

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

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Installation, Maintenance and Operation Instructions for NIBCO[®] Series F515, F535 and F565 Split Body Flanged Ball Valves

CAUTION: It is important for your safety and protection that the following precautionary measures are taken prior to removing the valve from service or before any disassembly of the valve.

1. Keep hands out of the inside of the valve. A remotely actuated valve may close at any time.
2. Know the application of the valve to be serviced. If any doubt exists, consult the proper authority.
3. Protective clothing should be worn commensurate with the media involved.
4. De-pressurize the line and valve as follows:
 - a. Open valve, drain line.
 - b. Cycle valve to relieve residual pressure that may be trapped in valve. The valve should be left in the partially open position.
 - c. After removal of valve from line, place in vertical position and drain any remaining media.

I. INSTALLATION

1. Place valve in partially open position.
2. Check connecting pipe flanges for accuracy. Make sure the pipe flange faces are clean of any foreign material such as scale, metal shaving or welding slag.
3. To ensure proper installation, standard piping practices should be followed.
4. The NIBCO flanged ball valve is a bi-directional valve.
5. Use correct size flange bolts and follow the recommended procedures of the gasket manufacturer when tightening the flange bolts.

II. MAINTENANCE

1. Routine maintenance consists of tightening the packing to compensate for wear. If there is seepage present at stem seal, tighten the gland flange cap screws (13) alternating 1/4 turn until snug.
2. General maintenance consists of periodic observation of valve to ensure that the valve is functioning correctly.
3. For seat and seal replacement, refer to disassembly and assembly procedures listed below. Seat and seal kits may be purchased through your local NIBCO distributor.

CAUTION: Only qualified personnel should undertake the procedures outlined in this document. NIBCO INC., its agents, representatives and employees assumes no liability for the use of these procedures. These procedures are offered as suggestions only.

III. DISASSEMBLY

1. If complete disassembly is necessary, all seats and seals should be replaced. Read caution statement prior to starting disassembly.
2. Using a cross pattern, loosen and remove body/end-piece stud nuts (15). Mark body/end-piece joint for reference for reassembly. Remove end-piece.
3. Turn ball (3) to closed position. Lift ball from body cavity. If ball will not lift from body in closed position, use a piece of wood or other soft material to gently tap the ball (from opposite end of body). This should loosen the ball from the stem.
4. Remove the lock plate retaining ring (19) and locking plate (8).
5. Loosen and remove gland flange cap screw (13). Remove gland flange (10).
6. Press stem (4) from top into body cavity. Remove through inside of body end.
7. Stem packing and valve seats may now be removed from body and end-piece. Care should be taken not to scratch sealing surfaces in the body and end-piece.
8. Thoroughly inspect and clean all parts prior to assembly.

IV. ASSEMBLY

Reassembly is generally a reverse procedure to Section III Disassembly.

1. Install new packing set (6) in packing well of body.
2. Stand body (1) on end. Lightly lubricate seat (5) (use lubricant compatible with service) and position seat in seat pocket.
3. Install new thrust washer (9) on stem (4) and carefully insert stem through body end into stem pocket.
4. Install packing gland (7), gland flange (10) and gland flange cap screws (13).
5. Tighten gland flange cap screws evenly to maintain square alignment with the stem.
6. Position stem in line with bore to accept ball. Insert ball (3) rotating it onto the stem in the closed position. Rock the ball to make sure the stem is centered in the ball slot.
7. Gently press new spiral wound gasket (12) or PTFE flat ring into the machined recess on the body.
8. Lightly lubricate the second seat ring (5) and insert into the end-piece seat pocket. Make sure the sealing surface is toward the ball.
9. Place end-piece (2) on body. Lubricate stud threads and bottom side of nuts. Install body nuts (15). Tighten sequentially as shown in Figure 1 to prescribed torque as shown in Figure 2.
10. Cycle the valve slowly to insure proper position of ball to stem and seats.

