Restoration of a ROTOTILLER MODEL 2

By Charlie Zuck |

These little tillers are the predecessors of the Troy-Bilt tillers that have been so popular over the years. Quite an abundance of them still seem to be around. I see them on eBay and I have picked up many of them over the years. From a mechanical point of view, they are a simple machine and easy to restore or repair for practical use.

The photo to the right is what this 1957 Model 2 looked like when I purchased it.

The first area you want to inspect is the tiller rear gearbox and enclosed worm gear. This gear and rear bearing takes all the abuse and wear. Other

than getting one from another machine, I don't have a source for a new one. The brass worm gear is very easy to access by removing the four bolts that attach the aluminum gearbox to the main tube.

Pictured is the gear case with new shaft and brass bushings already installed. Normally the shaft needs replaced if the bushings are worn. Some of these tillers will have a 1¼-inch tiller shaft and those will have ball bearings, instead of the brass bushings used on the 1-inch tiller shaft. The 1¼-inch shaft is the same shaft used in the Troy-Bilt Horse for many years. I had a machinist friend make a shaft for me for this restoration. Since then, there is a fellow making the 1-inch shaft and bushings, and he provides two seals. His information is on my website under "Parts Resource List."

The rear bearing and the spacer next to it also wear. I have replaced the rear bearing with a new one or a good used one from the front position of a parts machine. When the shaft is assembled into the tube, there should be little to no noticeable endplay on the shaft. If there is excessive endplay, you will need shim washers between the spacer (noted with the yellow dot) and worm. There also may be shim washers between the bearing and rear snap ring to limit endplay of the shaft.

This is a photo of the whole tube. The front or left bearing does not see much load. I have used this bearing from a parts machine to replace a worn rear bearing. The worm on the left is for the wheel drive worm gear, and I have never seen one of them worn out.

There is a paper gasket between the gear housing and tube. With no gasket, the worm gear mesh will be too tight. Normally 1/32-inch thick vellumoid paper gasket material will be the proper thickness to result in a good mesh. If the mesh seems too sloppy, try 1/64th-inch material. The best thing is to measure the old gasket thickness when you disassemble the tiller. There are plenty of places for leaks, so use a lot of sealer on the gasket and bolts. I use Permatex Aviation Liquid Sealant on the gasket and a small bead of black silicone around the underside of the bolt head when I assemble it for the last time. Below is a photo of the completed tiller section ready for tine holders.

I have not done much to the engine other than clean it up and rebuild the carburetor. Eventually I will install new rings and have bushings installed in the crankshaft bores in the engine case, as there is more slop there than I like. The engine is a Briggs & Stratton model 8B, which is the first aluminum engine.

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For more information on these fine tillers go to www.zucksrototillers.com