

NAVSEA  
STANDARD ITEM

FY-21

ITEM NO: 009-96  
DATE: 31 AUG 2018  
CATEGORY: II

1. SCOPE:

1.1 Title: Ball 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 valve parts.

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 Polish the seating surface of the valve ball to a 32 Root-Mean-Square finish to remove high spots, nicks, and burrs.

3.3.2 Remove each existing and install new valve soft seats using those compatible with the system fluid, in accordance with manufacturer's specifications.

3.3.3 Chase and tap exposed threaded areas.

3.3.4 Dress and true gasket mating surfaces.

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

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

3.4.1 Lubricate each MIL-V-24509 valve with grease conforming to SAE-AMS-G-6032.

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

3.5 Inspect alignment of ports in the ball valve and body with the ball fully seated. Ball misalignment must not be of a degree that will restrict flow.

3.6 Hydrostatically test valve as follows:

3.6.1 Hydrostatic test equipment must have the following capabilities:

3.6.1.1 Manual overpressure protection release valve.

3.6.1.2 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.

3.6.1.3 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.

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

(V)(G) or (I)(G) "SEAT TIGHTNESS" (See 4.4)

3.6.2 Test for seat tightness alternately on each side of ball valve with the opposite side open for inspection.

3.6.2.1 Ball must be seated by hand force.

3.6.2.2 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.

3.6.2.3 Allowable leakage for a soft-seated ball valve: None.

#### 4. NOTES:

4.1 Test pressures of 3.6.2 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).

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

4.5 Test medium will be specified in Work Item.