

ROAD TEST REPORT:

The Motobecane Mobymatic with fully auto- matic transmission

A modern Mo-ped
from France



THE modern tendency in automotive engineering towards fully automatic transmissions still has a long way to go before being generally acceptable mainly, in the car world, because of increased cost. With two-wheelers, however, we are more fortunate in that automatic drives cost no more than gearboxes and the rider can choose between the types on merit alone.

In the *Mobymatic* the combination of centrifugal type automatic clutch (as used on the rest of the *Mobylette* range) is coupled to an expanding pulley by V-belt. At rest the belt is in the lowest position on the pulley and thus ready to provide a low gear for starting off from standstill. As the throttle is opened and the engine speed rises the centrifugal clutch progressively engages the drive and the machine moves off. As the machine is accelerated and the speed of the expanding pulley on the countershaft increases, metal balls controlling the pulley are thrown outwards, closing the pulley and moving the belt into a path of wider diameter.

An increase in load such as is met with on a hill reduces the pulley

speed and allows the belt to come down automatically to a lower gear setting.

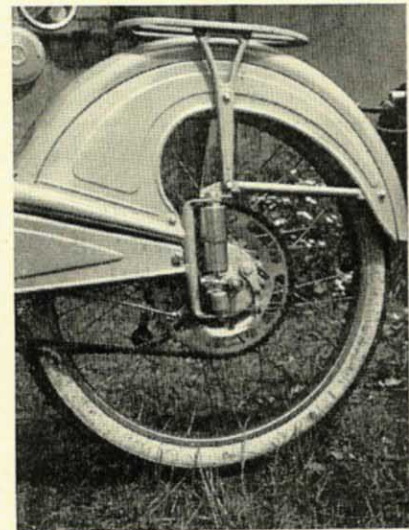
This system, of course, permits a change in the relative positions of the two primary drive pulleys which has to be compensated to maintain correct belt tension. For this purpose the engine is mounted on a single large pivot under the main frame structure and runs on this hinge, moving backwards as the pulley comes together to raise the gear ratio. As loading is stepped up and speed decreases a strong spring presses the engine forward to take up the belt slack.

The whole operation is completely automatic and the only rider control used is the throttle.

The rest of the *Mobymatic* is similar in design to the single geared auto-clutch *Mobylette* models. The light alloy engine has a chromed cylinder bore and develops a useful power output at relatively low revolutions. The frame is of welded pressed steel sections with plunger type rear springing. The front forks are telescopic. Adjustment for height is provided for the saddle and for angle on the handlebars while a useful fuel tank capacity of well over a gallon makes for easy filling.

stop when the brakes are applied and start when the throttle is opened without any need for juggling with controls up hill, down hill or on the level. The pedals are not needed except on steep gradients for starting from standstill and even a deliberate attempt at mishandling, by slamming the throttle wide open at a standstill cannot be made to create noise, judder or anything else but a perfectly smooth getaway.

All the automatic clutch models perform this way on suitable terrain but the advantage of the combination



Rear suspension is of the plunger type

Carefree

From the rider's point of view the effect of fully automatic transmission is to make the handling of the machine absolutely carefree in all circumstances. Traffic presents no problems at all as the machine will

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Note the large rubber-bushed engine bearer and tension spring. The H.T. coil can be seen top right

with variable gearing is that the machine gets away with plenty of power on and acceleration from standstill is much livelier than on single gear models. We found in London traffic that the *Mobymatic* left all but the fastest cars in a speed range from 3 to 30 m.p.h.

Naturally, the range of ratios available is narrower than that of a conventional three speed gearbox and real mountain stuff is not within the powers of the machine unless pedal assistance is given but it takes something of the order of 1 in 6 to make difficulties. On long main road grades it is a real pleasure to purr up with

no gear whine and the knowledge that the engine is working automatically at its optimum speed and load factors.

There is a smaller travel on the plunger rear forks than on most current swinging arm systems and the springing at that end is not luxurious, but with the effective front forks all round standards of comfort and road-holding are good. Both brakes are hand operated and work smoothly and efficiently and steering is light and accurate so that handling the machine is devoid of effort on the rider's part.

Sound Practice

Despite the fact that the *Mobymatic* is the only representative of its class on the British market, the machine is by no means a freak. The principles are simple and the engineering sound, while so many thousands are in use all over the world that there can be no doubt about the effectiveness of the design.

The only criticism, if it is such at all, of the transmission system is that the "floating" effect of the moving engine feels strange to the rider until some miles have been covered. This is only noticeable when the engine is running under fairly light load at a normal cruising speed of around 25 m.p.h. on the level. On the other hand silencing is very good indeed and there is practically no mechanical noise at all speeds. Reliability can be taken for granted from this range and a notable feature, although not financially very important with mopeds, is that the fuel consumption is remarkably low, quite hard driving still returned over 150 m.p.g. and the 20 m.p.h. cruisers could rely on

around 200 m.p.g. This is because the power unit is always working at its most efficient speed in relation to load.

