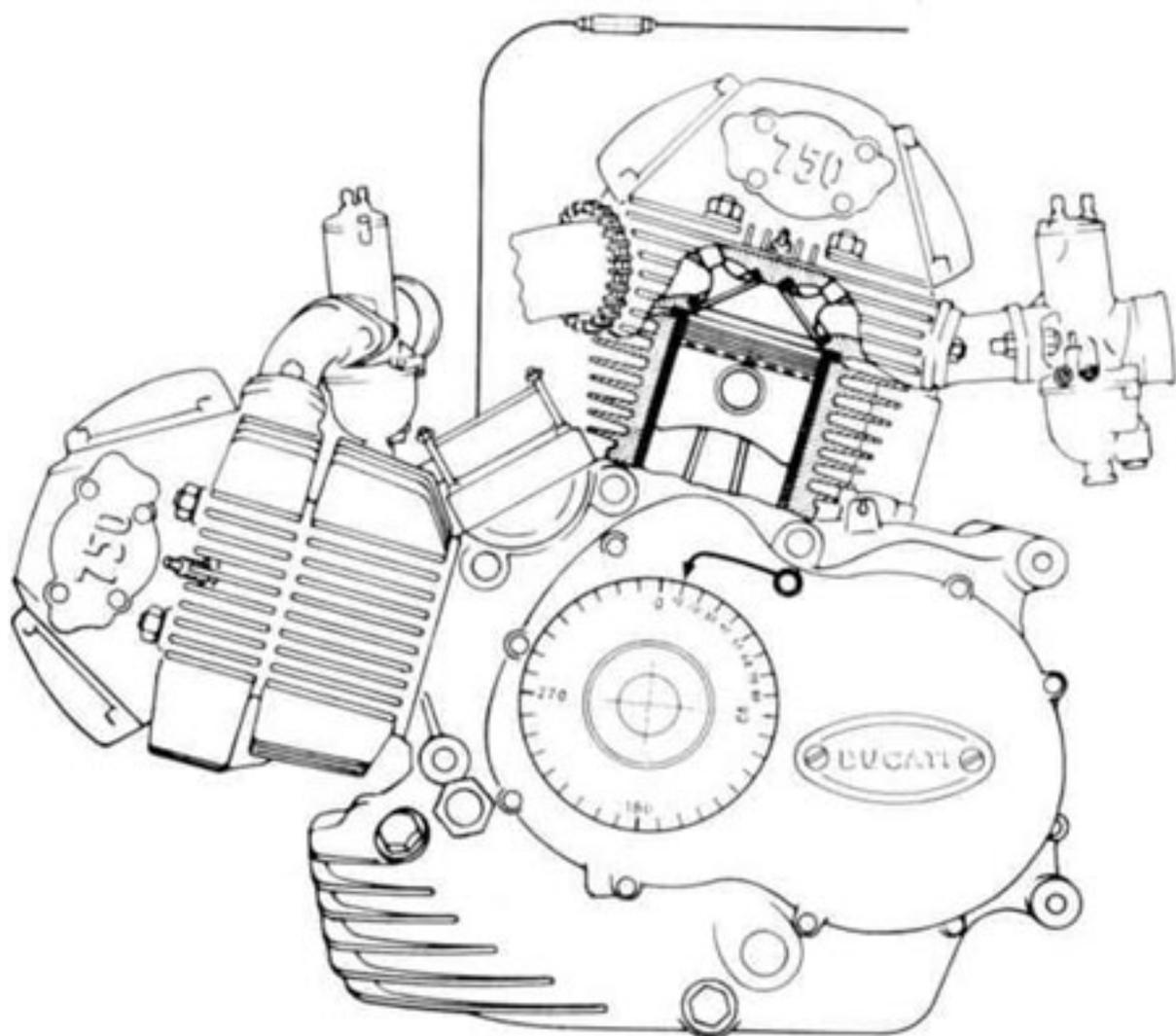


Fig. 3.

- 6th. - Rotate the driving shaft slowly, anticlockwise, till the light goes out or its intensity is lowered. At that very moment, the indicator should give on the goniometer the advance of 10° .
- 7th. - To be as sure as possible, it is advisable to repeat the test.
- 8th. - Repeat the said operations for the horizontal cylinder, taking care to set again the indicator at « O » of the timing chart.
- 9th. - If the reading should not tally with the requested numbers, then loosen the two screws (A and B) which secure the plate, and rotate it, advancing or delaying ignition until obtaining the right number of 10° .
- 10th. - Bear in mind that, if you let go dry the felt which lubricates the cam, the fibrous slipping block (that operates the opening of the moving part of the contact breaker arm), will tend to wear out, thus lowering the value of the gap.

TOTAL ADVANCE CHECKING THROUGH STROBOSCOPIC LIGHT

Carry out the following operations:

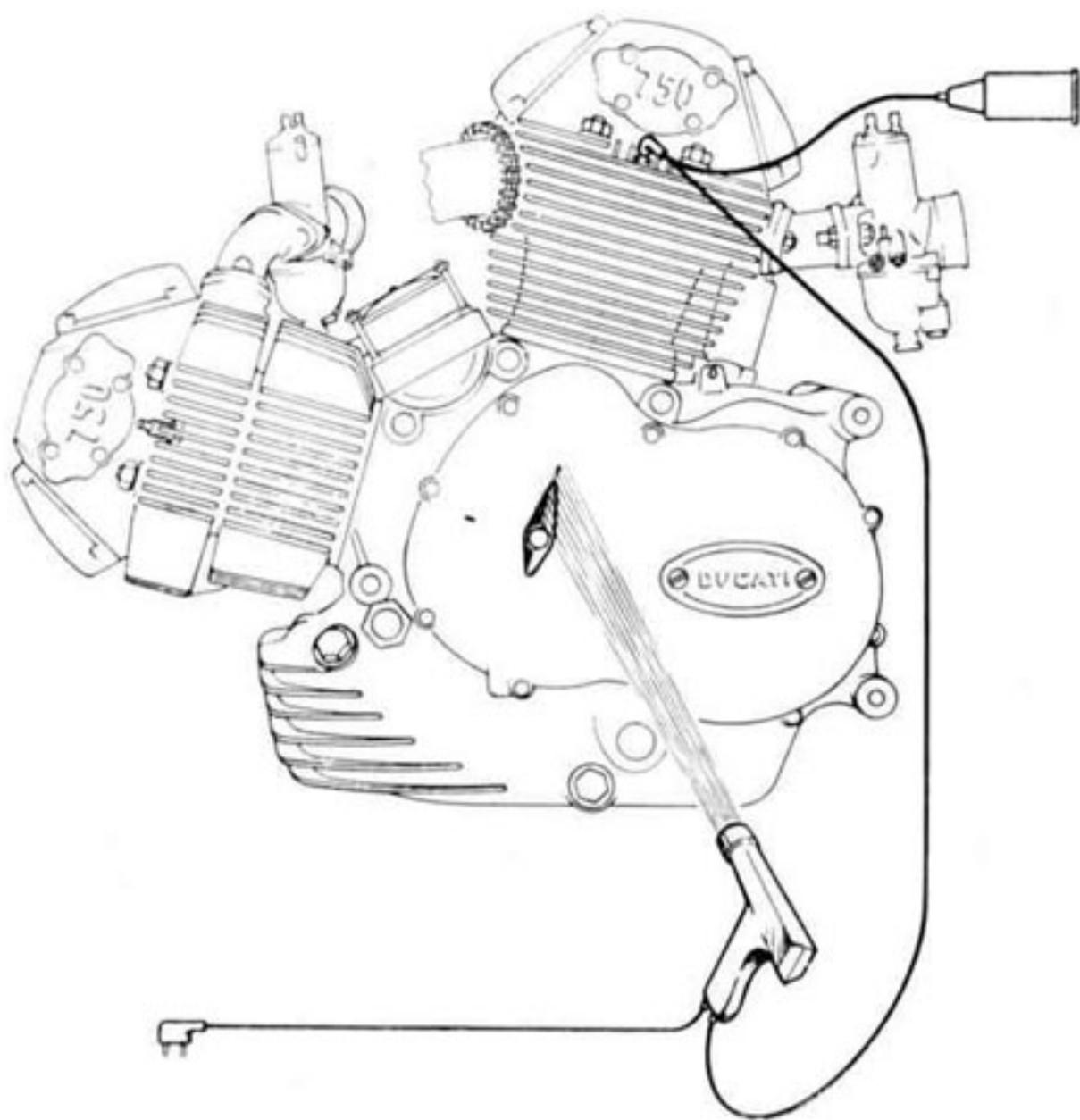
- 1) Mount the advance checking indicator 88713.0109 on the driving shaft center line, flywheel side, after removing the plug 0400.49.090.
- 2) Insert the stroboscopic light cable into the sparking plug of the cylinder in question.
- 3) Start the engine until attaining about $2500 \div 3000$ r.p.m. and orient the stroboscopic light on the reference mark (|) of the cylinder in question, placed on the cover, clutch side.
- 4) Checking with the stroboscopic light.
The phasing indicator must be aligned with the reference mark (|); if it is not, adjust the coil ignition,

