

Fuel Pump — RG225 Engine

FUEL PUMP - RG 225 ENGINE**Description**

The fuel pump is bolted to the right hand side of the cylinder block, driven by a cam machined on the camshaft. As the camshaft rotates the cam presses down on the fuel pump rocker arm. This lifts the pull rod and diaphragm against the spring, creating a vacuum in the valve housing that opens the inlet valve and draws fuel into the valve chamber.

On the return stroke the spring forces the diaphragm down, closing the inlet valve and expelling fuel through the outlet valve to the carburettor.

The fuel pump is a sealed unit, and is only serviced as an assembly.

TESTING

If the fuel pump output is suspect, the following tests should be made before removing the pump from the engine.

Leak Test

With the engine running, examine the fuel pump and carburettor for fuel leaks. Rectify as necessary, but do not overtighten the fuel line connections to correct a faulty union.

Pressure Test

If leakage is not apparent, test the fuel pump pressure as follows:-

Insert a "T" fitting in the fuel line at the carburettor.

Connect a 150 mm (6 in) length of fuel hose to the "T" fitting and a reliable gauge. (The hose must not exceed the length specified, as fuel may collect in a longer hose, the weight of fuel would be added to the pressure, and the reading would be inaccurate.)

Vent pump for a few seconds (this relieves air trapped in fuel chamber). If this is not done, pump will not operate at full capacity and a low pressure reading will result.

Start and run the engine at idling speed. The reading should be as shown in Data, and remain

constant or return to zero slowly, when engine is stopped. An instant drop to zero indicates a leaky outlet valve, or if pressure is too low or too high the pump is faulty and must be renewed.

Vacuum Test

Disconnect the fuel line, pump to carburettor, so the pump can operate at full capacity, which it must do to prime dry carburettor.

Disconnect the fuel line at the pump inlet and connect a reliable vacuum gauge to the pump.

Connect a temporary fuel supply to the carburettor, start and run the engine at idling speed. The vacuum reading should be as shown in Data.

A low vacuum reading indicates leaking valves or diaphragm, unsteady vacuum indicates inlet valve not seating properly, in all cases the pump is faulty and must be renewed.

Volume Test

The fuel pump should supply 1.136 litre (2 pts) in one minute or less at engine idle speed.

To Remove

Remove the right hand engine insulation panel.

Disconnect the fuel pipes at the fuel pump. Plug the pipes to minimise fuel spillage and prevent the entry of dirt.

Release the two securing bolts and washers, remove the pump and gasket.

To Refit

Ensure the faces of the fuel pump and cylinder block are clean.

Fit a new gasket to the fuel pump flange.

Refit the fuel pump to the cylinder block, ensuring that the rocker arm goes below the cam on the camshaft. Secure with two bolts and washers torque tightened to Data figure Section A 201. Reconnect the fuel pipes.

Start and run the engine. Check for oil and fuel leaks.

Refit the engine insulation panel.