

Piston to Rod Assembly Instructions using Anaerobic Adhesive

⚠ WARNING

The piston to rod threaded connection in hydraulic and pneumatic cylinders is critical. Its failure can cause serious injury to nearby personnel. For this reason the Cylinder Division prefers to assemble the piston and rod assembly and will do it at a nominal charge. However, if you prefer to perform this assembly it must be done by strictly following all the procedures outlined in this bulletin.

Procedure

STEP 1

All parts must be clean, free of oil and any old Loctite. Clean internal and external threads using a tap, die or wire brush.

STEP 2

Assemble parts to make sure components are properly fitted together. Then disassemble the components.

STEP 3

Thoroughly clean all threaded parts with a solvent such as Loctite 7070, LPS or any other solvent approved by Loctite making sure to remove all oil, water or grease. Allow solvent to evaporate until all components are dry. **DO NOT** dry parts by blowing components with shop air. This will only spray the components with water and oil found in the air line.

STEP 4

Using Loctite Grade 642 or Grade 648 apply one strip of Loctite sealant, about as wide as the wrench flats (or 1/2" wide on large rods which do not have wrench flats) to both internal and external threads (Figure 2).

STEP 5

Assemble mating parts as usual to full engagement. Back-off two (2) turns to distribute the Loctite sealant. In the case of cushioned cylinders clean any sealant which may go between the cushion sleeve and piston rod with a clean rag (Figure 3). **DO NOT** use a solvent. Tighten mating parts as much as possible using a strap wrench.

STEP 6

Wipe off excess Loctite sealant with a clean cloth (Figure 4). Allow a minimum of 4 hours before going to Step 7.

STEP 7

Drill and tap for setscrew(s) as indicated by Table 1 and Figure 5A or 5B.

STEP 8

Clean setscrew(s) and tapped hole following procedure as outlined in Step 3.

STEP 9

Apply a strip of Loctite to the setscrew(s). Tighten the setscrew in place (Figure 5A or 5B) making sure it is engaged in both the piston and piston rod. Peen piston rod side of hole. **DO NOT** peen cast iron piston side of hole. Wipe excessive Loctite from setscrew(s).

STEP 10

Allow at least six (6) hours after completing Step 5 before reassembling the piston and rod assembly into the cylinder.

Table 1

Rod Dia.	No. of Setscrews	Setscrew Size	Drill Size	Tap
5/8 - 1 3/8	1	1/4-20 x 3/8" long	#7 Drill x 5/8" deep	1/4-20 x 7/16" deep
1 3/4 - 2 1/2	1	5/16-18 x 3/8" long	"F" Drill x 5/8" deep	5/16-18 x 7/16" deep
3 - 5	2, 90° apart	3/8-16 x 1/2" long	5/16" Drill x 3/4" deep	3/8-16 x 9/16" deep
over 5	2, 90° apart	1/2-13 x 1/2" long	27/64" Drill x 3/4" deep	1/2-13 x 9/16" deep

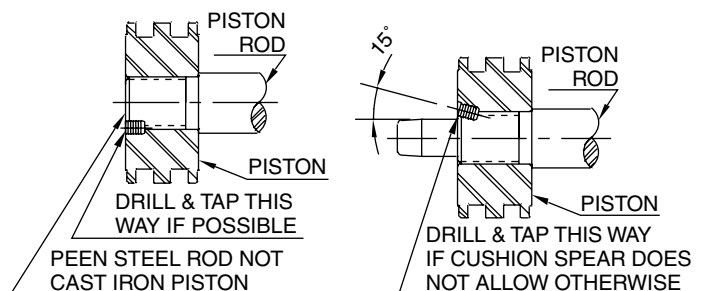
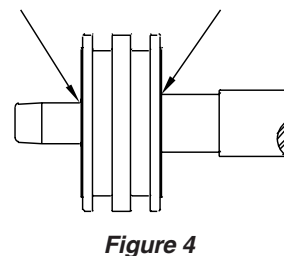
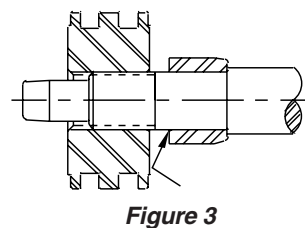
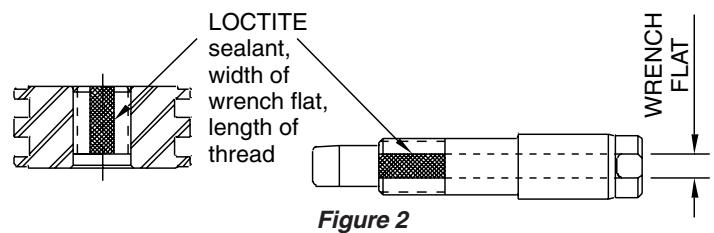
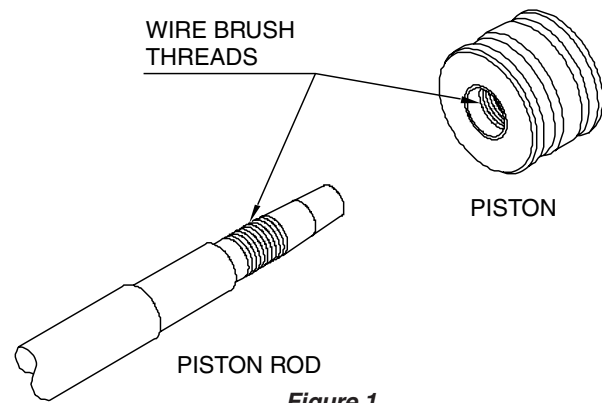


Figure 5A

Figure 5B