






Chapter 4 Part A:

Fuel/exhaust systems - carburettor models

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Degrees of difficulty

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

Fuel 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

1 General information and precautions

The fuel system consists of a fuel tank mounted under the rear of the car, a mechanical fuel pump, and a carburettor. The fuel pump is operated by an eccentric on the camshaft, and is mounted on the rear of the cylinder head. The air cleaner contains a disposable paper filter element, and incorporates a flap valve air temperature control system; this allows cold air from the outside of the car, and warm air from the exhaust manifold, to enter the air cleaner in the correct proportions.

The fuel pump lifts fuel from the fuel tank to the carburettor via a filter located in the rear of the engine compartment, and supplies it to the carburettor via an anti-percolation chamber. The anti-percolation chamber ensures that the supply of fuel to the carburettor is kept at a constant pressure, and is free of air bubbles. Excess fuel is returned from the anti-percolation chamber to the fuel tank.

The carburettor is either a Solex 34-34 Z1 or Solex 32-34 Z2 twin-choke carburettor, or Weber 36TLP single-choke carburettor (see Section 11), mixture enrichment for cold starting is by automatic choke on the Solex carburettor and a cable-operated choke control on the Weber carburettor. On the Solex carburettor a vacuum-operated choke unloader, accelerator pump and full load enricher device are fitted to govern the fuel requirements of the engine over its full operating range.

The exhaust system consists of three or four sections according to model. The front pipe is in one or two sections; where it is in two sections the rear section may be plain or include a catalytic converter, where it is in one section it may include a catalytic converter. All models are fitted with an Intermediate pipe and silencer, and a tailpipe and silencer. The system is suspended throughout its entire length by rubber mountings.



Warning: Many of the procedures in this Chapter require the removal of fuel lines



2.2b . . . and remove the duct, disconnecting the air temperature control valve hose (arrowed)

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.

2 Air cleaner assembly - removal and refitting



Removal

TU engine

1 Slacken the retaining clips (where fitted), and disconnect the vacuum hose and breather hose from the front of the air cleaner housing-to-carburettor duct (see illustration). Where the crimped-type Peugeot hose clips are fitted, cut the clips and discard them; use standard worm-drive hose clips on refitting.

2 Slacken the retaining clips, then lift the duct off the top of the carburettor and air cleaner housing. Disconnect the air temperature control valve hose from the end of the duct, and remove the duct from the engine compartment (see illustrations). Recover the rubber sealing ring(s) from the top of the carburettor and/or air cleaner housing (as applicable).

3 Disconnect the inlet duct from the front of



2.1 On the TU engine disconnect the vacuum and breather hoses (arrowed) from the front of the duct . . .



2.4 Undo the intake duct front bolt then release the rear fastener, and remove the duct and hose assembly (TU engine)

the air cleaner housing, and remove the air cleaner housing from the engine compartment.

4 To remove the inlet duct assembly, undo the retaining bolts securing the duct to the left-hand wing valance, then release the fastener securing the rear of the duct to the cylinder head (see illustration). Disconnect the hot-air inlet hose from the exhaust manifold shroud, and remove the duct and hose assembly from the engine compartment.

XU engine

5 Using an Allen key, unscrew the bolt securing the air inlet duct to the top of the carburettor. Loosen the clip and disconnect the duct (see illustration).

6 Loosen the clip and disconnect the air inlet duct from the filter housing top cover.

7 Release the clips and remove the top cover from the air filter housing.

8 Remove the filter element from inside the lower housing.

9 Release the lower housing from the mounting rubbers then disconnect the inlet duct and hoses as applicable.

Refitting

10 Refitting is a reversal of the removal procedure, noting the following points:

- a) Examine the rubber sealing ring(s) for signs of damage or deterioration, and if necessary renew. Note that, on some models, the carburettor seal is fitted with an O-ring; this should also be renewed if it is damaged.



2.2a . . . slacken the retaining clips . . .



2.5 On the XU engine unscrew the bolt securing the air inlet duct, then loosen the clip



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



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.

