Chapter 4 Part A:
Fuel/exhaust systems - carburettor models

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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

Fuel pump

Type	Mechanical, driven by eccentric on camshaft

Carburettor

Type	Solex 34-34 Z1, Solex 32-34 Z2 or Weber 36 TLP
Application:	
XU engine	Solex 34-34Z1 or Solex 32-34 Z2
TU engine	Weber 34 TLP
Choke type	Manual, cable-operated
Solex carburettor	
Float height setting	33.5 mm
Throttle valve fast idle setting	0.5 mm
Choke pull-down setting	6.0 mm
Weber carburettor	
Float height setting	32.0 mm
Choke opening after starting	5.0 mm

Recommended fuel

Minimum octane rating:	
TU3 (K1G) engine (carburettor)	97 RON leaded or 98 RON (super) unleaded
All other models (both carburettor and fuel injection)	
without a catalytic converter	95 RON unleaded* or 97 RON leaded
All other models with a catalytic converter	95 RON unleaded or 98 RON (super) unleaded

*On some early models the ignition timing must be retarded by 3¡ in order to use 95 RON unleaded fuel - check with your Peugeot dealer.

Torque wrench settings

	Nm	lbf ft
Fuel pump retaining bolts	16	12
Inlet manifold retaining nuts	8	6
Exhaust manifold retaining nuts	16	12
Exhaust system fasteners:		
Front pipe-to-manifold nuts	30	22
Front pipe mounting bolt	35	26



2.10 Air cleaner housing peg and mounting rubber (arrowed)

b) Where applicable, ensure that the air cleaner housing locating peg is correctly engaged with its mounting on the top of the transmission (see illustration) .

c) Prior to tightening the air cleaner-to-carburettor duct retaining clips, ensure that the duct is correctly seated on both the air cleaner housing and carburettor flanges.

3 Air cleaner air temperature control system - information and component renewal 2

General information

TU engine

1 The system is controlled by a heat-sensitive vacuum switch, mounted in the end of the air cleaner housing-to-carburettor duct. When the engine is started from cold, the switch is open, allowing inlet manifold depression to act on the air temperature control valve diaphragm in the inlet duct. This vacuum causes the diaphragm to rise, drawing a flap valve across the cold-air inlet, thus allowing only (warmed) air from the exhaust manifold to enter the air cleaner.

2 As the temperature of the exhaust-warmed air in the air cleaner-to-carburettor duct rises, the wax capsule in the vacuum switch deforms and closes the switch, cutting off the vacuum supply to the air temperature control valve assembly. As the vacuum supply is cut, the flap is gradually lowered across the hot-air inlet until, when the engine is fully warmed-up to normal operating temperature, only cold air from the front of the car is entering the air cleaner.

3 To check the system, allow the engine to cool down completely, then slacken the retaining clip and disconnect the inlet duct from the front of the control valve assembly; the flap valve in the duct should be securely seated across the hot-air inlet. Start the engine; the flap should immediately rise to close off the cold-air inlet, and should then lower steadily as the engine warms up, until it is eventually seated across the hot-air inlet again.

4 To check the vacuum switch, disconnect the vacuum pipe from the control valve when the engine is running, and place a finger over the pipe end. When the engine is cold, full inlet manifold vacuum should be present in the pipe, and when the engine is at normal operating temperature, there should be no vacuum in the pipe.

5 To check the air temperature control valve assembly, slacken the retaining clip and disconnect the inlet duct from the front of the valve assembly; the flap valve should be securely seated across the hot-air inlet. Disconnect the vacuum pipe, and suck hard at the control valve stub; the flap should rise to shut off the cold-air inlet.

6 If either component is faulty, it must be renewed.

XU engine

7 Cold air is drawn into the system from the inlet duct fitted to the front panel.

8 Hot air is drawn from the collector plate over the exhaust manifold. These two ducts join together at the air inlet mixer housing which contains a control flap operated by a wax thermostat (see illustrations) .

