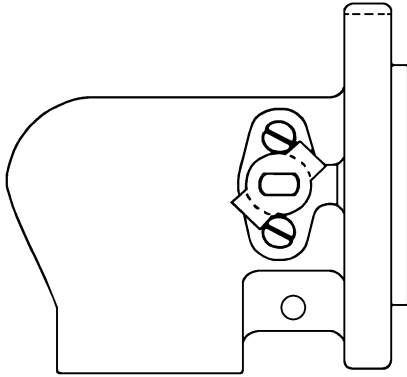


IMO - 80

Issue Date: 12/01



INSTALLATION, MAINTENANCE, AND OPERATING INSTRUCTIONS

2" (DN 50) AZFRA TANK CAR FIRE-TITE® ANGLE VALVE

Read entire instructions carefully before installation or servicing

1 GENERAL

This instruction manual contains important information regarding the installation, operation and troubleshooting for the Jamesbury 2" (DN 50) AZFRA Tank Car FIRE-TITE Angle Valve. 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. **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

Refer to the **MAINTENANCE** Section for stem packing adjustment.

If there is weepage past the stem seals upon installation, it means the valve may have been subject to wide temperature variations in shipment. Leak tight performance will be restored by a simple packing adjustment described in the **MAINTENANCE** Section.

Use standard piping practices when installing valves with threaded parts. When tightening the valve to the pipe, apply the wrench to the end nearest the pipe being worked.

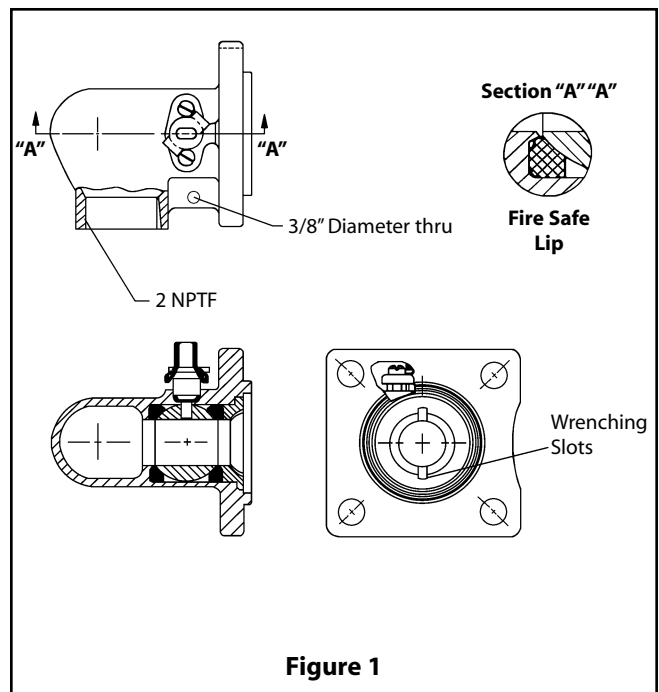


Figure 1

2.1 Disassembly

1. Read the instructions in the **WARNING** Section.
2. Place the valve in the open position.
3. Remove the stem nut (16), handle (15), retaining ring (14), indicator stop (12), cap screws (11), hex nuts (10), bonnet plate (9), and stem bearing (8).
4. Pull out the stem (4), emergency stem seal (13) and stem seal (7).
5. Place the valve in the vertical position with the flanged end up.
6. Unscrew and remove the threaded body insert (2).
7. Lift the body seal (17), seat (5), and ball (3) from the body.
8. Pry the bottom seat (5) out of the body cavity. Use care to prevent damage to the seat face and sealing surface of the body.

2.2 Assembly

A good lubricant compatible with the flow medium should be applied lightly to seats, seals, ball and stem to facilitate assembly and for ease of initial operation.

1. Slide the first valve seat (5) into the body (1) to below the stem opening and tilt it into place so that the bevel surface (**see Figure 2**) will be against the ball (3).
2. Place the ball (3) into the valve in the open position and adjust so that the slot faces the stem opening. Insert the stem (4) as a temporary means of holding the ball and turn the ball to the closed position.
3. Insert the second seat (5) into the body, again with the concave surface adjacent to the ball. Insert the body seal (17) into the machined sealing area of the body.
4. Apply a few drops of Loctite® #290 on the insert threads, then thread on the insert (2) and screw down by hand until tight. Then torque to 125 – 150 ft.-lb. (169 – 203 Nm) using a torque wrench.
5. Remove the stem, insert and stem seal (7) with the chamfer on the I.D. facing down. Place the emergency seal (13) on top of the stem seal. Lubricate the stem with a compatible lubricant and insert it. The stem should be tapped into place gently to avoid cutting the PTFE of the stem seal.
6. Drop the stem bearing (8) over the stem. Attach the bonnet plate (9) with the socket head cap screws (11) by dropping a bonnet screw (11) through each of the holes in the bonnet plate (9) and fitting the bonnet

over the stem. Replace the Jamesbury tag around one screw. Screw the check nuts (10) onto the bonnet screws 2/3 of the screws' length.

7. Tighten the bonnet screws (11) evenly until the heads contact the bonnet plate (9); then tighten another 3/4 of a turn. Tighten the bonnet check nuts (10) against the top of the bonnet area to prevent the cap screws from backing out.
8. Drop on the indicator stop (12) and secure it with the retaining ring (14).
9. Place the handle (15) on the valve stem and rotate the ball slowly with a gentle back and forth motion to build gradually to the full quarter turn. By rotating slowly, the seat lips will flow into place to maintain a permanent seal against the ball. A quick turning motion at this point may cut the seats before they have a chance to flow into place.
10. Secure handle to valve using a nut (16).

