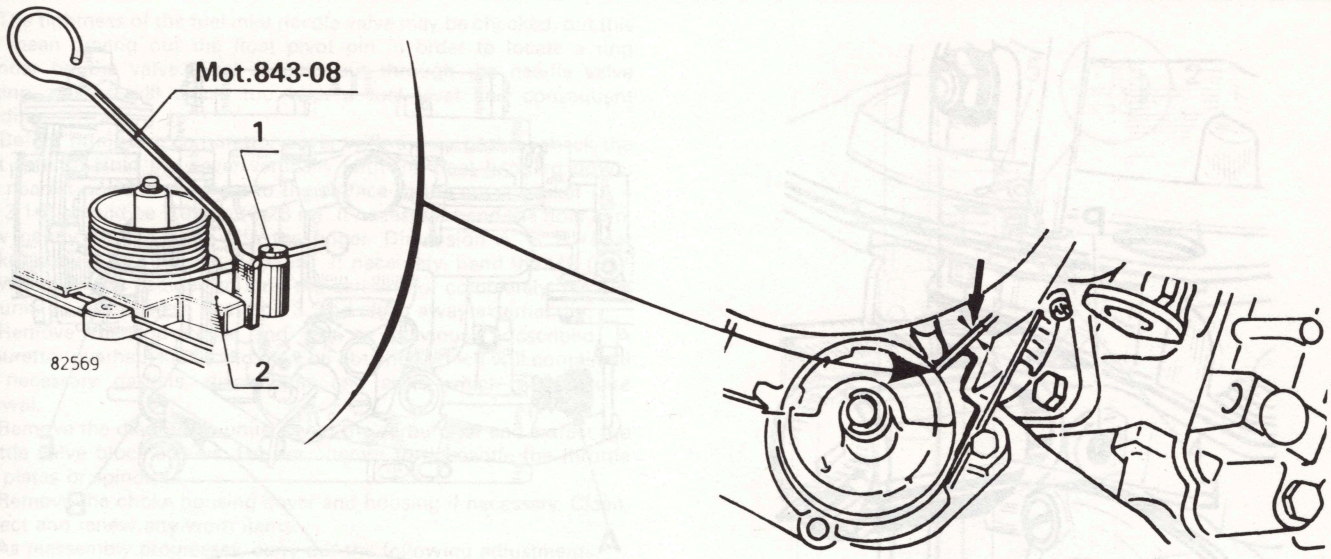

Fig. 3.10 Special tool used to adjust throttle stop clearance (Sec 10)

1 Safety stop *2 Throttle stop*

PART B: CARBURETTOR FUEL SYSTEM

11 Weber DARA carburettor – description

The carburettor is of dual barrel, downdraught type with a coolant-heated automatic choke.

The throttle valve plate block is coolant-heated. On certain versions an additional electric choke heater is fitted.

The carburettor incorporates a constant CO circuit controlled by a mixture screw (B – Fig. 3.14) and a volume (idle speed) screw (A) which operates on a supplementary circuit.

An accelerator pump, power and full throttle enrichment devices are also fitted, together with a secondary barrel lock-out system which uses a diaphragm to prevent the secondary throttle valve from opening when the diaphragm is subject to vacuum.

Two solenoid valves are used, one is an anti-diesel (run-on) valve which shuts off the idle circuit as soon as the ignition is switched off and the other closes the constant CO idling supplementary circuit.

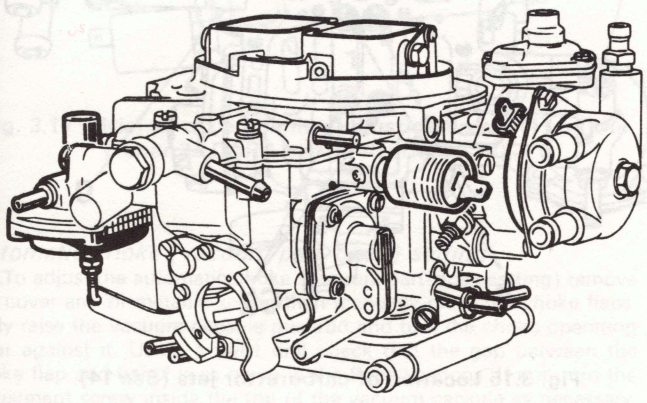

Fig. 3.11 Weber DARA carburettor (Sec 11)

