

Manual Gear Actuators

Installation, Maintenance and
Operating Instructions



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READ THESE INSTRUCTIONS FIRST!

This instruction manual contains important information regarding the installation, operation, and troubleshooting of Manual Gear Actuators. Please read these instructions carefully and save them for future reference.

SAVE THESE INSTRUCTIONS!

1 GENERAL

This instruction manual contains important information regarding the installation, operation and troubleshooting of the Jamesbury® Manual Gear Actuators. Please read these instructions carefully and save them for future reference.

1.1 WARNING

BEFORE INSTALLING A VALVE EQUIPPED WITH A MANUAL GEAR ACTUATOR, BE SURE THAT THE INDICATOR POINTER ON TOP OF THE ACTUATOR IS CORRECTLY INDICATING THE VALVE'S POSITION. FAILURE TO ASSEMBLE THESE PRODUCTS TO INDICATE CORRECT VALVE POSITION COULD RESULT IN PERSONAL INJURY.

1.2 Caution

When servicing the valve actuator assembly, remove the entire assembly from service.

2 INSTALLATION

Mount these actuators to the valve by following the actuator mounting instructions that are supplied with Wafer-Sphere® butterfly valves, with ball valves and with linkages.

2.1 Adjustment of Actuator Stops

After installation of the manual gear actuator on the valve, it is then necessary to adjust the actuator stops for the proper full-open and full-close valve position (see **Figure 1**).

To adjust either stop screw, the protective plastic cap must be removed and the locknut must first be loosened. Turning either screw in reduces valve travel. Turning either screw out increases valve travel.

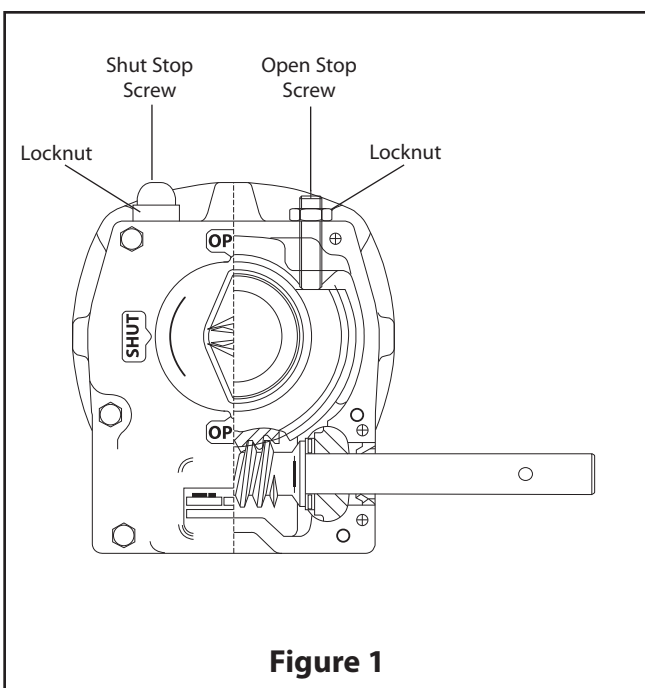


Figure 1

Back off the screw, if necessary, turn the valve to the correct open or closed position as described in the information listed above, then turn the stop screw until it contacts the gear segment. While holding the screw to prevent it from turning, tighten the locknut.

Fully cycle the actuator and valve in both directions by turning the handwheel. Check that the proper open and closed positions are achieved and that the indicator pointer is indicating correctly, i.e., closed when the valve is closed. Rework and readjust as needed.

3 OPTIONS

3.1 Padlock Flange Option

The padlock flange option for M-Series gear actuators allows for manual lockout of the actuator at 10° intervals.

Assembly

1. Cycle actuator to fully closed position (turning CCW) so that handwheel pinhole is as shown in **(Figure 2a)**. Remove handwheel from gear shaft (if necessary) by removing spring pin.
2. Remove 2 cover bolts closest to gear shaft.
3. Place bracket onto valve shaft. Insert washer between bracket and actuator cover bolt hole **(Figure 2a)** and insert fasteners removed in step 2. Center actuator shaft and hole in bracket and tighten bolts.
4. Insert padlock flange on shaft and shim 0.030" off bracket face **(Figure 2b)**. Line up hole in padlock flange with hole in input shaft.
5. Drill through padlock flange and shaft using blind hole in padlock flange as a guide. Use drill sizes as specified in **(Table 2)**.
6. Pin padlock flange to shaft.

