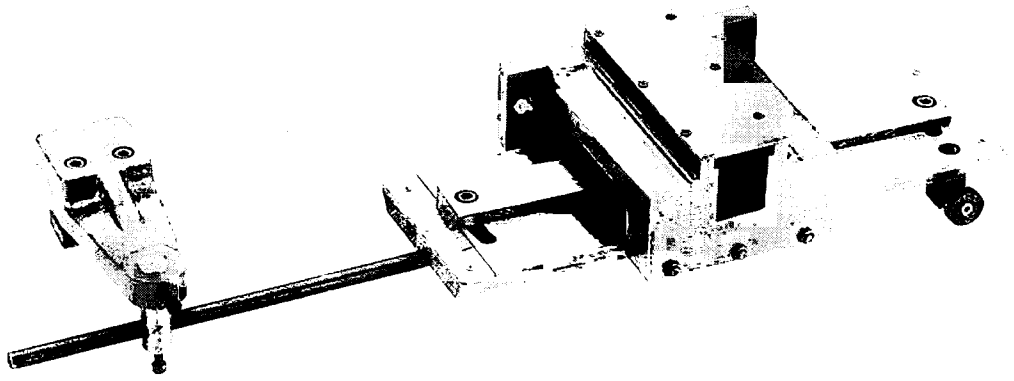
G8142 TAPER ATTACHMENT MOUNTING INSTRUCTIONS

FOR MOUNTING TO G5960 AND G7958 GEAR HEAD LATHES

⚠WARNING

- FAILURE TO FOLLOW THESE GUIDELINES WILL RESULT IN SERIOUS PERSONAL INJURY.
- ALWAYS WEAR ANSI APPROVED EYE PROTECTION WHEN USING THIS TAPER ATTACHMENT.
- DISCONNECT POWER BEFORE INSTALLING OR ADJUSTING.
- ALWAYS CHECK THAT WORKPIECE HAS PROPER TURNING CLEARANCE, IS SECURED IN LATHE AND TAPER ATTACHMENT IS ADJUSTED PROPERLY.
- FOLLOW THE SAFETY GUIDELINES SET FORTH BY THE MANUFACTURER OF THE LATHE.



The G8142 Taper Attachment quickly mounts to the G5960 and G7958 Metal Lathes. Accurate tapers of up to 12" can be produced without repositioning the attachment. The G8142 features scales at both ends, reading taper per foot and degrees. An angle adjusting screw with fine threads achieves exacting control when setting tapers. Another feature is the ability for the taper attachment to be used without disengaging the cross slide nut. This will allow it to be functional at any time by simply tightening the deadman.

The taper attachment is coated with a waxy film or grease. Before assembly, clean all the parts with a solvent cleaner or citrus-based degreaser, like Grizzly's G7895 Citrus Engine Degreaser. **DO NOT use gasoline or other highly flammable liquids when cleaning. Chlorinated solvents should be avoided.**

⚠CAUTION

MANY OF THE SOLVENTS COMMONLY USED TO CLEAN MACHINERY CAN BE HIGHLY FLAMMABLE, AND TOXIC WHEN INHALED OR INGESTED. ALWAYS WORK IN WELL-VENTILATED AREAS FAR FROM POTENTIAL IGNITION SOURCES WHEN DEALING WITH SOLVENTS. USE CARE WHEN DISPOSING OF WASTE RAGS AND TOWELS TO BE SURE THEY DO NOT CREATE FIRE OR ENVIRONMENTAL HAZARDS. KEEP CHILDREN AND ANIMALS SAFELY AWAY WHEN CLEANING AND ASSEMBLING THIS MACHINE.

Installing Taper Attachment

1. **Disconnect power from the lathe.**
2. Remove the chip guard from the back of the lathe. If the lathe must be moved to allow access to the chip guard, consult the lathe manual for safe moving information.
3. Remove the bracket holding the light and the coolant nozzle from the back of the apron on the lathe.
4. Remove the jam nut and the nut from the end of the cross slide lead screw. The bearing cover, bearings and spacers can be removed at this time, but note the sequence of the components while removing.
5. Remove the 2 cap screws that hold the cross slide lead screw end support bracket, along with the bracket.
6. Locate and remove the bearing cover and tee bracket from the taper attachment. These are located under the sheet metal cover which is secured with 6 Phillip® head screws. Please note that the tee bracket is loosely pinned to a portion of the slide. Set pin aside for future installation.

7. Assemble the square bearing protector and bearings as in **Figure 1.** The pocket for the bearing and the threaded holes must be facing out when sliding this piece on. Install the bearings in the same order they were removed. Thread the nut onto the end of the leadscrew and tighten it gently while holding the cross slide handle. **Do not** over tighten this nut. To check, turn the block. Only a small amount of resistance should be felt. Adjust nut as needed. While maintaining the nut position with one wrench, tighten the jam nut against the nut with another wrench. Double check the resistance and, if necessary, loosen the jam nut and re-adjust the first nut.

