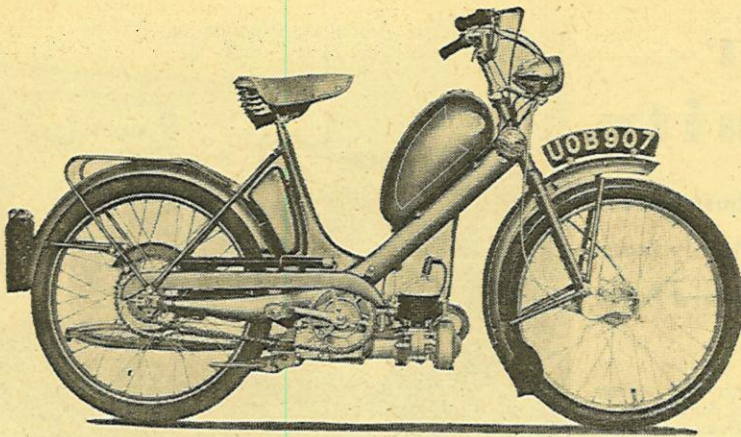


# 49 c.c. Hercules

A Moped Incorporating Several Unusual Design Features and Possessing Excellent Power



SEVERAL unusual design features characterize the 49 c.c. Hercules Her-cu-motor. The most outstanding departure from accepted practice is that the J.A.P. two-stroke engine features a longitudinal crankshaft (with a Miller flywheel magneto on its forward end) and a shaft primary drive to the Burman two-speed gear box. Such a layout offers several advantages, not the least of which are that the pedal crank can be kept short and the engine mounted well forward thus ensuring good weight distribution.

Engine dimensions are considerably "over-square" (bore and stroke are 42 x 33.5mm). The gear box (which houses the clutch as well as the gears) is located at the rear end of the shaft. Since the final drive is by chain, a pair of spiral bevels are utilized to turn the drive through 90 degrees. The pedals drive the rear wheel through a separate chain. Of composite, pressed-steel-and-tubular construction, the frame is styled on conventional lines and carries a sensibly large fuel tank—the capacity is 1½ gallons.

First observation on riding the Hercules was of notable solidity and quality of construction. The impression was borne out as the test progressed, and although the machine was often left in the open overnight, the smart, polychromatic carmine-red finish remained unblemished.

The Her-cu-motor was a ready starter and the drill found to give the best results was as follows: the petrol was turned on and the hook-shaped lever on the Amal carburettor raised for a few seconds to flood the starting chamber. Then with the throttle set one-quarter open, second gear engaged and the clutch withdrawn, the machine was pedalled off. After, say, 10 yards had been covered the clutch was engaged. Even in extremely cold weather the engine would fire at once and warm up rapidly to its full working efficiency. Neither compression-release valve nor choke was fitted and none was needed.

## SPECIFICATION

**ENGINE:** 49 c.c. (42 x 35.5mm) J.A.P. two-stroke. Cast-iron cylinder barrel with detachable light-alloy cylinder head. Roller bearing big end. Petrol lubrication.

**FRAME:** Open, spine type of pressed-steel-and-tubular construction. Leading-link front fork controlled by rubber in torsion.

**CARBURETTOR:** Amal 360/4 with built-in air filter and starting chamber.

**IGNITION and LIGHTING:** Miller flywheel magneto incorporating lighting coil.

**TRANSMISSION:** Burman two-speed gear box driven by shaft from engine and operated by twistgrip handlebar lever. Gear ratios: low, 24.86 to 1. High, 15.07 to 1. Final drive by chain.

**FUEL CAPACITY:** 1½ gallons.

**PETROL CONSUMPTION:** 172 m.p.g. at 25 m.p.h.

**TYRES:** Dunlop 2.00 x 23in front and rear.

**WEIGHT:** 80 lb.

**PRICE:** £54 3s 10d. With purchase tax (in Great Britain only), £67 4s 0d.

**ROAD TAX:** 17s 6d a year; 4s 10d a quarter.

**MANUFACTURERS:** The Hercules Cycle and Motor Co., Ltd., Britannia Works, Aston, Birmingham, 6.

In the course of nearly 300 miles of main and secondary road riding a gradient was not found to defeat the willing little engine. Upgrades of the order of 1 in 7 or 1 in 8 were tackled. Yet with low gear engaged, the engine pulled so well that pedalling was not required.

As mentioned previously, the pedals were used as part of the engine-starting procedure. Otherwise they were rarely needed. In order to move off from a traffic halt, when the machine was at rest with the engine running, it was necessary only to engage low gear, open the throttle and engage the clutch. Indeed, those tactics could be used even when moving off on slight upgrades.

First gear engaged quietly and could be held until a speed of up to 18 m.p.h. was reached. The two-speed gear box is controlled by means of a rotating grip on the left of the handlebar. The clutch lever engages with slots in a selector plate mounted on the twistgrip drum, locking the grip in position when the clutch is home. The gear change was quiet and precise in operation whether upward or downward changes were being made. Acceleration was such that the machine easily kept pace with normal city traffic.

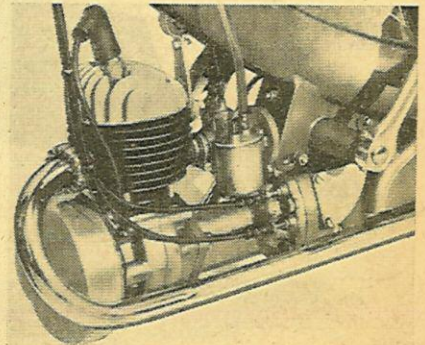
The Hercules could be ridden at speeds very close to its maximum of 32 m.p.h. for long periods without the engine showing signs of distress. At near-maximum speed the exhaust was apparent as a healthy buzz, and as a leisurely hum at 25 m.p.h.—which was felt to be the machine's highest comfortable cruising speed. Below about 10 m.p.h. slight engine vibration and roughness were apparent, although power delivery was smooth.

The 4in brakes (the rear is of coaster pattern) were perfectly adequate for the Her-cu-motor's performance. They provided smooth yet powerful retardation, were unaffected by continuous rain, and capable of halting the machine in 29 feet from an indicated 25 m.p.h.

Employing enclosed rubber bushes in torsion as the suspension medium, the leading-link front fork damped out most road shocks. A wide range of adjustment at the saddle and handlebar ensured a comfortable posture for riders of varying stature. The only real criticism in regard to comfort was that the saddle proved somewhat hard.

Front and rear mudguarding was only moderately effective, and some form of overtrousers had to be worn when the machine was ridden on wet roads. No oil leaks were apparent at the conclusion of 300 miles of running. The Miller headlamp provided an adequate spread of light. No dip position is provided so that some annoyance to other road users was inevitable. The electric horn emitted too faint a note. A number of short circuits occurred in the electrical wiring system.

Detail features which earned appreciation were the large, well-lit speedometer, reserve fuel supply, roomy tool box, high-lift stand and, not least, the usefully large carrier.



Mounted forward of the bottom bracket, the 49 c.c. J.A.P. engine features a longitudinal crankshaft