

NAVSEA  
STANDARD ITEM

FY-25

ITEM NO: 009-49  
DATE: 01 OCT 2023  
CATEGORY: II

1. SCOPE:

1.1 Title: Pressure Seal Bonnet Valve In-line Repair; accomplish

2. REFERENCES:

2.1 S9086-CJ-STM-010/CH-075, Fasteners

2.2 T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods

2.3 MIL-STD-2035, Nondestructive Testing Acceptance Criteria

2.4 803-6074287, Repair Guide, Pressure Seal Valves

2.5 803-5001021, Pressure Seal Rings Standard and Oversize Valve Pressure Class 600-1500

2.6 S9253-AD-MMM-010, Maintenance Manual for Valves, Traps, and Orifices (Non-Nuclear), User's Guide and General Information

3. REQUIREMENTS:

3.1 Matchmark each valve part.

3.2 Disassemble, clean free of foreign matter (including paint), and inspect each part for defects.

3.2.1 The removal of body-bound studs only to determine the condition of threads is not required.

(I) or (V) "TORQUE TEST" (See 4.3)

3.2.2 Torque test each body-bound stud in accordance with Section 075-8.6.3.2(d) of 2.1.

(I) "LIQUID PENETRANT INSPECT"

3.2.3 Accomplish liquid penetrant inspection of seats (including back seat), discs or gate, and body inlay area in accordance with 2.2.

3.2.3.1 Acceptance criteria must be in accordance with Paragraph 7 of 2.3, except hairline cracks in hard-faced seats and discs or gate are acceptable provided the valve does not show evidence of leakage.

3.3 Repair valve as follows:

3.3.1 Straighten stem to within 0.002-inch total indicator reading. Polish stem to a 32 Root-Mean-Square (RMS) finish in way of packing surface and remove raised edges and foreign matter.

3.3.2 Chase and tap each exposed threaded area.

3.3.3 Inspect and repair sealing surfaces of each inlay area and bonnet as follows:

(I) or (V) "VISUAL INSPECT" (See 4.3)

3.3.3.1 Inspect valve body to verify that stainless steel inlay is free of steam cuts and cracks and that diameter of inlay area is round to within 0.003 inch and free of non-design taper. Measure diameter at top and bottom of inlay area in increments of 45 degrees, on each circle.

3.3.3.2 For the inlay, correct out-of-round, non-design tapered condition and provide 32 RMS finish. Finished inlay diameter must not exceed oversize number one diameter, plus 0.002 to 0.005-inch clearance described by 2.4.

3.3.3.3 Machine valve bonnet tapered area for concentricity and design angle to within 0.002-inch total indicator reading and 32 RMS finish.

3.3.4 Machine, grind, or lap and spot-in discs or gate to seats (including back seat) to obtain a 360-degree continuous contact.

(I) or (V) "INSPECT CONTACT" (See 4.3)

3.3.4.1 Inspect contact using blueing method.

3.3.4.2 Transfer line for gate valve must not exceed 3/16-inch in width and must appear within the lower 75 percent of the gate seating surface.

3.3.4.3 Transfer line for globe valve must not exceed 1/16-inch in width.

(I)(G) "VERIFY LEVEL I PARTS AND CLEANLINESS"

3.4 Assemble each valve, installing new each fastener for those removed in 3.2 in accordance with manufacturer's specification or instruction.

3.4.1 Install new seal ring in accordance with 2.4, using 2.5 for guidance.

3.4.1.1 The SUPERVISOR must approve new seal rings to inlay bores above first oversize.

3.4.1.2 Attach a metal identification tag to the valve bonnet indicating the size of seal ring installed, straight or tapered body neck, name of installing activity, and date of installation.

3.4.2 Install new valve stem packing conforming to MIL-P-24503/ MIL-DTL-24583 combination in accordance with Chapter 6 of 2.6.

4. NOTES:

4.1 Operational test of the valve will be specified in Work Item.

4.2 Repair of valve operating gear will be specified in Work Item.

4.3 The paragraph referencing this note is considered an (I) if the valve is Level I. If the valve is not Level I, the paragraph is considered a (V).