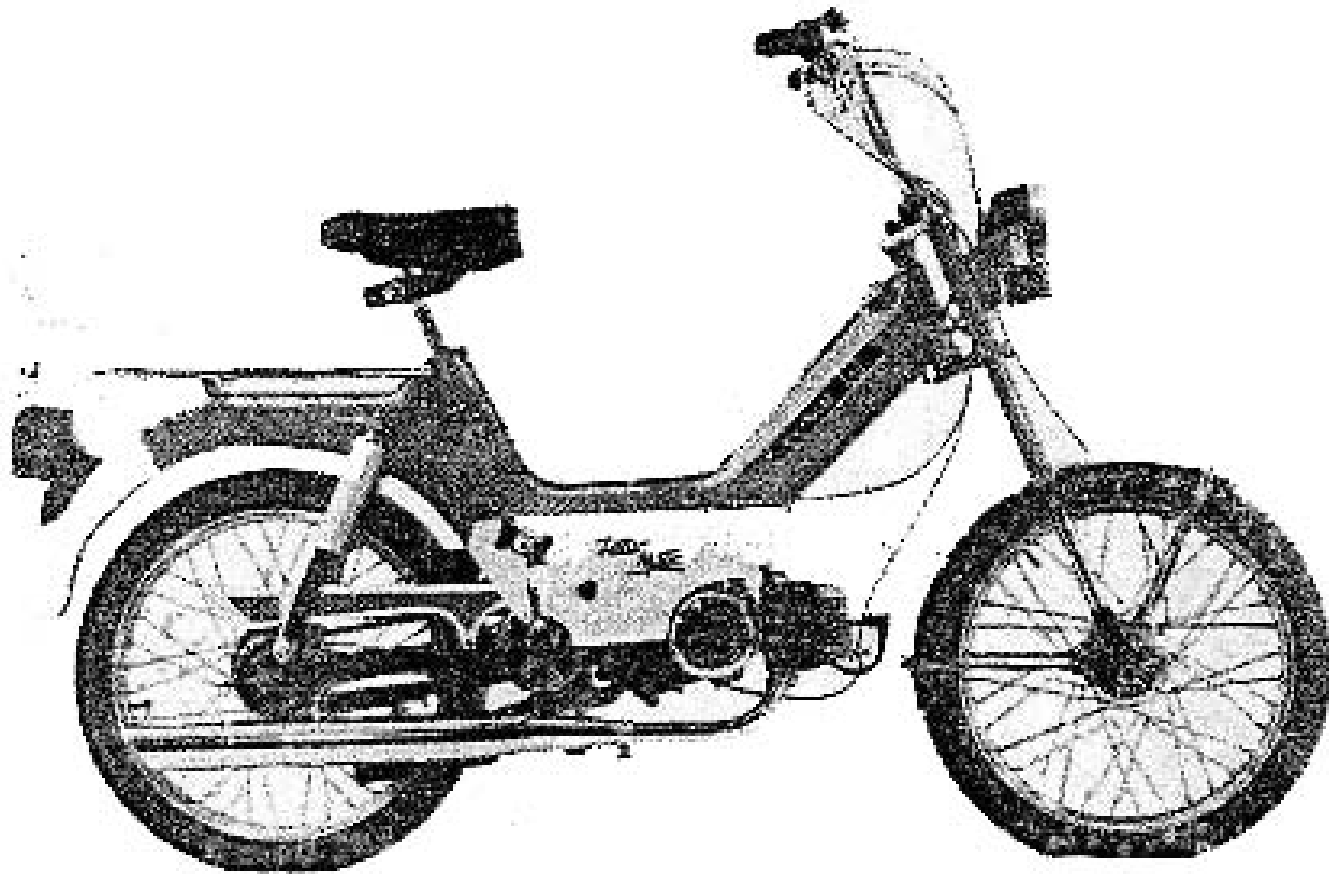




K 177 U.S.

FUELMATIC

CASSAL



TECHNICAL DATA

1070
192

015
GAP

VEHICLE - K 177 U. S.

ENGINE M 140

Frame — Pressed Steel Plate

Suspension — Front - Telescopic forks

— Rear-Swing arm with shock absorber

Electrical System

Bulbs — Headlamp 6 V, 21 W

— Rear light 6 V, 6 W

— Brake light 6 V, 10 W

Dimensions

Distance between shafts — 1,580mm

— Length — 0,780m

— Width — 0,820m

— Ground to saddle height — 1,150m

Weight — 46 Kgs

Wheels — Front — 16"x2.25"

— Rear — 16"x2.25"

System

— 1 Cylinder 2-Stroke

Fuel

— Petrol+oil (30:1)

Compression ratio

— 1:8.5

Bore

— 40 x 39,7 mm

Capacity

— 49,9 cc

Power

— 1, 1/2. 2HP

Carburettor

— Bing 1.1E

Magneto

— Bosch 6V 27/15W

Spark plug

— Bosch W226T1

Ignition

— 1,5 mm B. T. D. C.

