

gain speed then the mixture strength is too rich and should be suitably weakened off.

DEFECTS IN OPERATION.

In the case of unsatisfactory engine performance, before making any alterations to the carburetter setting, a general check should be made on the ignition system, valves and valve guides in the engine, also the gas tightness of both induction pipe and carburetter flange joints.

If, however, the engine and ignition are found to be faultless, the following points should be checked on the carburetter.

1. Sticking of Piston.

The symptoms here are either stalling and a refusal of the engine to run slowly or, alternatively, lack of power accompanied by excessive fuel consumption. This defect is easily detectable. The piston should rest, when the engine is not running, upon the bridge (28). When raised by means of a rod inserted through the 2 B.A. hole under the air intake, as previously described, to its highest position against the appreciable resistance of the piston, and then released, it should drop freely, and strike the bridge sharply and distinctly. If it becomes prematurely arrested in its downward movement, or if it appears unduly reluctant to break away from its position of rest on the bridge when an attempt is made to raise it from this position, the jet should be lowered by means of the enrichment mechanism, and the test repeated.

If the previous symptoms persist it can be assumed either that the enlarged diameter of the piston is making contact with the bore of the suction chamber, or that the piston rod is not sliding freely within its bush.

If, on the other hand, sticking has been eliminated by the act of dropping the jet, the indication is that contact and friction are taking place between the jet and the needle.

Rectification should be conducted as follows, according to the diagnosis.

DIRT OR CONTACT BETWEEN THE PISTON AND SUCTION CHAMBER, OR STICKING OF THE PISTON ROD IN ITS BUSH.

Remove the suction chamber, withdraw the piston and thoroughly clean both parts with petrol and a clean cloth. Apply a few drops of light oil to the piston rod, preferably diluted with paraffin if any signs of rust or corrosion are noticed on the rod. Replace the piston in the suction chamber and test for rotational and sliding freedom. Any direct local contact between these two parts, attributable to some indentation of the suction chamber, may be rectified by carefully removing any high spots which may show up on the suction chamber bore by means of a hand scraper. On no account should any attempt be made to enlarge generally the bore of the suction chamber, or to reduce the diameter of the enlarged part of the piston, as the maintenance of a limited clearance between these parts is absolutely essential.

LUBRICATION.

Each month remove the plastic octagonal oil cap from the top of the suction chamber and feed a few drops of thin machine oil into the orifice. When the oil cap has been replaced, ensure it is well tightened. An air leak occurring at this point would upset the automatic operation of the piston in the suction chamber and cause faulty carburation.

ECCENTRICITY OF JET AND NEEDLE.

Re-centring of the jet in relation to the needle will be necessary should the jet have become laterally displaced in service due to inadequate tightening of the locking screw (15), or any other cause. This operation will, of course, also be necessary if the jet and its associated parts have been removed for any reason. It may also be necessary after the removal and replacement of a needle. The procedure for the re-centring of the jet is as follows.

The jet stop nut (18), should first be screwed upwards to its fullest extent, the jet head then being raised to contact it