

the same time as it holds the needle on the seating, adjustment must be made by bending the lever. (Plate C.7.)

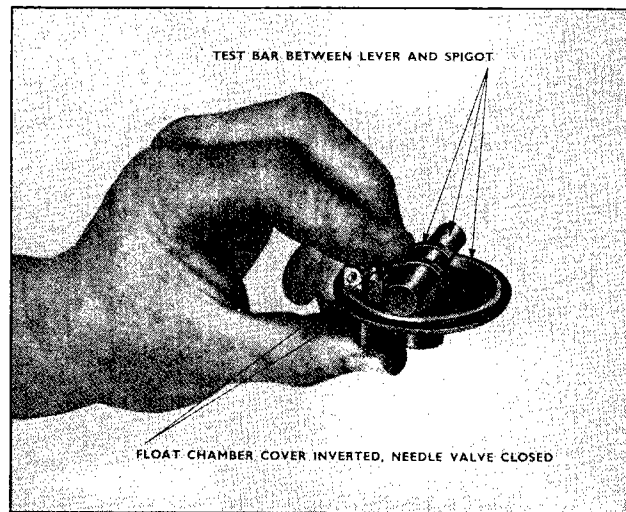


PLATE C.7. SETTING PETROL LEVEL.

STARTING CARBURETTER. DESCRIPTION AND ADJUSTMENT (MARK VII AND XK 120 MODELS)

GENERAL. On early cars the auxiliary starting carburetter is integral with the float chamber of the rear carburetter, as illustrated in this section.

On later cars the auxiliary starting carburetter is a separate unit attached to the front carburetter, but the internal parts and the principle of operation are the same.

OPERATION. This consists of an auxiliary jet (C) controlled by a tapered needle (Q), and fed from the main float chamber (A).

Fuel emerging from this jet passes upwards between the shank (D) of the needle and the bore formed in the body through which this passes. Air at the same time enters through the passage (P) and mixes with the jet discharge. The emulsion thus formed is mixed with a further supply of air which passes downwards between a clearance provided between the disc (N) fixed to the needle shank (D) and the core surrounding this disc. The assembly comprising the disc and needle can move vertically and is normally spring loaded upwards by means of the spring (E). The mixture thus formed passes between valve (H) and its seating, and is drawn through the tube (O) into the induction passage of the engine. It will thus be seen that an additional amount of mixture is drawn directly into the induction passage irrespective of the main throttle position, and serves to provide the starting mixture, and also to enrich the mixture generally, so long as the device is in action. The movable parts (N) and (D) are normally held in the position shown in the diagram, thus when the engine is first started and the suction created in the induction passage by means of the starter is low, a rich mixture will be provided since the tapered needle (Q) will be withdrawn from the jet.

Immediately the engine starts a high degree of suction will be obtained in the induction pipe and consequently a strong flow through the auxiliary carburetter. The high velocity of air passing between the disc (N) and the bore surrounding this will be sufficient to draw the assembly downwards against the action of the spring and the needle (Q) will therefore enter the jet (C) to a greater extent and diminish the effective orifice of this: thus under these conditions only a moderate enrichment will be provided. In this way an excess of petrol, which will otherwise be obtained under these conditions, will be avoided. Immediately the throttle is opened however, the induction pipe depression will be diminished and thus the velocity of air past the disc will fall and so permit the assembly to rise again and provide a greater discharge from the jet. The valve (H) is held off its seating by means of a solenoid (J) which raises the iron core (I) to which the valve disc is attached, thus so long as a current is flowing through the solenoid this valve will be opened and the auxiliary carburetter will be in action.

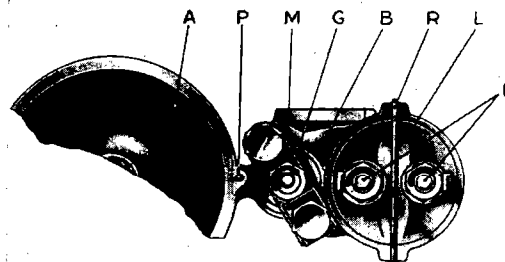
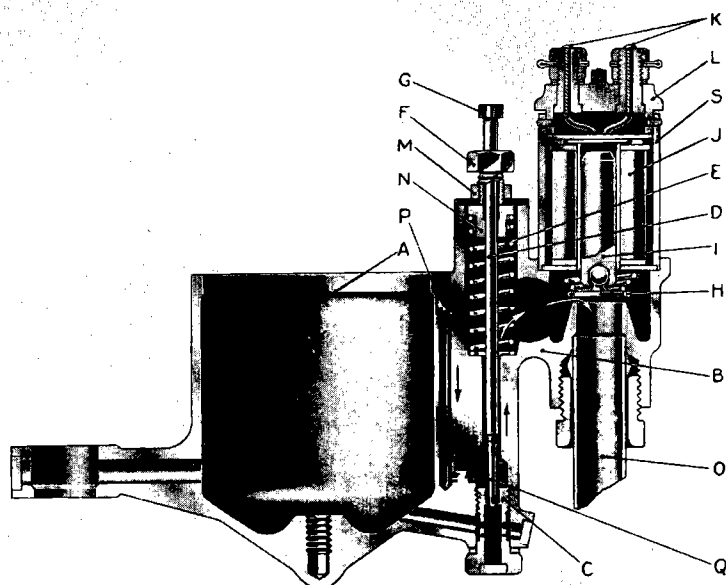


PLATE C.8. STARTING CARBURETTER.

ELECTRICAL CONNECTIONS.

The current is provided for the solenoid in the following manner:—One lead is taken from the ignition switch to one of the terminals (K) and the other terminal is connected to a thermostatic switch situated in the water outlet pipe from the cylinder head. This switch is so arranged that when the engine is cold a circuit is provided from the terminal (K) to earth. Immediately the water attains a temperature predetermined by the setting of the thermostat, the points will open and no return circuit will then be provided. The circuit through the solenoid thus having been broken, the core (I) will be released and valve (H) will return to its seating, thus putting the whole device out of action.

ADJUSTMENT. The only adjustment provided consists in setting the stop screw (F) which limits the movement of the needle (D). Screwing this down (clockwise) weakens, screwing it up (anti-clockwise) strengthens the idling mixture. The engine having been allowed to attain its normal working temperature, the auxiliary carburetter should be brought into action by short-circuiting the thermostatic switch. A convenient means of doing this is to make contact between the terminal in the centre of the switch and the body of the switch by means of a screwdriver. Having done this, the throttle should be momentarily flicked open, thus releasing the valve (H) and bringing the auxiliary carburetter into action. The stop screw should now be adjusted upwards to an extent just short of that which will make the engine run evenly; in other words, the engine should be given the strongest mixture possible, upon which it will fire on all its cylinders.

If on the next occasion upon which the engine is started from cold difficulty is experienced, the engine firing but failing to keep running, the stop screw should be unscrewed by a further amount of about half a turn.

STARTING CARBURETTER THERMOSTATIC SWITCH TO REMOVE AND REFIT

(MARK VII AND XK 120 MODELS)

REMOVAL.

Detach starting carburetter wire from switch in water jacket at front of inlet manifold. Remove three screws and withdraw switch.

REFITTING.

Clean the joint faces of the switch and manifold to obtain a good earth before refitting, which is the reverse of the above procedure.