Contact breaker point — 0,35 to 0,4 mm

Clutch

— Centrifugal clutch in oil bath

Gearbox

— 2 Speed

Gearbox oil

— 0,20 L - Shell Donax T6

Starting

— By Pedal

1 IDENTIFICATION

FRAME NUMBER

The vehicle number is stamped on the right hand side of the front headstock. «A» (Fig. 1).

FRAME IDENTIFICATION PLATE

In addition to having the identical number to the one stamped on the frame, this plate also bears the year of manufacture, the model, and the weight, engraved on it. «B» (Fig. 1).

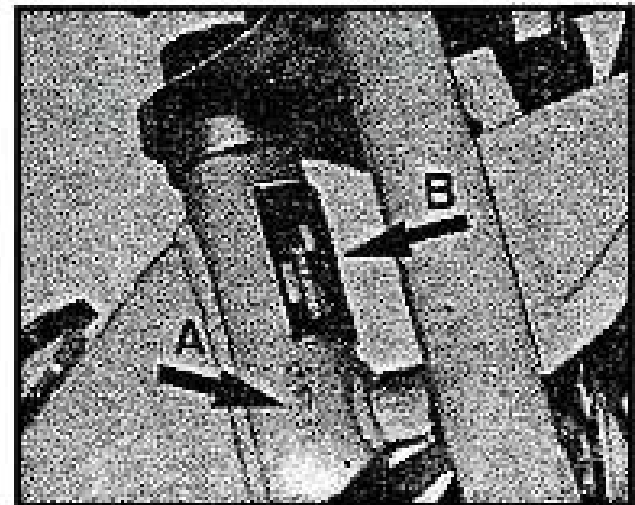


Fig. 1

ENGINE NUMBER

The engine number is stamped on the bottom of the right hand crankcase (Fig. 2).

ENGINE IDENTIFICATION PLATE

Is rivetted on the front of the right hand crankcase. Engraved on it are: the engine number, year of manufacture, engine capacity, and the type of engine. (Fig. 3).

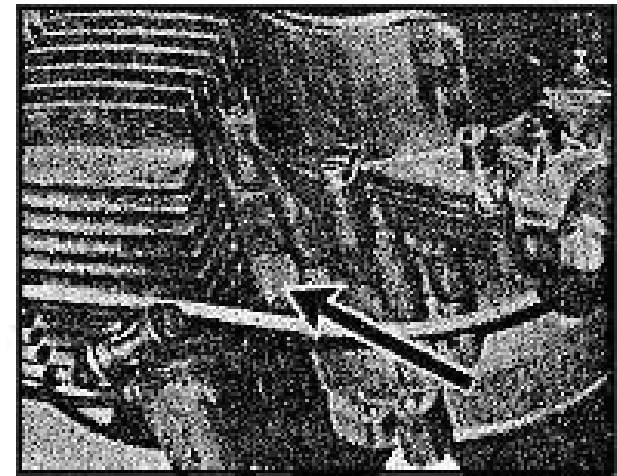


Fig. 2

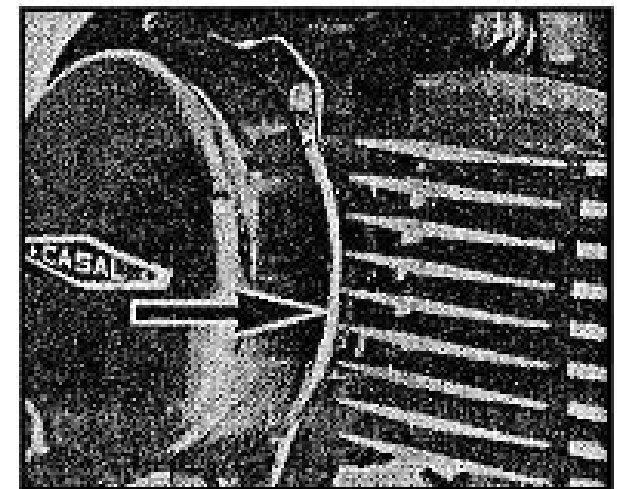


Fig. 3

2 — CONTROLS

2.1 — STARTING — CLUTCH

The clutch on the CASAL automatic engine is of the centrifugal type. It is for this reason that it is necessary to depress the hand lever indicated by the arrow «A» (Fig. 4), which with the help of a steel cable, brings into action, the clutch lever «A» (Fig. 5). It is at this very moment that the turning of the pedals, brings the engine to life.

When adjustment of the system is called for, use the cable adjuster «B» (Fig. 5).

