



An "Automatic" Scooter THE MANURHIN Concorde

The roadholding and sheer guts of the Concorde are shown in this shot of the machine being ridden no hands up a 1 in 5 hill

A SPECIALIZED type of machine is the Manurhin *Concorde*. It is intended for customers who want the economy and modesty of a 74 c.c. engine plus the comfort, protection and looks of a scooter. And, to cap it all, this lightweight scooter-with-a-difference has no gears or clutch.

First unusual point to one used to conventional scooters is the "bobbin" method of starting. This is done by sharply pulling up a handle protruding from the left side of the body. Out comes a yard of wire and the engine (usually) bursts into life. On releasing the handle, a spring pulls the wire back, ready for the next pull. The engine compression is light enough to allow this to be done comfortably while sitting on the saddle.

Secondly, there is no clutch lever. The reason for this is the variable belt drive, which makes a very simple but very effective automatic transmission. It consists of two V-pulleys, both with one side that will slide in and out along the pulley spindle. Because of the sloping walls of the pulleys, this motion will either allow the continuous belt to drop in to the centre of the pulley (and thereby run round a small circumference) or, by closing, force the belt to the edge and make it run round a large circumference.

Now, when the engine is stopped or idling slowly, the driving pulley sides are wide apart. As revs increase when the throttle is opened, centrifugal force causes three bob-weights fixed to the inner side of the driving pulley to fly out and, by

levers, draw inwards the outer side. The pulley sides then grip the belt, the bike moves slowly forward and the transmission is in the position as shown in the lower drawing.

As the machine gains speed, so the bob-weights fly further out and draw the driving pulley sides closer together, pushing the belt out, changing, as it were, into a "higher gear". Meanwhile, the belt has pulled in on the countershaft pulley, forcing one side out against a strong spring. This spring, when the bike is stationary, holds the pulley sides together with the belt running round the outer edge. At speed, the transmission runs in the position shown in the upper drawing, with the driving pulley sides being pulled together by the bob-weights and the counter-

shaft pulley sides being forced apart by the pressure of the belt.

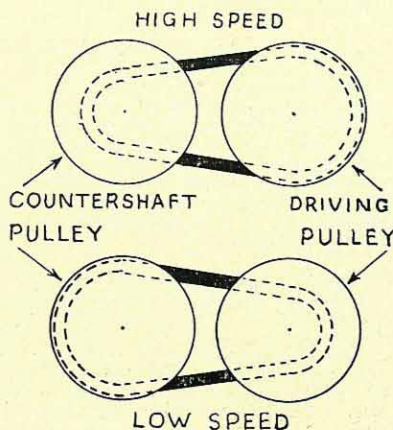
Final drive from the countershaft is by chain to the rear wheel.

The rear springing is by swinging forks with adjustable rubber buffers, and at the front there are straight forks with telescopic springs.

Access to the engine is by a small door behind the driver's legs, or by removing two bolts and lifting the cowl forward as shown in the photograph (over). The fuel tank is reached by lifting the driver's seat, where a very small tool compartment is also fitted. In the compartment is a comprehensive set of tools and a hand tyre pump. Other standard equipment includes a luggage hook, a prop stand, a sturdy carrier and a steering lock.

Out on the road, it is fair to say, that, one up, we were not consciously aware that we were riding anything but a full sized scooter until we reached the open country roads. Only then did the fact that the *Concorde* had a tiny engine become really noticeable. Acceleration away from stand-still was excellent and, because there was no need to pause to change out of first gear, we found ourselves keeping well up with the crowd during traffic-light mass starts. It was possible, on a clear road, to watch the speedometer needle swing smoothly and quickly round from nought to thirty-five in a hundred yards or so.

Going up hill, the transmission always found the right ratio and the engine would speed up as the scooter slowed down.



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On normal hills, the bike was slow but very sure with a passenger up.

Handling the *Concorde*, with its 16 inch wheels, really was a joy. Over any road surface and at all speeds above walking pace, one could comfortably leave the rock steady steering to itself. Even in wet weather, corners which a scooter-

rider would normally crawl round were manoeuvred rapidly and almost with gay abandon. This good road holding was reflected in the braking capabilities. Back brake applied on a wet concrete road at 30 m.p.h. gave a good smooth halt with a tendency to skid only when nearly stopped. The front brake, though,

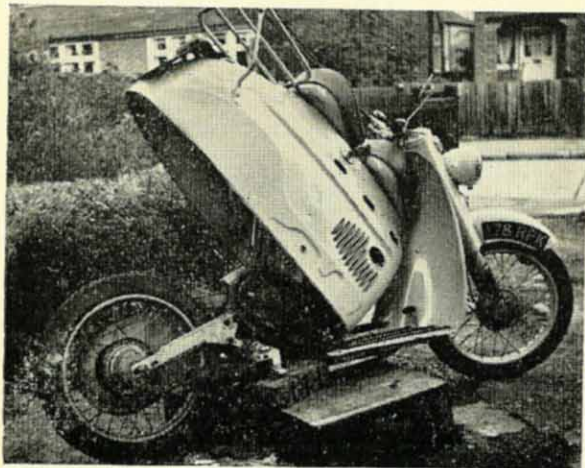
could be more powerful and needed a strong squeeze to give any worthwhile effect.

A Good One

On the whole, we liked the *Concorde*. The engine is extremely lively for only 74 c.c. and the automatic transmission worked with a degree of perfection we had previously doubted possible for such a simple mechanism. Top speed, incidentally, was 45 m.p.h., and she ran just over 100 miles on a gallon of petrol. The lights proved quite adequate, with a convenient dip-switch, but the horn was pitiful, even for a scooter.

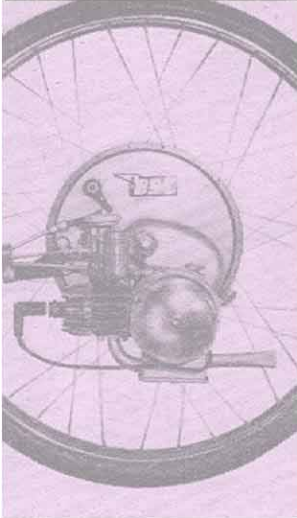
The seating was very comfortable and there was sufficient room on the flat footboards for a small man or woman to stretch both legs out. Diana Concessionaires are offering the pillion seat as a £2 15s. extra, and it is quite comfortable although the pillion footboards are a little narrow.

The finish is good and there is little chrome to need polishing. Several unpainted parts are of dull metal which looks after itself.



For a quick look at the engine, the body shell is tilted forward. If the hinge bolt is removed, the shell itself will come right off

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