

NAVSEA  
STANDARD ITEM

FY-27

ITEM NO: 009-052  
DATE: 01 OCT 2024  
CATEGORY: II

1. SCOPE:

1.1 Title: Relief Valve; repair

2. REFERENCES:

2.1 S9086-RJ-STM-010/CH-504, Pressure, Temperature and Other Mechanical and Electromechanical Measuring Instruments

3. REQUIREMENTS:

3.1 Matchmark each valve part.

3.2 Disassemble, clean each internal and external surface free of foreign matter (including paint), and inspect each parts for defect.

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 finish and remove raised edges and foreign matter.

3.3.2 Machine, grind, or lap and spot-in metallic disc to seat to obtain a 360-degree continuous contact.

3.3.2.1 Inspect contact using blueing method. Transfer line must not exceed 1/16-inch in width.

3.3.3 Dress and true each gasket mating surface.

3.3.4 Chase and tap each exposed threaded area.

3.4 Assemble valve installing new each packing, each soft seat, each gasket, and each fastener for those removed in 3.2 in accordance with manufacturer's specifications or instruction.

3.5 Hydrostatically test valve as follows:

3.5.1 Hydrostatic test equipment must have the following capabilities:

3.5.1.1 Manual overpressure protection release valve.

3.5.1.2 Self-actuated and resetting relief valve with a set point no greater than 100 PSIG above the test pressure or 10 percent above the test pressure, whichever is less.

3.5.1.3 Master and backup test gauges with gauge range and graduation in accordance with Table 504-6-1 of 2.1. The backup gauge must be cross-checked to the master hydrostatic test gauge up to the maximum test pressure just prior to start of testing. Master and backup gauges must track within 2 percent of each other.

3.5.1.4 Protection equipment must be accessible and test gauges must be located where clearly visible and readable to pump operator and inspector.

(I) "SHOP TEST"

3.5.2 Set valve to lifting pressure. (See Note 4.1 through 4.3)

3.5.3 Seat tightness test must be accomplished for a minimum of 3 minutes.  
Allowable leakage: None.

3.5.4 Purge valve of test medium.

3.5.5 Install wire and lead lock seals.

3.6 Attach a metal tag to valve, stamped with the following information:

3.6.1 Ship name and hull number

3.6.2 Valve number or identification

3.6.3 Valve lifting pressure

3.6.4 Date valve tested and set

3.6.5 Name of repair facility

4. NOTES:

4.1 Test medium, seat tightness, and lifting pressures will be specified in Work Item.

4.2 Steam relief valves must have setpoint established using steam as the test medium.

4.3 Steam system service and heating boiler pressure relief valves constructed to MIL-DTL-20065, ASME BPVC Section VIII or ASTM F1508 must have setpoint established using steam, nitrogen/dry, oil-free air or a combination of water and nitrogen/dry, oil-free air as the test medium, as specified in the work item.