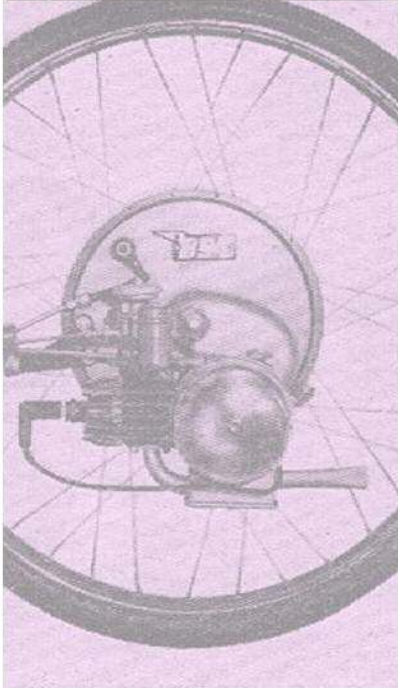
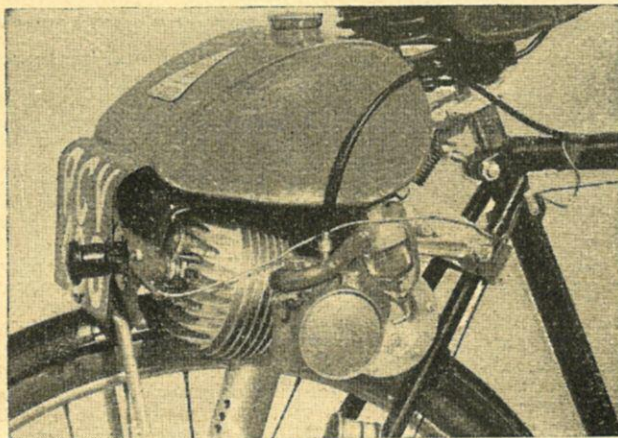


IceniCAM Information Service



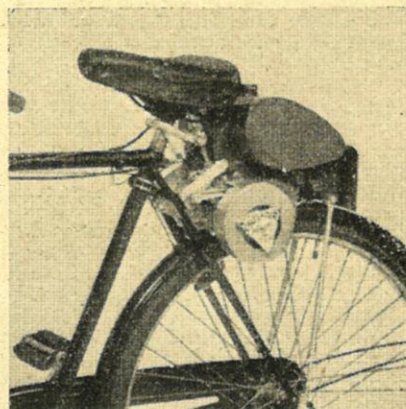
www.icenicam.org.uk



A CORNISH CYCLEMOTOR UNIT

Details of the Fan-cooled 49 c.c. Teagle Monobloc Alloy Engine Weighing Less Than 10 lb.

On the left is an offside view of the Teagle cycle-motor showing the flanged cheek-plate which covers the over-hung crankshaft and big-end assembly. Less tank, the unit weighs 8 lb.



The unit presents a neat appearance when seen from the near side, on which a large domed cover enshrouds the fly-wheel magneto.

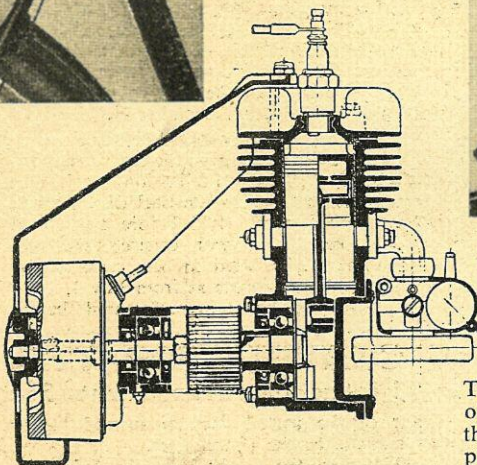
NOT all visitors to the Motor Cycle Show go there each year to look at this or that new motorcycle; in fact, Earls Court in November is quite a market place, attracting interesting people who, their brief-cases full of blue-prints, discuss not only the new season's models, but the possibilities of modified engines of untried inventions or proven designs for which markets are sought. In the last-mentioned category I put Mr. W. T. Teagle who, calling at "Motor Cycling's" Earl Court Stand, showed me the drawings of a proposed 49 c.c. cycle-motor unit developed from an engine of that capacity already manufactured by Mr. Teagle for use in conjunction with a mechanical hedge-cutter and other agricultural machinery.