2.2 — ACCELERATOR, (THROTTLE TWIST GRIP)

Situated on the right and side of the handlebars. When twisted, the throttle grip, causes the carburettor piston to move, with the help of an insulated and flexible steel cable. There should be enough play on the cable so that the engine does not accelerate when turning the handlebars to one side. Use the carburettor adjuster to correct this.

2.3 — BRAKES

The brakes are brought into play by the action of the hand levers mounted on the handlebars, which are connected to the brake drums by steel cables. To brake the rear wheel, use the lever mounted on the left hand side of the handlebars. (Fig. 4). To brake the front wheel, use the lever mounted on the right hand side of the handlebars. (Fig. 6).

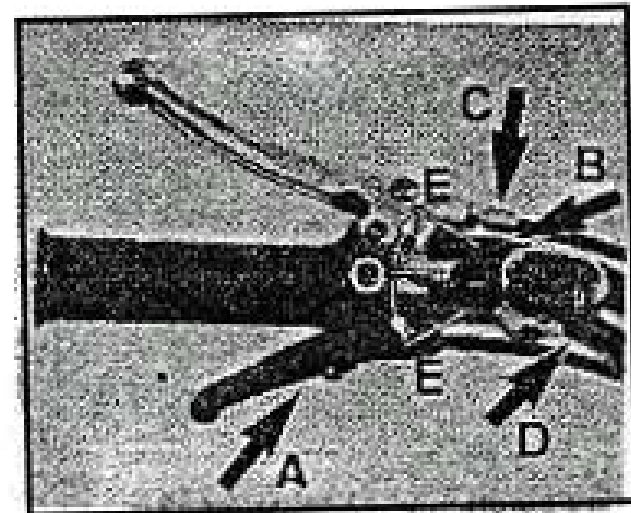


FIG. 4

2.4 — ELECTRICAL SYSTEM

2.4.1 — IGNITION

The ignition switch is mounted on the right hand side of the handlebars. (Fig. 6).

Position •O• indicates ignition •ON•.

Position •C• indicates ignition •OFF•.

2.4.2 — LIGHT SWITCH

The light switch is mounted on the left hand side of the handlebars. (Fig. 4). The three positions marked on it are;

- E• — ON
- O• — OFF
- E• — ON

2.4.3 — REAR AND STOP LIGHTS

Incorporated in the rear light, is the brake warning light. The bulb lights up when switch •B• (fig. 4 & 6), is activated by the action of one or both of the brake levers which are mounted on the handlebars.

2.4.4 — HORN

The horn is sounded, when button •D• (Fig. 4), is depressed.

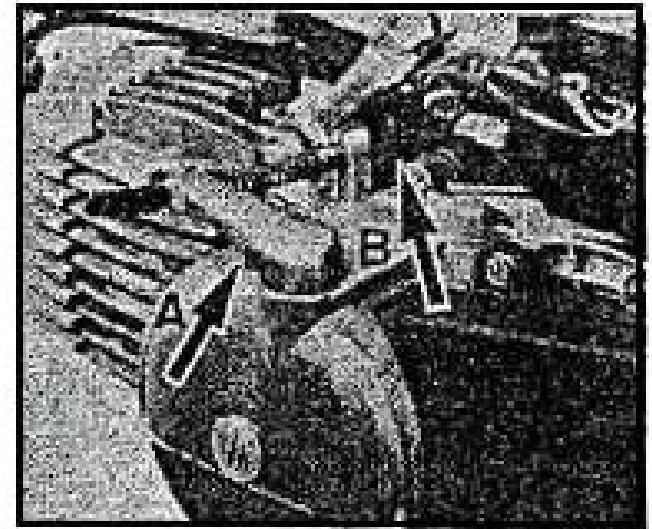


Fig. 5

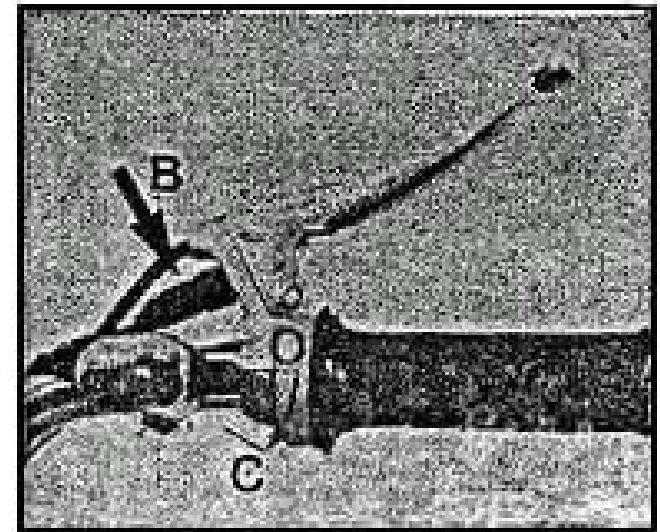


Fig. 6

3 — SERVICE AND MAINTENANCE

3.1 — ENGINE

3.1.1 — TYPE

The CASAL motor is a 2 stroke engine and therefore requires particular attention when mixing the fuel. It is this same mixture that lubricates the crankshaft, piston, cylinder, etc. Since these are the components which are constantly being subjected to heavy stress, it is of paramount importance that a good quality oil for 2-stroke engines be used in the fuel mixture.