12 Weber DARA carburettor – idle speed and mixture adjustment

Note: *An exhaust gas analyser will be needed for this operaton.*

1 Have the engine at normal operating temperature with the ignition system correctly adjusted, particularly the spark plugs.
2 Remove the tamperproof cap from the mixture screw (Fig. 3.14) and then connect an exhaust gas analyser in accordance with the maker's instructions.
3 Start the engine, increase its speed momentarily to clear the manifold and then turn the volume screw until the vehicle tachometer indicates the specified idle speed.
4 Now turn the mixture screw until the specified exhaust gas CO level is obtained.
5 Readjust the idle speed and then recheck the CO level.
6 If an exhaust gas analyser is not available, unscrew the mixture screw until the engine idle speed is at its highest then turn the screw in again until the speed just starts to fall. Regard this as a temporary setting until it can be checked using an exhaust gas analyser.

13 Carburettor – removal and refitting

1 Remove the air cleaner.
2 Release the pressure in the cooling system by unscrewing the expansion tank cap.
3 Disconnect the coolant hoses from the automatic choke housing and the carburettor throttle block. If the hoses are tied up as high as possible, coolant loss will be minimal and the need to drain the cooling system avoided.
4 Disconnect the fuel hose, the throttle link rod and the electric leads from the solenoid valves and choke (where fitted).
5 Unscrew the carburettor mounting nuts and lift the unit from the inlet manifold.
6 Refitting is a reversal of removal, always use a new flange gasket.
7 Bleed the choke housing and top up the cooling system through the expansion tank.

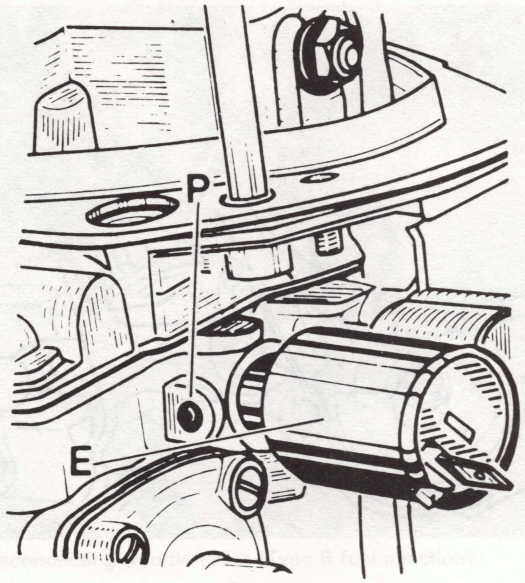

Fig. 3.12 Anti-run-on fuel cut-off solenoid valve (E) (Sec 11)

P Locking screw

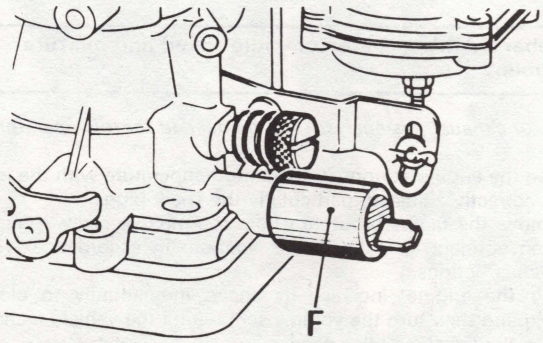

Fig. 3.13 Constant idle circuit cut-off solenoid valve (F) (Sec 11)

