Impressions of Current Models—

The 48 c.c. o.h.v.

BRITAX

A British-built Ultra-lightweight Machine Powered by a "Cucciolo" Engine

IT has been evident for some time that on the Continent—birthplace of the cyclemotor—the reign of "clip-on" units is being seriously threatened by the *velomoteur* or ultra-light autocycle. The reasons for this are not difficult to deduce. Whereas the purchaser of a "clip-on" has often, for the sake of safety and comfort, to indulge in expensive modifications to his original machine—hub brakes, sprung forks, larger saddle and tyres—the *velomoteur* is designed for power assistance and, in consequence, seldom requires modification.

As with the "clip-on" and scooter, Britain has, so far, lagged behind the Continent in the adoption of the *velomoteur*, the only example to date built here in quantity being the French-designed VeloSolex. But now, Britax (London), Ltd., of 115-129 Carlton Vale, London, N.W.6, sole British distributors of that most potent of Continental cyclemotors, the 48 c.c. o.h.v. Ducati "Cucciolo," have seen the inevitable logic of the trend, and, as a major contribution to the safety and comfort of cyclemotoring, have produced the "Cucciolo"-engined Britax cycle, the prototype of which was reviewed and illustrated in the July 9 issue of *Motor Cycling*. And recently our staff have had an opportunity of submitting one of

BRIEF SPECIFICATION

Engine: 48 c.c. Ducati "Cucciolo" single-cylinder o.h.v. four-stroke; bore 39 mm. by stroke 40 mm.; alloy barrel and head cast in one piece, steel cylinder liner; ball journal main bearings; wet-sump lubrication; Weber carburetter with twist-grip control.

Transmission: Two-speed gearbox and multi-plate clutch built as unit with engine; needle roller bearings on main and lay shafts; pre-selector gearchange operated by pedalling gear; gear ratios 7.5 and 13 to 1; primary drive by gears, final drive through normal pedalling chain; free-wheel device built into special bottom-bracket crank set.

Frame: Royal Enfield heavy-duty, open type; pressed-blade front forks with rubber suspension; motorcycle-type steering head.

Wheels: Journal bearing hubs; fitted with 26-in. x 1.75-in. Dunlop Roadster tyres front and rear; 4-in. internal expanding hand-operated brakes front and rear.

Lighting: 6-v. 15 watt Lucas lamps fed by Ducati flywheel magneto generator.

Tank: Petrol, capacity 1¼ gal.; oil (sump), capacity 1 pt.

Dimensions: Wheelbase, 41 in.; saddle height, 29 in.; handlebar width, 23 in.; ground clearance (pedals horizontal) 6¼ in.; weight, 72 lb.

Equipment: Lycett autocycle-type saddle; bulb horn; luggage carrier; tyre inflator; tool kit and bag.

Finish: Maroon frame and tank; chrome wheel rims and fittings.

Price: Engine £40; frame, fully equipped, £17 17s. 0d.; plus £3 11s. 6d. P.T. = £21 8s. 6d.; total, £61 8s. 6d.

Annual tax: 17s. 6d. (quarterly 4s. 10d.).

Manufacturers: Britax (London), Ltd., 115-129 Carlton Vale, London, N.W.6.

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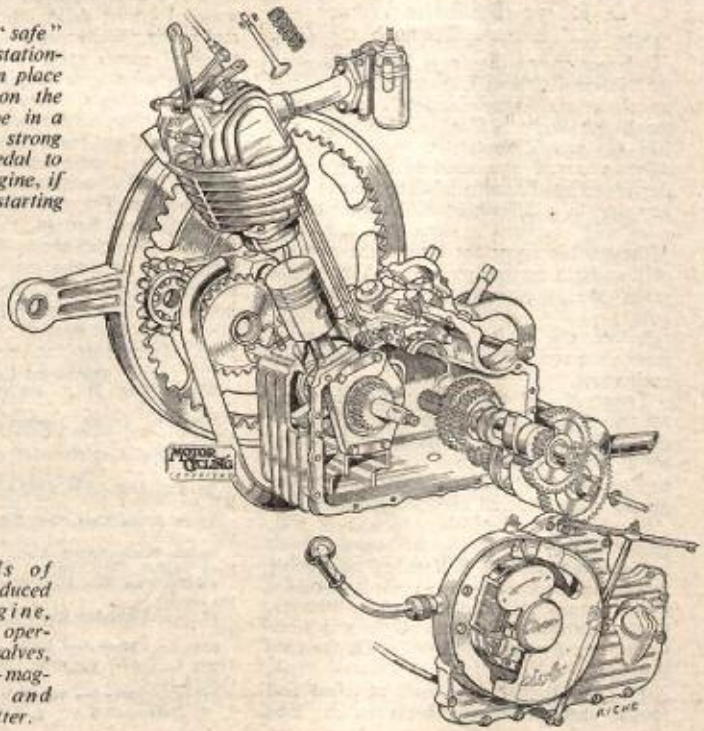
The Britax is a "safe" machine as, when stationary, the rider can place one foot firmly on the ground and yet be in a position to give a strong thrust to the pedal to assist the little engine, if necessary, when restarting



(Right) Details of the Italian-produced "Cucciolo" engine, with "pull-rod" operated overhead valves, Ducati flywheel-magneto-generator and Weber carburetter.

