

Chapter 4 Part A:






Fuel and exhaust systems - carburettor models

Contents

| | | | |
|---|----|--|----|
| Air cleaner element - renewal | 2 | Fuel tank - removal, inspection and refitting | 10 |
| Air cleaner - removal and refitting | 3 | General information and precautions | 1 |
| Accelerator cable - removal and refitting | 23 | Inlet and exhaust manifolds - removal and refitting | 25 |
| Air intake heating system - operation and maintenance | 4 | In-line fuel filter (BX 16 RE) - renewal | 8 |
| Carburettors - idle speed and mixture adjustment | 13 | Solex carburettor 34 PBISA 17 - adjustment | 16 |
| Carburettors - general information | 11 | Solex carburettors 32-34 Z1 and 34-34 Z1 - adjustment | 19 |
| Carburettors - general maintenance | 12 | Solex carburettors 30-30 Z2 CIT 329 and 32-34 Z2 CIT 348 - adjustment | 17 |
| Carburettors - removal and refitting | 14 | Solex carburettors 32-34 Z1 CIT 319, W 319 and 34-34 Z1 381 - adjustment | 18 |
| Choke cable - removal and refitting | 24 | Solex carburettors - overhaul | 15 |
| Exhaust system - maintenance, removal and refitting | 26 | Weber carburettors - adjustment | 21 |
| Fuel level transmitter - removal and refitting | 9 | Weber carburettors - overhaul | 20 |
| Fuel pump - cleaning | 6 | Weber carburettor 36 TLP - overhaul and adjustment | 22 |
| Fuel pump - removal, overhaul and refitting | 7 | | |
| Fuel pump - testing | 5 | | |

Degrees of difficulty

4A

| | | | | |
|---|--|--|---|--|
| 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  |
|---|--|--|---|--|

Specifications

For engine to model applications refer to Chapter 2

Air cleaner

| | |
|-------------------------------|--|
| Type | Dry type with replaceable cartridge. Manual or automatic air temperature controlled inlet system |
| Element: | |
| BX 14 | Champion V402 |
| BX 14 (Aug 1988 to Sept 1991) | Champion V401 |
| BX 14 (Sept 1991 on) | Champion V438 |
| BX 16 (pre June 1987) | Champion W117 |
| BX 16 (Sept 1988 to 1991) | Champion U543 |
| BX 19 (pre June 1987) | Champion W117 |
| BX 19 (from July 1987) | Champion U543 |
| BX 19 (1991 on) | Champion U543 |

Fuel filter

| | |
|------|---------------|
| Type | Champion L101 |
|------|---------------|

Fuel pump

| | |
|------|---|
| Type | Mechanical diaphragm, driven by eccentric on camshaft |
|------|---|

4A•2 Fuel and exhaust systems - carburettor models

Carburettor - BX

| | | |
|---|------------------------|------------------|
| Engine application | 150 A | |
| Carburettor type | Solex 30-30 z2 CIT 329 | |
| | Primary | Secondary |
| Venturi | 24 | 25 |
| Main jet | 112.5 | 125 |
| Air corrector jet and emulsion tube | 165 ZD | 180 ZC |
| Idle jet | 40 | - |
| Bypass jet | - | 50 |
| Pneumatic enrichment device | 50 | - |
| Pump injector | 35 | - |
| Econostat | - | 80 |
| Needle valve | 1.6 mm | |
| Float level setting | 33 ± 1 mm | |
| Primary choke valve opening (strangler valve fully shut) | 0.9 mm | |
| Strangler flap opening (by anti-flood capsule) under vacuum of 350 mbar | 3.2 ± 0.5 mm | |
| Idle speed | 700 to 800 rpm | |
| CO percentage in exhaust gas | 0.8 to 1.15 | |

Carburettor - BX 14 (pre August 1988)

| | | |
|---|------------------------|------------------|
| Engine application | 150 C | |
| Carburettor type | Solex 32-34 Z2 CIT 348 | |
| | Primary | Secondary |
| Venturi | 24 | 25 |
| Main jet | 115 | 120 |
| Air corrector jet and emulsion tube | 155 ZE | 160 ZC |
| Idle jet | 40 | - |
| Bypass jet | - | 50 |
| Pneumatic enrichment device | 45 | - |
| Pump injector | 35 | 35 |
| Econostat | - | 80 |
| Needle valve | 1.6 mm | |
| Float level setting | 33 ± 1 mm | |
| Primary choke valve opening (strangler valve fully shut) | 0.75 mm | |
| Strangler flap opening (by anti-flood capsule) under vacuum of 350 mbar | 3.7 ± 0.5 mm | |
| Idle speed | 800 to 850 rpm | |
| CO percentage in exhaust gas | 0.8 to 1.5 | |

Carburettor - BX 14 (from August 1988)

| | |
|------------------------------|-------------------|
| Engine application | K1G |
| Carburettor type | Solex 34 PBISA 17 |
| Venturi | 26 |
| Main jet | 132 |
| Air correction jet | 155 |
| Emulsion tube | EC |
| Idle jet | 42 to 46 |
| Enrichment jet | 55 |
| Accelerator pump jet | 40 |
| Float chamber needle valve | 1.6 mm |
| Idle speed | 750 ± 50 rpm |
| CO percentage in exhaust gas | 0.8 to 1.2 |

Carburettor - BX 16 (pre June 1983)

| | | |
|--|-------------------------------|------------------|
| Engine application | 171 | |
| Carburettor type | Weber 32-34 DRTC 100 W 121-50 | |
| | Primary | Secondary |
| Venturi | 24 | 26 |
| Main jet | 107 | 115 |
| Air corrector jet | 165 | 160 |
| Emulsion tube | F27 | F27 |
| Idle jet | 45 | - |
| Bypass jet | - | 70 |
| Pump injector | 55 | - |
| Econostat | - | 60 |
| Needle valve | 175 | |
| Primary choke valve opening at 20°C | 0.50 mm | |
| Strangler flap opening (by anti-flood capsule) | 4.5 mm | |
| Float level setting | 7.25 ± 0.25 mm | |
| Idle speed | 700 rpm | |
| CO percentage in exhaust gas | 0.8 to 1.5 | |

Carburettor - BX 16 (pre June 1983)

| | | |
|---|------------------------|------------------|
| Engine application | 171 | |
| Carburettor type | Solex 32-34 Z1 CIT 319 | |
| | Primary | Secondary |
| Venturi | 24 | 26 |
| Main jet | 140 | 120 |
| Air corrector jet | 200 | 155 |
| Emulsion tube | 23 | 18 |
| Idle jet | 42 | 70 |
| Accelerator pump injector | 40 | 35 |
| Needle valve diameter | 1.8 mm | |
| Float setting | 33.0 mm | |
| Primary choke valve opening (strangler flap fully shut) | 0.45 mm | |
| Strangler flap opening (by anti-flood capsule) | 6.0 mm | |
| Idle speed | 650 to 700 rpm | |
| CO percentage in exhaust gas | 1 to 2 | |

Carburettor - BX 16 (from July 1983)

| | | |
|---|---------------------------------|------------------|
| Engine application | 171 | |
| Carburettor type | Weber 32-34 DRTC 2/100 W 128-50 | |
| | Primary | Secondary |
| Venturi | 24 | 26 |
| Main jet | 107 | 112 |
| Air corrector jet | 170 | 160 |
| Emulsion tube | F27 | F27 |
| Idle jet | 45 | - |
| Bypass jet | - | 50 |
| Pump injector | 50 | - |
| Econostat | - | 60 |
| Needle valve | 1.75 | |
| Float setting | 6.75 ± 0.25 mm | |
| Maximum difference between floats | 1.0 mm | |
| Primary choke valve opening (strangler flap fully shut) at 20°C | 0.45 mm | |
| Strangler flap opening (by anti-flood capsule) | 4.5 mm | |
| Idle speed | 650 to 700 rpm | |
| CO percentage in exhaust gas | 0.8 to 1.5 | |

Carburettor - BX 16 (from July 1983)

| | | |
|---|----------------------|------------------|
| Engine application | 171 | |
| Carburettor type | Solex 32-34 Z1 W 319 | |
| | Primary | Secondary |
| Venturi | 24 | 26 |
| Main jet | 140 | 120 |
| Air corrector jet | 200 | 155 |
| Emulsion tube | 23 | 18 |
| Idle jet | 42 | |
| Bypass jet | - | 70 |
| Pump injector | 40 | 35 |
| Enrichment device jet | 55 | - |
| Econostat | - | 80 |
| Needle valve diameter | 1.8 mm | |
| Primary choke valve opening (1st choke at 20°C) | 0.45 mm | |
| Strangler flap opening (by anti-flood capsule) under vacuum | 6.0 mm | |
| Idle speed | 650 to 700 rpm | |
| CO percentage in exhaust gas | 0.8 to 1.5 | |

Carburettor - BX 16 (from March 1984)

| | | |
|--|--------------------------|------------------|
| Engine application | 171 | |
| Carburettor type | Solex 32-34 Z1 CIT 319-1 | |
| <i>This carburettor differs from the Solex 32-34 Z1 CIT 319 carburettor in the following ways:</i> | | |
| | Primary | Secondary |
| Idling air correction jet | 180 | 150 |
| Enrichment device jet | 55 | - |

Carburettor - BX 16 (automatic transmission)

| | | |
|--|---------------------------------|--|
| Engine application | 171 | |
| Carburettor type | Weber 32-34 DRTC 4 100 W 130-50 | |
| <i>This carburettor is the same as the Weber 32-34 DRTC 2/100 W 128-50 with the following exception:</i> | | |
| CO percentage in exhaust gas | 1 to 2 | |

4A•4 Fuel and exhaust systems - carburettor models

Carburettor - BX 16 (automatic transmission and air conditioning)

| | |
|--|---------------------------------|
| Engine application | 171 |
| Carburettor type | Weber 32-34 DRTC 8/100 W 136-50 |
| <i>This carburettor is the same as the Weber 32-34 DRTC 4 100 W 130-50 with the following exception:</i> | |
| Idle speed | 750 to 800 rpm |

Carburettor - BX 16 RE

| | |
|------------------------------|--------------------|
| Engine application | B1A/A |
| Carburettor type | Weber 36 TLP 1/100 |
| Venturi | 28 |
| Main jet | 142 |
| Air correction jet | 150 |
| Emulsion tube | F80 |
| Idle jet | 47 to 51 |
| Enrichment jet | 50 |
| Accelerator pump injector | 50 |
| Float chamber needle valve | 1.5 mm |
| Idle speed | 700 ± 50 rpm |
| CO percentage in exhaust gas | 1 to 2 |

Carburettor - BX 16 (from Sept 1988 to 1991)

| | | |
|------------------------------|--------------------|------------------|
| Engine application | B2C | |
| Carburettor type | Solex 32-34 Z1 PSA | |
| | Primary | Secondary |
| Venturi | 24 | 26 |
| Main jet | 112.5 | 125 |
| Air correction jet | 145 | 140 |
| Emulsion tube | ZD | ZC |
| Idling jet | 44 | 50 |
| Air correction jet | 180 | 150 |
| Enrichment jet | 55 | - |
| Econostat jet | - | 80 |
| Accelerator pump jet | 40 | 40 |
| Fuel inlet needle valve | 1.8 | |
| Idle speed: | | |
| Manual gearbox | 800 ± 100 rpm | |
| Automatic transmission | 750 ± 50 rpm | |
| CO percentage in exhaust gas | 0.8 to 1.5 | |

Carburettor - BX 19

| | | |
|---|--------------------------|------------------|
| Engine application | 159 | |
| Carburettor type | Solex CISAC 34-34 Z1 381 | |
| | Primary | Secondary |
| Venturi | 25 | 17 |
| Main jet | 115 | 125 |
| Air corrector jet | 150 | 160 |
| Emulsion tube | 18 | 20 |
| Idle jet | 43 | 90 |
| Idle air correction jet | 145 | 145 |
| Enrichment device jet | 50 | - |
| Econostat | - | 80 |
| Pump injector | 40 | 35 |
| Needle valve | 1.8 mm | |
| Float adjustment | 33 mm | |
| Primary choke valve opening (strangler flap fully shut) at 20°C | 0.45 mm | |
| Strangler flap opening (by anti-flood capsule) | 5 to 7 mm | |
| Manual de-flooding | 7 to 9 mm | |
| Idle speed | 650 to 750 rpm | |
| CO percentage in exhaust gas | 1.5 ± 0.5 | |

Carburettor - BX 19 TRS/TZS (from July 1986 to 1991)

| | |
|--|--------------------------|
| Engine applications | D2A and D2E |
| Carburettor types: | |
| Manual gearbox | Solex 34-34 Z1 CIT 391 |
| Manual gearbox with air conditioning | Solex 34-34 Z1 CIT 291-1 |
| Automatic transmission | Weber 34-34 DRTC 14/100 |
| Automatic transmission with air conditioning | Weber 34-34 DRTC 15/100 |

