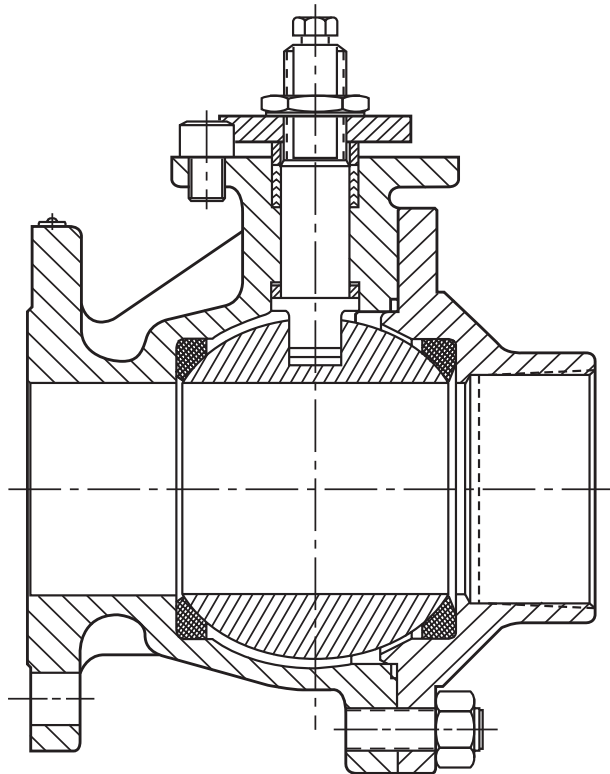


# Jamesbury ball valves

6RFT full port railroad valves  
2" and 3" (DN 50 and DN75)

Installation, maintenance and  
operating instructions



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**READ THESE INSTRUCTIONS FIRST!**

These instructions provide information about safe handling and operation of the valve.

If you require additional assistance, please contact the manufacturer or manufacturer's representative.

**SAVE THESE INSTRUCTIONS!**

Addresses and phone numbers are printed on the back cover.

# 1. GENERAL

This instruction manual contains important information regarding the installation, operation and troubleshooting of the Jamesbury™ 2" (DN 50) and 3" (DN 75) 6RFT Full Port Railroad Valves. Please read these instructions carefully and save them for further reference.

## WARNING

FOR YOUR SAFETY, IT IS IMPORTANT THAT THE FOLLOWING PRECAUTIONS BE TAKEN PRIOR TO REMOVAL OF THE VALVE FROM THE TANK CAR OR BEFORE ANY DISASSEMBLY.

1. EXERCISE NORMAL SAFETY PRECAUTIONS TO PROTECT YOURSELF AGAINST BOTH THE FLUID AND POSSIBLE UNRELIEVED PRESSURES IN THE VALVE ITSELF.
2. DO NOT REMOVE THE VALVE FROM A LOADED TANK CAR.
3. TURN THE VALVE FROM FULLY CLOSED TO FULLY OPEN AND BACK AGAIN TWO TIMES BEFORE REMOVAL FROM THE EMPTY TANK CAR. THIS RELIEVES ANY RESIDUAL PRESSURES.
4. AFTER REMOVAL AND BEFORE DISASSEMBLY, CYCLE THE VALVE AGAIN SEVERAL TIMES (AS IN NO. 3).

# 2. INSTALLATION

1. Flow through a *Jamesbury* valve can be in either direction. To ensure that good installation is achieved, standard piping practices should be followed.
2. Use the proper size flange bolts and follow the recommended practices of the gasket manufacturer when tightening the flange bolts.
3. If there is weepage past the stem seals upon installation, the valve may have been subjected to wide temperature variations in shipment. "Leak-tight" performance will be restored by a packing adjustment described in the **MAINTENANCE** Section.

# 3. DISASSEMBLY

**NOTE:** If complete disassembly becomes necessary, replacement of all seats and seals is recommended. Refer to the Repair Kit Chart.

1. Follow the steps in the **WARNING** Section before performing any work on the valve.
2. Open and close the valve and leave in the closed position.
3. For 2" and 3" (DN 50 and 80) 6RFT valves when equipped with handle, remove the cap screw (18), washer (19) and handle (17).
4. Remove the stem nut (15), lockwasher (33), indicator stop (12) and the compression ring (21).
5. Remove the body stud nuts (11) and the body cap (2).
6. Remove the body seal (6) and seat (5) being careful not to scratch the ball.

7. If the ball (3) does not fall from the body, with the ball in the fully closed position, use a piece of wood or some other soft material to gently tap the ball (from the end opposite the body cap). This should loosen the ball so that it can be pivoted free of the stem.
8. Remove the second seat (5).
9. Press the stem (4) from the top into the valve body and remove it through the end of the body.
10. Pry out from the inside and discard the old bottom seal (8) and the secondary stem seal (7). BEING CAREFUL NOT TO SCRATCH ANY SEALING SURFACES IN THE BODY.
11. Remove the top stem seal set (24).

