Manufacturer	Citroën	Citroën	Citroën
Model	BX 14	LNA 11E, 11RE	Visa (954 cc)
Year	1988 to 1992	1982 to 1986	1985 to 1987
Engine code	K1G (TU3A)	XW7 (1095F)	108C (XV8)
Capacity (cm³)/no. of cyls	1360/4	1124/4	954/4
Oil temperature (°C)	90	80	80
Transmission	–	–	–
Carb. ident. (Solex)	34 PBISA 17 13643	32 PBISA 12 13168	32 PBISA 12 13378
Carb. ident. (vehicle)	481	CIT 341	370
Idle speed (rpm)	750 ± 50	725 ± 25	725 ± 25
Fast idle speed (rpm)	–	–	–
CO @ idle (% vol.)	0.8 to 1.2	0.8 to 1.2	0.8 to 1.2
Special conditions	–	–	–
Stage (venturi)	1	1	1
Venturi diameter (K)	26	24	25
Idle jet (g)	44 ± 2	44	46
Main jet (Gg)	132 ± 5	120	122
Air correction jet (a)	155 ± 10	170	155
Emulsion tube (s)	EC	–	
Accelerator pump jet (i)	40	35	35
Float level (mm)	38	38	38
Needle valve (mm) (P)	1.6	1.6	1.6
Basic throttle position (PF)		–	–
Idle position (PRN)	–	–	–
Idle position (ORF)		–	–
Choke fast idle gap (mm)	0.6	0.75	0.8
Fast idle position (OP)	18°	21°	–
Fast idle position (OPF)	–	–	–
Fast idle position (OPR)		14°05′	–
Choke pull-down (mm) (OVAD)	3.5		–
Vent valve (mm)	–	–	–

Manufacturer	Citroën	Citroën	Citroën
Model	Visa II L, Super E	Visa II L, Super E	Visa 11E, 11RE & Convertible
Year	1981 to 1983	1981 to 1983	1983 to 1987
Engine code	109/5E/5F (XW7)	109/5E/5F (XW7)	109/5F (XW7)
Capacity (cm³)/no. of cyls	1124/4	1124/4	1124/4
Oil temperature (°C)	80	80	80
Transmission	MT	AT	–
Carb. ident. (Solex)	32 PBISA 12 13168	32 PBISA 12 13168	32 PBISA 12 13377
Carb. ident. (vehicle)	CIT 341	CIT 341	CIT 341
Idle speed (rpm)	750 ± 50	700 ± 50	700 ± 50
Fast idle speed (rpm)	–	–	–
CO @ idle (% vol.)	1.5 ± 0.5	0.8 to 1.2	0.8 to 1.2
Special conditions	–	–	–
Stage (venturi)	1	1	1
Venturi diameter (K)	24	24	24
Idle jet (g)	44	44	44
Main jet (Gg)	120	120	120
Air correction jet (a)	170	170	170
Emulsion tube (s)	–	–	
Accelerator pump jet (i)	35	35	35
Float level (mm)	38	38	38
Needle valve (mm) (P)	1.6	1.6	1.6
Basic throttle position (PF)		–	
Idle position (PRN)	–		–
Idle position (ORF)		–	–
Choke fast idle gap (mm)	0.75	0.75	0.75
Fast idle position (OP)		–	–
Fast idle position (OPF)	–		–
Fast idle position (OPR)	14°05′	14°05′	14°05′
Choke pull-down (mm) (OVAD)	–	–	–
Vent valve (mm)		–	–

Manufacturer	Citroën	Citroën	Citroën
Model	Visa Super X	Visa 14 TRS	C15E 1360 Super Van
Year	1981 to 1982	1984 to 1986	1986 to 1988
Engine code	129/5 (XZ5X)	150D (XY7)	150D (XY7)
Capacity (cm³)/no. of cyls	1219/4	1360/4	1360/4
Oil temperature (°C)	80	80	80
Transmission	–	–	–
Carb. ident. (Solex)	32 PBISA 11 13052	34 PBISA 12 13589	32 PBISA 12 13589
Carb. ident. (vehicle)	CIT 240	350	350

Manufacturer	Citroën	Citroën	Citroën
Model	Visa Super X	Visa 14 TRS	C15E 1360 Super Van
Year	1981 to 1982	1984 to 1986	1986 to 1988
Idle speed (rpm)	925 ± 25	725 ± 25	725 ± 25
Fast idle speed (rpm)	–	–	–
CO @ idle (% vol.)	1.5 ± 0.5	2.0 ± 0.5	0.8 to 1.2
Special conditions	–	–	–
Stage (venturi)	1	1	1
Venturi diameter (K)	25	26	26
Idle jet (g)	42	45	45
Main jet (Gg)	127.5	130	130 ± 5
Air correction jet (a)	160	160	160
Emulsion tube (s)	–	EC	EC
Accelerator pump jet (i)	40	40	40
Float level (mm)	38	38	38
Needle valve (mm) (P)	1.5	1.6	1.6
Basic throttle position (PF)	–	–	–
Idle position (PRN)	–	–	–
Idle position (ORF)	–	–	–
Choke fast idle gap (mm)	0.90	0.75	0.75
Fast idle position (OP)	–	20°40′	20°40′
Fast idle position (OPF)	–	–	–
Fast idle position (OPR)	–	–	–
Choke pull-down (mm) (OVAD)	–	3.5	–
Vent valve (mm)	–	–	–

