

D2000 QA Closure 16- to 30- inch Clamp Ring Pivot Pin

Replacement Guide

Copyright

Notice Any operation involving work on pipe containing liquids or gases under pressure is potentially hazardous. It is necessary, therefore, that correct procedures be followed in the use of this equipment to maintain a safe working environment.

No person should use this equipment who is not fully trained in the procedures stated in this manual, and who is not fully aware of the potential hazards connected with work on pipe containing liquids or gases under pressure.

The purchaser of this equipment is responsible for the manner in which this equipment is used and the training and competence of the operators. Failure by any person to follow the procedures and instructions, including all warnings and cautions, provided in this manual shall void any T.D. Williamson Product Warranty provided herein.

Should any difficulty arise at any time in the use of this equipment, please contact T.D. Williamson immediately.

For Parts and Service:
P.O. Box 3409, Tulsa, OK 74101- 3409 USA

In the U.S. toll free 1-888-TDWmSon (839-6766)
Phone (918) 447-5100
Fax (918) 446-6327
E-mail: contact@tdwilliamson.com
Explore the TDW Web site at www.tdwilliamson.com.

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Document Version History

The list below shows the complete revision history of this document

Date	Version
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Section I – Safety

1.0 Safety

1.0 SAFETY

Throughout this publication, “Dangers,” “Warnings” and “Cautions” (accompanied by the International ⚠) are used to alert the customer to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly. **OBSERVE THEM CAREFULLY!**

⚠ DANGER

DANGER – Immediate hazards which **WILL** result in severe personal injury or death.

⚠ WARNING

WARNING – Hazards or unsafe practices which **COULD** result in severe personal injury or death and damage to the equipment.

⚠ CAUTION

CAUTION – Hazards or unsafe practices which could result in minor personal injury or product or property damage.

1.1 General

Read this manual thoroughly **before** attempting to operate. If any portion of this manual is not clearly understood, or any questions arise concerning the use of the equipment, contact T.D. Williamson or the nearest factory representative.

1.2 Personal Protective Equipment and Clothing

Protective clothing is recommended whenever working around machinery. Suggestions are: hard hat, gloves, safety goggles, safety shoes, garments to cover exposed areas of skin, hearing protection, and the appropriate breathing apparatus when the potential for toxic atmosphere exists.

Section I – Safety

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Section II – Standard Replacement Guide

1.0

Introduction

1.0 Purpose

This manual provides instructions for the purpose of field replacement of the clamp ring pivot pin on the TDW Closure, 16- to 30-inch if there is no damage to the lower clamp ring arms.

2.0 Removal

2.0 Removal of Pivot Pin Only

- A. Verify that the trap is depressurized and safe to approach.
- B. Remove the pressure warning lock from closure and monitor for signs of pressure release, see Figure 1.

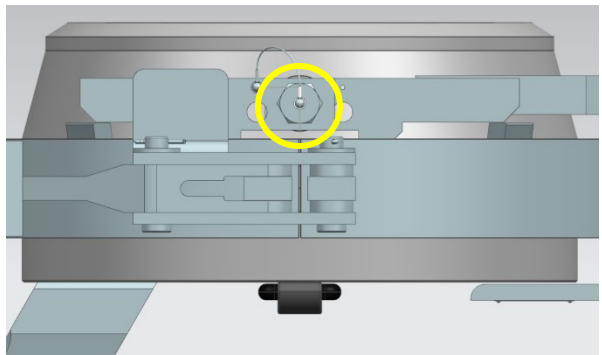


Figure 1: Pressure Warning Lock

⚠ CAUTION

CAUTION – Be sure proper measures have been taken to prevent any product from entering hot work zone.