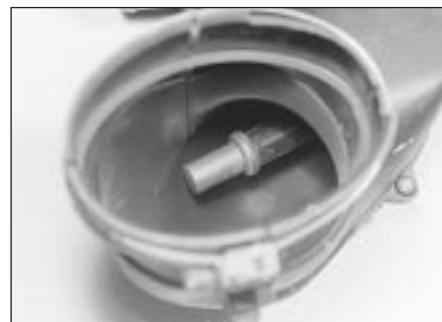
14 Bend up the tangs on the switch retaining clip, then remove the clip, along with its seal, and withdraw the switch from inside the duct (see illustrations). Examine the seal for damage or deterioration, and renew if necessary.

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



3.17 Air temperature control valve assembly (TU engine)

Air temperature control valve (TU engine) - renewal

17 Disconnect the vacuum pipe from the air temperature control valve, then slacken the retaining clips securing the inlet ducts to the valve (see illustration).

18 Disconnect both inlet ducts and the hot-air inlet hose from the control valve assembly, and remove it from the vehicle.

19 Refitting is the reverse of the removal procedure, noting that the air temperature control valve assembly can only be renewed as a complete unit.

4 Fuel pump - testing, removal and refitting



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

Testing

1 To test the fuel pump on the engine, disconnect the outlet pipe which leads to the carburettor. Hold a wad of rag by the pump outlet while an assistant spins the engine on the starter. *Keep your hands away from the electric cooling fan.* Regular spurts of fuel should be ejected as the engine turns. Be careful not to spill fuel onto hot engine components.

2 The pump can also be tested by removing it. With the pump outlet pipe disconnected but the inlet pipe still connected, hold the wad of rag by the outlet. Operate the pump lever by hand, moving it in and out; if the pump is in a satisfactory condition, the lever should move and return smoothly, and a strong jet of fuel should be ejected.

Removal

3 Identify the pump inlet and outlet hoses, and slacken both retaining clips (see illustration). Where the crimped-type Peugeot hose clips are fitted, cut the clips and discard them; use standard worm-drive hose clips on refitting. Place wads of rag beneath the hose unions to catch any spilled fuel, then disconnect both hoses from the pump; plug the hose ends to minimise fuel loss.



4.3 Arrows on raised fuel pump unions indicate the direction of fuel flow

TU engine

4 Where fitted remove the insulating cover from the fuel pump, then slacken and remove the bolts securing the pump to the rear of the cylinder head. Remove the pump along with its insulating block. Check the block and renew it if necessary.

XU engine

5 Unscrew the nuts securing the pump to the distributor end of the cylinder head and lift off the pump (see illustration).

6 Remove the insulating block from the studs on the cylinder head.

Refitting

7 Ensure that the pump and cylinder head mating surfaces are clean and dry, then offer up the insulating block and refit the pump to the cylinder head. Tighten the pump retaining bolts/nuts to the specified torque, then refit the pump insulating cover where fitted.

8 Reconnect the inlet and outlet hoses to the relevant pump unions, and securely tighten their retaining clips.

5 Fuel gauge sender unit - removal and refitting



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

Removal

1 Disconnect the battery negative lead.



5.3 Remove the plastic access cover . . .



4.5 Removing the fuel pump (XU engine)

2 For access to the sender unit, fold the rear seat cushion forwards or remove the rear seats as described in Chapter 11.

3 Using a screwdriver, carefully prise the plastic access cover from the floor to expose the sender unit (see illustration).

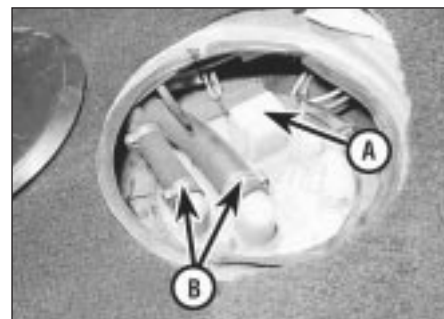
4 Disconnect the wiring connector from the sender unit (see illustration).

