

distance between the float and casting (Figure 52). If it is not 0.150-0.190 in., bend tab 1 (Figure 53) as required.

Hold the carburetor upright and measure the distance between the casting and float as shown in Figure 53. If it is not 1.00-1.08 in., bend tab 2 as required.

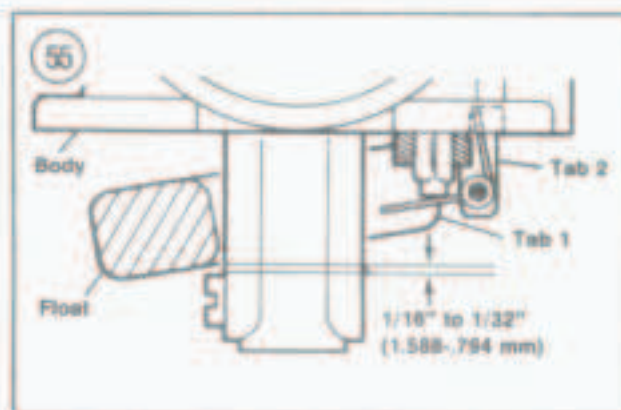
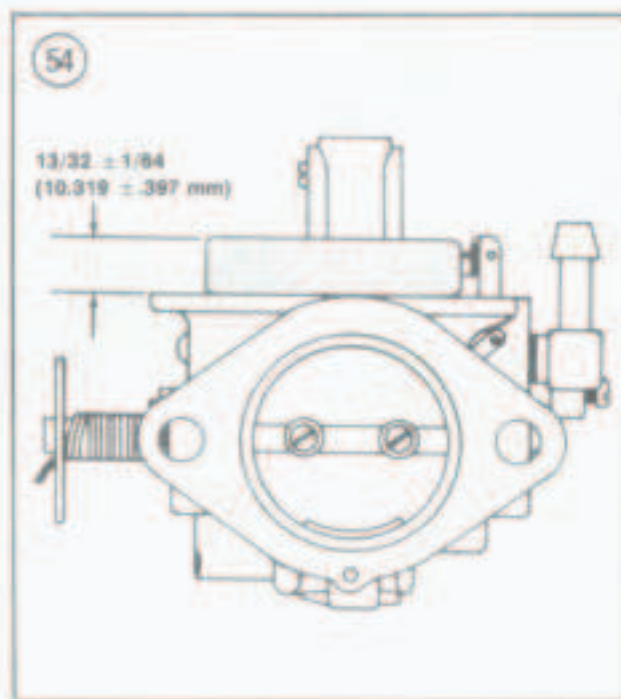
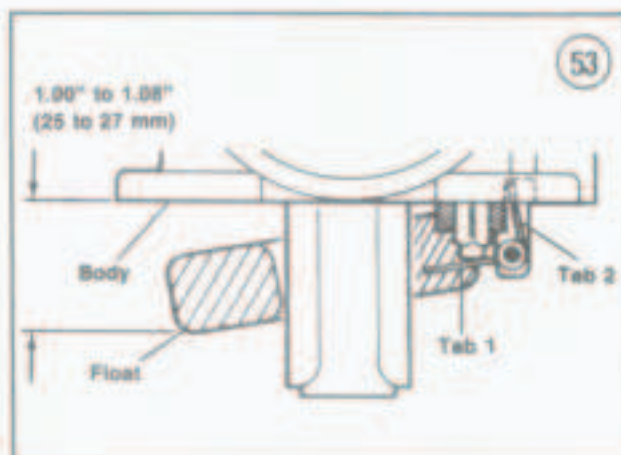
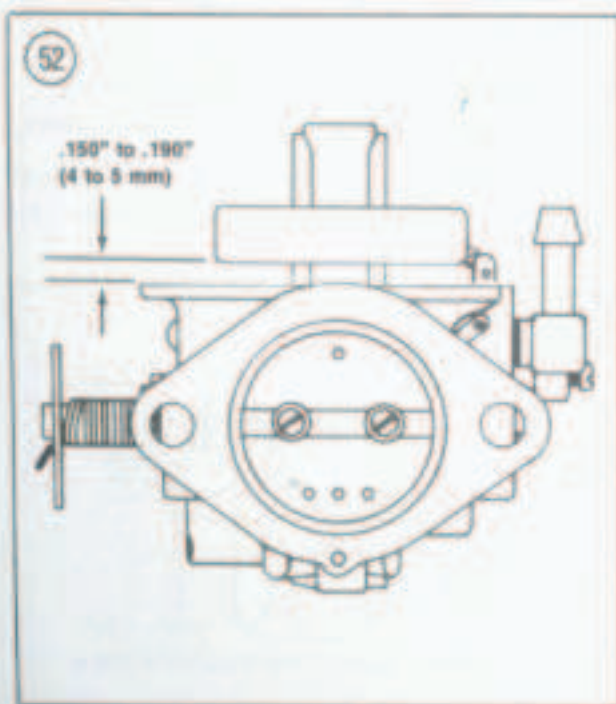
**55-140 hp (1979-1982),
75-140 hp (1983-on Tillotson)
Carburetors**

