

Chapter 4 Part A: Fuel and exhaust systems - carburettor engines

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Degrees of difficulty

Easy , suitable for novice with little experience 	Fairly easy , suitable for beginner with some experience 	Fairly difficult , suitable for competent DIY mechanic 	Difficult , suitable for experienced DIY mechanic 	Very difficult , suitable for expert DIY or professional 
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Specifications

Fuel grade

Fuel octane requirement 95 RON unleaded

Fuel pump

Delivery pressure 0.24 to 0.38 bars

Carburettor (general)

Type Twin choke, downdraught

Application/identification:

1.3 HCS engine Weber 2V TLDM
 1.4 and 1.6 CVH engines Weber 2V TLD
 Choke type Manual or automatic

Weber TLDM carburettor

Idle speed and mixture settings See Chapter 1 Specifications

Fast idle speed 2500 rpm

Float height 28 to 30 mm

Throttle kicker operating speed (automatic transmission) 1800 to 2000 rpm

	Primary	Secondary
Venturi diameter	19	20
Main jet	90	122
Emulsion jet	F113	F75
Air correction jet	185	130

Weber TLD carburettor

Idle speed and mixture settings	See Chapter 1 Specifications	
Float height:		
1.4 litre	31.0 ± 0.5 mm	
1.6 litre (without air conditioning)	31.0 ± 0.5 mm	
1.6 litre (with air conditioning)	29.0 ± 0.5 mm	
Choke vacuum pull-down:		
1.4 litre	3.1 ± 0.5 mm	
1.6 litre	2.7 ± 0.5 mm	
Choke fast idle (on kickdown step):		
1.4 litre	1900 ± 50 rpm	
1.6 litre (with manual steering)	1750 ± 50 rpm	
1.6 litre (with power steering)	Module-controlled	
Venturi diameter:	Primary	Secondary
1.4 litre	20	22
1.6 litre	21	23
Main jet:		
1.4 litre	107	140
1.6 litre (without air conditioning)	115	140
1.6 litre (with air conditioning)	115	127
Emulsion tube		
1.4 litre	F105	F75
1.6 litre (without air conditioning)	F105	157
1.6 litre (with air conditioning)	F105	171
Air correction jet:		
1.4 litre	195	170
1.6 litre (without air conditioning)	180	150
1.6 litre (with air conditioning)	185	125
Throttle kicker speed:		
1.4 litre	1400 rpm	
1.6 litre	1300 rpm	

1 General information and precautions

The fuel system on all models with carburettor induction comprises a rear-mounted fuel tank, a mechanical diaphragm fuel pump, a carburettor and an air cleaner.

The fuel tank is mounted at the rear, under the floorpan behind the rear seats. The tank has a “ventilation-to-atmosphere system” through a combined roll-over/anti-trickle fill valve assembly, located in the left-hand rear wheel arch. A filler neck sensing pipe, integral with the fuel tank filler pipe, will shut off the fuel pump filler gun when the predetermined maximum level of fuel is reached in the tank, so preventing spillage and wastage. A conventional fuel level sender unit is mounted in the top face of the fuel tank.

One of two fuel pump types will be fitted, depending on the engine type. On HCS engines, the fuel pump is operated by a pivoting rocker arm; one end rests on an eccentric lobe on the engine camshaft, and the other end is attached to the fuel pump diaphragm. The pump fitted to the CVH engine is operated by a separate pushrod, one end rests on an eccentric lobe on the engine camshaft, and the other rests on the pump actuating rod which operates the diaphragm. Both types of mechanical pump incorporate a nylon filter, and are of sealed type (they cannot be serviced or overhauled).

A twin-venturi Weber carburettor is fitted, further details being given in later Sections of this Chapter.

The air cleaner incorporates a “waxstat” controlled air intake, supplying either hot air from a shroud mounted around the exhaust manifold, or cool air from a duct in the front of the vehicle.

Precautions



Warning: Many of the procedures in this Chapter require the removal of fuel lines and connections, which may result in some fuel spillage. Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand. Before carrying out any operation on the fuel system, refer also to the precautions given in “Safety first!” at the beginning of this manual, and follow them implicitly. Petrol is a highly-dangerous and volatile liquid, and the precautions necessary when handling it cannot be overstressed.

Reference must also be made to Chapter 5, Section 1 for precautionary notes concerning the ignition system and battery disconnection, and to any further safety-related text contained within the appropriate Section, before working on the vehicle. When disconnecting the automatic choke or other coolant hoses, ensure that the cooling system is not pressurised (refer to Chapter 2). *Do not work on or near a hot cooling system.*

Certain adjustment points in the fuel system are protected by tamperproof caps, plugs or seals. In some territories, it is an offence to drive a vehicle with broken or missing tamperproof seals. Before disturbing a tamperproof seal, first check that no local or national laws will be broken by doing so, and fit a new tamperproof seal after adjustment is complete, where required by law. Do not break tamperproof seals on any vehicle whilst it is still under warranty.

When working on fuel system components, scrupulous cleanliness must be observed, and care must be taken not to introduce any foreign matter into the fuel lines or components. Carburettors in particular are delicate instruments, and care must be taken not to disturb any components unnecessarily. Before attempting work on a carburettor, ensure that the relevant spares are available; it should be noted that a complete strip down of a carburettor is unlikely to cure a fault which is not immediately obvious, without introducing new problems. If persistent problems occur, it is recommended that the



2.4A Disconnecting the oil separator/crankcase ventilation hose from the air cleaner (CVH engine)

services of a Ford dealer or a carburettor specialist are sought. Most dealers will be able to provide carburettor rejetting and servicing facilities. Where necessary, it may be possible to purchase a reconditioned carburettor.

2 Air cleaner - removal and refitting



Note: Air cleaner element renewal and air cleaner temperature control system checks are described in Chapter 1.

Removal

- 1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).
- 2 On CVH engine models, pull free and release the accelerator cable from the locating clip on the side of the air cleaner.
- 3 Undo the three retaining bolts, and partially lift the air cleaner from the carburettor so that the hose and wiring connections to the underside of the air cleaner body are accessible.
- 4 Note their connections and routings, then detach the wiring and hoses from the underside of the air cleaner. On CVH engines, also disconnect the vacuum hose from the inlet manifold (see illustrations).
- 5 Lift the air cleaner clear from the carburettor.
- 6 If required, the intake air temperature



3.2 Disconnecting the accelerator cable from the pedal



2.4B Disconnecting the vacuum hose from the inlet manifold (CVH engine)

sensor can be unscrewed and removed from the base of the air cleaner (where fitted).

Refitting

- 7 Refit in the reverse order of removal. Renew any hoses that are perished or cracked, and ensure that all fittings are securely and correctly reconnected.

3 Accelerator cable (manual transmission models) - removal, refitting and adjustment

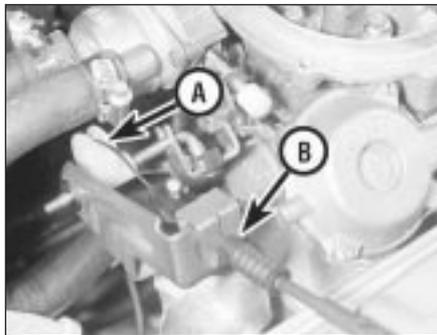


Removal

- 1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).
- 2 Working inside the vehicle, disconnect the cable from the top of the accelerator pedal, release the grommet and pull the cable free from the pedal (see illustration). Withdraw the cable through the engine side of the bulkhead.
- 3 Refer to Section 2 and remove the air cleaner.
- 4 Detach the inner cable from the carburettor linkage (see illustrations).
- 5 Prise free the retaining clip, detach the outer cable from the support bracket, and remove the cable.

Refitting and adjustment

- 6 To refit the cable, feed the inner cable



3.4A Accelerator inner (A) and outer (B) cable connection to the CVH engine



2.4C Disconnecting the intake air temperature sensor connector (CVH engine)

through the bulkhead, and reconnect the inner cable to the accelerator pedal.

- 7 Locate the grommet in the bulkhead, then push the outer cable into it to secure it in the bulkhead.

8 Lubricate the cable grommet at the carburettor end with a mild soapy solution, then reconnect the cable to the carburettor. Locate the outer cable by pulling it towards the rocker cover.

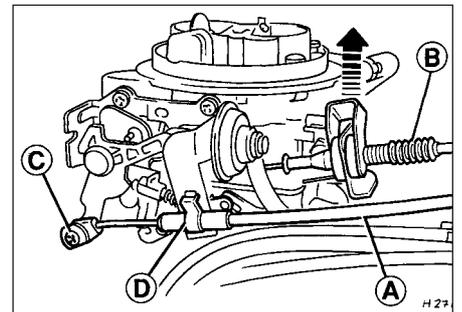
9 Have an assistant depress the accelerator pedal fully, and hold it in this position. The outer cable should be seen to move in its grommet. Refit the securing clip to the bracket, then release the accelerator pedal.

10 Depress the accelerator pedal, then release it and check that the throttle opens and shuts fully. Further adjust if necessary before refitting the air cleaner and reconnecting the battery.