HAYNES HINT Tape the connector to the vehicle body, in order to prevent it from disappearing behind the tank .

5 Mark the hoses for identification purposes, then slacken the feed and return hose clips. Where the crimped-type Peugeot hose clips are fitted, cut the clips and discard them; use standard worm-drive hose clips on refitting. Disconnect both hoses from the top of the sender unit, and plug the hose ends.

6 Noting the alignment marks on the tank, sender unit and the locking ring, unscrew the ring and remove it from the tank. This is best achieved by using a screwdriver on the raised ribs of the locking ring, as follows. Carefully tap the screwdriver to turn the ring anti-clockwise until it can be unscrewed by hand.

7 Carefully lift the sender unit from the top of the fuel tank, taking great care not to bend the sender unit float arm, or to spill fuel onto the interior of the vehicle. Recover the rubber sealing ring and discard it - a new one must be used on refitting. If necessary remove the filter from the bottom of the unit and wash it in clean fuel.

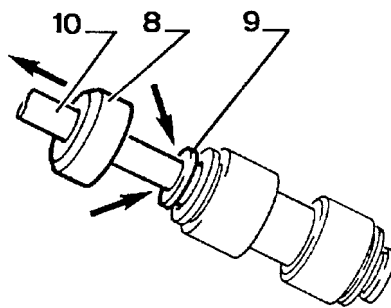


5.4 Electrical plug (A) and fuel hose connections (B) on fuel gauge sender

Refitting

8 Refitting is a reversal of the removal procedure, noting the following points:

- a) Prior to refitting, fit a new rubber sealing ring to the sender unit.
- b) Refit the sender unit to the tank, aligning its arrow with the centre of the three alignment marks on the fuel tank. Secure the sender in position with the locking ring, and check that the locking ring, sender unit and fuel tank marks are all correctly aligned.
- c) Ensure that the feed and return hoses are correctly reconnected and securely retained by their clips.



6.6 Tank breather quick-release connector
8 Cover 9 Centre ring 10 Hose



6.9 Fuel tank support strap bolt

6 Fuel tank - removal and refitting



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

Removal

1 Before removing the fuel tank, all fuel must be drained from the tank. Since a fuel tank drain plug is not provided, it is preferable to carry out the removal operation when the tank is nearly empty. Before proceeding, disconnect the battery negative lead and syphon or hand-pump the remaining fuel from the tank.

2 Remove the exhaust system and relevant heat shield(s) as described in Section 16.

3 From underneath the vehicle, disconnect the handbrake cable at the equaliser bracket.

4 Release the handbrake primary cable from the clips in the fuel tank. Position the cable clear of the tank, so that it will not hinder the removal procedure.

5 Disconnect the wiring connector from the fuel gauge sender unit, as described in Section 5.

6 Working at the right-hand side of the fuel tank, release the retaining clips then disconnect the filler neck vent pipe and main filler neck hose from the fuel tank/filler neck. Where necessary, also disconnect the breather hose(s). Some breather hoses are joined to the tank with quick-release fittings; to disconnect these fittings, slide the cover along

the hose then depress the centre ring and pull the hose out of its fitting (see illustration).

7 Trace the fuel feed and return hoses back from the right-hand side of the tank to their union with the fuel pipes. Slacken the retaining clips and disconnect both hoses from the fuel pipes. Where the crimped-type Peugeot hose clips are fitted, cut the clips and discard them; use standard worm-drive hose clips on refitting. Plug the hose and pipe ends, to prevent the entry of dirt into the system.

8 Place a trolley jack with an interposed block of wood beneath the tank, then raise the jack until it is supporting the weight of the tank.

9 Slacken and remove the retaining nut and bolts, then remove the two support rods from the underside of the tank (see illustration).

10 Slowly lower the fuel tank out of position, disconnecting any other relevant vent pipes as they become accessible (where necessary), and remove the tank from underneath the car.