turning anticlockwise for the retarded phasing, clockwise for the advanced phasing.

Parts necessary for the checking:

No. 1 advance checking indicator 88713.0109, provided with all its accessories.

The stroboscopic lamp is not supplied.



TRANSMISSION

The transmission components include a clutch and a gear box. The clutch is of the multiple plate type with

steel and phenol resin disks. It turns in an oil bath and is mounted on the primary shaft of the gear box.

The clutch housing, made of special wear resisting steel iron, turns on two inner bearings which are set at an adequate distance. It is lubricated together with the engine sprocket.

The clutch is operated by a handlever placed on the left side of the handlebar.

The transmission between the engine and the primary shaft of the gearbox is obtained by means of gears and the reduction ratio is:

2.448 : 1.

The gearbox is mounted in the crankcase; the gears for the 5 speed gearbox are constantly meshed and are operated by a foot pedal.

The transmission ratios of the gears are the following:

— in bottom gear 2.236 : 1

— in second gear 1.562 : 1

— in third gear 1.203 : 1

— in fourth gear 1.000 : 1

— in top gear 0.887 : 1

The transmission between the gearbox and the rear wheel is made by means of a chain and the speed ratio is:

2.250 : 1.

FRAME

The frame of the DUCATI 750 GT is of a very smart and modern design, is manufactured with high tensile steel and is of the central girder type.

SUSPENSIONS

The front suspension is composed by the telescopic-hydraulic long-troke fork with double action, model DUCATI, with steering stop.

Each fork leg contains 280 cm³ (17.087 cu.in.) of oil  F.1 ATF Dexron.

The rear suspension consists of a robust hinged fork with double action hydraulic differentiated load dampers

(shock-absorbers), which can be adjusted for three different loads: Minimum - Medium - Maximum.

In these machines the fork fulcrum-spindle is fixed to the frame while the fork with bronze bush rotates on it. This gives the machine greater solidity and stability. On the left bush is placed a grease nipple « Tecaemit ».



WHEELS

The wheels are of the spoke type with rims as follows:

Material	Profile	Wheel rim size	
		Front	Rear
Light alloy	Normal	WM 19" x 2"	WM 18" x 3"

The wheels are with detachable spindle.

The rear wheel has a special cushion drive and can be dismantled without removing the chain.

Tyres and pressures are as follows:

Model	Front wheel		Rear wheel	
	Tyre	Pressure Kg./cm. ² (lb/sq. in.)	Tyre	Pressure Kg./cm. ² (lb/sq. in.)
MICHELIN	3,25'' H 19 - L 25	1.9 (27.02)	3,50'' H 18 - S 41	2 (28.45)

BRAKES

The front brake is of the disc type with telehydraulic control by hand on the handlebar; the rear brake is of the drum type with pedal control.

The diameter of the front disc is 280 mm. (11.02''), the diameter of the rear drum with double cam is 200 mm. (7.87'').

ELECTRICAL SYSTEM

General specifications

The electrical system consists of the following main parts:

- 1) Headlamp
- 2) Dashboard
- 3) Coils
- 4) Horn
- 5) Stop switch
- 6) Key switch
- 7) Fuse box
- 8) Battery
- 9) Regulator
- 10) Alternator
- 11) Plate holder
- 12) Controls

1) Headlamp

The headlamp has a large diameter (\varnothing 170 mm. = 6.69''), supplying a powerful light flux by means of a bilux lamp at 12 Volt 40/45 W.

The headlamp is also provided with a parking light at 12 V - 3 Watt. Inside the headlamp there are a relay for the crossing flashlight and an intermittent current

already inserted into the circuit for the application of directional indicators.

2) Dashboard

The dashboard, arranged on the handlebar, contains the two instruments (rev. and Km. counters). The central commutator controlling the three warning lights: a white one, in the middle, indicating if the key is inserted, a green one for the parking lights and a red one for anti-dazzling or dazzling lights.

The two instruments are lighted by two independent lights.

3) Coils

The 2 H.T. coils, at 12 V., are arranged under the tank and take the current only when the key is inserted. In case of replacements, be careful not to invert cables.

4) Horn

The horn at 12 V is placed under the handlebar in the best position to have the highest efficiency.

5) Stop lamp switch

It is a new type of switch, with unfailing operation, inserted into the left rear part; it is operated by the rear brake sheath and wire crossing it thoroughly.

ATTENTION! The two wires must be inserted in such a way that the two fasteners be not in contact with the central sheath end and they must be well covered by respective protections.

6) Key switch

It is placed under the saddle, on the left side (in the motorcycles provided with electrical starting, this switch has another tripping for the starting).

7) Fuse box

It is suitably placed under the saddle within the tool bag.

The fuses are 4:

F 1 of 15 A, to protect the parking lights

F 2 of 25 A, to protect the main beam light

F 3 of 15 A, to protect horn and stop

F 4 of 15 A, to protect the crossing flashlight and the eventual directional signal lamps.

Attention! While replacing a fuse, charge the contact springs to allow to mount the fuse well tight.

8) **Battery**

The battery is a YUASA one, 12N-12A-4A-12V, with 6 cells and 12 Volt-12 Ah tension. It is provided with a transparent envelope, enabling to check the level of the electrolyte. The battery is placed within a box in special rubber and is fixed elastically.

To check the recharge current, always insert the amperemeter with engine stopped.

9) **Regulator**

The regulator is of the type similar to that of our single-shaft motorcycles; the only difference is the voltage (12 Volt).

Attention! The negative cable coming from the battery must be fixed to the regulator frame.

10) **Alternator**

It is as powerful as 150 Watt.

It is arranged within the engine on the clutch side. Three wires come out that are directly connected with the regulator, taking care of the respective colours.

Attention! When opening the engine, take care not to damage the alternator windings.

11) **Plate-holder**

Of special type, containing a bilux lamp of 12 Volt - 5/21 Watt.

12) **Handlebar controls**

Left side: light switch and horn button.

Right side: switch for the crossing flashlight and eventual directional signal lamps.

lights and eventual directional lights (see the electrical scheme).