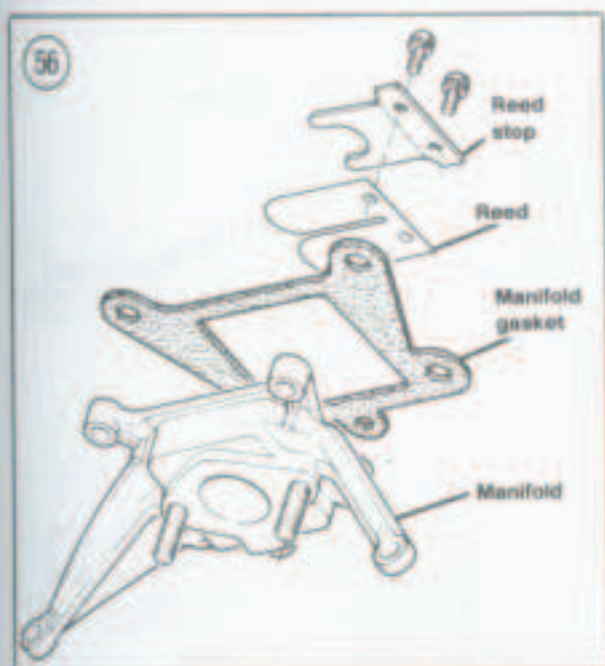
Invert the carburetor body. Weight of float will close the needle valve. Measure the distance between the float and casting (Figure 54). If it is not $13/32$ in. $\pm 1/64$ in., bend tab 1 (Figure 55) as required.

Hold the carburetor upright and measure the distance between the casting and float as shown in Figure 55. If it is not $1/16$ - $1/32$ in., bend tab 2 as required.