11 If the tank is contaminated with sediment or water, remove the sender unit (Section 5), and swill the tank out with clean fuel. The tank is injection-moulded from a synthetic material - if seriously damaged, it should be renewed. However, in certain cases, it may be possible to have small leaks or minor damage repaired. Seek the advice of a specialist before attempting to repair the fuel tank.

Refitting

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

- a) When lifting the tank back into position, take care to ensure that none of the hoses

become trapped between the tank and vehicle body.

- b) Ensure that all pipes and hoses are correctly routed, and securely held in position with their retaining clips.
- c) Reconnect the handbrake cables and adjust the handbrake (see Chapter 9).
- d) On completion, refill the tank with a small amount of fuel, and check for signs of leakage prior to taking the vehicle out on the road.

7 Accelerator cable - removal, refitting and adjustment



Removal

1 Working in the engine compartment, free the accelerator inner cable from the carburettor throttle cam, then pull the outer cable out from its mounting bracket rubber grommet (see illustrations). Where fitted, slide the flat washer off the end of the cable, and remove the spring clip.

2 Working back along the length of the cable, free it from any retaining clips or ties, noting its correct routing.

3 Where necessary remove the lower trim from below the driver's side of the fascia panel.

4 Working from inside the vehicle, disconnect the cable from the accelerator pedal by depressing the lugs on the plastic end fitting and pushing the fitting from the pedal (see illustration).



7.1a Accelerator cable connection on the throttle quadrant (arrowed)



7.1b Outer cable end fitting



7.4 Accelerator cable connection to accelerator pedal (arrowed)



7.9 Adjusting the accelerator cable



8.2 Accelerator pedal pivot bush



9.10 Choke cable-to-rubber collar retaining clip (arrowed)

5 Release the outer cable from its retainer on the pedal mounting bracket, then tie a length of string to the end of the cable.

6 Return to the engine compartment, release the cable grommet from the bulkhead and withdraw the cable. When the end of the cable appears, untie the string and leave it in position - it can then be used to draw the cable back into position on refitting.

Refitting

7 Tie the string to the end of the cable, then use the string to draw the cable into position through the bulkhead. Once the cable end is visible, untie the string, then clip the outer cable into its pedal bracket retainer, and clip the inner cable into position in the pedal end. The remaining procedure is a reversal of removal, but adjust it as follows.

Adjustment

8 Remove the spring clip from the accelerator outer cable. Ensuring that the throttle cam is fully against its stop, gently pull the cable out of its grommet until all free play is removed from the inner cable.

9 With the cable held in this position, refit the spring clip to the last exposed outer cable groove in front of the rubber grommet and washer. When the clip is refitted and the outer cable is released, there should be only a small amount of free play in the inner cable (see illustration).

10 Have an assistant depress the accelerator pedal, and check that the throttle cam opens fully and returns smoothly to its stop.

11 For models fitted with automatic transmission refer to Chapter 7, Part B.

8 Accelerator pedal - removal and refitting



Removal

1 Disconnect the accelerator cable from the pedal as described in Section 7.

2 Remove the screws from the pedal pivot bush and lift out the pedal (see illustration).

3 Examine the pivot bush and shaft for signs of wear, and renew as necessary.

Refitting

4 Refitting is a reversal of the removal procedure, applying a little multi-purpose grease to the pedal pivot point. On completion, adjust the accelerator cable as described in Section 7.

9 Choke cable - removal, refitting and adjustment



Removal

1 Release the choke inner cable from the carburettor linkage.

2 Slacken and remove the retaining bolt and remove the outer cable retaining clamp.

3 Slacken the retaining clip securing the rubber collar to the outer cable, and slide the collar off the cable. Where the original crimped-type Peugeot hose clip is still fitted, cut the clip and discard it; use a standard worm-drive hose clip on refitting.

4 Working back along the length of the cable, free it from any retaining clips or ties, noting its correct routing. Tie a length of string to the end of the choke inner cable.

