

**TECHNICAL SERVICE BULLETIN**

**Bulletin No.:** TSB-036  
**Date:** April 8, 2019  
**Subject:** PRD Trigger Tube Support Blocks  
**Models:** Select Quantum Virtual Pipeline Trailers

**Background**

Each cylinder in the Quantum Virtual Pipeline (VP) trailer is individually protected by a thermally activated pressure relief device. The sensing tube for this pressure relief device is retained by urethane blocks bonded to the side of the cylinders.

**Condition**

Some Quantum VP trailers have been found to have the PRD trigger tube support block coming loose from the cylinder.

**Cause**

Some of the PRD trigger tube blocks were found to have surface contamination that prevents a proper bond from being achieved without proper surface preparation. This manufacturing error does not affect all units or components within a specific unit.

**Correction**

For the trailers indicated on the second page of this bulletin the warranty for this specific failure will be extended to 5 years. Any PRD trigger tube blocks that do experience this adhesive failure will be covered under warranty, any adhesive failures are expected to fail in the first years of service.



The PRD trigger tube blocks should be visually inspected during any maintenance interval where the roof panels have been removed.

A new PRD trigger tube block that has already had the surface prepared is available and will be used to repair any loose or missing PRD trigger tube blocks.

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**Labor Time**

All VP Trailers:

Labor OP Time: Straight Time

**Parts Information**

Description	Part Number	Qty
BLOCK- PRD TRIGGER TUBE SUPT	119779	A/R
BLOCK- PRD TRIGGER TUBE SUPT, TRIMMED	119780	A/R
ADHESIVE- 55320	117330-001	A/R
TUBE- ADHESIVE MIXING	117504	A/R
SCREW, HEX HEAD, CONICAL WASH, M8 X 25	S1-20381-008	A/R
NUT- U-SHAPE, LOCKING, M8, LONG	118731-012	A/R
SCREW, HEX HEAD, CONICAL WASH, M6 X 20	S1-20381-002	A/R
NUT, U SHAPE M6 LONG	N1-20301-002	A/R

**Application**

All VP Trailers within the Serial Number ranges identified below.

VP Model	Container Serial Number
VP Lite	7500B200005170006 - 7500B6Q00018170018
VP Lite	4000CB000014170016 - 4000CA000039180083

**Special Tools Needed**

- Quantum tool 702099                      Trigger tube installation tool

The following tools are only needed for repair of a center PRD trigger tube support block

- Quantum tool 702213                      Trigger tube support tool
- Quantum tool 702218                      Trigger tube tensioning tool

**Contact Information:**

 E-Mail: [QTService@qtww.com](mailto:QTService@qtww.com)