Manufacturer	Citroën	Citroën	Citroën
Model	C15E 1360 Super Van	C25E 1.8	C25E 1800
Year	1988 to 1992	1987 to 1988	1989 to 1991
Engine code	K1G	XM7T (169)	170C (XN1TA)
Capacity (cm³)/no. of cyls	1360/4	1796/4	1971/4
Oil temperature (°C)	90	90	90
Transmission	–	–	–
Carb. ident. (Solex)	34 PBISA 17 13643	34 PBISA 16 13434	34 PBISA 16
Carb. ident. (vehicle)	481	A315	PSA 425
Idle speed (rpm)	750 ± 50	800 ± 50	825 ± 25
Fast idle speed (rpm)	–	–	–
CO @ idle (% vol.)	0.8 to 1.2	1.5 ± 0.5	1.5 ± 1.0
Special conditions	–	–	–
Stage (venturi)	1	1	1
Venturi diameter (K)	26	25	25
Idle jet (g)	44 ± 2	44 or 46	45
Main jet (Gg)	132 ± 5	130	127.5
Air correction jet (a)	155 ± 10	160 or 170	155
Emulsion tube (s)	EC	01	–
Accelerator pump jet (i)	40	50	50
Float level (mm)	38	38	38
Needle valve (mm) (P)	1.6	1.6	1.6
Basic throttle position (PF)	–	–	–
Idle position (PRN)	–	9°	9°
Idle position (ORF)	–	–	–
Choke fast idle gap (mm)	0.6	0.90	–
Fast idle position (OP)	18°	21°45′	20°
Fast idle position (OPF)	–	–	–
Fast idle position (OPR)	–	–	–
Choke pull-down (mm) (OVAD)	3.5	–	–
Vent valve (mm)	–	–	–

Manufacturer	Citroën	Fiat	Fiat
Model	C25E 2.0	Ducato 1.8	Ducato 2.0
Year	1987 to 1992	1982 to 1988	1982 to 1986
Engine code	XN1T (170B)	XM7T (169B) OHV	XN1T (170B) OHV
Capacity (cm³)/no. of cyls	1971/4	1796/4	1971/4
Oil temperature (°C)	90	90	90
Transmission	–	–	–
Carb. ident. (Solex)	34 PBISA 16 13434	34 PBISA 16 13434	34 PBISA 16 13434
Carb. ident. (vehicle)	A315	PEU A315	PEU A315
Idle speed (rpm)	825 ± 25	850 ± 50	900
Fast idle speed (rpm)	–	–	–
CO @ idle (% vol.)	1.5 ± 1.0	3.0 max	3.0 max
Special conditions	–	–	–
Stage (venturi)	1	1	1
Venturi diameter (K)	25	25	25

Manufacturer	Citroën	Fiat	Fiat
Model	C25E 2.0	Ducato 1.8	Ducato 2.0
Year	1987 to 1992	1982 to 1988	1982 to 1986
Idle jet (g)	44 or 46	44 or 46	44 or 46
Main jet (Gg)	130	130	130 a 5
Air correction jet (a)	160 or 170	160 or 170	160 or 170
Emulsion tube (s)	01	01	01
Accelerator pump jet (i)	50	50	50
Float level (mm)	38	38	38
Needle valve (mm) (P)	1.6	1.6	1.6
Basic throttle position (PF)	–	–	–
Idle position (PRN)	9°	9°	9°
Idle position (ORF)	–	–	–
Choke fast idle gap (mm)	0.90	0.90	0.90
Fast idle position (OP)	21°45′	21°45′	21°45′
Fast idle position (OPF)	–	–	–
Fast idle position (OPR)	–	–	–
Choke pull-down (mm) (OVAD)	–	–	–
Vent valve (mm)	–	–	–

Manufacturer	Fiat	Fiat	Peugeot
Model	Ducato 2.0	Ducato 2.0 Maxi	104 (954 cc)
Year	1986 to 1992	1986 to 1992	1979 to 1983
Engine code	XN1T (170B) OHV	XN1TA (170C) OHV	XV5 (108)
Capacity (cm³)/no. of cyls	1971/4	1971/4	954/4
Oil temperature (°C)	90	90	80
Transmission	–	–	–
Carb. ident. (Solex)	34 PBISA 16 13434	34 PBISA 16	32 PBISA 11
Carb. ident. (vehicle)	PEU A315	PSA 425	A205
Idle speed (rpm)	825 ± 25	925 ± 25	925 ± 25
Fast idle speed (rpm)	–	–	–
CO @ idle (% vol.)	1.5 ± 0.5	1.75 ± 0.25	1.5 ± 0.5
Special conditions	–	–	–
Stage (venturi)	1	1	1
Venturi diameter (K)	25	25	24
Idle jet (g)	44 or 46	45	39
Main jet (Gg)	130 ± 5	127.5	122.5 ± 2.5
Air correction jet (a)	160 or 170	155	185
Emulsion tube (s)	01	–	–
Accelerator pump jet (i)	50	50	40
Float level (mm)	38	38	38
Needle valve (mm) (P)	1.6	1.6	1.5
Basic throttle position (PF)	–	–	–
Idle position (PRN)	9°	9°	–
Idle position (ORF)	–	–	–
Choke fast idle gap (mm)	0.90	–	–
Fast idle position (OP)	21°45′	20°	19°
Fast idle position (OPF)	–	–	–
Fast idle position (OPR)	–	–	–
Choke pull-down (mm) (OVAD)	–	–	–
Vent valve (mm)	–	–	–