4 Accelerator (cam plate) cable (CTX automatic transmission models) - adjustment

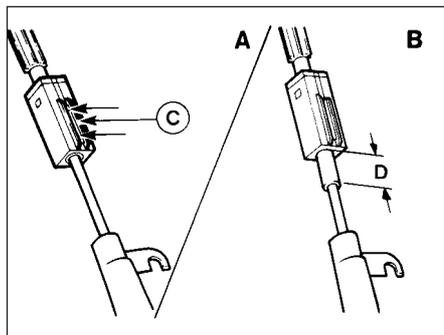


- 1 Refer to Section 2 and remove the air cleaner.
- 2 Release the cable by pressing the orange (or red) button on the cable auto adjuster mechanism. As the cable is released, it will be



3.4B Cable connections to the carburettor on the HCS engine

- A Choke cable
- B Accelerator cable
- C Choke cable inner cable connection
- D Choke cable support bracket connection



4.2 Cam plate cable release showing cable taut (A) and released (B). Also shown are the release button (C) and 20 mm pre-adjustment/10 mm post-adjustment minimum protrusion (D)

heard to click. The cable shoulder will now be seen to protrude from the adjuster mechanism by approximately 20 mm (see illustration).

3 Turn the cam plate by hand so that the throttle moves to the fully-open position. Now release the cam plate and close the throttle. The cable will automatically adjust as required, and the adjuster will be heard to click as it makes the adjustment. The cable shoulder will now be seen to protrude from the auto adjuster mechanism by approximately 10 mm.

4 Remove the clip from the cable adjusting sleeve at the carburettor bracket, and pull the adjusting sleeve right out (see illustration).

5 Have an assistant fully depress the accelerator pedal, then refit the clip to the cable adjusting sleeve. Release the pedal.

6 Depress the accelerator pedal once or twice, to check that the throttle opens fully. If necessary, repeat paragraphs 4 and 5.

7 Refit the air cleaner as described in Section 2, and reconnect the battery earth lead.

5 Accelerator pedal - removal and refitting



Removal

1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

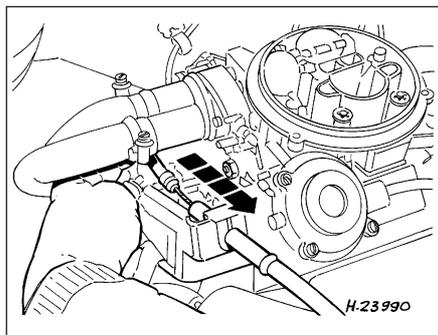
2 Peel back the carpet and insulation from the driver's footwell to allow access to the accelerator pedal.

3 Detach the accelerator cable from the pedal (see Section 3), then release the circlip from the pivot shaft and remove the accelerator pedal.

Refitting

4 Refit in the reverse order of removal. On completion, check the action of the pedal and the cable to ensure that the throttle has full unrestricted movement, and fully returns when released.

5 Reconnect the battery earth lead.



4.4 Remove the clip from the cable adjusting sleeve at the carburettor bracket, and pull the adjusting sleeve right out

6 Choke cable - removal, refitting and adjustment



Removal

1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

2 Refer to Section 2 and remove the air cleaner.

3 Carefully prise free the choke inner cable from its linkage connection on the carburettor, then release the outer cable from the support bracket.

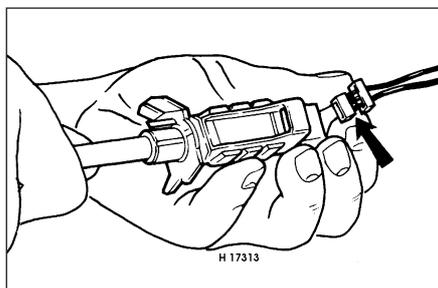
4 Release the choke control knob from the cable by depressing the retaining pin on the underside of the knob.

5 Undo the choke control-to-trim retaining collar.

6 Undo and remove the screw securing the choke control recessed trim, and remove the trim and cable control. Detach the "choke on" warning light lead from the control, then withdraw the choke cable from the facia trim (passing it through the bulkhead) (see illustration).

Refitting

7 To refit the cable, first pass it through the bulkhead and trim panel, then refit the retaining collar and attach the wiring connector. Fit the trim recess to the main trim



6.6 Disconnecting the wiring connector from the choke control (control unit removed for clarity)

panel, and tighten the retaining screw to secure. Push the knob into position on the choke cable control so that it is felt to lock into engagement.

8 Reconnect the inner choke cable to the carburettor linkage.

9 Pull the choke control knob fully out (to the full-on position). Return to the carburettor end, and move the choke lever by hand to its full-on position; hold it there whilst simultaneously reconnecting the outer cable to its support bracket.

Adjustment

10 To check that the choke cable is correctly adjusted, the control knob must be pulled out to the full-on position and the choke lever must be in contact with its stop (see illustration). Adjust as required if necessary.

11 Press the choke knob fully in (to the off position), then check that the choke linkage at the carburettor has fully returned to its off position and the choke valve plate in the carburettor is at a right angle (90°) to the venturi.

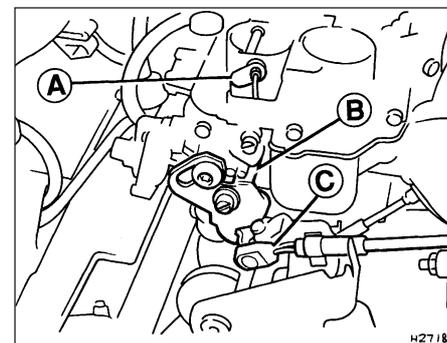
12 Refit the air cleaner.

13 Reconnect the battery, turn the ignition on, operate the choke and check that the choke warning light operates correctly.

7 Fuel pump - testing, removal and refitting

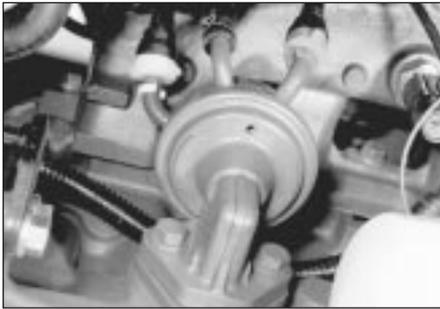


Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

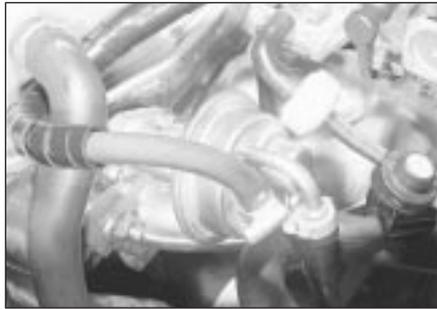


6.10 Choke cable adjustment

A Choke lever B Full choke stop
C Cable in "full-on" position



7.1A Underside view of the fuel pump fitted to the HCS engine



7.1B Fuel pump location on the CVH engine



7.10 Fuel pump removal from the CVH engine

Testing

1 Access to the fuel pump on HCS engine models is best gained from underneath the vehicle (see illustrations). Apply the handbrake, then raise and support it on axle stands at the front end.

2 The fuel pump may be tested by disconnecting the fuel feed pipe from the carburettor, and placing the pipe's open end in a suitable container.

3 Detach the multi-plug from the DIS ignition coil, to prevent the engine from firing.

4 Actuate the starter motor. If the fuel pump is in good working order, regular well-defined spurts of fuel should eject from the open end of the disconnected fuel pipe.

5 If this does not occur, and there is fuel in the tank, the pump is defective and must be renewed. The fuel pump is a sealed unit, and cannot be repaired.

Removal

6 Two types of mechanical fuel pump are fitted, the application depending on the engine type. Some models may also be fitted with a fuel vapour separator; if this is removed, its hoses should be labelled to avoid the possibility of confusion and incorrect attachment on refitting.

7 To remove the fuel pump, first disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

8 Where applicable, remove the air cleaner to improve access to the fuel pump (see Section 2).

9 Disconnect the fuel hoses from the fuel pump, noting their respective connections for refitting. Where quick-release couplings are used on the fuel hoses, release the protruding locking lugs on each union, by squeezing them together and carefully pulling the coupling apart. Use rag to soak up any spill fuel. Where the unions are colour-coded, the pipes cannot be confused. Where both unions are the same colour, note carefully which pipe is connected to which, and ensure that they are correctly reconnected on refitting. Plug the hoses to prevent fuel spillage and the ingress of dirt.

10 Unscrew and remove the retaining bolts or nuts (as applicable) and remove the fuel pump (see illustration).

11 Recover the gasket/spacer and if required, withdraw the pump operating pushrod (CVH engines only) (see illustration).

12 Thoroughly clean the mating faces on the pump and engine.

Refitting

13 Refit in the reverse order of removal. Be sure to use a new gasket, and tighten the securing bolts/nuts securely. Ensure that the hoses are correctly and securely reconnected. If they were originally secured with crimped type hose clips, discard them and fit screw clamp type clips. Where quick-release couplings are fitted, press them together until the locking lugs snap into their groove.

14 When the engine is restarted, check the pump connections for any signs of fuel leaks.

8 Fuel tank - removal, inspection and refitting



Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas type appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

Removal

1 Run the fuel level as low as possible prior to removing the tank.

2 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

3 Remove the fuel filler cap, then syphon or pump out the remaining fuel from the fuel tank (there is no drain plug). The fuel must be emptied into a suitable container for storage.

4 Chock the front wheels, then raise and support the vehicle on axle stands at the rear.

5 Disconnect the fuel filler pipe from the fuel tank (see illustration). Drain any remaining fuel into the container for safe storage, and plug the hose and tank connections.



