

PLIDCO® SMITH+CLAMP™

Locates & stops pit hole leaks with ease

The PLIDCO® Smith+Clamp™ is light-weight and easy to handle which makes using it to shut-off high pressure leaks simple and sensible. The exclusive pilot pin makes it possible to locate pit-hole leaks even if they can't be seen which makes the Smith+Clamp™ the product you want to use in dark spaces or on submerged lines. The force screw exerts pressure directly on the cone, rather than applying force with the draw bolts, which reduces the danger of caving in corroded pipe. This product can be used while the pipeline is in service.

Available in standard sizes 1.5" through 48"; 2000 psi. Special sizes are available upon request.

Buna-N is standard packing for the cone. Viton, Silicone and other packings are available upon request.

Standard Body Material:

- AISI/SAE 1018



A. Pilot pin (1/16" diam. stainless steel wire) goes down through center of force screw and cone, locates hole, guides cone point (D) to trouble spot.

B. Steel packing force-screw. Turned with wrench, it forces point of cone into leaking hole. Additional wrenching pressure flattens cone into flat disc shape.

C. Thrust washer. Permits force-screw (B) to turn without rotating cone.

D. Pointed cone serves as leak packing.

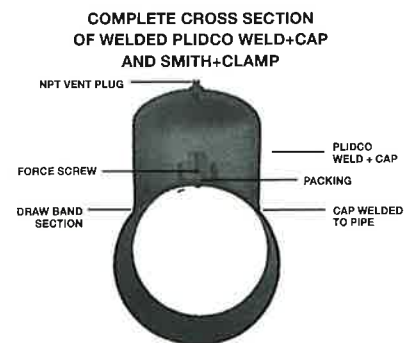
Pressure rating up to 2000 psig working pressure, depending upon leak area and temperature.

The PLIDCO® Weld+Cap is used with the PLIDCO® Smith+Clamp™ for a safe and permanent welded pipe repair while the line is in service. The Weld+Cap is designed for working pressures up to 2000 psig and meets the latest unfired pressure vessel specifications and DOT requirements.

Available in standard sizes 4" through 48" pipe sizes. Special sizes are available upon request.

Standard Body Materials:

- ASTM A105
- ASTM A516 Gr. 70
- ASTM A234 Gr. WPC



PLIDCO®

The Pipe Line Development Company

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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 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
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

- ❑ 1. Read and follow these instructions carefully. Follow your company's safety policy and applicable codes and standards.
- ❑ 2. The Plidco Smith+Clamp is a pinhole leak repair clamp and 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.
- ❑ 3. Be absolutely certain that the correct seal material has been selected for the intended use.
- ❑ 4. Observe working pressure and temperature on the label of the

Plidco Smith+Clamp. Do not exceed maximum working pressure or temperature as indicated on the unit.

- ❑ 5. 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. 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 high velocity.
- ❑ 6. If the pipeline has been shut down, repressuring after the repair should be done with extreme caution. Repressuring should be accomplished

slowly and steadily without surges which could vibrate the pipeline and fitting. Industry codes and standards are a good source of information on this subject. Do not exceed maximum working pressure. 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" diameter pinhole. Larger pinholes can be sealed at reduced pressures. Contact Plidco for specific details.

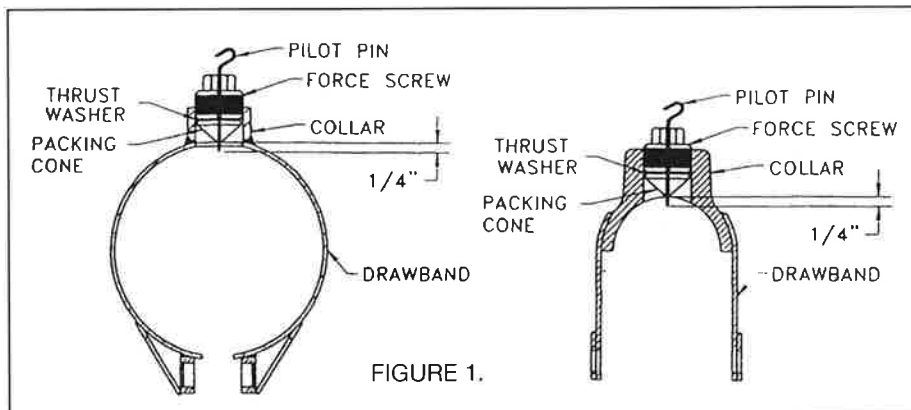
PIPE PREPARATION

- 1. Remove all coatings, rust and scale from the pipe surface where the Plidco Smith+Clamp is to be assembled.

INSTALLATION

- 1. Adjust the Pilot Pin so that it protrudes 1/4" 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. (See Figure 1)



2. Spread the Plidco Smith+Clamp open sufficiently so that it can be assembled around the pipe. (See Figure 2)
3. Use the Pilot Pin to locate the pin hole leak. (See Figure 3)
4. Hold the Plidco Smith+Clamp firmly in position until the Drawbolt and Thrust Nuts are snugged.
5. Tighten the Drawbolt to the torque value indicated in Chart "A"
6. **!! 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 high velocity.
7. Tighten the Force Screw to the torque value indicated in Chart "8". (See Figure 4)