5 Working from inside the vehicle, pull the choke lever fully out, to gain access to the retaining screw. Unclip the choke lever from the fascia and withdraw the lever and cable assembly from the fascia, disconnecting the wiring from the lever switch (where fitted) as it becomes accessible. Once the end of the cable appears through the lever aperture, untie the string and leave it in position in the vehicle - it can then be used to draw the cable back into position on refitting.

Refitting

6 Tie the string to the end of the choke cable, then use the string to draw the cable into position through the bulkhead into the engine compartment. Once the cable end is fully in position, untie the string.

7 Reconnect the wiring connector (where fitted), and clip the choke lever in its fascia panel aperture.

8 From within the engine compartment, ensure that the outer cable is correctly seated in the bulkhead grommet. Work along the

cable, securing it in position with all the relevant retaining clips and ties, and ensuring that the cable is correctly routed.

9 Slide the rubber collar and retaining clip onto the end of the cable, then engage the inner end of the cable with carburettor linkage. Align the rubber collar with the carburettor bracket, then refit the retaining clip and securely tighten its retaining bolt. Adjust the cable as described below.

Adjustment

10 Slacken the clip securing the rubber collar to the outer cable. Where the crimped-type Peugeot hose clip is still fitted, cut the clip and discard it; use a standard worm-drive hose clip on refitting (see illustration).

11 Ensuring that the choke lever is flush with the fascia panel and the carburettor linkage is fully against its stop, move the outer cable in the rubber collar until the position is found where there is only a small amount of free play present in the inner cable. Hold the outer cable in this position, and securely tighten the clip securing the rubber collar to the outer cable.

12 Have an assistant operate the choke lever, and check that the choke linkage closes fully and returns smoothly to its stop. If necessary, repeat the adjustment procedure.

10 Unleaded petrol - general information and usage

Note: The information given in this Chapter is correct at the time of writing. If updated information is required, check with a Peugeot dealer. If travelling abroad, consult one of the motoring organisations (or a similar authority) for advice on the fuel available.

The fuel recommended by Peugeot is given in the Specifications Section of this Chapter, followed by the equivalent petrol currently on sale in the UK.

All Peugeot 405 carburettor models are designed to run on 95 octane petrol. Both leaded and unleaded petrol can be used without modification. Super leaded (97 octane, UK "4-star") and super unleaded (98 octane) petrol can also be used if wished, though there is no advantage in doing so.



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



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



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.**



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 Use 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)

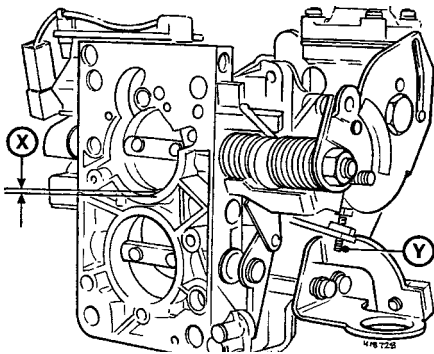
20 Invert the carburettor body, so that the float is at the top and the needle valve is depressed. Measure the distance between the upper edge of the float and the sealing face of the upper body (with its gasket fitted). This measurement should be as given in the Specifications at the start of this Chapter.

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)

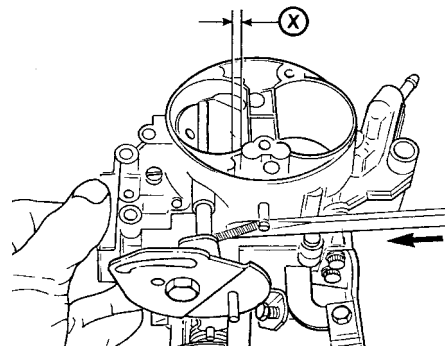
22 Invert the carburettor and pull the carburettor choke linkage to fully close the choke valve. The fast idle screw will butt against the fast idle cam and force the throttle valve open slightly.

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**).