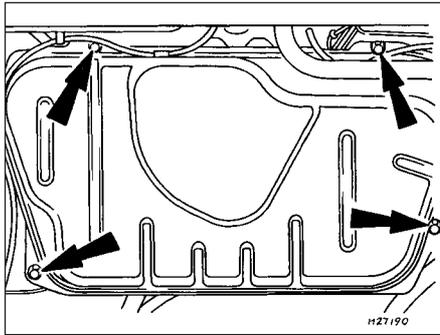
7.11 Withdrawing the fuel pump pushrod from the CVH engine



8.5 Fuel filler pipe connection to the fuel tank. Note the handbrake cable locating strap



8.6 Fuel tank sensing hose-to-pipe connection (arrowed)



8.7A Fuel tank retaining bolt locations (arrowed)

Disconnect the handbrake cable locating strap from the fuel filler pipe on the tank.

6 Disconnect the filler neck sensing hose from the rear of the tank (see illustration).

7 Support the underside of the fuel tank to hold it in position, then remove the four tank retaining bolts (see illustrations).

8 Partially lower the fuel tank, and detach the ventilation tube from the tank top surface. Also disconnect the fuel gauge sender unit wiring multi-plug and the fuel hoses. Where quick-release couplings are used on the fuel hoses, release the protruding locking lugs on each union, by squeezing them together and carefully pulling the coupling apart.

9 Slowly lower the tank, and as it is withdrawn, detach the filler pipe.

Inspection

10 Whilst removed, the fuel tank can be inspected for damage or deterioration. Removal of the sender unit (see Section 9) will allow a partial inspection of the interior. If the tank is contaminated with sediment or water, swill it out with clean petrol. Do not under any circumstances undertake any repairs on a leaking or damaged fuel tank; this work must be carried out by a professional who has experience in this critical and potentially-dangerous work.

11 Whilst the fuel tank is removed from the vehicle, it should not be placed in an area where sparks or open flames could ignite the fumes coming out of the tank. Be especially careful inside garages where a natural-gas type appliance is located, because the pilot light could cause an explosion.

12 Check the condition of the filler pipe seal in the fuel tank, and renew it if necessary.

Refitting

13 Refitting is a reversal of the removal procedure. Apply a light smear of grease to the filler pipe seal, to ease fitting. Ensure that all connections are securely fitted. Where quick-release fuel couplings are fitted, press them together until the locking lugs snap into their groove. If evidence of contamination was found, do not return any previously-drained fuel to the tank unless it is carefully filtered first.



8.7B Fuel tank securing bolt at the front edge

9 Fuel gauge sender unit - removal and refitting



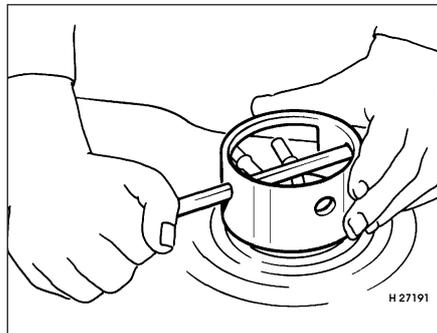
Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas type appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

Note: Ford specify the use of their service tool 23-014 or 23-026 (a large box spanner with projecting teeth to engage the fuel gauge sender unit retaining ring's slots) for this task. While alternatives are possible, in view of the difficulty experienced in removing and refitting the sender unit, owners are strongly advised to obtain the correct tool before starting work. The help of an assistant will be required.

Removal

1 Remove the fuel tank as described in Section 8.

2 Engage the special tool into the sender unit then carefully turn the sender unit and release it from the tank (see illustration).



9.2 Sender unit removal from the fuel tank using special tool No 23-014

Refitting

3 Refit the sender unit in the reverse order of removal. Be sure to fit a new seal, and lubricate it with a smear of grease to prevent it from distorting when fitting the sender unit.

10 Roll-over valve - removal and refitting



Removal

1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

2 Chock the front wheels, then raise and support the vehicle at the rear on axle stands. Remove the rear wheel on the fuel filler cap side to improve the access under the wheel arch.

3 Undo the retaining screw, withdraw the roll-over valve from the filler pipe, detach the vent hoses and remove the valve (see illustration).

Refitting

4 Refit in the reverse order of removal.

11 Fuel tank filler pipe - removal and refitting



Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

Removal

1 Refer to Section 8 and remove the fuel tank.

2 Detach the roll-over valve clamp, undo the filler pipe securing screws, then lower the pipe from the vehicle.



10.3 Roll-over valve location on fuel filler pipe

Refitting

3 Refit in the reverse order of removal. Lubricate the filler pipe seal to ease assembly prior to fitting.

4 When the fuel tank is refitted, refill with fuel, and check for any signs of leaks from the filler pipe and associated connections.

12 Carburettor (Weber TLDM) - description

The carburettor is of twin venturi, downdraught type, featuring a fixed size main jet system, adjustable idle system, a mechanically-operated accelerator pump, and a vacuum-operated power valve. A manually-operated cold start choke is fitted, and a throttle kicker is utilised on some models (see illustration).

In order to comply with emission control regulations and maintain good fuel consumption, the main jets are calibrated to suit the 1/4 to 3/4 throttle range. The power valve is therefore only used to supply additional fuel during full-throttle conditions.

The accelerator pump is fitted to ensure a smooth transmission from the idle circuit to the main jet system. As the accelerator pedal is depressed, a linkage moves the diaphragm within the accelerator pump, and a small quantity of fuel is injected into the venturi, to prevent a momentary weak mixture and resultant engine hesitation.

The manually-operated choke features a vacuum-operated pull-down mechanism which controls the single choke plate under certain vacuum conditions.

The throttle kicker (where fitted) acts as an idle speed compensator, which operates when required under certain operating conditions to prevent stalling.

An anti-dieselling (fuel cut-off) solenoid is fitted to prevent the possibility of the engine running on after the ignition is switched off.

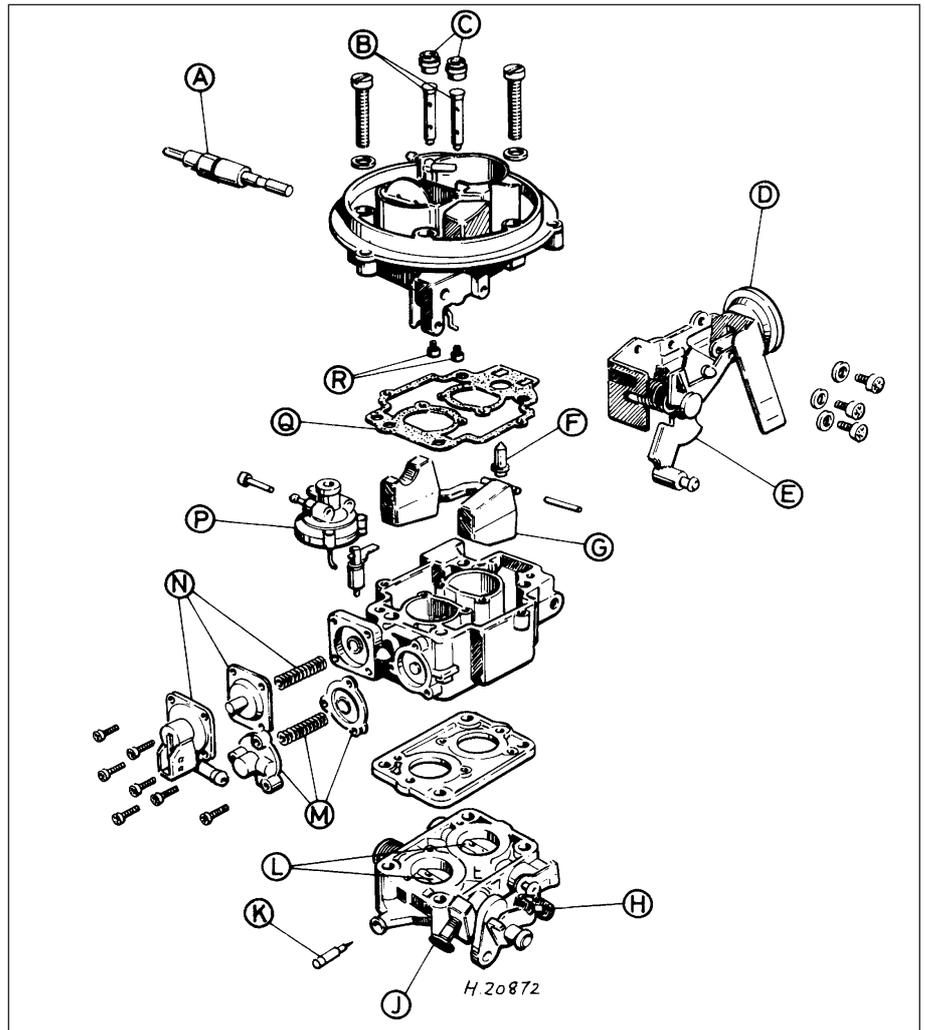
Adjustment procedures are described in Chapter 1, but it is important to note that accurate adjustments can only be made using the necessary equipment.

13 Carburettor (Weber TLDM) - fast idle adjustment



Note: Before carrying out any carburettor adjustments, ensure that the spark plug gaps are set as specified, and that all electrical and vacuum connections are secure. To carry out checks and adjustments, an accurate tachometer and an exhaust gas analyser (CO meter) will be required.

1 Check the idle speed and mixture settings as are as specified (as described in Chapter 1).



12.1 Exploded view of the Weber TLDM carburettor

- | | |
|---|----------------------------------|
| A Anti-dieselling (fuel cut-off) solenoid | J Idle speed adjustment screw |
| B Emulsion tubes | K Fuel mixture adjustment screw |
| C Air correction jets | L Throttle plates |
| D Choke pull-down diaphragm unit | M Power valve |
| E Manual choke linkage | N Accelerator pump |
| F Needle valve | P Throttle kicker (where fitted) |
| G Float | Q Upper body gasket |
| H Fast idle adjustment screw | R Main jets |

These must be correct before checking/adjusting the fast idle speed.