Section II – Standard Replacement Guide

2.0 Cont.

2.0 Removal of Pivot Pin Only (continued)

C. Open clamp ring segments and verify that the door will open and close, see Figure 2.

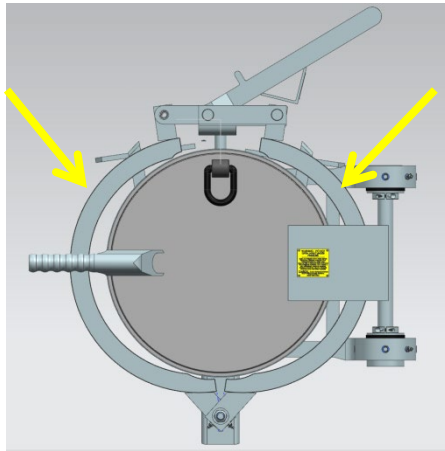


Figure 2: Clamp Ring Segments

D. Close door and latch clamp rings, see Figure 3.

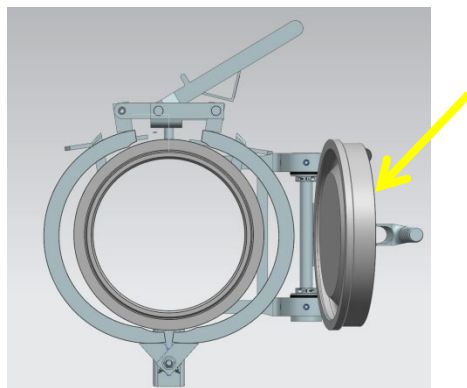


Figure 3: Closure Door

Section II – Standard Replacement Guide

2.0 Cont.

2.0 Removal of Pivot Pin Only (continued)

- E. Remove nut and washer from clamp ring pivot pin, see Figure 4.

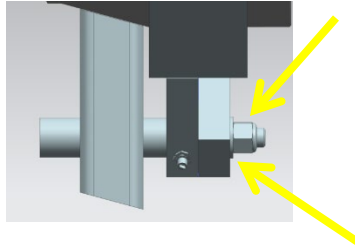


Figure 4: Nut, Washer, and Clamp Ring Pivot Pin

- F. Cut pivot pin through the entire cross section. This cut should be made as close to the pivot pin channel as possible, see Figure 5.

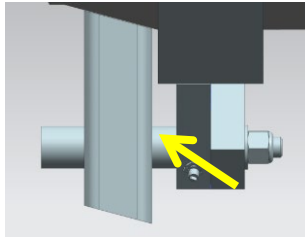


Figure 5: Clamp Ring Pivot Plate Cut Location

- G. Grind weld on clamp pivot plate while preserving the clamp pivot plate base material, removing the double fillet weld, see Figure 6.

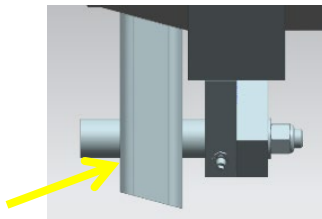


Figure 6: Clamp Ring Pivot Plate Weld Locations

Section II – Standard Replacement Guide

2.0 Cont.

2.0 Removal of Pivot Pin Only (continued)

- H. Punch out the Clamp Ring Pivot Pin by sliding pin through hole, see Figure 7.

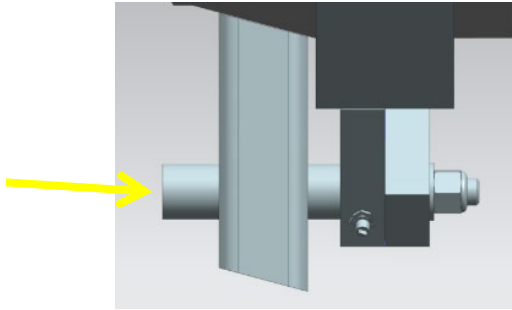


Figure 7: Remove Pivot Pin

3.0 Installation

3.1 Re-install Pivot Pin

- A. Slide Clamp Ring Pivot Pin through the back of the Clamp Ring Pivot Plate and center hole of the two Lower Clamp Ring Arms.
- B. Tack weld Pin then check if Clamp Rings and Closure door operate correctly. This verifies that pin is in proper location.
- C. Weld Clamp Ring Pivot Pin (reference: MFG000265).
- D. Attach old washer and nut.
- E. If verification after tack weld of pivot pin fails, use hoist to lift clamp ring assembly so that clamp ring pivot pin is in contact with the upper surface of the pivot plate through holes, see Figure 7.

Section II – Standard Replacement Guide

3.0 Cont.

3.1 Re-install Pivot Pin (continued)

- F. Use weld instructions found on the top-level clamp manufacturing document to weld clamp ring pivot pin, see Figure 8.

