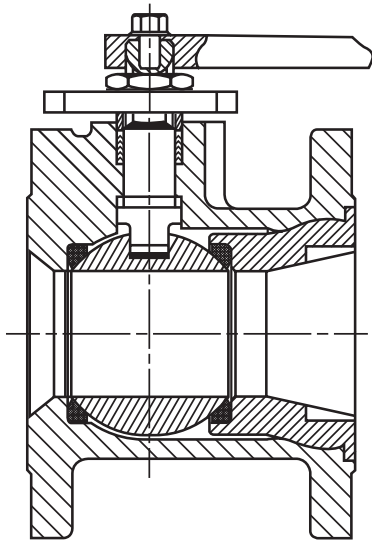


IMO - R9

Issue Date: 1/02



INSTALLATION, MAINTENANCE, AND
OPERATING INSTRUCTIONS

3" (DN 80) 5RRF, 5RRT, & 5RFF TANK CAR FIRE-TITE® TOP LOADING AND UNLOADING VALVES

Read entire instructions carefully before installation or servicing

1 GENERAL

This instruction manual contains important information regarding the installation, operation and troubleshooting of the Jamesbury 3" (DN 80) 5RRF, 5RRT, & 5RFF Tank Car FIRE-TITE Top Loading and Unloading Valves. Please read these instructions carefully and save them for future reference.

1.1 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. CYCLE THE VALVE FROM FULLY CLOSED TO FULLY OPEN AND BACK AGAIN TWO TIMES TO RELIEVE ANY RESIDUAL PRESSURE.
3. AFTER REMOVAL AND BEFORE DISASSEMBLY, CYCLE THE VALVE AGAIN SEVERAL TIMES (AS IN NO. 2).

2 INSTALLATION

Flow through this Jamesbury valve can be in either direction. In the case of a tongue and groove connection, however, the tongue is installed against the tank car. Follow the recommended practices of the gasket manufacturer when tightening flange bolts. If there is weepage past the stem seals upon installation, it means the valve may have been subject to wide temperature variations in shipment. Leaktight performance will be restored by a simple packing adjustment described in the **MAINTENANCE** Section.

3" (DN 80) 5RRF

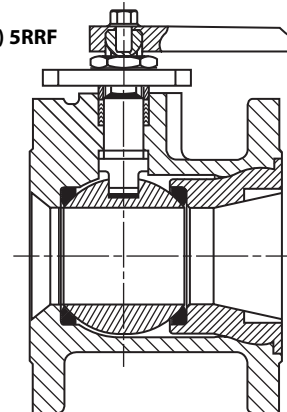


Figure 1

3" (DN 80) 5RRT

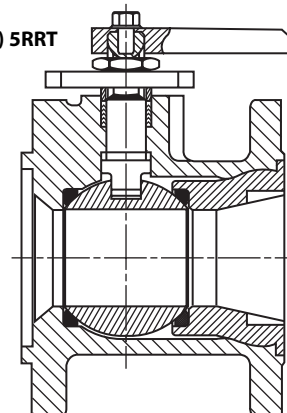


Figure 2

3 MAINTENANCE

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

Routine maintenance consists of tightening the stem nut (16) periodically to compensate for the wear caused by the stems turning against the resilient PTFE seals. If weepage occurs, tighten the nut one 1/2 turn.

Overhaul maintenance consists of replacing seats and seals. A standard service kit (**see Table 1**) consisting of these parts may be obtained by contacting Metso Automation.

