

A U T O
V A P

DOCUMENTS

THE NEW 1960

AUTO VAP

featuring

Automatic Transmission and Single Twist-grip Control



SUPER DE LUXE MODEL
(Dual Seat Model also available)

RIDING AND MAINTENANCE INSTRUCTIONS

Also applicable to

STANDARD & DE LUXE MODELS
CARAVELLE & CARAVELLE DE LUXE

(See back pages)

IMPORTANT

In the interests of obtaining a long and satisfactory life from this engine, the manufacturers urge you to study very carefully the "running in" instructions regarding petrol ratios and maximum speeds.

Thank you.

HEAD OFFICE

SCOOTAMATIC LTD

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*Sole U.K. and Commonwealth
Concessionaires*

IMPORTANT

SECONDARY DRIVE LUBRICATION

Lubrication of the Secondary Drive should be carried out before taking delivery of the Moped. A grease nipple is situated on the end of the bottom bracket axle (Drive pulley side) and two or three shots of heavy grease should be injected into this assembly using a grease gun. Afterwards greasing should be carried out at intervals of approximately 800 miles.

FOREWORD



Please read this booklet carefully. The time spent will be profitable. You will then be able to get the best from your machine and it will enable you to make most of the adjustments or small maintenance jobs which periodically need attention on your machine.

We the manufacturers of the Auto-Vap moped are as interested as you are that your moped shall give you full satisfaction. Here are three important hints based on sound advice:

- (1) THE LIFE AND PERFORMANCE OF YOUR AUTO-VAP MOPEDED DEPEND UPON THE WAY YOU TREAT IT DURING THE FIRST 300 MILES WHICH IS THE RUNNING-IN PERIOD.
- (2) Care and patience during the running-in period will pay dividends and ensure years of satisfactory service.
- (3) Be sure of only using the recommended fuel in the right proportions.

Your Auto-Vap moped is built to the highest engineering standards by one of the world's leading manufacturers. It is backed by a service organization with agents in every major town throughout the United Kingdom, the Continent of Europe and many overseas territories. Auto-Vap agents are appointed for their ability to offer you dependable spares supply and general service. Never hesitate to turn to an Auto-Vap agent for advice. He is there to serve you.

AUTO-VAP PETROIL RECOMMENDATIONS

TYPE OF OIL	PETROL/OIL RATIO FIRST 300 MILES	PETROL/OIL RATIO THEREAFTER
SHELL 2T MIXTURE		1 : 20
SHELL 2T TWO-STROKE OIL	1 : 16	1 : 20
BP-ZOOM		1 : 20
BP ENERGOL TWO-STROKE OIL	1 : 16	1 : 20
CASTROL TWO-STROKE OIL	1 : 12	1 : 16
CASTROL XL	1 : 16	1 : 20
ESSO TWO-STROKE OIL	1 : 12	1 : 16
ESSOLUBE 30	1 : 16	1 : 20
MOBILMIX TT	1 : 12	1 : 16
MOBILOIL A	1 : 16	1 : 20
FINA MOTORTONIC YM	1 : 16	1 : 20

INDEX

	PAGE
<i>Technical specification</i>	3
<i>Frame components</i>	4
<i>Operating instructions</i>	5
<i>Fuel ratios</i>	5
<i>Tyre pressures</i>	5
<i>Riding the Auto-Vap moped</i>	6, 7
<i>Maintenance</i>	8
<i>Carburettor</i>	8
<i>Primary drive belt</i>	9
<i>Primary drive unit</i>	9
<i>Secondary drive lubrication</i>	9
<i>Adjustment of ignition contacts</i>	10
<i>Telescopic forks lubrication</i>	10
<i>Rear chain adjustment</i>	10
<i>Rear suspension units</i>	10
<i>Lighting</i>	10
<i>Fault finding chart</i>	11

TECHNICAL SPECIFICATION

POWER UNIT

Air cooled, two-stroke single cylinder engine.