THE ENGINE IS NOT RUN IN WHEN IT LEAVES THE FACTORY.

3.1.2

For an efficient maintenance, we recommend that for every 300 miles of service the oil level be checked. This operation is carried out by placing the vehicle on level ground. With the engine switched off, remove the oil level check screw «C» (Fig. 7).

To change the oil, ensure that the vehicle is warm so that the oil can drain easily. With the engine off, drain the oil by removing the drain plug «B» (Fig. 7). Having drained the oil, tighten the drain plug and proceed to fill up with Shell Donax T6 through plug «A» (Fig. 7).

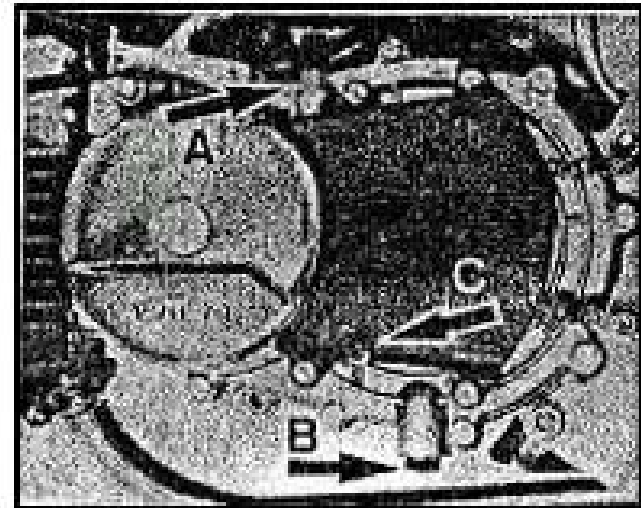


FIG. 7

3.1.3 — IGNITION

The ignition system is one of the most important organs of the engine.

Check regularly, the state of the contact breaker points (gap 0,35 mm to 0,40 mm), the ignition advance (1,5 mm B.T.D.C.), and that all cables are correctly adjusted.

The gap between the electrodes of the spark plug should be 0,50 mm to 0,70 mm.

The adjustment of the ignition advance is carried out as indicated in fig. 8. This operation should preferably be carried out by a competent mechanic.

The gap «E» shown in the diagram, should be 0,25 mm to 0,30 mm. To adjust, loosen screw, set, and retighten.

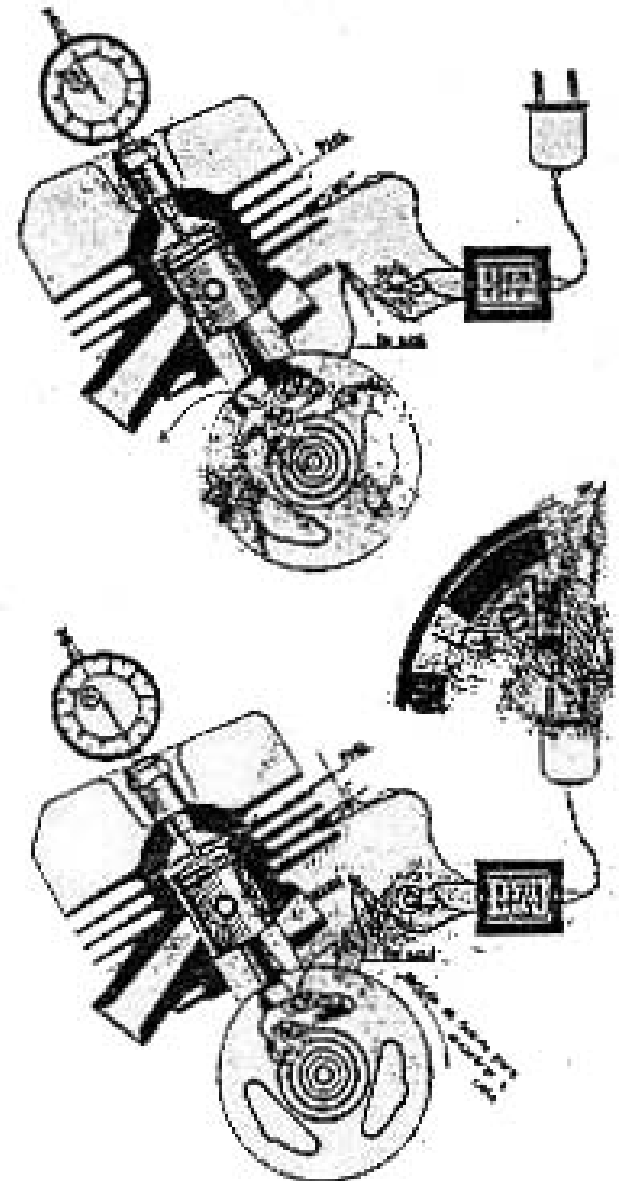


Fig. 8

3.1.4 — CARBURETTOR

To ensue maximum economy and power, we recommend that the maintenance of the carburettor be carried out at a CASAL workshop.