(Left) A close-up photograph of the rubber-in-tension suspension elements built into the pressed-blade front forks.

The combination of specially designed cycle and 48 c.c. engine presents a very eye-worthy machine at an attractive price.

the production machines to a more extended test.

Inevitably, this machine is more of a motorcycle than a bicycle. Its frame, built specially by The Enfield Cycle Co., Ltd., is of heavy-gauge tubing and has a motorcycle-type steering head and pressed-steel fork blades with three-band rubber suspension similar to that used so successfully on Royal Enfield lightweights. Journal ball races are employed in the wheel hubs and each wheel has a powerful, 4-in. diameter internal expanding brake.

The 39-mm. bore by 40-mm. stroke "Cucciolo" engine needs little introduction. By virtue of the extensive use of light alloy it weighs only 17¼ lb., yet, with a 6.24-to-1 compression ratio, it develops 1½ b.h.p. at 5,200 revs. Undoubtedly, however, the outstanding feature of the engine is its pedal-controlled preselector gear-change, which operates through a metal-to-metal multi-plate clutch built into the crankcase. The gears are selected by the position of the pedal cranks and engaged simply by momentarily withdrawing the clutch.

Easy Starting

To start the engine one can either pedal away in gear, by employing the exhaust-valve lifter, or engage the gear when on the move. Whichever method was used, the machine under test would start in less than five yards, provided only that the carburetter had been well flooded if the engine was cold.

On a level surface acceleration was surprising. A speed of 20 m.p.h. could be reached in about 45 yards in the 13 : 1 bottom gear, and after 120 yards the engine would pull away tirelessly at 30 m.p.h. in the 7.5 : 1 top ratio, and still be capable of another 4 m.p.h.

Yet more important than this remarkable turn of speed is the fact that the 4-in. brakes are quite capable of coping with it. The machine could easily be brought to a standstill in five yards from 20 m.p.h., and from 30 m.p.h. its stopping distance rivalled that of many lightweights and most cars. Both brake controls were handlebar mounted, the front-brake lever on the right and that for the rear brake on the left, the latter together with the clutch lever, which, however, had a very limited travel, being almost straight, and this meant that more frequent rear-brake adjustment was necessary than would be the case with a normal shaped lever. But as both brakes are equipped with finger adjusters, the task is easily performed.

Hill-climbing was a revelation. During the test a mile-long hill with an average gradient of 1 in 25 and sections of up to 1 in 8 was negotiated in top gear without pedal assistance, and in bottom gear the engine would pull up almost anything. It seemed, in fact, that the only uses for the pedals were starting and gear changing.

The complete machine weighs only 72 lb. and, as is the case with almost any vehicle which is lighter than its rider, getting used to its "feel" took some time. But it soon became apparent that its handling and comfort rivalled that of any motorized bicycle yet tested by *Motor Cycling*; even on rough roads, the combination of Royal Enfield designed well-sprung forks, large tyres and wide saddle gave a ride which was comfortable, if not luxurious. The steering was very light, yet the machine could be ridden feet up when almost stationary in bottom gear, and cornering occasioned no misgivings.

The 1½-gallon petrol tank, which holds enough fuel for over 250 miles with a 10-mile reserve, adds to the model's motorcycle-like appearance, and is positioned so that the rider can grip it between his knees. As the engine is a four-stroke it has a separate lubrication system, oil being carried in a 1-pint crankcase sump. Oil filler cap and drain plug are easily accessible; and, indeed, any routine task, such as plug-changing, clutch, magneto or tappet adjustment, can easily be carried out on this well-designed unit.

Excellent though the engine is in its performance, it could, with advantage, be quieter—though mechanical noise is inescapable with an o.h.v. engine employing exposed pull rods and valve mechanism. Apart from this, the only criticism was occasioned by the chain which once during the test shed its spring clip and link. Though, doubtless, a rare failure, this did emphasize the necessity for carrying spare links.

But for performance, comfort and safety there can be few machines of under 50 c.c. to compare with this Britax product. At £61 8s. 6d., the cycle—fully equipped with magneto-generator-operated Lucas lamps, bulb horn, inflator and luggage carrier—and engine together represent a sound investment for those seeking reliable personal transport with extreme economy.

TRANSVAAL RACING

The Maraisburg "100"

WITH perfect conditions for racing and a large crowd, the second Maraisburg "100" was staged by the Phoenix Motor Cycle Club through the streets of the town of Maraisburg, in the Western Transvaal, on Saturday afternoon, September 26.

The programme took the form of three scratch and three handicap races on the fast but tricky 1.2-mile Dick Corlett Circuit, with each race being run over a distance of 10 laps.

The Junior race was keenly contested but provided little to enthuse over with practically no interchanging of positions. Everyone expected either Ferreira or Grant to annex the Lightweight race which followed, but Clarrie Hurst was in fine fettle and led throughout.

