

Gen-shaft:

Remove the left floorboard. I find it easier to just disconnect the back end of the shift rod and the two bolts under the floorboard support and take it all off as an assembly.

Put a pan under the left front of the engine and remove the small round cover just behind the left end of the starter. It'll just drip a bit of oil.

There's a allen head bolt and washer under that cover. You need to be able to pull and push on them in order to measure the generator shaft lateral clearance. To make it easy, I just use a longer bolt, a 1" long collar that fits over the bolt and another large washer. Install it into the shaft end with the bolt going through one washer, then the collar and the original washer. That gives you a protruding washer to rest the dial indicator tip on, while a vise grip grabbing the bolt head makes it easy to pull and push the shaft.

Set the dial indicator magnetic base so it's secure on the frame tube or floorboard mount area and rest the indicator tip against the outer washer.

Then just push the shaft in and pull it back out, while noting the amount of movement on the dial face.

The carbon steel washer has to be machined so it has a recess equal to the amount of shaft movement MINUS .002" . That allows sufficient clearance so that the engine's thermal expansion can be accommodated, resulting in a very close fit when hot. This washer does get a high pressure oil feed, from the same source that feeds the crankshaft left-side main bearing. So the washer is essentially "surfing" on a thin film of oil. It's inboard face won't actually contact the case, while the engine is running.

Here's the washer dimensions as I now make them: 1.40" OD, 5/16" through hole, .125" to .200" thick, .750" recess diameter, recess depth determined by lateral shaft movement MINUS .002" (+.001/-0). The resulting clearance should allow .002" to .003" of shaft movement so there will be ample room to allow for thermal expansion of the aluminum engine cases. The face of the washer with the recess must be smooth, so as NOT to present a rough finish that can cause wear to the aluminum engine case.

Ken