

Traveling Nut Actuator: Models B, C & D

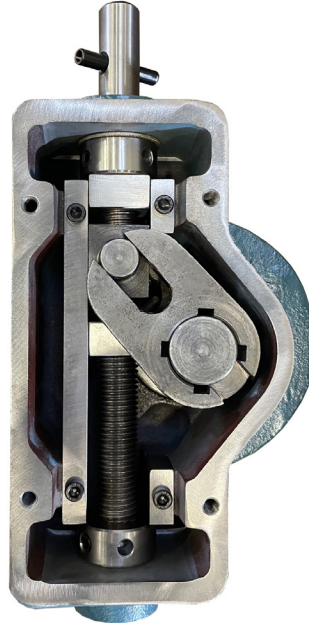


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TNA Series Traveling Nut Actuator: Installation, Operation & Maintenance Manual

INTRODUCTION

The TNA Series Traveling Nut Actuator is the standard manual operator on all K-Flo 500 Series Butterfly Valves. Manufactured to exceed AWWA C504 specifications, the TNA offers rugged construction and clear design benefits, including the variable torque curve generated through the operation stroke. Differing from a worm gear's constant torque production, the TNA Series allows the valve to open and close at slower speeds, reducing the potential for line surge from faster valve operation.

The TNA Series also features four standard 90-degree key locations to choose from when connecting the actuator to the valve. This provides orientation flexibility should the need arise to re-position the actuator because of space confinements. Fully grease packed, the TNA Series is available in both Above-Ground (with integral position indicator) and Buried Service configurations. In addition, with the exception of the TNA D24, all mounting bolts are exterior to the gear box, ensuring ease of gear replacement in the field.

All TNA Actuators comply with AWWA C504's latest revisions. Do not exceed the maximum allowable input torque.

INSTALLATION

All TNA Actuators are factory installed at Crispin Valve and painted according to order specifications. Ensure that the TNA Actuator is correctly configured for the application: buried, submerged or exposed surface. Check rotation prior to installation.

STORAGE RECOMMENDATIONS

All valves with Traveling Nut Actuators should be inspected at time of delivery for shipping damage and to confirm compliance with specifications. Whenever possible, the valves and all appurtenances should be protected from the weather. Water and debris should not collect in the valve. Please note that these instructions are guidelines for use by experienced piping and mechanical personnel.

Valves and Actuators should be stored in a clean, dry, cool location. Valves and Actuators should not be exposed to sunlight to prevent damage to the coatings. Good housekeeping practices shall be followed, and valves should be kept away from dirt, chemicals, and any structure or other equipment that may cause damage. Lubricate flanges to prevent rust/corrosion build up. Valves should always have external apparatus protection.

SERVICE

Parts and service are available from your local representative or distributor. Make note of the valve size, operating pressure and model number located on the valve tag. General arrangement drawings with part numbers are available from the factory upon request.

Service Contact: Crispin Valve Sales Department
600 Fowler Avenue, Berwick, PA 18603
570-752-4524
sales@crispinvalve.com
www.crispinvalve.com



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MAINTENANCE: TNA STOP ADJUSTMENT

1. See Figure 1: Begin by removing the cover and clearing away some of the grease, exposing the inner and outer guide bars for disassembly.
2. See Figure 2: Remove the inner and outer guide bars. For the TNA-D (valves 14" through 20"), the valve has to be fully opened to remove the outer guide.
3. Once both guides have been removed, the open and close stops can be rotated to adjust the opening and closing position of the valve. If the stops are against the collars, one may need a hammer and punch to loosen the stops.
4. Figure 3 illustrates the loosening of the closed stop and stop adjustment. By rotating the closed stop counterclockwise, the nut will move closer to the center of the gearbox which will allow more movement of the disc clockwise (deeper into the closed position).
5. If the disc is traveling too far into the seat, rotate the 2" nut or handwheel counterclockwise to create a gap between the closed stop and the collar. Then rotate the closed stop clockwise until it is up against the collar.
6. Once the stops have been set, install the inner and outer guides and replace any grease that may have been removed. The gearbox should be about 95% full of grease. The grease used at the factory is EXXON Unirex EP 2 Premium or equal. Consult the factory for NSF Certified Grease.
7. After filling the gearbox with grease, install the cover. If a position indicator is present, align the internal tab with the slot in the yoke so that as the valve is opened and closed, the position indicator turns with the yoke. Cycle the valve to insure indication is accurate to the disc position.