9 When the engine is cold the thermostat contracts and the control flap closes off the cold air duct and opens the hot air duct. As the air being collected from the exhaust manifold becomes warmer, so the thermostat progressively closes off the warm air duct and opens the cold air duct.

10 If the thermostat should fail, renew the mixer housing.

11 All the ducts are held by worm drive clips.

12 Additional breather pipes are connected to the air filter housing on certain models.

Vacuum switch (TU engine) - renewal

13 Remove the air cleaner housing-to-carburettor duct, as described in paragraphs 1 and 2 of Section 2.

14 Bend up the tangs on the switch retaining clip, then remove the clip, along with its seal, and withdraw the switch from inside the duct (see illustrations) . Examine the seal for damage or deterioration, and renew if necessary.

15 On refitting, ensure that the switch and duct mating surfaces are clean and dry, and position the switch inside the duct.

16 Fit the seal over the switch unions, and refit the retaining clip. Ensure that the switch is pressed firmly against the duct, and secure it in position by bending down the retaining clip tangs. Refit the duct as described in Section 2.



3.8a Hot-air collector plate on exhaust manifold (XU engine)



3.8b Wax thermostat on the air inlet mixer housing (XU engine)



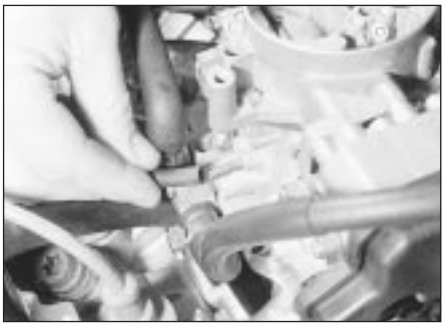
3.14a Remove the retaining clip . . .



3.14b . . . and seal . . .



3.14c . . . then withdraw the vacuum switch from inside the duct



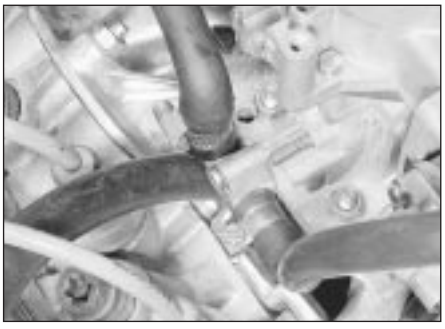
12.4 Disconnecting the distributor vacuum pipe



12.5 Disconnecting the float chamber breather pipe



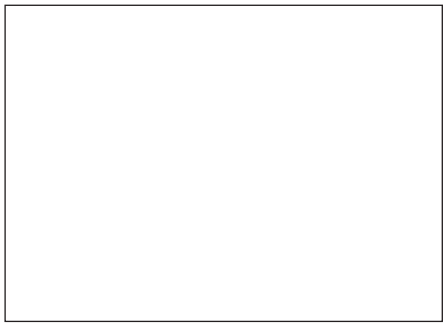
12.6a Automatic choke coolant pipe connection . . .



12.6b . . . and base heating pipes



12.7 Disconnecting the float chamber breather solenoid wiring



12.9 Lifting off the fuel reservoir



12.10a Remove the remaining nuts . . .



12.10b . . . and lift off the carburettor



12.11 Removing the insulating spacer

11 Carburettor - general information

The Solex 34-34 Z1 carburettor is a downdraught progressive twin-venturi instrument. The throttle linkages are arranged so that the secondary throttle valve will not start to open until the primary valve is about two-thirds open, but at full throttle both valves are fully open. The choke control is either automatic or manual. On some early models a carburettor cooling system was fitted which allows the radiator cooling fan to run for a maximum of 12 minutes after the engine has been switched off.

The Weber 34TLP carburettor is a single choke downdraught type instrument fitted with a manual choke.