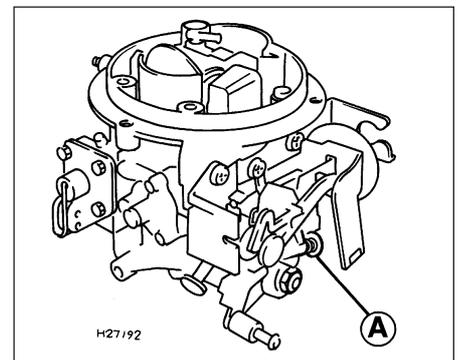
2 Switch the engine off, then remove the air cleaner as described in Section 2.

3 Actuate the choke by pulling the control knob fully out, then start the engine and note the engine fast idle speed. Compare it with the specified speed.

4 If adjustment is required, turn the fast idle adjuster screw clockwise to decrease, or anti-clockwise to increase, the fast idle speed (see illustration).

5 Recheck the fast idle and basic idle speeds.

6 On completion of the adjustment, stop the engine, detach the tachometer and CO meter, reconnect the radiator cooling fan lead, and refit the air cleaner.



13.4 Fast idle adjuster screw location (A) in the Weber TLDM carburettor



14.6A Slide out the float retaining pin . . .



14.6B . . . then detach the float and needle valve



14.7 Remove the needle valve housing and its washer

14 Needle valve and float (Weber TLDM carburettor) - removal, refitting and adjustment



Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

Note: New gaskets and a washer (seal) will be required when reassembling. A tachometer and an exhaust gas analyser (CO meter) will also be required to check the idle speed and mixture settings on completion.

Removal and refitting

- 1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).
- 2 Remove the air cleaner as described in Section 2.
- 3 Clean the exterior of the carburettor, then disconnect the fuel supply hose and the anti-dieselling solenoid wiring.
- 4 Disconnect the choke control cable.
- 5 Undo and remove the six retaining screws (four of which are Torx type) and carefully lift the carburettor upper body clear.
- 6 Invert and support the upper body of the carburettor for access to the float and pivot. Lightly tap out the float pivot pin, then withdraw the float, taking care not to distort the arms of the float (see illustrations).
- 7 Unscrew the needle valve housing, and extract it from the carburettor upper body (see illustration). Collect the washer from the threads of the needle valve housing.
- 8 Clean and inspect the components for signs of damage or wear, particularly the pivot holes in the float arm. Check the float for signs of leakage, by shaking it to see if it contains fuel. Clean the float chamber and jets (refer to

Section 17 for details). Renew any components as necessary.

9 Fit a new washer over the needle valve housing threads, and then carefully screw the valve unit into position in the upper body.

10 Refit the needle valve, float and retaining pin, ensuring that the tag on the float engages with the ball and clip of the needle valve.

11 Before refitting the upper body to the carburettor, check and if necessary adjust the float level as described in paragraphs 16 to 18. Also check the float and needle valve for free movement.

12 Clean the gasket contact faces, then locate a new gasket and refit the upper body to the carburettor.

13 Reconnect the fuel supply hose, anti-dieselling solenoid wiring and the choke cable. Adjust the choke cable as described in Section 6. If the fuel hose was originally secured with a crimped type clip, discard it and fit a screw clamp type.

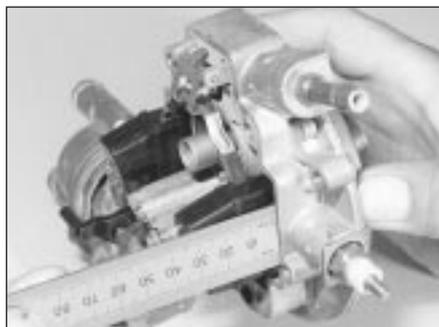
14 Refit the air cleaner as described in Section 2.

15 Reconnect the battery earth lead, then restart the engine and check the idle speed and mixture settings. Adjust if necessary as described in Chapter 1.

Float level adjustment

16 With the carburettor upper body removed as described in paragraphs 1 to 5 inclusive, proceed as follows.

17 Support the carburettor upper body vertically, ensuring that the needle valve is



14.17 Checking the float level adjustment (TLD carburettor shown) - adjustment tag arrowed

shut off. Locate the new upper body gasket onto the carburettor upper body, then measure the distance between the gasket and the bottom of the float (see illustration).

18 If the measurement is not as specified, adjust the setting by carefully bending the tag on the float as required, then recheck.

19 Refit with reference to paragraphs 12 to 15 inclusive.

15 Throttle kicker unit (Weber TLDM carburettor) - removal, refitting and adjustment



Note: A tachometer and exhaust gas analyser (CO meter) will be required to check and make any adjustment necessary.

Removal and refitting

- 1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).
- 2 Refer to Section 2 and remove the air cleaner.
- 3 Detach the vacuum hose from the kicker unit. Undo the two retaining screws, detach the linkage and remove the kicker unit.
- 4 Refitting the kicker unit is a reversal of the removal procedure. If the unit is to be checked for adjustment, loosely locate the air cleaner, reconnect the intake air temperature sensor multi-plug and the battery earth lead, then proceed as follows.

Adjustment

- 5 Start and run the engine up to its normal operating temperature (at which point the cooling fan will start to operate) then switch the engine off.
- 6 Remove the air cleaner again, then detach the wiring connector of the cooling fan thermostatic switch. Bridge the terminals in the connector with a suitable piece of wire to actuate the cooling fan and keep it running. Start the engine and run it at 3000 rpm for 30 seconds to stabilise it, then release the throttle and check (and if necessary adjust) the idle speed and mixture settings as described in Chapter 1. Stop the engine.
- 7 Detach the vacuum hose between the throttle kicker and the inlet manifold at source

(but not the vacuum supply to the ignition module). Connect a new length of vacuum hose directly between the manifold and the kicker unit.

8 Restart the engine and check the engine speed. The throttle kicker should increase the engine speed above its normal idle. Check the speed registered against the specified throttle kicker operating speed.

9 If required, the throttle kicker speed can be adjusted by prising free the tamperproof plug and the adjustment screw turned as necessary (see illustration).

10 When the adjustment is complete, stop the engine, fit a new tamperproof plug, disconnect the temporary vacuum hose (between the manifold and the kicker unit) and reconnect the original hose (between the carburettor and the kicker unit).

11 Remove the bridging wire, and reconnect the cooling fan thermostatic switch multiplug. Refit and secure the air cleaner, and disconnect the tachometer and CO meter to complete.

16 Carburettor (Weber TLDM) - removal and refitting



Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas type appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

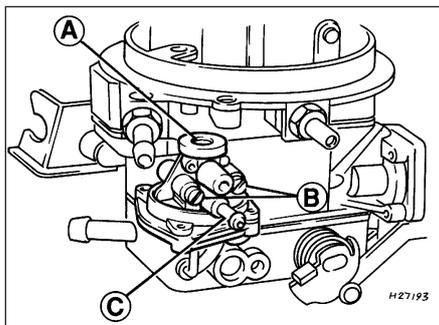
Note: New gaskets will be required on refitting, and a tachometer and an exhaust gas analyser will be required on completion.

Removal

1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).



17.2A Undo the retaining screws . . .



15.9 Throttle kicker unit showing adjustment point (A), vacuum take-off (B) and unit retaining screws (C)

2 Remove the air cleaner as described in Section 2.

3 Disconnect the accelerator cable from the carburettor (Section 3).

4 Disconnect the choke cable from the carburettor (Section 6).

5 Disconnect the fuel hose from the carburettor, and plug its end to prevent fuel spillage and the ingress of dirt. If a crimped type hose clip is fitted, cut it free, but take care not to damage the hose. Crimped clips must be discarded and replaced with screw clamp type clips during refitting.

6 Disconnect the wiring from the anti-dieselling solenoid.

7 Unscrew and remove the four carburettor-to-manifold retaining Torx head screws, then carefully lift the carburettor from the manifold.

Refitting

8 Clean the carburettor and manifold gasket mating faces.

9 Refit in the reverse order of removal. Fit a new gasket, and tighten the retaining screws securely. Ensure that the fuel supply hose connection to the carburettor is securely fitted, using a new screw clamp retaining clip.

10 Reconnect the accelerator cable, and adjust it as described in Section 3.

11 Reconnect the choke cable, and adjust it as described in Section 6.

12 Refer to Section 2 and refit the air cleaner.

13 When the battery is reconnected, start the engine and check the idle speed and mixture settings as described in Chapter 1.



17.2B . . . and remove the carburettor upper body

17 Carburettor (Weber TLDM) - dismantling, cleaning, inspection and reassembly



Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

Note: Check parts availability before dismantling. If possible, obtain an overhaul kit containing all the relevant gaskets, seals, etc, required for reassembly prior to dismantling the carburettor.

Dismantling

1 With the carburettor removed from the vehicle, prepare a clean, flat work surface prior to commencing dismantling. The following procedures may be used for partial or complete dismantling, as required.

2 Clean the exterior of the carburettor, then undo the two retaining screws and lift the upper carburettor body from the lower section (see illustrations).

