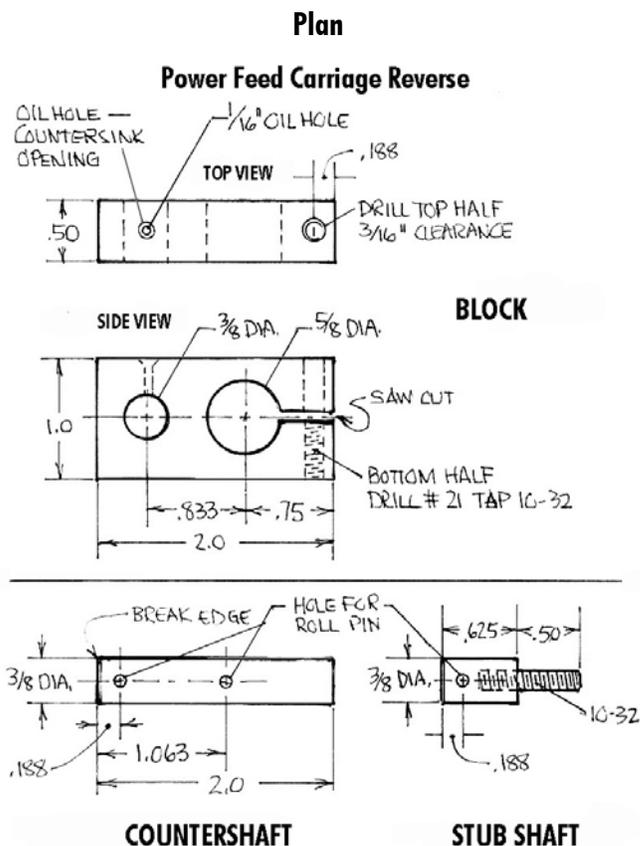


TIP 69 — A Carriage Reverse for the 3001 Power Feed/William Geissinger

The P/N 3001/3011 power feed is not used in the usual sense you think of a power feed on a big production lathe; that is, to save the labor of turning the leadscrew handwheel when doing a large job. In most cases on a lathe as small as a Sherline physical labor is simply not a factor. Instead, this power feed is intended to be used to put a perfectly consistent finish on the last pass of a part on the lathe. It runs at a single speed of .9"/min and only in one direction. For those who want to use the power feed to return the carriage to its original position, William Geissinger has come up with a way to install a reverse gear setup. He uses two 20-tooth gears from Sherline's thread cutting attachment and some simple parts he made himself. His description follows.



By powering the countershaft on the left the carriage is driven in the reverse direction. The main shaft on the right is extended to drive it in the standard direction. The power feed motor unit is not fastened down and can be moved to either shaft end depending on the direction desired. A store-purchased 3/8" collar with set screw fits on either end of the countershaft to hold the second gear in place and locate the shaft.



“Using the two 20-tooth, 24P gears (P/N 31200) from the P/N 3100 threading kit and adding a parallel countershaft to accommodate a gear, reversal is accomplished. As you can see from the photo, the countershaft is equipped with two roll pins for the gear motor coupling and to engage the gear. The gear motor simply sits on the same base as the lathe and is not fastened down. To reverse the carriage you just move it from one shaft to the other.

To fasten the gear to the fixed shaft (P/N 15430) a stub shaft was made to thread into the 10-32 hole in the end of the Sherline fixed shaft. Use a washer between the two shafts and tighten fairly tight, as motor rotation tends to want to unscrew the stub shaft. This stub shaft also contains a roll pin to engage the keyway in the gear motor coupling just like the one on the standard fixed shaft.

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The countershaft turns in the new bearing block and contains two roll pins, one for the second gear and one for the gear motor coupling. The countershaft has two collars to secure the gear to the shaft. The bearing block has two major holes in it—one to clamp on the leadscrew support and one for the counter shaft. There are also holes for the clamp screw as well as an oil hole to keep the countershaft lubricated.”

—William Geissinger

NOTES:

- The 3/8" collar with set screw is a standard item that can be purchased at most hardware stores.
- Holes for the roll pins are to be sized for the particular roll pin you use. Measure the one used on the fixed shaft and match as closely as possible.