

20

MOTOBÉCANE



16, Rue Lesault, 16

PANTIN (Seine)

FRANCE

Mobylette



**OPERATING AND
MAINTENANCE INSTRUCTIONS**

Mobylette

FOREWORD

This booklet is issued to enable our customers to get the best service out of the Mobylette.

We advise therefore the owner of a Mobylette to read this booklet with the greatest attention and to follow up our instructions very closely.

The Mobylette is covered in France and abroad by the following patents :
N^{os} 996.360 Add. 59.977 - 992.040 - 1.059.321 - 998.216 - 1.046.015 - 1.074.947 -
1.066.837 - 1.045.919 (Licence René MANGIN) - 1.051.549 - 1.087.907 - P. V. 671.254
P. V. 667.741.

DESCRIPTION

The Mobylette is a bicycle with a built-in engine. It is designed to make a perfect unit which combines pleasant driving to sturdiness and to the lowest running cost. Comfort is obtained by special balloon tires and stability by a low, central location of the engine.

New manufacturing process allow silent running, appropriate cooling and, even at low speed, real power of the engine.

DRIVING

a) The Mobylette is driven solely by means of a twist grip on the right hand side of the handlebar operated instinctively and easily by the driver even with thick gloves. When this twist grip is in neutral, the engine is stopped and the decompressor closed, thus producing the maximum braking effect of the engine. On turning it towards the right (clockwise) you open the decompressor, the braking is only slight but the engine does not run. On turning it towards the left (counter-clockwise), the throttle operates and gives the desired speed.

b) The Mobylette is equipped with two brakes. The front brake lever

is on the right of the handlebar, the rear brake lever on the left. They are to be operated preferably when the twist grip is in neutral (as the best brake is the engine).

c) To help starting in cold weather, a thumb operated lever, on the left side of the handlebar, controls the choke. It should be pressed upon during a short while, only if necessary. When released the lever will automatically swing back to its original position.

d) The Mobylette can, if necessary, be ridden as an ordinary bicycle. In this case, one has to declutch the back wheel from the engine. To do so, pull the knurled plug on the pedal pulley and bring the plug into the outside socket.

To clutch in the engine back again, bring the pin back into the inside socket.

To do this, it may be sometimes useful to move the bicycle forwards or backwards by a few inches, in order to engage the gear.

Upon receiving the Mobylette, it is advisable to adjust the saddle and the handlebar. The saddle must be adjusted in height so as to allow the rider to put both feet flat on the ground without difficulty. The handlebar grips should allow a correct and easy position.

Fill the tank with a gasoline-oil mixture. We recommend 7% of CASTROL self-Mixing SM 20 oil. The tank cap is fitted with a measure for the oil. Use 4 measures per quart of gasoline. After running-in, use 5% of oil (3 measures).

Before starting, open the gas tap located on the tank (unscrew gently the knurled knob) turn the twist grip completely towards the right. Ride the machine and after pedalling a few yards, turn the twist-grip briskly towards the left. At this moment the engine starts. Remember that a few seconds are necessary for the fuel to reach the engine.

In cold weather push the choke lever for a few seconds and release it as soon as the engine starts running.

On the road, control the speed by turning the twist grip. To slow down, turn it back into neutral and use the brakes if necessary. Remember that the best braking effect is obtained in this neutral position of the twist grip.

To stop completely, turn the twist grip completely towards the right, this will bring the engine to rest.

As said above, the engine is the best brake and allows to ride a long way downhill at a reasonable speed with the throttle shut. Both brakes can be operated for an immediate stop (with the twist grip in neutral). When riding down a very long hill, never close the gas tap, otherwise the lubrication of the engine would cease. When climbing a steep hill, use the pedals to help the engine as soon as speed falls under 8 miles per hour.

Do not forget to turn off the gas tap (screw up gently and completely the knurled knob) each time you intend to leave the Mobylette parked for a long time.

RUNNING-IN

Fitted with hard-chrome lined cylinders, our engines leave the factory with minimum clearances. During the first 160 miles the engine is under-powered

and the running-in period is over only after about 320 miles. During this period do not allow any straining or overheating, especially when going uphill. **During running-in period, follow our lubrication instructions with particular care** (4 measures of oil per quart).

SERVICING

Cycle parts

Take the same care of the cycle as of a normal bicycle. Make sure that the brakes are always well adjusted and that the various control cables work freely. Lubricate the articulations with CASTROL XL. Also keep adjusted the control cable of decompressor which must be, when opened 1/12 in. above its seat. The twist grip must be adjusted so that the throttle is entirely closed before the relief valve of the decompressor starts to open. Adjustment drums are to be found on each control cable.

