

# 1"-6" Field Tapering Tools Assembly & Operating Instructions

## Assembly of 2"-6" Tapering Tool

1. Select the proper size mandrel from Table 1.
2. Place the bearing washer on the mandrel shaft, then insert the mandrel shaft into the proper hole on the cutting head. Attach with mandrel bolt and flat washer (2", 3", and 4" uses  $\frac{5}{16}$ " x 2" and 6" uses  $\frac{3}{8}$ " x 2"). Tighten bolt using the wrench furnished in the kit.
3. Place the blade holder in the slot on the cutting head. Make sure the side stamped 2"- 6" is placed as shown in Fig. 3a. Insert all three blade holder bolts with flat washers, but do not tighten. Go to Step 4 of the General Instructions on page 2.

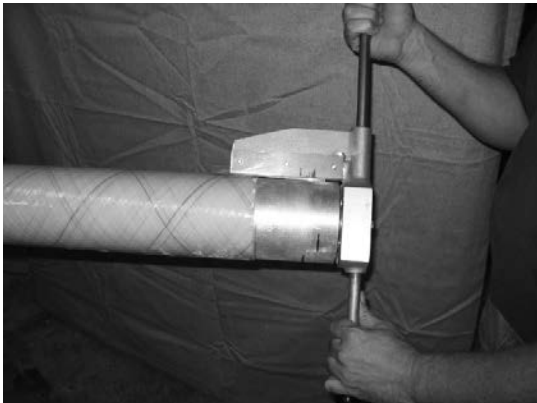
## Assembly Of 1"-1½" Tapering Tool

1. Place locating bushing from Fig. 2 into the recess on the back of the adapter block.
2. Place the adapter block into the two locating holes in the cutting head and attach with one  $\frac{5}{16}$ " x 1¾" and one  $\frac{5}{16}$ " x 2½" adapter block bolt.

3. Select the 1" or 1½" mandrel. Attach the mandrel into the adapter block with a ¼" x 4" mandrel bolt and flat washer. Place the blade holder in the slot on the cutting head. For 1" pipe, make sure the side stamped 1" is placed as shown in Fig. 3b. For 1½" pipe tapering, place blade holder with the side stamped 1½" up. Insert all three blade holder bolts with flat washers, but do not tighten. (There is a 1° taper built into the adapter block, making the total taper angle for 1" pipe equal to 3° and the taper angle for 1½" pipe equal to 2¾°.) Go to Step 4 of the General Instructions on page 2.

## Assembly of 3"-6" Scarfing Tool

1. Select the proper size mandrel from Table 1.
2. Place the bearing washer on the mandrel shaft, then insert the mandrel shaft into the proper hole on the cutting head. Attach with mandrel bolt and flat washer (3" and 4" uses  $\frac{5}{16}$ " x 2", and 6" uses  $\frac{3}{8}$ " x 2"). Tighten bolt using the wrench furnished in the kit.
3. Place the orange blade holder in the slot on the cutting head. Insert all three blade holder bolts, nuts, and washers, but do not tighten. Go to Step 4 of the General Instructions on page 2.



## General Instructions

4. Insert the cutting blade by sliding it under the blade holder (see Inset A, Fig. 1). The wide side of the blade should be toward the blade holder. Make sure the cutting blade is seated against the blade holder. Position the blade so that the end is very near—but not touching—the mandrel.

**For Scarfing:** Slide the proper size gauge all the way to the back of the mandrel. Make sure the blade rests against the gauge with the point facing the front. After positioning the black mark on the gauge under the blade, be sure the blade makes uniform contact with the gauge (see Fig. 4).

5. Tighten all three blade holder bolts. **Be sure** there is just enough clearance between the cutting blade and the mandrel for the mandrel to rotate freely.

**For Scarfing:** Now insert and slide the bearing plate into the slot located between the tool body and the blade holder. The bearing plate will rest loosely on the blade holder until it is locked into place using the supplied Allen screws. The two Allen screws should now be positioned so that each makes **light** contact with the bearing plate (see Fig. 4).

6. Check to see if the cutting blade and blade holder were installed correctly and that the blade holder groove is clean.

