



JORDAN VALVE

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I & M Mark 40/46

Supplement to Mark 70 & Mark 711 I&M

Installation & Maintenance Instructions for Mark 40/46 Float/Lever Control Valves

Warning: Jordan Valve products must only be used, installed and repaired in accordance with these Installation & Maintenance Instructions. Observe all applicable public and company codes and regulations. In the event of leakage or other malfunction, call a qualified service person; continued operation may cause system failure or a general hazard. Before servicing any valve, disconnect, shut off, or bypass all pressurized fluid. Before disassembling a valve, be sure to release all spring tension.

Please read these instructions carefully!

Your Jordan Valve product will provide you with long, trouble-free service if it is correctly installed and maintained. Spending a few minutes now reading these instructions can save hours of trouble and downtime later. When making repairs, use only genuine Jordan Valve parts, available for immediate shipment from the factory.

1/4" through 2" Sizes

To be used with the Mark 70 I&M

The Mark 40 Float Valve and the Mark 46 Lever Valve are of the same construction with the exception of the actuator. The Mark 40 is supplied with a float actuator; the Mark 46 is supplied with a lever, with a series of drilled holes, for attachment to a customer supplied actuator.

Installation

Follow the installation procedure and cautions outlined in the Mark 70 I&M with the following additional comments:

Make the installation of the valve so that the float (*or lever*) is properly positioned relative to the tank (*or actuator*). Note that the actuator assembly can be positioned in any direction on the valve body by loosening the yoke screw (19) and rotating the actuator to the desired position. If, however, the actuator is to be rotated more than 90 degrees, the spring pin (21) should be removed from the stem clevis (22) and the lever (24) removed from the slot in the stem clevis. This will allow the actuator to rotate without rotating the clevis pin on the stem (10), which changes the seat adjustment. After the actuator is in the proper position, check that the yoke (18) is properly seated on the body (1) and tighten the yoke screw. Engage the lever in the stem clevis slot and replace the spring pin.

The float (34) can be adjusted up or down by loosening the nut (25) and adjusting the float to the desired position.

Start Up

Follow the start-up procedure outlined in the Mark 70 I&M.

Maintenance

Follow the maintenance procedures and cautions in the Mark 70 I&M for valve seat disassembly and reassembly.

Replace Stem & Disc Pin

1. Remove the valve seat per instructions in Mark 70 I&M "Valve Seats" section.
2. Loosen the yoke screw (19) and rotate the actuator assembly counter-clockwise until the stem clevis (22) screws off the stem (10). Remove the actuator assembly.
3. Loosen the lock nut (9). Rotate the disc pin (8) counter-clockwise while pulling the stem (10) up. Do not remove the stem; lift it only enough to remove the disc pin.
4. Reassemble in reverse order and adjust seats per instructions in "Seat Adjustment" section.

Replace Packing

1. Remove the valve from the line and remove the valve seat per instruction in Mark 70 I&M "Valve Seats" section.
2. Loosen the yoke screw (19) and rotate the actuator assembly counter-clockwise until the stem clevis (22) screws off the stem (10). Remove the actuator assembly.
3. Remove the two nuts (17) and lift off the packing flange (15) and packing follower (14).
4. Loosen the locknut (9) and rotate the stem (10) counter-clockwise to screw it out of the disc pin (8). Remove the locknut from the stem and pull the stem out of the body.
5. Remove the packing (13), packing retainer (12), and packing spring (11).
6. Clean all parts, including the packing bore, thoroughly with solvent.
7. Reassemble in reverse order and adjust seats per instruction in "Seat Adjustment" section.

PROTECT VALVES WITH LINE STRAINERS

Seat Adjustment

1. Remove the valve from the line.
2. For Float Rises to Open Valve: Lift the end of the lever (24) until it stops against the spring pin (21). For Float Drops to Open Valve: push the end of the lever (24) down until it stops against the travel bushing (23).
3. With the lever in the position of 2A or 2B the seats should be full open, and the orifices should be in perfect alignment.
4. If the seats are not in perfect alignment, remove the spring pin (21) from the stem clevis (22) and remove the lever (24) from the slot in the stem clevis. Rotate the stem clevis in 180° increments, checking alignment each 180°, until proper alignment is attained.
5. Reassemble actuator. Recheck seat alignment and replace valve in the line.