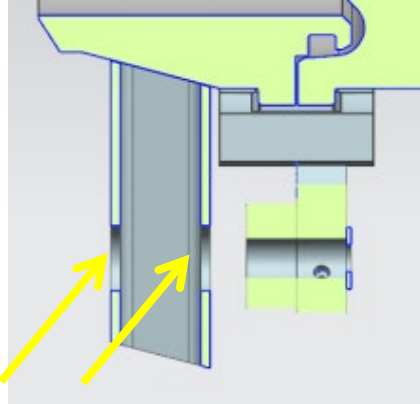


Figure 8: Upper Surface of Pivot Plate

4.0 Maintenance

4.0 Prepare Closure

- A. Replace old pivot pin washer and nut with new unused parts.
- B. Paint any exposed surfaces where paint was removed.
- C. Follow proper maintenance steps, using the appropriate closure maintenance manual (see instructions to grease all joints via grease insert).

Section III – Pivot Pin & Clamp Ring Lug Replacement

1.0

Introduction

1.0 Purpose

This manual provides instructions for the field repair and replacement of the clamp ring pivot pin and lug on the TDW Closure, 16- to 30-inch if there is damage to the lower clamp ring arms.

2.0 Removal

2.0 Removal of Pivot Pin

- A. Verify that the trap is depressurized and safe to approach.
- B. Remove the pressure warning lock from closure and monitor for signs of pressure release, see Figure 9.

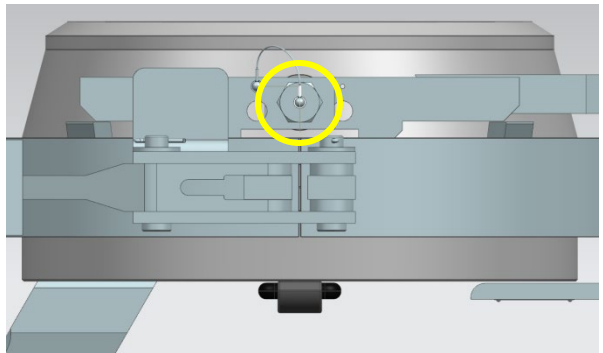


Figure 9: Pressure Warning Lock

Section III – Pivot Pin & Clamp Ring Lug Replacement

2.0 Cont.

2.0 Removal of Pivot Pin (continued)

C. Open clamp ring segments, see Figure 10.

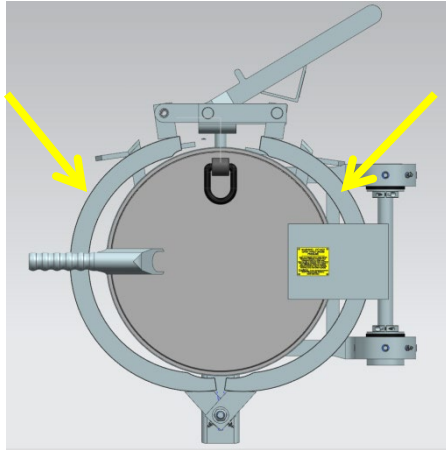


Figure 10: Clamp Ring Segments

D. Open closure door, see Figure 11.

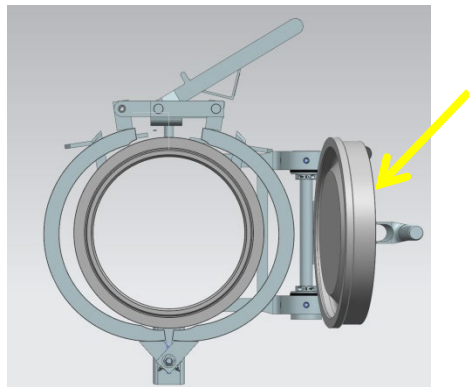


Figure 11: Closure Door

Section III – Pivot Pin & Clamp Ring Lug Replacement

2.0 Cont.

2.0 Removal of Pivot Pin (continued)

- E. Remove nut and washer from clamp ring pivot pin, see Figure 12.

