

**FAULT DIAGNOSIS-2 LITRE ENGINE**

Fault	Possible Cause	Rectification
Engine turns but will not start.	(a) Choke valve not closing (b) No fuel in carburettor.  (c) Faulty ignition	(a) Binding or stuck choke valve or linkage. (b) Fuel tank empty — check for faulty gauge reading. Check fuel filter. Check for binding float or float needle stuck in valve seat. Check fuel pump. Check for leak in fuel line. (c) Check ignition system.
Engine stalls	(a) Fast idle speed set too low. (b) Vacuum leaks. Manifold, carburettor or hoses. (c) Inadequate fuel pump output. (d) Low fuel level in carburettor.	(a) Check and adjust as required (b) Check and rectify. (c) Test fuel pump (d) Adjust carburettor floats.
Carburettor flooding	(a) Choke valve stuck closed. (b) Choke improperly adjusted. (c) Choke linkage binding. (d) Leaking float needle valve or valve seat. (e) Fuel pump pressure too high.	Rectify (e) Test fuel pump.
Engine hesitation using accelerator	(a) Vacuum leaks. Manifold, carburettor or hoses. (b) Mis-set timing. (c) Incorrect float height in carburettor.	(a) Check and rectify. (b) Check and reset. (c) Check and adjust

**FUEL SYSTEM****Fault Diagnosis**

Fault	Possible Cause	Rectification
Engine hesitation using accelerator	(d) Flap valve in air intake stuck in full hot or full cold position. (e) Temperature sensing valve in air cleaner inoperative. (f) Carburettor idle and progression system obstructed. (g) Faulty fuel pump.	(d) Free flap valve. (e) Fit new sensing valve. (f) Clean carburettor. (g) Check fuel pump.
Surge at constant low speed.	(a) Vacuum leaks. Manifold carburettor or hoses. (b) Mis-set timing. (c) Incorrect float height in carburettor. (d) Flap valve in air intake stuck in cold position. (e) Carburettor idle and progression system obstructed.	(a) Check and rectify. (b) Check and reset. (c) Check and adjust. (d) Free flap valve. (e) Clean carburettor.
Surge at constant high speed.	(a) Incorrect float height in carburettor. (b) Major vacuum leak. (c) Restricted fuel supply.	(a) Check and adjust. (b) Locate and rectify. (c) Check and rectify.

**FAULT DIAGNOSIS - RG 225 ENGINE**

Fault	Possible Cause	Rectification
Engine turns but will not start.	(a) Choke valve not closing  (b) No fuel in carburettor.         (c) Faulty ignition  (d) Too long delay between ignition switch "on" and "start" — choke comes off due to electric heat.	(a) Binding or stuck choke valve or linkage.  (b) Fuel tank empty — check for faulty gauge reading.  Check fuel filter.  Check for binding float or float needle stuck in valve seat.  Check fuel pump.  Check for leak in fuel line.  (c) Check ignition system.  (d) Use correct starting procedure.
Engine stalls	(a) Throttle positioner setting incorrect.  (b) Fast idle speed set too low or cam index incorrect.  (c) Vacuum leaks. Manifold, carburettor or hoses.  (d) Inadequate fuel pump output.  (e) Low fuel level in carburettor.  (f) OSAC — no vacuum advance.	(a) Adjust setting.  (b) Check and adjust as required.  (c) Check and rectify.  (d) Test fuel pump.  (e) Adjust carburettor floats.  (f) Check and rectify.

**FUEL SYSTEM****Fault Diagnosis**

Fault	Possible Cause	Rectification
Carburettor flooding	<ul style="list-style-type: none"><li>(a) Choke valve stuck closed.</li><li>(b) Choke improperly adjusted.</li><li>(c) Choke linkage binding.</li><li>(d) Choke vacuum diaphragm leaking.</li><li>(e) Leaking float needle valve or valve seat.</li><li>(f) Fuel pump pressure too high.</li></ul>	<div>Rectify</div> <ul style="list-style-type: none"><li>(f) Test fuel pump.</li></ul>
Engine hesitation using accelerator	<ul style="list-style-type: none"><li>(a) Vacuum leaks. Manifold, carburettor or hoses.</li><li>(b) Mis-set timing.</li><li>(c) Incorrect float height in carburettor.</li><li>(d) Sticking or binding carburettor power valve.</li><li>(e) Double flap valve in air intake stuck in full hot or full cold position.</li><li>(f) Temperature sensing valve in air feed intake box inoperative.</li><li>(g) Carburettor transfer or idle system obstructed.</li><li>(h) Plugged or restricted OSAC.</li><li>(j) Faulty fuel pump.</li></ul>	<ul style="list-style-type: none"><li>(a) Check and rectify.</li><li>(b) Check and reset.</li><li>(c) Check and adjust float tang.</li><li>(d) Check and rectify.</li><li>(e) Free flap valve.</li><li>(f) Fit new sensing valve.</li><li>(g) Clean carburettor.</li><li>(h) Fit new OSAC</li><li>(j) Check fuel pump.</li></ul>
Surge at constant low speed.	<ul style="list-style-type: none"><li>(a) Vacuum leaks. Manifold carburettor or hoses.</li><li>(b) Mis-set timing.</li><li>(c) Incorrect float height in carburettor.</li><li>(d) Double flap valve in air intake stuck in cold position.</li></ul>	<ul style="list-style-type: none"><li>(a) Check and rectify.</li><li>(b) Check and reset.</li><li>(c) Check and adjust float tang.</li><li>(d) Free flap valve.</li></ul>

Fault	Possible Cause	Rectification
Surge at constant low speed.	(e) Carburettor transfer or idle system obstructed. (f) Plugged or restricted OSAC. (g) Defective PCV valve.	(e) Clean carburettor. (f) Fit new OSAC. (g) Renew valve.
Surge at constant high speed.	(a) Plugged OSAC valve. (b) Defective or sticking carburettor power valve. (c) Incorrect float height in carburettor. (d) Major vacuum leak. (e) Restricted fuel supply.	(a) Renew valve. (b) Check and rectify. (c) Check and adjust float tang. (d) Locate and rectify. (e) Check and rectify.
Excessive exhaust noise	(a) Leaks at pipe joints. (b) Burned or blown out silencer. (c) Burned or rusted out exhaust pipe. (d) Exhaust pipe leaking at manifold flange (e) Exhaust manifold cracked or broken. (f) Leak between manifold and cylinder head.	(a) Tighten clamps. (b) Renew silencer assembly. (c) Renew exhaust pipe. (d) Install a new gasket and tighten flange bolt. (e) Renew manifold. (f) Tighten manifold to cylinder head.
Leaking exhaust gases	(a) Leaks at pipe joints. (b) Damaged or improperly installed gaskets. (c) Restriction in silencer or tail pipe.	(a) Tighten clamps. (b) Renew gaskets as necessary. (c) Remove restriction, if possible or renew as necessary.
Engine hard to warm up or will not return to normal idle	(a) Heat control valve stuck in open position.	(a) Free manifold heat control valve using suitable Solvent, when cold.

**FUEL SYSTEM****Fault Diagnosis**

Fault	Possible Cause	Rectification
Noise in manifold	(a) Thermostat broken. (b) Weak or broken anti-rattle spring.	(a) Renew thermostat. (b) Renew spring.
Manifold heat control valve rattle	(a) Thermostat broken. (b) Broken or weak anti-rattle spring.	(a) Renew thermostat. (b) Renew spring