Carburettor - BX 19 TRS/TZS (from July 1986 to 1991) (continued)

| Solex carburettors | Primary | Secondary |
|--|----------------|------------------|
| Venturi | 25 | 27 |
| Main jet | 115 | 115 |
| Air correction jet | 150 | 160 |
| Emulsion tube | ZD | ZC |
| Idling jet | 43 | 90 |
| Idling air correction jet | 145 | 145 |
| Enrichment device jet | 50 | - |
| Econostat calibration | - | 70 |
| Pump injector | 40 | 56 |
| Needle valve diameter | 1.8 mm | |
| Float adjustment | 33 mm | |
| Positive opening of primary valve (at 20°C) | 0.45 mm | |
| Strangler flap opening by anti-flood capsule | 5 to 7 mm | |
| Manual anti-flooding | 7 to 9 mm | |
| Idle speed | 700 ± 50 rpm | |
| Fast idling (air conditioning) | 900 ± 50 rpm | |
| CO percentage in exhaust gas | 1.0 to 2.0 | |
| Weber carburettors | Primary | Secondary |
| Venturi | 25 | 27 |
| Main jet | 110 | 125 |
| Air correction jet | 160 | 150 |
| Emulsion tube | F45 | F27 |
| Idling jet | 52 | 50 |
| Idling air correction jet | 150 | 70 |
| Enrichment device jet | 55 | - |
| Econostat calibration | - | 85 |
| Pump injector | 50 | |
| Float adjustment | 7 mm | |
| Positive opening of primary valve (at 20°C) | 0 ± 1 mm | |
| Strangler flap opening by anti-flood capsule | 4.5 ± 1 mm | |
| Manual anti-flooding | 8.5 mm | |
| Idle speed | 800 ± 50 rpm | |
| Fast idling (air conditioning) | 900 ± 50 rpm | |
| CO percentage in exhaust gas | 1.0 to 2.0 | |
| Carburettor - BX 19 TZS (from 1991) | | |
| Engine application | D2F | |
| Carburettor type | Solex 34-34 Z1 | |
| | Primary | Secondary |
| Venturi | 26 | 27 |
| Main jet | 115 ± 5 | 122 ± 5 |
| Air correction jet | 140 ± 20 | 160 ± 20 |
| Emulsion tube | 3Z | ZC |
| Idling jet: | | |
| Manual | 45 ± 5 | 110 ± 10 |
| Automatic | 44 ± 3 | 110 ± 10 |
| Idling air correction jet: | | |
| Manual | 145 ± 20 | 145 ± 20 |
| Automatic | 145 ± 20 | 140 ± 20 |
| Enrichment jet | 50 ± 20 | - |
| Econostat jet | - | 50 ± 20 |
| Accelerator pump jet | 45 | 40 |
| Fuel inlet needle valve | 1.8 mm | |
| Idle speed | 750 ± 50 rpm | |
| CO percentage in exhaust gas | 0.8 to 1.2 | |
| Torque wrench settings | Nm | lbf ft |
| Carburettor to inlet manifold | 15 | 11 |
| Inlet manifold to cylinder head | 22 | 16 |
| Exhaust manifold to cylinder head | 22 | 16 |

1 General information and precautions

General information

The fuel system is conventional in layout and operation. The fuel tank is mounted on the underside of the vehicle directly beneath the rear passenger seats. Fuel is drawn from the tank by a mechanical diaphragm pump operated by an eccentric on the camshaft and fed via a fuel filter (some models) to a carburettor of Solex or Weber manufacture. Depending on model type, a manually operated or automatic choke is fitted.

The air cleaner is of the renewable element type. On BX and BX14 models, the temperature of the air entering the air cleaner unit has a manual control for seasonal setting. Other models in the range have an automatic temperature control fitted to the air cleaner.

All models are fitted with a basic emission control system which relies mainly on the correct setting of the carburettor and the ignition system to keep exhaust emission levels to a minimum.

The admission of warm air to the air cleaner on all models keeps the intake air at the carburettor at a constant temperature and this too makes for clean combustion.

The engine crankcase ventilation system transfers oil fumes and blow-by gases which get past the piston rings into the air cleaner where they are consumed during the normal combustion process.

Precautions

Fuel warning

Many of the procedures in this Chapter require the removal of fuel lines and connections which may result in some fuel spillage. Before carrying out any operation on the fuel system refer 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.



3.2a Air intake disconnected from air cleaner casing

Tamperproof adjustment screws

Certain adjustment points in the fuel system are protected by "tamperproof" caps, plugs or seals. The purpose of such tamperproofing is to discourage, and to detect, adjustment by unqualified operators.

In some EEC countries (though not yet in the UK), it is an offence to drive a vehicle with missing or broken tamperproof seals. Before disturbing a seal, satisfy yourself that you will not be breaking local or national anti-pollution regulations by doing so. Fit a new seal when adjustment is complete, when this is required by law.

Do not break tamperproof seals on a vehicle which is still under warranty.

Unleaded petrol - usage

As a general rule, all pre-1988 carburettor models are not suitable for running on unleaded petrol, and must be run on 97 RON leaded fuel only. Models manufactured between 1988 and 1991 should also only be run on 97 RON leaded fuel, but most models produced between these dates are suitable for running on 95 RON unleaded fuel if the suitable adjustments are first carried out. For full information on the use of unleaded petrol, consult your Citroën dealer who will be able to inform you if your vehicle is capable of running on unleaded fuel and, where possible, of the necessary adjustments required. The use of unleaded fuel in a vehicle not designed, or suitably adjusted, to run on unleaded fuel will lead to serious damage of the valve seats.



3.2b Removing insulated hose from exhaust manifold hot air collector plate

2 Air cleaner element - renewal

Refer to Chapter 1, Section 28.

3 Air cleaner - removal and refitting

BX 14 - K1G engine

- 1 Remove the air cleaner element.
- 2 Release the large clip, then separate and remove the air intake from the air cleaner casing. Note the insulated hose connecting with the exhaust manifold hot air collector plate (**see illustrations**).
- 3 Disconnect the air intake duct from the carburettor and the crankcase vent hoses, then withdraw the air cleaner casing upwards. Note the locating spigot at the base of the casing (**see illustrations**).
- 4 Refitting is a reversal of removal. On completion, set the Winter/Summer lever to the appropriate position (**see illustration**).

All other models

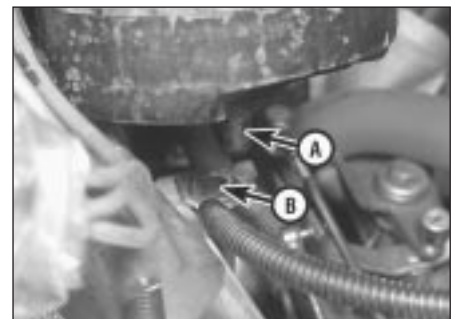
- 5 Detach the hoses/air ducts to the cleaner unit.
- 6 On BX and BX 14 models, unclip the retaining strap.



3.3a Disconnecting crankcase vent hose from air cleaner



3.3b Removing air intake duct from carburettor and air cleaner



3.3c Air cleaner casing

A Base locating spigot
B Spigot grommet



3.4 Air cleaner Winter/Summer lever

7 Undo the retaining bolt(s) and remove the unit.

8 Refit in the reverse order to removal.

4 Air intake heating system - operation and maintenance



Operation

1 To maintain engine performance in cold conditions, warm air is admitted to the air intake before entering the air cleaner. Air is preheated by a muff on the exhaust manifold and its intake is controlled manually by means of a lever on the top face of the intake ducting (BX and BX 14 models) or automatically by an integral thermostat (BX 16 and 19 models).

2 The manual adjustment lever has three adjustment positions (see illustration).

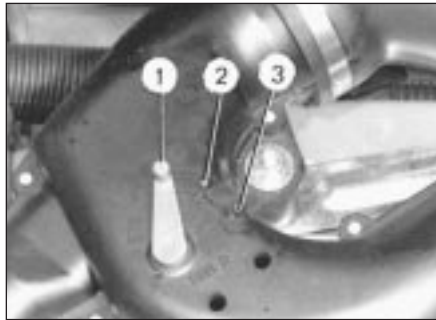
3 On automatic control models, the integral thermostat operates a valve which directs warm air from the exhaust manifold ducting or cool air through the normal air intake duct on the air cleaner unit (see illustration).

Maintenance

4 This system calls for no special maintenance but, on manual control models, the adjustment lever must be set to the appropriate position as the season demands. Failure to make the seasonal adjustment will reduce efficiency, may cause the carburettor to ice up, and will certainly create emulsion in the engine breather pipes and rocker cover in very cold weather.



6.1a Fuel pump cover removal - non-removable filter type



4.2 Manual air intake control

- 1 ETE (summer) setting
- 2 Mixte (Mixture) setting
- 3 Hiver (Winter) setting

5 Fuel pump - testing



1 If the performance of the fuel pump is in doubt, first examine for fuel leaks and check that the fuel line connections are all sound.

2 Disconnect the fuel hose at the carburettor inlet connection and disconnect the high tension lead from the coil. Ensure that the tank contains fuel.

3 Direct the fuel feed hose into a suitable container and have an assistant operate the starter to crank the engine. A good spurt of fuel should be delivered on every second revolution of the engine. If not, check that the hose is not blocked. If the hose is clear, then the pump will have to be removed for examination or renewal.

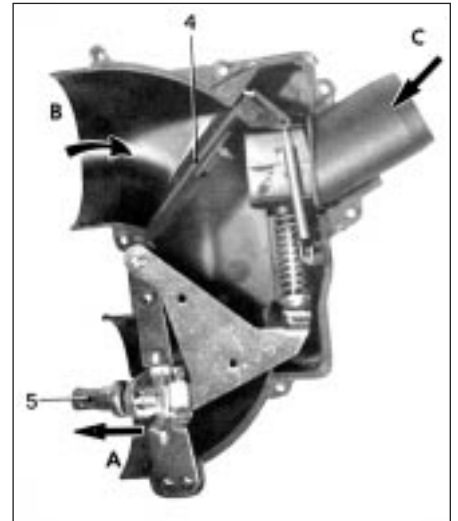
6 Fuel pump - cleaning



1 The fuel pump may be one of several types and inspection will determine which type of pump is fitted. On one type, the filter cover is simply unbolted and removed. On the other type, the pump cover is retained by two screws. With some pumps, the fuel outlet hose must be removed in order to be able to withdraw the pump cover (see illustrations).



6.1b Fuel pump cover removal - removable filter type



4.3 Automatic air intake control

- 4 Air control flap
- 5 Temperature sensor
- A Air supply to filter
- B Ambient air intake
- C Heater air intake

2 With the cover removed, take out the filter screen and wash it in fuel until it is free from fluff and dirt (see illustration).

3 Mop out the fuel from the pump body and wipe out any sediment.

4 Refit the filter screen and cover, making sure that the gasket is in good condition.

7 Fuel pump - removal, overhaul and refitting



4A

Note: Have a repair kit available before dismantling the fuel pump

Removal

1 Disconnect the fuel lines from the pump and plug them to prevent ingress of contamination (see illustration).

2 Note that on BX 16 and BX 19 models manufactured after November 1985, the fuel lines have reduced inside diameter connections and are now 6 mm in diameter instead of 8 mm as on earlier models. All



6.2 Fuel pump filter removal



7.1 Fuel supply hose removal from fuel pump

connections to the pump, carburettor, fuel filter and fuel flow meter are now of the same diameter. Early and later-type connections are not directly interchangeable. Note also that the later-type fuel lines are secured with clips.

3 Unscrew the pump mounting bolts/nuts and lift the pump away (see illustrations).

4 An insulator block with a gasket each side is fitted between the pump flange and the mounting flange on the engine. The gaskets must be renewed when refitting the pump.

5 Where applicable, withdraw the pump operating pushrod (see illustration).

Overhaul

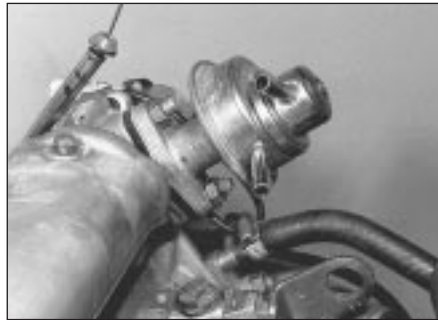
6 Further dismantling may not be possible on some types of pump. Even if it is, it should only be attempted if you have a repair kit. First, mark the top and bottom halves of the pump for reassembly and then progressively loosen and remove the screws holding the two halves together. The diaphragm is connected to the operating mechanism beneath, and details will vary with different pumps. Note the sequence of assembly so that reassembly can be achieved in the same order.

7 Renew all defective parts. The repair kit will contain a variety of seals or gaskets which should automatically be fitted in place of the originals, regardless of the fact that they may appear fit for further use.

8 Reassembly is the reverse of the dismantling sequence. Make sure that the upper and lower halves of the pump body are aligned and tighten the joint screws progressively and diagonally. Do not overtighten the top cover screws.



9.3 Fuel level transmitter



7.3a Fuel pump showing retaining nuts and black insulator block - BX 16

Refitting

9 Before refitting the pump, check that the operating pushrod is in position (where applicable). Locate a new gasket each side of the insulator and refit the pump.

10 Tighten the securing bolts and make sure that the fuel hoses are reconnected to their correct pump connections.

8 In-line fuel filter (BX 16 RE) - renewal



1 From November 1987, BX 16 RE models have an in-line fuel filter fitted between the fuel pump and the carburettor.

2 When renewing this filter, ensure that the directional arrow on the filter points towards the carburettor and check for leaks at its hose connections after starting the engine (see Chapter 1).

3 Note that on BX 16 and BX 19 models manufactured after November 1985, the fuel lines have reduced inside diameter connections and are now 6 mm in diameter instead of 8 mm as on earlier models. All connections to the filter, carburettor, fuel pump and fuel flow meter are now of the same diameter. Early and later-type connections are not directly interchangeable. Note also that the later-type fuel lines are secured with clips.