12 Carburettor - removal and refitting 3

Note: *Refer to the warning note in Section 1 before proceeding. Where original crimped-type Peugeot hose clips are still fitted, the clips should be cut and discarded; obtain some worm-drive hose clips for refitting.*

Removal

1 Disconnect the battery negative terminal.
2 Remove the air cleaner-to-carburettor duct as described in Section 2.
3 Disconnect the accelerator cable from the throttle quadrant as described in Section 8.
4 Disconnect the distributor vacuum pipe (see illustration) .
5 Disconnect the float chamber breather pipes. The upper pipe connects with the air filter housing (see illustration) .
6 Either drain the cooling system or clamp the automatic choke and carburettor base heating pipes, then disconnect the pipes (see illustrations) .
7 Disconnect the float chamber solenoid valve wiring (see illustration) .
8 Disconnect the fuel inlet pipe either at the fuel pump or the fuel reservoir on the side of the carburettor and blank off the hose.
9 Remove the single carburettor securing nut and lift off the fuel reservoir (see illustration) .
10 Remove the remaining carburettor nuts and lift off the carburettor (see illustrations) .
11 Remove the insulating spacer and/or gasket(s) (see illustration) . Discard the gasket(s); new ones must be used on refitting. Plug the inlet manifold port with a wad of clean cloth, to prevent the entry of debris.

Refitting

12 Refitting is the reverse of the removal procedure, noting the following points:

a) Ensure that the carburettor and inlet manifold sealing faces are clean and flat. Fit a new gasket, and securely tighten the carburettor retaining nuts.
b) Use the notes made on dismantling to ensure that all hoses are refitted to their original positions and, where necessary, are securely held by their retaining clips.
c) Where the original crimped-type Peugeot hose clips were fitted, discard them; use standard worm-drive hose clips when refitting.
d) Refit and adjust the choke and accelerator cables as described in Sections 7 and 9.
e) Refit the air cleaner duct as described in Section 2.
f) On completion, check and, if necessary, adjust the idle speed and mixture settings as described in Chapter 1.

13 Carburettor - fault diagnosis, overhaul and adjustments 2

Fault diagnosis

1 If a carburettor fault is suspected, always check first that the ignition timing is correctly set, that the spark plugs are in good condition and correctly gapped, that the accelerator and choke cables are correctly adjusted, and that the air cleaner filter element is clean; refer to the relevant Sections of Chapter 1, Chapter 5 or this Chapter. If the engine is running very roughly, first check the valve clearances as described in Chapter 1, then check the compression pressures as described in Chapter 2.
2 If careful checking of all the above produces no improvement, the carburettor must be removed for cleaning and overhaul.
3 Prior to overhaul, check the availability of component parts before starting work; note that most sealing washers, screws and gaskets are available in kits, as are some of the major sub-assemblies. In most cases, it will be sufficient to dismantle the carburettor and to clean the jets and passages.

Overhaul

Note: Refer to the warning note in Section 1 before proceeding. Only carry out the procedures described in this Section, as special gauges are required for a more detailed overhaul. The following procedure applies to the Solex 34-34 Z1 carburettor.
4 Remove the carburettor from the vehicle as described in Section 12.
5 Unscrew the idle cut-off solenoid from the carburettor body, and remove it along with its plunger and spring. To test the solenoid, connect a 12-volt battery to it (positive terminal to the solenoid terminal, negative terminal to the solenoid body), and check that the plunger is retracted fully into the body. Disconnect the battery, and check that the plunger is pushed out by spring pressure. If the valve does not perform as expected, and cleaning does not improve the situation, the solenoid valve must be renewed.
6 Remove the five screws and lift off the carburettor upper body.
7 Tap out the float pivot pin and remove the float assembly, needle valve, and float chamber gasket. Check that the needle valve anti-vibration ball is free in the valve end, then examine the needle valve tip and seat for wear or damage. Examine the float assembly and pivot pin for signs of wear and damage. The float assembly must be renewed if it appears to be leaking - shake the float to detect the presence of fuel inside.
8 Unscrew the fuel inlet union and inspect the fuel filter. Clean the filter housing of debris and dirt, and renew the filter if it is blocked.
9 Undo the four screws, detach the accelerator pump cover, and remove the pump diaphragm and spring, noting which way around they are fitted. Examine the diaphragm for signs of damage and deterioration, and renew if necessary. Remove the choke pull-down diaphragm and part-load enrichment diaphragms, and examine them in the same way.
10 Unscrew the idle jet from the upper body.
11 Unscrew both the primary and secondary combined air correction jets and emulsion tubes.
12 Using a long thin screwdriver, unscrew the main jets from the bottom of the emulsion tube drillings. Invert the carburettor and catch the jets as they fall out of the drillings.
13 Remove the idle mixture adjustment screw tamperproof cap. Screw the screw in until it seats lightly, counting the exact number of turns required to do this, then unscrew it. On refitting, screw the screw in until it seats lightly, then back the screw off by the number of turns noted on removal, to return the screw to its original position.
14 Clean the jets, carburettor body assemblies, float chamber and internal drillings. An air line may be used to clear the internal passages once the carburettor is fully dismantled. Caution: If high pressure air is directed into drillings and passages where a diaphragm is fitted, the diaphragm is likely to be damaged.