REED VALVE ASSEMBLY

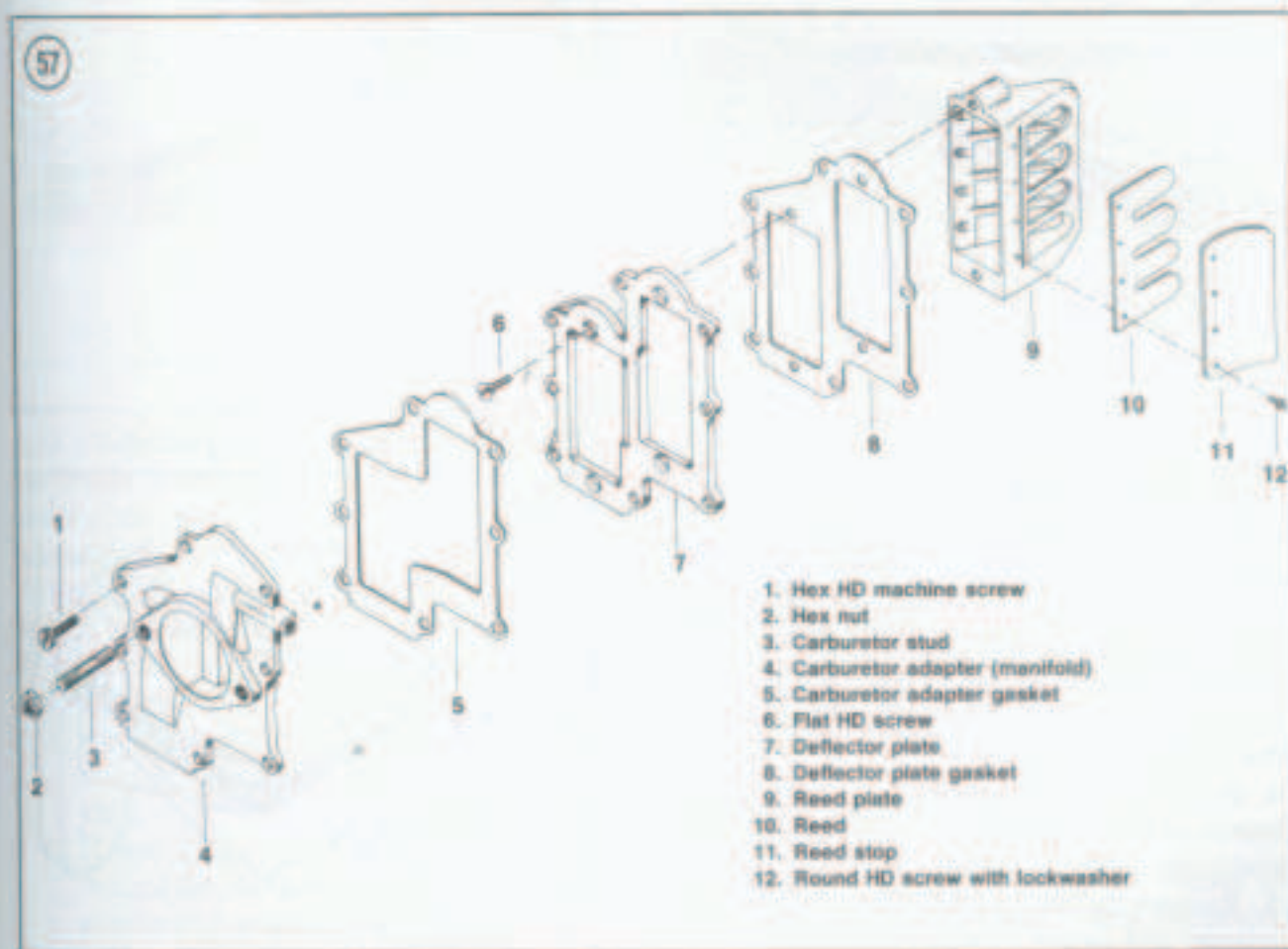
The reed valve assembly is mounted on the rear of the carburetor adapter plate or intake