For the telescopic fork fitted on the " De Luxe " model, lubricate every 600 miles with a pressure-pump and CASTROLEASE C.L. (use grease-nipples at the rear of each fork sheath). Also lubricate the clutch with the same grease (lubricator in the center) every other 1200 miles in normal driving conditions, or every other 600 miles when driving with frequent starts and stops (large cities traffic).

Hubs

Practically no maintenance is required for the rear-wheel hub. Both hubs must be filled up every 3000 miles with CASTROL SPHEEROL S grease.

Chains

Never tighten the chains too much. Adjust the transmission chain by means of both tensioners intended for that goal. Release the pedal chain during this operation by loosening the tension arm.

Pedal-unit

About every 1200 miles, grease the bearings through the pressure grease nipple on the left hand side of the axle using only CASTROLEASE C.L. grease.

Be sure that the chains are always adequately lubricated. They must be taken down every 1200 miles or so, and cleaned up with Kerosene. Dip them afterwards in a bath of heated CASTROL D gear oil. Allow them to cool and wipe them before installing back.

Tyres

For good riding comfort, inflate the front-wheel tyre up to 14 lbs. sq. in., the back-wheel tyre to 17 lbs. sq. in.

Punctures

Repairs are made as for a bicycle. The front-wheel can be taken off directly. The rear-wheel can be pushed forward after taking off the chains. No adjustment of the latter is required when replacing the rear wheel.

REPAIRS, ADJUSTMENTS

Spark plugs

We advise our customers to use the same types as those which are fitted on our machines when we deliver them.

In case of misfiring, remove spark plug to clean it and check the gap between points. This should be from 1/50 to 1/60 in. wide.

Avoid removing plug when not necessary.

A dry and whitish looking plug means that there is too much air, or, in other words, a lack of fuel; it is therefore necessary to fit a larger carburettor jet. On the other hand if the plug is black, it means that the mixture is too rich. Replace the jet fitted by a smaller one, if the fouling of the plug is not caused only by the carbonization of the engine and the exhaust.

Ignition

A "NOVI" flywheel magneto provides engine ignition and lighting current.

It has a plate fixed by two studs on the crank-case which bears the ignition coil, the lighting coil, a condenser and contact points. A felt pad for cam lubrication is attached to the armature iron. This flywheel allows access to the contact points, irrespective of the position of the cam on the engine shaft.

In order to do this, loosen the central nut which is left-hand threaded, and remove the flywheel.

The cam, being in contact with the flywheel only through its engaging studs, remains on the shaft and therefore its original position on the engine is not altered. Once the flywheel has been removed, access to the contact points is easy.

The gap between the contact points is 1/64 in.

If for any reason, one wishes to remove the cam from the drive shaft, use the special cam-extractor, either 6483 (24/100 threaded for former models flywheel magnetos) or 6483 bis (26/100 threaded for latest model flywheel magneto). **Never hammer the end of the shaft in order to remove the cam.**

The Mobylette is adjusted with 1/9 in. ignition advance.

The flywheel needs no attention except the regular checking of the gap between the contact points.

When checking, it is recommended to pour a few drops of Huilit oil on the lubricating felt pad of the cam.

With the exception of the adjustment of the magneto contact points, repairs to the flywheel should only be effected by a competent mechanic.

Engine

The engine does not require any special attention except for regular lubrication and periodical decarbonization. The latter operation **MUST BE DONE** after a maximum run of 1800 miles, or more often if lubrication has been abundant. But as said above, it is much more economical to lubricate adequately, even if one has to decarbonize more frequently, than to save oil and have to pay for repairs.

The use of good quality oil results in lesser and more easily removable carbon deposits.

Decarbonizing

Remove the cylinder head, cylinder and exhaust pipe. Clean cylinder ports and the inside of exhaust pipe, using a brass scraper. Scrape away the carbon deposit on the top of the piston and at the bottom of the cylinder head. Decarbonizing the engine alone is not sufficient, the exhaust pipe and the silencer must also be cleaned.

However, decarbonizing the exhaust needs not be done so often, once every 4500 miles or so is generally sufficient. When doing this, loosen the carbon deposit on the walls of the pipe and silencer by tapping gently with a wooden hammer, then scrape away from the inside.