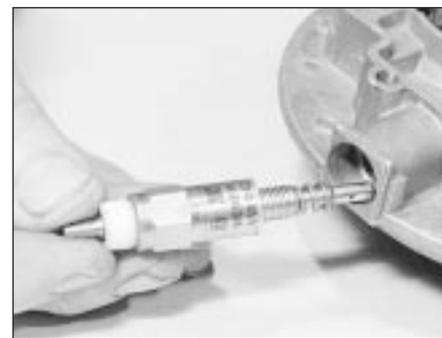
3 Remove the float and needle valve from the carburettor upper body, as described in Section 14.

4 Unscrew and remove the anti-dieselling solenoid from the upper body, but ensure that the seal washer is removed together with the valve. (see illustration).

5 Undo the three screws securing the choke mechanism, and detach it (see illustrations).

6 Unscrew and remove the two air correction jets from the underside of the upper body. Note the size and location of each, to ensure correct refitting.

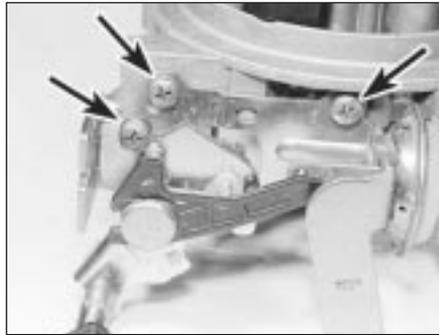
7 Invert the upper body so that the emulsion tubes can fall out of their apertures (above the air correction jets). Remove the emulsion



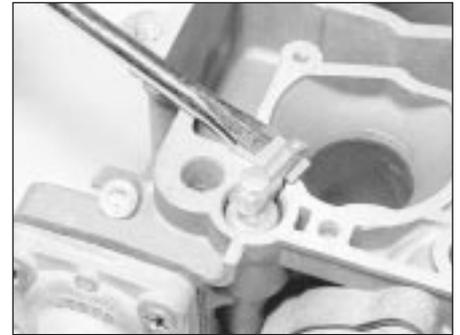
17.4 Extracting the anti-dieselling (fuel cut-off) solenoid



17.5A Detach the choke plate operating link ...



17.5B ... and undo the three retaining screws (arrowed) to detach the mechanism



17.10 Carefully prise out the accelerator pump discharge tube assembly



17.11A Remove the cover from the accelerator pump cover ...



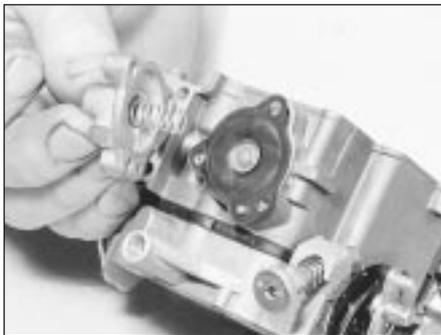
17.11B ... followed by the diaphragm ...



17.11C ... and the return spring and valve unit



17.12A Undo the power valve assembly securing screws ...



17.12B ... then detach the cover, return spring and diaphragm



17.14 Unscrew and remove the fuel mixture screw

tubes from their locations, again having noted the size and location of each.

8 Unscrew and remove the main jets, again having noted their fitted positions.

9 Dismantle the carburettor lower (main) body as follows.

10 Prise free the accelerator pump discharge tube, but take care not to damage it or the carburettor body (see illustration).

11 Undo the four screws securing the accelerator pump; remove the cover, followed by the diaphragm and return spring. The valve should come out on the end of the return spring (see illustrations). Check that the valve is complete and with its O-ring seal (where applicable).

12 Undo the three retaining screws, and remove the power valve unit. Remove the cover and return spring, followed by the diaphragm (see illustrations).

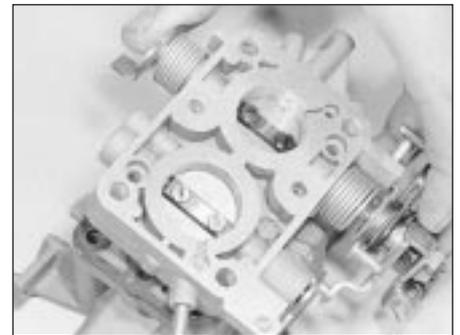
13 Where fitted, undo the retaining screws and remove the throttle kicker unit from the lower (main) body.

14 Prise free and remove the tamperproof seal, then unscrew and remove the fuel mixture screw (see illustration).

15 Undo the retaining screws, and remove the throttle housing from the carburettor main body (see illustration).

Cleaning and inspection

16 Wash the carburettor components, drillings and passages with clean petrol, then blow them dry using a low-pressure air line. A



17.15 Separating the throttle housing from the carburettor main body

high-pressure air line must not be applied to the accelerator pump discharge assembly or the pump supply valve, as they each contain a rubber Vernay valve, and these can easily be damaged under high pressure. *Never use a piece of wire for cleaning purposes.*

17 Examine all of the carburettor components for signs of damage or wear, paying particular attention to the diaphragms, throttle spindle and plates, needle valve and mixture screw; the power valve jet is adjacent to the primary main jet. Renew all diaphragms, sealing washers and gaskets as a matter of course.

Reassembly

18 Refit the throttle housing to the carburettor main body (fitting a new gasket), and secure with its retaining screws.

19 Refit the fuel mixture screw. Make an initial adjustment by screwing it fully in (but do not overtighten or screw it onto its seat), then unscrew it two full turns.

20 Where fitted, reassemble the throttle kicker, ensuring that its diaphragm lies flat, and that the relative position of the operating link to the kicker cover is correct.

21 Fit the power valve, ensuring that its diaphragm lies flat and the vacuum gallery aligns with the diaphragm and housing.

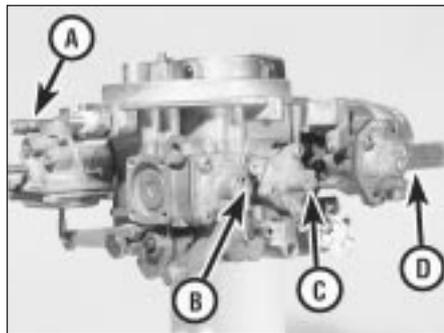
22 Refit the accelerator pump. Take care not to damage the valve as it is inserted, and check that the O-ring seal is correctly located on the end of the valve. Check that the valve is not trapped by the spring.

23 Refit the accelerator pump discharge jet. Take care not to damage the valve and/or the O-ring seal, and ensure that they are correctly located.

24 Commence reassembly of the upper body by inserting the emulsion tubes and the air correction jets into their respective ports (as noted during removal).

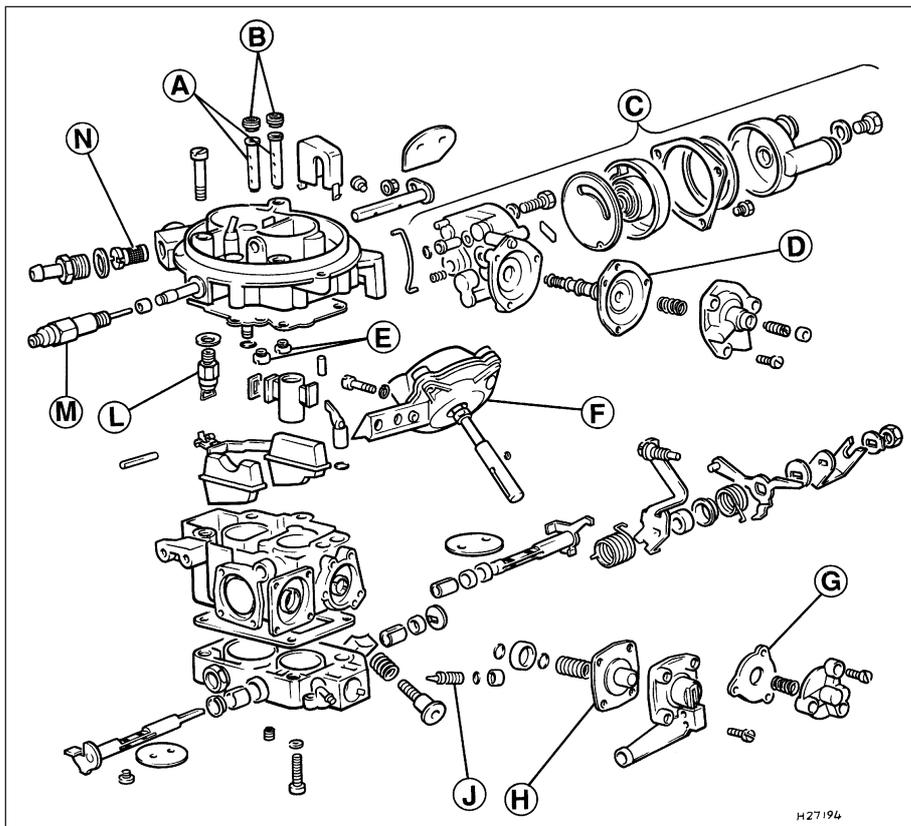
25 Screw the anti-dieselling solenoid into position. Ensure that the aluminium washer is fitted, and take care not to overtighten the valve.