FIGURE 1

BOLT TIGHTENING SEQUENCE

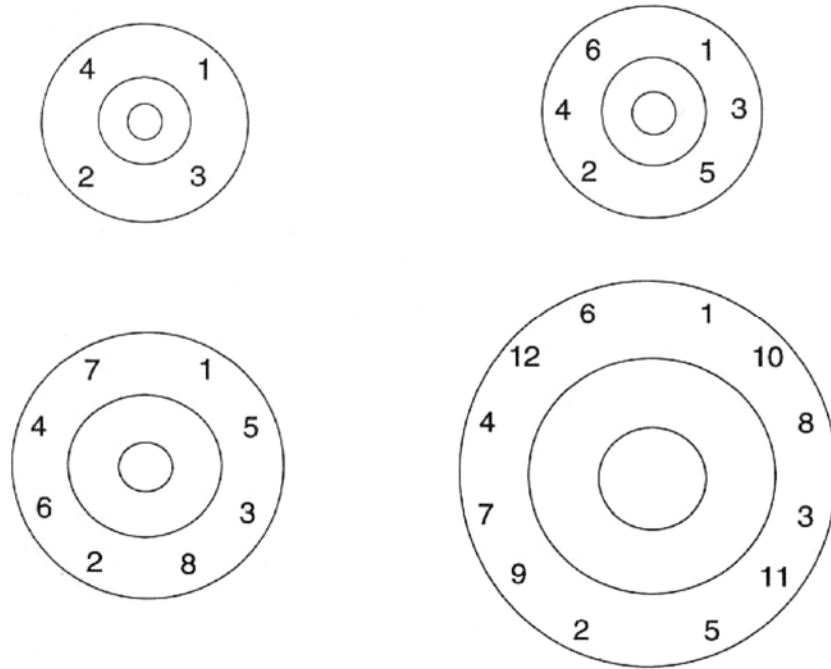


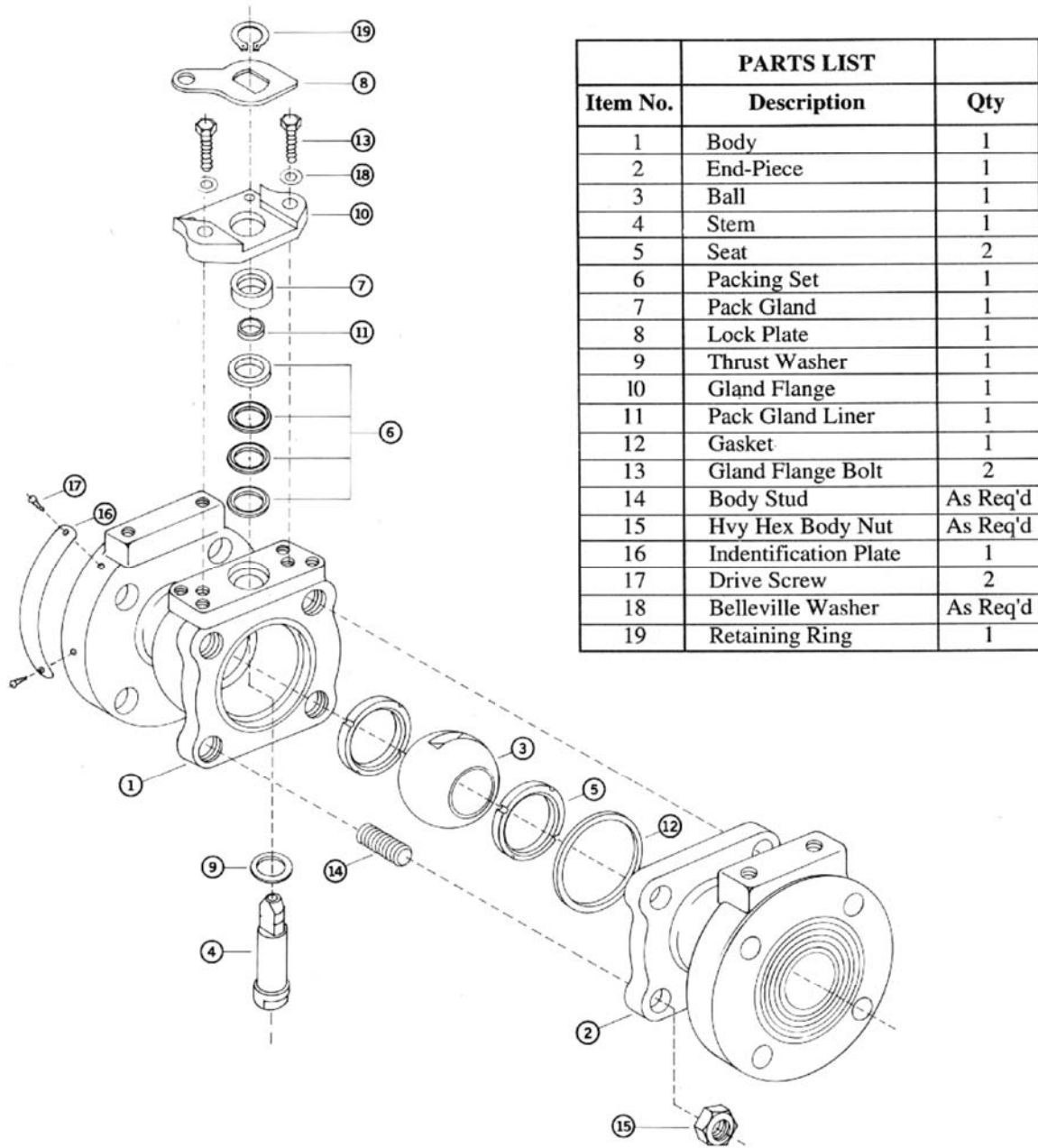
FIGURE 2

**RECOMMENDED
TIGHTENING TORQUES FOR
BODY STUDS**

| Stud Dia. | Torque Ft./Lbs. |
|-----------|-----------------|
| 1/4" | 8 |
| 5/16" | 16 |
| 3/8" | 24 |
| 7/16" | 40 |
| 1/2" | 60 |
| 9/16" | 90 |
| 5/8" | 120 |
| 3/4" | 200 |
| 7/8" | 320 |
| 1" | 490 |
| 1 1/8" | 710 |
| 1 1/4" | 1000 |
| 1 3/8" | 1360 |
| 1 1/2" | 1600 |

— 4" 515
— 6" 515

FIGURE 3



| PARTS LIST | | |
|------------|----------------------|----------|
| Item No. | Description | Qty |
| 1 | Body | 1 |
| 2 | End-Piece | 1 |
| 3 | Ball | 1 |
| 4 | Stem | 1 |
| 5 | Seat | 2 |
| 6 | Packing Set | 1 |
| 7 | Pack Gland | 1 |
| 8 | Lock Plate | 1 |
| 9 | Thrust Washer | 1 |
| 10 | Gland Flange | 1 |
| 11 | Pack Gland Liner | 1 |
| 12 | Gasket | 1 |
| 13 | Gland Flange Bolt | 2 |
| 14 | Body Stud | As Req'd |
| 15 | Hvy Hex Body Nut | As Req'd |
| 16 | Identification Plate | 1 |
| 17 | Drive Screw | 2 |
| 18 | Belleville Washer | As Req'd |
| 19 | Retaining Ring | 1 |

For any technical enquiries please call NIBCO Technical Services.