Light in Weight

Such an engine, because it is usually carried by hand, must be light, an attribute of equal value in the case of a unit intended for use with a pedal bicycle. For this reason in particular I was impressed with the Teagle idea of a monobloc alloy casting which forms the crankcase, cylinder and out-rigger bracket, the latter supporting an extended mainshaft and magneto flywheel assembly.

The cylinder section of the monobloc has an iron liner and provides a "square" bore and stroke of 40 mm. by 40 mm. A Wellworthy piston is used and it is linked by a forged RR56 Hiduminium connecting rod with a single-sided, over-hung crank. There is no big-end ball race or liner; instead, the connecting rod bears directly on the steel crankpin which is hollow and drilled for lubrication purposes.

The engine is of the three-port two-stroke type and the flat-topped piston is cut away at the skirt to facilitate induction. What, in the elevation drawing, appears to be opposed induction porting is, in fact, an arrangement to aid assembly which, in view of the integral construction of the crankcase and cylinder unit, calls for special consideration. On this account the end of the crankcase is unusual in that in the manufacturing stage it is left open and



A section through the engine showing the well-supported shaft driving the roller and the "Wipac" flywheel magneto. When fitted, of course, the cylinder lies horizontal.

is sealed by a flanged cheek-plate, pinned in position by six screws, when the unit is in the course of assembly.

The order of assembly is as follows. First, the two bearings with oil seals are pressed into position in the extended drive-side housing; the driving roller is placed in the housing and then the crankshaft is introduced into the open crankcase and pushed through the bearings and the roller and locked in position by means of the roller retaining nut.

Fan Cooling

With the fitting of the flywheel magneto—this component is of the "Wipac" type and incorporates cooling fins cast on the flywheel face—the lower part of the assembly may be regarded as complete except for the fitting of the connecting rod to the big-end. This is achieved by lowering the rod into the cylinder from the top. The open side of the crankcase permits the rod to be tilted slightly and slipped into position on the crankpin. At this stage the flanged cheek member is pinned in position and the crankcase closed.

It remains only to manoeuvre the piston, which carries two compression rings, down into the cylinder and with the piston bosses and small-end eye lined up with the opposing ports, to insert the gudgeon pin and circlips.

A B.E.C. carburetter, a make which Mr. Teagle has found excellent for this type of engine, is fitted to the off-side port and the near-side orifice is sealed by a cover plate. Finally, the cylinder head and plug are put in position and the plug connected with the "Wipac" magneto. Once familiar with the procedure, an unskilled man, it is claimed, can do the job from scratch in about 10 minutes.

Fitting the Unit

As a bicycle unit, the engine is fitted to the seat stays and saddle pillar by lugs which, being integral with the out-rigger bracket casting, give support to the structure at points in line with the two crankshaft bearings and thus ensure maximum rigidity. A spring-loaded pivot arrangement controls the position of the unit in either the driving or free position.

In de luxe form the 49 c.c. Teagle, complete with the fan-type "Wipac" flywheel, a die-cast cowl for cooling and a neat "saddle-bag" shaped fuel tank, retails at £16. A utility version without fan cooling and fitted with a round tank is listed at £14.

The unit illustrated on this page is still in an advanced prototype stage. In production form, however, it is unlikely that the weight of the complete engine will be greatly increased and, in these circumstances, the manufacturers may make history by producing the lightest, and possibly cheapest, cyclemotor unit marketed in Britain to date.

The address of the manufacturers who, it is understood have made arrangements for a substantial output, is W. T. Teagle (Machinery), Ltd., Blackwater, Truro, Cornwall.

BERNAL OSBORNE.