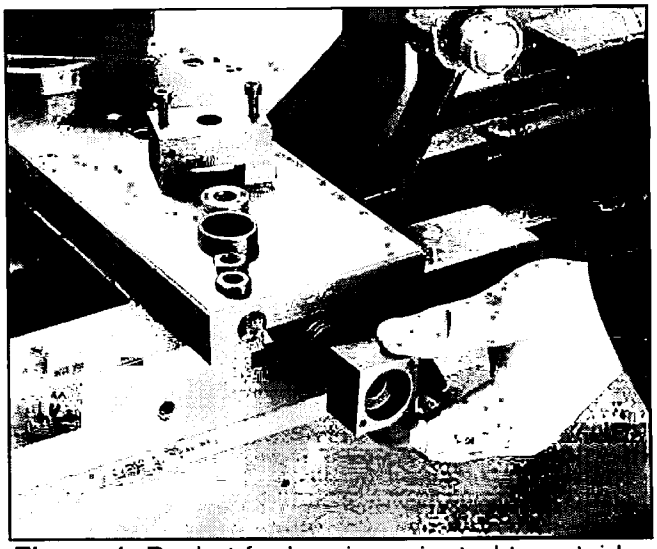


Figure 1. Pocket for bearing oriented to outside.

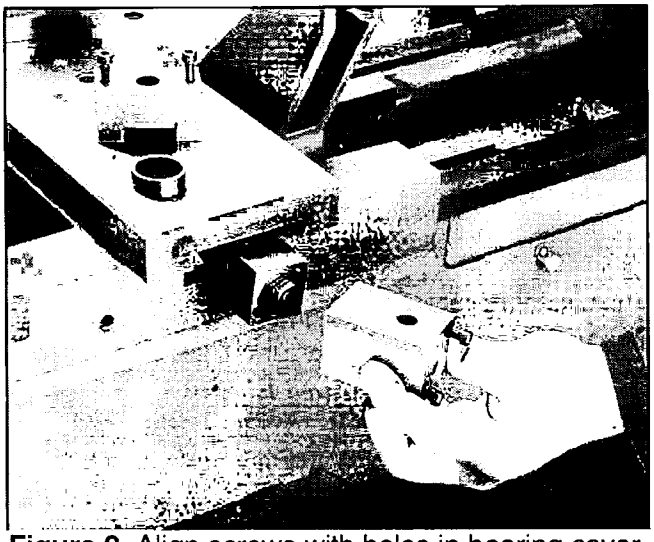


Figure 2. Align screws with holes in bearing cover.

8. Assemble the tee bracket to the square bearing protector using the two 5mm Allen® head cap screws provided. **See Figure 2.**

9. There are 2 threaded holes located just below the cross slide on the apron. Assemble the taper attachment body to the back of the apron, while aligning the tee bracket to the slot at the top. **See Figure 3.** Loosely fasten the body to the apron using the two 10 mm Allen® head cap screws provided. Move the tee block back and forth by turning the cross slide handle. Stop when the hole in the tee block is over the hole in the slide. Insert the pin that was removed in **Step 6** until it engages the block and the slide.

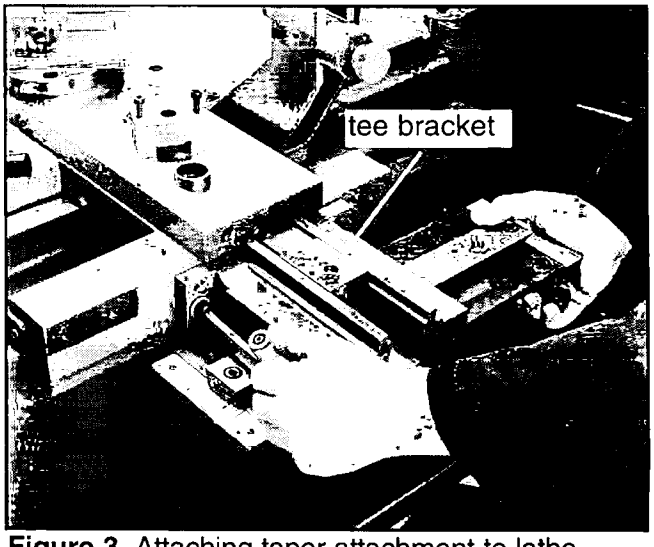


Figure 3. Attaching taper attachment to lathe.

10. There are clearance issues to be addressed at this time. The dovetail ways must clear the top of the taper attachment. The mounting holes in the taper attachment are over-sized to allow for adjustment. Adjust for clearance and check that the cross slide moves in and out, along the whole range of motion, without increased resistance. When the slide moves unobstructed and smoothly, tighten the mounting screws.