26 Refit the needle valve and the float, and



18.1B General view of the Weber TLD type carburettor

- A Throttle kicker unit (not fitted on all models)
- B Accelerator pump
- C Power valve
- D Choke diaphragm (automatic choke)



18.1A Exploded view of the Weber TLD type carburettor as fitted to the 1.6 litre engine

- | | | |
|-----------------------------|------------------------------|---|
| A Emulsion tubes | F Secondary barrel diaphragm | J Mixture screw |
| B Air correction jets | G Power valve diaphragm | L Needle valve |
| C Automatic choke unit | H Accelerator pump diaphragm | M Anti dieselling (fuel cut-off) solenoid |
| D Choke pull-down diaphragm | | N Fuel supply filter |
| E Main jets | | |

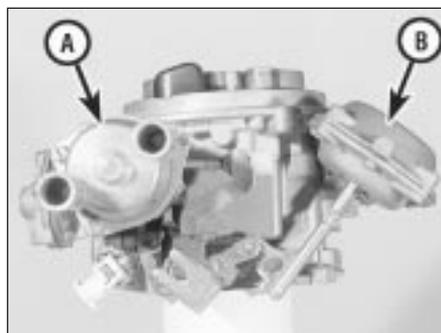
adjust the float setting as described in Section 14.

27 Refit the choke control mechanism, and secure with its three retaining screws.

28 Locate a new gasket onto the mating face, then refit the carburettor upper body to the main body. As they are reassembled, take

care not to snag the float on the carburettor main body. Fit and tighten the retaining screws to secure.

29 With the carburettor reassembled, refit it to the vehicle and adjust it as described in Chapter 1. Where applicable, check and adjust the throttle kicker setting.



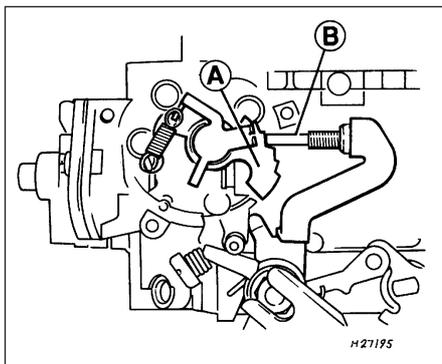
18.1C General view of the Weber TLD type carburettor

- A Automatic choke housing
- B Secondary barrel vacuum diaphragm

18 Carburettor (Weber TLD) - description

This carburettor incorporates many of the features of the TLDM type fitted to 1.3 litre HCS engines. The main differences are that the secondary venturi (barrel) is vacuum-operated, and that a coolant-heated automatic choke control system is fitted (see illustrations).

The choke system is fully automatic. When the engine is cold, the bi-metal spring which controls the position of the choke plate is fully wound up, and holds the plate closed. As the engine warms up, the bi-metal spring is heated by the coolant and begins to unwind,



19.3 Fast idle adjustment on the TLD carburettor showing the adjuster screw (B) on 4th step of the fast idle cam (A). Note that the housing is removed for clarity

thereby progressively opening the choke plate. A vacuum-operated pull-down mechanism controls the choke plate under certain operating conditions, and an internal fast idle system is incorporated.

The carburettors used on cars with CTX automatic transmission have a throttle position sensor and throttle plate (idle speed) control motor for additional control of certain engine functions. A similar system is used on cars equipped with air conditioning.

19 Carburettor (Weber TLD) - fast idle speed adjustment



Note: Before carrying out any carburettor adjustments, ensure that the spark plug gaps are set as specified, and that all electrical and vacuum connections are secure. To carry out checks and adjustments, an accurate tachometer and an exhaust gas analyser (CO meter) will be required.

1 Check that the idle speed and mixture settings are as specified (as described in Chapter 1). These must be correct before checking/adjusting the fast idle speed.

2 Switch the engine off, then remove the air cleaner as described in Section 2.

3 With the engine at its normal operating temperature and a tachometer connected in accordance with its manufacturer's instructions, hold the throttle linkage partly open, then close the choke plate until the fast idle adjustment screw aligns with the 4th step on the fast idle cam (see illustration). Release the throttle linkage so that the fast idle speed adjustment screw rests on the cam. Release the choke plate. The linkage will hold it in the fast idle speed setting position, as long as the accelerator pedal is not depressed.

4 Without touching the accelerator pedal, start the engine and record the fast idle speed achieved. If adjustment is required, turn the fast idle speed adjuster screw until the specified fast idle speed is obtained.

5 When the throttle linkage is opened, the



20.2 Coolant hose connections to the automatic choke unit

choke plate should return to its fully-open position. If this does not happen, either the engine is not at its normal operating temperature, or the automatic choke mechanism is faulty.

6 Switch off the engine and disconnect the tachometer. Refit the air cleaner.

20 Needle valve and float (Weber TLD carburettor) - removal, refitting and adjustment

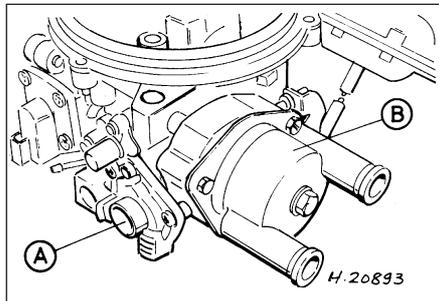


1 Refer to Section 14 and proceed as described, noting the following difference.

2 In paragraph 4, ignore the instruction to detach the choke cable (an automatic choke is fitted to the TLD type carburettor). Instead, clamp the coolant supply and return hoses which lead to the automatic choke unit to minimise coolant loss, then ensure that the cooling system is not pressurised (see Chapter 3). Identify then detach both of the coolant hoses at the automatic choke housing (see illustration). Catch any coolant spillage in a suitable container.



Warning: DO NOT attempt to remove the expansion tank filler cap, or to disturb any part of the cooling system, while it or the engine is hot, as there is a very great risk of scalding. If the expansion tank filler cap must be removed before the engine and radiator have fully cooled down (even though this is not recommended) the



21.4 Automatic choke unit on the Weber TLD carburettor, showing the pull-down diaphragm housing (A) and the choke bi-metal spring housing (B)

pressure in the cooling system must first be released. Cover the cap with a thick layer of cloth, to avoid scalding, and slowly unscrew the filler cap until a hissing sound can be heard. When the hissing has stopped, showing that pressure is released, slowly unscrew the filler cap further until it can be removed; if more hissing sounds are heard, wait until they have stopped before unscrewing the cap completely. At all times, keep well away from the filler opening.

3 On completion, reconnect the hoses to the automatic choke unit, and remove the clamps from the hoses. Check and top-up the coolant level on completion (see Chapter 1).

21 Automatic choke (Weber TLD carburettor) - adjustment



1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

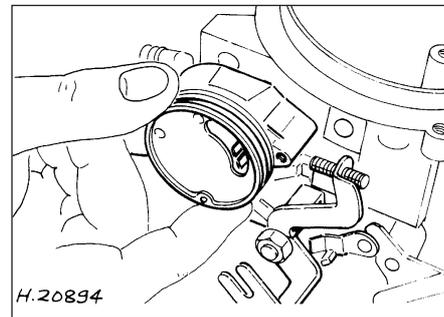
2 Remove the air cleaner as described in Section 2.

3 Disconnect the coolant hoses to the choke unit as described in paragraph 2 of the previous Section.

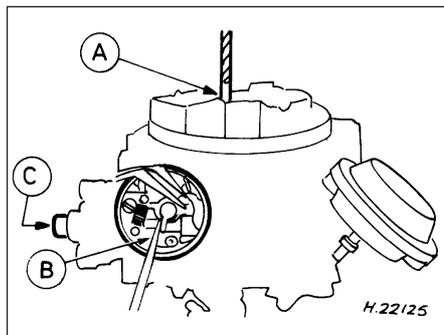
4 Note the position of the choke coil housing alignment marks, then undo the three retaining screws and withdraw the automatic choke bi-metal coil housing (see illustration). 5 Remove the inner heat shield (see illustration). To check and adjust the choke vacuum pull-down, secure the choke plate lever in the closed position by fitting a rubber band, open the throttle to allow the choke plate to fully close, then release the throttle.

6 Using a screwdriver, push the operating arm to the right against its spring, and measure the clearance between the lower edge of the choke plate and the venturi using a twist drill or other suitable gauge rod (see illustration). Where the clearance is outside that specified, remove the plug from the diaphragm housing, and turn the adjuster screw (now exposed) in the required direction. 7 Fit a new diaphragm housing plug and remove the rubber band.

8 Refit the heat shield so that its slotted hole engages over the choke housing peg.



21.5 Removing the inner heat shield from the automatic choke housing



21.6 Choke plate pull-down adjustment on the Weber TLD carburettor

A Twist drill

B Screwdriver in contact with operating arm

C Adjuster screw

9 Refit the bi-metal coil housing by first connecting the bi-metal spring to the choke lever (ensuring correct engagement), locate the housing and hand-tighten the three retaining screws. Rotate the housing to align the index line on the housing with the dot mark on the choke main body, then retighten the retaining screws (see illustration).

10 Reconnect the coolant hoses with reference to paragraph 3 in the previous Section.

11 Refit the air cleaner as described in Section 2.

22 Automatic choke (Weber TLD carburettor) - removal, inspection and refitting



Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

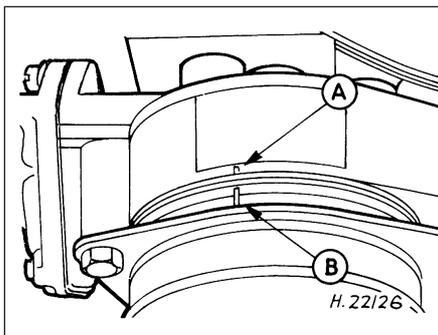
Note: A new carburettor upper body gasket will be required when reassembling. On completion, a tachometer will be required to check the fast idle speed adjustment.

