

SECTION 10B

INSTALLATION OF ENGINE AND GEARBOX - CARBURETTOR VAUXHALL

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The installation of the Vauxhall engine when equipped with Weber carburettors is fundamentally the same as the Vauxhall injection engines with some changes amongst the engine ancillaries.

10B.1 Assembly of Gearbox Kit

This is the same as for the injection engine in section 10A.1.

10B.2 Bellhousing / Dry Sump Tank Assembly

This again is identical to the injection installation. (see section 10A.2)

10B.3 Preparing Engine for Fitment in Car

3.1 The same steps need to be taken to prepare a carburettor engine for fitment in the car as with the injection installation. The only change is that the water pump does not need to be connected up before installation as access in this area is greatly improved.

3.2 The engine and gearbox assembly should be installed with both engine bay diagonals removed, and with the carburettors in place.

10B.4 Fitting Engine/Gearbox Into car

The engine and gearbox assembly should be installed into the car following the same steps as with the Vauxhall injection engine. The upper engine bay diagonals should be fitted in the same position as for a Vauxhall injection engine, ensuring there is adequate clearance for the throttle cable and bracket.

10B.5 Electrical Connections

5.1 The alternator is fitted to the left hand engine mounting bracket where it is located by the horizontal tube running parallel to the engine. Attach the alternator using a 5/16" x 5" bolt and nyloc.

5.2 The adjusting strap is attached to the hexagonal block already bolted to the engine using a 3/8" bolt and lockwasher, and to the alternator by an M8x25mm bolt with both a plain and a lockwasher. Fit the alternator drive belt and tighten by swinging the alternator away from the engine until there is no more than 1/2" movement in the belt.

5.3 The live battery connection is effected using the red lead between the positive terminal on the battery and the bolt on the starter solenoid. The battery earth lead connects between the negative terminal on the battery and the lower fixing bolt (13mm across flats) for the distributor or phase sensor on the back of the cam.

N.B. Do not actually connect this earth lead to the battery until all electrical equipment is installed and connected and the car is ready to run.

5.4 The engine in turn is earthed to the chassis on the rear engine mounting rubber fixing bolt on the right hand lower chassis tube. The other end of the strap is bolted to an unused threaded hole in the engine block adjacent to the engine mounting bracket.

5.5 Other electrical connections are as follows:-

Alternator	brown, brown and brown / yellow wires in a plastic connector, brown/black to B+
Water temperature sender	green / blue
Oil pressure sender	white / orange
Coil	This connects directly to the coil, factory fitted to the bulkhead
Crankshaft Sensor	Connects to socket adjacent to 3 way union on main loom

10B.6 Exhaust System

6.1 The standard Vauxhall exhaust system runs under the car, unlike the Ford and Vauxhall injection systems, and does not incorporate a catalyst. Therefore no hole is

required in the side panel of the car for the exhaust to exit through. If the competition side exit system has been specified, please see section 14.5, Optional Extras.

6.2 With the upper engine bay diagonal removed, attach the exhaust manifold using the gasket supplied, M8 plain nuts, lockwashers and plain washers. Attach the four into one collector onto the manifold using four 5/16" x 1 1/4" bolts and ensure the correct gasket is used. Do not fully tighten at this stage

6.3 Fit the rubber bobbins to the forward hole in the left hand silencer mounting bracket, located underneath the boot area at each side of the fuel tank. These bobbins are secured *ABOVE* each bracket and the silencer/tailpipe assembly is fitted on top of the bobbins and secured with 5/16" nuts and lockwashers.

6.4 Slide the two exhaust clamps over the forward end of the silencer, and slot the twin pipes and collector onto it, locating the front end onto the 1 into 2 flange. Bolt the flanges together with the appropriate gaskets and two 3/8"x1 1/2" UNF bolts. Ensure that the system is correctly aligned, and that no parts of the system are in contact with the chassis or under strain, before tightening the flanges and clamps. We recommend the use of "Firegum" or equivalent in the joints to ensure there is no leakage of exhaust gaskets.