14 Weber DARA carburettor – overhaul and adjustment

1 Overhaul of a well-worn carburettor is not usually a worthwhile exercise, it is far better to obtain a new or unworn unit.
2 However, if carburettor performance is suspect, it can be worthwhile dismantling the unit and renewing diaphragms, seals and gaskets. Seek advice from a dealer regarding the availability of such parts.
3 The operations described in paragraphs 5 to 10 can be carried out without the need to remove the carburettor from the engine.
4 The adjustments described in this Section are vital to the success of the overhaul.
5 Remove the air cleaner (Section 3), and disconnect the fuel hose from the carburettor.
6 Unscrew the plug just above the fuel inlet nozzle, remove and clean the filter gauze. Refit the gauze and the plug.
7 Extract the screws and take off the top cover. This will be as far as most overhaul work will need to go, as the jets can be removed and blown through with air from a tyre pump – never probe them with wire or their calibration will be ruined. In extreme cases of clogging a nylon bristle may be used to clear a jet.
8 Mop out dirt and sediment from the fuel bowl.

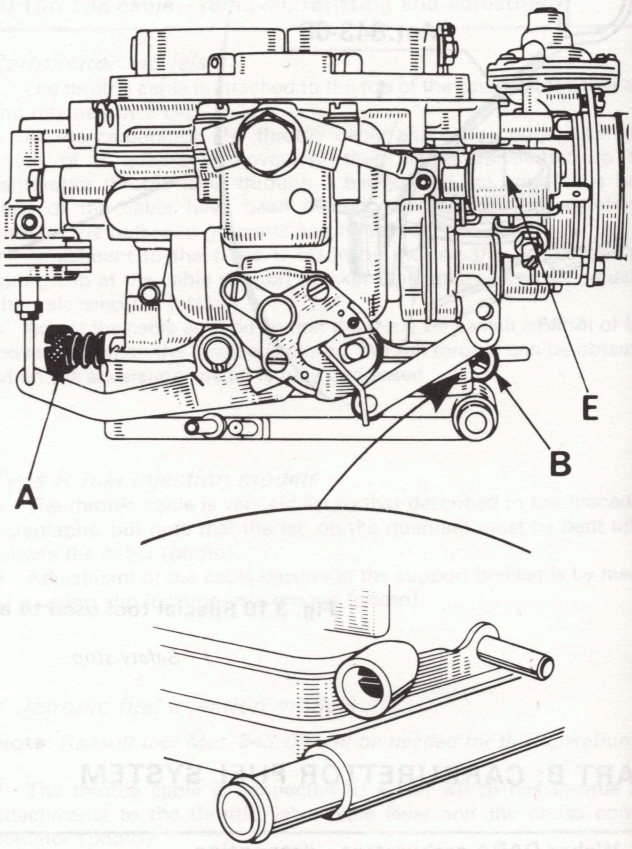

Fig. 3.14 Carburettor adjustment screws (Secs 11 and 12)

A Volume (idle speed) screw
B Fuel mixture screw
E Fuel cut-off solenoid valve

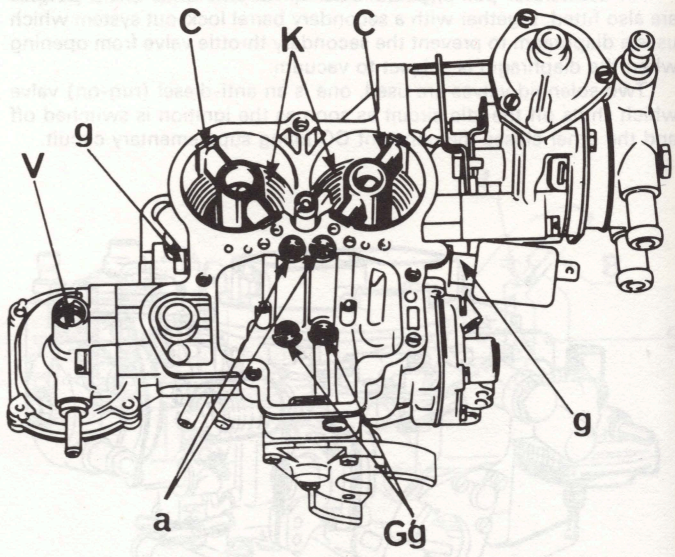

Fig. 3.15 Location of carburettor jets (Sec 14)