To remove the exhaust silencer, unscrew the inside nut with a pipewrench, the back part then comes out together with the baffles.

These operations will be absolutely necessary if the following defects are noticed.

- Lack of power from the engine
- Foul starting
- Backfiring in carburettor
- Foul plugs
- Engine impregnated with oil
- Overheating

It is better that all these operations be performed by a trained mechanic.

Carburettor and filters

If properly adjusted, this device must always ensure proper combustion.

It is fitted with an intake silencer and a choke valve which allows correct starting under all temperature conditions.

Carburettor specifications :

- On models AV 32 S "Service" and AV 32 M "Utility" :
Gurtner A 10 DSF (for engine without automatic clutch).
- On models AV 33 "Superstandard"
AV 31 "De Luxe"
and : AV 37 "Mobymatic" : Gurtner AR 10 DSF with slow running device (only for engine units with automatic clutch and 3 speed self-changing device).

To clean the jet, take off the chain guard and slacken the jet with a spanner. The Mobylette is equipped with two filters : a main filter between the fuel tank and the gas-tap, and a safety filter at the entrance of the carburettor. Check their cleanliness when fuel does not flow.

Carburettor

Furthermore our latest models are fitted with a decantation chamber, i.e. a main safety filter preventing any dust to get to the jet, thanks to a cylindrical filter made of very fine wire-lattice. Cleaning this filter is most easy :

- a) loosen gently the fastening nut n° 4166 at the top.
- b) then turn the decanting chamber by 45° maximum. **IMPORTANT** : Do not turn it over 45° to keep the water at the lower part of the chamber.
- c) Then unscrew the plug holding the filter, at the bottom part of the chamber.
- d) throw away the few drops of water so recuperated.
- e) Clean thoroughly the filter by dipping it simply in pure gasoline if only slightly dirty, or brush it softly if the wire-lattice is more dirty.
- f) Rescrew then both nut and plug.
- g) Replace the filter into the decantation chamber, and this latter one to its original position.

This operation avoids the user to dismantle neither the complete carburettor nor the gasoline pipe.

IT IS ADVISABLE TO CLEAN UP THE FILTER EVERY OTHER 1300 MILES (i. e. 2000 kms. about).

Primary Transmission

The V belt requires no maintenance for thousands of miles. When neces-

sary tighten it, but not too much, by loosening slightly the bolts securing the engine to the frame. Adjustment is allowed by swinging the unit around the upper bolt. Afterwards, screw the bolts tight again, and fasten with split pins.

Lighting current

It is provided by the flywheel magneto ; the switch is placed on the headlight. To perform headlight adjustment, remove the outer-casing.

Use threaded 6 v. 1 Amp. bulbs for the headlight and 12 v. 0,5 Amp. threaded bulbs for the tail light.

Keep the electric wires in good condition.

ELECTRIC BELL

The electric bell is fed directly by the flywheel. It should ring even a walking speed. The bell is operated by a button located on the handlebar.

The electric bell exists now only on our " De Luxe " and " Mobymatic " models, but may be fitted on " Utility " and " Super-Standard " models with an extra.

Adjustment

A screw on the underside of the bell serves for adjustment. The clearance between the bell-cover, and the hammer in both positions is 1/250 in. to 1/125 in. By rotating the bell-cover, place the hammer in the right position.

AUTOMATIC CLUTCH

(fitted on "De Luxe", "Super-Standard" and "Mobymatic" Models)

The "De Luxe", "Super-Standard" and "Mobymatic" models are fitted with an automatic clutch whose action only depends on the speed of the machine and not on the engine speed. At the start, the Mobylette behaves like a regular bicycle, and in order to run the engine, one has to operate on controls as previously explained. But, When the speed reaches 4 miles per hour, the clutch engages automatically and the engine starts running. When the speed falls under 4 miles per hour (either by braking or slowing down) the clutch disengages automatically. One can then stop completely, by braking, or keep pedalling slowly, with an idling engine. When the machine reaches again the speed of 4 miles per hour, the automatic clutch operates again.

NOTE. - The idling engine of a Mobylette (fitted with an automatic clutch) at stand allows the rider to keep the lights on by night.

The speed at which the clutch engages is factory-adjusted at approximately 4 miles/hour. It depends on the radial clearance between the jaw linings and the drum, which is measured on the inside with block gauges and should be of 1/40 to 1/30 in. for the given speed of 4 mile per hour.