9 Fuel level transmitter - removal and refitting



Removal

- 1 Disconnect the battery earth lead.
- 2 Fold the rear seat forwards and remove the insulator mat.
- 3 Prise free the circular plastic cover to expose the fuel level transmitter and disconnect the wiring from it (see illustration).
- 4 Using a suitable tool, unscrew the transmitter mounting plate to release it from the securing tabs. Withdraw the transmitter unit.



7.3b Fuel pump removal - BX 14



7.5 Fuel pump pushrod - BX 14

Refitting

5 Refitting is a reversal of removal. Use a new sealing ring if there is any doubt about the condition of the original one.

10 Fuel tank - removal, inspection and refitting

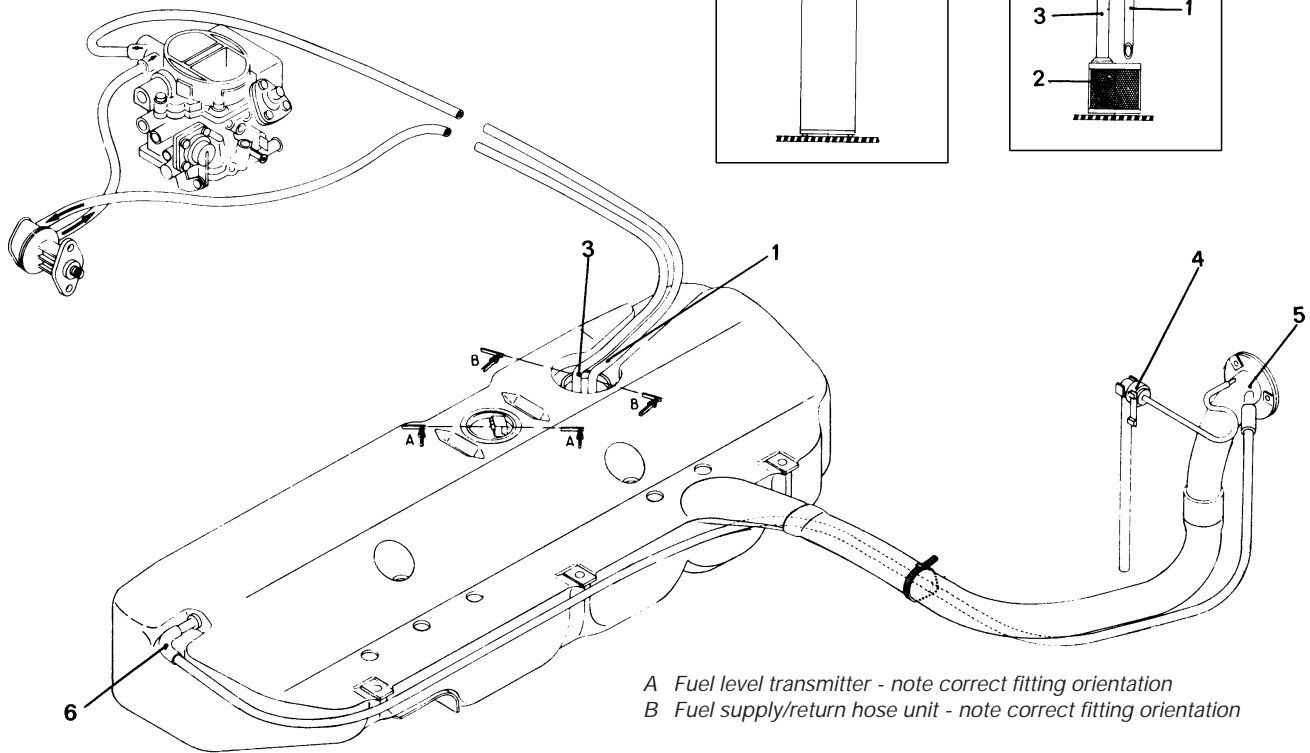


Removal

- 1 The fuel tank will normally only need to be removed if it is severely contaminated or damaged, or for any repair work to the adjacent body structure or mechanical components.
- 2 As there is no drain plug incorporated in the tank, the best time to remove it is when it is nearly empty. If this is not possible, syphon as much as fuel as possible from the tank into a container which can be sealed. Before doing so, observe the following precautions:
 - a) Disconnect the battery
 - b) Do not smoke or allow any naked lights near the working area
 - c) Avoid placing the vehicle over an inspection pit as fuel vapour is heavier than air
- 3 Raise the rear of the vehicle and support it on axle stands (see "Jacking and vehicle support").
- 4 From within the vehicle, disconnect the wiring from the fuel level transmitter.
- 5 Disconnect the fuel supply and return pipes from the fuel tank top face. Note that the fuel

10.5 Fuel tank and associated components

- 1 Return hose
- 2 Suction pipe filter
- 3 Suction pipe (identified by yellow paint mark)
- 4 Vent unit with one-way valve
- 5 Filler pipe
- 6 Tank vent pipe



A Fuel level transmitter - note correct fitting orientation
 B Fuel supply/return hose unit - note correct fitting orientation

4A

supply pipe is marked with yellow paint for identification. Plug the pipes to prevent fuel leakage and the ingress of dirt (see illustration).

6 Remove the exhaust system.

7 Detach the height control linkage, complete with its intermediate bearing (see illustration).

8 Detach the fuel filler pipe from the tank inlet nozzle.

9 Unfasten and peel back the carpet edging from the floor panel above the leading edge of the tank, then unscrew the two front tank retaining screws. Support the weight of the tank from underneath.

10 Unscrew and remove the three retaining bolts along the rear edge of the tank unit (from above), then lower the tank. As it is lowered, disconnect the ventilation pipe from the side of the tank. On BX and BX 14 models, this pipe is connected to the right-hand side, whilst on BX 16 and 19 models, the pipe connection is on the left-hand side.

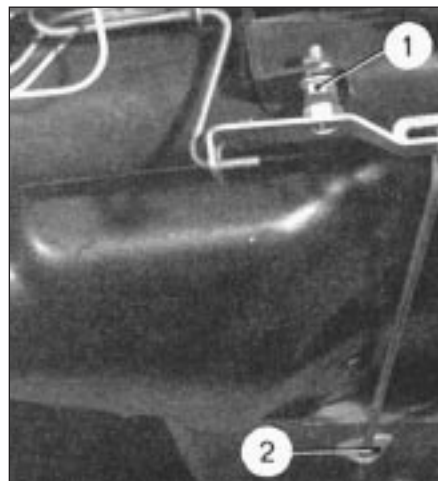
Inspection

11 If the tank is damaged, remove the fuel level transmitter unit and renew the tank. It cannot be repaired.

12 If the tank contains sediment, remove the fuel level transmitter and wash out the tank using paraffin, then rinse it out with clean fuel whilst observing all precautions against fire.

Refitting

13 Refit in the reverse order of removal.



10.7 Height control linkage (1) and intermediate bearing (2)

Ensure that all hose connections are securely made.

11 Carburettors - general information

1 The carburettor fitted is a single Solex or Weber of twin or single choke downdraught design.

2 The type of carburettor fitted is dependent on engine type. Refer to the *Specifications* for application details. Depending on vehicle type, a manually operated or automatic choke is fitted.

3 All carburettors are conventional in operation and have a primary and main jet system and a mechanically operated acceleration pump. All carburettors incorporate exhaust emission control anti-pollution.

4 The type identification number is stamped on a plate attached to the carburettor.

5 The Weber carburettor fitted to BX 16 models with automatic transmission is identical in design to other Weber carburettor types fitted to manual gearbox models, except that it also has a kickdown cam fitted.

12 Carburettors - general maintenance



Note: A complete carburettor strip-down is unlikely to cure a fault which is not immediately obvious without introducing new problems. If persistent carburation problems are encountered, it is recommended that the advice of a Citroën dealer or carburettor specialist is sought.

1 Before blaming the carburettor for any shortcomings in engine performance, remember that there is no reason why the carburettor should lose tune. What usually happens is that, as the engine gets older and less efficient, more or less fruitless attempts may be made to restore performance by interfering with the carburettor. In countries where exhaust emission is regulated by law, it is inadvisable and may be illegal, to alter carburettor settings without monitoring exhaust emission levels using special equipment.

2 The ultimate cause of most carburettor problems is wear in moving parts or dirt in the jets. The Solex and the Weber carburettors have no continuously moving parts (except for the float and the throttle spindle) which makes it a very reliable device so long as dirt does not get in. A drop of oil on the various linkages and flap spindle will ensure that they last for years without trouble. In consequence, carburettor overhaul should be no more frequent than major engine overhaul.

3 Routine carburettor maintenance consists only of periodic cleaning of the float chamber and jets and (where applicable) an occasional look at the small gauze filters fitted in the fuel inlet connection and on the accelerator pump inlet valve. These tasks can be undertaken with the carburettor fitted to the engine.

4 Before separating the top of the carburettor from the bottom, give the outside a good clean using paraffin or a proprietary cleaner and a stiff brush, afterwards drying with clean rag. It is well worth taking this extra trouble to reduce the risk of dirt getting into the carburettor.



13.5a Solex 32-34 - mixture adjustment screw location (6)

5 After removing the jets, clean them by first washing in clean fuel and then blowing air through them. Never use a piece of wire as jet calibration can be easily altered.

6 The float can be removed after taking out the hinge pin. The float needle valve can then be unscrewed and washed in fuel. Clean any dirt out of the float chamber using clean fuel but do not use rag for drying.

7 The fuel inlet filter gauze and the accelerator pump valve gauze should both be washed in clean fuel and dried in air. Do not use rag to dry them. On refitting the float, check and if necessary adjust, the level setting.

8 On completion check the idle speed.

13 Carburettors - idle speed and mixture adjustment



Note: Before carrying out any carburettor adjustments, ensure that the ignition timing, valve clearances and spark plug gaps are correctly set

Note: After resetting the mixture, have an exhaust CO reading taken by your Citroën dealer to ensure that it is within the specified limits

Note: Information for adjustment of the Solex carburettor 34 PBISA 17 is contained in Section 16

1 Generally speaking, unless the carburettor is obviously out of tune or is malfunctioning, it is not advisable to tamper with it. In any case, the only running adjustment that can be made is to the idling.

2 Correct adjustment can only be achieved provided that the engine is in generally good condition. Valve clearances must be correct

and the ignition system must be in good condition and adjusted correctly.

3 An independent tachometer is necessary to make accurate adjustment and it should be connected to the engine in accordance with the manufacturer's instructions.

Idle speed adjustment

4 Refer to Chapter 1, Section 23.

Mixture adjustment

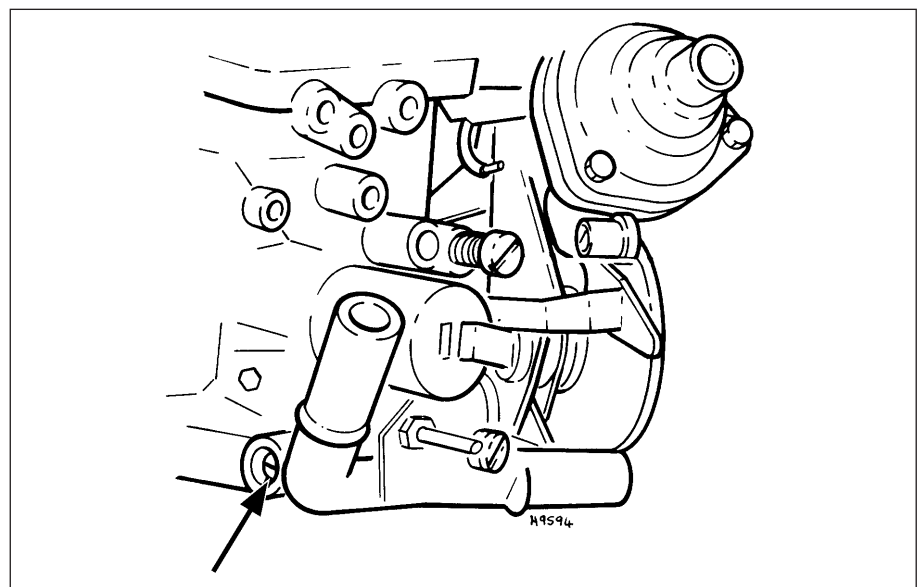
5 Where adjustment is to be made to the mixture control screw, it may first be necessary to prise free the tamperproof cap for access (see illustrations).

6 With the air filter fitted, run the engine until warm, as indicated by the engagement of the cooling fan. When the cooling fan cuts out, adjustments can be made. During prolonged adjustments take care as the cooling fan will cut-in again periodically.

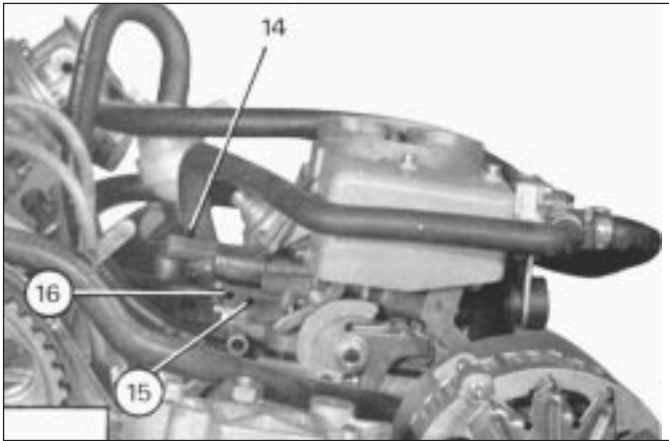
7 Turn the mixture screw to the position which provides the highest engine speed. Now reduce the engine speed to approximately 50 rpm above the specified idle speed for your model.