a Air compensating jet
C Diffuser
g Idling jet
Gg Main jet
K Venturi

9 The tightness of the fuel inlet needle valve may be checked, but this will mean driving out the float pivot pin in order to locate a ring spanner on the valve. Fuel seeping out through the needle valve seating washer will cause too high a fuel level and consequent flooding.
10 Before fitting the carburettor cover with a new gasket, check the float setting. Hold the cover vertically with the float hanging down. The nearest point of the float to the surface of the cover gasket (A – Fig. 3.16) should be 7.0 mm (0.28 in). If necessary bend the float arm. Now gently lift the float with the finger. Dimension A + B (float stroke) should be 15.0 mm (0.59 in). If necessary, bend the tab (5).
11 Where it was decided to strip the carburettor completely, remove the unit, as described in Section 13, and clean away external dirt.
12 Remove the top cover and jets as previously described. A carburettor overhaul kit should now be obtained which will contain all the necessary gaskets, diaphragms and seals which will require renewal.
13 Remove the diaphragm units, invert the carburettor and extract the throttle valve block screws. Do not attempt to dismantle the throttle flap plates or spindles.
14 Remove the choke housing cover and housing if necessary. Clean, inspect and renew any worn items.
15 As reassembly progresses, carry out the following adjustments.

Initial throttle opening

16 To adjust the initial throttle opening, fully close the choke flaps with the fingers and set the adjusting screw (1 – Fig. 3.17) on the specified cam step (Fig. 3.18).
17 Using a twist drill or similar gauge, check that the gap between the primary throttle flap and barrel is as given in the Specifications. If not, turn the screw as necessary.

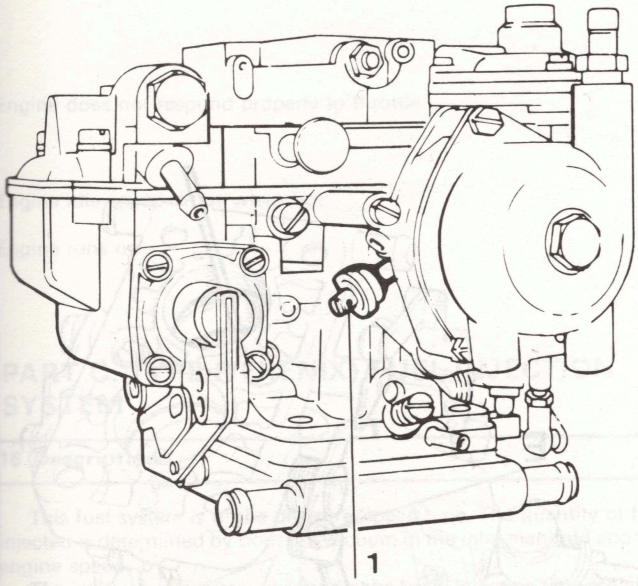

Fig. 3.17 Initial throttle opening adjusting screw (1) on the Weber 32 DARA carburettor (Sec 14)

Automatic choke (vacuum part-open) setting

18 To adjust the automatic choke (vacuum part-open setting) remove the cover and bi-metallic spring then manually close the choke flaps. Fully raise the vacuum capsule pushrod and turn the choke operating lever against it. Using a twist drill check that the gap between the choke flap and barrel is as given in the Specifications. If not, turn the adjusting screw inside the top of the vacuum capsule as necessary. Refit the bi-metallic spring and cover, making sure that the spring engages the lever correctly and the assembly marks on the cover and body are in alignment.