Bore	.	.	.	.	.	.	.	40 mm.
Stroke	.	.	.	.	.	.	.	38 mm.
Cubic capacity	.	.	.	.	.	.	.	48.5 cc.
Compression Ratio	.	.	.	.	.	.	.	6.5 : 1

CYLINDER

Made from special cast-iron alloy with precision honed cylinder bore.

CYLINDER HEAD

Made from aluminium alloy, detachable, incorporating decompressor valve.

PISTON

Made from aluminium alloy, domed top, two piston-rings, fully anchored gudgeon pin.

SMALL-END BEARING

Precision needle roller bearing.

BIG-END BEARING

Precision needle roller bearing.

CONNECTING-ROD

Heat treated forged steel.

CRANKSHAFT

Heat treated forged steel.

CRANKSHAFT-BEARINGS

Journal ball bearing.

CLUTCH

" Vap-matic " automatic progressive centrifugal clutch with bonded friction-lined shoes. A special freewheel disconnecting control is incorporated when pedalling only is required (see page 8).

CARBURETTOR

Gurtner type " D 12 " carburettor, including a float chamber, main jet, throttle slide and intake airfilter with special automatic starting device. Main Jet No. 22.

IGNITION AND LIGHTING

The exclusive " Magnclair " lighting and ignition unit with easily accessible contact points, quickly detachable ignition and lighting coils.

IGNITION-SETTING

Contact breaker commences opening $\frac{1}{8}$ in. in advance of top-dead-centre, contact-breaker gap .012 in.

SPARK-PLUG

Lodge " CNY " or KLG " F 70. "

SPARK-PLUG GAP

.022 in. — .025 in.

FRAME COMPONENTS

WHEEL-BASE

Standard Model: 42 $\frac{3}{4}$ "
De Luxe Model: 44 $\frac{1}{2}$ "
Super de Luxe Model: 46 $\frac{3}{4}$ "

Caravelle Standard Model: 43 $\frac{3}{4}$ "
Caravelle De Luxe Model: 44 $\frac{1}{2}$ "

TOTAL DRY WEIGHT

Standard Model: 84 lb.
De Luxe Model: 95 lb.
Super de Luxe Model: 102 lb.

Caravelle Standard Model: 80 lb.
Caravelle De Luxe Model: 88 lb.

FRAME

Standard Model: Multi-tube cradle pattern frame with brazed lugs.
De Luxe Model: Mono-tube frame with brazed lugs.
Super de Luxe Model: Mono-tube frame with brazed lugs and direct acting rear-suspension unit and swinging rear-fork.
Caravelle and Caravelle De Luxe Models: Mono-tube frame with brazed lugs.

FRONT FORK

"Sovexia" telescopic fork with Nylon slide bushes.
Caravelle Standard Model only: rigid.

HANDLEBARS

Fully adjustable raised pattern, heavy-duty type.

BRAKES

Auto-Vap Standard, Auto-Vap De Luxe, Auto-Vap Super De Luxe and Caravelle Super De Luxe Models:
Front: Mayard full-width type hubs brake 3 $\frac{3}{4}$ in. diameter.
Rear: Mayard full-width type hubs brake 3 $\frac{3}{4}$ in. diameter.
Caravelle Standard:
Front: Caliper type (central pull).
Rear: Internal expanding 3 $\frac{3}{4}$ in. diameter

TYRES

Michelin or Dunlop 23 in. x 2 in.

MUDGUARDS

Deep valanced pressed steel mudguards.

FUEL-TANK

5 pints capacity — Standard, Caravelle Standard and De Luxe.
9 $\frac{1}{2}$ pints capacity — De Luxe and Super de Luxe.

SADDLE

Reydell.

HANDLEBAR CONTROLS

Carburettor twist grip control with engine decompressor lever and front brake lever on the right. Rear brake lever on the left.