Phone: U.S. 800.816.8691

Outside U.S. 949.930.3411

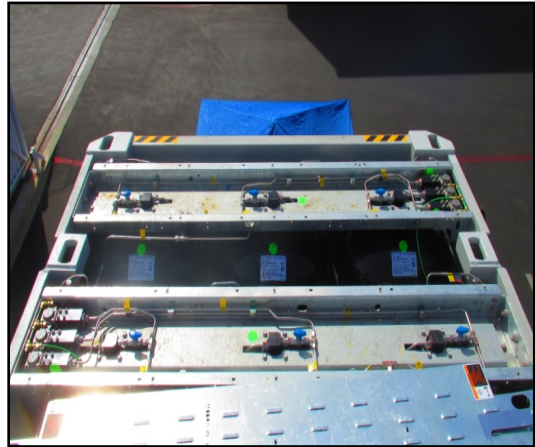
Fax: 949.930.3401

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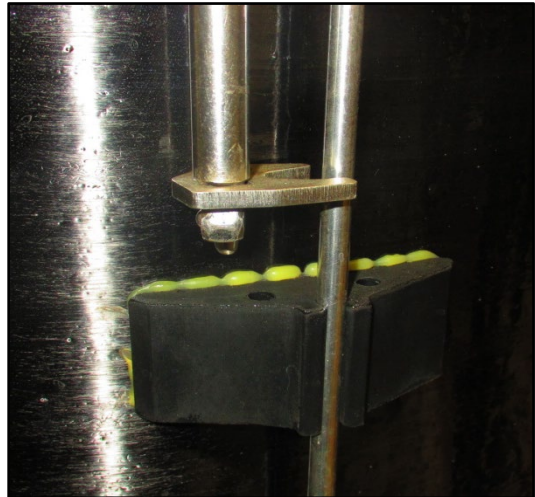
This service procedure is to provide instructions for installing new PRD trigger tube blocks as needed in the upper or lower position. For replacement of PRD trigger tube blocks in the center position, additional steps and tools are required and included in the back of this bulletin.

### PRD Trigger Tube Block Repair Procedure

1. Remove the roof panels as needed to gain access the cylinders in the container. Mark the panel positions prior to removal.  
Note: do not drag the panels across the cross members as it may catch and drop some of the u-nuts.

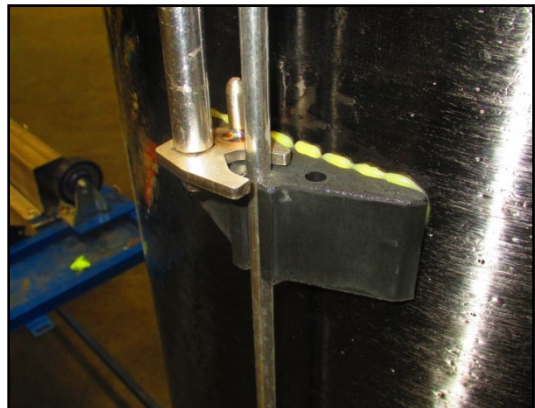


2. Using Quantum tool 702099, place the tool over the PRD trigger line and insert the pin into the PRD trigger tube block hole as shown.



3. Using a ratchet and extension, remove and discard the failed PRD trigger tube block from the PRD trigger line using the supplied tool.

NOTE: If the PRD trigger tube block falls during removal, remove the lower panels as needed to recover the blocks and discard them.



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4. Thoroughly clean the area adjacent to the location where the PRD trigger tube block was previously applied (red) with denatured alcohol or equivalent.

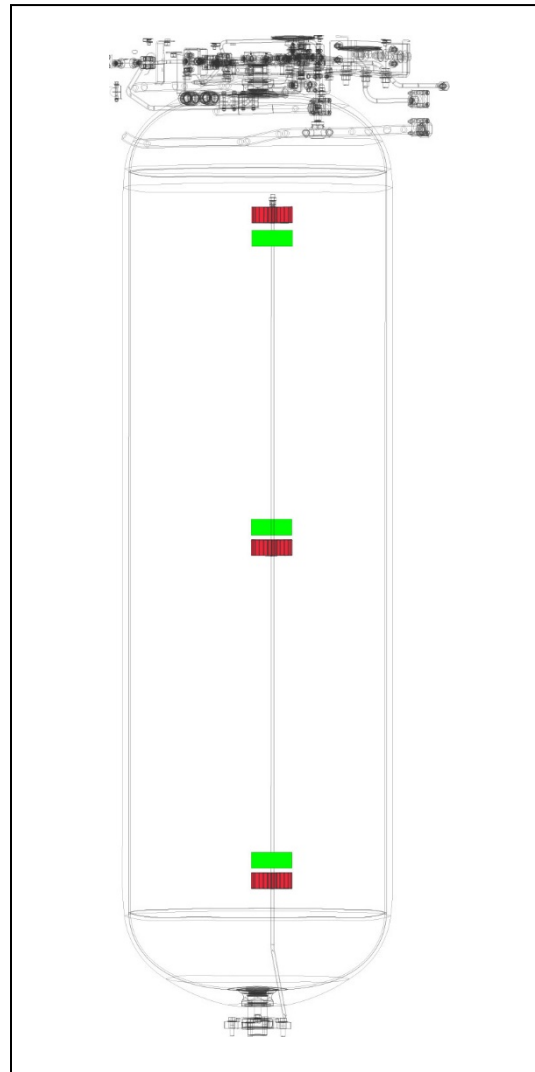
If a lower PRD trigger tube block is being replaced clean the area above the previous location, if an upper PRD trigger tube block is being replaced clean the area below the previous location.