8 Repeat the procedure outlined in paragraph 10, then screw in the mixture control screw to reduce the engine speed by 30 to 50 rpm. Further minor adjustment to the idle speed may be necessary to bring the engine speed to within the idle speed range specified.

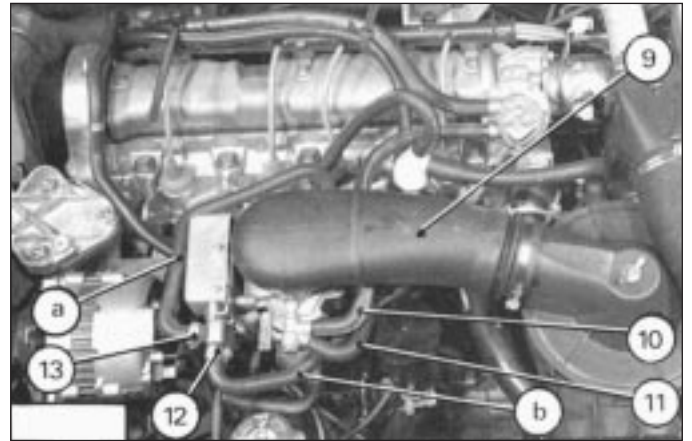
9 Whenever the mixture control screw setting has been reset, it is advisable to have an exhaust CO reading taken by your Citroën dealer to ensure that the CO reading at the exhaust is within the specified limits. This is of particular importance in territories where strict emission controls are enforced.



13.5b Weber carburettor - mixture adjustment screw (arrowed)



14.3 Weber carburettor - idle cut-off (14), spacer flange (15) and screws (16)



14.4a Weber carburettor removal - items to be disconnected

- | | |
|---|---|
| <i>a and b</i> Coolant hoses to automatic choke | <i>11</i> Fuel return pipe |
| <i>9</i> Air filter duct | <i>12 and 13</i> Coolant hose retaining clips |
| <i>10</i> Fuel inlet pipe | |

14 Carburetors - removal and refitting



Removal

- 1 Disconnect the battery earth lead.
- 2 Unclip and detach the air ducting between the carburettor and the air cleaner unit. Where a Solex 34 PBISA 17 carburettor is fitted, the air cleaner must be removed.



14.4b Solex 32-34 - fuel supply and return hoses

- 3 Disconnect the wire from the idle cut-off solenoid (see illustration).
- 4 Disconnect the fuel supply and return lines from the carburettor (see illustrations). Plug the hoses to prevent the ingress of contamination.
- 5 Note that on BX 16 and BX 19 models manufactured after November 1985, the fuel lines have reduced inside diameter connections and are now 6 mm in diameter instead of 8 mm as on earlier models. All connections to the carburettor, fuel pump, fuel filter and fuel flow meter are now of the same diameter. Early and later-type connections are not directly interchangeable. The only exception to this is if a later-type Solex carburettor is fitted. In this instance, it will be necessary to renew the fuel feed connection to suit. Note also that the later-type fuel lines are secured with clips.
- 6 Detach the accelerator inner cable from the quadrant and the outer cable from its support at the carburettor and fold it back out of the way.
- 7 On manual choke models, detach the choke cable by loosening the inner cable clamp screw. Unscrew the outer cable location clamp bolt and move the cable out of the way.

- 8 On automatic choke models, clamp the coolant hoses each side of the choke unit, then loosen the securing clips and detach the hoses from the choke unit (see illustration). If the hoses are not clamped, the cooling system will have to be partially drained to prevent coolant loss when the hoses are detached.
- 9 On BX 16 models fitted with the Solex 32-34 Z1 CIT 319-1 carburettor, disconnect the ventilation hoses from the float chamber. Note that the upper hose is connected to the air filter at the other end (see illustration).
- 10 Where applicable, disconnect the vacuum hose from the carburettor (see illustration).
- 11 Unscrew and remove the space flange retaining screw and pull the flange away from the carburettor body.
- 12 Unscrew and remove the four nuts securing the carburettor to the inlet manifold, then lift the carburettor away from it for removal. Retrieve the old joint gasket and place a piece of clean cloth over the aperture in the manifold to prevent the ingress of contamination while the carburettor is removed.

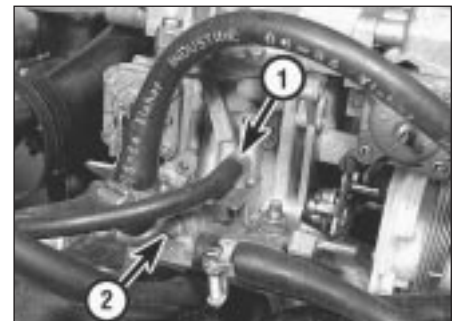
4A



14.8 Solex 32-34 - coolant hose connections



14.9 Solex 32-34 - ventilation hose connections



14.10 Solex 32-34 - vacuum hose connection (1) and spacer flange connection (2)

Refitting

13 Refitting the carburettor is the reverse of the removal procedure. Remove all traces of the old gasket and use a new one on installation.

14 After fitting the carburettor, reconnect the accelerator cable and (where applicable) the choke cable. When the choke control cable is fitted and the choke knob is pushed fully in, the flap should be fully open and there should be a small amount of possible additional movement on the control knob. Check that the flap closes when the control is pulled.

15 After reconnecting the two coolant hoses, remove any clamps used.

16 Top up the cooling system.

17 Adjust the idle speed on completion.

15 Solex carburettors - overhaul



1 The carburettor should not normally need to be dismantled except for cleaning and checking the float level.

2 The carburettor is a relatively delicate instrument and requires careful handling. Use the correct tools for the job and do not interchange jets or clean them out with wire which will cause damage and interfere with calibration.

3 Before dismantling, clean the outside of the carburettor and prepare a clean work area.

4 It is sound policy to ensure that individual

carburettor parts are fitted in their exact original position, even though they may appear to be interchangeable. To help in this procedure, label items, put small parts in containers so that they do not become mixed up, and lay parts out in order of assembly on clean paper.

5 Identify the relevant illustration for the carburettor being dismantled (see illustrations).

6 Undo the retaining screws and the choke link connecting screw, seen behind the arm of the spring (see illustration) and lift the carburettor top cover away from the main body (see illustration)

7 The float can be removed by pushing out the hinge pin and then the needle valve assembly can be unscrewed from the cover. Unscrew the fuel inlet connection and remove the gauze filter. Examine the filter for contamination.

8 Remove the accelerator pump operating rod and then remove the cover by progressively undoing the four retaining screws whilst restraining it against the action of the spring under the diaphragm. Examine the diaphragm for splits or damage.

9 Remove the accelerator pump inlet valve cover located in the bottom of the float chamber, taking care not to lose the ball valve. Examine the filter for contamination.

10 Unscrew and remove the jets, checking them for dirt or blockage.

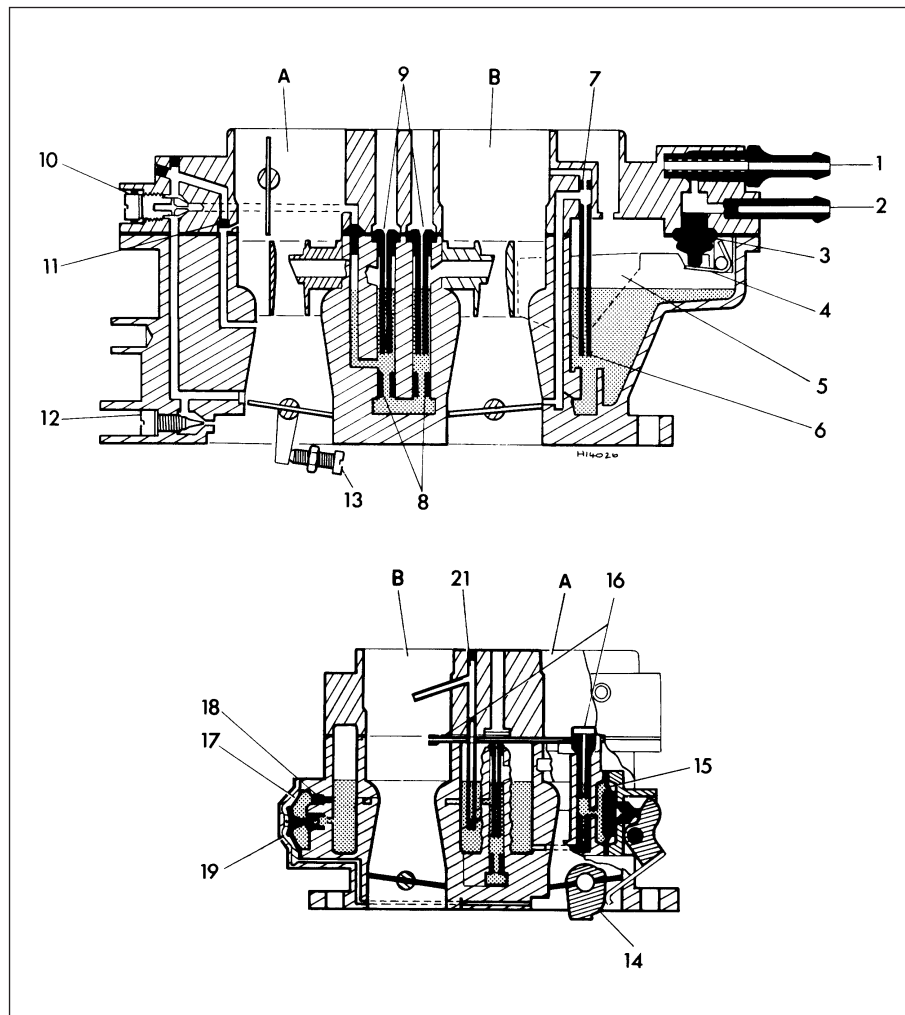
11 It should not be necessary to interfere with any adjusting screws but, if this is necessary, count the number of turns required to remove the screw so that it can be refitted in approximately the same position.

12 Do not disturb the choke flap and throttle butterfly valve or spindles. Their actuating mechanisms are external and normally require no attention unless excessively worn. If the spindles are worn in the carburettor body then serious consideration should be given to renewing the complete carburettor. Air leaks around a worn spindle makes it impossible to tune the carburettor correctly and poor performance and impaired economy will inevitably result.

13 The respective chambers, passages and jet seats can be brush cleaned using clean fuel and then blown dry. Do not use cloth. Clean and blow through the jets in a similar manner.

14 Reassembly is the reverse of the dismantling procedure. Use new washers, gaskets, or seals, wherever fitted. During reassembly, check and adjust the float level.

15 On refitting the carburettor, check the idle speed setting and adjust as necessary. Further "on vehicle" carburettor adjustments may be necessary, check with the appropriate carburettor Section.

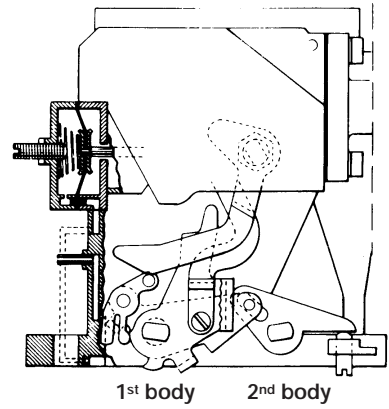
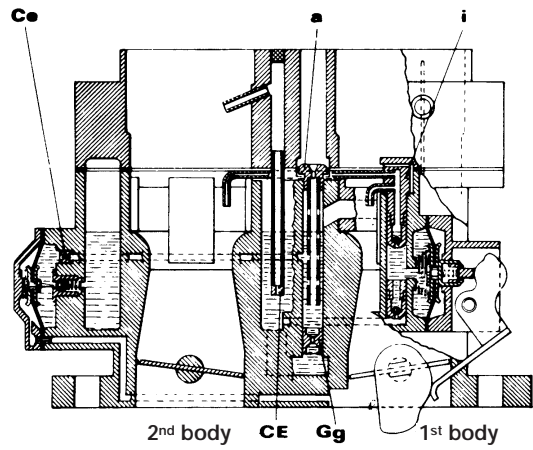
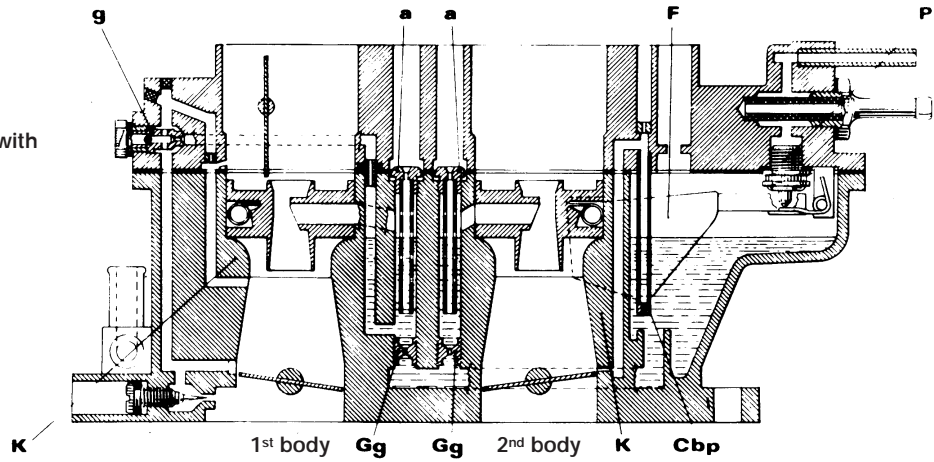


