Always adjust the governor to operate engine between 3100-3300 R.P.M. before proceeding with carburetor adjustments.

**NOTE**
All carburetors require a final adjustment of the needle valve prior to putting the mower into service.

**VENTED CARBURETOR ADJUSTMENT**

1. Turn needle valve slowly in a clockwise direction using a 1/4 inch open end wrench until it seats lightly.

   **NOTE**
   Do not force it against the seat as it can become damaged.

2. After seating, turn counterclockwise 2 full turns.

3. Start and run engine to warm it up to normal operating temperature. (3 to 5 minutes) With engine running in "normal" (approximately 3200 R.P.M.), slowly turn needle valve clockwise (turning the wrench to the left) approximately 1/8 turn at a time until it runs smooth and even. After the carburetor has been adjusted for smooth and even running, turn needle valve counterclockwise (turning the wrench to the right) approximately 1/8-1/4 turn. This will correctly set the carburetor for easier starting and cold running. After each movement of needle valve, wait for the engine to respond to the adjustment.


5. After carburetor adjustment is completed, shut off engine. IMMEDIATELY attempt to restart engine. DO NOT PRIME A HOT ENGINE. It should start within 2 pulls on starter handle. Check starting engine at both HIGH and LOW speed settings. If difficult to restart, turn altitude needle 1/8 turn, counterclockwise to richen fuel mixture and obtain easy restarting.
VENTED PRIMER

Examine the primer assembly. A vent hole is located in the primer bulb of this fuel system. When the bulb is depressed, the vent hole will close and forces air through the primer hose into the carburetor for priming which forces fuel up into the venturi.

When the bulb is released, air enters the primer bulb for the next stroke.
FLOAT ADJUSTMENT

Float Setting

Remove float bowl and gasket. Invert carburetor. With float arm resting on float valve needle, the top of float should be 7/16-15/32 inch above edge of carburetor body as shown. Obtain measurements at two points at right angles to each other.

If adjustment is required; using needle nose pliers bend float arm as shown. DO NOT bend float arm by applying pressure to float, this will damage rubber tip on inlet needle.

Check pin clip on float arm by rotating carburetor sideways. If clip falls off float arm -- replace it.

The Nozzle Filter will provide a secondary filtering device to minimize the possibility of "fuzz" or other minute particles getting into the carburetor area, which causes engine stalling, including hard restarting after shut down.

We recommend the use of the Nozzle Filter in all carburetors. Make sure the nozzle is free from dirt and "fuzz" — then install filter on the nozzle. Hold float up and lift bowl carefully in place. (For easier installation, take carburetor off and turn upside down.)

NOTE

Tightening hinge to pivot pin will prevent inlet needle from not seating correctly when mower crosses uneven terrain. This condition is called "fluttering."
MAINTENANCE—REPAIR AND ADJUSTMENTS—SERVICE

FLOAT AND VALVE ASSEMBLY

The float valve consists of a needle and seat assembly, activated by a float in the carburetor bowl. The steel needle is rubber tipped and the seat brass. This combination eliminates possible sticking and provides a perfect seal. The needle rests on float arm, held in place by a spring clip.

Operation is automatic. When float bowl is empty, float rests on bottom of bowl. As fuel enters bowl of carburetor, float rises, moving needle valve into seat and shutting off fuel. As engine uses fuel, float drops slightly, allowing more fuel to enter bowl, maintaining a constant fuel level in bowl.

Needle, seat and spring clip must be replaced as an assembly. They are matched to form a perfect seal.

Remove float bowl and examine float appearance. Float should be glossy because of epoxy sealer. If dull in appearance, or portions of epoxy have chipped away - replace float.

NOTE

Do not clean float with any type of solvent or carburetor cleaner. Replace it.

Some of the problems you may encounter with the float valve are as follows:

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARNISH</td>
<td>Stops up openings</td>
<td>Clean out carburetor with solvent</td>
</tr>
<tr>
<td>SPRING WIRE CLIP COMES OFF</td>
<td>Needle may stick shut</td>
<td>Replace clip</td>
</tr>
<tr>
<td>NEEDLE AND SEAT NOT MATCHED</td>
<td>Fuel supply can't be shut off from float bowl</td>
<td>Replace needle and seat as an assembly</td>
</tr>
<tr>
<td>FLOAT ARM NOT SET CORRECTLY</td>
<td>Set too high - carburetor floods - Engine runs rich</td>
<td>Set correctly</td>
</tr>
<tr>
<td>PIVOT PIN CORRODED OR BENT</td>
<td>Float sticks</td>
<td>Replace pin</td>
</tr>
<tr>
<td>FLOAT STRIKING NOZZLE</td>
<td>Float sticks</td>
<td>Replace float</td>
</tr>
<tr>
<td>VARNISH OFF FLOAT</td>
<td>Float soaks up fuel, changing floating characteristics</td>
<td>Replace float</td>
</tr>
<tr>
<td>LOOSE FLOAT HINGE CLIP ON PIVOT PIN</td>
<td>Engine 4 cycles excessively when bumped or jarred</td>
<td>Crimp float hinge clip on pivot pin for tighter fit</td>
</tr>
</tbody>
</table>