Changing Valve Action

Follow the procedure outlined in the Mark 70 I&M sheet.

Troubleshooting

Leakage or insufficient flow:

- Valve seats may be out of adjustment. Check and readjust if necessary.
- Foreign material may be on seats. Clean the seats.

Float will not rise or drop:

- Binding of seats, stem or linkage. Clean parts that are binding.
- Excessive pressure drop: reduce pressure with pressure regulating valve (available from Jordan Valve) or use longer level and/or larger float.

2-1/2" through 6" Sizes To be used with the Mark 711 I&M

The Mark 40 Float Valve and the Mark 46 Lever Valve are of the same construction with the exception of the actuator. The Mark 40 is supplied with a float actuator; the Mark 46 is supplied with a lever for attachment to a customer supplied actuator.

Installation

Follow the installation procedure and cautions outlined in the Mark 711 I&M with the following additional comments:

Make the installation of the valve so that the float (or lever) is properly positioned relative to the tank (or actuator). Note that the actuator assembly can be positioned

in any direction on the valve body, in 60° increments, by removing the yoke bolts (23), and loosening the locknut (28) and rotating the actuator assembly to the desired position. If, however, the actuator is to be rotated more than 60°, remove the spring pin (26) from the stem clevis (27) and remove the lever (31) from the slot in the stem clevis. This will allow the actuator to rotate without rotating the stem clevis on the stem (15), which changes the seat adjustment. After the actuator is in the proper position, engage the lever in the stem clevis and replace the spring pin. Replace the yoke bolts and tighten the lock nut.

The float (38) can be adjusted up or down by loosening the screw in the pipe clamp (35) and adjusting the float to the desired position.

Maintenance

Follow the maintenance procedures and cautions in the Mark 711 I&M for valve seat disassembly and reassembly.

Replacing Packing or Replacing Stem and Disc Pin

1. Remove the valve seat from the line. See cautions in Mark 711 I&M before removing the valve from the line.
2. Remove the yoke bolts (23), remove the spring pin (26) from the stem clevis (27), and lift the actuator assembly off of the valve body. Remove the stem clevis (27) and locknut from the stem (15).
3. Remove the seats following instructions and cautions in the Mark 711 I&M "Valve Seat" section.
4. Remove the two nuts (22), the packing flange (20), and the packing follower (19).
5. Loosen the locknut (14) and unscrew the disc pin (13) from the stem (15). Carefully remove the stem.
6. Remove the packing (18), packing retainer (17), and packing spring (16).
7. Clean all parts, including the packing bore, with solvent.
8. Reassemble using new packing set and/or new stem and/or disc pin in reverse order.
9. Adjust seats per "Seat Adjustment" section below.

Seat Adjustment

1. Remove the valve from the line. See cautions in Mark 711 I&M before removing the valve from the line.
2. The float arm (37) may be removed from the lever by loosening the screw in the pipe clamp (35) to facilitate maintenance. The lever (31) must remain assembled to the valve.
3. **For Float Rises to Open Valve:** raise one end of the lever (31) until it stops against the adjusting screw (29). **For Float Drops to Open Valve:** lower the end of the lever (31) until it stops against the spring pin.
4. With the lever in the proper position of 3A or 3B,

the seats should be full open; the orifices should be in perfect alignment.

5. If the seats are not properly aligned, remove the spring pin (26) from the stem clevis (27), and remove the lever (31) from the slot in the stem clevis, and loose locknut (14). Rotate the stem clevis in 180° increments, checking alignment after each 180°, until proper alignment is attained.
6. After proper alignment has been obtained, reassemble the actuator assembly and recheck the seat alignment. Replace the float and replace the valve in the line.