7. If the tool is to be operated manually, insert handles. Go to No. 11.

8. If the tool is to be power driven\*, attach the drive shaft to the back of the cutting head using the two drive shaft bolts as shown in Fig. 1.

9. Insert the 1/8" drive shaft into the 1" square hole of the drive unit.

10. Set the power drive so that the tapering tool rotates **counterclockwise**.

11. The tool is now ready for tapering as outlined in **Manual** Pipe Installation Handbook for Matched Tapered Bell and Spigot Joints, or **Manual No. B2160**, General Installation Instructions for UL Listed RED THREAD® IIA Pipe.

\*Typical power drive (for 2" through 6" dimensions only) is as follows:

Ridgid® No. 700 with a No. 774 square drive adapter.  
Any similar type of power drive that can be attached to a 1/8" square shaft is suitable. Do not exceed 3/4 hp. Do not exceed 60 RPM.

## Set-up for 2"-6" Sizes

Figure 1

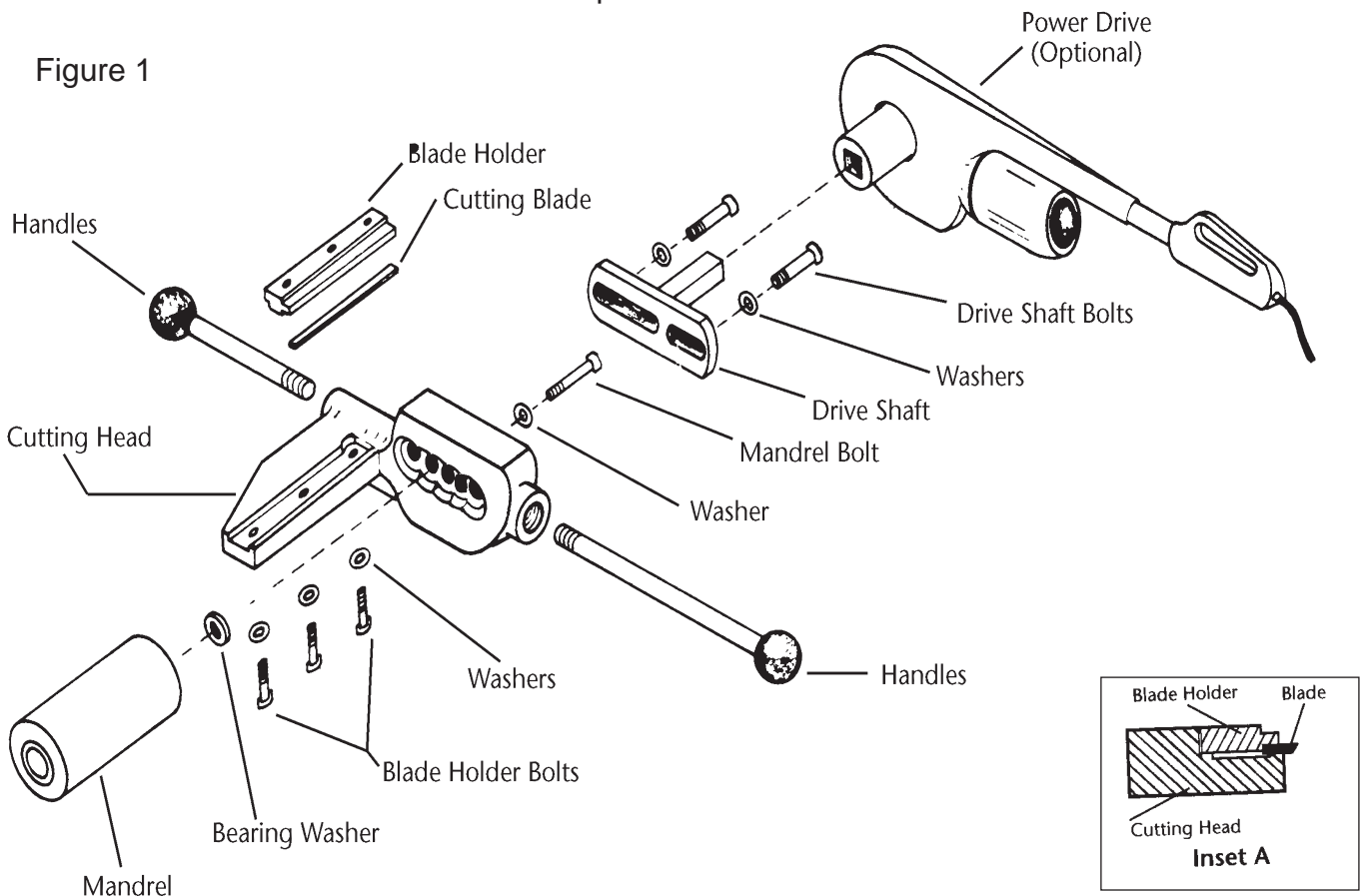


FIGURE 2

Set-up for 1" and 1½" Sizes

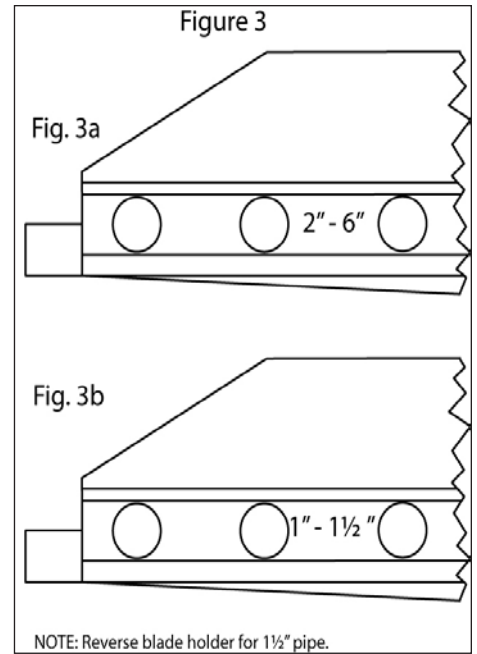
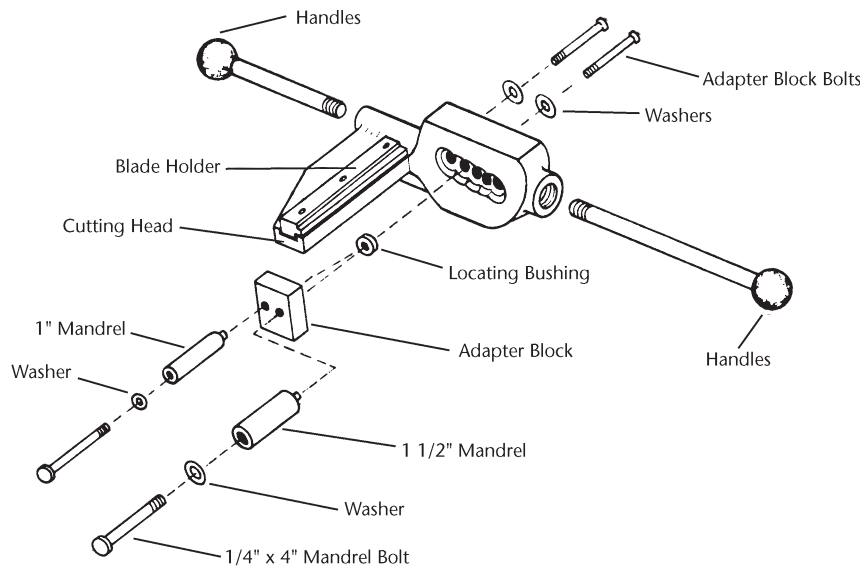
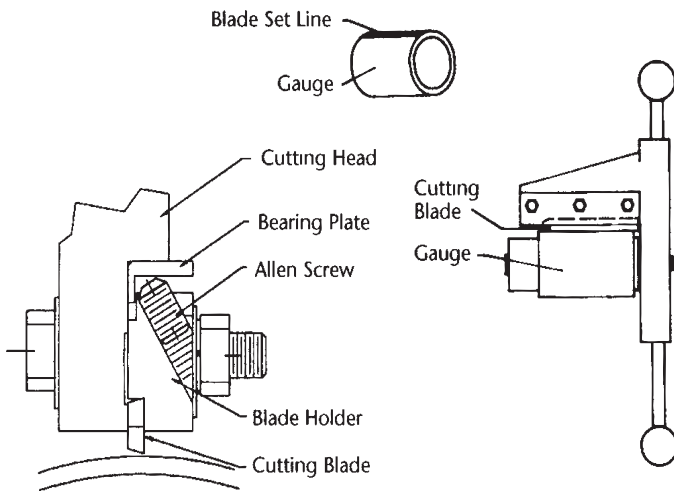


