Assembly and Makeup of Connection

1. Inspect seat cone and tube cone to verify free of all lines and surface imperfections with tube face and cone edge completely smooth. Lubricate male threads of gland nut and collar/gland contact surface with a metal-flake-based thread lubricant. (See recommended lubricants in the “Tools, Installation, Operation, & Maintenance Catalog (02-0149SE).”)

2. Insert tubing in connection, engage gland nut and tighten “finger-tight” (at least 4 complete teeth (Medium Pressure) and 5-6 Turns (High Pressure)) — angular misalignment will not allow rotation with fingers and cone tip will help with the sealing process.

3. Tighten gland nut with torque wrench (REQUIRED) to specified values listed on pages 16 & 17 of the Tools, Installation, Operations, & Maintenance Catalog (02-0149SE). When tightening, the use of an additional wrench is recommended to hold the fitting or valve body if not otherwise anchored.

4. Insert reamer through guide bushing and press down firmly while rotating clockwise approximately two full turns, relieving pressure gradually toward end of second turn.

5. Remove reamer, guide nut and bushing and inspect surface has been restored and finish is smooth.

6. Repeat steps 2, 3, 4 and 5, if necessary, until cone surface has been restored and finish is smooth.

7. Clean fitting thoroughly to remove all chips and residue.

8. Clamp fitting in soft-jawed vise.

9. Insert reamer through guide bushing and press down firmly while rotating clockwise approximately two full turns, relieving pressure gradually toward end of second turn.

10. Clean fitting thoroughly to remove all chips and residue.

Recommended Thread Anti-Seize Lubricant

(Not for use on coned surfaces)

Copper Anti-Seize Lubricant:

- P-3580 (1/8 in. - 12 threads per in.)
- P-3580-A (1/8 in. - 18 threads per in.)
- Moly Paste (50-70%) Anti-Seize Lubricant:
- P-3754 (1/8 in. - 12 threads per in.)

Manual Coning Tool Instructional Procedure

1. Clamp fitting in soft-jawed vise.

2. Thread gland nut into connection and tighten to 13 ft. lbs. (13.6 N.m).

3. Apply a medium weight high sulfur cutting oil (generally through opening in nut, Cutting Oil P-8794).

4. Insert reamer through guide bushing and press down firmly while rotating clockwise approximately two full turns, relieving pressure gradually toward end of second turn.

5. Remove reamer, guide nut and bushing and inspect cone seat.

6. Repeat steps 2, 3, 4, and 5, if necessary, until cone surface has been restored and finish is smooth.

7. Clean fitting thoroughly to remove all chips and residue.
5. Install the feed nut/cutter support assembly into the coning tool housing. Rotate the feed nut clockwise until the top of the cutters just contact the top of the tube. Do not rotate the feed nut any further at this point.

6. Apply cutting oil through the lubricant opening in the end of the cutter holder or directly through the housing window. (Fig. 3). A medium weight/high-sulfur content cutting fluid is recommended. Use the cutting fluid during the coning operation.

7a. The distance the feed nut travels from its start position can be used to gauge the amount of travel to be used. A feed nut position mark is shown in Table 3, and is labeled "Cone Length".

7b. Another method to determine proper cone length is to count the number of turns of the proper cone length. The number of turns required is listed in Table 3 under the heading "Number of Turns". This includes enough advancement to allow the feed nut to face-off the tube and square the edge that forms the flat surface. The feed nut is supplied with a position indicator (drilled hole) to help determine the number of turns.

8. Rotate the handle in a clockwise direction when installing new blades, be sure the blades are finger tight against the holder. There should be no space between the blades and the holder.

9. Place the coning tool housing (or optional support arm), without the feed nut/cutter support assembly, in a vise. The vise should be equipped with soft jaws, and the housing should be placed in the vise to allow lubricate to flow to the cutters and cone.

4. Slide the tubing through the collet until the end of the tube appears in the coning tool housing window (see Drawing in Table 3 above). Line the end of the tube with the edge of the window as marked above and tighten the collet nut firmly in place using the collet nut wrench (Fig. 2).