Removal

1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

2 Remove the air cleaner as described in Section 2.

3 To prevent excess coolant loss, clamp the coolant supply and return hoses to the automatic choke unit, and ensure that the cooling system is not pressurised (see Chapter 3). Identify then detach both of the



21.9 Index marks on the automatic choke housing (B) and body (A) should be in alignment

coolant hoses at the automatic choke housing. Catch any coolant spillage in a suitable container.



Warning: DO NOT attempt to remove the expansion tank filler cap, or to disturb any part of the cooling system, while it or the engine is hot, as there is a very great risk of scalding. If the expansion tank filler cap must be removed before the engine and radiator have fully cooled down (even though this is not recommended) the pressure in the cooling system must first be released. Cover the cap with a thick layer of cloth, to avoid scalding, and slowly unscrew the filler cap until a hissing sound can be heard. When the hissing has stopped, showing that pressure is released, slowly unscrew the filler cap further until it can be removed; if more hissing sounds are heard, wait until they have stopped before unscrewing the cap completely. At all times, keep well away from the filler opening.

4 Detach the fuel pipe and the anti-dieselling solenoid wiring connector. Any crimped type hose clips must be replaced with a screw clamp type clips during reassembly.

5 Unscrew and remove the retaining screws (two conventional, and four Torx type), then

lift the carburettor upper body clear and remove it.

6 Note the position of the choke housing alignment marks, then undo the three retaining screws and remove the choke bi-metal coil unit. Remove the internal heat shield.

7 To remove the automatic choke unit, undo the three retaining screws and detach the choke link from the operating lever.

8 Undo the three retaining screws to remove the vacuum diaphragm unit.

9 If dismantling the choke mechanism any further, note the component fitment as an aid to reassembly, but do not detach the choke spindle (see illustration).

Inspection

10 Clean and inspect all components for wear, damage and/or distortion. Pay particular attention to the condition of the vacuum (pull-down) diaphragm and the choke housing O-ring. Renew any items that are defective (or suspect).

Refitting

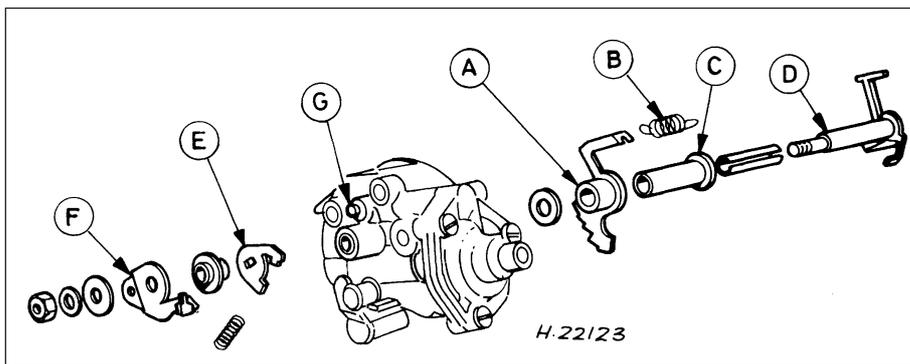
11 Reassemble the automatic choke mechanism, making references to the notes taken during dismantling (see illustration 22.9). Note that no lubricants must be used.

12 Refit the vacuum unit, making reference to the notes taken during dismantling. Ensure that the diaphragm is lying flat before tightening the housing retaining screws.

13 Locate the O-ring (ensuring that it is correctly seated), then reconnect the choke link. Refit the automatic choke unit, and secure with the retaining screws. Check and adjust the choke vacuum pull-down as described in the previous Section (paragraphs 5 and 6).

14 Refit the inner heat shield, ensuring that the location peg is securely engaged in its notch.

15 Refit the automatic choke housing and the bi-metal spring unit as described in the previous Section (paragraph 9).



22.9 Automatic choke unit and associated components on the Weber TLD carburettor

A Operating link/fast idle cam

B Fast idle cam return spring

C Spindle

D Connecting rod and lever assembly

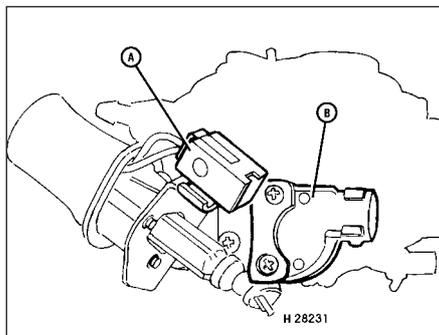
E Pull-down link

F Actuating lever

G Automatic choke housing



23.5A Disconnecting the lead from the anti-dieselling (fuel-cut off) solenoid



23.5B Disconnect the idle speed control motor multi-plug (A) and the throttle position sensor wiring multi-plug (B) where fitted



23.6 Disconnecting the fuel line at the carburettor

16 Refit the carburettor upper body, ensuring that a new gasket is used and that the mating surfaces are clean. Fit the retaining screws to secure.

17 Reconnect the fuel hose to the carburettor, using new screw type hose clips to secure it.

18 Reconnect the anti-dieselling solenoid wiring connector.

19 Reconnect the coolant hoses to the automatic choke unit, then check and if necessary top-up the cooling system as described in Chapter 1.

20 Reconnect the battery earth lead, then check and adjust the fast idle speed as described in Section 19.

21 Refit the air cleaner (Section 2).

with soap and water. When you perform any kind of work on the fuel system, wear safety glasses, and have a Class B type fire extinguisher on hand.

Note: New gaskets will be required on refitting and a tachometer and an exhaust gas analyser will be required on completion.

Removal

1 Disconnect the battery negative (earth) lead (refer to Chapter 5, Section 1).

2 Remove the air cleaner as described in Section 2.

3 Release any pressure remaining in the cooling system (see Chapter 3), and then detach the two coolant hoses from the automatic choke unit. Catch any coolant spillage in a suitable container. Identify each hose for subsequent refitting, then plug their ends or position them as high as possible to prevent coolant leakage.

Warning: *DO NOT attempt to remove the expansion tank filler cap, or to disturb any part of the cooling system, while it or the engine is hot, as there is a very great risk of scalding. If the expansion tank filler cap must be removed before the engine and radiator have fully cooled down (even though this is not recommended) the pressure in the cooling system must first be released. Cover the cap with a thick layer of cloth, to avoid scalding, and slowly unscrew*

the filler cap until a hissing sound can be heard. When the hissing has stopped, showing that pressure is released, slowly unscrew the filler cap further until it can be removed; if more hissing sounds are heard, wait until they have stopped before unscrewing the cap completely. At all times, keep well away from the filler opening.

4 Disconnect the accelerator cable from the linkage at the carburettor, as described in Section 3.

5 Detach the anti-dieselling solenoid wiring connector (see illustration). Where applicable, also detach the idle speed control motor multi-plug and the throttle position sensor wiring multi-plug (see illustration).

6 Detach the fuel feed hose at the carburettor (see illustration). As it is detached, plug the end of the hose to prevent excessive fuel spillage and the ingress of dirt. Where a crimped type hose clip is fitted, cut it free, taking care not to damage the hose; a new screw clamp type clip will need to be obtained to replace the crimped clip during reassembly.

7 Disconnect the relevant vacuum pipes from the carburettor (see illustration). As they are detached, label them to ensure correct reassembly.

8 Unscrew and remove the four Torx-type retaining screws, and carefully lift clear the carburettor from the inlet manifold (see illustrations). Remove the gasket.

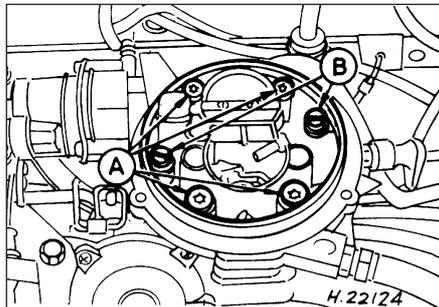
23 Carburettor (Weber TLD) - removal and refitting



Warning: *Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke, or allow open flames or bare light bulbs, in or near the work area. Don't work in a garage where a natural-gas appliance (such as a water heater or clothes dryer) with a pilot light is present. If you spill any fuel on your skin, rinse it off immediately*



23.7 Disconnecting the vacuum hose from the secondary venturi diaphragm unit



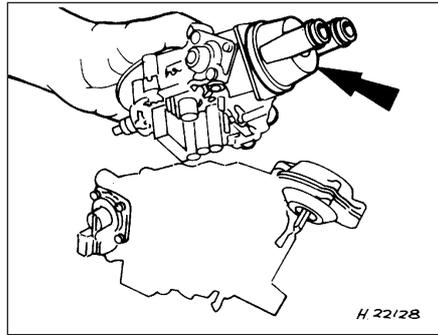
23.8A Weber TLD carburettor showing the four Torx-type retaining screws (A). The two conventional screws (B) secure the upper and lower carburettor body sections together



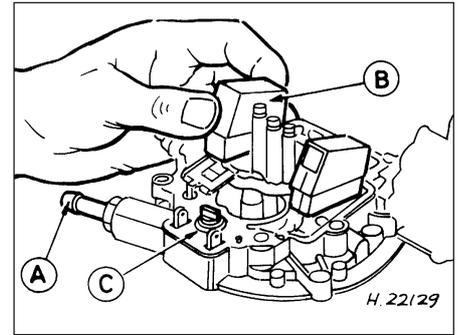
23.8B Undo the retaining screws . . .



23.8C ... and lift the carburettor from the manifold



24.1A Removing the Weber TLD carburettor upper body



24.1B Float and needle valve removal on the Weber TLD carburettor

A Fuel feed connection C Needle valve
B Float

Refitting

9 Clean the carburettor and the inlet manifold mating faces.

10 Refit the carburettor in the reverse order of removal, ensuring that a new gasket is fitted.

11 If they are perished or were damaged during removal, renew the fuel and/or vacuum hoses.

12 Reconnect the automatic choke unit hoses, and then check/top-up the cooling system if required, as described in Chapter 1.