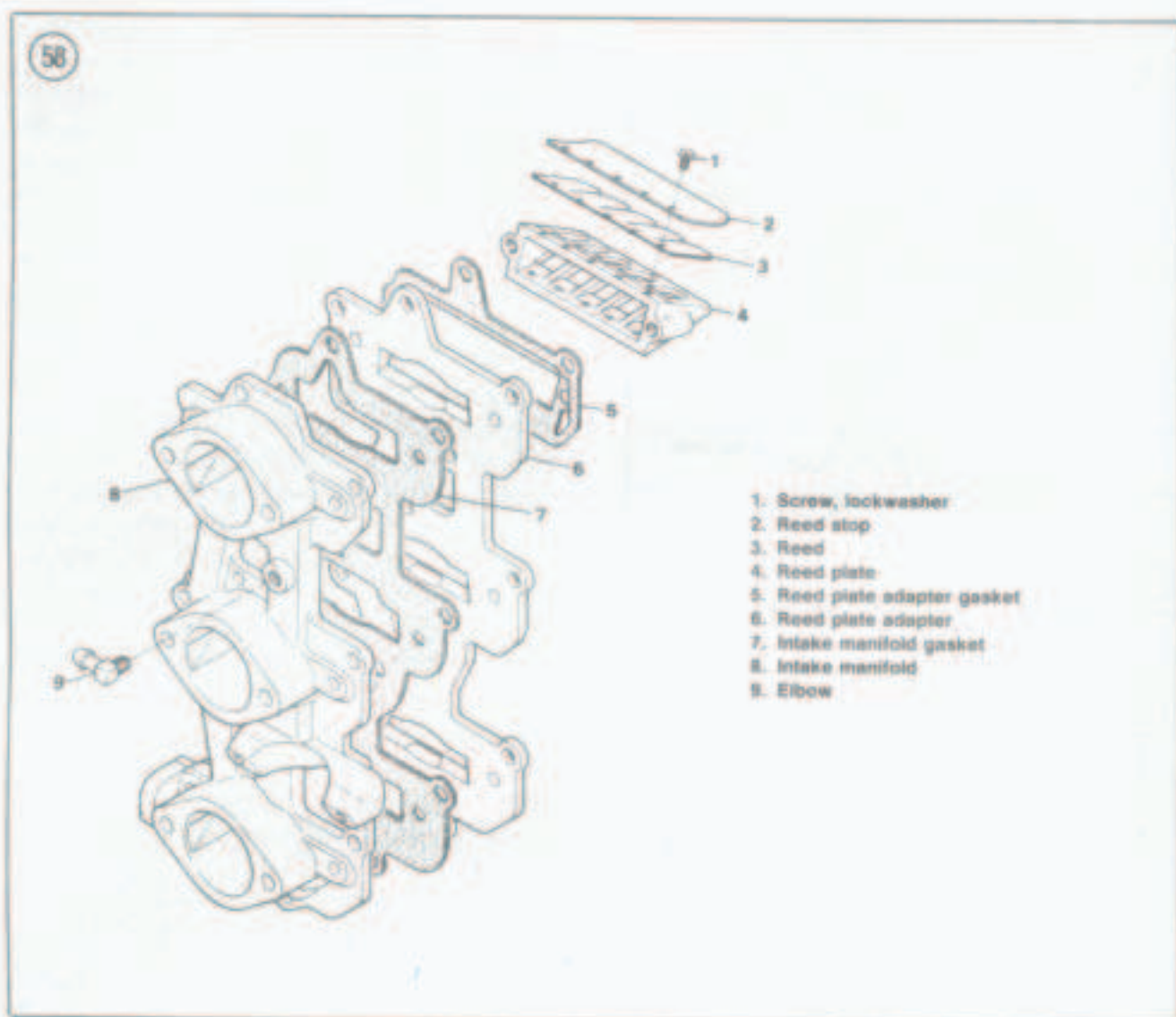




manifold. Reed valves control the passage of air-fuel mixture into the crankcase by opening and closing as crankcase pressure changes. When crankcase pressure is high, the reeds maintain contact with the reed plate to which they are attached. As crankcase pressure drops on the compression stroke, the reeds move away from the plate and allow air-fuel mixture to pass. Reed travel is limited by the reed stop. As crankcase pressure increases, the reeds return to the reed plate.

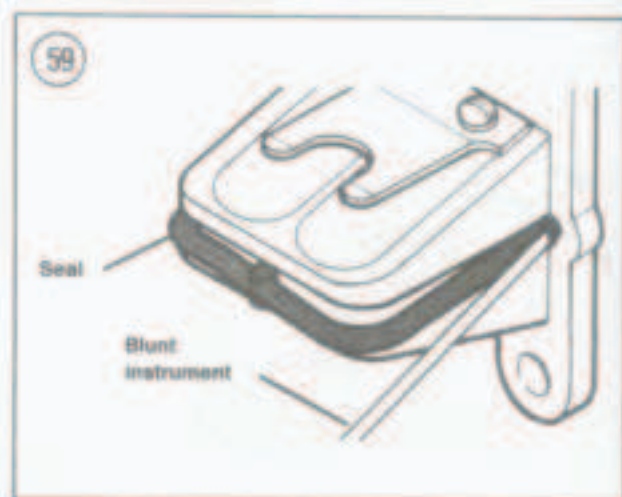
Figure 56 (1-cylinder), Figure 57 (2-cylinder) and Figure 58 (3-cylinder) show typical reed plate/intake manifold configurations. Note that larger engines have a deflector plate or reed plate adapter between the intake manifold/carburetor adapter and the reed valve assemblies.