Manufacturer	Peugeot	Peugeot	Peugeot
Model	104 (1124 cc)	104 (1219 cc)	205 1.0
Year	1982 to 1983	1979 to 1983	1983 to 1988
Engine code	XW7 (109F)	XZ5 (129)	XV8 (108C) (31kW)
Capacity (cm³)/no. of cyls	1124/4	1219/4	954/4
Oil temperature (°C)	80	80	80
Transmission	–	–	–
Carb. ident. (Solex)	32 PBISA 16	32 PBISA 11 13011	32 PBISA 12 13378
Carb. ident. (vehicle)	341 (TAL144)	A279	370
Idle speed (rpm)	725 ± 25	925 ± 25	650 ± 50
Fast idle speed (rpm)	–	–	–
CO @ idle (% vol.)	1.5 ± 0.5	1.5 ± 0.5	0.8 to 1.5
Special conditions	–	–	–
Stage (venturi)	1	1	1
Venturi diameter (K)	24	25	25
Idle jet (g)	44	43	46
Main jet (Gg)	125 ± 5	130 ± 2.5	122.5 ± 5
Air correction jet (a)	170	160	155
Emulsion tube (s)	–	–	–

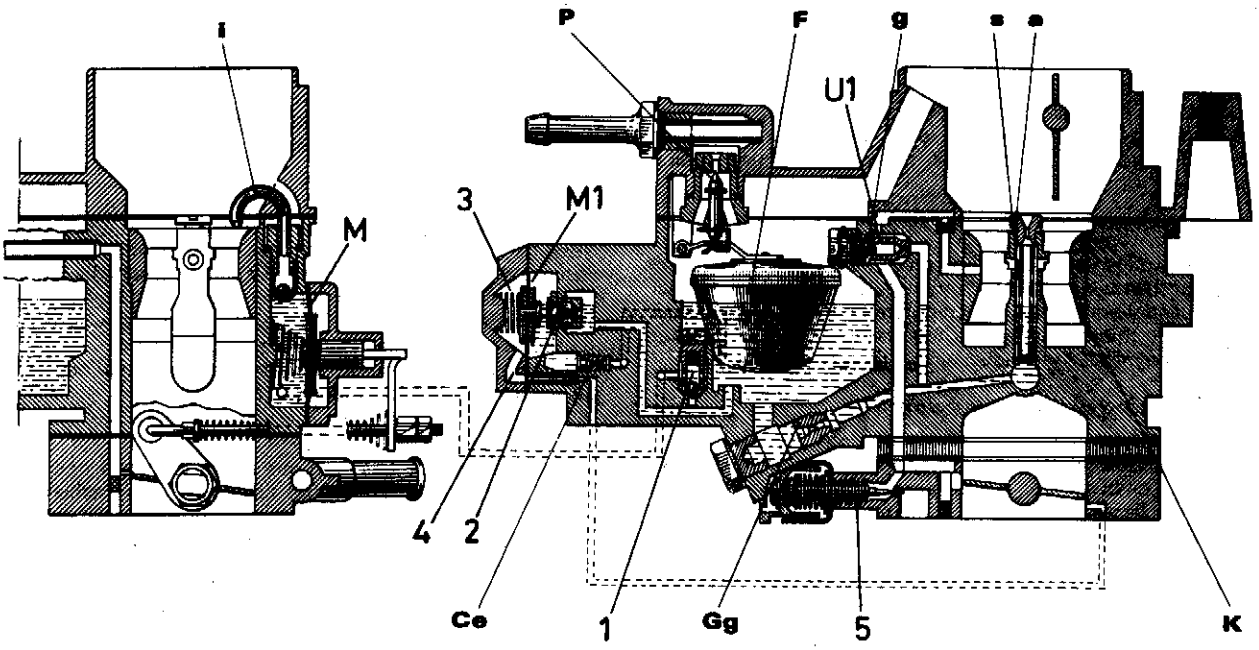

Fig. 14.1 Internal fuel channels and air passages – PBISA without idle bypass (Sec 1)

1 Accelerator pump brass inlet valve
2 Part-load enrichment valve
3 Spring
4 Vacuum channel
5 Idle mixture control screw
a Air corrector jet
Ce Fuel jet – part-load enrichment
F Float
g Idle fuel jet
Gg Main jet
i Accelerator pump injector
K Venturi
M Accelerator pump diaphragm
M1 Part-load enrichment diaphragm
P Needle valve
s Emulsion tube
U1 Idle air bleed