15.5a Sectional view of Solex carburettor - BX and BX 14

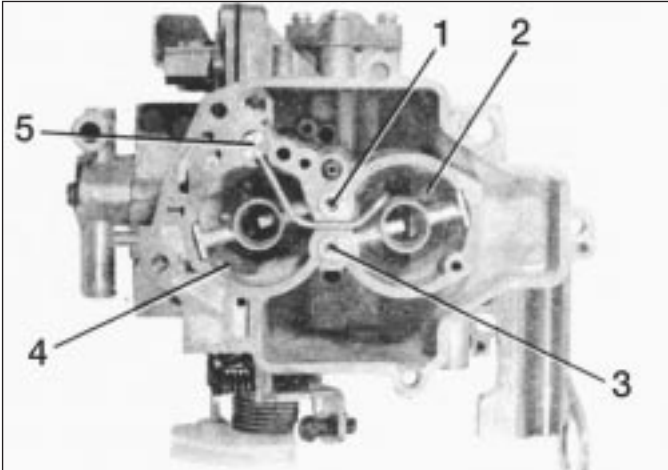
- | | | |
|-----------------------------|----------------------------------|-------------------------------|
| 1 Fuel inlet | 9 Air correction jets | 15 Accelerator pump |
| 2 Fuel return | 10 Idle jet | 16 Accelerator pump injectors |
| 3 Needle valve | 11 Idle air calibration | 17 Power enricher |
| 4 Float level adjusting tab | 12 Idle mixture adjustment screw | 18 Enricher calibration |
| 5 Float | 13 Idle speed adjustment screw | 19 Enricher valve |
| 6 Progression fuel jet | 14 Accelerator pump cam | 21 Econostat |
| 7 Progression air jet | | A Primary barrel |
| 8 Main jet | | B Secondary barrel |

15.5b Solex 32-34 carburettor with automatic choke - BX 16

- a* Air corrector jets
- Cbp* Bypass jet
- Ce* Enrichment device jet
- CE* Econostat fuel jet
- g* Idle jet
- Gg* Main jet
- F* Float
- i* Pump injector
- K* Venturi
- P* Needle valve

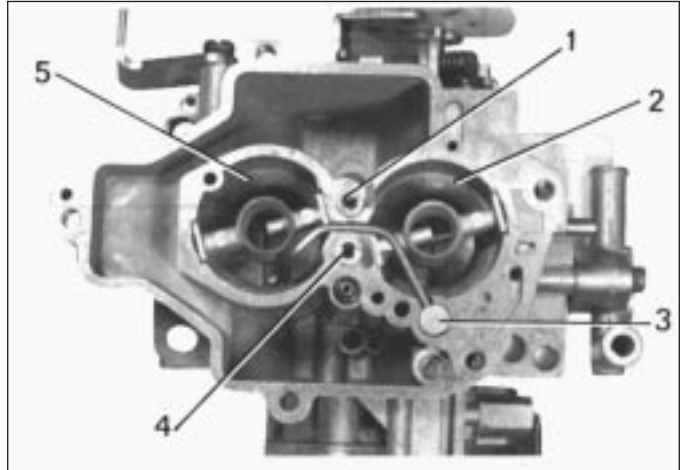


4A



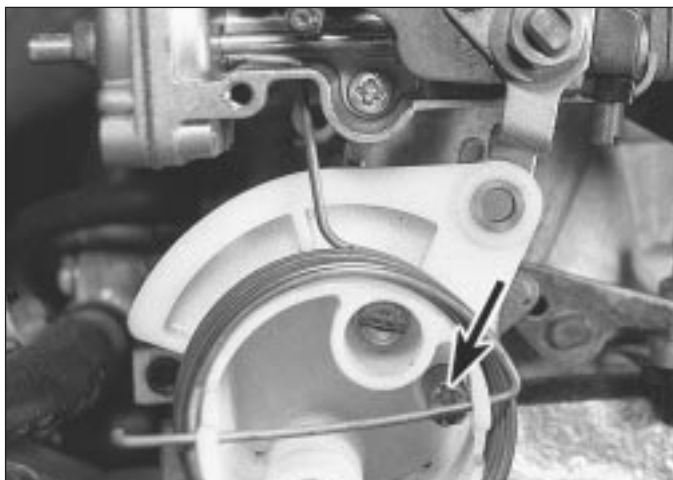
15.5c Solex 30-30 and 32-34 Z 2 - top view with cover removed

- 1 Main jet (primary)
- 2 Secondary venturi
- 3 Main jet/air corrector jet/emulsion tube (secondary)
- 4 Primary venturi
- 5 Pump injector

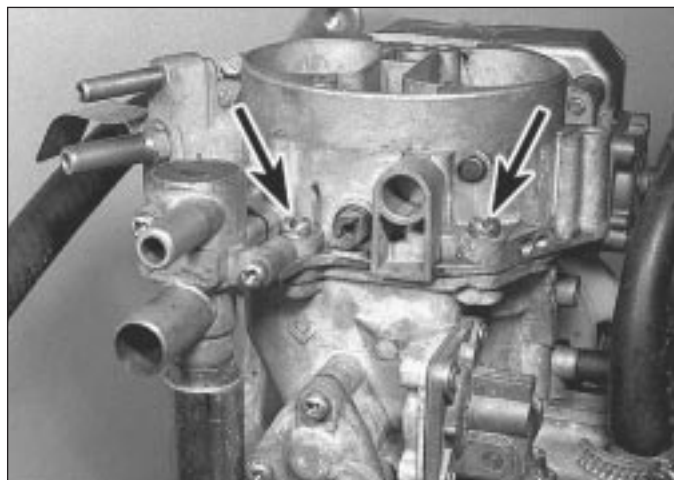


15.5d Solex 32-34 and 34-34 Z 2 - top view with cover removed

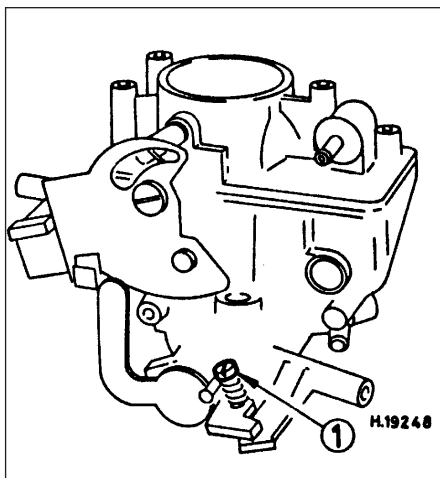
- 1 Main jet
- 2 Primary venturi
- 3 Pump injector
- 4 Main jet/air corrector jet/emulsion tube (primary)
- 5 Secondary venturi



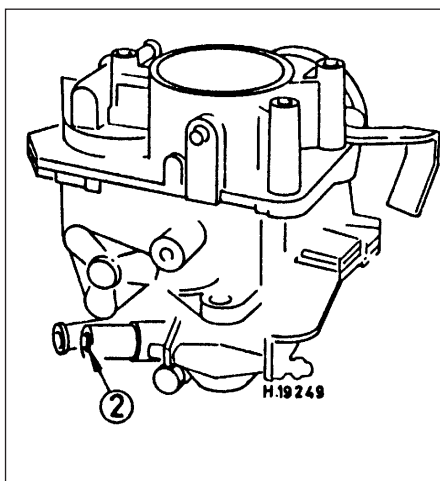
15.6a Solex 32-34 Z1 W 319 - choke control unit shown with cover removed. Choke link screw (arrowed)



15.6b Solex carburettor - top cover screws (arrowed)



16.4 Solex 34 PBISA - throttle stop screw (1)



16.5 Solex 34 PBISA - mixture adjustment screw (2)

16 Solex carburettor 34 PBISA
17 - adjustment



1 The following adjustments must be made with the ignition timing correctly adjusted, the air cleaner fitted and the engine at normal operating temperature.

2 Connect a tachometer to the engine.
3 Where necessary, remove the tamperproof cap from the mixture adjustment screw.

Without exhaust gas analyser

4 Turn the throttle stop screw to adjust the engine speed to 750 ± 50 rpm (see illustration).

5 Turn the mixture adjustment screw to obtain the highest idling speed (see illustration).

6 Repeat the procedure given in paragraphs 4 and 5 until the engine speed is 750 ± 50 rpm (i.e. after adjusting the mixture screw).

7 Screw in the mixture adjustment screw slightly until the engine speed starts to decrease.

With exhaust gas analyser

8 Turn the throttle stop screw to adjust the engine speed to 750 ± 50 rpm.

9 Turn the mixture adjustment screw to obtain the specified CO reading.

10 Repeat the procedure given in paragraphs 8 and 9 until the idle speed is 750 ± 50 rpm.

17 Solex carburettors 30-30 Z2
CIT 329 and 32-34 Z2 CIT
348 - adjustment



Float level setting

1 This check can be made with the carburettor in the vehicle but the air cleaner duct will need to be detached and the carburettor top cover disconnected and removed.

2 Check that the floats are not punctured and also that the float arm pivot pin and support holes are not excessively worn.

3 With the top cover inverted and the gasket in position, measure the distance (A) from the gasket to the tip of the float (see illustration). This distance should be in accordance with the float level specified for the carburettor type.

4 If adjustment is necessary, carefully bend the float tongue (which bears on the needle) in the required direction and recheck the level setting. Further adjustment may be necessary to achieve the correct adjustment (see illustration).

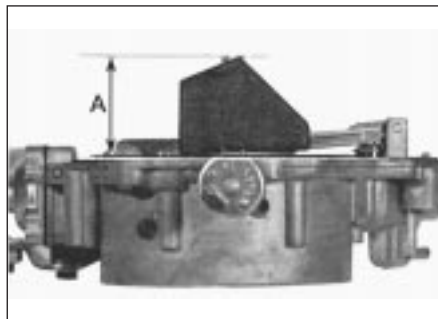
5 If the difference in height of each float exceeds 1 mm, bend the float link arms so that they are level then recheck the float setting.

6 When refitting the top cover to the carburettor main body, use a new gasket.

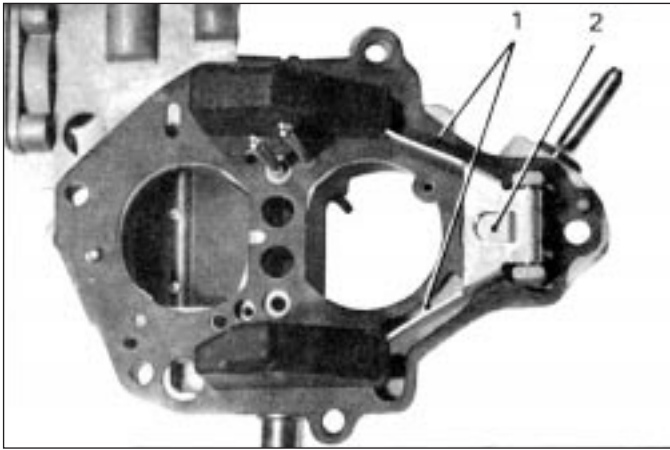
Strangler (choke) flap setting

7 This check can be made with the carburettor in the vehicle but the air duct must be detached. Run the engine to provide the necessary manifold vacuum.

8 Pull the choke lever to its full extent and retain it in position. This will subject the



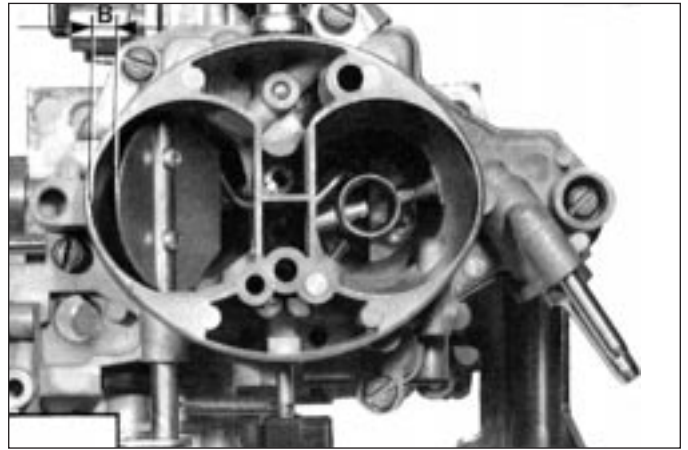
17.3 Solex 30-30 and 32-34 Z 2 - float level setting (A)



17.4 Solex carburettor - float level setting adjustment

1 Float arm link

2 Float tongue



17.8 Solex carburettor - strangler (choke) flap clearance (B)

anti-flooding capsule to a vacuum of 350 mbar and should open the strangler flap the specified amount. To check the flap opening, insert a gauge or twist drill down between the flap and the inner wall of the venturi (B) (see illustration).

9 If necessary, adjustment can be made to open or close the flap to the specified clearance by turning the adjustment screw (see illustration) in the required direction.

Primary choke valve (throttle) setting

10 The carburettor must be removed and inverted for this check.

11 Hold the strangler flap in the closed position and check the clearance between the outer edge of the butterfly valve and the venturi wall (see illustration). To check the clearance, insert a gauge or twist drill of the same diameter as the specified clearance between the two.

