

CHECKING FOR COMPLAINTS BB CARBURETORS

Complaints of poor operation due to too rich a mixture generally will be accompanied by a mileage complaint.

Complaint: USING TOO MUCH GAS.

Check Float Circuit No. 1, page 1, for possible flooding or leaking.

High fuel pump pressure will cause trouble, Test fuel pump.

Leak in gas line or at connection.

High float level. Check to specification of that model carburetor.

Stopped up vent hole. Vent hole is located at top of bowl cover and air horn assembly.

Gas line connection cross threaded or loose at needle seat. Bowl cover or bowl gasket not seating tight.

Poor gasket on needle seat or needle seat loose in carburetor.

Anything under needle seat gasket preventing seat to casting.

Worn needle and seat where you can see or feel a ridge on intake needle.

Sticky intake needle. Needles and seats come in matched pairs which are tested and sealed in boxes. Do not tap on needle to seat it.

Gum, dirt or foreign matter between needle and seat, not letting intake needle shut off.

Wrong needle and seat, such as needle seat with too large an opening. See specification sheet of that model carburetor for proper parts to be used.

Intake needle not installed properly in needle seat. (The **point** of intake needle goes into the outlet hole of the needle seat).

Cracked, damaged or loaded float, or overweighted due to repair by soldering. Replace float.

Ridge worn in the lip of the float causing intake needle to bind. This can be smoothed off by using a piece of 0 or 00 emery cloth about $\frac{1}{4}$ " wide. Rest emery cloth over the lip of the float by placing your thumb on top of it, pull the cloth through and that will smooth off the lip of the float. **Do not use a file for this operation.**

Float pin worn or holes in float bracket for float pin worn egg shaped. This will cause float to bobble and cause loaded condition. Replace both.

On early model carburetors head of float pin not seating tight in casting.

Float retainer pin not installed properly, should be installed so retainer pin is in casting groove and rest on both sides on float pin.

Float retainer pin missing, or damaged.

Cracked casting, or passage plugs and parts not seating gasoline tight in casting.

Check Low Speed Circuit No. 2, page 2.

Metering hole in idle tube oversize.

Idle tube loose or not seated tight in casting.

Idle passage air bleed hole in casting restricted or stopped up. Early models had screw plug with hole in it to meter air.

Economizer in casting oversize from improper cleaning.

On carburetors that have step up piston in air horn (see Page 5) there is a bushing that seals vacuum passage from main casting to air horn. If it does not seal, gasoline will splash from the bowl and enter vacuum passage, causing it to kill the motor at idle speed or loading up. This bushing should be replaced to insure seal when rebuilding carburetor.

Damaged casting at idle discharge parts.

Carbon in the bore of the carburetor where throttle valve seats. This will cause a wide port opening so that idle adjusting screw can be closed off completely, and still carburetor would be rich at idle. Note: Be sure to remove this carbon from bore of the unit.

Relation of valve to discharge port not correct.

Idle adjusting screw burred, causing carburetor to be hard to adjust at idle.

Check High Speed Circuit No. 3, page 3.

Warped or bent bowl cover allowing an air leak at the gasket on balanced vent model carburetors.

Plug or ball missing in bottom of inside of bowl above feed hole to main metering jet. This is on carburetors where main metering jet is installed from the outside of main body casting.

Damaged or too large metering hole in main metering jet.

Air bleed hole in main vent tube assembly restricted, (see page 5).

Air bleed hole in main casting for vent tube restricted, see pages 7, 8, 9.

Restricted accelerating holes in vent tube.

Install vent tube properly, see pages 7, 8, 9.

Vacuum passage for step up piston restricted.

Wrong flange gasket, see pages 8, 9.

Poor body flange gaskets, causing air leak to vacuum passages and causing step up jet to open too soon. Page 7.

Step up piston in main casting sticking in its open position, due to gum, carbon, or binding at the head of idle tube.

Wrong step up piston assembly. See specification sheet of that model carburetor.

For step up pistons in main casting check to be sure step up rod is seating in step up jet. If there is more than one step up piston gasket used or bracket on step up piston is bent up, step up rod will not seat in step up jet when the piston is in its closed position.

When holding step up piston to its seat (down position) there should be a clearance of .010 or more between the head of the step up rod and bracket of step up piston assembly. Bracket should be straight in line to work freely. See page 3.

Wrong step up piston spring.

Metering hole in step up jet too large or jet loose in casting.