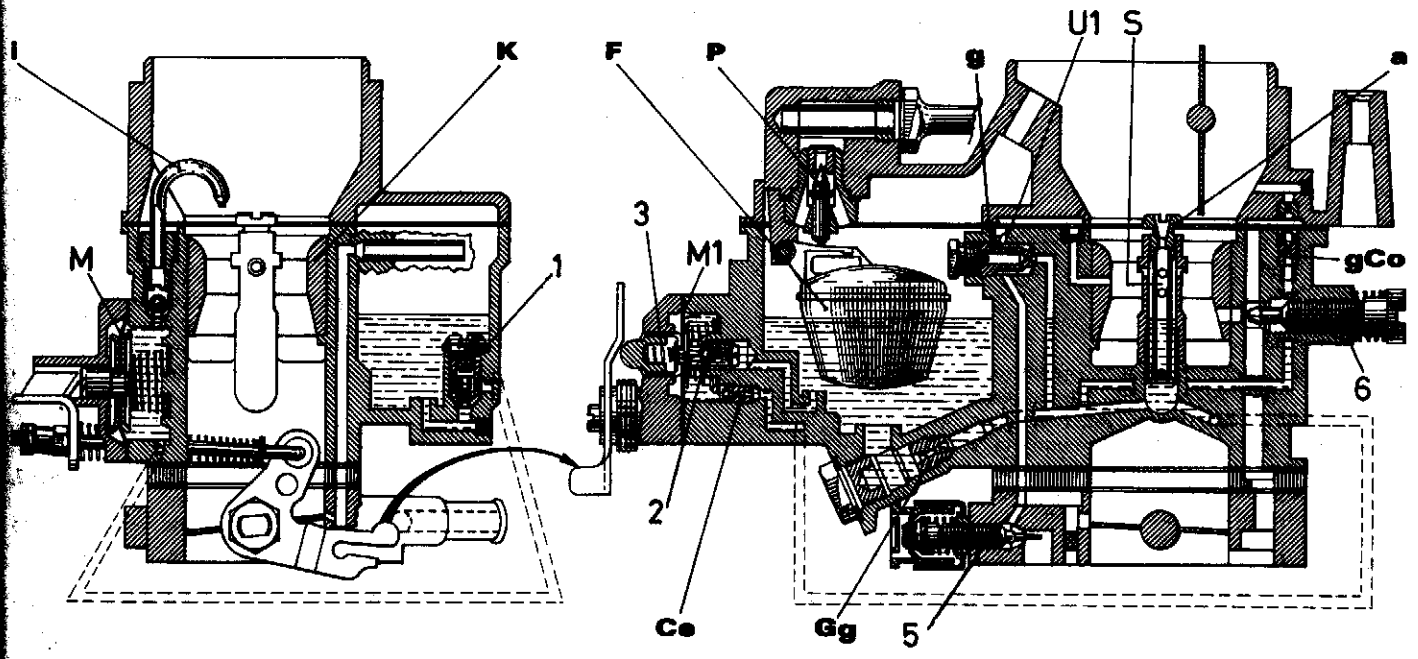

Fig. 14.2 Internal fuel channels and air passages – PBISA with idle bypass (Sec 1)

1 Brass accelerator pump inlet valve
2 Part-load enrichment valve
3 Spring
5 Idle mixture control screw
6 Bypass idle speed screw
a Air corrector jet
Ce Fuel jet – part-load enrichment
F Float
g Idle fuel jet
gCo Bypass fuel jet
Gg Main jet
i Accelerator pump injector
K Venturi
M Accelerator pump diaphragm
M1 Part-load enrichment diaphragm
P Needle valve
s Emulsion tube
U1 Idle air bleed

The carburettor is constructed in three main bodies. These are the upper body, the main body, and the throttle body (which contains the throttle assembly). An insulating block, placed between the main carburettor body and the throttle body, prevents excess heat transference to the main body.

The throttle body contains a heating flange, through which hot engine coolant is piped. The purpose of the flange is to improve atomisation of the air/fuel mixture, and to prevent carburettor icing during warm-up.

Fuel control

Fuel flows into the carburettor through a fine mesh filter. The fuel level in the float chamber is controlled by a needle valve and plastic float assembly. An anti-vibration ball is incorporated into the needle valve design. The float chamber is vented internally into the carburettor throat, which is on the clean-air side of the air filter.

Idle, slow running and progression

Fuel, sourced from the main well, passes into the idle channel through a metered idle jet. Here it is mixed with a small amount of air from a calibrated air bleed. The resulting emulsion is drawn through a channel, to be discharged from the idle orifice under the primary throttle plate. A tapered mixture screw is used to vary the outlet, and this ensures fine control of the idle mixture.

A progression slot provides extra enrichment, as it is uncovered by the opening throttle during initial acceleration.

The idle speed is set by an adjustable screw. The adjustable mixture screw is tamperproofed at production level, in accordance with emission regulations.

Idle bypass circuit (some variations)

The idle bypass circuit is a means of more accurately controlling idle emissions than in a carburettor with a conventional idle mixture circuit. The throttle plate is locked in a specified position, and sealed with a tamperproof cap. Eighty per cent of the fuel required for idle is provided by the normal idle circuit. The remainder of the idle mixture is controlled through the idle bypass circuit.

Fuel, sourced from the main well, is drawn into the bypass passage. Air is sourced from the upper reaches of the main venturi. An air and fuel emulsion is drawn through the bypass passage, and discharged from the bypass orifice under the throttle plate. The emulsion is controlled by a regulating screw, which is also used to adjust the idle speed.

Accelerator pump

The PBISA accelerator pump is controlled by a diaphragm, and is mechanically operated by a lever and rod attached to the throttle linkage. During acceleration, fuel is pumped through a ball valve, located in the pump injector, and is discharged into the primary venturi. The brass inlet valve located in the float chamber also returns excess fuel to the chamber.

Main circuit

Fuel is drawn through a calibrated main jet, into the base of the auxiliary venturi. An emulsion tube is placed in the auxiliary venturi, capped with an air corrector jet. The fuel is mixed with air, drawn in through the air corrector and through the holes in the emulsion tube. The resulting emulsified mixture is discharged into the main airstream. This is accomplished through four orifices, placed at 90° intervals, in the upper reaches of the auxiliary venturi.

Part-load enrichment (power valve) - some variations

Fuel flows from the float chamber into the enrichment chamber, through a fuel channel and a brass inlet valve. An air passage is taken from under the throttle plate to the cover of the chamber. At idle, and during light-throttle operation, manifold vacuum draws the diaphragm back against spring pressure. The diaphragm pintle is withdrawn from the valve, and the spring-loaded ball seats to close off the inlet channel. Under acceleration and wide-open throttle operation, the vacuum in the manifold is depleted. The diaphragm returns under spring pressure, and the power diaphragm pintle pushes the ball to open the inlet valve. Fuel then flows through the valve into the enrichment chamber. From here it passes through a calibrated jet into a fuel channel leading to the primary main well. The fuel level rises in the well, and the fuel mixture is enriched.

Full-load enrichment (some variations)

At full-load and high engine speeds, the velocity of air creates a depression sufficient to raise fuel from the float chamber into a channel. The fuel then passes through a calibrated bushing to the upper section of the air intake. Here it is mixed with a small amount of air from a calibrated air bleed, and the emulsified mixture is then discharged into the airstream from the full-load enrichment nozzle.