**RED area indicates original position**

**GREEN area indicates new position**

**IMPORTANT: A center PRD trigger tube block cannot be repaired if the upper and lower blocks are not in place and secure. Repair any upper or lower PRD trigger tube blocks on the same side of the cylinder before proceeding to repair the center PRD trigger tube block.**

**If a center PRD trigger tube block is found to be detached and requires repair, refer to the *Center Block Repair Procedure* for additional instructions needed for center PRD trigger tube block repair.**

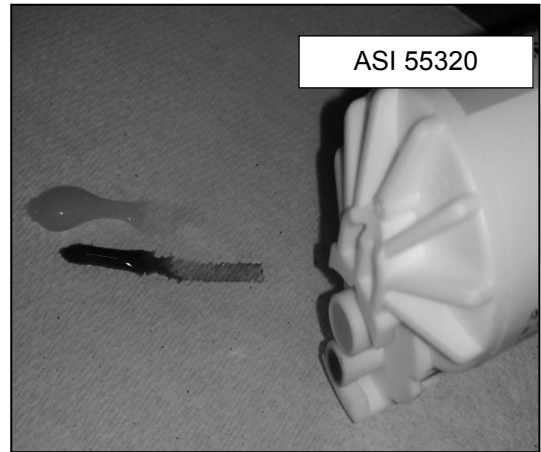


5. Test fit the block in the area it will be positioned. Verify it can be placed into position without smearing or displacing the adhesive. Make any adjustments needed before proceeding.
6. Verify the surface of the PRD trigger tube block has been sanded and is not glossy, if it has not been sanded, rough up with course sand paper as needed.
7. Clean both the cylinder surface and PRD trigger tube block with denatured alcohol or equivalent and a lint-free cloth.



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8. Prepare the adhesive by slowly squeezing the handle until both of the adhesive cylinders in the cartridge have purged any remaining air.



9. Attach the mixing nozzle onto the adhesive gun.

**CAUTION**

**The bond of the adhesive may fail if the adhesive is allowed to skin before applying the blocks to the cylinder. Do not allow the adhesive skin before applying the blocks to the cylinder. Failure to follow this instruction could result in damage or injury.**

**NOTE:** The adhesive skin time may vary depending on temperature and humidity.



10. The adhesive being used will begin to cure very quickly and assembly must occur within the time period defined below (ASI 55320).

The working time is 8-12 minutes. Working time is the time between when the adhesive is applied to the block and when the block is applied to the surface of the cylinder.

Moving the block during or after the components have been applied may adversely affect the adhesive strength.

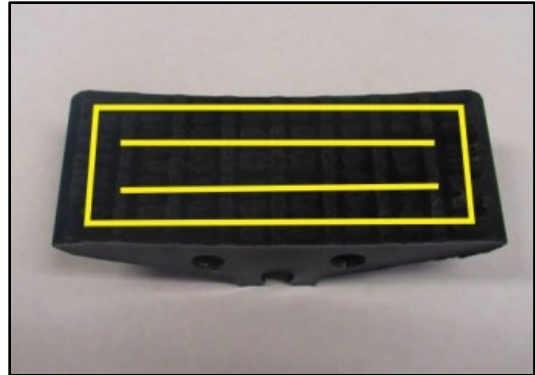
Duration of time until the adhesive is fully cured is 24 hours, however the vehicle can be put into service after 2 hours.

