

## Installing Chip Wipers On #2 And #3 Turret Slides

1. Remove turret slide from machine and clean.
2. Set the slide up in a milling machine and take a light cut across front face of turret slide (Figure 6-1), to insure a clean, smooth, sharp surface.
3. a. Cut wipers as shown in Figure 6-2 but do not drill holes.  
b. Wiper material can be supplied by Bermar Associates, Inc., 4630 West Maple Rd., Birmingham, MI 48019. 1" x 24" strip undrilled master wiper molded urethane way wipers.
4. Make a  $\frac{1}{16}$ " thick steel plate as shown in Figure 6-2.
5. With top wiper in position between plate and turret slide, drill the center hole #21 size  $\frac{1}{2}$ " deep. Remove plate and wiper and tap the hole with a #10-32 tap  $\frac{3}{8}$ " deep. Clean chips. Fasten plate and wiper to slide with a #10-32 x  $\frac{5}{8}$ " long button head screw. Make sure front plate is in alignment with the slide. Tighten this screw and drill the other two holes. Clean and tap these holes as above and refasten the wiper and plate to the slide with #10-32 x  $\frac{5}{8}$ " button head screws.
6. Position the left piece and drill and tap as above.
7. Position the right piece. Be sure to cover the gib area and then drill and tap as above.
8. Now remove the plate and wipers and enlarge the holes in all the wipers to  $\frac{1}{4}$ ".
9. Reposition the turret slide on machine and install the wipers and plate. Be sure screws are tight but not so tight as to keep the turret slide from dropping back when indexing.

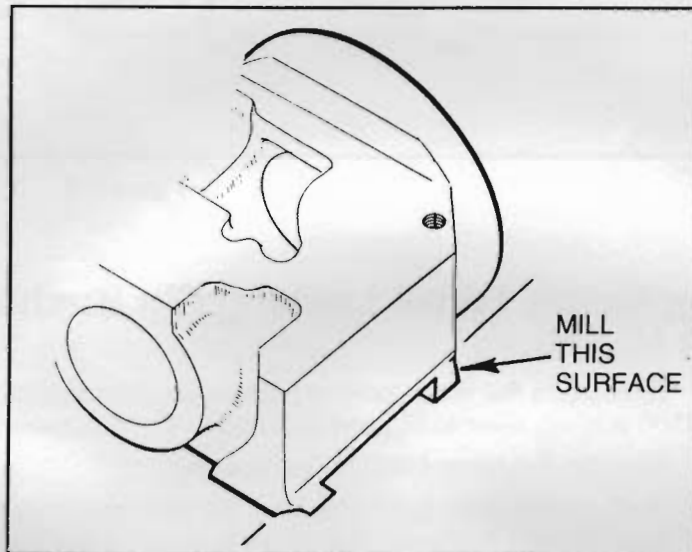


Figure 6-1





## Removing The Turret Slide Return Springs On Constant Stroke Turret Slides

### CAUTION:

Turret slide springs contain considerable stored energy. Extreme caution must be used in their removal. These springs are powerful and can cause injury if allowed to fly out.

To remove the turret slide springs refer to Figure 6-5 and proceed as follows:

1. Back off the socket head set screw (1) that locks the plunger retaining pin (5).
2. Hold a block of wood, such as a 2x4, against the end of the spring plunger (28) using full body weight.
3. Have someone tap up the plunger retaining pin and slowly release the spring force on the plunger.

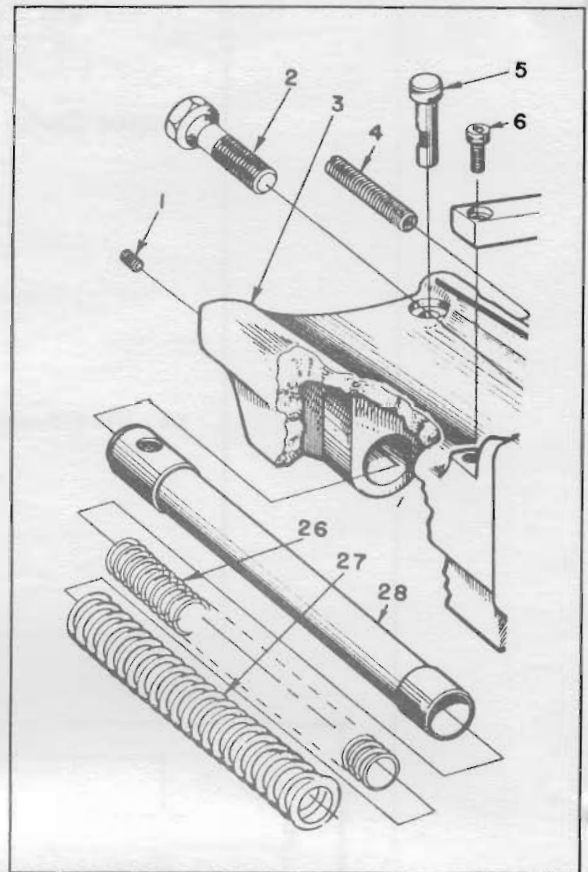


Figure 6-5

## Assembling The Turret Change Shaft On #2 Machines

If the turret change shaft is removed for any reason it must be correctly meshed with the intermediate turret return gear for proper timing. To do this refer to Figures 6-6 and 6-7 and proceed as follows:

1. With the turret in an indexed position, place a roll in the empty hole as shown and measure the clearance.
2. If the clearance is not correct as shown in Figure 6-6, remove the return gear stud screw, Figure 6-7, the turret gear shaft, the turret gear and the fitting washer.
3. Rotate the turret change shaft to obtain the proper clearance shown.