In carburetor where step up piston is in air horn as shown on page 5 check to be sure it works freely and that the late piston assembly, part number 160-23S is installed and two 20-32 gaskets are installed in casting to eliminate whistling noise.

Check Circuit No. 4, page 4.

Pump discharge jet too large.

Pump connector link on winter stroke when it should be installed in the summer stroke.

If pump is not adjusted properly too much gasoline may be taken into pump cylinder on intake stroke.

If discharge check on accelerating pump is leaking, gasoline may be pulled out of the pump system through the pump discharge jet richening up the high speed mixture.

Check Circuit No. 5, page 4.

Choker valve or choker shaft sticking or binding in air horn.

Choker valve not installed properly.

FOR COMPLAINT OF POOR OPERATION DUE TO TOO LEAN A MIXTURE CHECK THE FOLLOWING:

Check Float Circuit No. 1, page 1.

Low fuel pump pressure, or restriction in gas line or needle seat. This does not allow sufficient gasoline to enter bowl for high speed driving.

Low float level. Reset to specifications.

Opening in needle seat too small (the wrong needle and seat).

Check Low Speed Circuit 2, page 2.

Idle tube restricted or stopped up.

Idle passage air bleed hole in casting too large. Early carburetors have screw plug with hole in it to meter air.

Economizer in body restricted or stopped up.

Restriction in passage in casting from low speed jet to port hole and idle screw.

Main casting warped at body flange or loose at insulator causing air leak. This can be refaced by filing.

Port plug or rivet plug not seating air tight.

Idle discharge port restricted.

Throttle shaft and throttle valve worn or throttle valve installed wrong.

Discharge hole in casting for idle adjusting screw restricted.

Idle adjusting screw spring, or throttle lever adjusting screw spring won't hold adjustment.

Air leak due to poor flange gasket.

On older models, step up piston not seating in air horn, causing air leaks.

Check for worn piston and gaskets.

Check High Speed Circuit 3, page 3.

Restricted vent hole.

Body passages restricted in casting.

Restricted main metering jet or lean size jet.

Vent tube not seating in casting or accelerating holes in tube restricted.

Discharge holes in diffuser bar restricted.

Metering hole in step up jet restricted.

On early Models, step up push rod pin missing or installed upside down.

Step up piston assembly in air horn sticking in its closed up position. Page 5.

Vacuum spark advance hole restricted or stopped up in bore of carburetor.

Weak step up piston spring.

Wrong step up piston assembly (on late 1935 model carburetors). Check with specification sheets.

The lean on idle complaints in circuit number 2 will affect the high speed system at the part throttle range up to 30 miles per hour.

Check Pump Circuit 4, page 4.

The brass plunger is used on the early model carburetors and the leather plunger is used on the later models.

Inlet body passage restricted from bowl to intake check, or from intake check to discharge pump jet.

Intake check ball leaking or sticking on seat.

Plunger sticking in pump cylinder.

Worn or dried out plunger leather or weak plunger spring.

Worn pump piston either inner or outer piston (brass type).

Inner brass piston sticking in outer piston.

Weak pump spring.

Discharge check valve leaking or sticking in casting seat.

A pump ball check spring is over pump discharge check on 1938 model carburetors. On 1939 carburetors with balanced vent, this spring has been removed.

Pump plug must be installed tight over pump discharge check valve.

Pump discharge jet restricted or stopped up or jet not seated in casting.

Pump jet plug or rivet not installed tight.

Holes in throttle lever and pump operating link worn egg shaped, pump connector link also worn.

If linkage from throttle to accelerating pump is worn, Replace.

Pump not adjusted properly.

1938-39 & 40 Model carburetors have a specified pump stroke in addition to the season setting. See specification sheets for that adjustment which is important.

Complaint: HARD TO START.

Check Choke Circuit 5, page 4.

Choke connector link not installed properly preventing choker from closing tight.

Fast idle dog missing or worn, will cause motor to die in warming up during cold weather.

Body flange gasket installed wrong, blocking idle passage. Motor won't start.

Complaint: SINGING OR WHISTLING NOISE IN CARBURETER.

In carburetors using step up piston 160-23S in air horn, when step up piston gasket becomes hard or carbon coated, it vibrates causing the noise. To take care of this install 2 new 20-37 step up piston gaskets and a new step up piston assembly 160-23S.

A leak at any of the gaskets where vacuum is applied, may make a noise.

CARBURETER