**Do not apply below 32°F.**

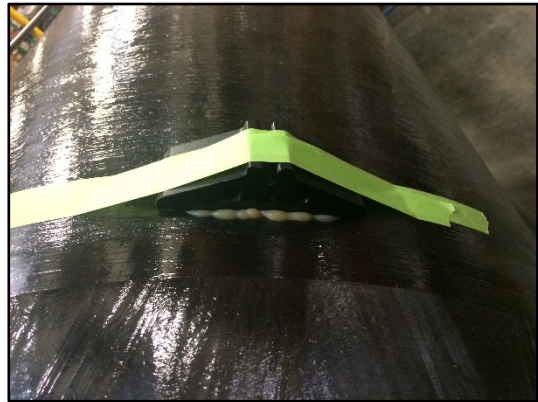


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11. Apply adhesive to the PRD trigger tube block following the pattern as shown using a 1/4" bead.



12. Align the PRD trigger tube block to the PRD tube and then apply the PRD trigger tube block to the prepared surface on the cylinder. Press the PRD trigger tube block down firmly on the cylinder to evenly disperse the adhesive under the block.

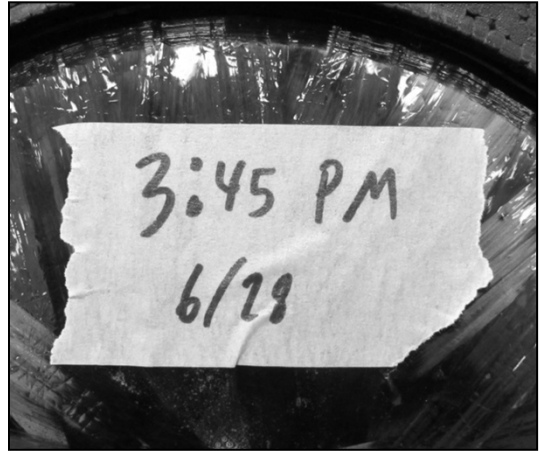


13. Use masking tape to secure the PRD trigger tube block in position.
14. After the masking tape has been applied, confirm the PRD trigger tube block is still properly aligned with the PRD trigger tube



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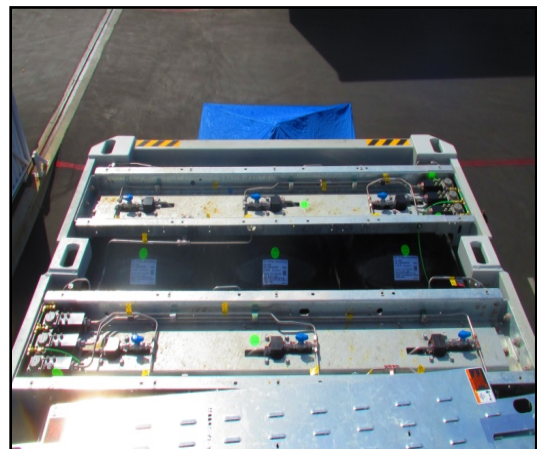
15. Visibly tag the cylinder with the time and date the adhesive was applied.
16. Allow to cure 2 hour before use.



17. Using Quantum tool 702099 with a ratchet and extension, place the tool over the PRD trigger tube and insert the pin into the PRD trigger tube block hole as shown.
18. Rotate the tool to press the PRD trigger line into the new PRD trigger tube block.

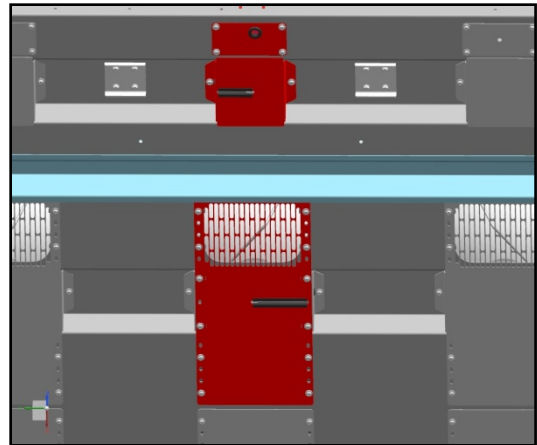


19. Install any previously removed roof panels. Make sure all bolts are started before tightening down. Tighten to 22 lbs.ft. (30 N.m.)