Rudy Allison took things quietly in the Senior race and was never extended. Randall rode well this time and tucked in behind Allison from the fall of the flag, receiving a "tow" all the way and thus beating Zeeman into second place.

Junior, Lightweight and Senior Handicaps followed, the star of the Junior being J. Driver, on an old Excelsior. Rudy Allison delighted enthusiasts with a last-lap victory in the Senior.

Provisional Results

Lightweight Championship Race: 1, C. Hurst (Velocette); **2,** E. Grant (Velocette); **3,** D. Holmes (Velocette). **Winner's time,** 12 min. 11 sec.

Junior Championship Race: 1, C. Hurst (Norton); **2,** C. Randall (Norton); **3,** L. Zeeman (Norton). **Winner's time,** 11 min. 34 sec.

Senior Championship Race: 1, R. Allison (Norton); **2,** C. Randall (348 Norton); **3,** L. Zeeman (Norton). **Winner's time,** 11 min. 45 sec.

Lightweight Handicap Race: 1, D. Holmes (Velocette); **2,** L. Zeeman (Velocette); **3,** W. van Rooyen (Velocette). **Winner's time,** 12 min. 02 sec.

Junior Handicap Race: 1, J. Driver (Excelsior); **2,** A. di Bon (A.J.S.); **3,** C. Hurst (Norton). **Winner's time,** 12 min. 28 sec.

Senior Handicap Race: 1, R. Allison (Norton); **2,** B. van Zyl (Norton); **3,** J. Visser (B.S.A.). **Winner's time,** 10 min. 49 sec.

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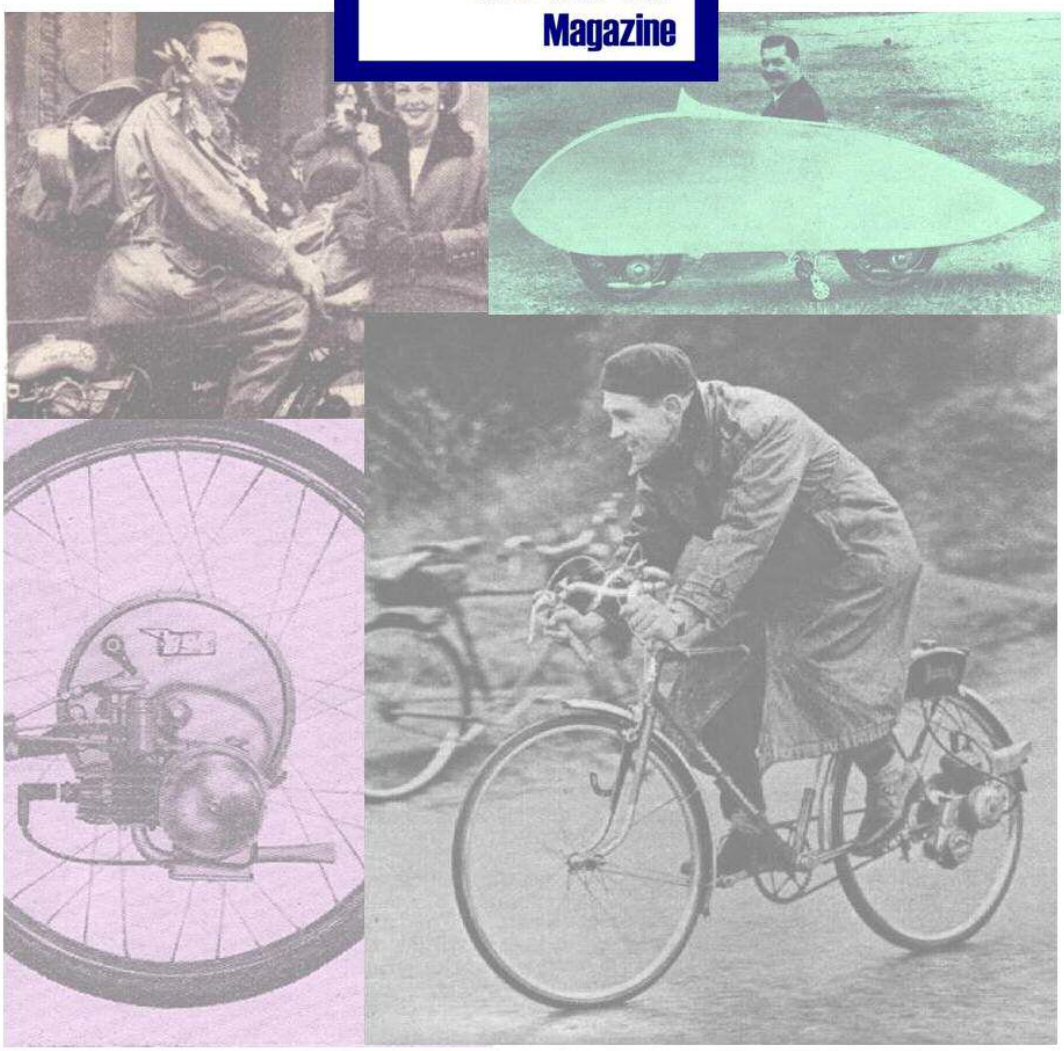

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