4) Greater simplicity of operation and wiring.

WIRING SYSTEM OPERATION

1) **Key inserted:**

The machine can be run.

The white ignition light arranged in the middle of the dashboard, lights up till the engine stops.

The battery is conveniently recharged.

commutator:

position 0 - lights switched out

position a - the rear and front parking
left lights switched on, as well as
the green warning light.

position a - beam light switched on, com-
right mutable in dazzling and anti-
dazzling lights. (in the high
beam, the red warning light
lights up).

the battery charge
is well-balanced in
all conditions

When the beam light is switched on, also the small parking light is on, to give some safety to the rider in case of burning of the main lamp.

The horn is operating.

The stop indicator is operating.

2) **Key not inserted:** starting is impossible. The white warning light does not light up.

commutator:

position 0 - lights switched out

position a - the rear and front parking lights are switched on, as
left well as the green warning light.

position a - see above.
right

The connection between the electronic regulator of current and the battery is cut out.

The horn does not operate.

The stop light indicator does not operate.

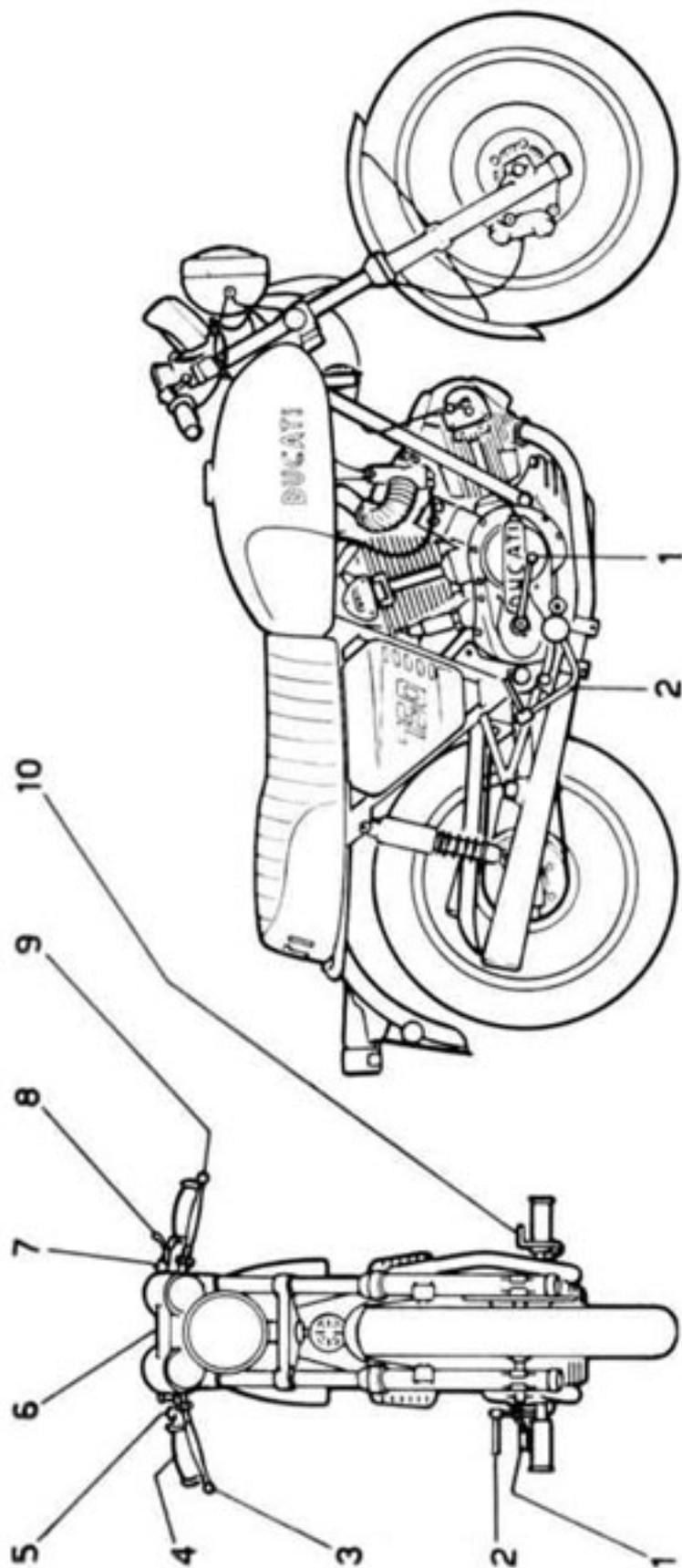
CONTROLS

As mentioned in the foregoing paragraph, alongside the left hand fixed handlebar grip will be found the two switches for the dip light and the antidazzle light, the button for the horn, the hand operated clutch lever, the air adjusting lever.

The righthand handlebar grip rotates for accelerating and decelerating the engine. In front of the grip is placed the operating lever for the front brake.

The switch of directional lights is arranged near the right handlebar grip.

Near the left footrest is placed the rear wheel brake lever which also operates the back stoplight. Alongside the right hand footrest is the double lever for the gear change.



LEGEND

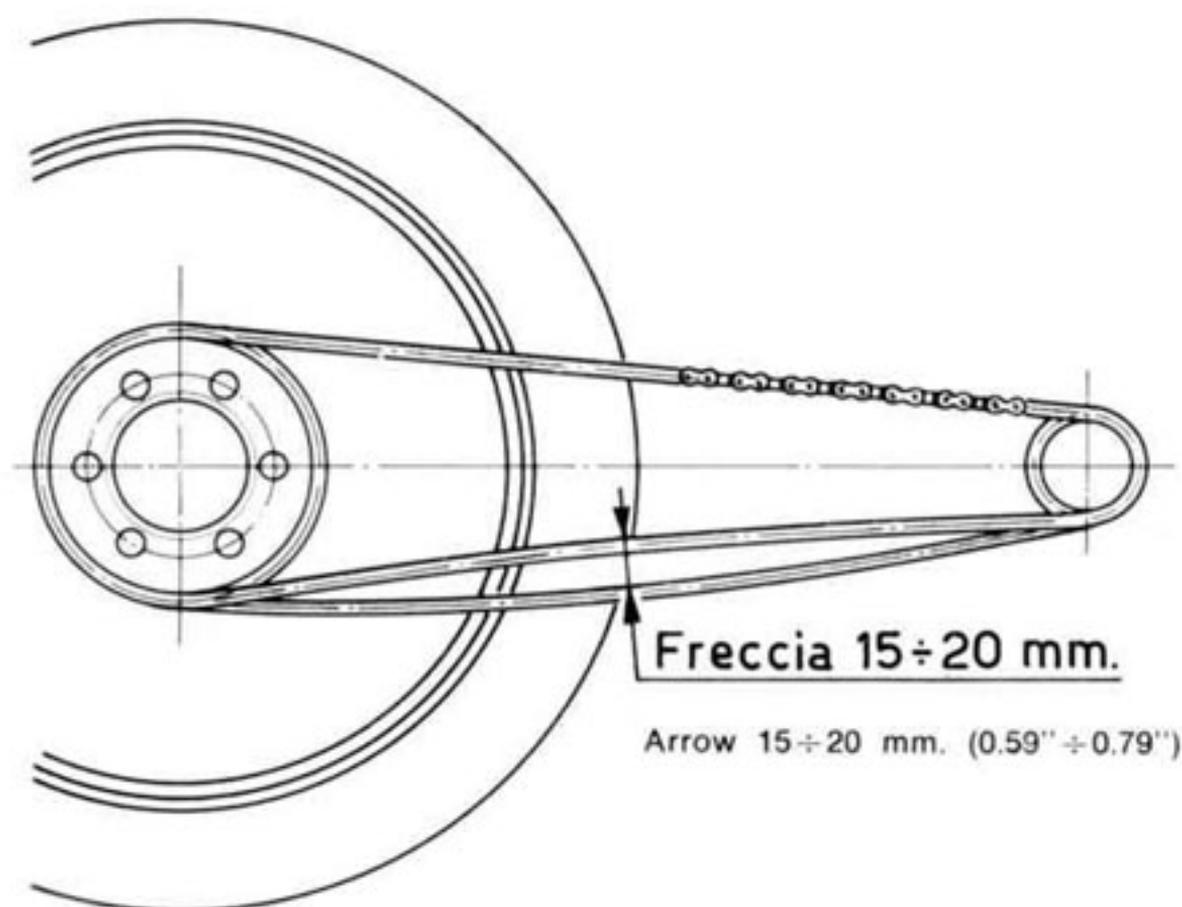
- | | |
|---|--|
| 1 - Change gear lever | 6 - Dashboard |
| 2 - Starting articulated lever | 7 - Light deviating switch and horn pushbutton |
| 3 - Front brake control lever | 8 - Air adjusting lever |
| 4 - Accelerator hand grip | 9 - Clutch lever |
| 5 - Switch for the cross flashlight and the eventual directional lights | 10 - Rear brake lever. |