12 If adjustment is necessary, prise free the tamperproof cap from the adjustment screw and turn the screw in the required direction to set the clearance (see illustration). On completion, a new tamperproof cap should be fitted but this must be entrusted to your Citroën dealer as a special tool is required.

Strangler (choke) flap setting

2 A special Citroën gauge (OUT 180143-T) is required to make this check. If this gauge is not available, then the check will have to be made by a Citroën dealer (see illustration).

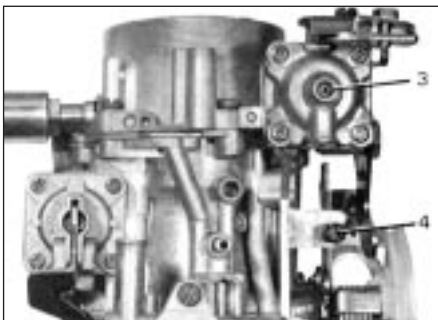
3 Start and run the engine up to its normal operating temperature, when the cooling fan will cut in and then out.

4 Remove the air intake duct from the carburettor.

5 Remove the cover from the automatic choke housing (see illustration 15.6a).

6 Locate the gauge into position and check that the mobile roller is correctly positioned between the two gauge slots. If not, turn the adjustment screw of the heat-extensible capsule to meet this requirement (see illustration). Prevent the nut from turning by using a 3 mm diameter drill (see illustration).

7 Now reposition the gauge so that it is as shown (see illustration) and, with the engine running at idle speed, check that the strangler flap is open to give a gap of 6 ± 1 mm between its outer edge and the wall of the carburettor. Use a gauge or twist drill of suitable diameter to assess the clearance. If adjustment is necessary, turn the adjustment screw (A).



17.9 Solex 30-30 and 32-34 Z 2 - choke flap adjuster (3) and idle screw (4)

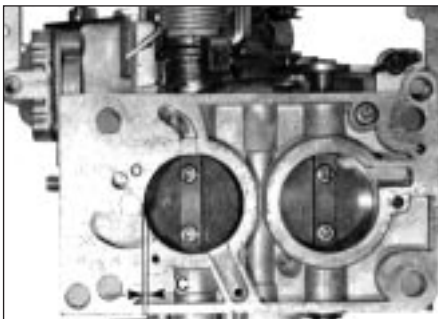
18 Solex carburetors 32-34 Z1 CIT 319, W 319 and 34-34 Z1 381 - adjustment



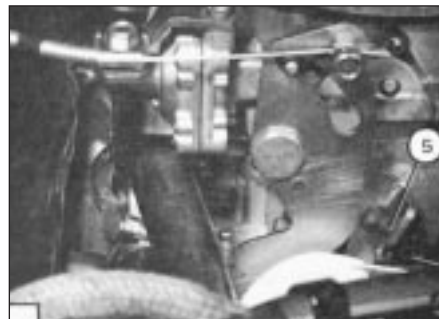
Note: The following adjustments were made with the carburettor in the vehicle

Float level setting

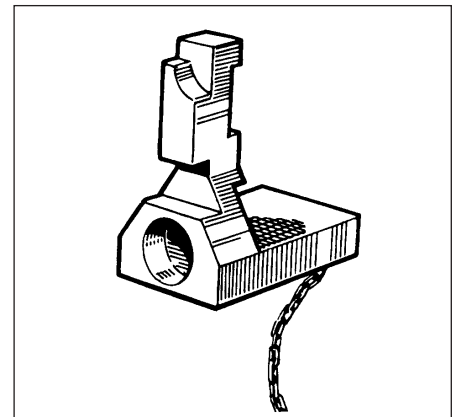
1 The float level setting check and adjustment procedure is similar to that described in the previous Section for other Solex carburetors.



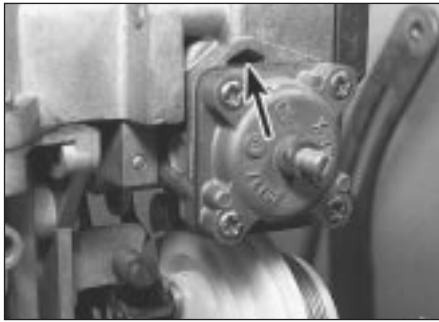
17.11 Primary choke (throttle) valve-to-venturi clearance (C)



17.12 Solex 30-30 and 32-34 Z 2 - primary choke valve adjuster screw location (5)



18.2 Special automatic choke gauge (OUT 180 143-T) for Solex carburetors



18.6a Solex 32-34 Z1 W 319 - access aperture for screwdriver to adjust heat extensible capsule screw (arrowed)

8 Turn off the engine and leave the gauge in the previously set position. Open up the accelerator to its full extent, hold it in this position and check the strangler flap to-carburettor wall clearance which should be 8 mm. If this clearance is incorrect, prise open the actuating fork jaws (to increase the clearance) or pinch them together (to reduce the clearance) as necessary.

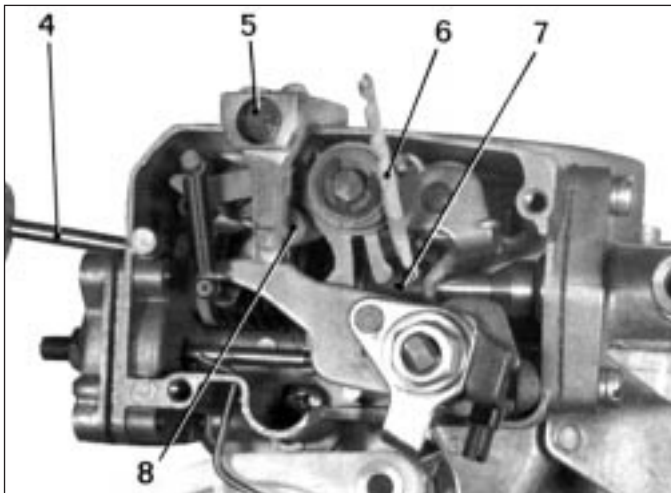
Primary choke valve (throttle) setting

9 Leave the gauge in the previously set position, connect up a tachometer to the manufacturer's instructions and restart the engine.

10 The engine speed should increase to between 2350 to 2450 rpm for models fitted with a shim on the choke cam or between 1700 and 1800 rpm for models without this shim. If the engine speed is not within these limits, adjust screw D.

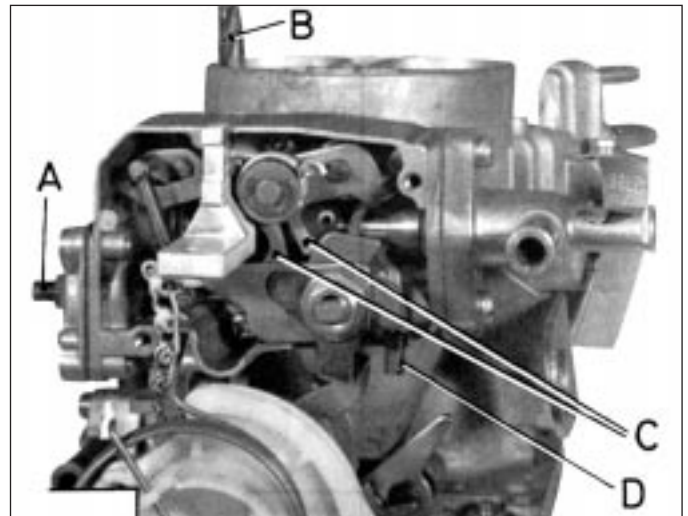
11 Note that the above mentioned shim was fitted during manufacture to increase the engine speed during the choke phase when used during the first 600 miles. If still in position after this mileage has been covered, it can be removed by prising it free with a thin screwdriver (see illustration).

12 On completion, remove the gauge and tachometer, refit the choke cover and reconnect the air filter duct.



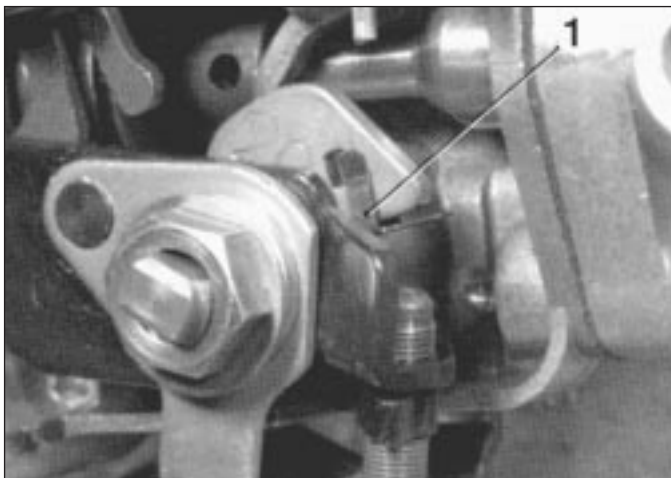
18.6b Solex 32-34 and 34-34 Z 1 - mobile roller adjustment for automatic choke control

- | | |
|---------------------------------|------------------|
| 4 Screwdriver | 6 3 mm drill |
| 5 Special gauge (OUT 180 143-T) | 7 Nut |
| | 8 Movable roller |

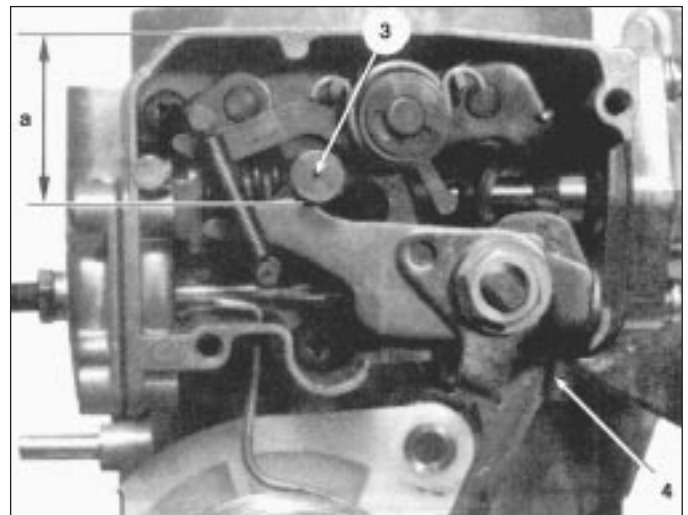


18.7 Solex 32-34 and 34-34 Z 1 - strangler flap opening check

- | | |
|----------------------|--------------------------------------|
| A Adjuster screw | D Primary choke valve adjuster screw |
| B Gauge/twist drill | |
| C Actuator fork jaws | |



18.11 Solex 32-34 Z1 CIT 319-1 - temporary shim (1). Remove after initial 600 miles

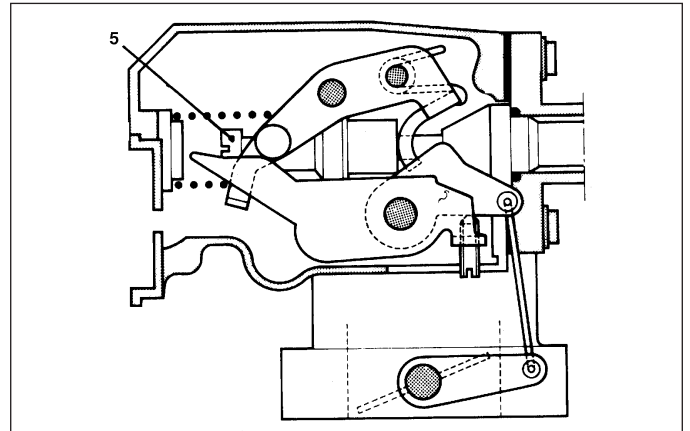


19.2a Solex 32-34 Z1 and 34-34 Z1 - strangler (choke) flap setting

- | | |
|-------------------------------|---------------------------------------|
| 1 Refer to illustration 19.2b | 4 Primary choke flap adjustment screw |
| 3 Roller | |

| Temperature in C degrees | Dimension "a" in mm |
|--------------------------|---------------------|
| 5 | 29.5 |
| 10 | 28.8 |
| 15 | 28.4 |
| 20 | 27.6 |
| 25 | 27 |
| 30 | 26.3 |

19.2b Table relating temperature to distance "a" in illustration 19.2a



19.3 Solex 32-34 Z1 and 34-34 Z1 - strangler (choke) flap adjustment screw (5)

19 Solex carburetors 32-34 Z1 and 34-34 Z1 - adjustment



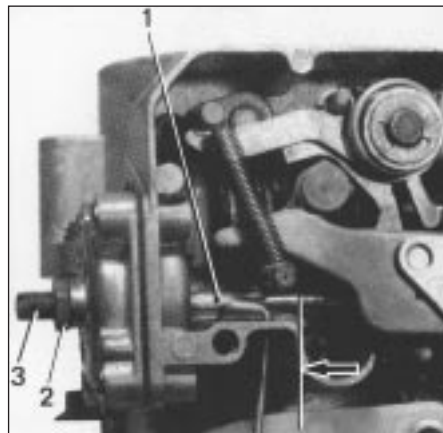
Note: The carburettor must be removed from the vehicle for these adjustments

Strangler (choke) flap setting

- 1 Remove the cover from the automatic choke housing.
- 2 Measure the distance from the top of the choke housing to the roller (see illustration) and compare it with the value in the accompanying table (see illustration).
- 3 Adjust if necessary, using a screwdriver inserted through the hole just above the deflooding capsule - see illustration 18.6a. (see illustration).