Valve Size	Cast Iron Ductile Iron Bronze	Carbon Steel Stainless Steel
1/4" & 3/8"	70 in.-lbs.	150 in.-lbs.
1/2" & 3/4"	110 in.-lbs.	150 in.-lbs.
1" & 1-1/4"	120 in.-lbs.	150 in.-lbs.
1-1/2" & 2"	140 in.-lbs.	150 in.-lbs.
2-1/2" thru 6"	1080 in.-lbs.	1080 in.-lbs.

Changing the Valve Action

The action of a sliding gate valve can be changed from direct to reverse, or vice-versa, by rotating the disc, plate and cap 180°. Check valve stroke and orifice alignment and readjust, if required, as shown under *Valve Stroke Adjustment*.

Troubleshooting

Excessive leakage or insufficient flow:

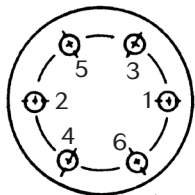
- Valve seats may be out of adjustment. Check and readjust if necessary.
- Foreign material may be on seats. Clean the seats.

Float will not rise or drop:

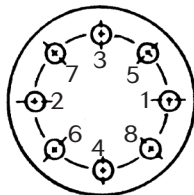
- Binding of seats, stem or linkage. Clean parts that are binding.
- Excessive pressure drop: reduce pressure with pressure regulating valve (available from Jordan Valve) or use longer level and/or larger float.

Torque Values

Torque bolts connecting valve cap to valve body to the values shown in the sequence for your bolt pattern.