SADDLE

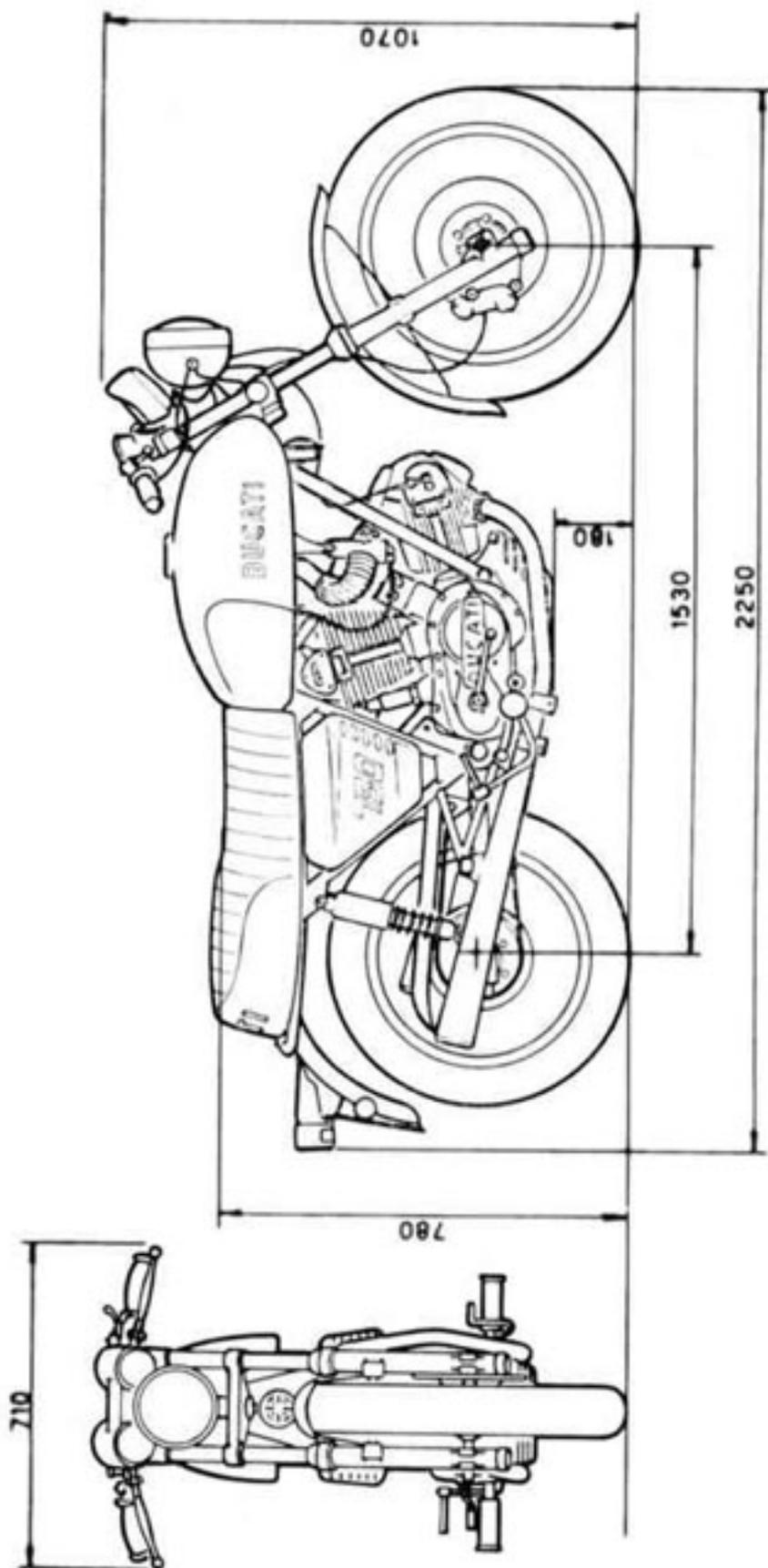
The motorcycle is provided with a wide and comfortable saddle for two persons.

CHAIN TENSION ADJUSTMENT

For the correct chain adjustment, up and down movements should be no more than 15 ÷ 20 mm. (0.59" ÷ 0.79"), with grounded machine and one person sitting on the rear part of the saddle, or with rear suspensions at half-stroke.



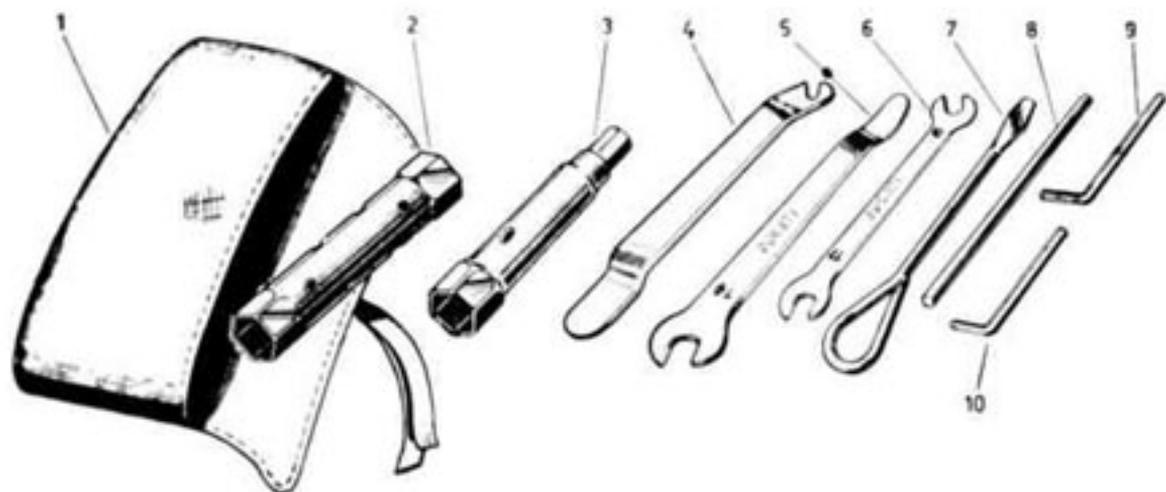
OVERALL DIMENSIONS AND WEIGHT



Empty weight: about Kg. 185 (lbs. 408).