Primary choke valve (throttle) setting

- 4 With the ambient temperature at a steady 20°C (68°F), insert a gauge or drill shank to



19.6 Solex 32-34 Z1 and 34-34 Z1 - anti-flood capsule adjustment

- 1 Link rod (arrow indicates rest position)
- 2 Locknut
- 3 Adjustment screw

establish the opening of the primary choke throttle valve (see illustration 17.12).

- 5 This opening should be as specified. If not, adjust the appropriate screw (see illustration 19.2a).

Anti-flood capsule setting

- 6 Using pliers, push the anti-flood capsule link rod back into the capsule as far as it will go. Measure the strangler (choke) flap opening with the link rod in this position. If the opening does not correspond to that specified, adjust by means of the locknut and screw on the outside of the anti-flood capsule. Release the link rod (see illustration).

Mechanical (forced) deflooding

- 7 Fully open the primary throttle valve and measure the strangler flap opening in this position. It should be 8 mm. Adjust if nec-

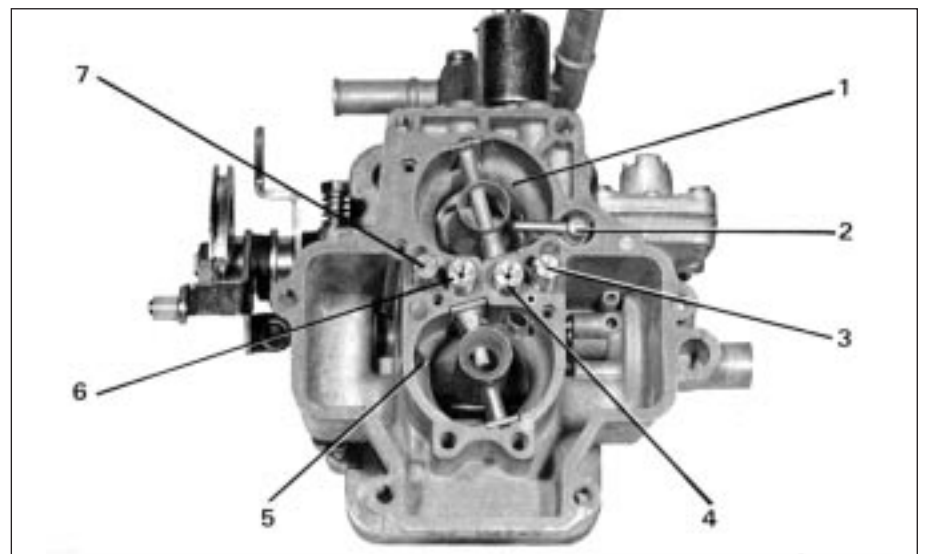
essary by bending the actuator fork jaws (see illustration 18.7).

- 8 Refit the choke housing cover when adjustments are complete.

20 Weber carburetors - overhaul

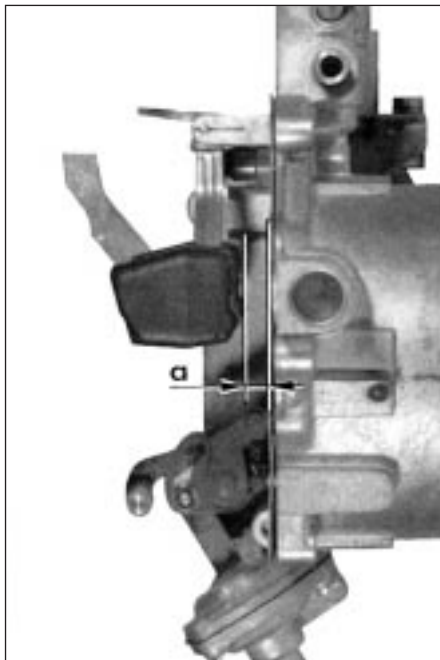


- 1 The overhaul procedure for Weber carburetors is similar to that described for Solex carburetors but note the information given for the Weber 36 TLP carburettor in Section 22.
- 2 Refer to the accompanying illustration for guidance on component location (see illustration).
- 3 Before refitting the top cover, check the float level setting. Also make other checks and adjustments as necessary.



20.2 Weber 32-34 DRTC - top view with cover removed

- | | |
|--|--|
| 1 Primary venturi | 5 Secondary venturi |
| 2 Pump injector | 6 Main jet (secondary)/air corrector jet/emulsion tube |
| 3 Idle jet | 7 Bypass jet |
| 4 Main jet/air corrector jet/emulsion tube | |



21.3 Weber carburettor - float level check
a = float-to-gasket face clearance

21 Weber carburetors - adjustment



Float level setting

1 This check can be made with the carburettor in position in the vehicle. The air cleaner duct will need to be detached and the top cover disconnected and removed.

2 Check that the floats are not punctured and that the float arm pivot pin and support holes are not excessively worn.

3 Fit the gasket in position on the cover face and support the cover vertically so that the floats hang downwards. Check that the needle valve ball is not pushed in, then measure the clearance between the gasket and the float (see illustration).

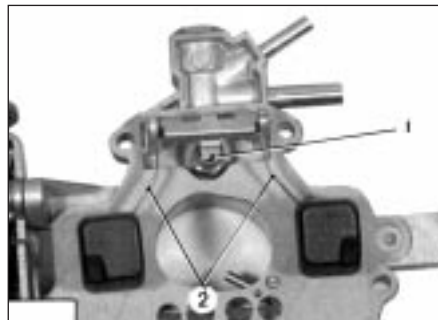
4 Compare the distance measured with the specified float setting and, if necessary, adjust the float setting by bending the float arm tongue (which bears against the needle valve). Recheck the level setting (see illustration).

5 If the difference in height between each float exceeds 1 mm, bend the float link arms so that they are level then recheck the float setting.

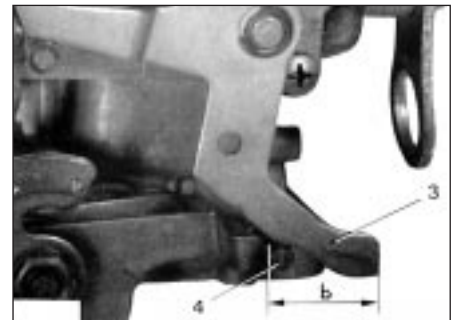
6 Use a new gasket when refitting the top cover.

Strangler (choke) control check

7 Before making this check, the engine must have been switched off for a minimum period of 30 minutes to allow the ambient temperature around the choke thermostatic capsule to have stabilised. You will need a



21.4 Weber carburettor - float level adjustment
1 Float tongue 2 Float link arm



21.8a Weber carburettor - strangler (choke) control check
Measure distance (b) between lever endface (3) and roll (4)

thermometer to measure the air temperature when making the check.

8 Measure the distance between the lever end face and the roll (see illustration). Measure the air temperature around the thermostatic capsule then refer to the temperature/distance tables and compare the

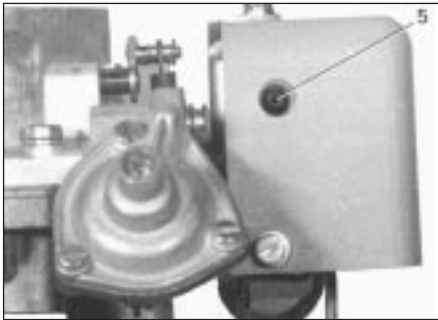
readings taken (see illustration). Where the temperature measured is not shown on the table, an estimate can be made.

9 If adjustment is necessary, turn the adjuster screw in the required direction to the point where the correct distance is given (see illustration).

| | Temperature in C degrees | Dimension « b » in mm |
|---|--------------------------|-----------------------|
| A | 5 | 22.7 |
| | 10 | 23.7 |
| | 15 | 24.7 |
| | 20 | 25.6 |
| | 25 | 26.4 |
| | 30 | 27.2 |
| | 35 | 28 |
| | 40 | 29.1 |
| | 45 | 30.2 |

| | Temperature in C degrees | Dimension "b" in mm |
|---|--------------------------|---------------------|
| B | 5 | 19 |
| | 10 | 20.1 |
| | 15 | 21.5 |
| | 20 | 22.7 |
| | 25 | 24.3 |
| | 30 | 25.7 |
| | 35 | 27.5 |
| | 40 | 28.9 |
| | 45 | 30.1 |

21.8b Dimension "b" in illustration 21.8a must be in accordance with temperature at thermostatic capsule

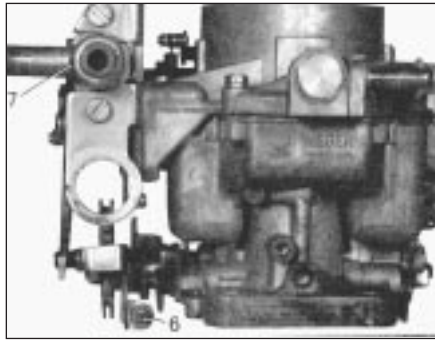


21.9 Weber carburettor - automatic choke adjuster screw (5)

Primary choke valve (throttle) setting

10 This check can only be made with the carburettor removed. When making this check, the ambient temperature and the carburettor temperature should be 20°C.

11 Insert a gauge of the specified diameter between the venturi wall and the primary choke valve.



21.12 Weber carburettor - turn screw (6) to alter primary choke valve opening. Thermostatic capsule (7) also indicated

12 If the clearance is not as specified, adjust it by turning the adjustment screw (clockwise to decrease the opening or anti-clockwise to increase the opening) (see illustration).

13 As with the strangler control check, the opening should be checked after the thermostatic capsule temperature has been allowed to stabilise for a minimum period of 30

minutes. If the ambient temperature around the capsule differs from that specified then the primary choke valve opening will differ also, and reference should then be made to the table shown (see illustration). The valve opening should be in accordance with the ambient temperature shown.

14 Where the ambient temperature differs from those given, an estimate can be made.

Strangler (choke) flap setting

15 Before checking the strangler flap opening, certain preliminary checks must be made. First remove the control spring by detaching the retaining circlip at each end (see illustration). With the control spring removed, check that the length measured between the end rings is between 40.3 and 40.7 mm (see illustration). If this measurement is not correct, renew the control spring.

16 Remove the two anti-flooding capsule retaining screws and unclip the capsule control rod retaining circlip. Remove the capsule unit and check that the port is clear (see illustration), also the gallery opening in the base of the carburettor.

17 Refit the anti-flood capsule and the control spring.

| Temperature in C degrees | Dimension « c » in mm |
|--------------------------|-----------------------|
| 5 | 0.65 |
| 10 | 0.60 |
| 15 | 0.55 |
| 20 | 0.50 |
| 25 | 0.45 |
| 30 | 0.40 |
| 35 | 0.37 |
| 40 | 0.35 |
| 45 | 0.33 |

A

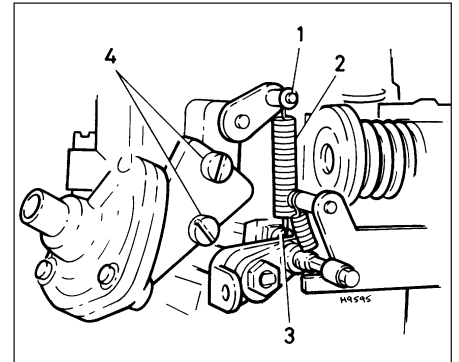
| Temperature in C degrees | Dimension "c" in mm |
|--------------------------|---------------------|
| 5 | 0.60 |
| 10 | 0.55 |
| 15 | 0.50 |
| 20 | 0.45 |
| 25 | 0.40 |
| 30 | 0.37 |
| 35 | 0.30 |
| 40 | 0.25 |
| 45 | 0.20 |

B

21.13 Weber carburettor - primary choke valve opening to be in accordance with temperature at thermostatic capsule

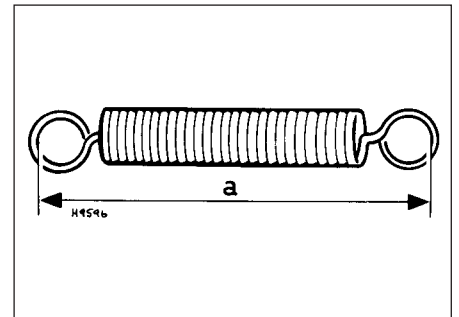
A 32-34 DTRC 100 W 121-50

B 32-34 DTRC 2/100 W 128-50



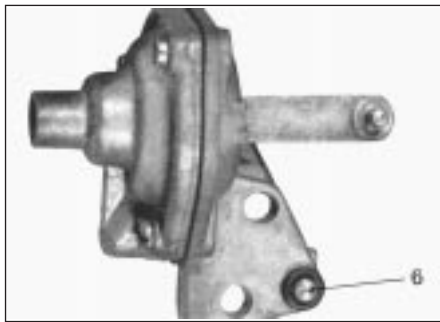
21.15a Weber carburettor - strangler flap opening check

- 1 Circlip
- 2 Control spring
- 3 Circlip
- 4 Screws

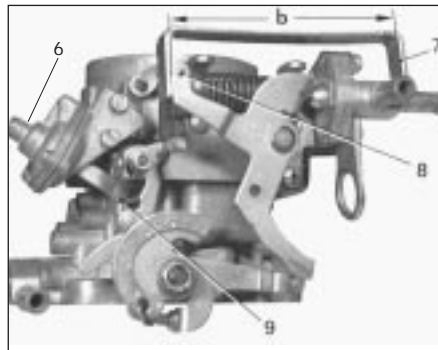


21.15b Measure control spring between end rings

a = 40.5 ± 0.2 mm

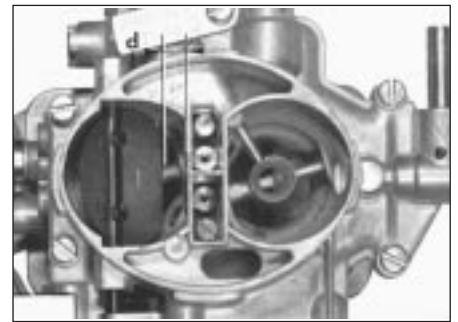


21.16 Weber carburettor - check that port (6) is clear



21.18 Weber carburettor - strangler flap opening adjustment

- 6 Anti-flood capsule
- 7 Clamp (dimension b to equal 103 mm)
- 8 Shaft/heater pipe of thermal capsule
- 9 Lever



21.19 Weber carburettor - strangler flap opening (d)

18 The strangler flap opening can now be checked. A clamp will need to be fabricated to hold the strangler in the low temperature position. Note the clamp dimension and fitting position (see illustration). The clamp is fitted to ensure that the strangler flap is fully opened for the check. Position the clamp over the shaft and the thermostatic capsule heating pipe.

