SQUIBB TAYLOR

MANUFACTURED BY PARKER - PGI DIVISION

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# Installation, Operation and Maintenance Instructions for Model A1416 Relief Valve Manifold

**IMPORTANT:** **KEEP THIS DOCUMENT WITH PRODUCT UNTIL IT REACHES THE END USER.**

## WARNING!

1. Only properly trained personnel, including end user, should handle NH3 equipment and NH3 product.
2. Contact with or inhalation of Liquid Anhydrous Ammonia ($NH_3$) can cause SERIOUS INJURY OR DEATH.
3. Before installation or removal of any valve, the system must be purged of all product (i.e. coupler, fittings, etc.).
4. Personal Protective Equipment (PPE), safety gloves, goggles and clothing should be worn.
5. For proper handling and storage of $NH_3$ refer to ANSI Standard K61.1 / CGA G-2.1 and local codes and Authorities having jurisdiction. WARNING: Follow code when plumbing bleeders or hydrostat for proper placement.
6. An abundant supply of fresh water should be available to provide immediate first aid treatment for exposure to $NH_3$.
7. To ensure long term safe operation, the manufacturer recommends that this product should be inspected before every usage season and be repaired or replaced as required.
8. Always use safety gloves, goggles and protective clothing.
9. To prevent the accidental opening of any valve, never grasp valve by its Hand wheel ⑥.

**WARNING!** **FAILURE TO READ AND UNDERSTAND THE INFORMATION/ INSTRUCTIONS IN THIS DOCUMENT CAN LEAD TO PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH.**

## Replacement or Inspection of Relief Valves at Ports 1 and 2

1. To remove the Relief Valve from Port No. 1, turn Hand Wheel ⑥ clockwise, until the Disc Holder ⑧ is seated firmly against the body seat.
2. Taking precaution to be upwind, and away from any Anhydrous Ammonia discharge, open the Bleed Valve ⑬, and Bleed Port No. 1 cavity completely.
3. Remove the Relief Valve in Port No. 1 using a Wrench. (CAUTION: Port No. 2 is under pressure.) NOTE: Relief Valves are required by state regulation to be replaced every 5 years. If upon visual inspection, dirt and debris or internal corrosion is found due to absence of the rain cap, early replacement should be considered. IF THE RAIN CAP IS NOT IN PLACE AT ALL TIMES, ICE, SNOW, OR DEBRIS WILL INHIBIT THE OPERATION OF THE RELIEF VALVE.
4. Use pipe thread sealer on the 1-1/4” Relief Valve threads. Install the Relief Valve, and tighten with a Wrench.
5. Close the Bleed Valve ⑬.

## Replacement or Inspection of Relief Valves at Ports 1 and 2 continued.

6. To remove the Relief Valve from Port No. 2, turn the Hand wheel ⑥ counterclockwise until the Disc Holder ⑧ is seated firmly against the Body Seat. Taking precaution to be upwind, and away from any Anhydrous Ammonia discharge, open the Bleed Valve ⑦ and Port No. 2 completely.
7. Remove Relief Valve in Port No 2, and install the new Relief Valve. (see # 4 above).
8. Close Bleed Valve ⑦.
9. To return the Model A1416 Relief Valve Manifold back to service, rotate the Hand wheel ⑥ clockwise 11-1/2 turns to place the Disc Holder ⑧ in the center position. This position will allow the highest discharge flow. (See Figure 1)

## To Replace the Stem Packing

1. Turn the Hand wheel ⑥ counter clockwise until the Disc Holder ⑧ is seated firmly against the body seat of Port No. 2.
2. Taking precaution to be upwind and away from any Anhydrous Ammonia discharge, open the Bleed Valve ⑦, and Port No. 2 completely.
3. Remove the Hand wheel ⑥ by removing the Nut ⑫, and Washer ⑪.
4. Remove the Follower ⑤, and Stem Packing ④, and replace with new Packing ④part number 1415-2007.

   **NOTE:** Do not substitute any other packing materials. This packing must be certified for use with Anhydrous Ammonia.
5. Replace the Follower ⑤ and tighten snugly against the packing ④.