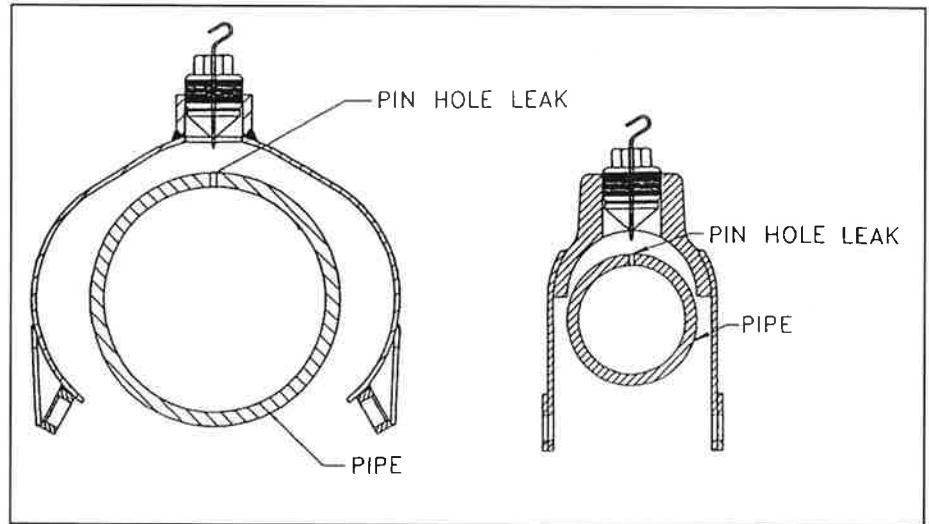


FIGURE 2.

FIELD TESTING THE PLIDCO SMITH+CLAMP

The Plidco Smith+Clamp can be field tested up to 1 1/2 times its design working pressure.

STORAGE

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

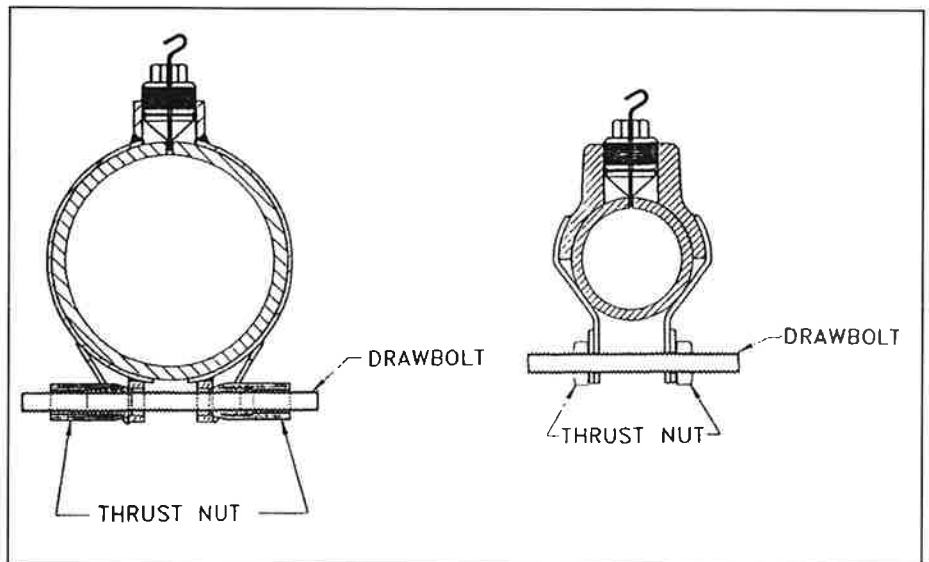


FIGURE 3.

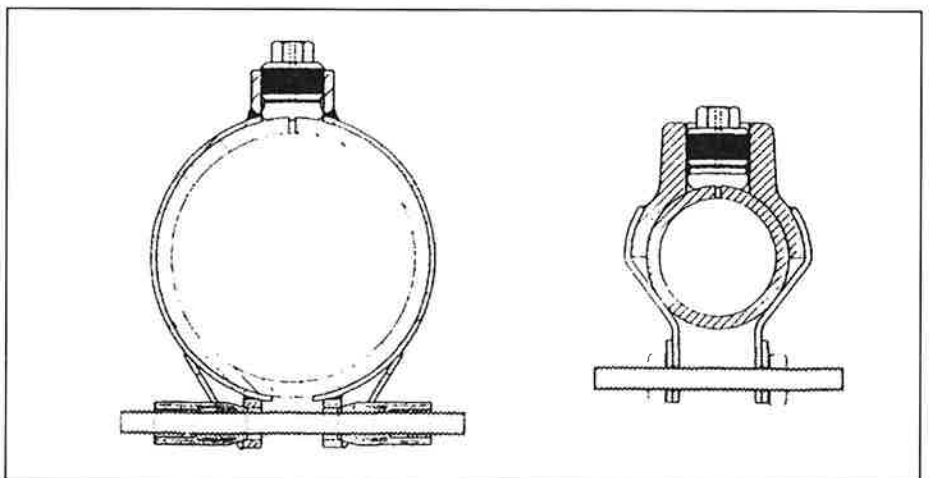


FIGURE 4.

Chart "A"		
Draw Bolt Size (in)	Torque	
	(ft lbs)	(Nm)
1/2-13	25 - 35	34 - 47
5/8-11	50 - 60	68 - 81

Chart "B"		
Force Screw Size (in)	Torque	
	(ft lbs)	(Nm)
1 - 8	70 - 80	95 - 109
1 9/16 - 16	70 - 80	95 - 109

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INSTALLATION

1. Remove the pipe plug from the Weld+Cap before welding. This eliminates pressure build-up inside the Weld+Cap while welding.
2. Hold Weld+Cap over the Smith+Clamp and tack it into place on the draw band.
3. Weld the Weld+Cap to the draw band. Proceed slowly so as not burn seal cone.
4. Weld the Weld+Cap to the pipe.
5. Notch and break the draw band near the weld using a chisel.
6. To complete, weld the draw band to the pipe at the break.
7. After welding completely, the Weld+Cap can be pressure tested through the vent hole to prove a seal weld if required.
8. Insert the pipe plug in the vent hole and seal weld if required.

