First remove the connecting rod and the governor gear. Then remove the bearing housing—this is integral with the armature plate, which must be removed, complete with coil etc., before access to the crankshaft is obtained. Care must be taken not to move the crankshaft unless it is in the position described above.

The camshaft can only be moved by pressing its spindle from the outside of the crankcase towards the flywheel side. In re-assembling, note that the two gears engage correctly, indicated by centre punch marks on each gear. The governor gear meshes with the camshaft gear in any position of the teeth.

OIL LEAKS

The outside of the engine should be kept clean. If oil leaks develop, check the tightness of the valve cover plate and the cylinder nuts. Examine oil level—this should not be appreciably higher than the shoulder on the dipstick. The breather valve can be removed and if necessary washed out in paraffin to ensure that the ball can operate freely. If after these precautions, oil still leaks from the crankshaft bearing or governor shaft, it would be advisable to examine the condition of the piston rings. These must be free in their grooves and the rubbing surfaces clean and bright, Remove any carbon from the grooves and replace any damaged rings.

AIR FILTER

This must be cleaned every 100 hours, or more frequently under very dusty conditions. Directions for cleaning are given on the filter and differ according to the type fitted. The smaller type normally fitted (Part No. EM.487) should be washed in Petrol and dipped in **thin** oil, the surplus oil being allowed to drain off before refitting. Oil Bath type Air Filters should be dismantled and the old oil drained away. The Filter should then be washed and re-filled with oil to the level indicated.

CARBURETTER

The types of carburetters fitted to these engines are illustrated in Figs. 4 and 4a.

ADJUSTMENT (S'dard Type) Fig. 4.

If the original setting of the adjustable needle valve has been disturbed proceed as follows:—

Completely close the needle valve by turning clockwise, as far as possible, after the lock nut has been slackened. Do not use force, or the needle valve may be damaged.

Then, open the needle valve between two and two-and-a-half complete turns.

Final adjustment should be made with the engine on full load when the engine is warm by turning the needle valve to the position at which the engine operates most smoothly.

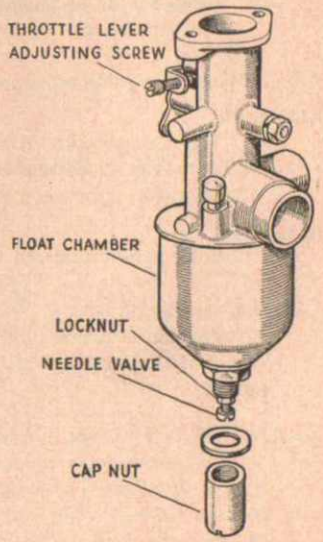

Fig. 4

With the setting thus obtained, starting will be satisfactory.

Now test with the engine off load, and adjust the throttle adjusting screw, so that it just bears lightly on the buffer spring. In this condition the engine should run steadily, without " hunting." The locknut on the needle valve should now be tightened.

If when starting from cold, the choke has to be kept closed for several minutes, before the engine runs smoothly, the carburetter setting is too weak, and the needle valve should be opened slightly more.

ADJUSTMENT (Pilot Jet Type) Fig. 4 A.

This Carburetter is different in construction from that illustrated in Fig. 11. The Main Jet situated in the Centre-Piece is not variable in size and the Needle Valve and Lock Nut are not fitted.

The Float is held in position by a single Cap Nut, there being a Fibre Joint Washer between the Float Cup and Cap Nut.

Provision is made for adjusting the slow-running mixture and idling speed. The slow-running mixture strength is adjusted by means of the Pilot Adjuster Screw (B). Screwing the Adjuster in a clockwise direction will enrichen the mixture. For setting the slow-running speed, the Adjusting Screw (A) should be set so that the end bears lightly on the Carburetter Body, thereby preventing complete closure of the Throttle, and ensuring steady running under no load conditions. The Lock Nuts (C) should be securely tightened after the required adjustments have been obtained.

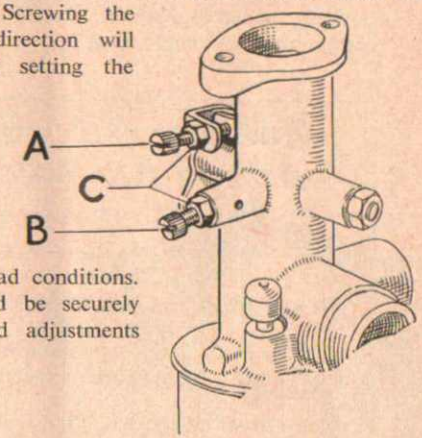

Fig. 4 A

TO CLEAN CARBURETTERS

In order to carry out this work thoroughly, it is necessary to remove the Carburetter from the Engine.

(Standard Type)

The Cap Nut covering the Needle Valve should be unscrewed, followed by the Hexagon Nut which will then allow the Float Chamber to be removed. Any accumulated sediment should be cleaned away and the Float examined to make sure it is in good condition. The Float and Float Chamber, Hexagon Nut and Cap Nut can then be replaced making sure that the Fibre Washers are in their correct position.