

## Trouble-Shooting Hints on Carburetor

Before beginning any work on the carburetor, a check should be made of the spark plugs, contact gaps, ignition adjustment, ignition leads, valve timing, compression and the feed pressure of the fuel pump (see Job No. 01—3, Sections A—G).

Faults are often ascribed to the carburetor instead of to these parts! Check any suppression devices which may be fitted. This applies in particular to distributor rotor arm, ignition lead connectors and spark plugs; the easiest way of checking is to temporarily replace these parts by others not fitted with suppressors.

If carburetor faults develop during running, these are usually caused by dirt, gum deposits, dried-up or faulty seals and gaskets. In such cases it is usually enough to thoroughly clean all jets, valves, injection tubes, bores and canals, blow out with compressed air and replace defective seals and gaskets. When this has been done, the carburetor will usually work perfectly again. If normal cleaning fails to remove the faults, it is advisable to completely disassemble the carburetor and to clean and examine all parts (see Job No. 07—3). It is often impossible to determine with certainty the exact cause of a fault without checking all parts, since the same fault can have various causes. To assist in trouble-shooting, some faults and their causes are tabled below.

Faults	Cause	Remedy
Heavy fuel consumption	Leaking float needle valve	Clean or replace float needle valve
	Faulty float needle valve gasket	Replace gasket
	Fuel level too high	Adjust
	Fuel pump delivery pressure too high	Adjust
	Idle jet or main jet loose	Tighten
	Idle air jet or air correction jets blocked	Clean jets
	Carburetor cover loose	Tighten carburetor cover Check gasket
	Mixing tubes blocked	Clean — also clean side bores
	Starter slide valve leaking	Check starter slide valve for leaks and if necessary, re-face sliding surfaces
	Cable of starter slide valve incorrectly adjusted	Check cable and adjust correctly

Faults	Cause	Remedy
	<p><b>Note:</b> A leaking starter slide valve or a starter slide valve which is not quite closed can be detected by examining the vacuum valve of Stage 2.</p> <p>If the starter slide valve is leak-proof or if it is closed, the vacuum valve is completely closed when the engine is idling. Check by pressing on the counterweight of the vacuum valve.</p> <p>If the starter slide valve is leaking or is in operation, the vacuum valve is raised at idling engine speeds, because the engine is receiving the start mixture via Stage 2.</p> <p>When making this check, however, the mechanical throttle valve of Stage 2 must be completely closed, since otherwise the vacuum valve will be raised by the air flowing via Stage 2.</p>	
<p>Poor idling</p> <p><b>Note:</b> Idling can only be adjusted when the engine is at normal working temperature</p>	<p>Idle fuel jet or idle air jet blocked</p> <p>Idle canal, by-pass bores blocked</p> <p>Suction canals fouled</p> <p>Fuel level incorrect</p> <p>Excessive delivery pressure of fuel pump</p> <p>Float needle valve leaking</p> <p>Idle mixture adjustment screw damaged or broken</p> <p>Mixing tube holder loose</p> <p>Worn throttle valve shafts</p> <p>Injection tube drips</p> <p>Leaks in insulation flange, carburetor flange, intake manifold flange, in vacuum system of power brake (if fitted) and pneumatic ignition control</p>	<p>Clean jets</p> <p>Clean canal and bores</p> <p>Clean suction canals</p> <p>Adjust fuel level</p> <p>Correct fuel pump delivery pressure</p> <p>Replace float needle valve or gasket</p> <p>Replace idle mixture adjustment screw</p> <p>Carefully solder guide of mixing tube holder and press into position</p> <p>Replace throttle valve housing and throttle valve shafts</p> <p>Set fuel level to lowest permissible value</p> <p>Test joints for leaks by smearing joints with soap and make leak-proof</p>
	<p><b>Note:</b> For hot climates, the lower check valve on the diaphragm pump can be replaced by spring-assisted valve Solex No. ZK 3508. The spring raises the ball a little from its seat in the "rest" position so that, when the pressure in the fuel chamber of the diaphragm pump gradually increases, the fuel can flow back into the float chamber. When the outside temperature is low, however, and gradual acceleration is applied, some slight unevenness may be experienced.</p>	

Faults	Cause	Remedy
Idle too fast	Mechanical throttle valve of Stage 2 sticking  <b>Note:</b> The mechanical throttle valve of Stage 2 must close completely in the idle position. If the throttle valve is not completely closed, a greatly increased idle speed results; in this case, the idle will not react to adjustment of the idle mixture adjustment screw.	Test throttle valve shaft and relay lever
Carburetor floods	Float needle valve leaking Faulty float needle valve gasket	Replace float needle valve Replace gasket
Uneven speed build-up	By-pass bores blocked Injection tube gasket leaking  Injection tube blocked Injection amount incorrect Check valve of diaphragm pump leaking Pump jet blocked Pump diaphragm faulty	Clean bores Tighten injection tube or replace gasket Replace injection tube Correct injection amount Replace check valve  Clean pump jet Replace pump diaphragm
Engine difficult to start when cold	Starter fuel jet blocked	Clean jet
Engine uneven after cold start	Mechanical throttle valve of Stage 2 not closing Starter air valve fails to open and in consequence, start mixture too rich	Free up  Check starter air valve Blow out vacuum canal to Stage 1
Engine difficult to start when hot	Fuel level too high       Air leakage	Correct fuel level. Check float needle valve and if necessary, replace it Replace gasket Check pump pressure and if necessary, correct it See under Poor idle