19 Push against the anti-flood capsule control rod and check the strangler flap opening using a gauge rod or twist drill of the same diameter as the specified clearance (see illustration).

20 If the strangler flap opening is not as specified, adjust it by turning the screw within the anti-flood capsule in the appropriate direction. On completion remove the bracket.

22 Weber carburettor 36 TLP - overhaul and adjustment



1 This carburettor is a single choke downdraught type with a manual choke.

Overhaul

2 For overhaul refer to Section 15 for general principles and to the accompanying illustrations for jet location (see illustrations).

Idle speed and mixture adjustment

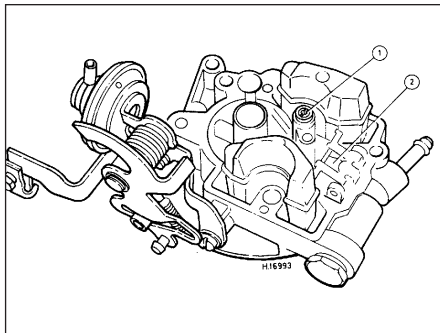
3 These adjustments are essentially as described in Section 13 (see illustration).

Float level setting

4 For float level setting, make up a gauge as shown (see illustration). Remove the float chamber cover and hold it vertically. With the gasket in position, the gauge should just contact the floats (see illustration). Bend the float tongue and connecting bars if necessary.

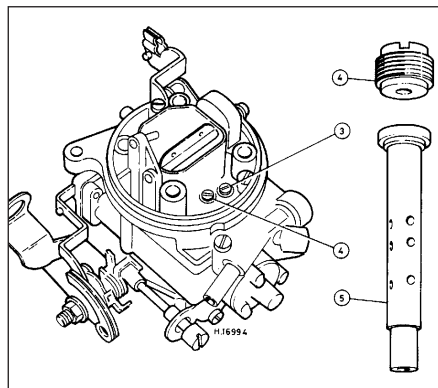
Cold start (choke) adjustments

5 These are not routine adjustments but should be performed if difficult cold starting is experienced.



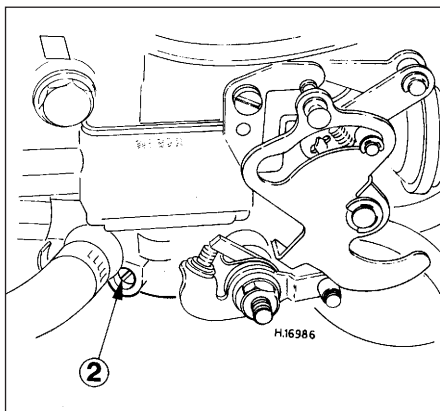
22.2a Weber 36 TLP - top cover

- 1 Main jet
- 2 Fuel inlet needle valve

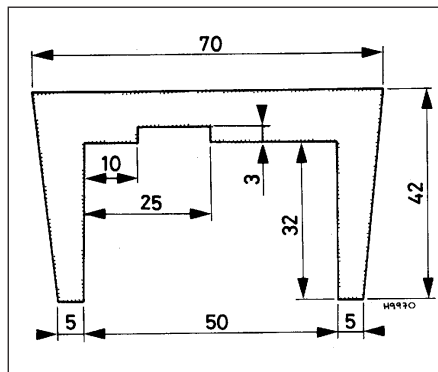


22.2b Weber 36 TLP - jet locations

- 3 Idle jet
- 4 Air correction jet
- 5 Emulsion tube

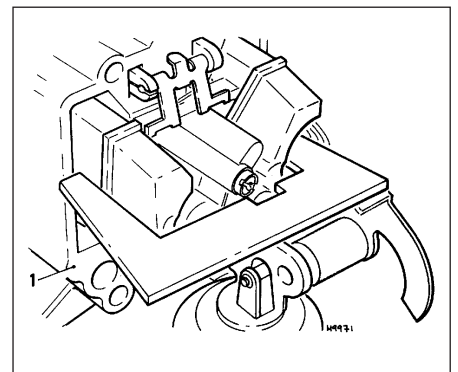


22.3 Weber 36 TLP - mixture adjustment screw (2)



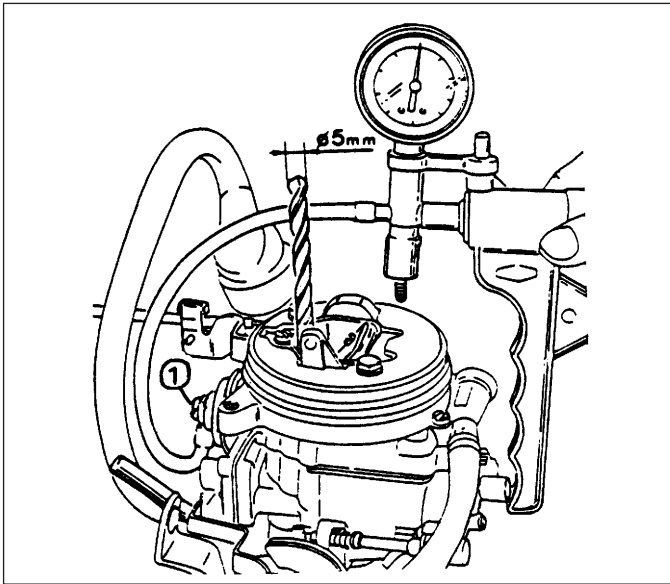
22.4a Weber 36 TLP - float level setting gauge

Dimensions in mm



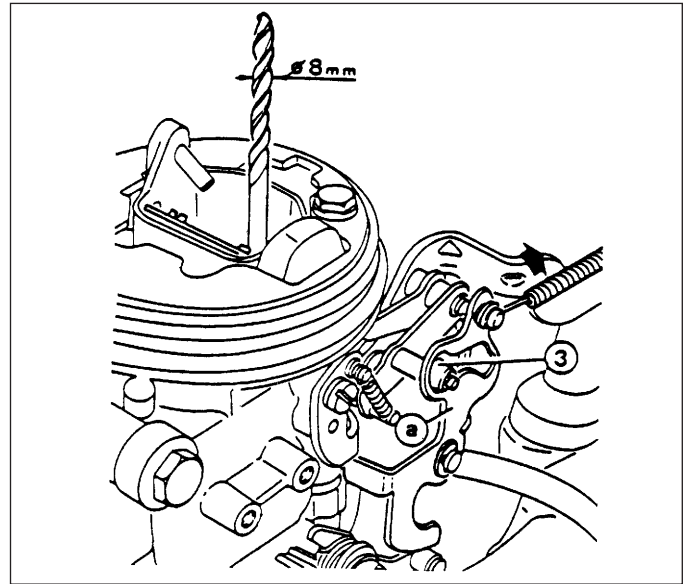
22.4b Weber 36 TLP - checking float level

- 1 Gasket



22.8 Weber 36 TLP - checking strangler opening after starting

1 Anti-flood capsule adjustment screw



22.11 Weber 36 TLP - checking strangler mechanical opening

a Cam

3 Roller

Strangler opening after starting

6 Remove the air inlet from the top of the carburettor. Pull the choke control knob out fully to close the strangler flap.

7 Disconnect the vacuum pipe from the anti-flood capsule. Connect a hand vacuum pump to the capsule.

8 Apply vacuum (400 mm Hg approx.) to the capsule. The strangler flap should open far enough to admit a gauge of 5 mm diameter (see illustration).

9 Adjust if necessary by means of the screw on the anti-flood capsule.

10 Disconnect the vacuum pump, remake the original vacuum connection and close the strangler flap.

Mechanical opening

11 Having adjusted the anti-flood capsule as just described, move the strangler opening roller into the recess of the cam as shown (see illustration).

12 Check that the strangler flap opening just admits a gauge of 8 mm diameter.

13 Adjustment is carried out by turning the nut shown after removing the carburettor (see illustration).

14 When adjustment is complete, refit the carburettor and air inlet.

opening and closing on its return. If necessary, adjust the outer cable at the location bracket as required and fit the securing clip.

6 On automatic transmission models, the accelerator cable and kickdown cable adjustment checks are described in Chapter 7B.

24 Choke cable - removal and refitting



4A

Removal

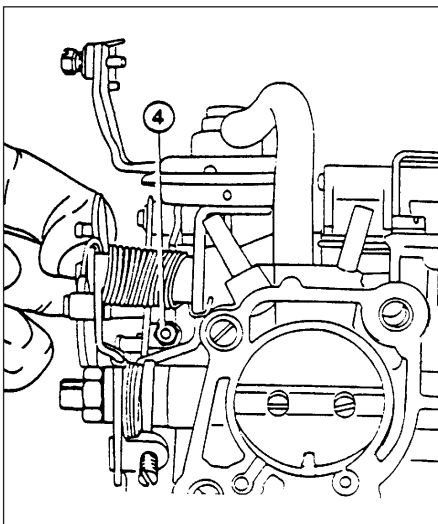
1 Loosen the clamp bolt securing the inner cable to the choke flap operating link.

2 Loosen the bolt securing the clamp plate which holds the outer sheath on the carburettor bracket. Detach the inner cable and outer sheath from the carburettor.

3 Working inside the vehicle, remove the knob from the choke control cable and undo the control retaining nut. Push the control



23.2 Solex carburettor - accelerator cable location bracket. Adjustment/securing clip of outer cable is indicated



22.13 Weber 36 TLP - strangler mechanical opening adjustment nut (4)

23 Accelerator cable - removal and refitting



Removal

1 Pivot the carburettor throttle control quadrant and hold it in the open throttle position. Release the accelerator inner cable from the quadrant groove.

2 Release the outer cable from the location bracket on the carburettor (see illustration).

3 Working inside the vehicle, detach the cable end fitting from the end of the accelerator foot pedal. Withdraw the cable from the vehicle by pulling it into the passenger compartment, at the same time feeding it through the bulkhead grommet.

Refitting

4 Before fitting a new cable, lubricate the inner cable with engine oil.

5 Refitting an accelerator cable is the reverse of the removal procedure. On completion check cable operation is satisfactory through its range of travel and allows full throttle

through the facia and then disconnect the choke warning light cable from the switch on the control.

4 Pull the control assembly into the vehicle, working it through the rubber grommet in the bulkhead.

Refitting

5 Refitting the choke control is the reverse of the removal procedure.

6 With the cable fitted and with the air cleaner removed, check that the choke is fully open when the control knob is pushed home and closed when the knob is pulled. Check also that the warning light is on when the choke is pulled.



25.3a Exhaust manifold with air filter hot air collector cowling fitted - BX 16



25.3b Exhaust manifold-to-downpipe connection - BX 16

25 Inlet and exhaust manifolds - removal and refitting



Removal

1 The inlet and exhaust manifolds are located on opposite sides of the cylinder head. They can be removed individually or together with the cylinder head. Removal of the exhaust manifold with the cylinder head in situ is more difficult due to its close proximity to the bulkhead.

2 The inlet manifold can be removed with or without the carburettor attached. Whichever method is employed, the carburettor connections and associated coolant hoses must first be detached.

3 When removing the exhaust manifold, first raise and support the vehicle at the front end to allow access to the manifold and exhaust downpipe flange connection nuts/bolts (see illustrations).

4 If on removal, the manifolds are found to be damaged in any way, then they must be renewed.

Refitting

5 Before refitting, clean the mating flange faces of the manifold and cylinder head. Always use new gaskets.

6 Tighten the retaining nuts and bolts, evenly and in a diagonal sequence, to the specified torque setting.

26 Exhaust system - maintenance, removal and refitting



Maintenance

1 Refer to Chapter 1, Section 6.

Removal

2 When removing an old system, do not waste time trying to undo rusted and seized nuts, bolts or clamps. Cut them off. New ones will be required in any case if they are that bad.

Refitting

3 When fitting a system, use an exhaust joint sealant when assembling pipe sections to ensure that the joints are free from leaks. Get the system into position, but do not tighten



26.3 Exhaust system flexible hanger (arrowed)

connections until everything is properly located. If the flexible hangers have deteriorated then they must be renewed (see illustration).

4 When reassembling the spring-loaded joint coupling, the joint and retaining screw heads must be lubricated with a special high temperature grease which can be obtained from a Citroën dealer. On BX and BX 14 models, tighten the joint bolts evenly to the point where the compressed spring length is 22 mm. On BX 16 and BX 19 models tighten the bolts evenly until the cup contacts the screw shoulder (see illustration).