TABLE 1	
SERVICE KITS	
Valve	Kit No.
3" (DN 80) 5RRF, 5RRT & 5RFF	RKR-49MT RKR-49TT

3.1 Disassembly

1. Read the instructions in the **WARNING** Section.
2. Place the valve in the open position.
3. Remove the handle screw (18), lockwasher (19), handle (17), stem nut (16), lockwasher (33), indicator stop (12), and compression ring (21).
4. Place the valve in a vertical position with insert up.
5. Unscrew and remove the insert (2) and body seal (6).
6. Turn the ball into the closed position and remove the top seat (5) if it did not come out with the insert. Remove the ball (3). If the ball does not lift out easily, take a piece of wood or some other soft material and gently tap the ball from the end opposite the insert. This will unseat the ball without damaging it.
7. Press the stem (4) into the valve body cavity. It may be necessary to tap it with a piece of wood or some other soft material.
8. Remove the stem, then pry out and discard the old stem seals (24) and (8) and secondary stem seal (7).
9. Carefully remove the bottom seat (5) out of the body taking caution that the body seat face is not scratched while doing so.

3.2 Assembly

Apply a good lubricant compatible with the flow medium lightly to seats, seals, ball, and stem to facilitate assembly and for ease of initial operation. Clean seat and seal areas and other parts before assembly.

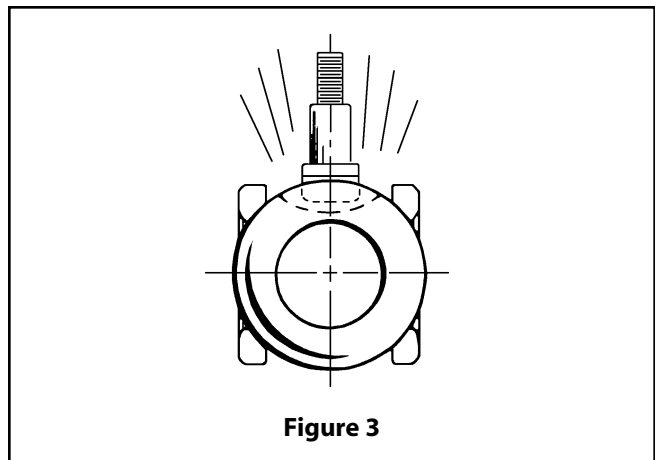


Figure 3

1. Slide one valve seat (5) sidewise into the body cavity (1) to just below the stem hole and tilt it into place so that the proper face will come in contact with the ball (3) (**see Figure 3**) Do not scratch or cut the seat face.
2. From inside of the body cavity, insert one secondary stem seal (7) and one stem seal (8) up into the lower stem counterbore.
3. From the outside of the body, insert the set of upper stem seals (24) into the upper stem counterbore.
4. Insert the stem (4) into the body cavity (threaded end first), and press it gently up into the stem bore until resistance is felt from the lower stem seal. Be careful not to scratch seals.
5. Holding the stem in place from inside the body, drop the compression ring (21) over the threaded end of the stem protruding out of the body stem bore. Follow the same procedure with indicator stop (12) and lock washer (33). Then screw on stem nut (16).
6. Tighten down the nut until the stem comes snugly into place. Rotate the stem gently to assure proper seating. Tighten the nut until the stem seals are fully seated, then tighten the nut an additional 1/4 turn.