11. Above each mounting hole in the taper attachment, are 2 holes pre -drilled for the 5mm roll pins provided. It will be necessary to drill into the apron using a #9 or a 5mm drill bit. Make sure to drill no deeper than ⅝".

Angle:

The cutting angle is adjusted by loosening the Allen® head cap screws at both ends of the narrow dovetail slide. An angle adjusting knob allows fine control of the angle. **See Figure 7.** There are 2 scales at each end of this slide. One is labeled for degrees and the other is labeled for "Inch Per Foot". Using these scales will allow you to get close to the desired taper, but finer adjustments should be made with an indicator and test bar. Consult instructive publications for more information regarding this if you should have further questions. Once the desired setting is met, tighten the cap screws. Double check the setting to ensure accuracy.

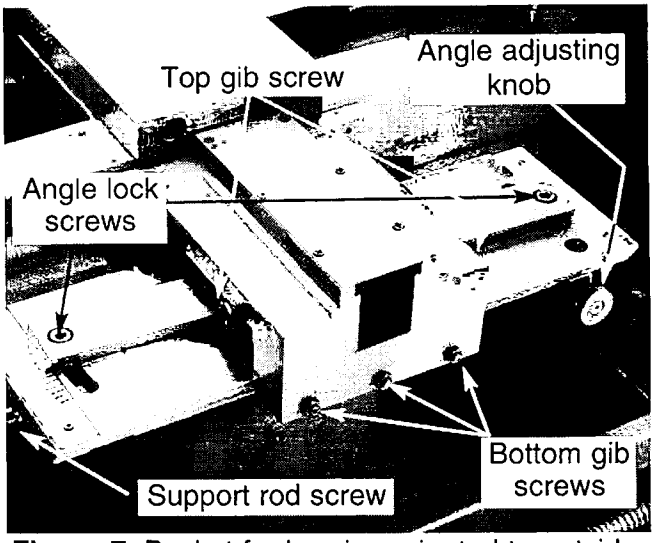


Figure 7. Pocket for bearing oriented to outside.

Top Gib:

The top gib is mounted to a slide and moves along the narrow dovetail. The slide maintains the motion of the cross slide to produce the taper while cutting. If the gib is too loose, the angle can be affected and the finish will suffer. If the gib is too tight, the slide will not move freely. Begin by removing the cap screw that holds the support rod to the bottom of the slide. Adjust the angle of the narrow dovetail to zero. There are two gib screws that are used for making adjustments to the gib. **See Figure 6.** To tighten the gib, loosen the gib screw on the right (as viewed from the back of the lathe) and tighten the left gib screw. To loosen the gib, loosen the left gib screw and tighten the right. The gib is properly adjusted when the slide can be moved by hand with moderate force. Do not attach the support rod at this time.

Bottom Gib:

The bottom gib is mounted in the back inside edge of the main taper attachment casting. Three setscrews hold it in place and are secured with nuts. If this gib is too loose, finish problems will occur. If the gib is too tight, the slide will not move smoothly. Loosen the 3 nuts and apply tension evenly on the 3 setscrews. Use only moderate pressure when tightening these setscrews. They should only be tight enough to keep the slide from rocking in the main taper attachment casting. Check by rocking the slide by hand. When satisfied by your results, tighten the nuts while maintaining the setscrew position with a wrench. Double check the slide to ensure it moves smoothly. Re-adjust if necessary. Once this adjustment has been made, re-attach the support rod.

Dead Man

To make use of the taper attachment, tighten the clamping screws on the deadman to secure it to the lathe bed. When not in use, loosen the clamping screws. Removal of the deadman or the taper attachment is not necessary when changing from taper turning to straight turning.

12. The deadman attaches to the lathe bed by way of a clamp. **See Figure 4.** The deadman is composed of a solid cast bracket and a loose clamping jaw. The solid bracket has two holes for screws that attach the clamping jaw. It also has a lip that must extend beyond the flat surface area of the lathe bed way. The clamp jaw has two leveling setscrews that allow adjustments. These setscrews should be adjusted until the clamping surfaces of the clamping jaw and the bottom of the bed way are parallel when the clamping screws are tight. If these surfaces are not parallel, loosen the clamp screws and adjust the leveling setscrews again. Adjust as needed and tighten.

