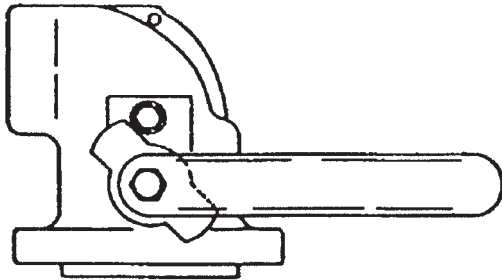


# IMO - R2

Issue Date: 2/03

## INSTALLATION, MAINTENANCE, AND OPERATING INSTRUCTIONS



# 2" (DN 50) 6RA3 FIRE TITE® TANK CAR TOP LOADING AND UNLOADING VALVE

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 2" (DN 50) 6RA3 Fire-Tite Tank Car Top Loading and Unloading Valve. Please read these instructions carefully and save them for further 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.

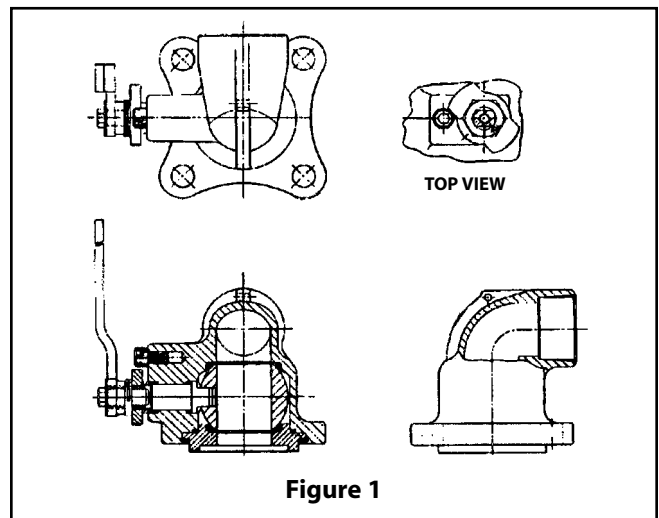
1. **WHAT'S IN THE TANK CAR?**  
BE SURE YOU KNOW WHAT FLUID IS IN THE CAR. IF THERE IS ANY DOUBT, DOUBLE CHECK WITH THE PROPER SUPERVISOR.
2. **ARE YOU PROTECTED?**  
WEAR ANY PROTECTIVE CLOTHING AND EQUIPMENT NORMALLY REQUIRED TO AVOID INJURY FROM THE PARTICULAR FLUID IN THE CAR.
3. **DO NOT REMOVE THE VALVE FROM A LOADED OR PRESSURIZED TANK CAR.**
4. TURN THE VALVE FROM FULLY CLOSED TO FULLY OPEN AND BACK AGAIN AT LEAST TWICE BEFORE REMOVAL FROM THE EMPTY TANK CAR IN ORDER TO RELIEVE ANY RESIDUAL PRESSURES.
5. AFTER REMOVAL AND BEFORE DISASSEMBLY, CYCLE THE VALVE AGAIN SEVERAL TIMES (AS IN NO. 4).

## 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. Tight sealing will be restored by a simple packing adjustment described in the **MAINTENANCE** Section.

Follow the recommended practices of the gasket manufacturer when tightening bolts holding the valve to the tank car.



### 3 DISASSEMBLY

**NOTE:** If complete disassembly becomes necessary, replacement of all seats and seals is recommended. Refer to the service kit chart on the next page.

1. Read the instructions in the **WARNING** Section.
2. Remove the valve from the car and cycle the valve several times again. Leave the ball in the closed position.
3. Remove the cap screw (18) and washer (17) holding the handle to the stem, and then remove the handle (13).
4. Remove the stem nut (15), and indicator stop (11).
5. Remove the compression ring (12).
6. Remove the spirolox ring (14) and the insert (2).

