

NAVSEA
STANDARD ITEM

FY-27

ITEM NO: 009-045
DATE: 01 OCT 2024
CATEGORY: II

1. SCOPE:

1.1 Title: Tapered Plug 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 part for defects.

3.3 Repair valve as follows:

3.3.1 Machine, grind, or lap and spot-in plug to bore to obtain an 80 percent minimum surface contact, evenly distributed over 100 percent of the area.

(V) "INSPECT CONTACT"

3.3.1.1 Inspect contact using blueing method.

3.3.1.2 Vertical misalignment of ports in the plug valve and body with the plug fully seated must not be of a degree that will restrict flow.

3.3.2 Chase and tap exposed threaded areas.

3.3.3 Dress and true gasket mating surfaces.

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

3.4.1 Lubricate each MIL-PRF-24509 valve with grease conforming to SAE-AMSG-6032.

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 shown on 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) "SEAT TIGHTNESS"

3.5.2 Test for seat tightness with valve in closed position with opposite side open for inspection.

3.5.2.1 Plug must be seated by hand force.

3.5.2.2 Test must be continued for a minimum of 3 minutes if there is no evidence of leakage or, in the event of visible leakage, until accurate determination of leakage can be made.

3.5.2.3 Maximum allowable leakage for a metal-to-metal seated valve: 10 cubic centimeters (cc) per hour, per inch of nominal pipe size; 10 cc maximum per hour for valve sizes less than 1-1/2 inches.

3.5.2.4 Allowable leakage for soft seated plug: None.

(I) "SEAT TIGHTNESS"

3.5.3 Test plug valve of duplex strainer to each strainer chamber with unpressurized side top cover removed (2 tests per strainer). Allowable leakage: With the drain valve closed the non-pressurized side must not fill within one hour.

4. NOTES:

4.1 Test pressures of 3.5.2 and 3.5.3 will be specified in Work Item.

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

4.3 Test medium will be specified in Work Item.