Manual choke operation

The manual choke is operated by a dash-mounted cable control. When the cable is pulled, it operates a lever that pulls the choke flap closed across the air intake. Fast idle is achieved with the aid of a curved cam attached to the choke operating lever. This cam actuates another lever, to which is fixed an adjustable screw. The screw butts against the throttle lever, and is used to vary the fast idle speed.

During engine warm-up, the cable control should be progressively pushed home until the choke flap is fully open.

Choke pull-down

Once the engine has fired, the choke flap must open slightly, to weaken the mixture and avoid flooding. This is achieved by two different methods, depending on the version of the PBISA fitted. On the first type, an increase in airflow through the air intake partially opens the choke flap against the action of a spring. A stop ensures that the choke is only opened a small amount. On the second type, manifold vacuum is used to actuate a diaphragm. A linkage attached to the diaphragm will then pull upon the choke flap.

2 Identification

The Solex identification code is stamped on a metallic tag, attached to the cover by an upper body fixing screw. The tag quotes the Solex part number and the vehicle manufacturer part number, and identifies the carburettor type. Later carburettors may have this information stamped upon the carburettor body.

13168	*Solex part number*
Cit 341	*Vehicle manufacturer part number*
32 PBISA	*Carburettor type*

Where the tag is missing, refer to Chapter 2, Section 1 for other ways of identifying the carburettor.

3 General servicing

Read this Chapter in conjunction with Chapter 2, which describes some of the operations in more detail. It is assumed that the carburettor is removed for this service. However, many of the operations can be tackled with the carburettor in place. Where this is undertaken, first remove the carburettor upper body, and soak the fuel out of the float chamber using a clean tissue or soft cloth.

Dismantling and checking

1 Remove the carburettor from the engine (refer to Chapter 2, Section 2 for general advice on removing a carburettor).
2 Check the carburettor visually for damage and wear (refer to Chapter 2, Section 3).
3 Disconnect the choke pull-down hose (where fitted).
4 Disconnect the choke spring (some variations), then remove the six screws and detach the carburettor upper body.
5 Inspect the float chamber for corrosion and calcium build-up.
6 Tap out the float pin, and remove the float, needle valve and float chamber gasket.
7 Check that the anti-vibration ball is free in the valve end.
8 Check the needle valve tip for wear and ridges.
9 The float should be checked for damage and ingress of petrol.
10 Renew the float pin if it shows signs of wear.
11 Use a straight edge to check for distorted flanges on all facing surfaces.
12 Unscrew the fuel inlet tube, and inspect the fuel filter. Clean the filter housing of debris and dirt, and renew the filter if necessary.