**NOTE:** To remove the spirolox ring, secure the valve in a vise (use only enough pressure to hold valve from falling out of vise) with the insert facing up, press down on the insert and, using a screwdriver, pry the ring from the groove (tang on end of ring will allow access for screwdriver) and unwind the ring until it is fully disengaged from the groove.

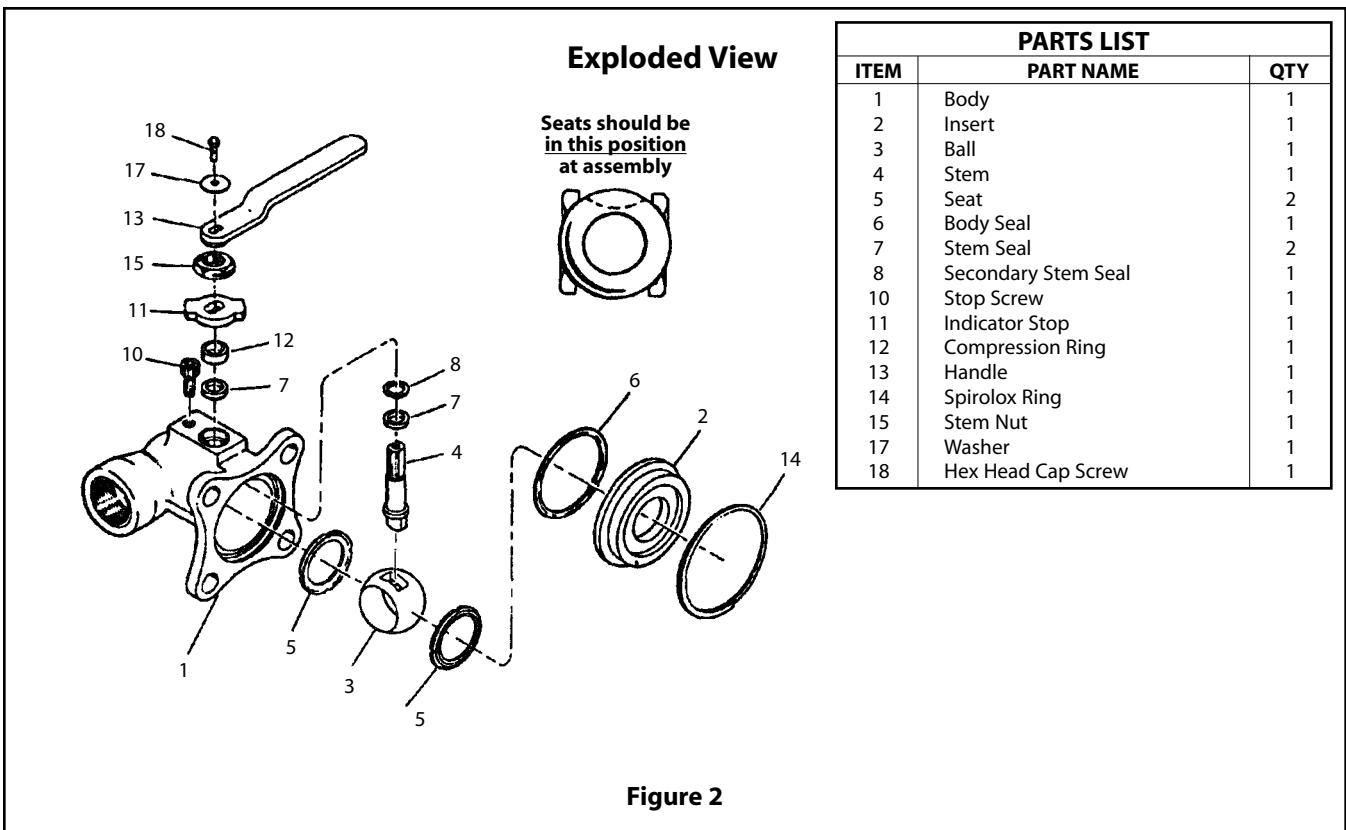
7. Remove the body seal (6) and insert seat (5), being careful not to scratch the ball or sealing surfaces.
8. If the ball (3) does not fall from the body, with the ball in the fully closed position, use a piece of soft pliable material to gently tap the ball (from the threaded end

of the valve). This should loosen the ball so that it can be pivoted free of the stem.

