

September, 1968.

Supplement to Instruction Books 31 & 31K

STUART

5 B.H.P. ENGINES with AMAL 397 CARBURETTOR

(Types P5MA, P5MCA, P5MRA, P5MEA, P5MREA)

STARTING

See that the supply of petrol is sufficient.

Open valve, if any, in exhaust pipe.

See that seacock is open.

Turn on petrol. If you have coil ignition, switch on.

Open throttle slightly, using starting cam.

Close choke, by moving lever towards centre of engine.

If a petrol pump is fitted operate the hand lever a few times.

Turn starting handle until engine fires; open choke immediately or engine may stop.

Adjust starting cam to a suitable idling position until engine warms up; return to the "off" position when under way.

FAILURE TO START

Close choke once more, and try again. Failure is generally due to over-choking whereby liquid petrol is drawn into the crankcase.

Turn off petrol, and open starting cam wide, being ready to close it promptly if engine fires.

If this fails, remove and examine spark plug for dirt between the points. Clean and re-set to .018" gap (.025" coil ignition) or try a new plug. If plug is wet when removed, drain crankcase; if dry, check fuel supply, make sure jet is not choked, test the magneto spark.

CARBURETTOR

The carburettor is adjusted before leaving our works, and should not need further attention. If a fault is apparent, we advise that any adjustments are made by an experienced engineer.

First check that fuel is flowing freely, by removing the connection under the carburettor bowl. To examine the main jet, remove the carburettor bowl, held by two screws at the upper side. The main jet is at the end of a projecting carrier; remove the jet and blow it clear.

The carburettor must be horizontal; to adjust, slacken the bolt holding the conical clamping washer. The hole in the edge of this washer should be at the top, and must be clear, otherwise the engine will only respond sluggishly when the throttle is opened.

The larger adjustable screw on top of the carburettor controls the idling mixture, the smaller screw controls idling speed. The idling mixture screw should be about a half turn out from its fully seated position. Do not force the screw hard against the seat. If unscrewed too far, the mixture will be weakened and the idling speed will gradually fall until the engine stops. If unscrewed too little the engine will not respond readily to the throttle owing to over-rich mixture.

Set the idling screw $\frac{1}{8}$ th turn at a time, so that the engine idles steadily at about 650 r.p.m. cold, 850 r.p.m. hot. Too high a setting will cause the speed to climb gradually when idling in neutral, a low setting will allow the engine to stop.

THROTTLE LINKAGE SETTING

There is a small gap between the throttle hand lever cam and the operating pin; set the linkage to take up this gap when gear is engaged by rotating the $\frac{1}{4}$ " control rod, having first loosened the locknut. Check that the idling screw seats correctly when gear is disengaged. This is best carried out with the engine running. When properly set, the r.p.m. should increase slightly when gear is engaged, and return to idling speed when disengaged.

The ball joints on the link rod may need taking up or down a turn if the carburettor arm does not move from fully open to fully shut.

5 & 10 B.H.P. ENGINES

SPARE PARTS

The following parts differ in 5 and 10 B.H.P. engines from those fitted in 4 and 8 B.H.P. engines as listed in Instruction Book 31 and 31K. Some parts are common to both 5 and 10 B.H.P. engines. Where they differ the parts are marked "5 B.H.P." or "10 B.H.P." or with the type reference of the engine to which they are peculiar (e.g.: "P5MEA"):

Part No.	Item
A1824	Cylinder (5 B.H.P.).
A1821	Cylinder (10 B.H.P.).
4321	Cylinder head pipe union body (5 B.H.P.).
40416	Piston, complete (2-ring type).
21657	Piston ring (top).
20566D	Piston ring (No. 2).
3220B	Piston bush.
21650	Connecting rod, with outer race & bush fitted.
14724	Connecting rod outer race.
14723	Connecting rod roller assembly.
14861	Crankpin, with inner race and nuts.
5040B	Crankpin assembly.
14862	Crankcase assembled, complete (10 B.H.P.).
3984	Clamping rods and nuts, $7\frac{1}{4}$ " (1) (10 B.H.P.).
(pr.) 03511	Clamping rods and nuts, $1\frac{7}{8}$ " (2) (10 B.H.P.).
14715	Carburettor, complete, Amal 397 (5 B.H.P.).
21641	Carburettor elbow, (5 B.H.P. hand start).
21662	Carburettor elbow, (P5MEA).
14713	Carburettor elbow cap (5 B.H.P.).
14659	Carburettor air silencer (5 B.H.P.).
14689a	Carburettor idling speed adjuster (5 B.H.P.).
21645	Throttle control lever (5 B.H.P.).
14664B	Throttle link rod (5 B.H.P. hand start).
14664D	Throttle link rod (P5MEA).
13836	Throttle link rod ball joint (5 B.H.P.).
14831	Throttle control lever extension (P5MEA).
20324a	Throttle hand lever (P5MCA).
14823	Friction bracket and bolt (P5MCA).
13888/145	Main jet, Amal 397.
13889/35	Pilot jet, Amal 397.
21218a	Drip tray with bracket (5 B.H.P. hand start).
21663a	Drip tray with bracket (P5MEA).
14722	Water pump shaft (5 B.H.P. hand start).
14722B	Water pump shaft with petrol pump (5 B.H.P. hand start).
14742	Water pump shaft (P5MEA).
50442/105/5	Main jet (10 B.H.P.).
918	Flywheel.
40233	Propellor $9\frac{1}{2} \times 6 \times 3$ blade (P5MEA).
40440	Propellor $14 \times 12 \times 3$ blade (5 B.H.P. reduction gear).
40442	Propellor $14 \times 13 \times 2$ blade (5 B.H.P. reduction gear).

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