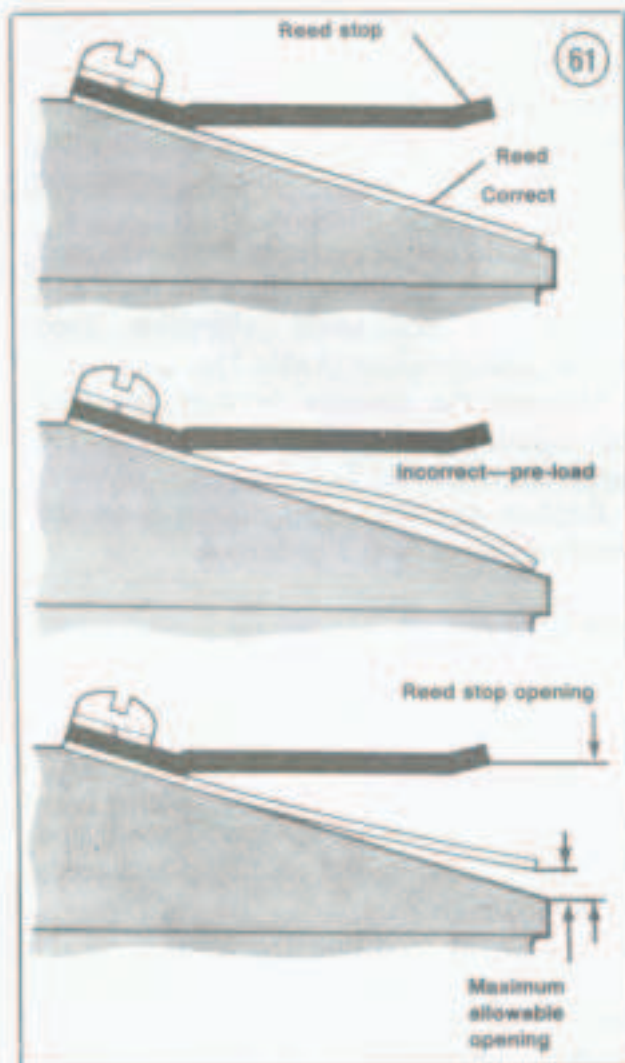
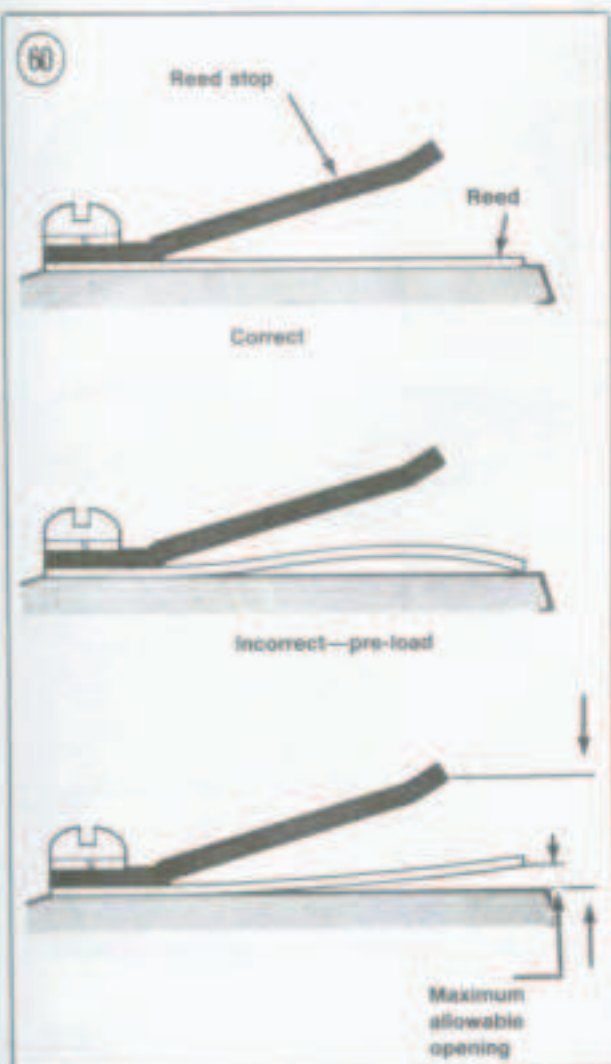




