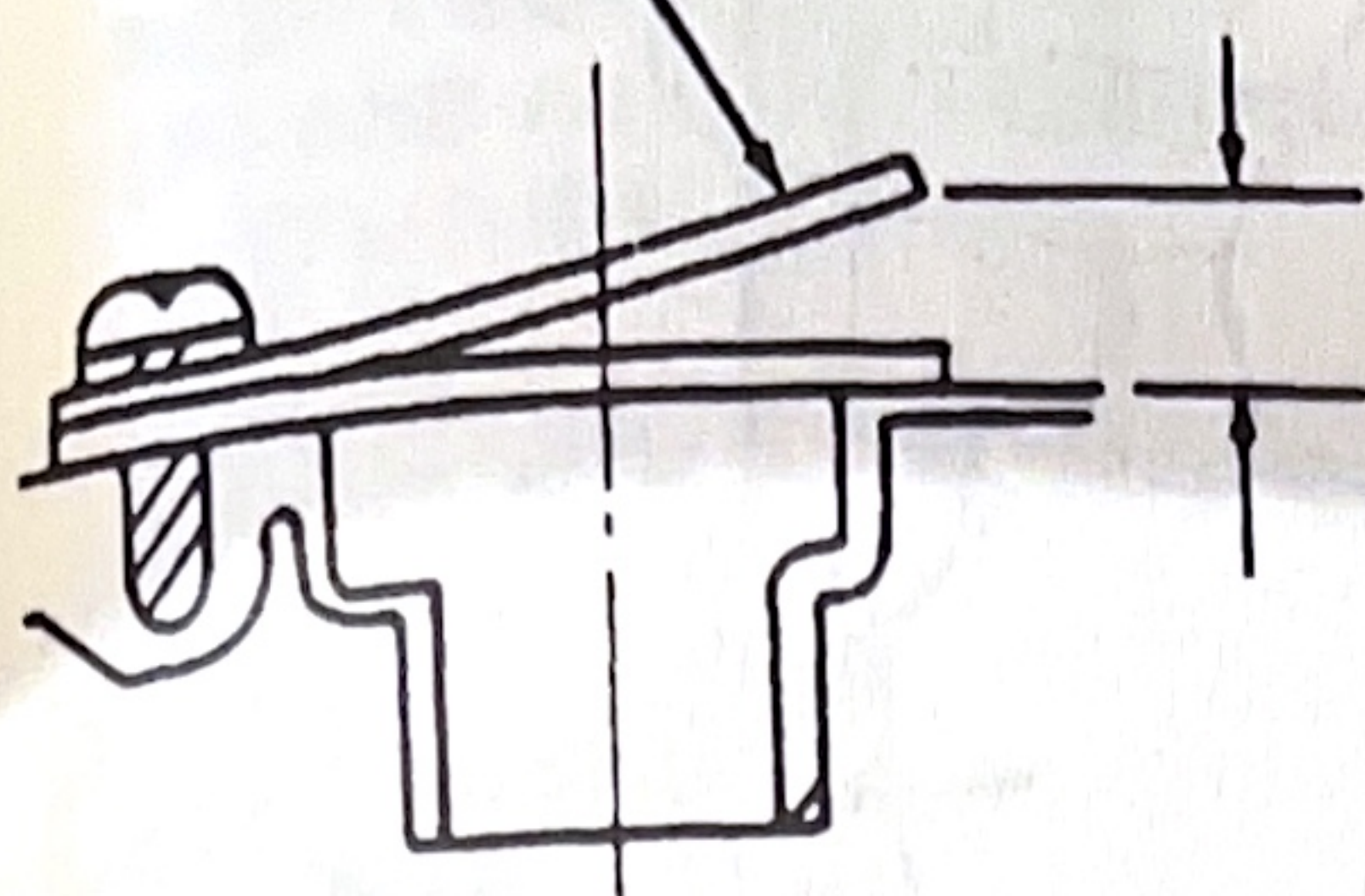


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Reed stop



REED VALVE SERVICE

All Mercury/Mariner two-stroke outboard motors are equipped with one set of reed valves per cylinder. The reed valves allow the air/fuel mixture from the carburetor to enter the crankcase, but not exit. They are one-way check valves.

Reed valves are virtually maintenance free and cause very few problems. However, if a reed valve does not seal, the air/fuel mixture escapes from the crankcase and is not transported to the combustion chamber. Some spitting of fuel back out of the carburetor throat at idle can be considered normal, but a substantial discharge of fuel from the carburetor throat indicates reed valve failure.

On most models, the reeds can be inspected with the carburetor removed. A small flashlight and dental mirror can be used to inspect for broken, cracked or chipped reeds. If reed damage is discovered, attempt to locate the missing pieces of the reed petal. The reed petals are made of stainless steel and can damage internal engine components if they pass through the crankcase and combustion chamber.

Anytime the reed valves are removed from the power head, inspect the reeds for excessive stand-open. Reed valve specifications are in **Table 4**. On models with reed stop specifications, measure the reed stop openings. The easiest way to measure the reed stop opening is to use a drill bit of the specified diameter. The shank of the drill bit should just fit between the top surface of the closed reed petal and the inner edge of the reed stop. Some reed stops are adjustable, while some must be replaced if not within specification. The text differentiates between such models.

Never turn over reed petals and reinstall them. This can lead to preloaded reeds. Preloaded reeds require a higher crankcase vacuum level to open. This causes acceleration and carburetor calibration problems. The reed petals should be flush to nearly flush along the entire length of the reed block mating surface with no preload. Most

larger engines have a maximum stand-off specification in **Table 4**.

Many new models use rubber coated reed blocks. These reed blocks cushion the impact as the reed closes and improves sealing. Reed block assembly part numbers automatically supersede where applicable. Rubber coated reed blocks are serviced as assemblies only.

2.5-5 hp Models

The reed valves are mounted to the crankcase cover. Power head disassembly is required to service the reeds. Refer to Chapter Eight for power head removal and disassembly procedures. Once the crankcase cover has been removed, inspect the reeds as follows:

Cleaning and inspection

1. Clean the crankcase cover and reed valve assembly thoroughly with solvent.
2. Inspect the reed petals for cracks, chips or evidence of fatigue. The reeds should be flush or nearly flush to the seat along their entire length without being preloaded against the seat. Replace the reeds as necessary.
3. Check for indentation on the face of the seat area in the crankcase cover. If the reeds have worn indentations in the seat, replace the cylinder block and crankcase cover.

NOTE

Do not remove the reeds and reed stop unless replacement is necessary. Never turn reeds over for reuse.

4A. *2.5 and 3.3 hp models*—Measure the reed stop opening at the points indicated in **Figure 38**. If the reed stop opening is not within the specification in **Table 4**, replace the reed stop. The reed stop is not adjustable on 2.5 and 3.3 hp models.

4B. *4 and 5 hp models*—Measure the reed stop opening at the points indicated in **Figure 38**. The reed stop opening should be within the specification in **Table 4**. If necessary, carefully bend the reed stop to obtain the specified measurement. On 4 hp models, one reed stop is flat and holds the reed petal closed.

Replacement

1. Refer to Chapter Eight and remove the crankcase cover.
2. Remove the screws securing the reed stop and reed petals to the crankcase cover. Remove the reed stop and reed petals.