FIGURE 1: ACTUATOR WITHOUT COVER
 OUTER GUIDE OPEN STOP CLOSE STOP

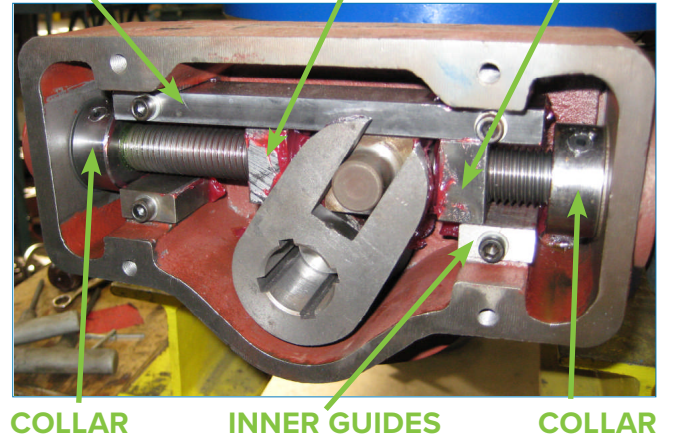


FIGURE 2: REMOVAL OF GUIDES

REMOVAL OF INNER GUIDES

REMOVAL OF OUTER GUIDE

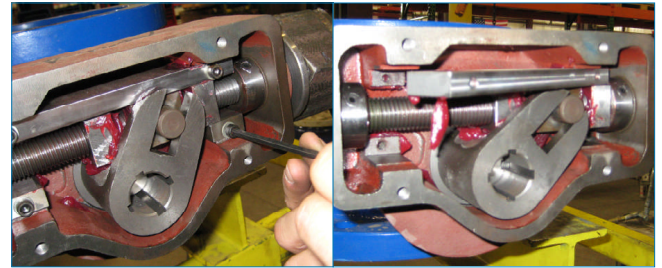
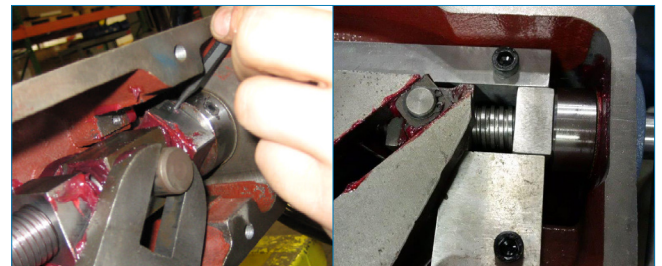


FIGURE 3: STOP ADJUSTMENT

LOOSENING OF THE CLOSED STOP

STOP ADJUSTMENT

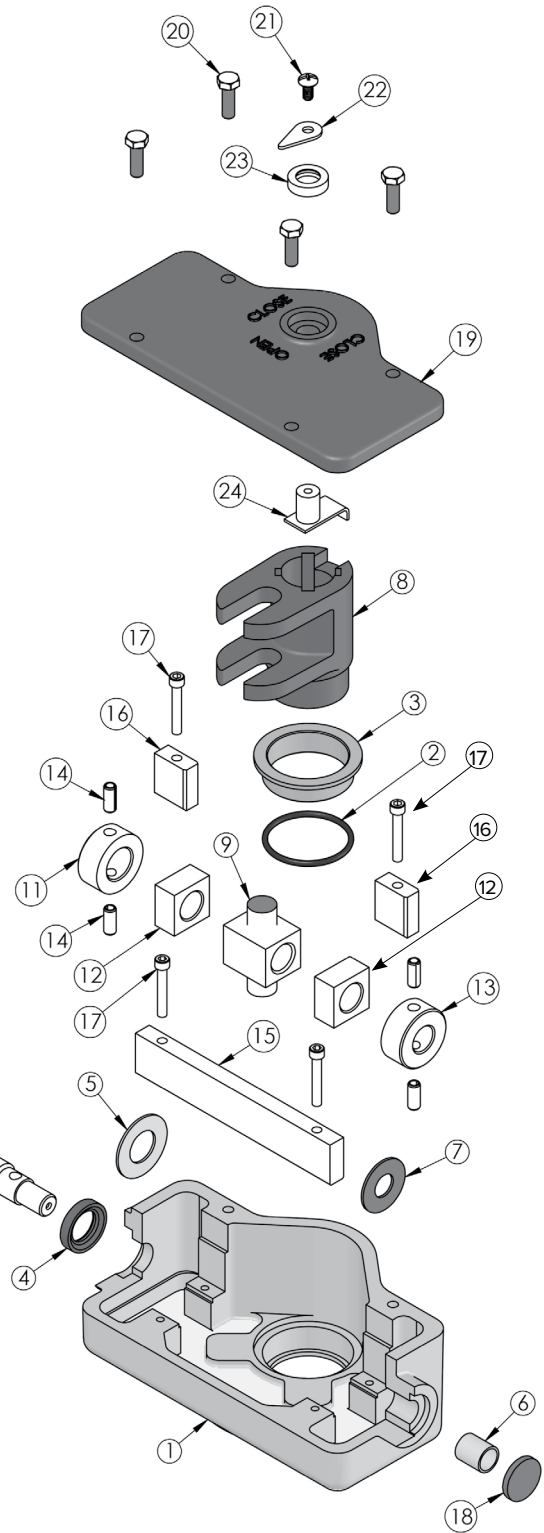


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Parts List	
ITEM	DESCRIPTION
1	HOUSING
2	BEARING O-RING
3	YOKE BEARING
4	SHAFT OIL SEAL
5	INPUT THRUST WASHER
6	SHAFT BEARING
7	IDLER THRUST WASHER
8	YOKE
9	CROSSHEAD
10	SHAFT
11	INPUT COLLAR
12	STOP NUT
13	IDLER COLLAR
14	SPRING PIN
15	OUTER GUIDE
16	INNER GUIDE BLOCK
17	GUIDE BOLTS
18	TUCK PLATE
19	COVER
20	COVER BOLTS
21	POINTER SCREW
22	INDICATOR POINTER
23	POINTER OIL SEAL
24	POINTER DRIVER

Please note that this drawing is for an above ground installation. For buried service applications, parts 21, 22, 23 and 24 are not included.



TNA-D CROSSHEAD ASSEMBLY	
ITEM	DESCRIPTION
1	CROSSHEAD
2	SLIDER
3	RETAINING RING



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