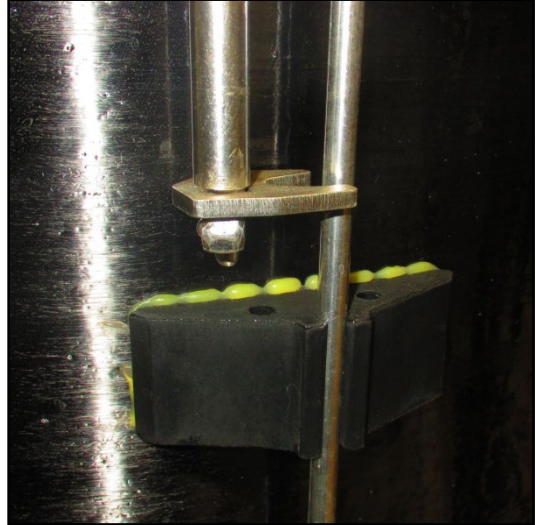
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20. Install any previously removed lower panels. Make sure all bolts are started before tightening down.  
**FOR 8 mm (13 mm head) FASTENERS:** Tighten to 22 lbs.ft. (30 N.m.).  
**FOR 6 mm (10 mm head) FASTENERS:** Tighten to 10 lbs.ft. (14 N.m.).



**TECHNICAL SERVICE BULLETIN****Center Block Repair Procedure**

1. Using Quantum tool 702099, place the tool over the PRD trigger line and insert the pin into the PRD trigger tube block hole as shown.



2. Using a ratchet and extension, remove and discard the failed PRD trigger tube block from the PRD trigger line using the supplied tool.

NOTE: If the PRD trigger tube block falls during removal, remove the lower panels as needed to recover the blocks and discard them.



3. Using a ratchet and extension, disengage the PRD trigger tube from the upper and lower PRD trigger tube blocks.



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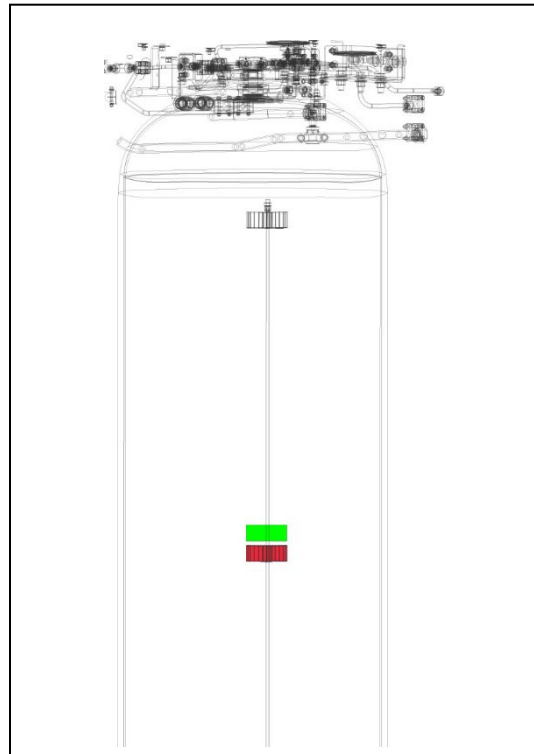
- 4. Insert the PRD trigger tube support tool 702213 as shown on the upper and lower PRD trigger tube blocks.



- 5. Thoroughly clean the area adjacent to the location where the PRD trigger tube block was previously applied (red) with denatured alcohol or equivalent.