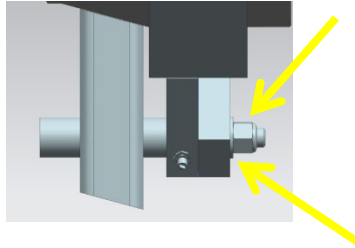


Figure 12: Nut, Washer, and Clamp Ring Pivot Pin

- F. Cut pivot pin through the entire cross section. This cut should be made as close to the pivot pin channel as possible, see Figure 13.

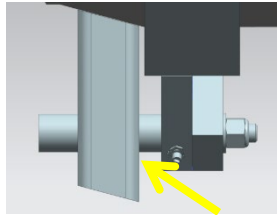


Figure 13: Clamp Ring Pivot Plate Cut Location

- G. Grind weld on clamp pivot plate while preserving the clamp pivot plate base material, removing the double fillet weld, see Figure 14.

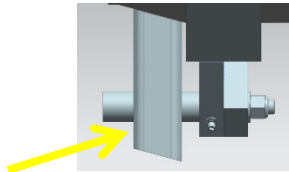


Figure 14: Clamp Ring Pivot Plate Weld Locations

Section III – Pivot Pin & Clamp Ring Lug Replacement

2.0 Cont.

2.0 Removal of Pivot Pin (continued)

- H. Remove Clamp Ring Pivot Pin by punching out the pin.
- I. Remove Clamp Ring assembly from barrel collar by unbolting the Clevis Pin from the clamp and removing both stop tabs, see Figure 15.

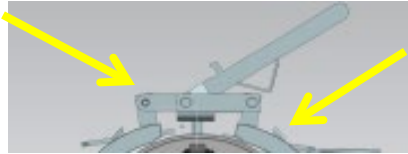


Figure 15: Clevis Pin

⚠ CAUTION

CAUTION – A hoist may be required to lift the clamp ring depending on the clamp ring weight.

Section III – Pivot Pin & Clamp Ring Lug Replacement

2.0 Cont.

2.1 Prepare Closure for Repair

- A. Thoroughly clean entire clamp ring assembly of any debris and residue.
- B. Remove any paint from bottom surface of clamp ring.
- C. Grind off the weld that attaches the lower clamp ring arms to the clamp ring, removing the two lower clamp ring arms, see Figure 16.

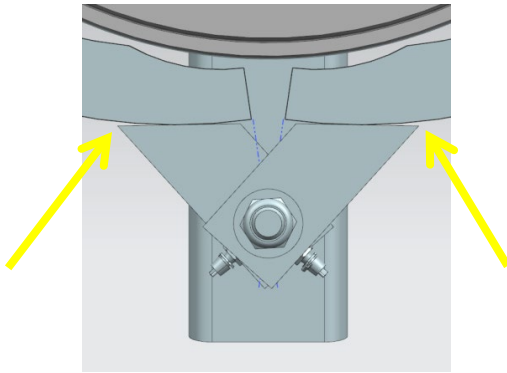


Figure 16: Weld Locations

Section III – Pivot Pin & Clamp Ring Lug Replacement

3.0 Installation

3.0 Re-install Clamp Ring on Closure

- A. Hoist clamp ring back into place around the barrel collar.
- B. Re-attach clamp ring handle to both clamp ring halves using the clevis pin.
- C. Close closure door.
- D. Close clamp rings.
- E. Weld two (2) new clamp ring stops according to the closure assembly drawing.

3.1 Re-install lower Clamp Ring Arms

- A. Mark the location of the lower clamp ring arms on the closure. Each arm is offset of the other along the center line of the clamp ring, see Figure 17.
- B. Tack weld the two lower clamp ring arms to the clamp ring assembly.
- C. Align the through holes of each lower clamp ring arm.
- D. Align and fix the alignment rod through the centerline of the two lower clamp ring arm through holes. If possible, center the alignment rod to the through hole in the pivot plate.
- E. Verify alignment by measuring the vertical distance from the center line of the lower clamp ring arm through holes to the upper clamp ring arm through hole. The correct distance is listed on the clamp ring assembly print as X, see Figure 17.