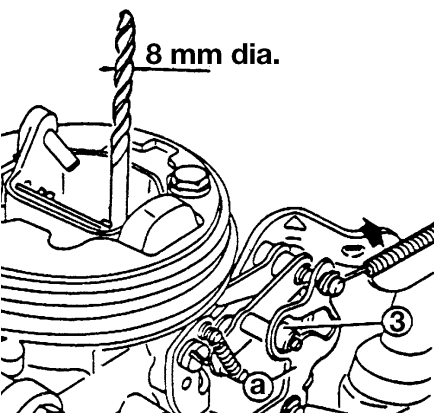
13.23 Throttle valve fast idle setting (Solex carburettor)

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



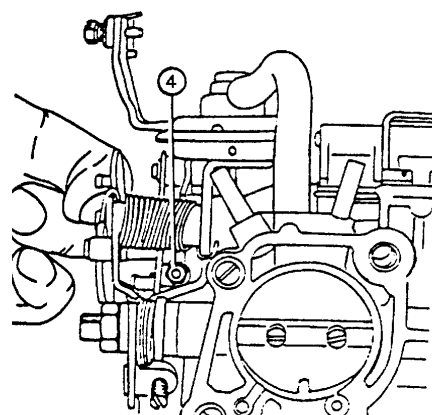
13.26 Choke pull-down setting (using a screwdriver to retract the diaphragm rod) (Solex carburettor)

Adjust until clearance X is as specified



13.34 Checking the choke mechanical opening (Weber carburettor)

a Cam 3 Roller



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

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.

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



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).

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

Refitting

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

- 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.
- Ensure that all relevant hoses are reconnected to their original positions and are securely held (where necessary) by their retaining clips.
- Refit the carburettor as described in Section 12.
- Where applicable, refill the cooling system as described in Chapter 1.



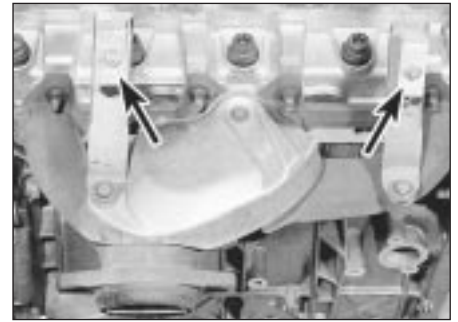
14.6 Inlet manifold centre clamp on the XU engine



15.1 Remove the hot-air intake hose . . .



15.2 . . . then undo the three retaining screws (arrowed) and remove the exhaust manifold shroud (TU engine)



15.5 Power-assisted steering and coolant pipe clamps (arrowed) (XU injection engine shown)

15 Exhaust manifold - removal and refitting

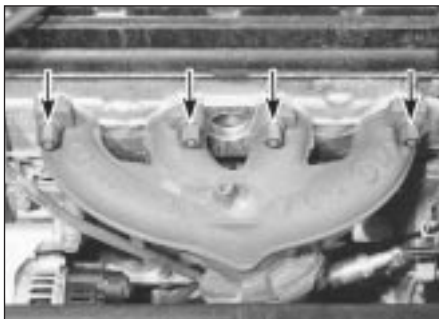


Removal

- 1 Disconnect the hot-air inlet hose from the manifold shroud and remove it from the vehicle (see illustration).
- 2 Slacken and remove the retaining screws, and remove the shroud from the top of the exhaust manifold (see illustration).
- 3 On TU engine models apply the handbrake then jack up the front of the vehicle and support on axle stands (see "Jacking and Vehicle Support").
- 4 Undo the nuts/bolts securing the exhaust front pipe to the manifold, then remove the bolt securing the front pipe to its mounting bracket. Disconnect the front pipe from the manifold, and where applicable recover the gasket.
- 5 Where fitted, loosen the clamp nuts and release the power-assisted steering and coolant pipes from the brackets (see illustration).
- 6 Undo the retaining nuts securing the manifold to the head (see illustration). Manoeuvre the manifold out of the engine compartment, and discard the manifold gaskets.