Figure 4



Operating Instructions

Assemble the tapering tool according to the instructions in Sections 1 through 4. Make sure that 1) the blade holder is set at the proper angle shown in Table 1, and 2) the tool blade is inserted correctly. Make sure that the wide side of the blade is facing the blade holder. When mounting pipe in the clamping device, make sure there is at least 12" clearance to prevent egg-shaping the pipe.

**For Tapering:** Insert tool until the blade matches the taper angle on the factory taper. Mark the mandrel and blade holder at the end of the pipe. **Note:** For T.A.B.™ spigots (which have a shallow thread on the spigot), it is necessary to mark the mandrel and blade holder ¼" past the end of the pipe.

Insert the mandrel into the pipe end to be tapered. Turn the tool counterclockwise while pushing firmly.

The initial cut should be very gradual to smooth the end of the pipe. Continue tapering until the end of the pipe reaches the mark on the mandrel. Continue rotating the tool as it is removed so that the taper is smooth.

Check the tool setting by comparing insertion length of pipe that has been tapered in the field (standard taper) to insertion length of factory taper. Use the same factory bell as a gauge to check the taper. The insertion length of the standard taper should be ± 1/8" within the insertion length of the factory taper.

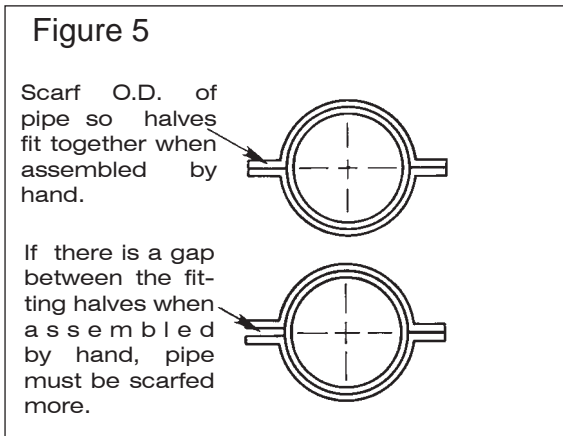
# 1"-6" Field Tapering Tools Assembly & Operating Instructions

**For Scarfing:** After removing the gauge, insert the tool into the pipe to be scarfed until the point of the blade just touches the end of the pipe. **Note:** The tool must be rotated in the same direction the wide side of the blade faces. Advance the tool in approximately ¼" increments after each revolution. **Do not feed too fast.** Continue the operation until the resin gloss has been removed for a minimum length of 3".

Check the scarf by inserting into a secondary containment fitting and closing the two halves. The two halves must close with no gaps on either side (see Fig. 5).

TABLE 1

Type of Pipe and Size	Mandrel Markings	End Painted	Taper Angle	Approx. Taper Length	
				In.	mm
1" Green Thread®	None	None	3°	7/8	20
1½" Green Thread	None	None	2 ¾°	1	25
2" Red Thread® II & Red Thread IIA	2 RTA	Red	1 ¾°	1½	40
2" Green Thread	2 GT	Green	1 ¾°	1½	40
3" Red Thread II & Red Thread IIA	3 RTA	Red	1 ¾°	2	50
3" Green Thread	3 GT	Green	1 ¾°	2	50
4" Red Thread II & Red Thread IIA	4 RT	Red	1 ¾°	2	50
4" Green Thread	4 GT	Green	1 ¾°	2	50
6" Red Thread II	6 RT	Red	1 ¾°	2½	65
6" Green Thread	6 GT	Green	1 ¾°	2½	65



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