13 Finally, check the idle speed and fuel mixture settings, and adjust if necessary as described in Chapter 1.

24 Carburettor (Weber TLD) - dismantling, cleaning/inspection and reassembly



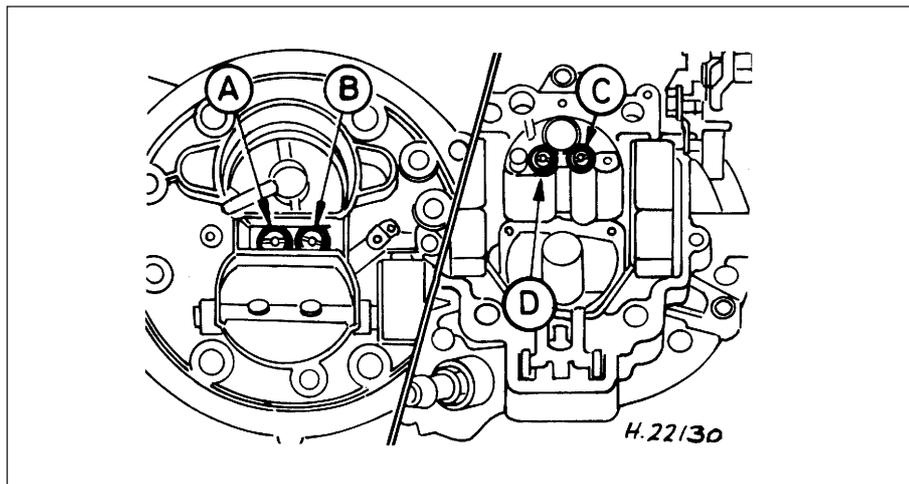
1 Proceed as described in Section 17 for the TLD carburettor, but refer to the appropriate illustrations for the TLD type carburettor (see illustrations). The following differences should also be observed:

- When refitting the adjuster screw, make the initial adjustment by screwing it fully into position (without overtightening it), then unscrewing it by three full turns.
- Refer to Section 20 to adjust the needle valve and float.
- When the carburettor is reassembled and refitted, check and adjust it as described in Chapter 1.

25 Exhaust system - general information and component renewal



Warning: Inspection and repair of exhaust system components should be done only after enough time has elapsed after driving the vehicle to allow the system components to cool completely. This applies particularly to the catalytic converter, which runs at very high temperatures. Also, when working under the vehicle, make sure it is securely supported on axle stands.



24.1C Jet arrangement in the upper body of the Weber TLD carburettor

A Primary air correction jet
B Secondary air correction jet

C Secondary main jet
D Primary main jet

1 The exhaust system is composed of an exhaust manifold, the front downpipe and catalytic converter (where fitted), and a main section incorporating two silencers. The service replacement exhaust system consists of three sections: the front downpipe/catalytic converter, the intermediate pipe and front silencer, and the tailpipe and rear silencer. The system is suspended throughout its entire length by rubber mountings (see illustration).

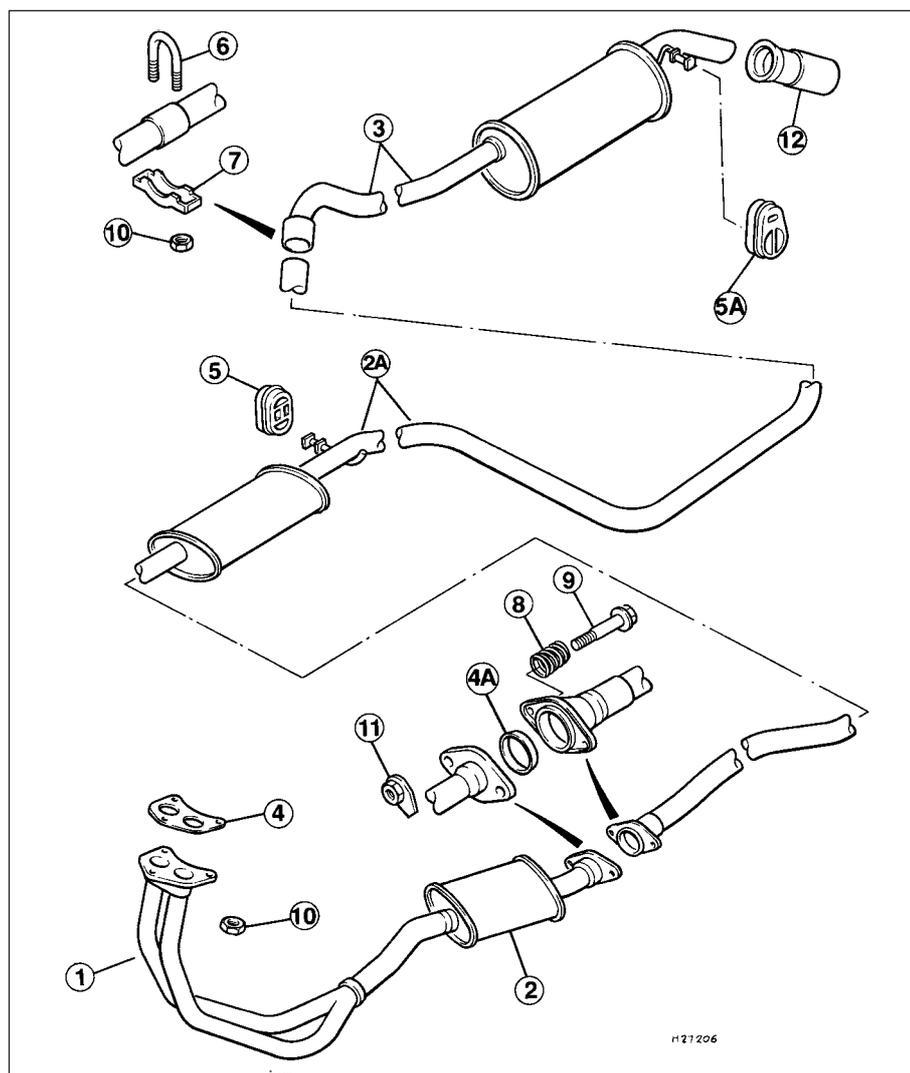
2 If any of these parts are damaged or deteriorated, excessive noise and vibration will occur.

3 Conduct regular inspections of the exhaust system, to keep it safe and quiet. Look for any damaged or bent parts, open seams, holes, loose connections, excessive corrosion, or other defects which could allow exhaust fumes to enter the vehicle. Deteriorated exhaust system components should not be repaired - they should be replaced with new parts.

4 If the exhaust system components are extremely corroded or rusted together, they will probably have to be cut from the exhaust system. The most convenient way of accomplishing this is to have a quick-fit exhaust repair specialist remove the corroded sections. If, however, you want to save money by doing it yourself (and you don't have an oxy/acetylene welding outfit with a cutting torch), simply cut off the old components with a hacksaw. If you have compressed air, special pneumatic cutting chisels can also be used. If you do decide to tackle the job at home, be sure to wear eye protection, to protect your eyes from metal chips, and work gloves, to protect your hands. If the production-fit system is still fitted, it must be cut at the points shown (see illustration) for the service-replacement system sections to fit.

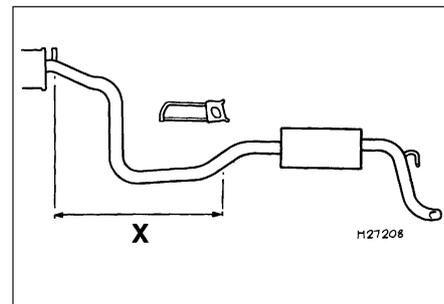
5 Here are some simple guidelines to apply when repairing the exhaust system:

- Work from the back to the front when removing exhaust system components.
- Apply penetrating fluid to the exhaust system component fasteners, to make them easier to remove.



25.1 Exhaust system components

- | | | |
|--------------------------|-------------------|--|
| 1 Front downpipe | 4A Sealing ring | 9 Bolt |
| 2 Front silencer section | 5 Rubber mounting | 10 Self-locking nut |
| 2A Centre section | 6 U-bolt | 11 Nut |
| 3 Rear silencer section | 7 Clamp | 12 Rear silencer outlet trim
(1.4 and 1.6 engines only) |
| 4 Gasket | 8 Spring | |



25.4 Cut at points indicated (according to model) when renewing the rear silencer

X = 720 mm (all models except Van)
X = 914 mm (Van models)

- c) Use new gaskets, rubber mountings and clamps when installing exhaust system components.
- d) Apply anti-seize compound to the threads of all exhaust system fasteners during reassembly.
- e) Note that on some models, the downpipe is secured to the manifold by two bolts, with a coil spring, spring seat and self-locking nut on each. On refitting, tighten the nuts until they stop on the bolt shoulders; the pressure of the springs will then suffice to make a gastight joint. Do not overtighten the nuts to cure a leak - the bolts will shear. Renew the gasket and the springs if a leak is found.
- f) Be sure to allow sufficient clearance between newly-installed parts and all points on the underbody, to avoid overheating the floorpan, and possibly damaging the interior carpet and insulation. Pay particularly close attention to the catalytic converter and its heat shield.

Warning: The catalytic converter operates at very high temperatures, and takes a long time to cool. Wait until it's completely cool before attempting to remove the converter. Failure to do so could result in serious burns.