10B.7 Cooling System

7.1 Refer to section 10.7.1 for the fitment of the cooling fan and 10.7.2 for the radiator. The radiator itself is fitted with both a bleed screw and a blanking plug, which must be positioned at the top. The plug is removed and a thermostatic fan switch fitted in its place, to which the black/green and green wires are connected.

7.2 The bottom radiator hose is in two sections with a metal 'submarine' section tube with three 'conning' towers in between. The 'J' shaped hose is connected to the water pump on the right-hand side of the engine block, and the smaller bleed outlet from the submarine piece should face inwards. The correct location of the other two hoses is evident from their shape, but note that the bottom hose has a front and a back, and offers significantly better clearance to the steering rack when correctly fitted. It is important to ensure that no chaffing is possible between the lower forward hose and the steering rack or between the rear lower hose and the water pump casing.

7.3 The other connections to the 'submarine' pipe are shown in figure 10B.7.

7.4 The plastic expansion bottle is located on top of the cruciform immediately behind the radiator where it sits on a 5/16"x3" bolt. It is held by two brackets at the front of the chassis to which it is bolted with two 1/4"x3/4" bolts and nylocs. A locknut should be used on the 5/16" bolt to fix it in position when it has been adjusted to set the expansion bottle level.

7.5 The underside of this bottle should be connected to the submarine pipe, and the upper outlet on the bottle is connected to the bleed connection at the front of the inlet manifold.

7.6 The cooling system should be filled with a 33% antifreeze solution to the level marked on the expansion tank. Carefully bleed with the engine running and the bleed valve on the radiator loosened until normal operating temperature is reached and the air is bled out of the radiator. After the car has been road tested the radiator should be bled again to ensure that all the air is bled from the system.