HAY Aerosol cans of carburettor cleaner are widely available and can prove very useful in helping to clear internal passages of stubborn obstructions.

15 Use a straight edge to check all carburettor body assembly mating surfaces for distortion.
16 To test the carburettor heating element, connect a multimeter, set to the resistance function, between the heater wiring terminal and the carburettor body. A resistance reading of approximately 0.25 to 0.5 ohms should be obtained. If an open-circuit is present, or an extremely high resistance reading is obtained, it is likely that the heating element is faulty. A heating element repair kit is available from your Peugeot dealer. To renew the element undo the screw and remove the retaining plate, then slide the element holder, pin, element and insulating plate, noting each component correct fitted location. Fit the new components, ensuring each one is correctly positioned, and securely tighten the retaining screws. Note: Ensure that the insulating plate is correctly positioned between the heating element and body so that there is no danger of the element shorting out on the carburettor body.
17 On reassembly renew any worn components and fit a complete set of new gaskets and seals. A jet kit and a gasket and seal kit are available from your Peugeot dealer.
18 Reassembly is a reversal of the dismantling procedure. Ensure that all jets are securely locked in position, but take great care not to overtighten them. Ensure that all mating surfaces are clean and dry, and that all body sections are correctly assembled with their fuel and air passages correctly aligned. Prior to refitting the carburettor to the vehicle, set the float height, throttle valve fast idle and choke pull-down settings as described below.

Adjustments

Idle speed and mixture

19 Refer to Chapter 1.

Float height setting (Solex carburettor)

20 Invert the carburettor body, so that the float is at the top and the needle valve is depressed. Measure the distance between the upper edge of the float and the sealing face of the upper body (with its gasket fitted). This measurement should be as given in the Specifications at the start of this Chapter.
21 If necessary, the float height can be adjusted by carefully bending the small tang on the float arm which contacts the needle valve.

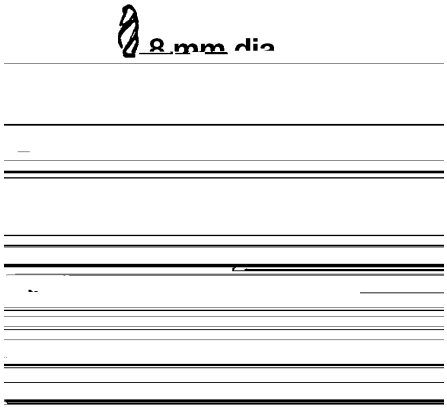
Throttle valve fast idle setting (Solex carburettor)

22 Invert the carburettor and pull the carburettor choke linkage to fully close the choke valve. The fast idle screw will butt against the fast idle cam and force the throttle valve open slightly.
23 Using the shank of a twist drill, measure the clearance between the edge of the throttle valve and bore, and compare this to the clearance given in the Specifications at the start of this Chapter. If necessary, adjust by turning the fast idle adjustment screw in the appropriate direction until the specified clearance is obtained (see illustration) .