EQUIPMENT

Headlamp, tail lamp centre stand, rear luggage carrier, front and rear number plate, tyre inflator and sparking plug spanner.

FINISH

All models in dual colours with chromium-plated fittings.

OPERATING INSTRUCTIONS

Petrol fuel for running-in. Only during the running-in period for the first 300 miles should the following petrol mixture be employed: 1 part of two-stroke oil (or oil equivalent to S.A.E. 30 viscosity) to 16 parts of regular grade petrol or 1 part of two-stroke self mixing oil to 12 parts of regular grade petrol (this difference in ratio is due to the self mixing oils being weaker).

RUNNING-IN INSTRUCTIONS

Every new engine has to cover a certain distance before being called upon to develop full power.

The running-in period for the Auto-Vap moped is **300 miles**.

Only high precision engineering methods employed in the manufacture of the Auto-Vap engine make this comparatively short running-in period possible.

The aim in running-in is to give the various running surfaces, those of the piston, cylinder, big-end, little-end, etc., their opportunity of bedding-in and taking on an even higher degree of surface finish than is obtainable with any known manufacturing process.

This they will do automatically if the correct fuel is used and the **speed not exceeded during the running-in period.**

FIRST 300 MILES. For the first 300 miles, a speed of 22 miles per hour should not be exceeded and slight pedal assistance to be given on the hills.

Note that during the running-in period the engine is likely to emit a certain amount of blue exhaust smoke, due to the special fuel-mixture used during that period and that the fuel consumption may be higher than when fully run-in. The spark-plug should be inspected every 100 miles during the running-in period and if necessary cleaned with a toothbrush to remove any excess carbon.

Your care and attention during the running-in period in never letting the engine race or labour will be handsomely rewarded by having a reliable and powerful engine with delightful performance.

RECOMMENDED FUEL FOR NORMAL OPERATION

After the running-in period of 300 miles, the petrol mixture for the Auto-Vap moped to be used is one part of two-stroke oil (or equivalent to S.A.E. 30 viscosity) to 20 parts of regular grade petrol. When self-mixing two-stroke oils are employed, the proportion of the mixture is one part of two-stroke self-mixing oil to 16 parts of regular grade petrol. After the running-in period, the correct mixtures can be obtained direct from the dispensers of the reputable oil companies.

TYRE PRESSURE

Adhering to the tyre pressures recommended will ensure good economic performance and long tyre-life. The recommended tyre pressure for the Auto-Vap moped is:

Front-tyre: 23 lb./sq. in.

Rear-tyre: 27 lb./sq. in.

Remember that an under-inflated tyre slows down the running-speed and results in damage to the tyre and tube. An over-inflated tyre does not only give an uncomfortable ride, but may cause damage to the spokes and hubs.

Punctures on moped tyres and tubes can be mended as on an ordinary bicycle: it is advisable to have larger punctures vulcanised by a garage or service station.

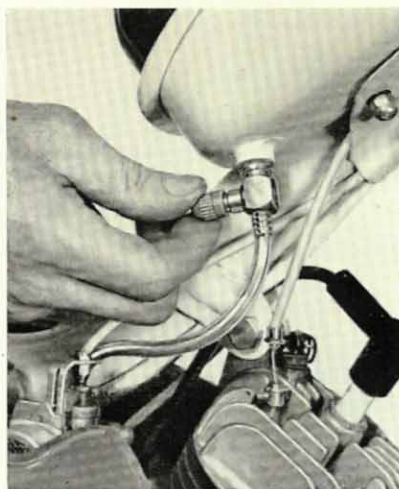


FIG. 1

RIDING THE AUTO-VAP MOPED

KICK START FROM COLD

A convenient method of starting the Auto-Vap moped and particularly recommended from the point of road safety in dense traffic conditions is the starting of the Auto-Vap moped by the kick start method as follows:

Auto-Vap De-Luxe and Super de-Luxe Models

(a) Open fuel tap by turning milled knob gently in anti-clockwise direction until reaching a full stop. (Fig. 1).