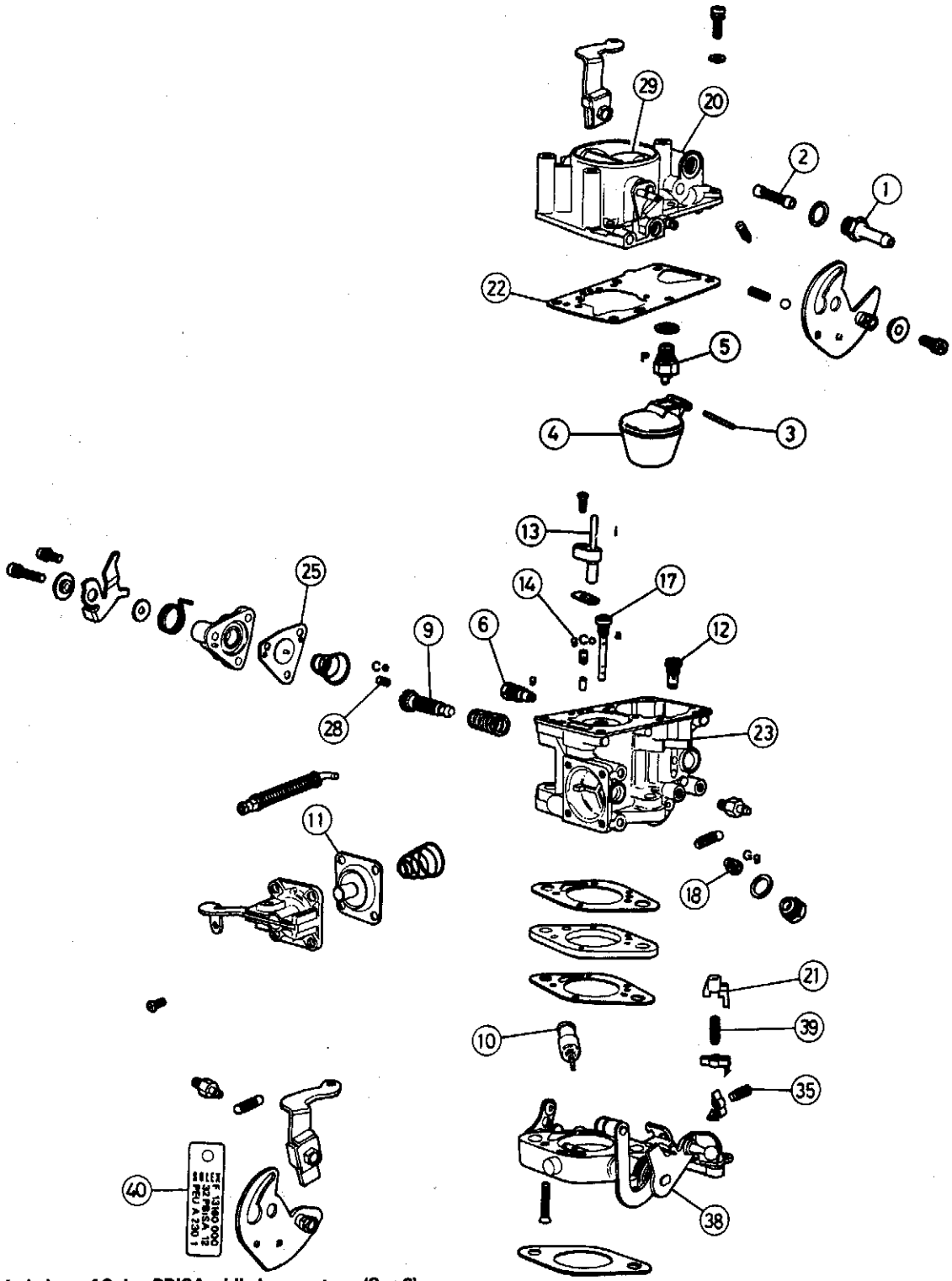

Fig. 14.3 Exploded view of Solex PBISA – idle bypass type (Sec 3)

1 *Fuel inlet connection*
2 *Fuel filter*
3 *Float pin*
4 *Float*
5 *Needle valve*
6 *Idle jet*
9 *Bypass idle speed screw*
10 *Idle mixture control screw*
11 *Accelerator pump diaphragm*
12 *Accelerator pump valve*
13 *Pump injector*
14 *Bypass enrichment jet*
17 *Combined air corrector and emulsion tube*
18 *Main jet*
20 *Upper body*
21 *Tamperproof cap*
22 *Float chamber gasket*
23 *Main body*
25 *Part-load enrichment diaphragm*
28 *Part-load enrichment jet*
29 *Choke flap*
35 *Fast idle adjustment screw*
38 *Throttle body*
39 *Throttle stop screw*
40 *Identification tag*

13 Remove the mixture screw and idle bypass screw (where fitted), and inspect the tips for damage or ridges.
14 If the accelerator pump injector is a push fit in the body, carefully prise it from its location.
15 If the accelerator pump injector is retained by a fixing screw, unscrew the fixing screw and carefully prise it from its location. If the injector is tight, the bottom of the injector is visible from inside the pump housing. It can be gently tapped with a suitable drift, until the injector becomes free.
16 Test the accelerator pump injector by shaking it. No noise from the outlet ball would indicate that the valve is seized.
17 Unscrew the accelerator pump's brass inlet valve from the float chamber, and test it by shaking it. No noise would indicate that the valve is seized.
18 Remove the four screws, and detach the accelerator pump cover, diaphragm and spring. Check the diaphragm for fatigue and damage.
19 Remove the idle jet from the main body.
20 Remove the main jet from the float chamber. It may be necessary to remove a plug in the float chamber body to expose an opening; unscrew and withdraw the main jet through this opening. Check that the channel from the float chamber into the emulsion tube well is clear.
21 Remove the combined air corrector and emulsion tube from the auxiliary venturi.
22 Check the jet calibration against the specifications. It is possible that the wrong size jets may have been fitted during the last overhaul.
23 Remove the three screws, and detach the power valve housing cover, spring and diaphragm from the body (where fitted). Check the diaphragm for damage.
24 Unscrew the brass power valve from the body. The ball in the valve should seal the outlet. Depress and release the ball with a small screwdriver, and it should move smoothly in and out.
25 Unscrew and remove the small power jet from inside the power valve housing. Check that the channel into the emulsion tube well is clear.
26 Remove the two screws, and separate the carburettor main body and throttle body assemblies. The throttle body can be renewed separately if the spindles or throttle bores are worn. Use a straight edge to check for distorted flanges on the facing surfaces. **Note:** *Do not disturb the adjustment of the throttle angle, unless absolutely necessary.*
27 Inspect the choke spindle, mechanism and levers for stickiness and wear. **Note:** *On some variations, the disconnected choke lever on the main body now has a wider range of movement. Be careful that the small ball bearing, located behind the choke lever, is not lost if the lever is moved to its full extent.*
28 Attach a vacuum pump to the pull-down diaphragm (where fitted), and operate the pump to obtain 300 mmHg (400 mbars). The diaphragm should operate fully, and the vacuum should be maintained for at least 30 seconds. Renew the diaphragm assembly if it fails these tests. Check the vacuum hose for leaks and splits - renew if necessary.
29 Clean the jets, carburettor body assemblies, float chamber and internal channels. An air line may be used to clear the internal channels once the carburettor is fully dismantled. **Warning:** *If high-pressure air is directed into the channels and passages with the diaphragms still in place, diaphragm damage may result.* Spraying carburettor cleaner into all the channels and passages in the carburettor body will often clear them of gum and dirt.

Reassembly

During reassembly, a complete set of new gaskets should be fitted. Also renew the needle valve, the float pin, and all diaphragms. Inspect and renew (where necessary) the mixture screw, main jet, air corrector/emulsion tube, idle jet, and the accelerator pump inlet valve and injector. Renew worn linkages, screws, springs, and other parts where necessary.

Ensure that all the jets are firmly locked into their original positions (but do not over-tighten). A loose jet can cause a rich (or even lean) running condition. Clean all mating surfaces and flanges of old gasket material, and reassemble with a new gasket. Ensure that housings are positioned with their air and fuel routes correctly aligned.

