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PLIDCO® SMITH+CLAMP INSTALLATION INSTRUCTIONS

!! WARNING !!

IMPROPER SELECTION OR USE OF THIS PRODUCT CAN RESULT IN EXPLOSION, FIRE, DEATH, PERSONAL INJURY, PROPERTY DAMAGE AND/OR HARM TO THE ENVIRONMENT.

Do not use or select a PLIDCO Smith+Clamp until all aspects of the application are thoroughly analyzed. Do not use the PLIDCO Smith+Clamp until you read and understand these installation instructions. If you have any questions, or encounter any difficulties using this product, please contact:

PLIDCO "DEPARTMENT 100" at 440-871-5700
toll free U.S. & Canada at 800-848-3333

READ CAREFULLY

The person in charge of the repair must be familiar with these instructions and communicate them to all personnel involved in the repair crew.

Safety Check List

- Read and follow these instructions carefully. Follow your company's safety policy and applicable codes and standards.
- The PLIDCO Smith+Clamp is a pinhole leak repair clamp should never be used to couple pipe. The PLIDCO Smith+Clamp has no end restraint, and if so utilized could result in EXPLOSION, FIRE, DEATH, PERSONAL INJURY, PROPERTY DAMAGE, AND/OR HARM TO THE ENVIRONMENT.
- Be absolutely certain that the correct seal material has been selected for the intended use.
- Observe the working pressure and temperature on the label of the PLIDCO Smith+Clamp. Do not exceed the maximum working pressure or temperature as indicated on the unit.
- When repairing an active leak, extreme care must be taken to guard personnel. Severe injury or death could result. Review Step 6 of the installation instructions concerning removal of the pilot pin. The pilot pin becomes a potential projectile as soon as it is placed over the leak. Failure to remove the pilot pin at this step could cause personal injury. Internal pressure could cause the pilot pin to eject at a high velocity.

- ❑ If the pipeline has been shut down, re-pressuring should be done with extreme caution. Re-pressuring should be accomplished slowly and steadily without surges that could vibrate the pipeline and fitting. Industry codes and standards are a good source of information on this subject. Except for testing purposes, do not exceed the design pressure of the PLIDCO Smith+Clamp. Personnel should not be allowed near the repair until the seal has been proven.
- ❑ The maximum working pressure of a PLIDCO Smith+Clamp is based on a 1/8 inch (3.2 mm) diameter pinhole. Larger pinholes can be sealed at reduced pressures. Contact PLIDCO for specific details.

Pipe Preparation

- Remove all coatings, rust and scale from the pipe surface where the packing cone of the PLIDCO Smith+Clamp will contact the pipe.

Installation

1. Remove the pilot pin point protector and adjust the pilot pin so that it protrudes 1/16 inch to 1/8 inch (1.6 mm to 3.2 mm) beyond the packing cone. Adjust the force screw until the tip of the packing cone is flush with the inside surface of the PLIDCO Smith+Clamp as shown in Figure 1.

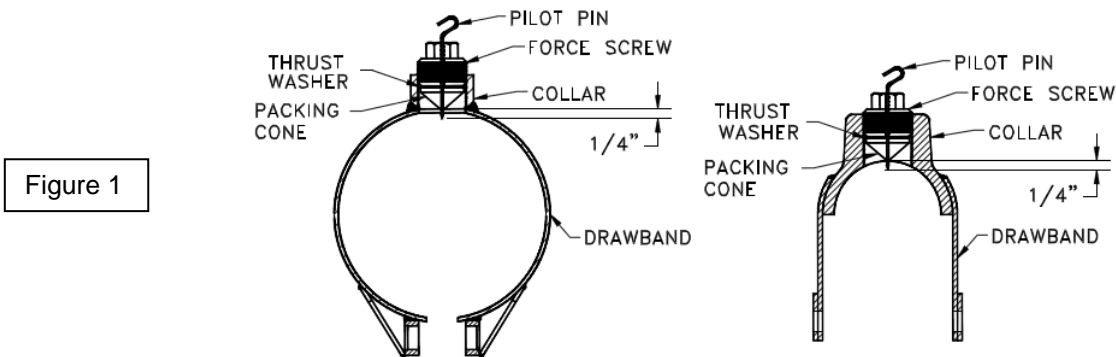


Figure 1

2. Remove the drawbolt from the slotted holes on the bottom of the PLIDCO Smith+Clamp and spread the PLIDCO Smith+Clamp open so that it can be assembled around the pipe as shown in Figure 2.