Removal/Installation

1. Remove the carburetor as described in this chapter.
2. Disconnect any hoses connected to the intake manifold or carburetor adapter.
3. On 3- and 4-cylinder models, it may be necessary to remove the throttle cam from the intake manifold.
4. Remove the screws holding the intake manifold or carburetor adapter to the crankcase cover.
5. Remove the intake manifold or carburetor adapter and gasket. Discard the gasket.





6. If a deflector plate is used, separate it from the intake manifold/carburetor adapter and remove the screws holding the reed valve assemblies.

7. Clean all mating surfaces of gasket or sealant residue.

8. Installation is the reverse of removal, plus the following:

- Run a thin bead of RTV sealant around the reed plate opening on the power head.
- If reed plate uses a seal, remove and discard the old seal. Lubricate reed plate groove with engine oil and install a new seal, pushing its ends through the reed

plate hole with a blunt instrument. See Figure 59. Seal should extend no more than 0.06 in. above face of plate after installation.

- Use new gaskets.
- Tighten intake manifold/carburetor adapter screws to specifications. See Table 1.

Disassembly, Inspection and Assembly

Refer to Figure 60 (1-cylinder), Figure 61 (2-cylinder) or Figure 62 (3- and 4-cylinder) for this procedure.

1. Check reeds for cracking or other damage. Replace if any defects are noted.
2. Reeds should lie flat on the reed plate with no preload. To check flatness, gently push each reed petal out. Constant resistance should be felt with no noise.
3. If reeds do not lie perfectly flat on the reed plate, measure the amount they are open and compare to maximum allowable reed opening specifications (Table 2).
4. Measure the distance between the reed stop and reed plate. Compare to specifications (Table 2).
5. Replace any reeds that do not meet the specifications in Step 3 or Step 4.

Reed Replacement

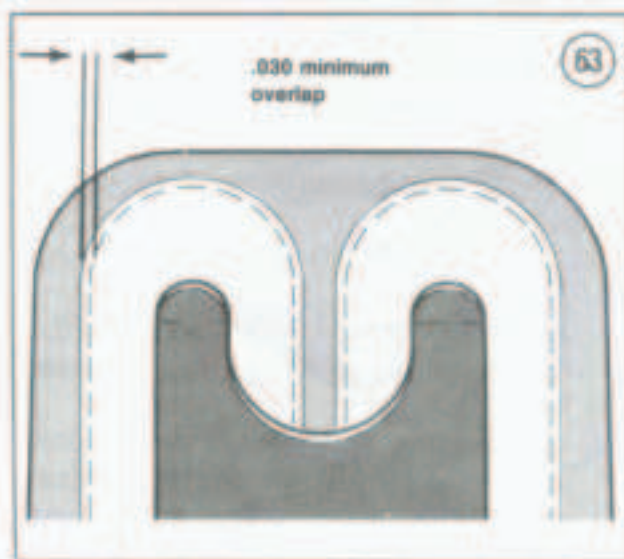
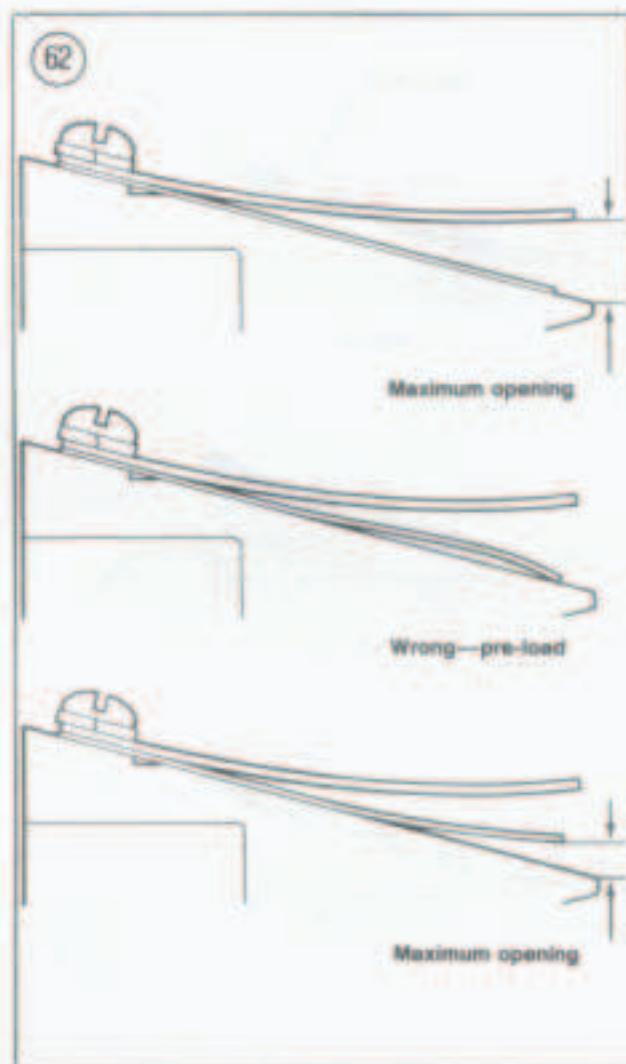
NOTE