Section III – Pivot Pin & Clamp Ring Lug Replacement

3.0 Cont.

3.1 Install lower Clamp Ring Arms (continued)

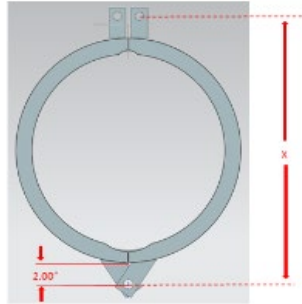


Figure 17: Marking Location for Clamp Ring Arms

- F. Slide clamp ring pivot pin through the back side of the clamp pivot plate and the center hole of the two lower clamp ring arms, see Figure 18.
- G. Tack weld Pin then check that Clamp Rings and Closure door operate correctly. This verifies that pin is in proper location.
- H. Attach and weld clamp ring pivot pin (reference: MFG000265).
- I. Attach old washer and nut.
- J. If verification after tack weld of pivot pin fails, use hoist to lift clamp ring assembly so that clamp ring pivot pin is in contact with the upper surface of the pivot plate through holes.

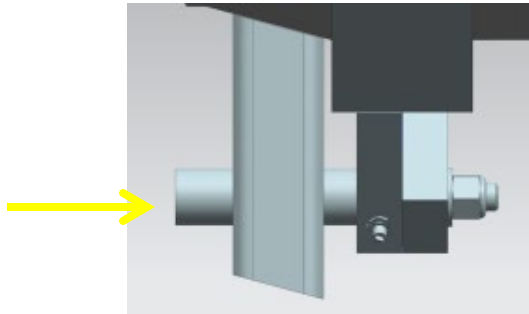


Figure 18: Slide Clamp Ring Pivot Pin through Hole

Section III – Pivot Pin & Clamp Ring Lug Replacement

3.0 Cont.

3.1 Install lower Clamp Ring Arms (continued)

- K. Use weld instructions found on the top-level clamp manufacturing document to weld clamp ring pivot pin, see Figure 19.

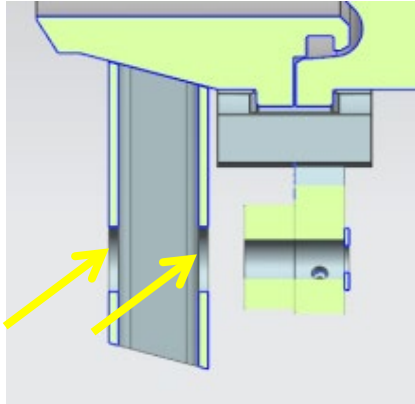


Figure 19: Upper Surface of Pivot Plate

4.0 Maintenance

4.0 Prepare Closure

- A. Replace old pivot pin washer and nut with new unused parts.
- B. Paint any exposed surfaces where paint was removed.
- C. Follow proper maintenance steps, using the appropriate closure maintenance manual (see instructions to grease all joints via grease insert).

T.D. Williamson Product Warranty

1. Products manufactured by T.D. Williamson, are warranted free from defects in material and workmanship for a period of **three (3) years from the date of shipment from the factory. Elastomer products are warranted for one (1) year under proper storage to be free from defects in material and workmanship. The foregoing warranty does not apply to any items not manufactured by T.D. Williamson, including but not limited, to, electronic devices, switch components, pumps, O-rings, purchase cylinders, etc. These third party parts will revert back to suppliers warranty. TDW assumes no liability under this or any other warranty for components not manufactured by TDW. This Warranty applies only to products shipped after June 30, 2000.**
2. If TDW accepts any claim made under this Warranty, TDW's liability, if any, shall be limited to, at TDW's sole option, repair or replacement of the failed part or product, or a refund of the purchase price, less an allowance for services rendered for the product prior to the Warranty claim. **TDW disclaims any and all responsibility for special, consequential or incidental damages arising out of or related to the sale, use, or inability to use any products covered by this Warranty.**
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4. This Warranty shall not apply to any product or component which has been repaired or altered by anyone other than TDW, or has become damaged due to misuse, negligence or casualty, or has been operated or maintained contrary to TDW's printed instructions and warnings.
5. This Warranty does not cover any defect, malfunction, or failure caused by circumstances beyond the control of TDW, including but not limited to unreasonable or negligent installation, operation, maintenance, abuse, accident, failure to follow instructions in this manual and/or other printed instructions, warnings and cautions provided by TDW, defective or improper associated equipment, attempts at modification and/or repair not authorized by TDW, inbound shipping, and shipping damage.
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