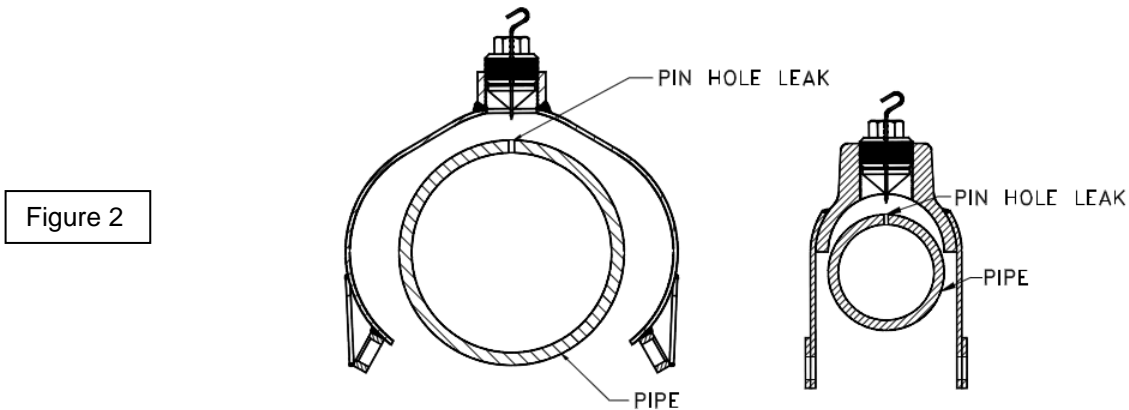
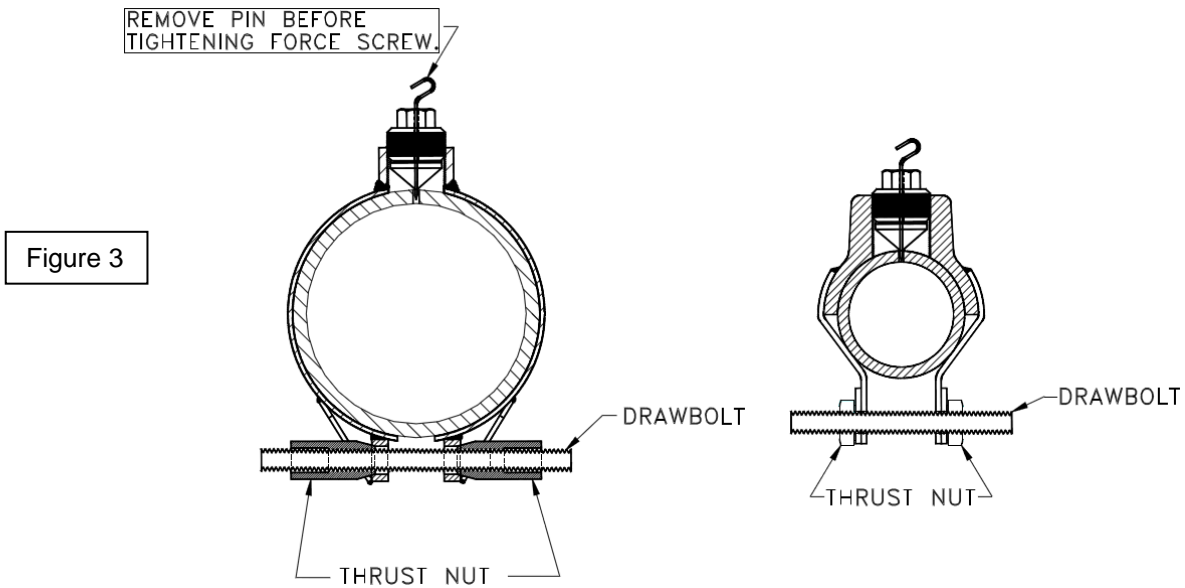


Figure 2

3. Loosely assemble the PLIDCO Smith+Clamp on the pipe next to the leak. Insert the drawbolt but do not tighten.

- Using the pilot pin to located the pinhole slide the PLIDCO Smith+Clamp over the leak as shown in Figure 3. Using a grease pen, it is helpful to mark the hole with a large X centered over the pin hole. This will assist with alignment of the PLIDCO Smith+Clamp.



- Hold the PLIDCO Smith+Clamp firmly in position until the drawbolt and thrust nuts are tightened to the torque value indicated in Chart A.

Chart A		
Drawbolt Size (inches)	Torque	
	ft-lbs	Nm
1/2	25 to 35	34 to 47
5/8	50 to 60	68 to 81

- VERY IMPORTANT!** Remove the pilot pin prior to tightening the force screw. Failure to remove the pilot pin at this step could cause personal injury. Internal pressure could cause the pilot pin to eject at a high velocity.
- Tighten the force screw to the torque value indicated in Chart B. Completed assembly should look as shown in Figure 3, less the pilot pin.

Chart B		
Force Screw Size (inches)	Torque	
	ft-lbs	Nm
1	70 to 80	95 to 109
1½	70 to 80	95 to 109

Field Testing

- The PLIDCO Smith+Clamp can be field tested up to 1½ times its design pressure.

Storage Instructions

- PLIDCO Smith+Clamps should be stored in a dry environment.
- Storage temperatures should not exceed 120°F (49°C).
- Cover with dark polyethylene to keep the direct sunlight from the packing.
- It is best to exclude contamination, light, ozone, and radiation.
- Improperly stored PLIDCO Smith+Clamps can cause the seal material to become cracked and brittle and lose its ability to seal.

Welding

Welding is not required, but if so desired the following references are applicable.

- PLIDCO Smith+Clamps smaller than 2-inch nominal pipe size are block-style and are not weldable. However, if welding is required a special oversleeve that fully encloses the Smith+Clamp can be designed and furnished through PLIDCO. Welding instructions are supplied with the oversleeve.
- PLIDCO Smith+Clamps in 2 inch, 2½ inch, and 3 inch nominal pipe sizes are saddle style and are capable of being welded. Special welding instructions are available through PLIDCO for this style of Smith+Clamps.
- PLIDCO Smith+Clamps 4 inch nominal pipe size and larger are weldable by using a PLIDCO Weld+Cap. Contact PLIDCO if a Weld+Cap is required. Welding instructions are supplied with the Weld+Cap.