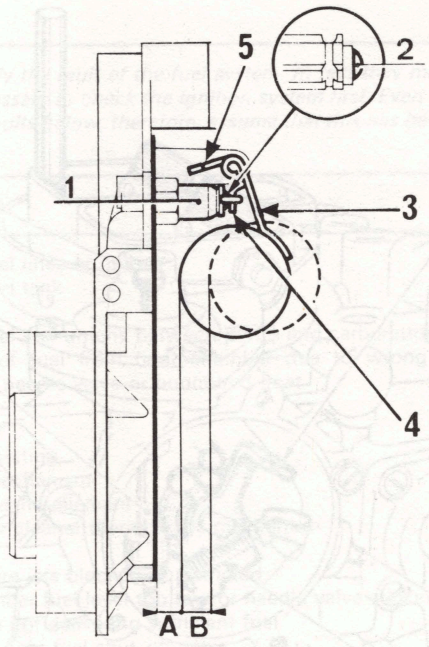

Fig. 3.16 Float setting diagram (Sec 14)

1 Fuel inlet needle valve
2 Needle valve ball
3 Float arm
4 Valve operating tab
5 Tab
A Float to gasket surface = 7.0 mm (0.28 in)
A + B (float stroke) = 15.0 mm (0.59 in)

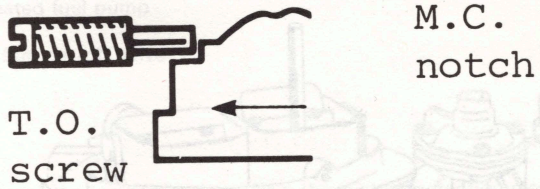

Fig. 3.18 Throttle opening screw on 'medium cold' cam notch (Sec 14)

Deflooding mechanism – adjustment

19 To adjust the deflooding mechanism, fully close the choke flaps manually then fully open the throttle lever. Using a twist drill check that the gap between the choke flaps and barrel is as given in the Specifications. If not, turn the adjusting screw as necessary. After making an adjustment check the initial throttle opening, as described in paragraphs 16 and 17.
20 To adjust the float level proceed as described in paragraph 10.

Defuming valve

21 Some carburettors are fitted with a defuming valve which vents the float chamber to atmosphere when idling.
22 To adjust, hold the choke flap open and depress the defuming valve lever (1 – Fig. 3.22). Using a twist drill, measure the throttle flap opening. If it is not as specified (see Specifications) turn the nut (E).

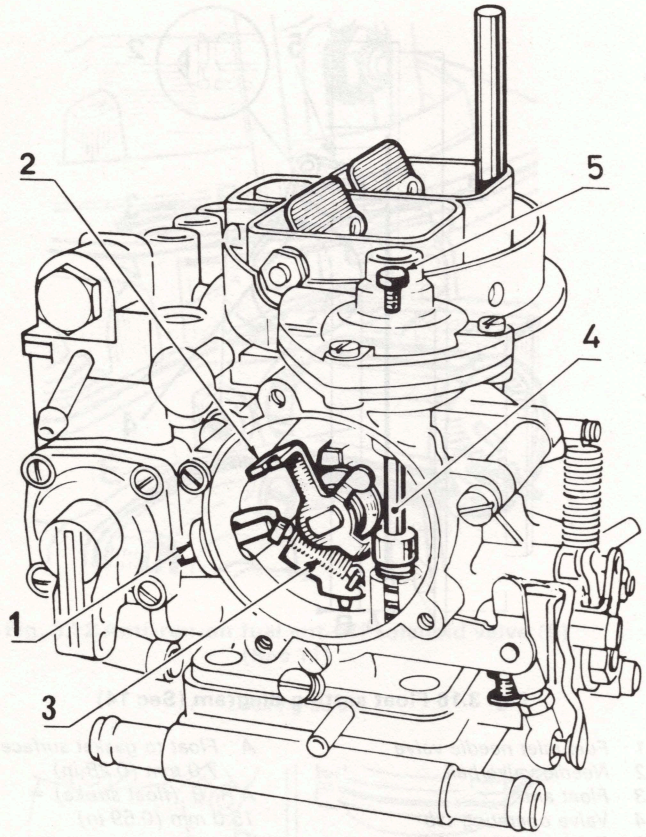

Fig. 3.19 Automatic choke adjustment (Sec 14)