Auto-Vap Standard and Caravelle Models. Open fuel tap by gently turning the milled knob on top of the petrol tank in an anti-clockwise direction until reaching a full stop.

(b) Depress fully air throttle slide (see diagram). (Fig. 2).

(c) Place the moped firmly on its stand with left pedal-crank slightly above horizontal.

(d) Turn twist-grip not more than $\frac{1}{2}$ in., and operate decompression lever.

(e) Kick-down the pedal and simultaneously release decompression lever.

(f) When engine fires keep running for a few seconds before turning twist-grip further, let engine warm up.

(g) Turn twist-grip back until engine idles, apply rear-brake and push moped forward off the stand.

(h) Mount the moped, pedal away and turn throttle control to required travelling speed.

KICK START FROM WARM

Follow in principle the previous instruction with the exception of depressing the air throttle slide, which is unnecessary when the engine is warm.

RIDING IN TRAFFIC

The Auto-Vap moped with the "Vapmatic" automatic centrifugal clutch is particularly suitable for dense traffic conditions as when temporarily bringing the moped to a halt by turning the twist-grip back to the idling position, the engine will continue running at idling speed until power to move off again is required.

GENERAL ADVICE ON RIDING

The following recommendations will ensure that you obtain satisfactory performance from your Auto-Vap moped.

(1) The engine of the Auto-Vap moped is sufficiently powerful to climb fairly steep gradients without pedal assistance. It is advisable to give pedal assistance on ascending inclines when the speed falls below 8 m.p.h.

(2) When descending long hills apply the brakes as required, keep the engine turning, but never close the fuel-tap in an attempt to save fuel as engine lubrication will cease and cause considerable damage.

(3) When riding on the open road at speed, try to vary the throttle at short intervals by turning slightly the twist-grip forwards and backwards.

(4) Stopping the engine. Fully close the twist grip and operate the decompressor lever. Turn off the fuel by turning milled knob on tap gently in clockwise direction until coming to a stop.

Note. When parking the machine for long periods it is advisable to close the fuel tap.