TOOL BOX

A large tool box of ample capacity is placed under the saddle and contains the spanners and the tools supplied with the motorcycle for the normal inspections of the engine, which can be executed by the rider himself.



- 1 - Tool bag
- 2 - Double box spanner 19-22 (0.75"-0.87")
- 3 - Double box spanner 21 for hexagon 14 (0.83"-0.55")
- 4 - Tyre lever
- 5 - Hexagon spanner 14 with tyre puller (0.55")
- 6 - Double hexagon spanner 10-11 (0.39"-0.43")
- 7 - Screw driver
- 8 - Tommy-bar for box spanner 21-22 (0.83"-0.87")
- 9 - Spanner for hollow hexagon 6 (0.24")
- 10 - Spanner for hollow hexagon 5 (0.20")

A filtering box with breathing valve, placed on the left side of the machine, serves the vertical cylinder.

Another box, placed under the tank, serves the horizontal cylinder.

The battery keeps protected between the two lateral covers.

PERFORMANCES

The max. speed can be obtained only by scrupulously following the running-in rules described at the pages 9 and 10, and periodically executing the maintenance operations listed at the pages 43 to 50.

Fuel: petrol  SUPERCORTEMAGGIORE.

Max. speed: about 200 Km/h (124 m.p.h.).

Consumption, at the economic speed of 85÷90 Km/h (53÷56 m.p.h.): 7.8 liters per 100 Km. (rules CUNA) (36M/Imp. gal. = 30M/U.S. gal.). Fuel distance: 218 Km. (135 miles).

IMPORTANT

At any speed, do not exceed the max. number of revolutions of the engine, that is 7800/min.

Failure to comply with the above recommendations absolves the manufacturer from all liability as to possible troubles occurring in the engine.

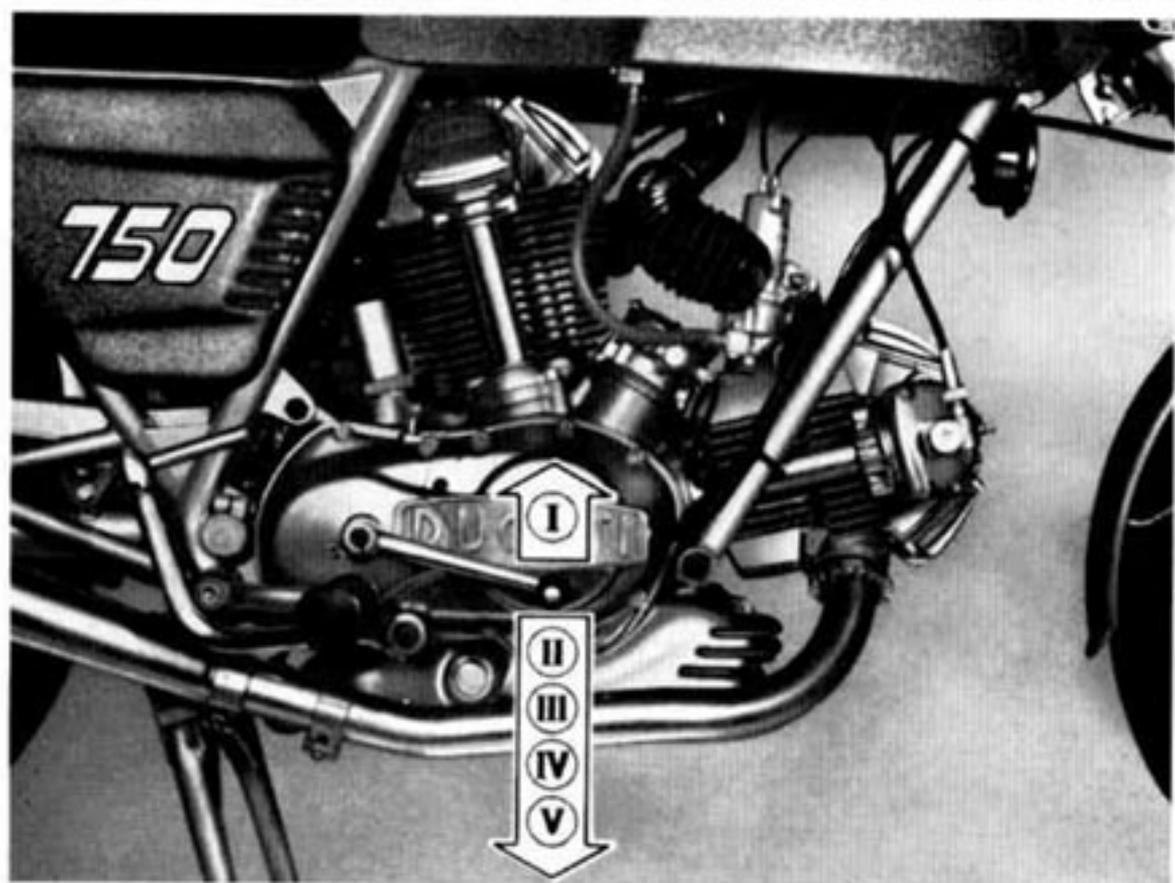
HOW TO USE THE 750 GT

FILLING UP AND STARTING THE ENGINE

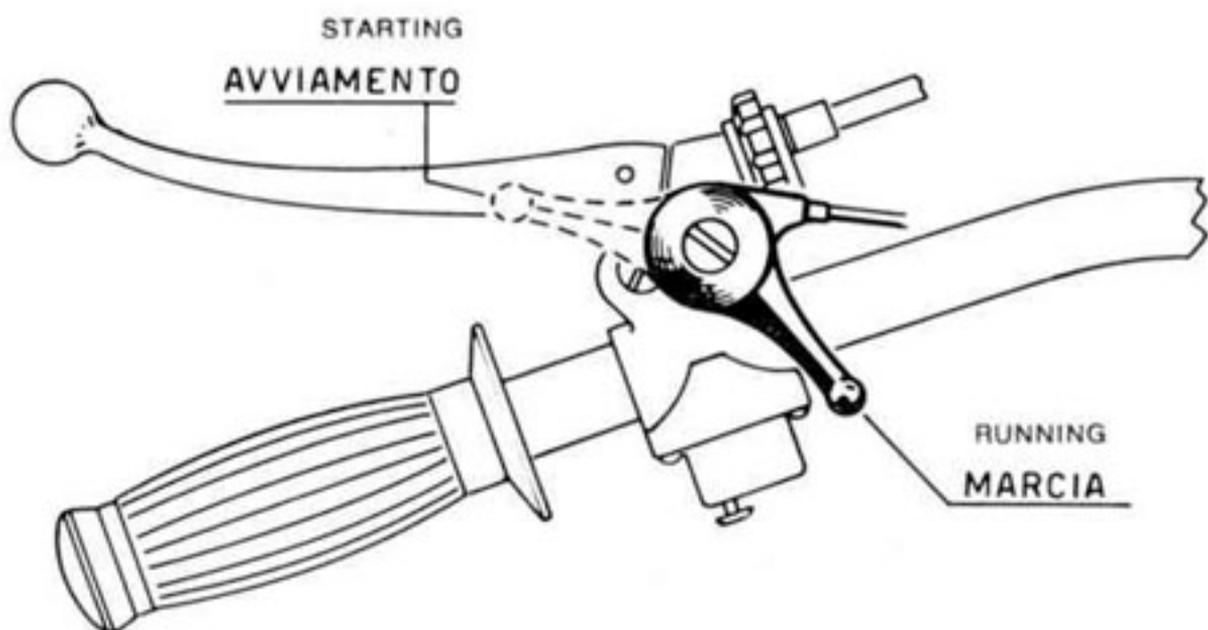
Before starting the engine, make sure that in the tank there is sufficient fuel for the distance you wish to travel, that the fuel taps are open and that the engine lubricating oil is at the right level.