For easy starting in cold weather, depress choke pin «A» (Fig. 9 & 10):

Having depressed the choke pin: DO NOT FORGET TO MAKE THE CHOKE PIN RISE, BY ACCELERATING THE ENGINE. ONCE IT HAS WARMED UP.

The arrow «B» in fig 9, shows one of the three screws that hold the carburettor protection cover. To have access to the carburettor, this same cover must be removed.

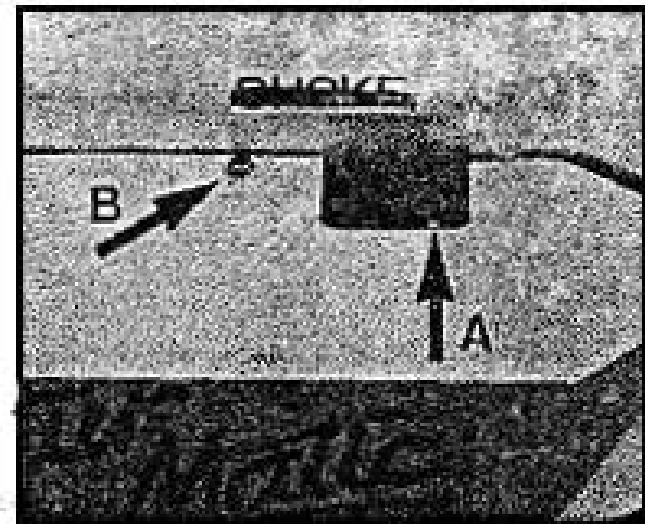


Fig. 9

3.1.5 — AIR CLEANER

At regular intervals, wash out the air cleaner element. To remove, loosen bracket «B» (Fig. 10). Proceed to wash the element using petrol or paraffin. Once dry, lubricate with thin oil or even petrol from the vehicle's tank.

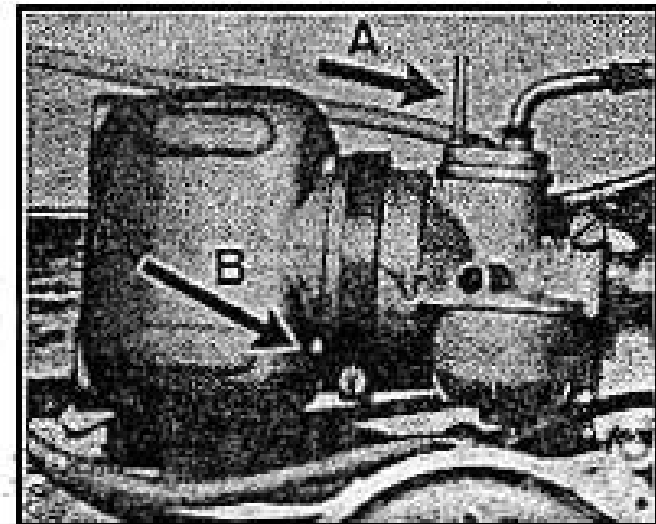


Fig. 10

3.2 — VEHICLE

3.2.1 — WHEELS AND BRAKES

FRONT WHEEL — The front wheel is equipped with a 68 mm light aluminium hub with a steel braking drum. (Fig. 11).

The two brake shoes have a large surface area, which provides for a greater braking power. Both are activated by a cam which is connected by a steel cable, to the brake lever mounted on the handlebars. Any adjustment needed through wear, can be processed using the cable adjuster indicated by the arrow in fig. 11.

To remove the wheel, it is necessary to disconnect the speedometer cable from its shaft, the brake cable, and the wheel shaft.

REAR WHEEL — The rear wheel is equipped with a hub similar in design, to the one incorporated in the front wheel. (Fig. 12).

To remove the rear wheel, disconnect the brake cable "C", and the wheel shaft "A". Pull the chains off the sprocket teeth. The wheel may now be taken off completely.