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**GREEN area indicates new position**



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6. Use a small squeegee with an extension handle or equivalent cleaning equipment that will not mar or damage the surface of the cylinder.
7. Soak the squeegee with denatured alcohol or equivalent and thoroughly clean area where the block is to be applied.



8. Verify the surface of the modified PRD trigger tube block (119780) has been sanded and is not glossy, if it has not been sanded, rough up with course sand paper as needed.
9. Clean both the cylinder surface and PRD trigger tube block with denatured alcohol or equivalent and a lint-free cloth.

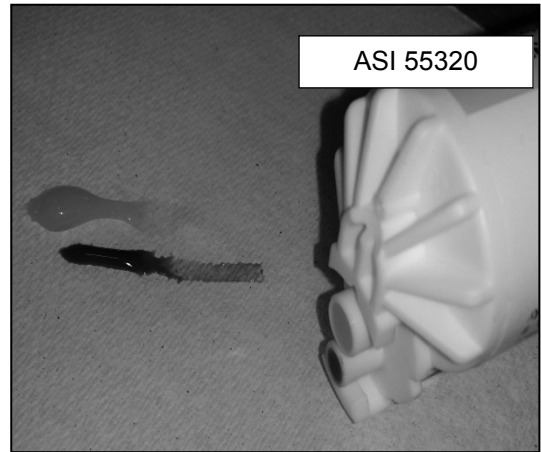


10. Apply a light coating of o-ring lube to the PRD trigger tube as far down as you can reach being careful not to touch any previously cleaned surfaces where the PRD trigger tube block will need to adhere.
11. Secure the PRD trigger tube block to the PRD trigger tube as shown.
12. Clean the surface to be bonded on the PRD trigger tube block with denatured alcohol or equivalent and a lint-free cloth.



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14. Prepare the adhesive by slowly squeezing the handle until both of the adhesive cylinders in the cartridge have purged any remaining air.



15. Attach the mixing nozzle onto the adhesive gun.

**CAUTION**

**The bond of the adhesive may fail if the adhesive is allowed to skin before applying the blocks to the cylinder. Do not allow the adhesive skin before applying the blocks to the cylinder. Failure to follow this instruction could result in damage or injury.**

**NOTE:** The adhesive skin time may vary depending on temperature and humidity.



16. The adhesive being used will begin to cure very quickly and assembly must occur within the time periods defined below (ASI 55320):

The working time is 8-12 minutes. Working time is the time between when the adhesive is applied to the block and when the block is applied to the surface of the cylinder.

Moving the block during or after the components have been applied may adversely affect the adhesive strength.

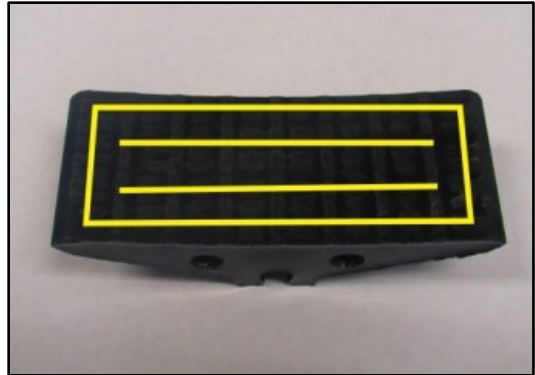
Duration of time until the adhesive is fully cured is 24 hours, however the vehicle can be put into service after 2 hours.