We advise to use **AGIP** F. 1 RACING S 50.

Once refuelled and checked the oil, see if the change gear lever is in neutral position, and press down the carburettor tickler to ensure the correct level of petrol in the float chambers. Place the air controlling lever in the starting position as it is indicated in the figure. Now, after opening the throttle handle by about 1/8th of its travel, strongly press the starting pedal after having inserted the key in the commutator situated under the saddle on the left side.



If the engine does not start, repeat this operation, varying at the same time more or less the opening of the throttle by means of the handlebar grip. **Once the engine is started, bring air control lever to the running position, do not race immediately, especially when the engine is cold, but before accelerating the engine let the lubricating oil warm up to facilitate its circulation throughout the engine, so as to reach all moving parts.**



RIDING AWAY AND RUNNING OF THE MOTORCYCLE

With the engine running, disengage the clutch and, using your heel, push down the rear arm of the gearchange lever. When this lever is left to itself, it returns to its original position. With this move the bottom gear is now engaged. Now turn the throttle hand grip little by little and release gradually your hold on the clutch lever; the motorcycle begins slowly to go under way. With the clutch lever completely released, let the motorcycle increase its speed. To pass now from bottom gear into second gear, turn back throttle hand grip fully and quickly; and after having disengaged the clutch follow up at once by pressing down the front arm of the gearchange lever, with the toe of your shoe. Now turn forward the throttle hand grip again, releasing at the same time the clutch

lever. Similar operations are carried out in order to change from second gear into third gear, from third gear into fourth gear and from the fourth to the top gear.

To change down from a high gear to a lower one, operate as follows: close the throttle, disengage the clutch, accelerate the engine momentarily, thus synchronizing the gear about to be engaged, engage the lower gear and then let go off the clutch control.

A good motorcyclist will make use of the controls intelligently and at the right time. When riding uphill and the engine tends to slow down, change to a lower gear at once; do not "hang on" to a higher gear when the effort required from the engine advises to use a lower gear.

When the engine turns at a low number of revolutions, do not accelerate its turning at once: thus you avoid any oversupply of fuel and too harsh drive to the transmission.

The clutch should not be held long disengaged with a gear engaged, because the clutch plates will become overheated, causing rapid wear by friction.

Except in case of emergency, never use the brakes brutally when you are already near behind the obstacle, but throttle down the engine in right time and then make use of the brakes.

Bear in mind that insufficiently inflated tyres are detrimental to the roadholding qualities of the motorcycle, cause a greater tyre wear and lower efficiency.

Attention! In the long downhill roads, with dead engine, or while being towed after any breakdown, it is indispensable to detach the chain in order to avoid dry running of change gears and other engine parts.

STOPPING THE MOTORCYCLE

To stop the vehicle, close the throttle completely (the engine will then act as a gentle brake), disengage the clutch and put the gear pedal in neutral. A slight use of the brakes will then stop the motorcycle.

To stop the engine pull out the contact key of the switch placed on the headlamp.

MAINTENANCE

On good maintenance depends the good condition of the motorcycle.

By following these fundamental rules you can avoid serious troubles and obtain an excellent performance from your motorcycle.

The operations to be carried out are subdivided in accordance with the mileage run by the motorcycle. The recommendations which follow are, of course, merely indicative, because lubricating, checking and adjustments depend also on the nature of the road, the seasonal temperature, the length of the intervening period.

EVERY 500 Km (about 310 miles)

- Restore the oil-level in the crankcase;
- Check the tyre pressure with a pressure-gauge;
- Tighten the cylinder head holding down bolts;
- Readjust the brakes;
- Check the clearance between valves and rockers placing the appropriate rocker shim on the valve stem end, and restore the clearance to 0.10 mm. approx. (0.0039").

EVERY 1000 Km (about 620 miles)

- Check and adjust the distance between the sparking plug electrodes to about 0.8 mm (0.0315") and clean them with a small wire brush and some petrol;
- Clean the contact breaker platinum plates with a rag damped in petrol and check the distance between the

platinum plates, whose opening should be 0.3 to 0.4 mm (0.0118" to 0.0157");

- Check the clearance between valves and rockers as mentioned in the above paragraph.

EVERY 1500 Km (about 930 miles)

- Lubricate the speedometer drive with  F. 1 GREASE 39.

EVERY 2000 Km (about 1240 miles)

- Change the oil in the crankcase draining it while the engine is hot, make sure that the oil drains off completely.
- Remove the carburetor oil filters and wash it by blast of compressed air, in order to remove all impurities from the cloth.
- Clean out the carburetor float chamber, the main jet and the idle jet.
- Readjust the clutch because the wear on its linings might otherwise cause slip.
- Lubricate the hinge of the rear fork.
- Dampen with thin mineral oil the lubricating wick of the contact breaker cam.
- Tighten uniformly the nipples of the spokes and check whether the screws and the nuts of the wheels have been firmly tightened.

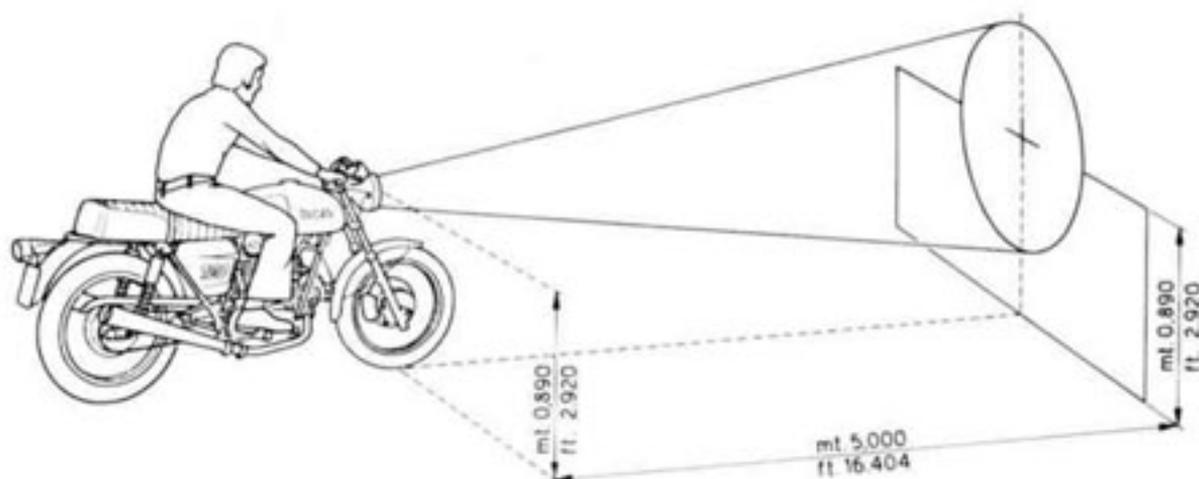
EVERY 20000 Km (about 12400 miles)

- Dismantle the exhaust pipes and the cylinders, in order to remove the carbon deposits on the cylinder heads and on the pistons (this should be done by a Ducati Servicing Garage).