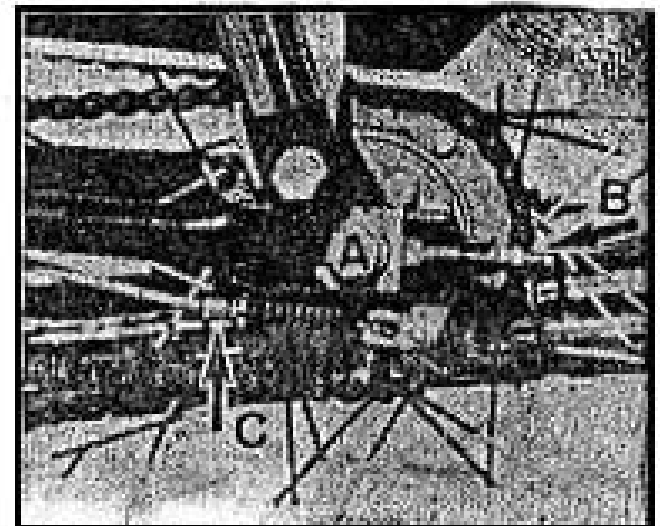
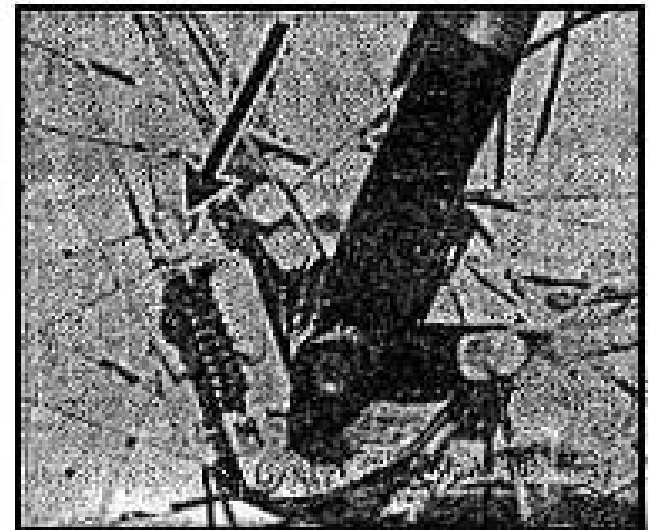


Fig. 12

3.2.2 — TRANSMISSION CHAIN

Due to the wear of the rollers, the chain may need periodical adjustment. To adjust loosen wheel shaft «A» and tighten nut «B» (Fig. 12). Do the same with the opposite side of the wheel in order to maintain the rear wheel correctly aligned with the front one. Retighten wheel shaft «A». Tighten the nuts «B» and lock them.

The adjusted play should allow for up and down movement of 1,5 cm to 2 cm. DO NOT OVERTIGHTEN THE CHAIN OR LEAVE IT TOO SLACK.

The transmission chain from the pedals to the free wheel sprocket, is of the self adjusting type. The arrow in fig. 13 shows the chain tensioner which maintains the chain correctly adjusted.

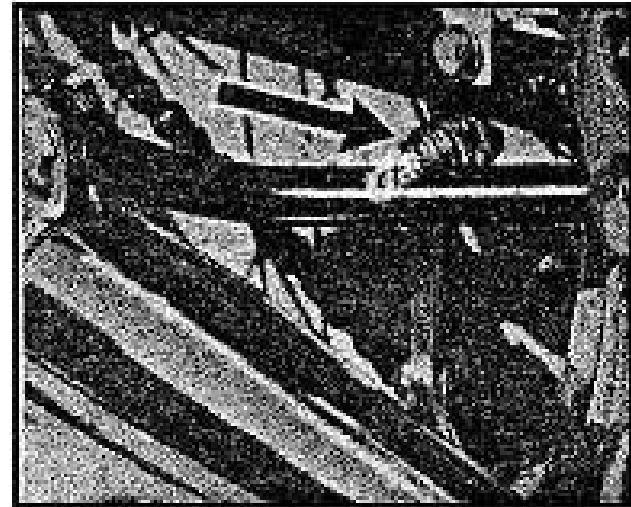


Fig. 13

CHAIN LINK

The chain is connected by means of a steel spring link. When fitting a link, ensure that the open end faces in the direction opposite to the rotation of the chain. (Fig. 14).

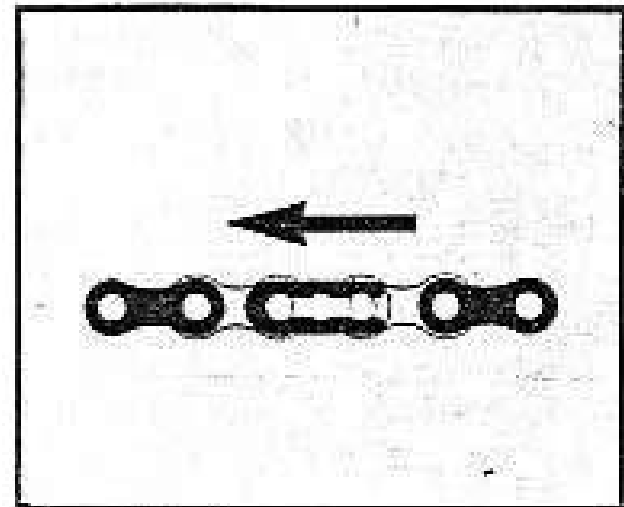


Fig. 14

3.2.3 — STEERING ADJUSTMENT SET

Periodically check the steering play. For eventual adjustment, loosen nut «A» and tighten ring «B». Retighten nut «A». Ensure that the steering does not remain too stiff. (Fig. 15).