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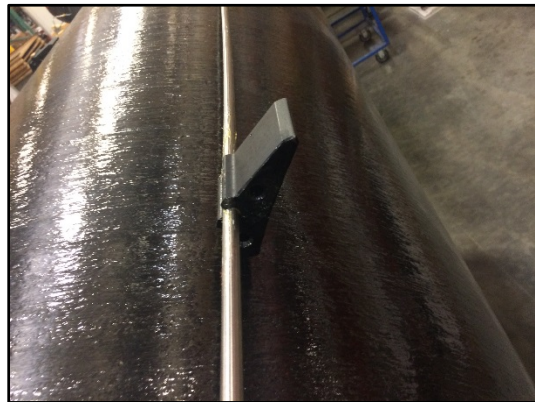


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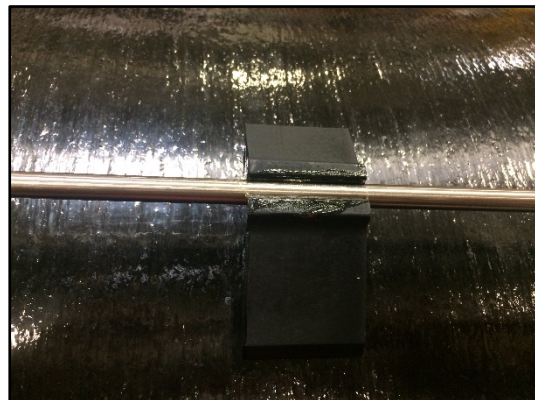
17. Apply adhesive to the PRD trigger tube block following the pattern as shown using a 1/4" bead.



18. Using Quantum tool 702099 or other appropriate tool, push the PRD trigger tube block down the PRD trigger tube to the previously cleaned and prepared location on the cylinder.



19. Using Quantum tool 702099 or other appropriate tool, rotate the PRD trigger tube block on the PRD trigger tube so the adhesive is facing the cylinder.

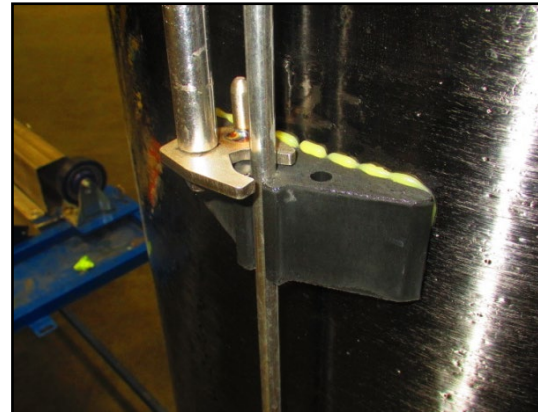


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20. Remove the 702213 PRD trigger tube support tools from the upper and lower PRD trigger tube blocks.

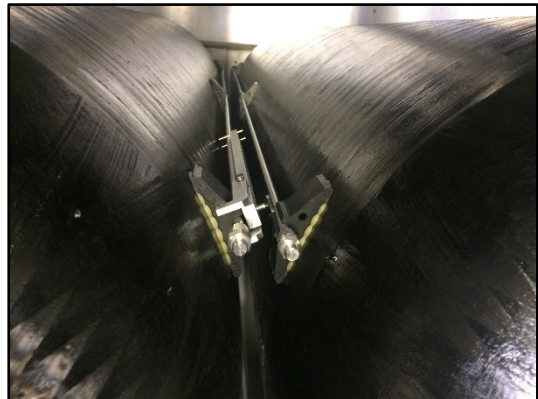


21. Using Quantum tool 702099, a ratchet and extension, secure the PRD trigger tube in the upper and lower PRD trigger tube blocks.



22. Insert the PRD trigger tube tensioning tool 702218 as shown on the upper trigger tube block. Turn the thumb screw until the center block is pressed firmly against the cylinder or the stop pins on the end of the tool just touch the cylinder surface.

If necessary place another PRD trigger tube tensioning tool on the lower trigger tube block to ensure the center block is fully seated against the surface of the cylinder.



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23. Visibly tag the cylinder with the time and date the adhesive was applied.
24. Allow to cure a minimum of 2 hours before removing the tensioning tools and changing the pressure in the cylinder.
25. Return to the previous procedure to continue further repairs or panel replacements.