1 Initial throttle opening screw
2 Operating lever
3 Cam
4 Pushrod
5 Adjusting screw

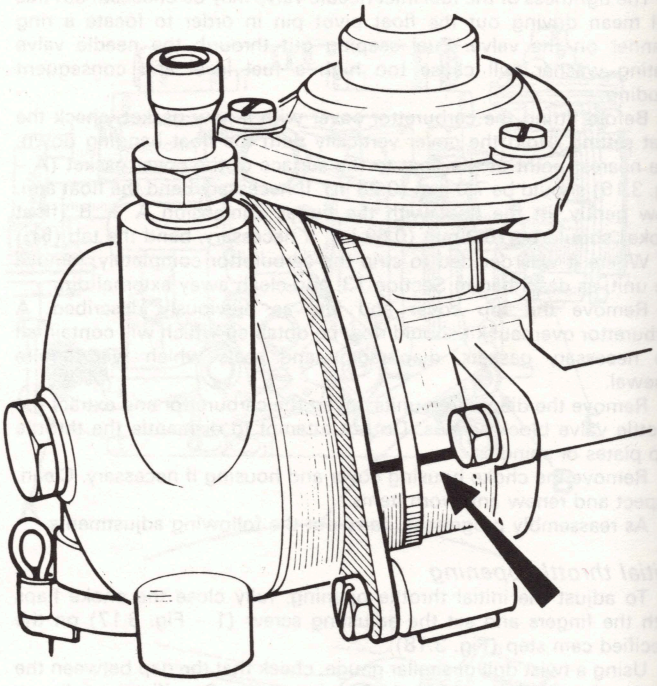

Fig. 3.20 Automatic choke housing alignment marks (Sec 14)

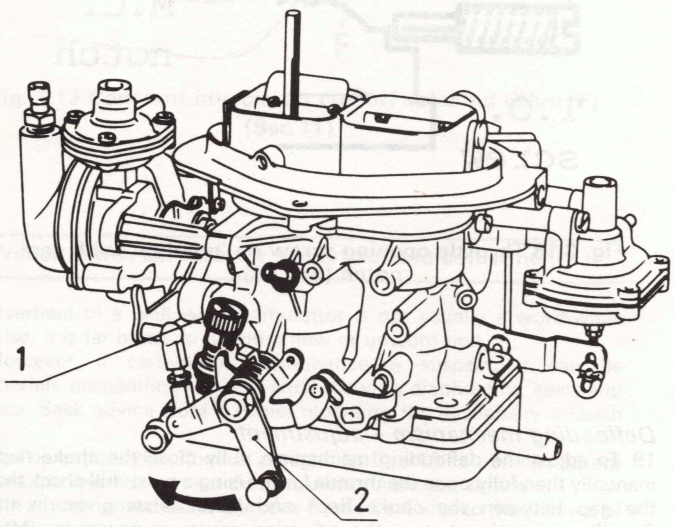

Fig. 3.21 Deflooding mechanism (Sec 14)

1 Adjusting screw
2 Throttle lever

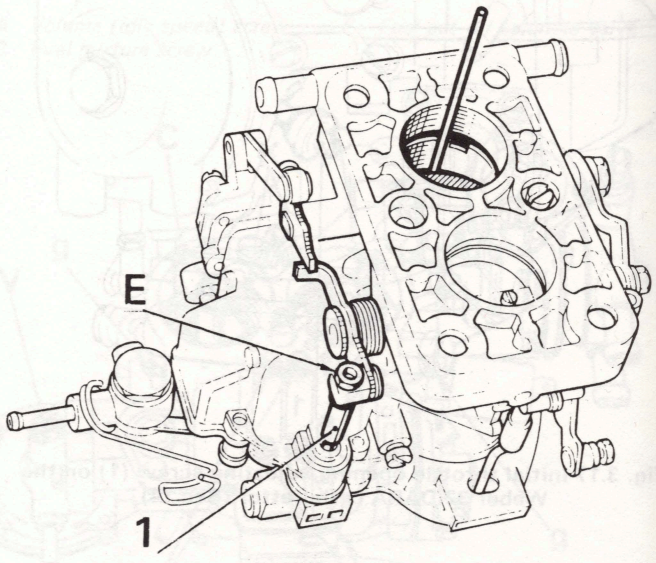

Fig. 3.22 Adjusting defuming valve (Sec 14)

E Nut
1 Valve lever