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 stem seal (7) and the secondary stem seal (8) BEING CAREFUL NOT TO SCRATCH ANY SEALING SURFACES IN THE BODY.
11. Remove the second seat (5).
12. Remove the top stem seal (7).

### 4 ASSEMBLY

1. Clamping the body (1) securely in a vise, drop in one seat (5) with the flat surface on the bottom (**see Figure 2**).
2. From the inside, insert secondary stem seal (8) first and then the lower stem seal (7). Insert the upper stem seal (7) from the outside of the valve.
3. Insert the stem (4) through the end of the body (1) and, being careful not to scratch the seals, press it gently up into the stem hole. DO NOT attempt to push the stem all the way up into place. Push it up only until you encounter resistance from the lower seal.
4. Drop on the compression ring (12), and the indicator stop (11) making sure that side marked "BOTTOM" is down.



5. Put on the stem nut and tighten down until the stem is fully seated, then tighten the nut an additional 1/8 to 1/4 turn.
6. 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.
7. Gently press the body seal (6) into the machined recess of the body (1).
8. Place the second seat (5) into the insert (2) so that the sealing surface of the seat is toward the ball (**see Figure 2**).
9. Place the insert (2) into the body and install the spirolox ring (14).
 

**NOTE:** To install the spirolox ring, compress the insert (2) until it bottoms in the body and hold it in that position (vise, press, clamp, etc., may be used to hold insert). Uncoil the ring by stretching it, and insert one end into the groove in the body using a screwdriver. Press the ring into the groove until the ring is fully engaged. Release compression on the insert and the ring will hold it in place.
10. Install the handle (13), securing it with the cap screw (18) and washer (17).
11. Compare the handle orientation against that shown in Figs. 2 and 3. If orientation does not correspond to these illustrations, reposition the handle (13) and/or indicator stop (11) as required.
12. Cycle the valve slowly twice to insure permanent positioning of the ball between the two seats.

## 5 MAINTENANCE

Periodically observe the valve to be sure of proper performance. More frequent observation is recommended under extreme operating conditions.

Routine maintenance consists of tightening the stem nut 1/4 turn periodically to compensate for the wear caused by the stem turning against the resilient PTFE seal.

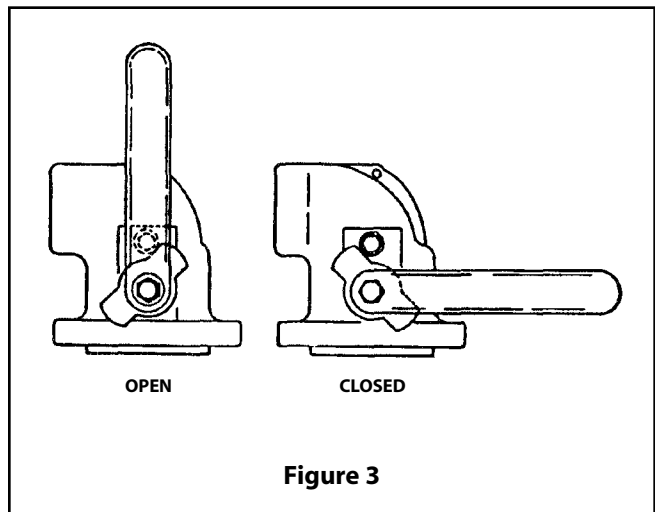
## 6 SERVICE KIT

**SERVICE KITS:** RKN 79TT OR RKN 79MT. The service kit for this valve contains one pair of seats, a body seal, two stem seals, a secondary stem seal, and maintenance instructions. Service Kit designations are RKN 79TT or RKN 79MT.

**NOTE:** TT = PTFE seats and seals.  
MT = Filled PTFE seats and seals.

## 7 REPAIR KITS/SPARE PARTS

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



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