

CIRCUIT DIAGRAM - RACING VERSION.

Lay all the equipment out before you and with the aid of the circuit diagram (fig. 1.) run through the installation of the equipment in the following manner.

A. FUEL FEED FROM PETROL TANK TO FUEL PUMP.

Pipe from the petrol tank using the normal pipe take off. Feed into a standard low pressure electric fuel pump, e.g. a bendix - minimum fuel pressure of 2 p.s.i.

B. FEED FROM FUEL PUMP TO SWIRL POT.

1.) Operating principle of the swirl pot.

The swirl pot has been introduced to the racing and rallying sets to serve two purposes.

(a). To eliminate fuel surge under high G acceleration, cornering or braking. Causing air to be introduced into the system.

(b). To provide a large capacity fuel filter. This is needed when special purpose fuel tanks have been made up.

The operating principle is as follows:-

Fuel enters the swirl pot, it fills the pot and fuel for the engine is drawn off through the filter element inside the device. All the return to tank fuel is fed into the pot and is either drawn through the filter and used by the engine, or passes out back to the fuel tank.

FUEL PUMP TO SWIRL POT.

Pipe from the electric fuel pump to the swirl pot. The bottom of the swirl pot is an aluminium casting. There are two ports in the casting, marked 'IN' and 'OUT'. Pipe into the port marked 'IN'.

C. FEED FROM THE SWIRL POT TO THE T.J. ELECTRIC PUMP.

Direct the fuel feed from the cast port in the swirl pot marked 'OUT' to the electric fuel pump provided.

This fuel pump is marked 'IN' and 'OUT'.

D. FEED FROM THE ELECTRIC FUEL PUMP TO THE CHECK VALVE.

This valve serves two purposes.

(a). To bleed off air that is picked up by the fuel pump and return it to the fuel tank, thus ensuring rapid priming if the fuel tank runs dry.

(b). To act as a non return valve and thus keep the system primed with fuel.

If you hold the valve in your hand, you will note that it is made up of three sandwich pieces.

The top of the valve has two 7/16" ports set in the same plane at the front of the valve. These ports feed through into a common chamber and are concerned with the bleed circuit.

The centre section of the valve has four ports cast in it, two of which are machined. These ports are in the left hand side looking from the front. The bottom section of the valve consists of the cap only.

Holding the valve the correct way up, i.e. with bleed ports to the top. The port nearest to the mounting flange in the centre section is the outlet port, and the port adjacent to it is the inlet port.

Closer examination of the ports will reveal that the outlet port is drilled through the centre of the valve.

Feed from the outlet port of the electric fuel pump to the inlet port (shallow drilling) in the centre section of the check valve.

E. FEED FROM THE CHECK VALVE TO THE ENGINE DRIVEN PUMP.

Feed from the outlet port in the centre section of the check valve to the tapping in the rear of the engine driven pump. This tapping is designated by the sign 'IN' imposed on the casting.

There are two outlets from the engine driven pump - a high and low pressure one.

F. LOW PRESSURE OR RELIEF CIRCUIT - ENGINE DRIVEN PUMP TO THE DISTRIBUTOR VALVE, and THENCE TO THE 18 P.S.I. RELIEF VALVE.

Looking at the engine driven pump from the rear, it will be noticed that there are two tappings or ports in the larger periphery. Holding the pump so that the ports are to the top, the port on the right hand side (marked CV), is the high pressure tapping, and the port on the left is the low pressure tapping (marked DRV).

It is most important that when the pump is mounted the high pressure port must be positioned uppermost, any deviation from this may lead to air being trapped in the pump.

Pipe from the left hand side or low pressure port (DRV), to the side of the distributor valve. If you hold the distributor valve in front of you, you will notice that it is made up of three sections.

The top section has ten ports in it. Eight are situated radially around the top of the valve. There will be as many ports machined as you have nozzles. Also, in the top section, there are two 7/16" tapings - pipe into any one of them, and out of the other, i.e. the fuel feed is taken out of the distributor valve after it has passed around the valve - the fuel acting as a refrigeration medium.

Pipe from one of the 7/16" tapings in the top section of the distributor valve, to one side of the 18 P.S.I. relief valve - marked for identification with either one brown or one grey stripe, or a green plastic protection cap. The port at 180° to that which is used, must be blanked off with a 7/16" plug, provided.

G. FEED FROM THE 18 P.S.I. RELIEF VALVE TO THE CHECK & BLEED VALVE.

Pipe from the port in the bottom of the relief valve to either of the 7/16" ports in the top of the bleed and check valve, these ports feed to a common chamber.

H. FEED FROM THE CHECK & BLEED VALVE TO THE SWIRL POT.

Pipe from the port in the top of the check and bleed valve that is not in use, to one of the ports in the top of the swirl pot. The top pair of ports feed through into a common chamber.

I. SWIRL POT TO FUEL TANK.

Pipe from the top of the swirl pot (using the only available port) to the fuel tank. If there are no other tapings available, it is possible to pipe into the side of the fuel filler pipe in some manner.

J. FEED FROM THE HIGH PRESSURE PORT OF THE ENGINE DRIVEN PUMP. TO THE CONTROL VALVE.

Pipe from the right hand uppermost port (marked CV) to the disk filter. This is marked in & out.

Pipe out of the filter to the control valve, it will be noticed that there are two ports. One port on the top in a flat surface, and one port situated on the side of the control box in a raised round boss.

The feed from the engine driven pump runs through the filter into the side of the control box.

K. FEED FROM THE CONTROL BOX TO THE DISTRIBUTOR VALVE.

Fit the 7/16" to 5/32" adaptor provided, into the port situated on the top of the control box.

The fuel feed pipe used for this line must be 5/32" o/d thin wall tube.

There are two tappings in the side of the distributor valve (centre section), blank the 7/16" tapping with the plug provided. Fit the main restrictor to the remaining 5/32" port and connect to this.

Finally, using the pipe length provided, pipe from the top of the distributor valve to the nozzles.

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Fig 1. Circuit Diagram - Racing Version

