



THE MOTOR CYCLE, 25 OCTOBER 1951

Details of the Amal

ing the engine on the
one earlier.
This is achieved because the throttle needle

ed out, the adjusting screw
ended and a screwdriver slot provided in its
head.
The top locking-ring has wide and deep

Makers of the G.P. carburettors are Villiers
Ltd., Holford Works, Perry Barr, Birming-
ham, 20.

Villiers Engine Programme

Two-stroke Units for Autocycles and Lightweight Motor Cycles

ALTHOUGH no major changes have been announced in the range of Villiers two-stroke engines for 1952, it is stated that a high-compression cylinder head will be made available for fitting to the 122 c.c. (10D) and 197 c.c. (6E) engine-gear units. Of light alloy, the high-compression head is outwardly identical in all respects with the standard head. A minor modification which has been introduced in these two engines during the year is the fitting of rubber oil seals on the crankshaft in place of the spring-loaded glands previously employed. There is no change in the other two engines which complete the range, namely, the 1F 98 c.c. two-speed model and the 2F 98 c.c. autocycle engine.

Since late 1949, close-ratio gears have been fitted to the 10D and 6E models (although wide ratios can still be specified if desired). Internal ratios are 1, 1.4 and 2.66 to 1. On both these engines the gear box assemblies, two-plate, cork-lined clutch, kick-starter and positive-stop foot-change mechanisms are identical.

Flat-crown pistons are employed, and the porting in the cast-iron cylinder consists of a single exhaust port facing forward, a single inlet port at the rear, and two transfer ports, one on each side of the cylinder. The transfer passages are so shaped as to give a rearward and upward swirl to the gases entering the combustion chamber.

On the 6E, the carburettor is a Villiers

two-lever type with air-filter, while a Villiers single-lever carburettor, also with air-filter, is employed on the 10D engine. The inlet stubs are light-alloy castings.

Cylinder-heads differ (in addition to size) in that the 10D has a pear-shaped combustion chamber, whereas the combustion chamber of the 6E model is hemispherical, and a compression release valve is incorporated.

Both engines have six-pole flywheel magnetos fitted with lighting coils which give an output of over 40 watts. With rectifier lighting sets a Lucas sealed-beam headlamp is supplied; this incorporates a four-position switch which allows a change-over to direct lighting to be made when the engine is running at out-of-town speeds.

The 98 c.c. two-speed 1F engine-gear unit has a handlebar gear control which operates through a Bowden cable. A coil spring acting on the striker-fork bell-crank engages top gear. Neutral position and bottom gear are obtained by operating the lever against the spring pressure. Friction discs in the handlebar control hold the lever in the desired position. (Because of this, incidentally, caution should be exercised when oiling this control). Gear box reduction for the lower ratio is 1.54 to 1, while top gear gives direct drive. Weight of this unit, minus lighting equipment, is only 38lb.

In external appearance, the 98 c.c. 2F

autocycle engine bears a resemblance to the other models in the range. As in all Villiers engines, a cast-iron cylinder with detachable light-alloy cylinder-head is employed. The combustion chamber is hemispherical and a compression-release valve is fitted. The two-plate clutch has cork inserts. Engine mounting is by means of three stout attachment lugs, one at the front of the crankcase, one at the base, and one at the rear of the primary chaincase.

The carburettor is a single-lever Villiers Junior; it is stub-mounted and is fitted with an air-filter. Ignition and lighting is from a 6-pole flywheel magneto. Porting on both the 98 c.c. engines is similar to that on the larger-capacity units. Weight of the 2F engine unit (minus lighting set) is 31lb.

Bore and stroke measurements are: 98 c.c. engines, 47×57mm; 122 c.c., 50×62mm; 197 c.c., 59×72mm. The flat-top pistons each have two compression rings, and in each case the crankshaft is carried on ball-journal bearings. Roller big-end bearings are employed. Primary drive on all models is by means of a totally enclosed roller chain running in oil. Makers are Villiers Engineering Co., Ltd., Marston Road, Wolverhampton.

LONDON SHOW

EARLS COURT, London, S.W.5,
venue of the London Motor
Cycle Show, will be open from 10 a.m.
to 10 p.m. daily (except Sunday) from
Saturday, November 10, to Saturday,
November 17. Admission charge will
be 2s 6d (season ticket 10s).