# 4. ASSEMBLY

1. Standing the body (1) carefully on end, drop in one seat (5) with the flat surface on the bottom. See exploded view (**Figure 1**).
2. Inset the secondary stem seal (7) and the bottom stem seal (8) into the body from the inside (see **Figure 1**). Insert the stem (4) from inside the valve body through the seals and bonnet of the valve. Next, insert the top stem seal (24), the compression ring (21), and the indicator stop (12) making sure that the side marked "BOTTOM" is down. Add lockwasher (33), and screw on the stem nut (15) with the side marked "TOP" being up.
3. Tighten down the nut until the top stem seal is fully seated, then tighten the nut an additional 1/8 to 1/4 turn.
4. Insert the ball (3) rotating it onto the stem (4) in the closed position. Gently rock the ball to make sure the stem is centered in the ball slot (see **Figure 1, stem-to-ball location**).
5. Gently press the body seal (6) into the machined recess of the body (1).
6. Insert the second seat (5) into the body cap (2) so that the sealing surface of the seat is toward the ball (see **Figure 1**).
7. Insert the body cap (2). Lubricate the nuts and studs with Never-Seez® or equivalent. Install nuts (11) on the body studs (10) and tighten sequentially as shown in the sequential diagram and torque chart.
8. Cycle the valve slowly twice to insure permanent position of the ball between the two seats.

# EXPLODED VIEW & PARTS LIST

PARTS LIST		
ITEM	PART NAME	QTY
1	Body	1
2	Body Cap	1
3	Ball	1
4	Stem	1
5	Seat	2
6	Body Seal	1
7	Secondary Graphite Stem Seal	1
8	Stem Seal	1
10	Body Stud	*
10	Nut	*
11	Compression Ring	1
12	Indicator Stop	1
14	Socket Head Cap Screw	1
15	Stem Nut	1
17	Handle	1
18	Cap Screw	1
19	Washer	1
21	Compression Ring	1
22	Identification Tag	1
23	Drive Screw	2
24	Upper Stem Seal	Set
33	Lockwasher	1

\* 2" (DN 50) Valves = 4 each. 4" (DN 100) Valves = 6 each.