13.23 Throttle valve fast idle setting (Solex carburettor)

Adjust screw Y until clearance X is as given in the Specifications



13.34 Checking the choke mechanical opening (Weber carburettor)

a Cam 3 Roller

Choke pull-down setting (Solex carburettor)

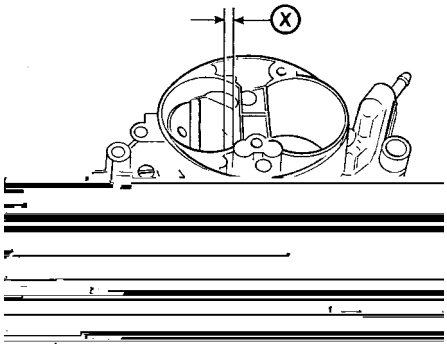
24 Pull the carburettor choke linkage to fully close the choke valve, and hold the linkage in this position.

25 Attach a hand-held vacuum pump to the choke pull-down diaphragm, and apply a vacuum to the diaphragm so that the diaphragm rod is pulled fully into the diaphragm body. In the absence of a vacuum pump, the rod can be pushed into the diaphragm with a small screwdriver.

26 With the rod fully retracted, use the shank of a twist drill to measure the clearance between the edge of the choke valve and bore, and compare this to the clearance given in the Specifications (see illustration) . If necessary, remove the plug from the diaphragm cover and adjust by turning the adjustment screw. Once the pull-down setting is correctly adjusted, refit the plug to the diaphragm cover and remove the vacuum pump (where used).

Float height setting (Weber carburettor)

27 For float and level settings, remove the float chamber cover and hold it vertically.



13.26 Choke pull-down setting (using a screwdriver to retract the diaphragm rod) (Solex carburettor)

Adjust until clearance X is as specified

13.36 Choke mechanical opening adjustment nut (4) (Weber carburettor)

28 With the gasket in position, use a steel rule or vernier calipers to check the height of the floats. Bend the float tongue and connecting bars if necessary.

Choke opening after starting (Weber carburettor)

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

30 Disconnect the vacuum pipe from the anti-flood capsule.

31 Connect a hand vacuum pump (or a modified bicycle pump) to the capsule. Apply vacuum (400 mm Hg approx.) to the capsule. The choke flap should open far enough to admit a drill shank or rod 5 mm in diameter.

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

33 Disconnect the vacuum pump, remake the original vacuum connection, and close the choke flap.

34 Having adjusted the anti-flood capsule, move the choke opening roller into the recess of the cam as shown (see illustration) .

35 Check that the choke flap opening just admits a drill shank or rod 8 mm in diameter.

36 Adjust by turning the nut shown (see illustration) after removing the carburettor.

14 Inlet manifold - removal and refitting 3

Note: *Refer to the warning note in Section 1 before proceeding.*

Removal

1 Remove the carburettor as described in Section 12.

2 On TU engines, drain the cooling system as described in Chapter 1, and disconnect the coolant hose from the base of the manifold.

3 Disconnect the brake vacuum servo hose at the manifold.

4 Disconnect the oil filler cap breather hose from the manifold.

5 Unbolt the oil filler tube bracket.

6 Unscrew the retaining nuts, then manoeuvre the manifold away from the head and out of the engine compartment. Note that on the TU engine there is no manifold gasket. A gasket is however fitted on XU engines. On XU engines note the centre clamp secured by one nut (see illustration) .

Refitting

7 Refitting is the reverse of the removal procedure, noting the following points:

a) Ensure that the manifold and cylinder head mating surfaces are clean and dry. Fit a new gasket on XU engines, and apply a thin coating of suitable sealing compound to the manifold mating surface on TU engines. Install the manifold and tighten its retaining nuts to the specified torque setting.

b) Ensure that all relevant hoses are reconnected to their original positions and are securely held (where necessary) by their retaining clips.

c) Refit the carburettor as described in Section 12.

d) Where applicable, refill the cooling system as described in Chapter 1.



14.6 Inlet manifold centre clamp on the XU engine