1 Refit the choke diaphragm assembly (where used) to the carburettor upper body.
2 Assemble the main and throttle bodies with a new gasket block, and secure with the two screws.
3 Where the primary throttle position has been disturbed, and a throttle setting gauge is available, use it to set the throttle angle. Otherwise, temporarily adjust the throttle plate so that it is open just enough to prevent its seizure in the throttle body. An adjustment method with the engine running is detailed in Section 4.
4 Refit the power jet and valve assembly (where used) into their original positions.
5 Refit the power diaphragm, spring and cover assembly (where used), and secure with the three screws.
6 Refit the emulsion tube/air corrector and main jet into their original positions. Refit the plug to the float chamber, with a new seal.
7 Refit the idle jet into the main body, and lock it firmly into position.
8 Refit the accelerator pump spring, diaphragm and cover assembly, and secure with the four screws.
9 Refit the accelerator pump inlet valve into the float chamber, after renewing the small seal on the valve body.
10 Refit the accelerator pump injector, after renewing the small seal (or gasket) on the injector body.
11 Refit the idle mixture screw. Turn the screw in gently, until it just seats. From this position, unscrew it three full turns - this will provide a basic setting, to allow the engine to be started.
12 Refit the idle bypass screw (where fitted). Obtain a basic setting in the same way as described for the mixture screw above.
13 Clean or renew the fuel filter, then refit the fuel inlet tube (with a new sealing washer).
14 Renew the float chamber gasket, and locate in position on the upper body.
15 Renew the needle valve assembly, using a new sealing washer. Ensure that it is firmly locked into position (but do not over-tighten).
16 Refit the float, and secure with the float pin.
17 Adjust the float level with reference to Section 4.
18 Refit the upper body to the main body, and secure with the six screws.
19 Reconnect the choke spring (where fitted - mechanical pull-down).
20 Reconnect the choke pull-down hose (where fitted - vacuum pull-down).
21 Ensure that the choke flap and linkage move smoothly and progressively.
22 Adjust the choke fast idle and pull-down (refer to Section 4).
23 Refit the carburettor to the engine (refer to Chapter 2, Section 2 for general advice on installing a carburettor).
24 Always adjust the carburettor idle speed and mixture after any work has been carried out on the carburettor - preferably with the aid of a CO meter. Refer to Section 4 for details.

4 Service adjustments

Adjustment pre-conditions

Refer to Chapter 2, Section 4 for general advice on the pre-conditions for correct adjustment of this carburettor.

Idle speed and mixture (CO)

Standard idle system

1 Run the engine at 3000 rpm for 30 seconds to clear the manifold of fuel vapours, then allow the engine to idle.
2 Use the idle speed screw to set the specified idle speed (refer to the specifications at the start of this Chapter).
3 Check the CO level; if incorrect, remove the tamperproof plug and adjust the idle mixture screw to obtain the correct level. Turning the screw clockwise (inwards) will reduce the CO level, and turning the screw anti-clockwise (outwards) will increase the CO level. *Refer to Chapter 2, Section 4 for a method of setting the idle mixture without the aid of a CO meter.*
4 Repeat paragraphs 2 and 3 until *both* adjustments are correct.
5 Clear the manifold every 30 seconds during the setting operation by running the engine at 3000 rpm for 30 seconds.
6 Increase the speed to 2000 rpm, and note the CO reading. The 'cruise' reading should be less than half the idle CO reading.

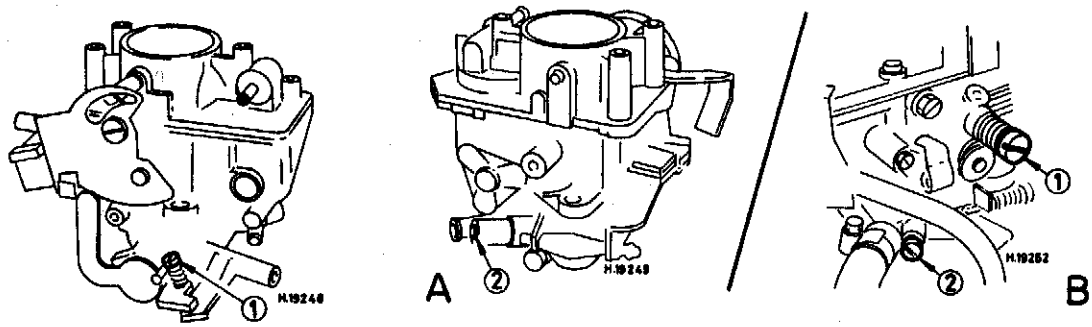

Fig. 14.4 Idle adjustment screws (Sec 4)

A Without idle bypass *B With idle bypass* *1 Idle speed adjustment screw* *2 Idle mixture control screw*

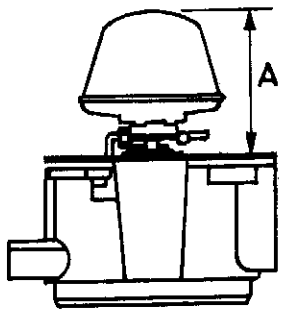

Fig. 14.5 Float level adjustment (Sec 4)

A Float level

7 Fit a new tamperproof plug to the mixture control screw on completion.

Bypass idle system

8 Run the engine at 3000 rpm for 30 seconds to clear the manifold of fuel vapours, then allow the engine to idle.
9 Use the idle bypass regulating screw to set the correct idle speed (refer to the specifications at the start of this Chapter).
10 Check the CO level; if incorrect, remove the tamperproof plug and adjust the idle mixture screw to obtain the correct level. Turning the screw clockwise (inwards) will reduce the CO level, and turning the screw anti-clockwise (outwards) will increase the CO level. *Refer to Chapter 2, Section 4 for a method of setting the idle mixture without the aid of a CO meter.*
11 Repeat paragraphs 9 and 10 until *both* adjustments are correct.
12 Fit a new tamperproof plug to the mixture control screw on completion.