HEADLAMP ALIGNMENT

It is advisable to check periodically the alignment of the headlight as follows:

- place the motorcycle at a distance of 5 meters (ft. 16.404) from a bright wall;
- make sure that the ground be even and that the optic axis of the headlamp be perpendicular to the wall;
- the motorcycle with its rider must rest on the wheels, not on the central stand;



- trace a cross in the intersections between the optic axis and the wall, that is at a height of 0.890 meters (ft. 2.920) from the ground;
- when the depthlight is switched on the cross must be in the center of the circular light-beam hitting the wall;
- to rectify the alignment of the headlamp, operate by means of the two fixing screws of the headlamp on the front fork, or the three screws of the head lamp ring.

OVERALL CLEANING

The motorcycle should be washed and cleaned periodically, according to the length of time it has been used and the state of the roads.

- Clean the engine with parafin and wipe it dry with a clean rag;
- wash down the painted parts of the frame with water, using a sponge for washing and a shammy leather for drying;
- never use solvents, petrol, spirit or parafin, otherwise the paint will look flat;
- grease the chromium plated parts with vaseline and polish with shammy leather.

PROLONGED REST OF THE MOTORCYCLE

If the motorcycle has to be put at rest for several months, it is advisable to proceed as follows:

- clean the motorcycle thoroughly;
- empty the petrol tank;
- take out the battery and keep it efficient, as per instructions at page 46 and following;
- squirt through the holes of the sparking plugs several drops of oil into the cylinder and turn the engine by hand for several revolutions, distributing a thin oil film on the walls;
- put the motor upon a piece of wood, lifting the machine from the ground and empty the air out of the inner tubes;
- cover the machine with a canvas, or water-proof cover.

INSTRUCTIONS FOR THE USE OF DRY AND CHARGED BATTERIES ON MOTORCYCLES

PRECAUTIONS BEFORE MOUNTING

— **How to prepare the battery for the filling up:**

Remove the gummed tape and the outlet plugs before filling up with electrolyte.

If the battery is provided with a long drain pipe, cut the sealed terminal at about 3 cm. (1.18") from the ends.

If the battery has a short sealed tube and is provided with a long separate pipe, replace the short tube by the long one.

— Filling up with electrolyte

Fill up the battery; the electrolyte (diluted sulphuric acid) must have a density of 1.240 for tropical climates where the average temperature exceeds 25°C (77°F) and of 1.260 for mild climates.

Fill up to the UPPER LEVEL (level of the antispash gauze, as it is indicated on the battery).

The electrolyte should have a temperature lower than 30°C (86°F) before the filling.

Leave the battery at rest for half an hour after having filled it up.

During this period, a part of the electrolyte can be absorbed: therefore it will be necessary to restore the level by adding more diluted sulphuric acid of the above specified densities.

— Charge

We recommend to charge the battery for the first time before making it operating, if time and installation make it possible.

Charge the battery with the current described in the Table, in a continuous manner, for 15 to 20 hours, with a current of about 1 Amp.

If the level of the electrolyte is lower after the charge, pour DISTILLED WATER until restoring it, that is up to the UPPER LEVEL.

At the end of the charge, firmly secure the outlet plugs, eliminate the acid and water that may have overflowed, and dry the battery.

MOUNTING

- Firmly secure the battery on the vehicle.
- Make sure that there is no error in the terminal connections (positive and negative) of the battery.
- Do not bend or compress the drain tube of the battery. If the tube is compressed, there is the risk of an explosion.

MAINTENANCE INSTRUCTIONS

— Check the level of the electrolyte once a month. If it is lower than the average between the UPPER LEVEL and THE LOWER LEVEL, pour **distilled water** until restoring the level.

Never fill to the brim with sulphuric acid.

— Always keep the battery clean. Protect terminals with vaseline grease to avoid their corrosion.

— Avoid bending and obstructing the drain tube.

RECHARGE

Recharge is necessary when lights and horn grow faint, and when the battery has been inactivated for more than one month.

Recharge the battery with a current of 1.2A for 10h. approx.

Charge until the battery starts boiling and the specific weight of the electrolyte exceeds 1.240 in tropical climates and 1.260 in the mild ones.

Type of battery	Tension (Volt.)	Capacity in 10h (Ah)	Recharge current (A)	Volume of the electrolyte (liters)
12N - 12A - 4A	12	12	1.2	0.74 (0.16 imp. gal.) 0.20 U.S. gal.)

INSTRUCTIONS FOR THE MAINTENANCE OF THE ELECTRICAL SYSTEM

In case of inspections or repairs, it is extremely important to know the working of the electrical system and to follow with care the scheme on page 32/1. To avoid demagnetizing the generator, be careful to never send electrical current (direct or alternate) in the opposite direction. (Do not connect the battery with inverted poles).

Every inspection should be made with convenient Ohmmeters and Voltmeters.

In case the electronic regulator does not work, do not tamper it for any reason, but send it to DUCATI MECCANICA S.p.A. for replacement.

PERIODICAL MAINTENANCE OF THE LOCKHEED HYDRAULIC DISC BRAKE SET

Keep the hydraulic pump and the pliers, but NEVER use petrol nor crude oil for washing; use only the BRAKE LOCKHEED LIQUID when it is necessary, taking care not to touch paints that would be damaged.

Keep the liquid level in the hydraulic pump, using the brake oil « LOCKHEED SERIES 329 » at $8 \div 10$ mm. ($0.31'' \div 0.39''$) below the upper part of the tank. Replace every time the rubber casing and tighten the plug. Periodically check that the flexible hydraulic tube is not damaged and that the various connections do not allow leaks.

When the friction material of the brake weldnuts is worn to about 1.5 mm. ($0.06''$) from the shoulder plate, it is necessary to mount new weldnuts.

REPLACEMENT OF THE FRICTION WELDNUTS

Remove the securing cotters of the two weldnuts and extract the latter.

Clean the uncovered parts of the pliers pistons with a clean wiping rag, dampened, if necessary, with LOCKHEED BRAKE FLUID, and NOT with PETROL OR

CRUDE OIL. When they are well clean, place again the pistons in the pliers.

While remounting the pistons, to avoid the liquid overflowing from the hydraulic pump, it is advisable to let some liquid go out from the drain screw of the pliers and make sure that the screw is closed immediately after remounting every piston.

Clean the inner parts where the weldnuts are mounted, insert the new weldnuts and mount the new cotters, opening terminals for the clamping.

Make the hydraulic pump operate several times in order to allow the weldnuts to settle, and, if necessary, restore the level of the liquid.

If possible, never brake abruptly during the first settling period.

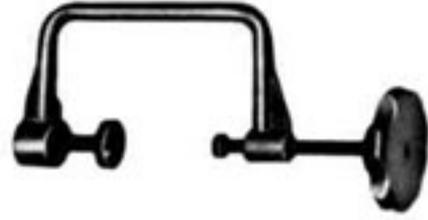
ATTENTION!

For a good maintenance of the hydraulic disc brake, it is always advisable to apply to a DUCATI Service Station.

SERVICE STATION



88713.0101



88713.0102



88713.0104



88713.0105



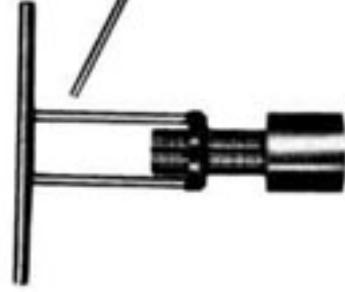
88713.0107



88713.0108



88713.0110



88713.0111



88713.0258



88713.0260



88713.0262



88713.0263



88713.0270

TOOL OUTFIT

- 88713.0101 Clutch bell and drum locking wrench
- 88713.0102 Valve and spring disassembling and reassembling tool
- 88713.0104 Tubular wrench for chain pinion locking ring
- 88713.0105 Tubular wrench for conical gear locking ring
- 88713.0107 Pinion retaining wrench for ring locking
- 88713.0108 Alternator retaining wrench for nut locking
- 88713.0109 Advance checking indicator with stroboscopic light
- 88713.0110 Flywheel-gear set extractor
- 88713.0111 Bearing bush extractor
- 88713.0112 Graduated disc bearing tool for phasing checking
- *88713.0258 Clutch cover extractor
- *88713.0260 Rocker pin extractor
- *88713.0262 Rocker assembling pin
- *88713.0263 Timing shaft securing wrench
- *88713.0270 Bearing extractor

* Equal to those of the single shaft motorcycles.