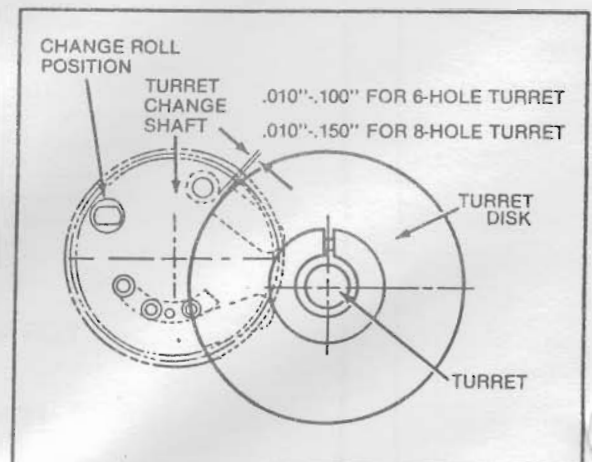


Figure 6-6



4. Reassemble the turret gear, the fitting washer, and the turret gear shaft. Be sure that the timing mark on the turret gear is in line with the one on the turret intermediate gear and also that the turret change shaft does not move.
5. Recheck the clearance and, if acceptable, retighten the stud screw.

**NOTE:** Be sure to remove the roll that was assembled to the turret change shaft before returning to production.

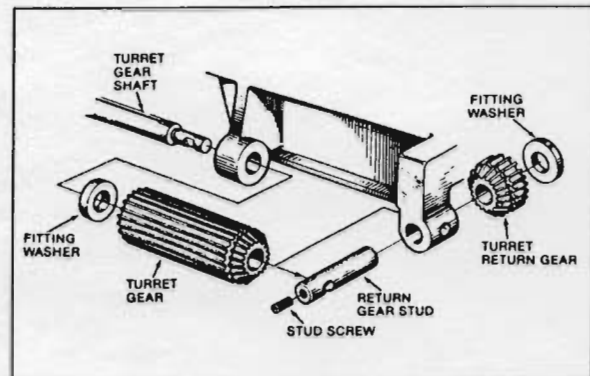


Figure 6-7

## Replacing The Turret Change Shaft Adjusting Gear And Turret Return Shaft On #00 Machines

1. Assemble turret return shaft (42-16357), driving gear (42-16656), and adjusting gear (42-16358) to turret slide, meshing adjusting gear with turret change shaft gear.
2. Assemble master turret locking pin cam (42-19602 - available from Brown & Sharpe) to turret return shaft and position shoulder of shaft to project  $\frac{1}{64}$ " beyond finished surface of turret slide. Rotate shaft until cam is in position shown in Figure 6-8.
3. Rotate turret change shaft until roll in turret slide drops into detent on turret change shaft (recent design machines). For earlier design machines, rotate turret change shaft until turret change roll center "A", turret change shaft center "B", and turret center "C" are in line as shown in Figure 6-9. Limits of misalignment of roll are  $\frac{1}{16}$ " above and  $\frac{1}{32}$ " below center.
4. Remove turret change roll disc and turret change shaft gear, being careful not to disturb adjusting gear or turret return shaft. Drill and ream a #3 taper pin hole thru adjusting gear and turret return shaft and assemble taper pin.
5. Reassemble turret change shaft gear and turret change roll disc, being careful to return to previous alignment.
6. Remove master turret locking pin cam and assemble regular turret locking pin cam.

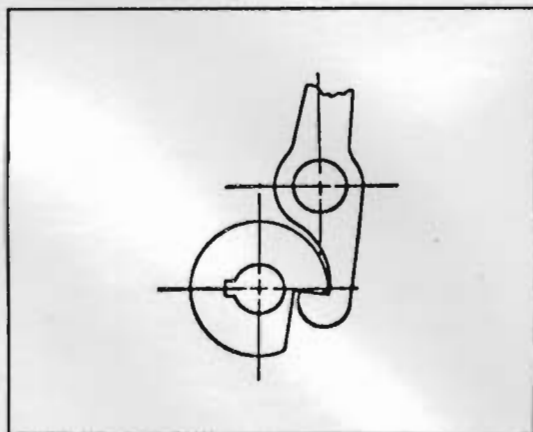


Figure 6-8

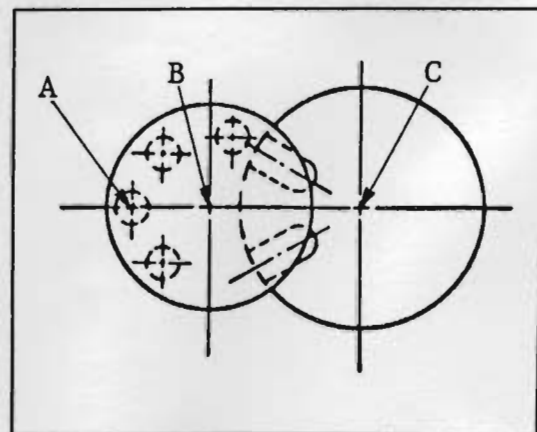


Figure 6-9