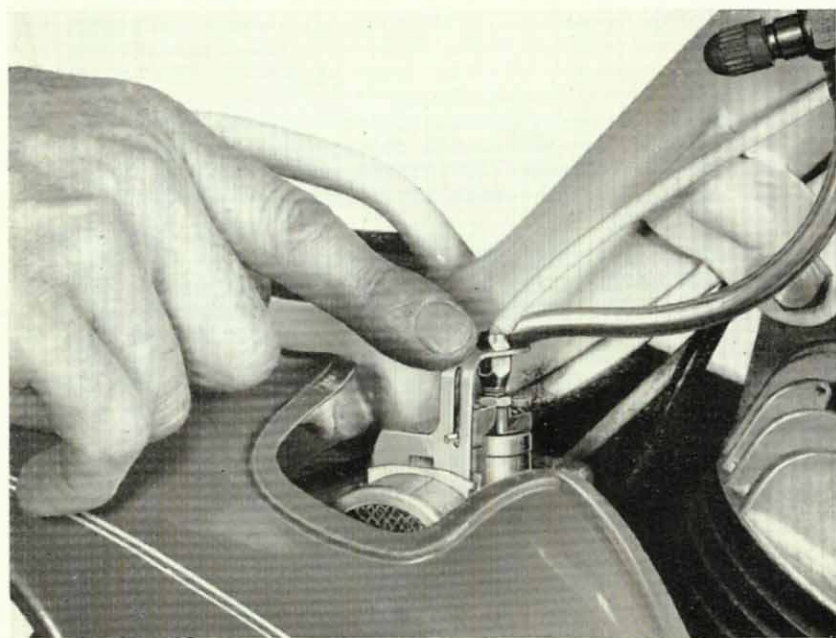


FIG. 2

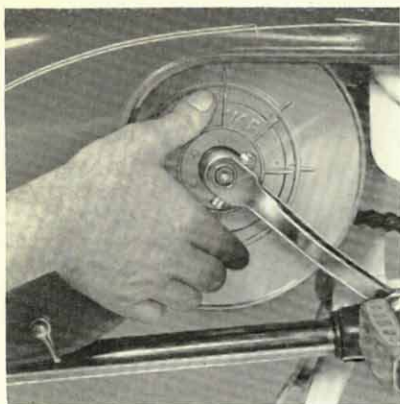


FIG. 3

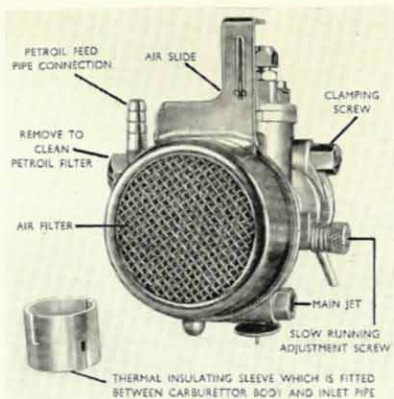


FIG. 4

TURNING THE AUTO-VAP MOPED INTO A PEDAL CYCLE

With the engine stopped and the moped stationary, give the coupling plate of the engine drive unit $\frac{1}{8}$ turn in any direction, this will disengage the engine drive. (Fig. 3). The Auto-Vap moped can then be pedalled like an ordinary bicycle.

By turning the coupling plate again $\frac{1}{8}$ of a turn in any direction the engine drive can then be re-engaged.

MAINTENANCE

The Power-unit.

The Auto-Vap moped being a two-stroke engine does not require any further maintenance other than decarbonizing at intervals of approximately 1000 miles. Provided the correct "petrol-oil" fuel is employed in the recommended proportions, the engine will receive the correct lubrication.

If the Auto-Vap moped is operating on muddy surfaces, it is advisable that any dirt which accumulates between the cooling-fins of the cylinder head and the cylinder should be removed with a suitable wooden scraper such as a stick. Mud should also be removed from the crank-case. **Remember** it pays to keep an engine clean.

The Carburettor (see diagram). (Fig. 4).

The special fuel-filter inside the fuel-inlet into the carburettor may become clogged by impurities, and fine impurities are likely to pass in time through the filter into the carburettor, causing a blockage of the jet. To clean the fuel filter, unscrew fuel pipe banjo connection holding bolt (see Fig. 4), remove the fuel filter and clean thoroughly by blowing air through same or flushing in clean petrol.

To clean the float chamber, remove the float chamber cover by releasing the leaf-spring which retains the cover in position.

Be careful when removing not to lose the float-chamber gasket.

Remove the carburettor float and place safely to prevent damage. Remove carburettor upper cap by releasing its retaining screw and withdraw throttle-slide without disturbing the carburettor control-cable arrangement. Take off carburettor body by releasing clamping screw (Fig. 4).

Remove main-jet and flush all carburettor components including the carburettor body in clean petrol blowing out any accumulation of impurities with compressed air if available or remove with suitable brush. Never use a needle or a similar article to clean the carburettor-jet.

When refitting the carburettor to the manifold stub which is bolted to the cylinder ensure that the slot in the thermal insulating sleeve (Fig. 4), does not line up with the slot in the carburettor body. If these two slots coincide an air leak will occur.

The air filter

Operating under normal conditions on hard surfaced roads the carburettor air filter should be cleaned at intervals of approx. 2,000 miles, according to running conditions. In industrial areas affected by dust and smoke, cleaning may have to be as frequent as 1,000 miles. Under exceedingly dusty road conditions, it may be necessary to clean the filter even after 500 miles. A clean air filter is essential to obtain good fuel economy. To clean the filter, remove the air filter body by releasing the retaining circlip. Thoroughly wash the filter in clean petrol, drain, blow through with compressed air if available. Dip in bicycle oil or light engine oil, allow to drain for at least one hour before replacing.