TABLE 1

Kit Number	Actuator
LK-1906	M5/Q
LK-1906	M7/Q
LK-1907	M10/Q
LK-1908	M12/Q
LK-1909	M14/Q
LK-1910	M15/Q
LK-1911	M16/Q

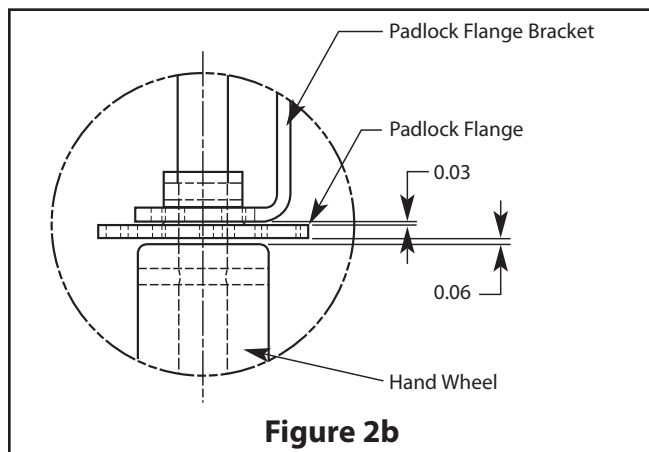
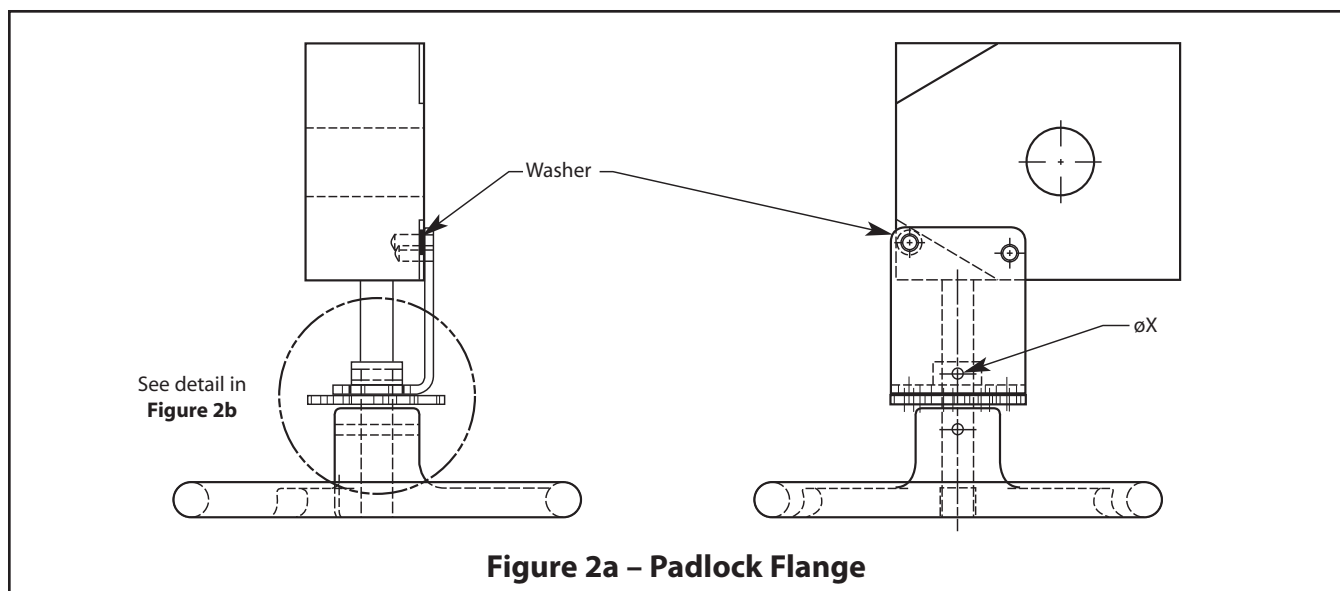


TABLE 2

Actuator	Padlock Flange Bracket	Padlock Flange	Pin	Flat Washer	øX (mm)
M5/M7	029-1331-30	092-1430-30	010-0503-22	041-0090-22 24	4.00/4.12
M10	029-1332-30	092-1431-30	010-0504-22	041-0090-22 24	5.00/5.12
M12	029-1333-30	092-1432-30	010-0505-22	041-0090-22 24	6.00/6.12
M14	029-1334-30	092-1433-30	010-0505-22	041-0097-22 24	6.00/6.12
M15	029-1335-30	092-1434-30	010-0506-22	041-0140-22 24	8.00/8.15
M16	029-1336-30	092-1434-30	010-0506-22	041-0140-22 24	8.00/8.15

4 MAINTENANCE

Jamesbury manual gear actuators are permanently lubricated at the factory. Under normal circumstances no further lubrication is needed. In the event additional lubrication is desired use a good brand, #2 consistency, extreme pressure gear grease. Be sure to remove any foreign matter or moisture that may have entered during disassembly from the cavity before relubricating. Use a liquid gasket between the housing and cover if a separate fiber gasket was not present.

5 REPAIR KITS/SPARE PARTS

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

Subject to change without prior notice.

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