Refitting

- 7 Refitting is the reverse of the removal



15.6 The exhaust manifold retaining nuts (TU engine)

procedure, noting the following points:

- a) *Examine all the exhaust manifold studs for signs of damage and corrosion; remove all traces of corrosion, and repair or renew any damaged studs.*
- b) *Ensure that the manifold and cylinder head sealing faces are clean and flat, and fit the new manifold gaskets (see illustration). Tighten the manifold retaining nuts to the specified torque.*
- c) *Reconnect the front pipe to the manifold using the information given in Section 16.*

16 Exhaust system - general information, removal and refitting



General information

- 1 The exhaust system sections are joined by flanged joints or clamped cone joints. Except on TU engines the manifold to downpipe joint is of the spring-loaded ball type, to allow for movement in the exhaust system. On TU engines the spring-loaded joint is located at the rear of the front pipe. On early models earth straps are fitted between the underbody and the exhaust system (see illustration).
- 2 The system is suspended throughout its entire length by rubber mountings.

Removal

- 3 Each exhaust section can be removed individually, or alternatively, the complete system can be removed as a unit. Even if only

one part of the system needs attention, it is often easier to remove the whole system and separate the sections on the bench.

- 4 To remove the system or part of the system, first jack up the front or rear of the car and support it on axle stands (see "Jacking and Vehicle Support"). Alternatively, position the car over an inspection pit or on car ramps.

Front pipe

- 5 Undo the nuts/bolts securing the front pipe flange joint to the manifold, and the single bolt securing the front pipe to its mounting bracket. Separate the flange joint and collect the gasket or spring cup and springs.
- 6 Slacken and remove the nuts from the front pipe rear flange joint, and recover the clamp or spring cups and springs. Withdraw the front pipe from underneath the vehicle, and recover the gasket.

Front pipe extension

- 7 Undo the nuts from the front pipe rear flange joint, and the clamp bolts from the extension pipe rear joint.
- 8 Withdraw the extension from under the vehicle and recover the gaskets.

Intermediate pipe

- 9 Undo the clamp bolts at each end of the intermediate pipe, then remove the pipe from under the vehicle.

Centre silencer

- 10 Slacken the clamping ring bolts and disengage the clamps from the front and rear flange joints.



15.7 New gaskets fitted to the exhaust ports on the cylinder head (XU engine)



16.1 Exhaust-to-floor panel earth strap fitted to early models

11 Unhook the centre silencer from its mounting rubber and remove it from underneath the vehicle.

Tailpipe and silencer

12 Slacken the tailpipe clamping ring bolts and disengage the clamp from the flange joint.

13 Unhook the tailpipe from its mounting rubbers and remove it from the vehicle.

Complete system

14 Undo the nuts securing the front pipe flange joint to the manifold, and the single bolt securing the front pipe to its mounting bracket. Separate the flange joint and collect the gasket. Free the system from all its mounting rubbers and lower it from under the vehicle.

Heat shield(s)

15 The heat shields are secured to the underside of the body (and on some models to the fuel tank) by various nuts and bolts (see illustration). Each shield can be removed once the relevant exhaust section has been removed. If a shield is being



16.15 Heat shield on the underside of the fuel tank

removed to gain access to a component located behind it, it may prove sufficient in some cases to remove the retaining nuts and/or bolts, and simply lower the shield, without disturbing the exhaust system.

Refitting

16 Each section is refitted by reversing the removal sequence, noting the following:

- a) Ensure that all traces of corrosion have

been removed from the flanges and renew all necessary gaskets.

- b) *Inspect the rubber mountings for signs of damage or deterioration, and renew as necessary.*
- c) *Prior to assembling the spring-loaded joint, a smear of high-temperature grease should be applied to the joint mating surfaces.*
- d) *Where joints are secured together by a clamping ring, apply a smear of exhaust system jointing paste to the flange joint, to ensure a gas-tight seal. Tighten the clamping ring nuts evenly and progressively to the specified torque setting, so that the clearance between the clamp halves remains equal on either side.*
- e) *Prior to tightening the exhaust system fasteners, ensure that all rubber mountings are correctly located, and that there is adequate clearance between the exhaust system and vehicle underbody. Move the system side-to-side, and up-and-down, to ensure it will not hit anything when the car is moving.*