3.2.4 — LIGHTING

The lighting is guaranteed by a 6V.21W globe in the front headlamp, and a 6V.5W globe in the rear light. For a more detailed outline of the electrical system, an installation layout may be found on consulting page 25 of this manual.

To avoid blinding other road users, keep a regular check on the headlamp beam setting. To adjust, loosen the headlamp fixing screws indicated by the arrows in fig. 16, set the beam as required, then retighten the fixing screws.

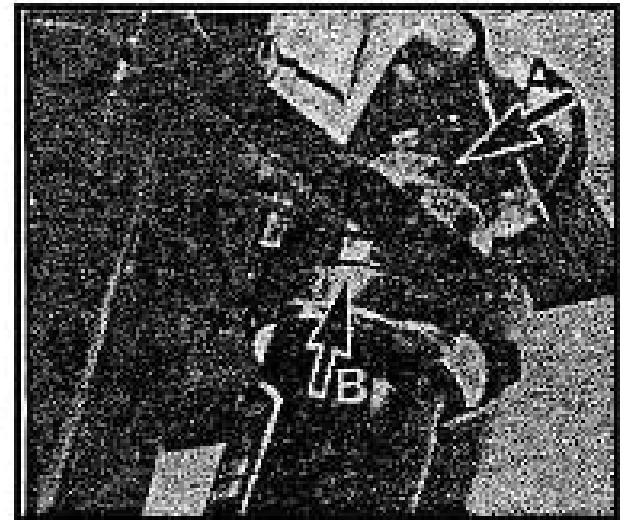


Fig. 15

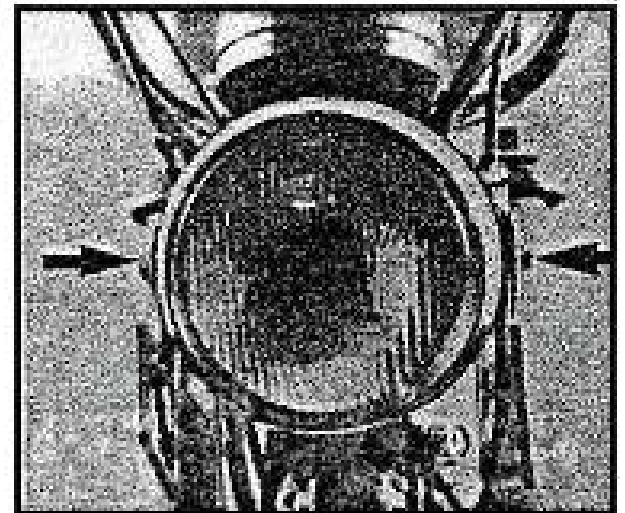


Fig. 16

3.2.5 — TOOLS

The tools that accompany each vehicle are as follows; SEE (lfig. 17).

- Fig. 1 — 0001702010900
 - 2 — 0001702011100
 - 3 — 0001702010800
 - 4 — 0001702010300
 - 5 — 0001702010400
 - 6 — 0001702010200
- } 0001712010000

In addition to these tools, there is also a small but efficient tyre pump (REF. 0001702010100).

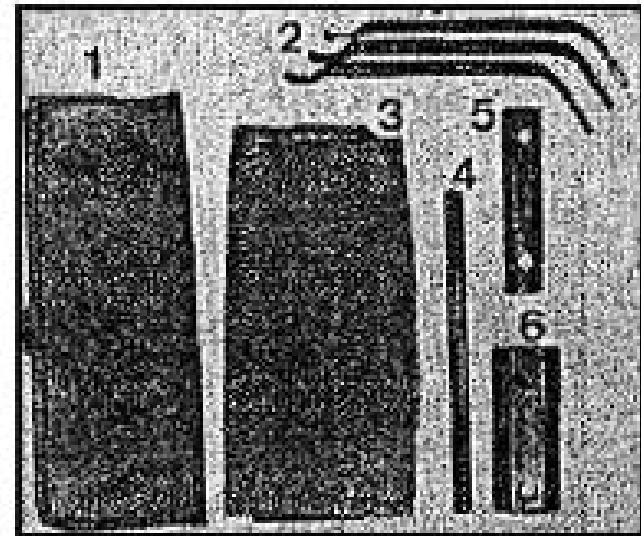


Fig. 17

4

USEFUL INDICATIONS

4.1 — STARTING THE ENGINE

4.1.1

Shake the fuel tank in order to distribute uniformly, the oil in the petrol+oil mixture (Ratio of 30:1).

4.1.2

Turn the tap lever to the open position «ON» (Fig. 18).