If one wishes to change this engaging speed remove oiler, plug the threaded opening with a dummy screw, and pull off the drum with the special cam extractor N° 05551, after the nut has been taken off (standard right-hand thread).

To increase the speed at which the clutch engages, the two jaw-nuts and lock-nuts must be tightened equally. If, on the contrary, these nuts are loosened, speed is reduced.

When re-assembling, always tighten the lock-nuts and do not forget to set back the drum pin.

N. B. — The presence of grease in the drum does not alter normal operation of a properly adjusted clutch.

" MOBYMATIC "

Registered Mark

Protected by French patents S.G.D.G. 1.045.919 (René Mangin Licence)
1.051.549 — 1.074.947 — 1.087.907 — Certificate 671.254

The Mobymatic is fitted with a centrifugal gear-shift which ensures automatic shifting from one speed to another according to driving conditions.

The gear-shift is factory adjusted and ensures 3 speed ratios corresponding to the best service conditions of the Mobymatic. This adjustment can be modified by changing the belt tension by means of the knurled knob on the lower part of the frame in front of the propstand bracket. By screwing this knob towards the front of the machine, the release spring is compressed, and this operation increases the belt tension and raises the speeds at which gears are shifted. It is advisable not to change the factory adjustment immediately ; but, when this change is found to be necessary, the belt can be re-stretched by means of the knurled knob, as previously explained. The other knob, opposite this one, in front of the machine, limits the frontwards displacement of the engine and must be adjusted so that when the belt is removed the compass-like rotating device cannot overturn.

Lubricate clutch and gear shift (grease nipple in the center) every other 600 miles with CASTROGRAPHITE. Also lubricate every other 600 miles with the same grease the engine block compass-like swivelling device and the engine articulation axle.

On the Mobymatic, the knurled knob placed on the bracket pulley is replaced by a hexagonal nut which can be loosened with a spark-plug wrench. This hexagonal nut must be tightened, when engaging in " engine position ", until no looseness is felt ; however, it must not be overtightened.

Attention is drawn to the fact that on the "Mobymatic", "De Luxe", and "Super-Standard" models, i.e. on models fitted with the automatic clutch, the Mobyette can be started when on its stand, the engine being then actuated by means of pedals and clutch. When the engine is running, rear brake must be operated so as to stop the wheel and automatically declutch the engine. This one then idles as it would on a car or a motorcycle. This starting method can be used at any time, but is particularly recommended when on a hill, so as to avoid the necessity of starting the engine when the speed of 4 miles per hour has been attained.

ENGINE TROUBLES

Serious trouble seldom happens. Slight defects may occur and it is better to know how to repair them on the spot.

The engine stops or misfires :

Two reasons : Ignition or combustion.

a) **Ignition** : See if plug is not fouled by oil. Clean with gasoline and scrap the points with sand paper. If the plug is in good condition and does not spark, check :

- The wire leading to the plug
- The flywheel magneto
- The contact points

- See that the gap between them is not wider than 1/64 in.
- Replace them if damaged
- Replace the condenser if damaged
- Check that there is no short circuit in the armature

The last three operations should be carried out by a specialist.

b) **Combustion** : The engine starts all right but stops abruptly. See that the fuel flows to the carburettor, if not, unscrew the feed pipe, the tank and carburettor filters, and clean both parts.

If the fuel does not flow from the float chamber to the carburettor if the engine works weakly on level ground and stops as soon as the throttle is opened, it is because the jet is fouled. Clean it up by blowing through it hard and clean the carburettor, especially the filter inside the decantation chamber. A jet which has just been cleaned, may be plugged several times in succession if the fuel contains water or dirt.

If the carburettor is flooded, it is because some particle of dirt prevents the needle-valve from closing. Clean it. If the needle is worn out, fit a new one. Clean the filter under the tank.

If the engine coughs when running at low speed, or if it is weak specially when going uphill, OR backfires, it means that the mixture is too poor, a larger jet must be fitted.

If the engine spits or backfires, it means an excess of air, and a larger jet should be fitted.

On the contrary, if the engine works unevenly and jerks, it means that the fuel is too rich and a smaller jet should be fitted.

Obviously the petrol consumption varies according to the speed at which one travels and the hills encountered.

As a rule, do not alter the carburettor adjustment, unless it is absolutely necessary as in cases of :

- Extreme heat,
- Extreme cold.

Changes in the weather may influence the working of the carburettor without the adjustment of the carburettor being to blame.

Combustion is good only when engine is hot.



IceniCAM Information Service



www.icenicam.org.uk