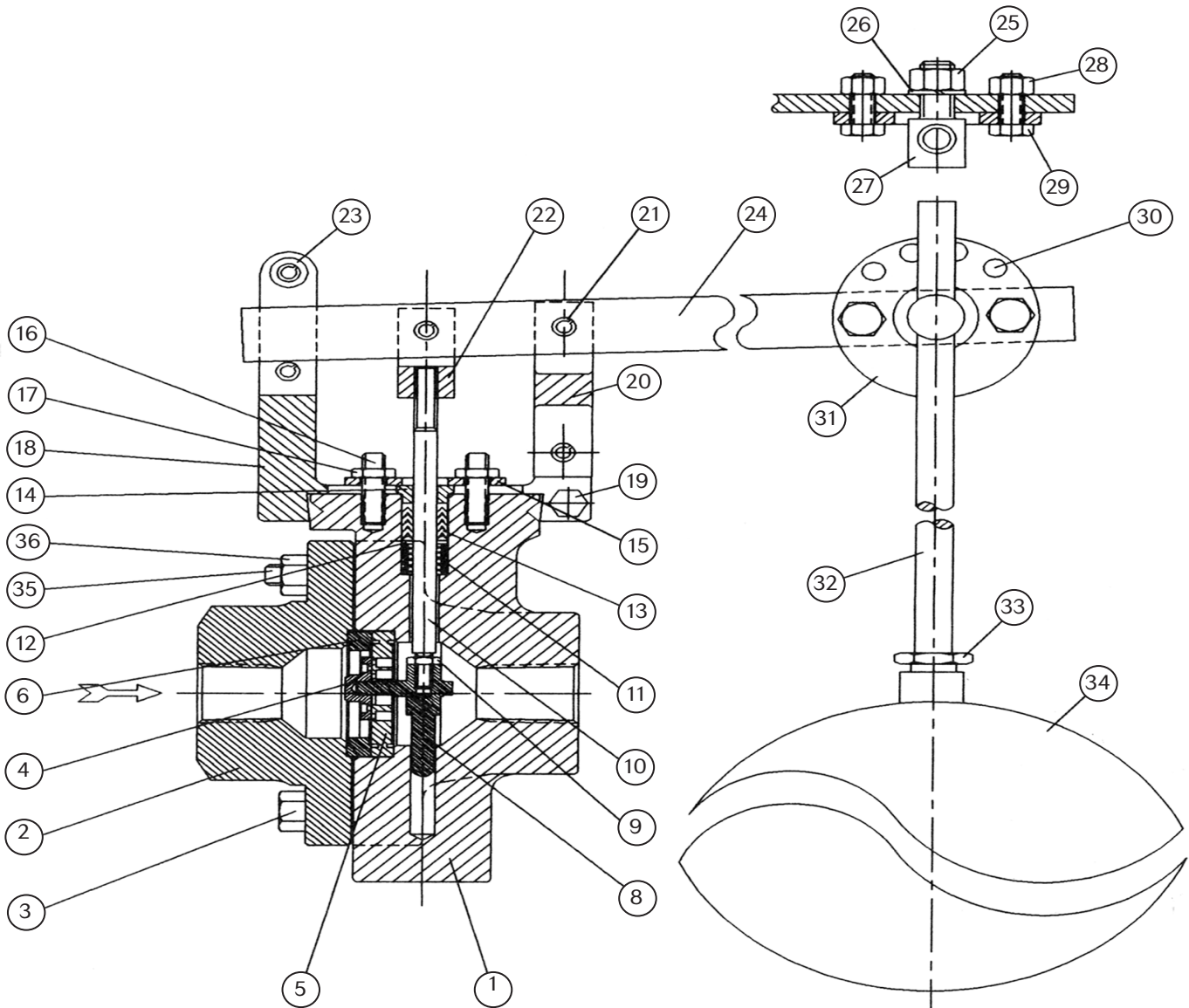


6 bolts
(or multiples)



8 bolts
(or multiples)

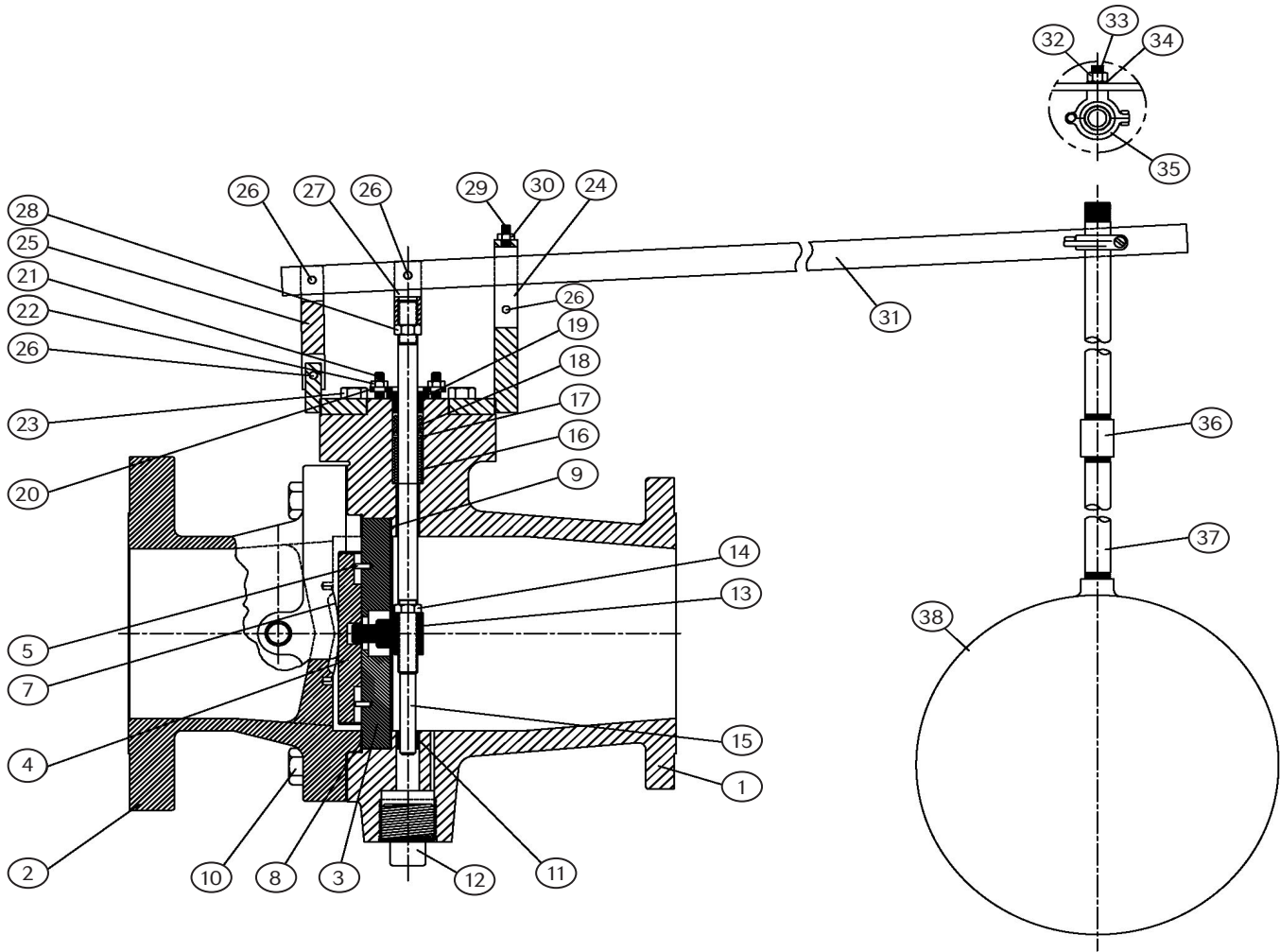
**Illustration and Parts List 1/4" - 2" Sizes
To Be Used with the Mark 70 I&M**