Control cables

Examine at intervals of 1,000 miles the control cables for the carburettor, front-brake, rear-brake and decompressor and place a few drops of oil into the upper ends of the control cables, operating the respective control slightly to ensure that the oil runs down the inner-wire of the cables.

Clutch

The fully automatic Clutch is non-adjustable and under no circumstances should any attempt be made to alter the Clutch shoe spring tension or bend the shoe locating tabs on the shoe retaining plate.

Primary drive belt

IMPORTANT. The primary drive belt should be checked for adjustment after the first 60 miles and afterwards at intervals of every 600 miles.

A correctly adjusted belt must not show any slack when the engine is still. Apply finger pressure to the belt, the slack should be about $\frac{3}{8}$ in., in the middle of the bottom run.

To adjust belt tension, slacken the clamping nut on the cylinder head carrying bracket. In the case of the Auto-Vap de Luxe and Super de Luxe Model, release also rear-support nut of silencer, then slacken clamping nut at engine carrying plate, lever engine forward, re-tighten clamping nut at engine carrying-plate, then the clamping nut at the cylinder head carrying bracket.

In the case of the Auto-Vap de Luxe and Super de Luxe model tighten the silencer retaining nut.

Primary Drive Unit

The needle bearings and the freewheel which is incorporated in the Automatic Clutch are packed with grease at the Factory and normally require no further lubrication unless the Clutch is dismantled. If however dismantling has to be undertaken the needle bearings and the freewheel should be lubricated with a High Melting Point Grease which must not be too adhesive. A small plastic cap containing grease is fitted to the outer edge of the crankshaft drive pulley and occasionally this should be removed and a small quantity of grease introduced to the cap before replacing. (Do not overlubricate).

Freewheel (rear wheel)

Keep the freewheel clean and regularly lubricate using a thin oil. **This is most important.**

Secondary Drive Lubrication

IMPORTANT. Lubrication of the Secondary Drive should be carried out before taking delivery of the Moped. A grease nipple is situated on the end of the bottom bracket axle (Drive pulley side) and two or three shots of heavy grease should be injected into this assembly using a grease gun. Afterwards greasing should be carried out at intervals of approximately 800 miles.

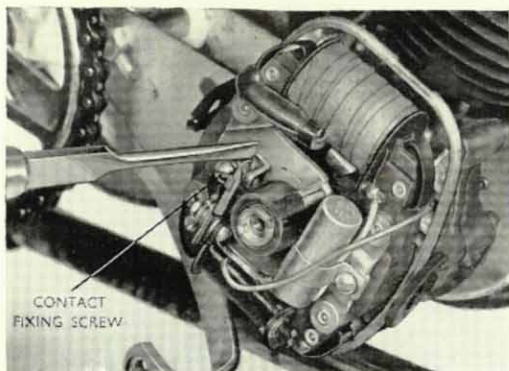


FIG. 5

Adjustment of Ignition Contacts

Access to the Ignition Contacts is made by removing the Magneclair plastic cover.

First of all slowly rotate the engine by hand until the contacts can be seen to be fully open. If the gap is correct it should be possible to insert a .012 ins. feeler gauge between the contacts (sliding fit). If the gap is incorrect adjustment should be made by slightly slackening the fixing screw (Fig. 5) and inserting a screwdriver in the slot (see illustration) then twisting the screwdriver either one way or the other until the correct gap is obtained. Afterwards tighten the fixing screw and carefully check the adjustment with the feeler gauge.

Front Telescopic Forks

Lubrication of the front fork sliding members is carried out by introducing 3 - 4 drops of light oil into the hole which is situated at the top rear of the fork covers approximately one inch below the handlebar support pressing. In bad weather it is important to keep the fork sliding members clean.