As compared with conventional gearbox machines the *Mobymatic* is an efficient performer but there are some drivers who would prefer to have the selection of the gear for the job in their own hands. For the unmechanical rider, however, the fully automatic machine is a most attractive proposition.

SPECIFICATION

ENGINE: Two-stroke single, bore: 39 mm. x stroke: 41.75 mm., capacity 49 c.c. Output 1.35 b.h.p. at 3,400 r.p.m. All alloy unit with chromed bore. Carburettor "Gurtner" S.10 with air cleaner.

TRANSMISSION: V-belt primary drive to expanding pulley counter-shaft providing variable gears from 12 to 1 high to 19 to 1 low. Separate chain final drives.

FRAME: Pressed steel welded with integral fuel tank, capacity 9-pints. Telescopic front forks, plunger rear springing.

WHEELS: 23-inch x 2-inch "Hutchinson" tyres. 4-inch i.e. full width brakes hand operated.

ELECTRICS: "Novi" flywheel magneto with outside H.T. coil 8-watt lighting coil. Head and tail lamps with built-in speedometer and electric horn.

WEIGHT: 62 lbs.

MAKERS: Ateliers Motobecane, Paris.

CONCESSIONAIRES: Motor Imports Ltd., 158 Stockwell Road, London, S.W.9.

PRICE: £69 19s.

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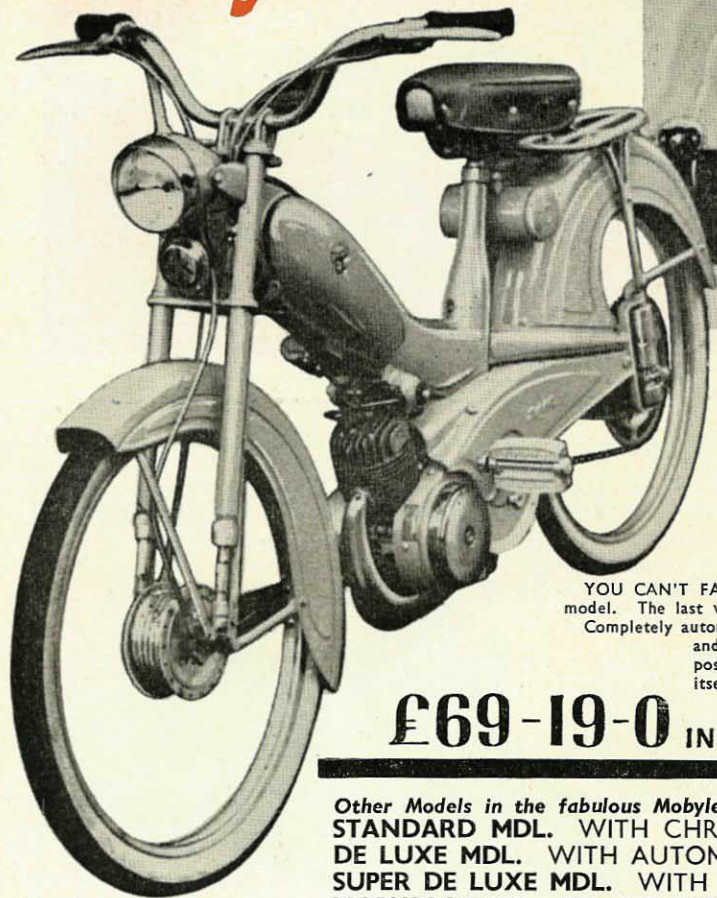
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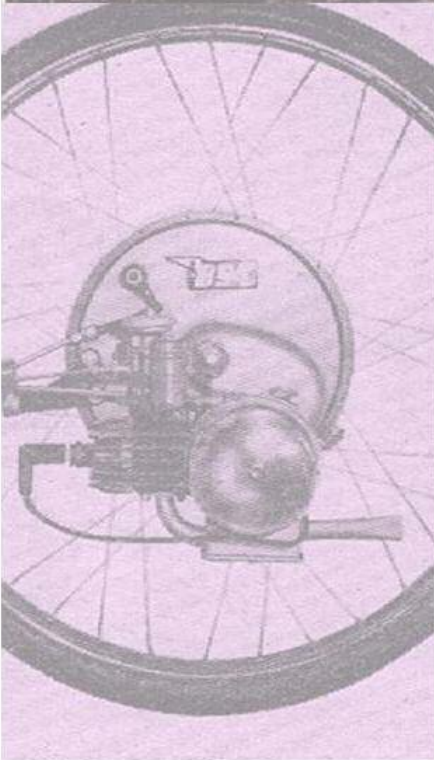
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