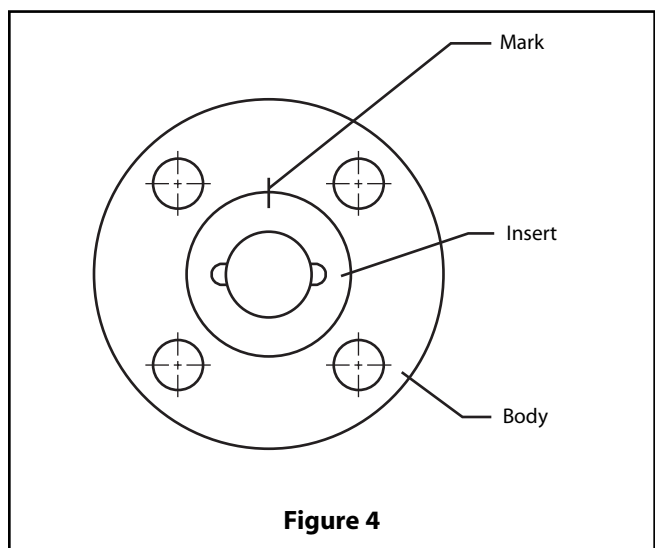
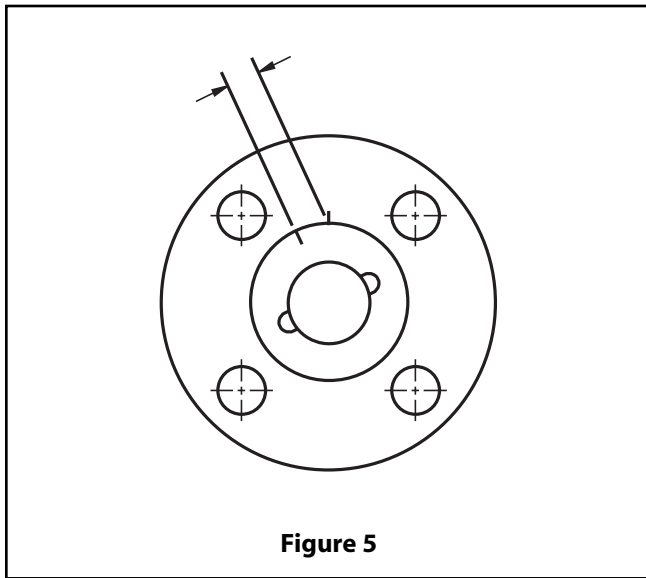


Figure 4

7. Using a spanner wrench, screw the insert (2) into the body until it is fully seated. Mark the position as shown in **(Figure 4)**. Counting the number of turns, remove the insert.
8. Insert the ball (3), rotating it onto the stem (4) in the closed position. If necessary, turn the stem blade to align with the ball slot.
9. Insert the second seat (5) so that the sealing surface of the seat is towards the ball **(see Figure 6)**.
10. Insert the body seal (6) and gently press it into the groove in the bod
11. Using a thread lubricant compatible with the media, screw the insert (2) into the body and tighten to 450 – 500 lb.-ft. (610 – 678 Nm). If a torque wrench is not available, tighten the insert the same number of turns as in Step 5 until the marks match the dimension shown in **(Figure 5)**.
12. Place the handle (17), lockwasher (19), and cap screw (18) on the valve stem and tighten securely. Cycle the valve slowly with a gentle back and forth motion to build gradually to the full quarter turn. A fast turning motion at this point may cut the seats before they have a chance to form the proper seal.



4 REPAIR KITS/SPARE PARTS

For further information on spare parts and service or assistance visit our web-site at www.jamesbury.com.