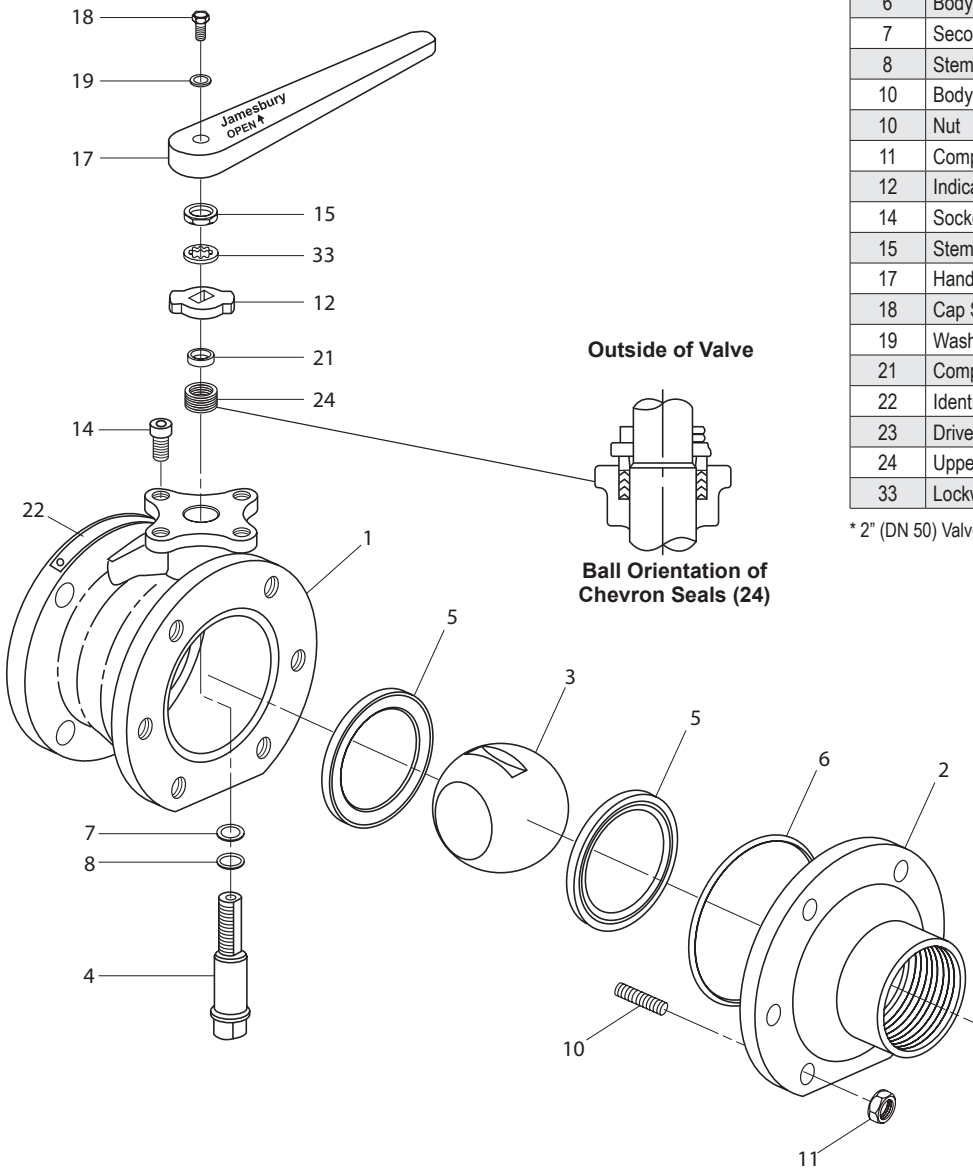


Figure 1.

## 5. MAINTENANCE

Good operating procedure requires periodic observation to ensure that the valve is functioning well. The frequency of observation will depend on the application.

### 5.1 STEM PACKING ADJUSTMENT

Routine maintenance consists of tightening the stem nut (15) periodically to compensate for the wear caused by the stem's turning against the resilient PTFE seals. If weepage occurs, tighten the nut one 1/2 turn. Stem nut torque should be about 240 in.-lb. for 2" and 600 in.-lb. for 3".

Overhaul maintenance consists of replacing seats and seals. A standard repair kit consisting of these parts may be obtained by contacting Valmet.

## 6. REPAIR KITS

Standard repair kits include seats, stem seals and a 316 stainless steel/PTFE spiral wound body seal. The body seal is suitable for valves with carbon or 316SS trim.

## 7. SERVICE/SPARE PARTS

For further information on spare parts and service or assistance visit our web-site at [www.neles.com/products/valves/tank-car valves/](http://www.neles.com/products/valves/tank-car-valves/).

REPAIR KITS		
Valve Size	2" (DN 50) 6RFT	3" (DN 80) 6RFT
PTFE Seats	RKN79TT	RKN80TT
Filled PTFE Seats	RKN79MT	RKN80MT

RECOMMENDED TORQUES			
Fastener Torques in FT•LBS (N•m)			
Fastener Size	Last Digit in Fig.	1	2
	Fastener Material	A193 GR.B7	A193 GR.B8
	Fastener Intent. Mark	B7	B8
1/2" – 13		75 - 85 (102 - 115)	5 - 85 (7 - 115)
5/8" – 11		160 - 190 (217 - 258)	155 - 180 (210 - 244)

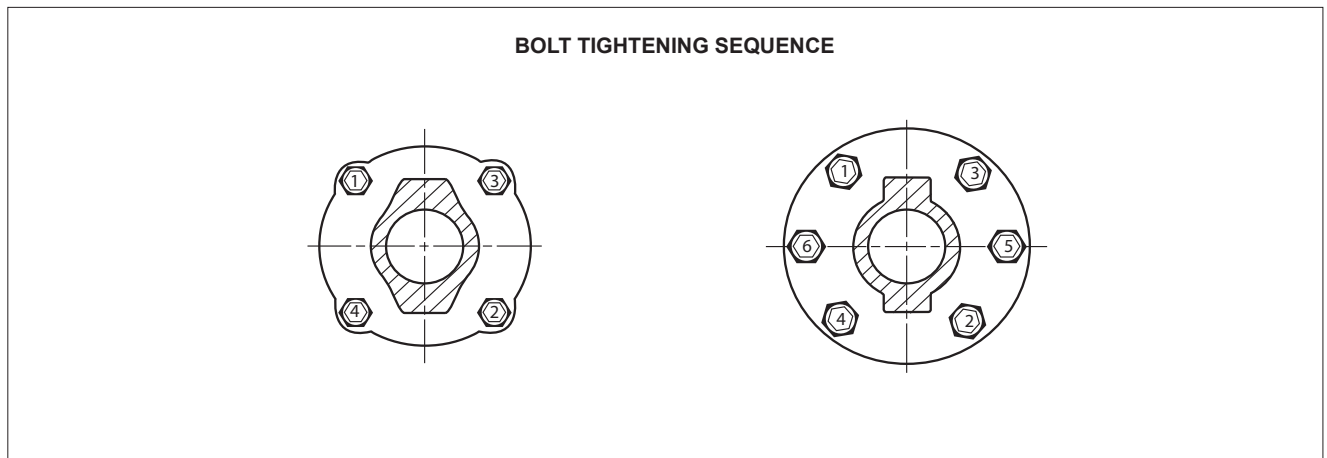


Figure 2.





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