Item	Description	Qty.	Item	Description	Qty.	Item	Description	Qty.
1	Body	1	*13	Packing	1	24	Lever	1
2	Cap	1	14	Packing Follower	1	25	Nut	1
3	Body Bolt		15	Packing Flange	1	26	Lockwasher	1
*4	Disc	1	16	Stud	2	27	Float Arm Pin	1
*5	Plate	1	17	Nut	2	28	Nut	2
*6	Disc Guide	1	18	Yoke	1	29	Bolt	2
*8	Disc Pin	1	19	Yoke Screw	1	30	Drive Screw	4
9	Locknut	1	20	Lever Link	1	31	Washer	1
10	Stem	1	21	Spring Pin	5	32	Float Arm	1
11	Packing Spring	1	22	Stem Clevis	1	33	Bushing	1
12	Packing Retainer	1	23	Travel Bushing	1	34	Float	1
*	Recommended Spare Parts							

Note: Items 25 through 34 are not included on the Mark 46 Lever Valve.

**Illustration and Parts List 2-1/2" - 6" Sizes
To Be Used with the Mark 711 I&M**



Item	Description	Qty.	Item	Description	Qty.	Item	Description	Qty.
1	Body	1	*14	Locknut	1	27	Stem Clevis	1
2	Cap	1	*15	Stem	1	28	Locknut	1
*3	Plate	1	16	Packing Spring	1	29	Adjusting Screw	1
*4	Disc	1	17	Packing Retainer	1	30	Locknut	1
*5	Disc Guide	2	*18	Packing Set	1	31	Lever	1
-	Index Pin (not shown)	2	19	Packing Follower	1	32	Nut	2
7	Disc Spring	1	20	Packing Flange	1	33	Threaded Rod	1
*8	Cap Gasket	1	21	Stud	2	34	Lockwasher	1
*9	Body Gasket	1	22	Nut	2	35	Pipe Clamp	1
10	Body Bolt	8	23	Yoke Bolt	6	36	Pipe Coupling	1
11	Stem Guide	1	24	Yoke	1	37	Float Arm	2
12	Pipe Plug	1	25	Guide Arm	1	38	Float	1
*13	Disc Pin	1	26	Spring Pin	4	*	Recommended Spare Parts	