Rear drive chain adjustment

Standard and de-luxe model, Caravelle and Caravelle de-luxe Models.

Before commencing to tighten the rear chain it is essential to slacken off the pedal chain by pivoting the pedal chain tensioner sprocket arm towards the front of the machine, having previously slackened off the two arm fixing bolts and nuts. Then slacken the two rear axle nuts and adjust the drive chain by means of the chain adjusting nuts (giving each nut an equal number of turns) until approximately $\frac{1}{2}$ inch of slack is visible in the middle of the bottom run of the chain. Now tighten the axle nuts and readjust the pedal chain by means of the tensioner arm until approximately $\frac{1}{2}$ inch of slack is visible in the pedal chain. Retighten the tensioner arm.

Super de-Luxe model

Slacken off the rear axle nuts and adjust the drive chain by means of the chain adjuster nuts until approx. 1 inch of slack appears in the middle of the bottom run of the chain. Retighten axle nuts. The pedal chain tensioner arm is spring loaded and it automatically takes care of the pedal chain adjustment.

Special Note. Tight chains cause considerable loss of power. It is better to run a chain too slack than too tight.

Rear Suspension Units. Super de-Luxe model only

The oil capacity of the suspension units is 2 fluid ounces (50 c.c.). Topping up with light oil (S.A.E.20) is carried out via the small screwed plug situated at the top of the unit.

NOTE: Rear suspension units on new machines are supplied without oil and before using the machine they should be filled with 2 fluid ounces of S.A.E. 20 viscosity mineral oil.

Mopeds (Super de-Luxe only) leaving the factory after April 1960 are fitted with the LELAURAIN rear suspension units and do not require filling with oil.

Lighting

Occasionally check the bulbs for tightness in the holders as one loose bulb will result in the failure of the other.

Headlamp Bulb.	6 Volt 1 Ampere. (6W) Screw in cap.
Tail lamp Bulb.	12 Volt 0.5 Ampere. Festoon type.

FAULT FINDING

LOCATING THE TROUBLE	REMEDY
DIFFICULT STARTING	
1. FUEL SYSTEM	
Fuel tank empty. Petrol will not reach the carburettor in spite of the fact that the tap is turned on.	Refill with correct petrol mixture. Remove plastic petrol pipe from the banjo type connection on top of the carburettor and check the flow. If it is satisfactory remove the banjo connection and withdraw and clean the filter.
Main jet in carburettor choked.	Remove and clean by blowing through jet orifice.
Engine flooding with fuel.	Carburettor float perforated. Replace. Carburettor mounted on inlet stub at an angle, slacken off clamp bolt and move the carburettor to a vertical position. Retighten clamp bolt.
2. IGNITION	
Spark plug dirty or completely fouled.	Clean and check gap or replace. Check for spark by connecting the HT lead to the plug and earthing the plug against the cylinder head whilst turning the engine over by means of the pedals.
Gap between Magnecor contact points incorrect. Contact breaker points badly worn or pitted.	Reset gap.
Replace.	
INCORRECT RUNNING	
1. LACK OF POWER	
Silencer choked with carbon. Exhaust port partially blocked with carbon deposits. Drive belt slipping.	Remove silencer, clean and replace. Decarbonise.
Explosions occurring in the silencer and carburettor. Spark plug gap excessive or excessively oiled. Plug " Whiskered " Pre-ignition.	Adjust.
Clean and reset gap.	Remove plug, clean and replace. Check that sparking plug is of the correct type, if not, replace with recommended type.
2. HIGH PETROL CONSUMPTION	
Float perforated. Float needle not seating correctly. Air cleaner choked. Ignition retarded.	Replace.
Poor compression.	Clean or replace.
	Remove, clean and replace.
	Check contact breaker gap and timing. Reset if necessary.
	Piston rings " gummed " replace.

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STANDARD MODEL



DE LUXE MODEL



DE LUXE (DUAL SEAT) MODEL

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