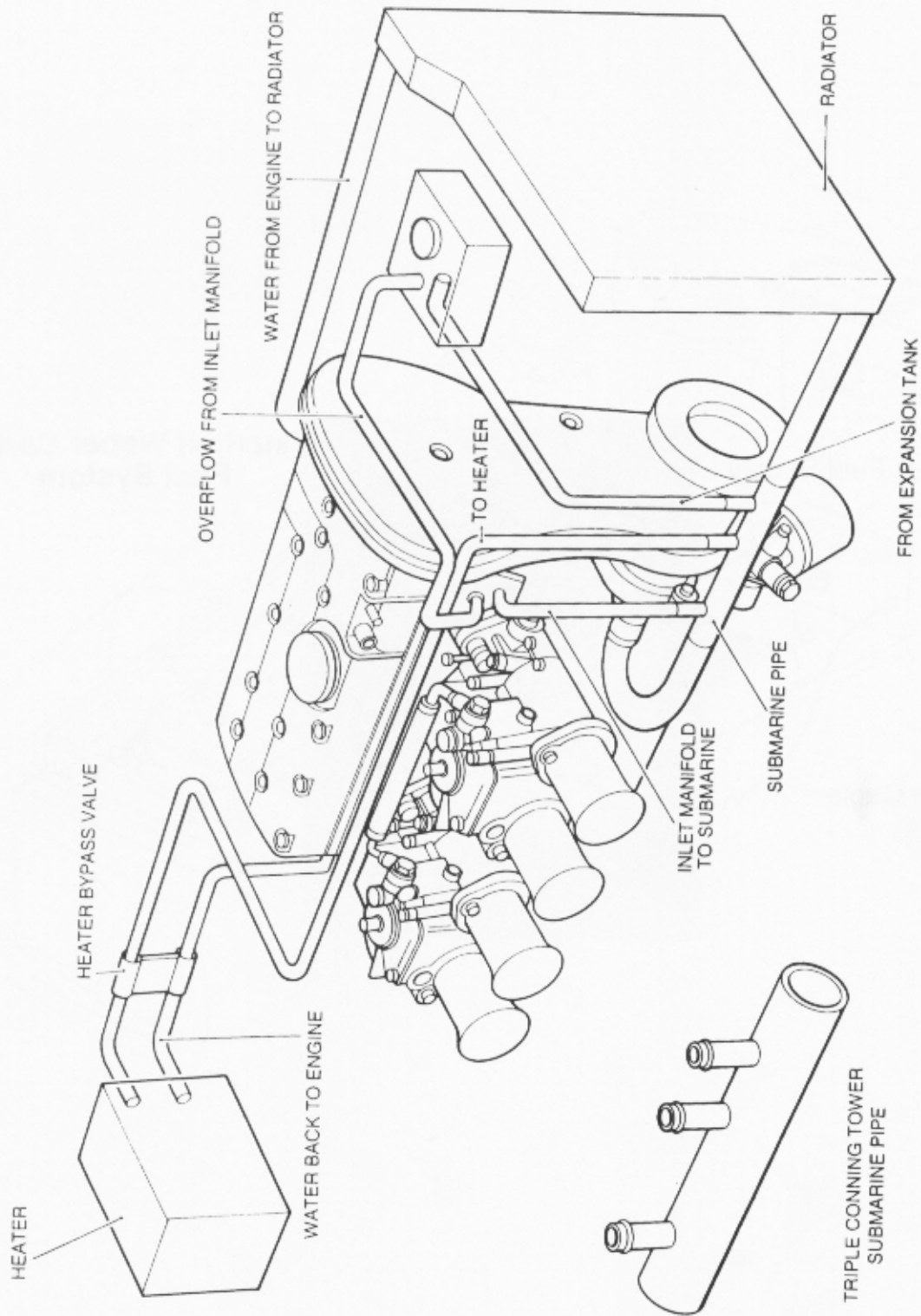
10B.8 Fuel System

The fuel system is complete except for the attachment of the fuel pipe to the connection on the front carburettor using the short piece of rubber tubing supplied and the two clips. See figure 10B.8.

10B.9 Throttle and Speedometer cables

9.1 Please refer to section 10.4.10 for instructions on fitting the throttle cable noting that the attachment to the carburettors uses a ball joint which clips together and is secured using a cylindrical clip in the same way as the other end is secured to the throttle pedal.

9.2 The speedometer cable should be fed through the large grommet above the steering column in the front bulkhead, and connected to the back of the speedometer where it is hand tightened. See figure 10B.9