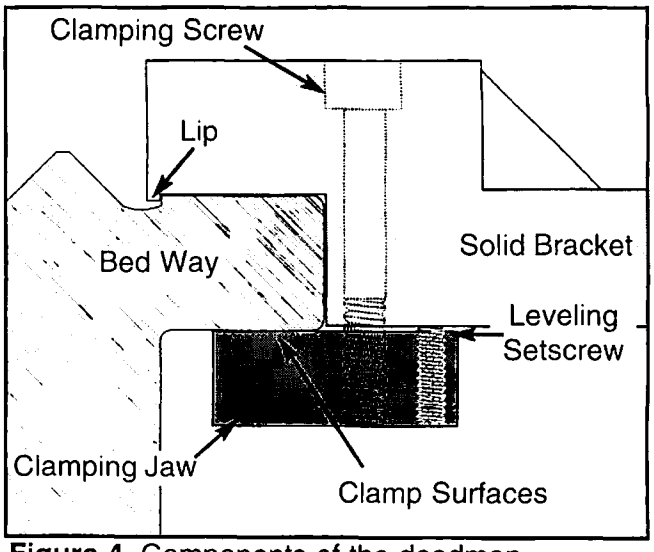


Figure 4. Components of the deadman.

13. A support rod attaches the deadman to the taper attachment body. The rod attaches to the deadman by way of a hole in a vertical shaft. It is secured in the shaft with a cap screw. The vertical shaft can be adjusted up and down and is secured to the deadman with a cap screw. Loosen these cap screws. Position the rod as in **Figure 5** and secure to the bottom of the taper attachment with the cap screw provided.

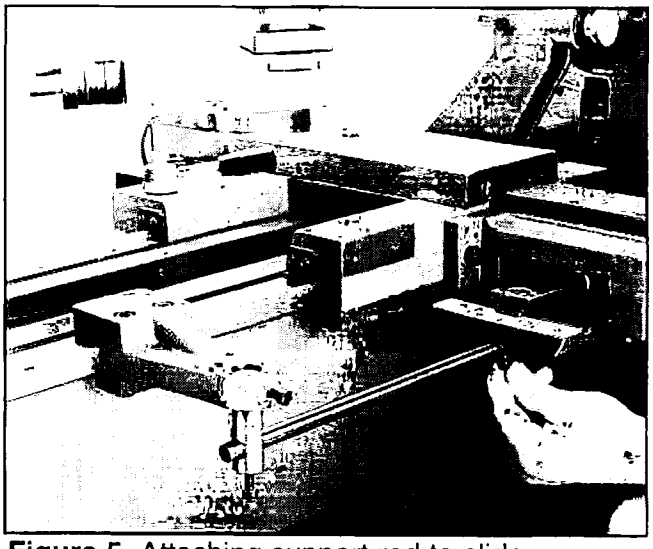


Figure 5. Attaching support rod to slide.

14. Adjust the height of the vertical shaft until the support rod is parallel to the lathe bed and tighten the cap screw. Tighten the cap screw that secures the rod to the shaft. Please note: keep the deadman as close to the taper attachment as possible for best stability.

15. Fasten the sheet metal cover to the top of the taper attachment with the 6 screws.

16. The light and coolant nozzle bracket should be reattached or safely secured outside of the lathe. The electrical cord and coolant hose will interfere with the slide. Making and using a stand-off will allow the lamp and coolant nozzle to be mounted without interference. **See Figure 6** for the stand-off dimensions. The stand-off bottom holes will line up with the holes in the lathe. Use the original bolts to secure it. Use ¼" nuts and bolts in the top holes to secure the support bracket for the lamp and coolant nozzle. Wire ties should be used to secure the hose and cable to the bottom of the support bracket to help ensure they will not interfere with the slide.

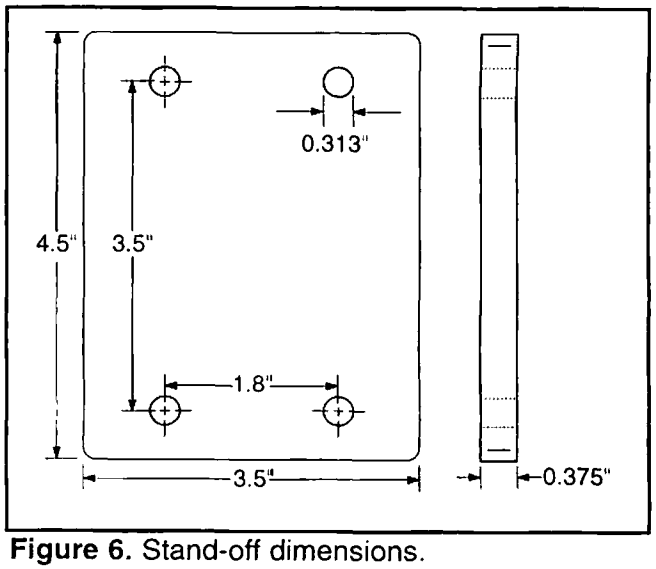


Figure 6. Stand-off dimensions.

17. Attach the chip pan to the back of the lathe.