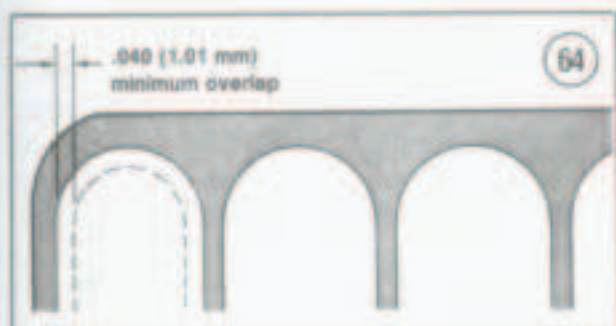
Some late-model reed valve assemblies use spacers between the reed stop and reed.

1. Remove the screws, spacers (if used) and lockwashers holding the reed stop and reeds to the reed plate.
2. Remove the reed stop and reeds.
3. Place a new reed on the reed plate and check for flatness.
4. Locate reed over reed plate openings. There should be a minimum overlap of 0.030 in. (3.5-15 hp) or 0.040 in. (20-140 hp) over the reed plate opening. See Figure 63 (3.5-15 hp) or Figure 64 (20-140 hp).
5. Install reed stop with screws, spacers (if used) and lockwashers.
6. Check reed stop tension and opening. See *Disassembly, Cleaning and Assembly* in this chapter.

CHOKE SOLENOID

A choke solenoid is used on 20-140 hp engines. Test procedures are given in Chapter Three.





Removal/Installation

1. Disconnect the solenoid terminal post wire. Note the position of the terminal post for reinstallation reference.
2. Loosen the fastener(s) holding the solenoid clamp.
3. Remove solenoid from clamp and disconnect it from the plunger.
4. Remove the strap holding the wire to the solenoid body.
5. Installation is the reverse of removal. Align solenoid with terminal post in the same relative position noted in Step 1.

INTEGRAL FUEL TANK

All 3.5, 3.6, 4, 4.9 and 5 hp models are fitted with an integral fuel tank.

Removal/Installation (1966-1969 3.5 hp)

1. Loosen the magneto control lever jam nut. See Figure 65.
2. Unscrew the control lever and remove it from the engine.
3. Disconnect the fuel line at the fuel shut-off valve (port side of carburetor). Plug the end of the line to prevent leakage.
4. Remove the 4 screws holding the fuel tank to the support plate (Figure 66).
5. Lift tank from engine and remove the 3 screws holding the starter to the tank. Separate the tank and starter.
6. Installation is the reverse of removal. Loosely install starter to fuel tank, pull starter handle to engage the friction shoe plates against the starter cup, then tighten the starter screws.