VAUXHALL CARB. COOLING SYSTEM

Figure 10B.7 Vauxhall Carb' Cooling System

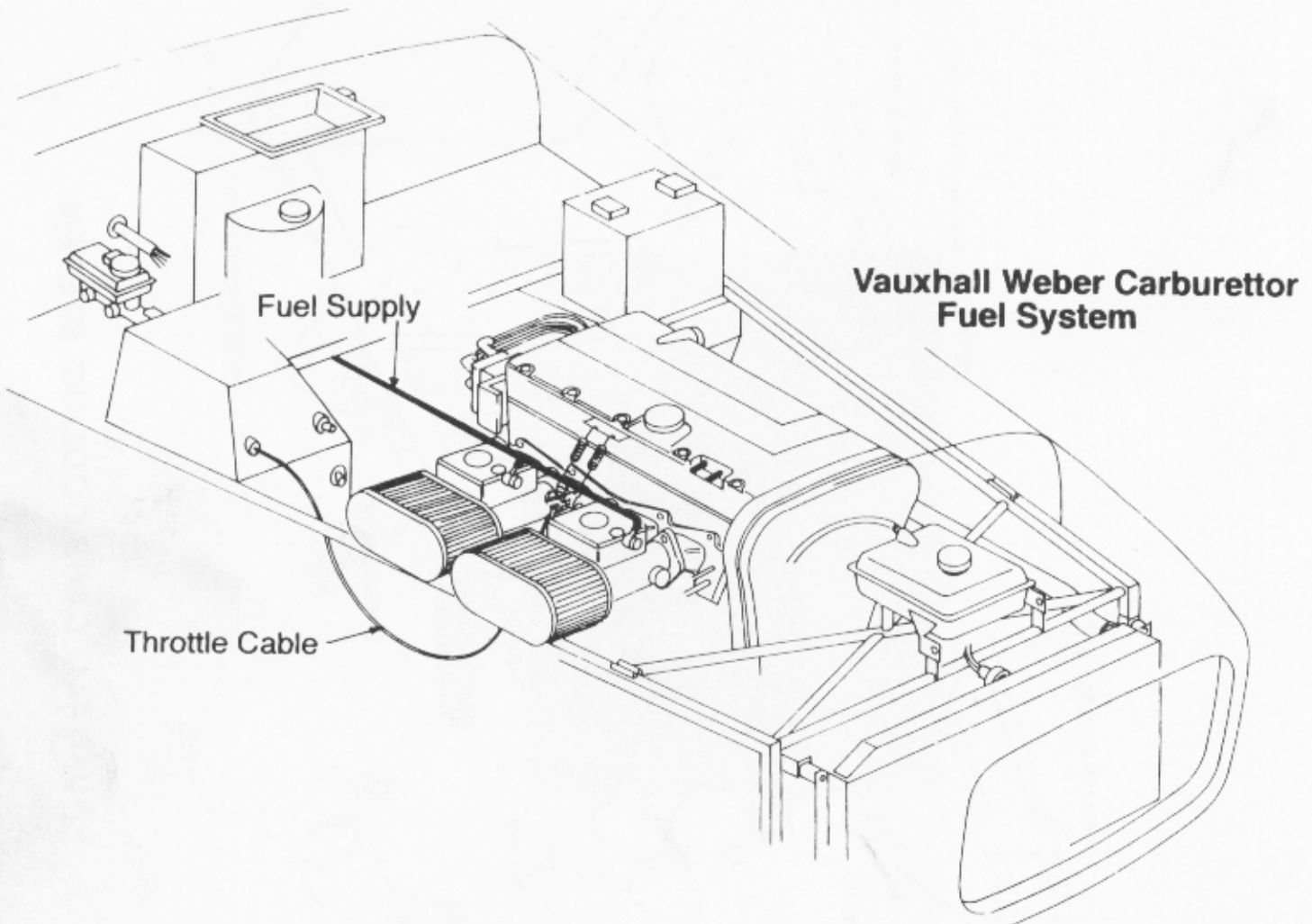
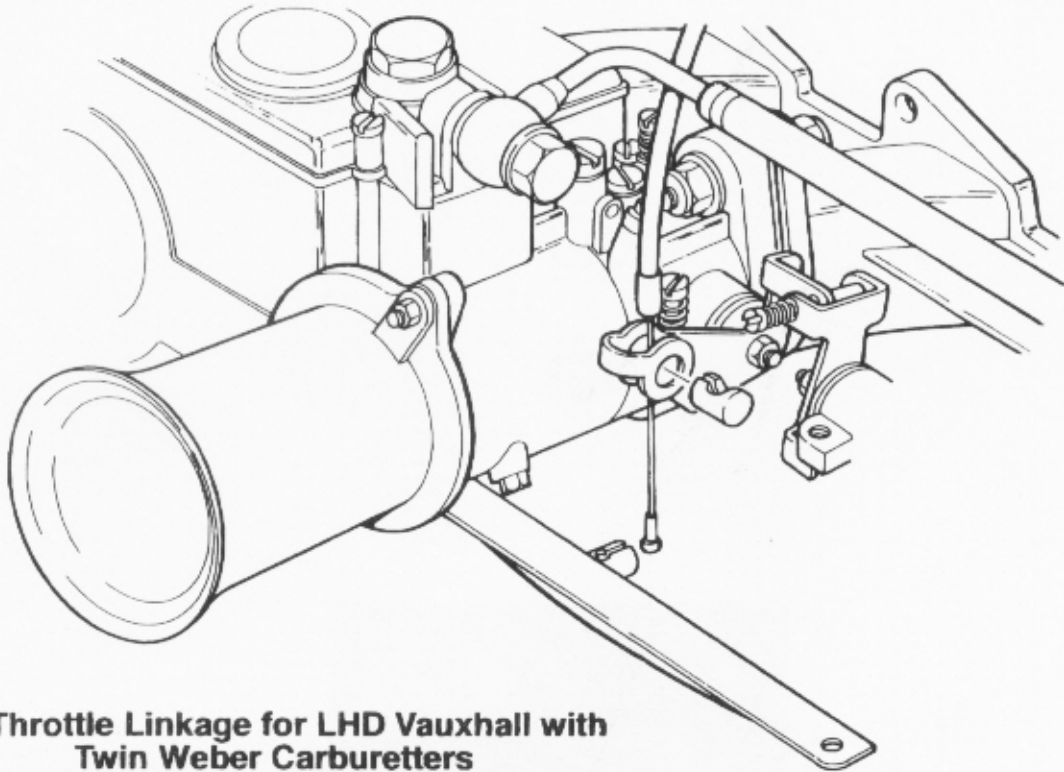
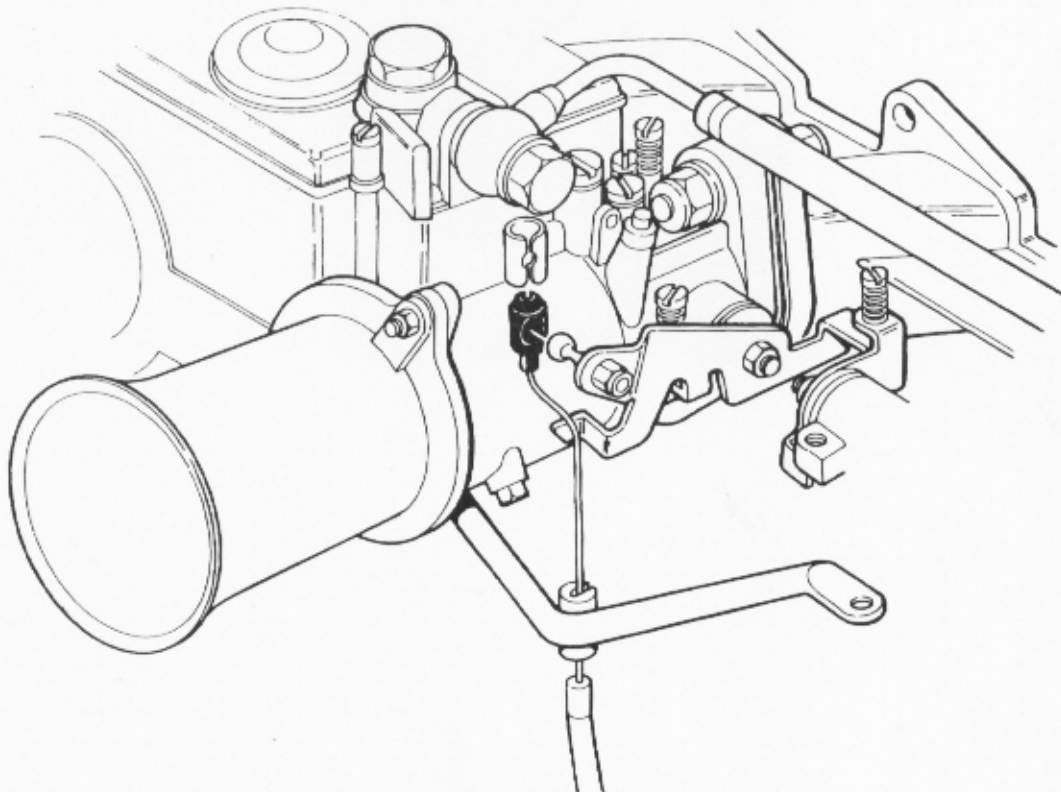


Figure 10B.8

Vauxhall Weber Carburettor Fuel System



**Throttle Linkage for LHD Vauxhall with
Twin Weber Carburetters**



**Throttle Linkage for RHD Vauxhall with
Twin Weber Carburetters**

Figure 10B.9 Throttle Cable Connection - Vauxhall Carbs