Position «RES» indicates reserve and should only be used in case of emergency.

4.1.3

To enable the engine to start well in cold weather, depress choke pin «A» (figs. 9 & 10). Once the motor has warmed up, ensure that the choke pin returns to its normal position, by the action of the accelerator, otherwise the engine will show heavy consumption.

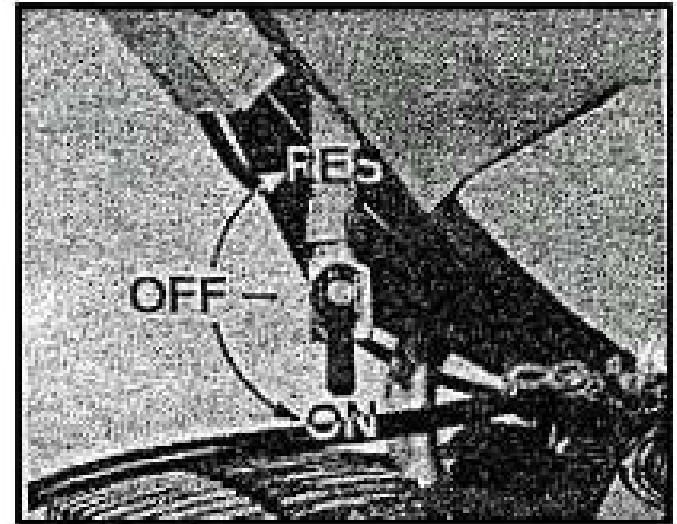


Fig. 18

4.2 — STARTING OFF

4.2.1

With the motor running and warmed up, set the vehicle in motion by pedalling and then accelerating. This action inevitably prolongs the life of the centrifugal clutch.

4.2.2

Check the tyre pressures regularly to ensure long tyre life and safe-riding.

TYRE PRESSURE CHART			
WHEEL	TYRE	PRESSURE-LBS/SQ INCH	
		1 PERSON	2 PERSONS
Front	16"x2,25	25	
Rear	16"x2,25	25	

5 — BREAKDOWNS AND POSSIBLE CAUSES :

5.1 — ENGINE DOES NOT START

POSSIBLE CAUSES

A) — FUEL SYSTEM

- Empty fuel tank.
- Fuel passage tap closed.
- In cold weather, the choke pin not having been depressed.
A (Fig. 9 & 10).
- Obstruction in the fuel passages (dirty filter).
- Float needle sticking.
- Main jet blocked.

B) — IGNITION

- Spark plug lead shorting.
- Dirty spark plug.
- Spark plug electrodes too far apart (0,5 mm to 0,7 mm).
- Defective ignition cable.
- Damaged contact breaker points (job for workshop).

5.2 — PINPOINTING THE BREAKDOWN

Fit a new spark plug into the plug lead. Turn the engine over by using the pedals. If there is no spark, check the ignition system as pointed out under heading (B) above.

If a spark occurs, check the fuel system as listed under (A) above.

5.3 — ENGINE STARTS BUT CUTS OUT SHORTLY AFTERWARDS

POSSIBLE CAUSES

- Closed fuel tap. (The engine only runs for as long as there is petrol in the carburettor float chamber).
- Fuel passage obstruction due to dirty or blocked main jet, carburettor gauze filter, or fuel tap filter.

5.4 — THE ENGINE RUNS BUT EMITS AN EXCESSIVE AMOUNT OF SMOKE THROUGH THE EXHAUST

POSSIBLE CAUSES

- The air passage obstructed causing an over-rich mixture. If it is not obstructed, remove the air cleaner and check to see that the element is not dirty or clogged (See para. 3.15).

5.5 — ENGINE RUNS BUT IRREGULARLY

POSSIBLE CAUSES

- Defective spark plug (replace).
- Ignition timing off (job for workshop).
- Defective ignition cable (replace).
- Bad contact between spark plug, holder, and lead.
- Incorrect adjustment of the carburettor (job for the workshop).

5.6 — THE ENGINE OVERHEATS AND LOSES POWER

POSSIBLE CAUSES

- Insufficient oil in the fuel mixture.
- Incorrect ignition timing.
- Excessive carbon deposits in exhaust pipe and silencer which obstruct the flow of gases.
- Lack of compression; seized piston rings, defective cylinder head gasket, or loose cylinder head.

5.7 — EXCESSIVE FUEL CONSUMPTION

POSSIBLE CAUSES

- Leaking fuel tank or fuel passages (workshop).
- Overlarge jet.
- Holed float or a sticking float needle.
- Blocked exhaust system due to carbonized oil deposits.
- Throttle jet too large or oval.
- Throttle needle too high.

5.8 — THE ENGINE STARTS BUT DOES NOT PROPEL THE VEHICLE

POSSIBLE CAUSES

- Defective centrifugal clutch (job for workshop)