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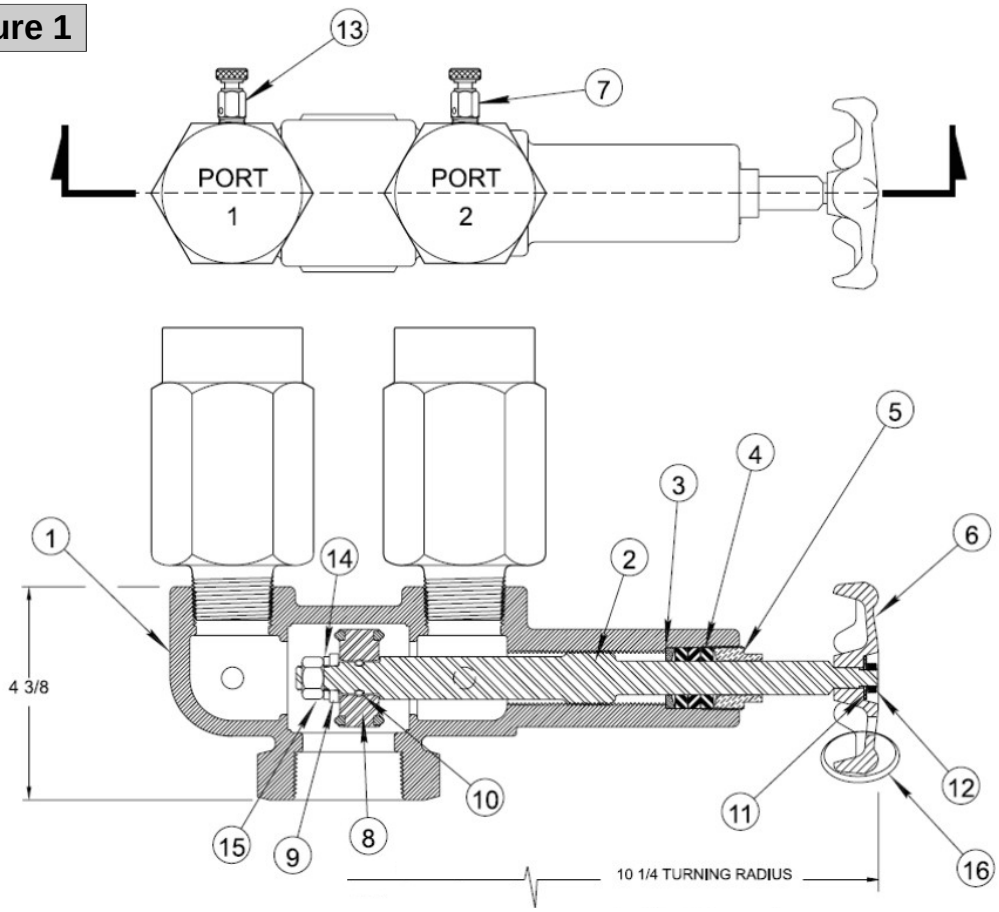
| **CAUTION:** | **EXTREME CARE MUST BE TAKEN TO MAKE SURE THAT THE STEM REMAINS IN THE CLOSED POSITION DURING REPAIR. WITH THE FOLLOWER AND PACKING REMOVED, THE STEM ② CAN BE MOVED VERY EASILY, WHICH COULD RESULT IN THE RELEASE OF AMMONIA.** |

6. Replace the Hand wheel ⑥, Washer ⑪, and Nut ⑫.
7. Close the Bleed Valve ⑦
8. Rotate the Hand wheel ⑥ clockwise 1 turn and check the Stem Packing ④ for leaks around the Stem ② and the Follower ⑤. Retighten the Follower ⑤ if necessary.
7. To return the Model A1416 Relief Valve Manifold back to service, rotate the Hand wheel ⑥ clockwise 11-1/2 turns to place the Disc Holder ⑧ in the center position. This position will allow the highest discharge flow. (See Figure 1)

**NOTE:** BEFORE TURNING HANDWHEEL ⑥, LOOSEN FOLLOWER ⑤1/2 A TURN. AFTER REPOSITIONING VALVE, RETIGHTEN FOLLOWER ⑤. ADDITIONAL TIGHTENING MAY BE REQUIRED IF STEM SEAL LEAKS. THIS PROCEDURE MUST BE FOLLOWED EACH TIME THE VALVE IS REPOSITIONED.

**To order Parts, Packing, or new Safety Relief Valves, contact your nearest Squibb-Taylor Distributor.**

## Figure 1




| ITEM | DESCRIPTION | PART NO. |
|---|---|---|
| 1 | BODY | 1415-5001 |
| 2 | STEM | 1415-2012 |
| 3 | RETAINER | 1415-5006 |
| 4 | PACKING | 1415-2007 |
| 5 | FOLLOWER | 1415-5008 |
| 6 | HANDWHEEL | 479-3013 |
| 7 | BLEED VALVE | 1911-1000 |
| 8 | DISC HOLDER | 1415-5010 |

| ITEM | DESCRIPTION | PART NO. |
|---|---|---|
| 9 | STEM WASHER | 1415-5011 |
| 10 | O-RING | P5-057-R0 |
| 11 | WASHER | 312-2014 |
| 12 | NUT | 312-2015 |
| 13 | BLEED VALVE | 1911-1000 |
| 14 | LOCKWASHER | P6-121-10 |
| 15 | HEX NUT | P6-111-10 |
| 16 | WARNING LABEL | 308-2021 |

## Figure 2

| Relief Valve & Manifold Combination | Set Pressure | OPEN Port Number | Flow Capacity at 120% of Set Pressure |
|---|---|---|---|
| A1310A & A1416 | 250 PSI | 1 | 5112 CFM Air |
| A1310A & A1416 | 250 PSI | 2 | 4699 CFM Air |
| A1310A & A1416 | 250 PSI | 1 & 2 | 8602 CFM Air |
| A1310B & A1416 | 265 PSI | 1 | 5405 CFM Air |
| A1310B & A1416 | 265 PSI | 2 | 4787 CFM Air |
| A1310B & A1416 | 265 PSI | 1 & 2 | 8924 CFM Air |

## User Safety Responsibility Statement for All Parker Products

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