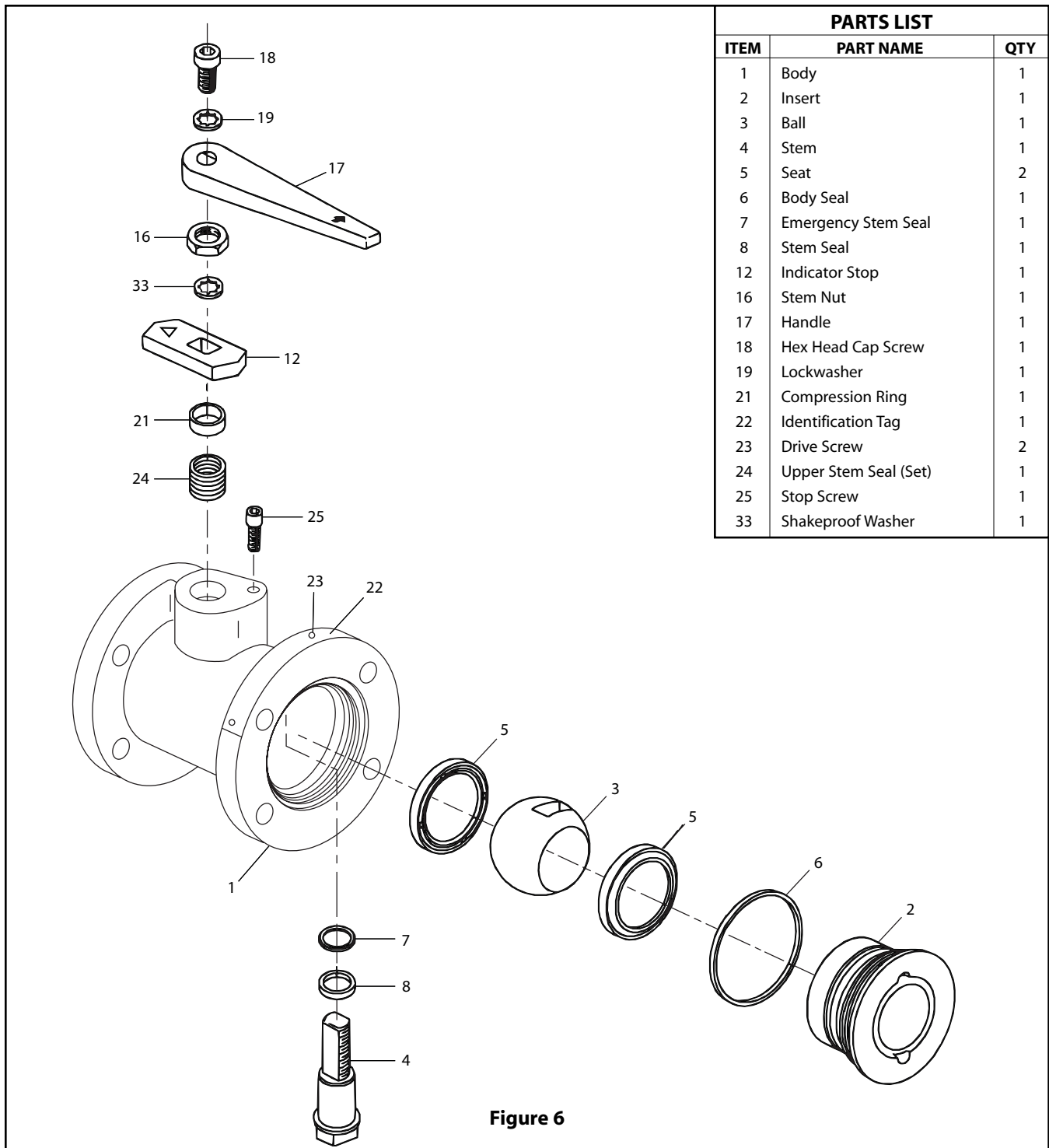


Figure 6

Metso Automation, Field Systems Division

Europe, Levytie 6, P.O. Box 310, 00811 Helsinki, Finland. Tel. int. +358 20 483 150. Fax int. +358 20 483 151

Europe (UK), 2 Lindenwood, Crockford Lane; Chineham Business Park, Chineham, Basingstoke, Hampshire RG24 8QY, UK. Tel. int. +44 (0)23 9223 8500. Fax int. +44 (0)23 9223 8510

North America • Corporate Offices, 44 Bearfoot Road, Northborough, MA, 01532 USA. Tel. int. +1 508 852 0200. Fax int. +1 508 852 8172

Operational Facilities, 44 Bowditch Drive, P.O. Box 8044, Shrewsbury, MA, 01545-8044 USA. Tel. int. +1 508 852 0200. Fax int. +1 508 852 8172

North America, 3100 Medlock Bridge Road, Suite 250, Norcross, GA 30071, USA. Tel. int. +1 770 446 7818. Fax int. +1 770 242 8386

Latin America, Av. Central, 181- Cháracas Reunidas, 12238-430, São Jose dos Campos. Tel. int. +55 12 335 3500. Fax int. +55 12 335 3535

Asia Pacific, 501 Orchard Road, #05-09 Wheelock Place, 238880 Singapore. Tel. int. +65 735 5200. Fax int. +65 735 2955

www.jamesbury.com