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.

Stem Packing Adjustment:

Routine maintenance consists of tightening the two bonnet screws (11) periodically to compensate for the wear caused by the stems turning against the resilient PTFE seats. Loosen the check nuts (10) and tighten the bonnet screws equally 1/2 turn. If weepage still occurs, tighten another 1/2 turn. Retighten the check nuts (10). Failure to retighten the check nuts may allow the bonnet screws to vibrate loose. The bonnet screws should not be tightened down too severely since this will destroy the seal by permanently deforming it.

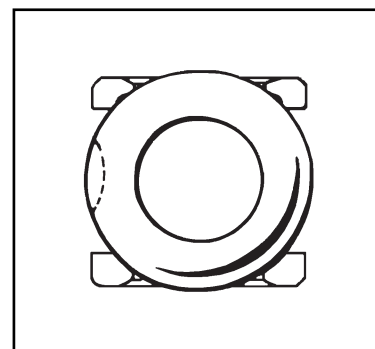
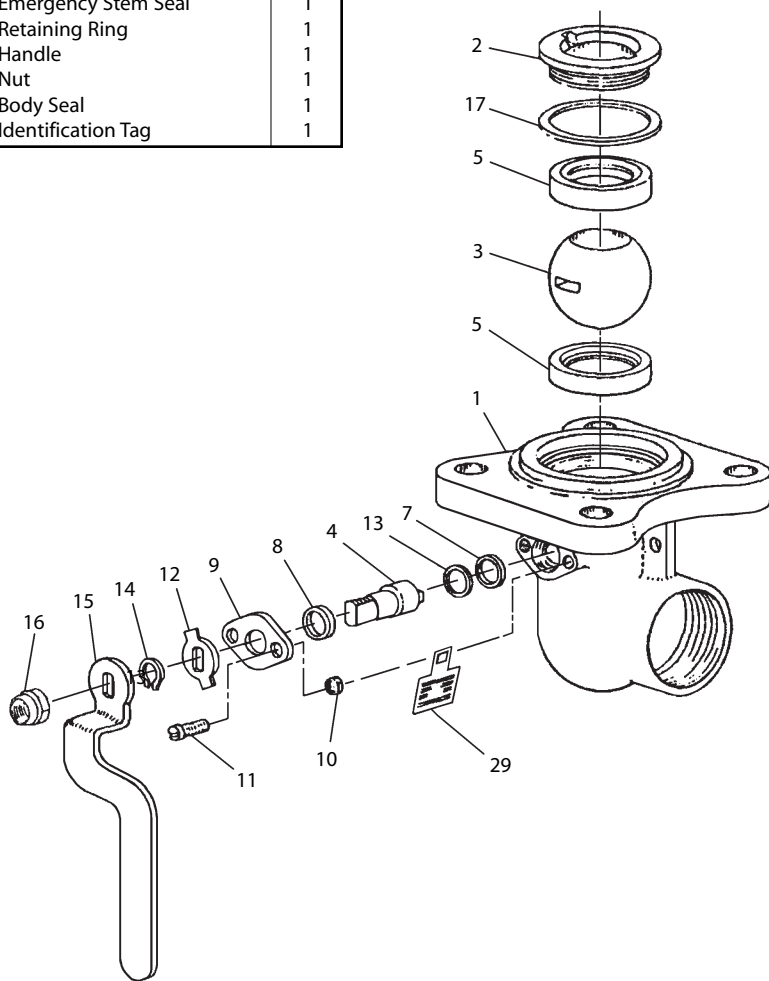
Overhaul maintenance consists of replacing seats and seals. A standard service kit consisting of these parts may be obtained by contacting Metso Automation.

TABLE 1	
Service Kit	
Valve	Kit Number
2" (DN 50) AZFRA	RKR-26-TT
	RKR-26-MT

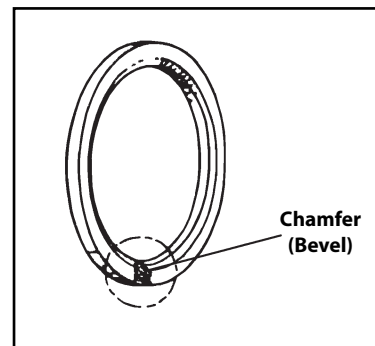
4 REPAIR KITS/SPARE PARTS

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

PARTS LIST		
ITEM	PART NAME	QTY
1	Body	1
2	Insert	1
3	Ball	1
4	Stem	1
5	Seat	2
7	Stem Seal	1
8	Stem Bearing	1
9	Bonnet Plate	1
10	Check Nut	2
11	Cap Screw	2
12	Indicator Stop	1
13	Emergency Stem Seal	1
14	Retaining Ring	1
15	Handle	1
16	Nut	1
17	Body Seal	1
29	Identification Tag	1



SEATS



STEM SEAL

Figure 2

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), 8 Pipers Wood Industrial Park, Waterlooville, Hampshire PO7 7XU UK. Tel. int. +44 (0)23 9223 8500. Fax int. +44 (0)23 9223 8510

North America, 44 Bowditch Drive, P.O.Box 8044, Shrewsbury, Massachusetts, 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