Basic throttle position

13 If the idle speed and CO cannot be set correctly, it is possible that the basic throttle position is incorrect. The manufacturer's recommended method is to remove the carburettor and use a Renault, Solex or Pierburg throttle setting gauge to accurately set the throttle position.
14 However, here is an alternative method that can be used to set the throttle plate. Please note that this is not the manufacturer's recommended method, but will nevertheless result in an accurate and stable idle speed and CO level.
15 Allow the engine to idle.
16 Screw in the bypass regulating screw until it is fully seated. The idle speed should drop to two-thirds of the idle speed figure. For example, if the idle speed is specified as 900 rpm, the speed should drop to 600 rpm.
17 Remove the tamperproof plug and adjust the throttle stop screw until 600 rpm is obtained.
18 Unscrew the bypass screw until 900 rpm is once again attained.

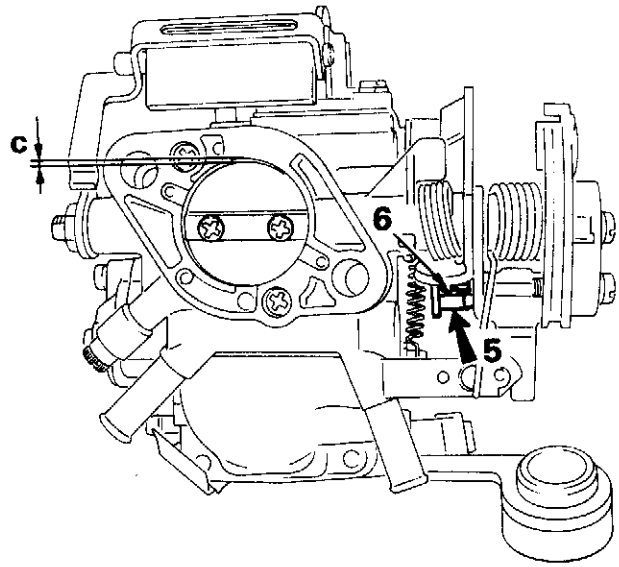

Fig. 14.6 Fast idle adjustment (Sec 4)

5 Choke operating lever *c Fast idle clearance – refer to specifications*
6 Fast idle adjustment screw

19 Reset the CO to the correct level.
20 If the CO needs a large adjustment at this stage, repeat paragraphs 15 to 19. Once the proper CO level is reached at the specified idle speed, the carburettor is properly adjusted.
21 **Note**: *The rpm figures used in the above example are based on a hypothetical idle speed of 900 rpm. Substitute the correct figures for the carburettor being adjusted (refer to the specifications).*
22 Fit new tamperproof plugs to the mixture control and throttle stop screws on completion.

Float level

23 Invert the upper body, so that the float faces upwards.
24 Measure the distance between the upper body (with its gasket) and the upper face of the plastic float (refer to the specifications for the correct float level).
25 Adjust as necessary by bending the float pivot arm; otherwise, renew the float.

Choke adjustments

Fast idle

26 The carburettor must be removed from the engine in order to make the following fast idle adjustment. Refer to Chapter 2, Section 4 for a method of setting the fast idle speed without removing the carburettor.

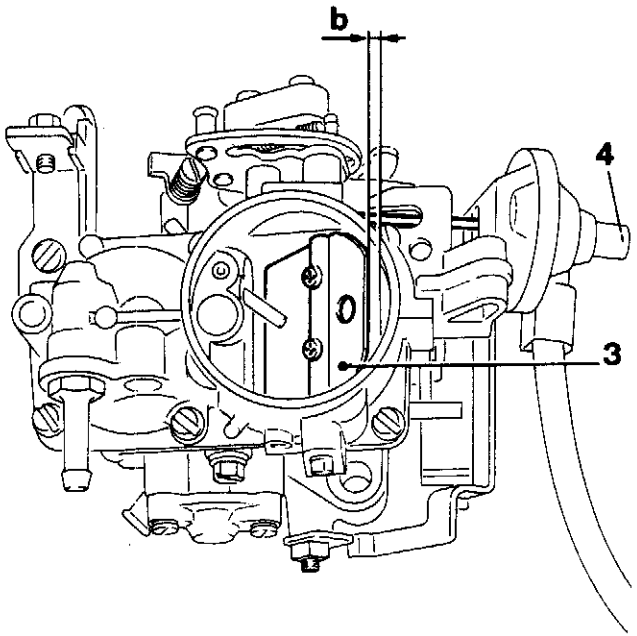

Fig. 14.7 Choke vacuum pull-down adjustment (Sec 4)

3 Choke flap
4 Adjustment screw
b Pull-down clearance – refer to specifications

27 Invert the carburettor, and pull the choke operating lever to fully close the choke flap. The fast idle screw will butt against the fast idle cam and force open the throttle plate, to leave a small clearance.
28 Use the shank of a twist drill to measure the clearance between the wall of the throttle bore and the throttle plate. Refer to the specifications for the required drill size. **Note:** *Measure from the side opposite the progression slot.*
29 Adjust as necessary by turning the fast idle adjustment screw (6) in Fig. 14.6 in the appropriate direction.
30 **Note:** *Alternatively, the fast idle throttle angle may be set by means of a Solex or Pierburg throttle angle gauge. Refer to the specifications for the appropriate throttle angle.*

Choke pull-down (vacuum pull-down carburettor)

31 Pull the choke operating lever to fully close the choke flap.
32 Use a vacuum pump or a small screwdriver to pull the diaphragm operating rod up to its stop. At the same time, use the shank of a twist drill to measure the gap between the upper section of the choke flap and the air intake. Refer to the specifications for the required drill size.
33 Remove the plug in the diaphragm cover and adjust as necessary by turning the adjustment screw (4) in Fig. 14.7 in the appropriate direction. Renew the plug when adjustment is complete.

5 Fault diagnosis

Refer to Chapter 2, Sections 5 and 6 for diagnosis of general carburettor faults.