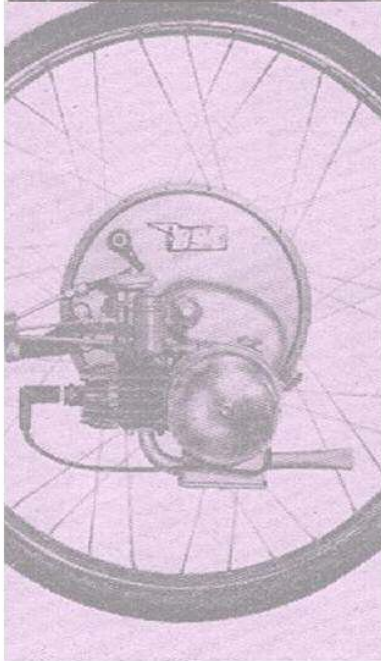


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First published 5 July 1951

32 c.c. Berini Cyclemotor

A Roller-drive Unit with Pleasant Characteristics :
Imported from the Netherlands

LOW-SPEED pulling has been cited as a most desirable feature of the cyclemotor. It is in this direction that the Berini shows up particularly well. Extremely neat and compact in appearance, the 32 c.c. two-stroke unit develops 0.65 brake horse power, and is powerful enough to propel the cycle along pleasantly at about 20 m.p.h. on three-quarter throttle. At speeds in excess of this figure (maximum is about 25 m.p.h.) a tendency to four-stroke was prevalent; however, it is learnt that the carburettors of machines now being marketed are fitted with a different needle and jet to overcome this four-stroking.

In Holland, where the Berini is manufactured, no such trouble has been experienced. The cause has been put down to the different atmospheric conditions in this country, and also to the quality of Pool petrol. Later, a run aboard a machine fitted with the modified carburettor components, revealed that the engine two-stroked satisfactorily throughout the speed range.

Engine construction incorporates a rotary valve, and this contributes largely to the excellent low-speed running under load which could be obtained. To get away from a traffic stop, it was only necessary to give one complete turn of the pedal crank, re-engage the drive by means of the handlebar control and, on the throttle lever being opened, the tiny engine would pull away lustily. On a flat road the engine could be throttled down and the machine would idle along reliably at a fast walking pace.

The characteristics of the Berini make traffic riding easy; if the best acceleration from a slow speed was required, it paid to give a few rapid turns on the pedals, when the revs would mount very quickly indeed. Main-road hill-climbing (for



example, on a hill about a quarter-mile long with a gradient of about 1 in 25) was good. When pedal assistance was necessary, only very moderate effort was required to sustain the revs. On another longish hill which was just steep enough to cause ordinary pedal cyclists to dismount, the Berini pulled steadily to the top.

A much steeper hill was tackled—one which only the super-sporting type of cyclist would attempt to ride up. It was found that with a reasonably fast approach a successful climb could be made, provided continuous pedal assistance was given. However, the effort required at the pedals was hardly more than that necessary to propel an ordinary cycle up a very slight gradient.

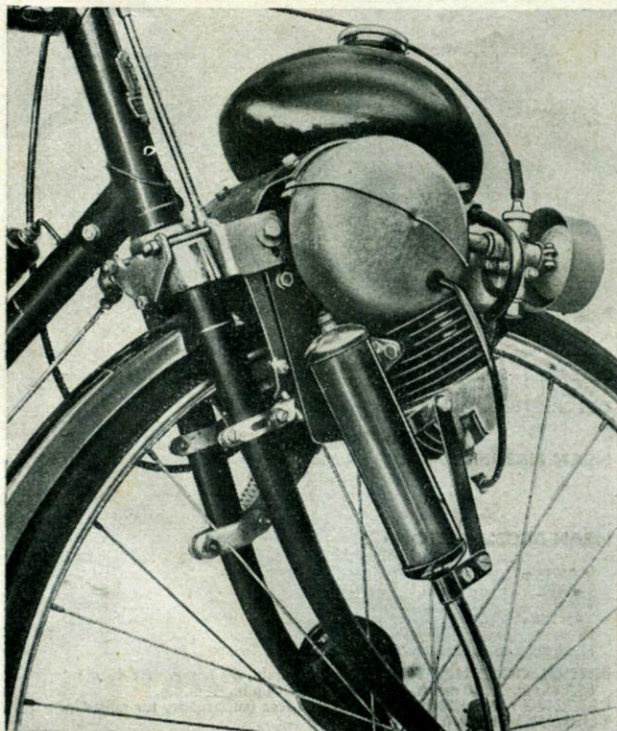
For cold-starting, the mixture control on the Amal carburettor required to be set in the rich position ("shut"), and the throttle at about one-quarter open; on pedalling away and connecting the drive, the engine would always fire after it had been turning over for five or six seconds; the pedalling effort required was

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SPECIFICATION : Berini 32 c.c. (bore 36 mm, stroke 32 mm), two-stroke engine. Inverted cylinder, with detachable alloy cylinder head. Transverse crankshaft carrying carborundum-faced roller which bears on tyre. Wipac flywheel magneto, driven from mainshaft. Amal carburettor. Weight, 15lb. Petrol tank capacity, $\frac{1}{2}$ gallon; ratio, oil to petrol, 1 to 25.

PRICE : £24 fitted.

CONCESSIONAIRES : Interpro Engineering Co., 15, Arlington Street, London, S.W.1.



The neat Berini engine unit weighs 15 lb. A "trap" in the rear of the egg-shape petrol tank ensures a small reserve supply

surprisingly slight. Almost immediately the mixture control could be set on weak, or "open". Starting with a warm engine was instantaneous on engagement of the drive.

A petrol consumption of 240 m.p.g. is claimed. The machine tested—used mainly in traffic—covered approximately 160 miles to the gallon; the figure may have been influenced by the incorrect carburettor settings. A useful "trap" in the rear of the fuel tank ensured that, on running short of fuel, a forward tilt of the tank would provide enough reserve petrol for a few more miles.

Mounting of the engine unit over the front wheel did not adversely affect the steering of the bicycle, and, if anything, gave improved road-holding at the front end. As will be gathered, there are only two engine controls on the handlebar. On the right side there is a lever for the throttle, and on the left a lever for raising or lowering the engine to disengage or engage the drive.

It was desirable to match approximately engine speed and road speed when engaging the drive, to prevent undue tyre wear. The drive control, which incorporates a spring-loaded cam to lock the lever in the disengaged position, was inclined to be stiff in operation. Adjustment is provided for both the cable and the coil spring to hold the engine down and the roller in contact with the tyre. At no time, even in wet-weather conditions, was any drive-slip experienced. The engine was quiet mechanically, and well silenced.

A description of the Berini was given in the issue of *The Motor Cycle* dated May 24, and a sectional drawing appeared in the June 7 issue.