LOCATING AND REMEDYING FAULTS

The following list contains several of the most frequent faults which may arise and advice on remedying them.

ENGINE DOES NOT START EASILY

First of all, ascertain that there is enough petrol and that the cock is turned on. (A = open; R = reserve). If these are in order, the fault may be one or more of the following:

CAUSE	REMEDY
Petrol pipe is clogged.	Blow through it until the obstacle is removed.
Petrol filter dirty.	Dismantle the filter and clean the gauze by air blast.
Petrol cock filter is dirty.	Dismantle the filter and clean it by a blast of air through the gauze.
Carburetor float stuck.	Remove the float and clean out the float chamber (this should be done by a DUCATI Servicing Garage).
Carburetor float leaking.	Change the float (at a DUCATI Servicing Garage).
Jet is clogged.	Remove the obstacle by a strong blast of air.
The cable of the ignition coil is broken or sparking externally.	Inspect the cable insulation for faults and if necessary change the cable at a DUCATI Servicing Garage.
Defective sparking plug.	Change or clean the plug, making sure that the insulating core is not damaged, that there are no carbon deposits on the electrodes and that the spark gap does not exceed 0.8 mm. (0.0315").

CAUSE	REMEDY
The contact breaker points do not open.	Check the position to the fixed contact point.
The contact breaker arm is seized on its pivot.	Check movement between rocker arm and pivot and if necessary lubricate the pivot.
The contact breaker points are dirty.	Clean the contact breaker points with a rag damped in petrol.
The capacitor has broken down or is short circuited.	Change the capacitor (at a Ducati Servicing Garage).
Compression lacking.	Check if the sparking plug has been tightly screwed in, check the valves for gas-tightness and the tightness of the piston rings (at a Ducati Servicing Garage).
A valve spring is broken.	Change the broken spring (at a Ducati Servicing Garage).
Valve sticking.	Dismantle the valve, clean the valve stem and the bore of the valve guide, and make sure that the clearance between stem and bore does not exceed 0.08 mm. (0.0032") (at a Ducati Servicing Garage).
The rocker adjuster is worn out.	Check again the clearance by fitting the adequate rocker shim on the valve stem end.
The battery is discharged.	Recharge the battery according to the instructions of page 48 (at a Ducati Servicing Garage).

CAUSE**REMEDY**

The battery quickly discharges for a fault or an interruption in the recharging circuit.

Disjoin the wire from the + terminal block of the battery.

- Insert an amperemeter in continuous current between the terminal clamp and the wire (possibly with central « 0 »).
- Insert the ignition key and let the engine turn, till attaining 6,000 r.p.m.

The amperemeter should show:

- a) maximum current about 10 A, with completely discharged battery.
- b) minimum current about 1 A, with completely charged battery.

According to the battery load condition, you will obtain intermediate figures.

These tests must be carried out with switched out headlight.

Checking the Electrical System.

Make sure that all the bulbs are efficient.

- 1) With the lights switched out (during the day), the amperemeter should read 0 at 1,100 r.p.m. approx.
- 2) With town lights switched on (during the night) the amperemeter should read 0 at 1,400 r.p.m. approx.
- 3) With the antidazzle lights switched on (during the night) the amperemeter should read 0 at 2,300 r.p.m. approx.

With key not inserted, battery discharges.

Check if there are earthed contacts in the system.

INEFFICIENT ENGINE

CAUSE	REMEDY
Irregular feed of petrol to the carburetor.	Clean the carburetor filter, the petrol cock filter and the petrol pipe.
Main jet partly clogged.	Clean the main jet by means of an air blast.
Carburetor butterfly valve does not open completely.	Readjust the valve travel by means of the adjustment screw of the carburetor Bowden cable (at a Ducati Servicing Garage).
The float needle does not close properly.	Clean out the carburetor and especially the needle seat (at a Ducati Servicing Garage).
Petrol of bad quality.	Empty the petrol tank and refill at a reliable garage.
The spark plug is not of the right type.	If the sparking plug overheats, you will have preignition, knocking, and misses, especially at high revs. If the sparking plug remains too cold, you will have no ignition, because the electrodes will short-circuit. Use the right type of sparking plug; we advise the use of a plug having a thermal figure of 260 of the Bosch international scale.
The plug is loose in its adaptor.	Tighten the plug down well. A washer should always be placed between the sparking plug and its seating in the cylinder head.
The sparking plug cable sparks externally.	Change the cable or repair the insulation (at a Ducati Servicing Garage).

CAUSE	REMEDY
<p>The spark gap between the electrodes of the sparking plug is too wide.</p>	<p>Adjust the gap to the proper width of about 0.8 mm. (0.0315").</p>
<p>The sparking plug electrodes are dirty.</p>	<p>Clean the electrodes with a wire brush.</p>
<p>The contact breaker opening is excessive.</p>	<p>Readjust the exact opening of the contact which is $0.3 \div 0.4$ mm. = 0.0118" to 0.0157".</p>
<p>The secondary winding of the coil is short-circuited or broken.</p>	<p>Change the coil (at a Ducati Servicing Garage).</p>
<p>The silencer is almost completely clogged-up.</p>	<p>Clean the silencer, to ensure the free discharge of the spent gases.</p>

I N D E X

GUARANTEE CARD	Page 2
FOREWORD	Page 6
Ducati Servicing Garage	» 7
Spare Parts	» 7
IDENTIFICATION NUMBERS	Page 8
PRECAUTIONS TO BE FOLLOWED DURING THE INITIAL RUNNING - IN PERIOD	Page 9
MAIN SPECIFICATIONS	
Engine	Page 11
Timing	» 12
Petrol Feed	» 16
Lubrication	» 17
Cooling	» 20
Ignition	» 20
How to check ignition spark advance	» 22
Total advance checking through stroboscopic light	» 25
Transmission	» 26
Frame	» 27
Suspension	» 27
Wheels	» 28
Brakes	» 29
Electrical System	» 29
Advantages of the electrical system	» 32
Wiring system operation	» 33
Controls	» 34
Saddle	» 36
Adjusting of the Chain Tension	» 36
Overall dimensions and Weight	» 37
Tool box	» 38
Performances	» 39
HOW TO USE THE 450 MOTORCYCLES	
Filling up and starting of the engine	Page 40
Riding away and running of the Motorcycle	» 41
Stopping the Motorcycle	» 42

MAINTENANCE:

Every 500 Km. (310 miles)	Page 43
Every 1000 Km. (620 miles)	» 43
Every 1500 Km. (930 miles)	» 44
Every 2000 Km. (1240 miles)	» 44
Every 20000 Km. (12400 miles)	» 44
Headlamp alignment	» 45
Overall cleaning	» 45
Prolonged rest of the Motorcycle	» 46
Instructions for the use of dry and charged batteries on motorcycles	» 46
Charge	» 47
Recharge	» 48
Instructions for the maintenance of the electrical system	» 49

SERVICE STATION	Page 51
---------------------------	---------

LOCATING AND REMEDYING FAULTS:

Engine does not start easily	Page 54
Inefficient Engine	» 57



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