DeZURIK | APCO | WILLAMETTE

DeZURIK ENK NECK EXTENSION

FOR G-SERIES ACTUATORS ON PTW & PFW TAPERED PLUG VALVES

Instruction D10242
June 2011

Instructions

These instructions provide information about ENK Neck Extensions. They are for use by personnel who are responsible for installation, operation and maintenance of ENK Neck Extensions.

Safety Messages

All safety messages in the instructions are flagged with an exclamation symbol and the word Caution, Warning or Danger. These messages indicate procedures that must be followed exactly to avoid equipment damage, personal injury or death. Safety label(s) on the product indicate hazards that can cause equipment damage, personal injury or death. If a safety label becomes difficult to see or read, or if a label has been removed, please contact DeZURIK for replacement label(s).

WARNING!

Personnel involved in the installation or maintenance of valves should be constantly alert to potential emission of pipeline material and take appropriate safety precautions. Always wear suitable protection when dealing with hazardous pipeline materials. Handle valves that have been removed from service with the assumption of pipeline material within the valve.

Inspection

Your ENK Neck Extension has been packaged to provide protection during shipment; however, it can be damaged in transport. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.

Parts

Recommended spare parts are listed on the assembly drawing. These parts should be stocked to minimize downtime.

Order parts from your local DeZURIK sales representative, or directly from DeZURIK. When ordering parts, please include the 7-digit part number and 4-digit revision number (example: **9999999R000**) located on the data plate attached to the valve assembly. Also include the part name, the assembly drawing number, the balloon number and the quantity stated on the assembly drawing.

DeZURIK Service

DeZURIK service personnel are available to install, maintain and repair all DeZURIK products. DeZURIK also offers customized training programs and consultation services.

For more information, contact your local DeZURIK sales representative or visit our website at www.dezurik.com.

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Description

The ENK Neck Extension is located between the valve and the valve actuator, and is used to extend the distance from the valve to the actuator. The extension consists of a stationary outer extension and a rotating inner extension. The outer extension mounts the actuator to the valve; the inner extension is a drive shaft to transmit the torque from the actuator to the valve. This document provides instructions for the extension used with a G-Series Actuator on PTW & PFW Tapered Plug valves.

Disassembly

Before disassembly, relieve the pressure and stop the flow in the pipeline.

WARNING!

Relieve the pressure and stop the flow in the pipeline. Pressure and/or flow with the extension or actuator removed can cause the valve to slam closed, and can cause water hammer damage to the valve and other pipeline equipment.

To remove the extension from the valve

1. Scribe a line on the outer extension flange and actuator adaptor to use for alignment during actuator installation.

   If your valve has only one handwheel or a cylinder to operate the valve, go to step 2.

   If your valve has two handwheels, one on top of the gear unit and one on the side of the gear unit, go to Step 6.
2. Unscrew the nut from the top of the wrenching square.
3. Take out the four socket head screws and remove the wrenching square.
4. Note the position of the pointer, then remove the two socket head screws and slide the pointer off the actuator.
5. Unscrew the plug adjusting nut from the stud and slide the bearing washer off the stud. GO TO STEP 12.
6. Turn the handwheel on top of the actuator fully clockwise.
7. Loosen the setscrew in the nut on top of the handwheel.
8. Remove the nut, and then slide the handwheel off the sleeve. Do not lose the woodruff key.
9. Note the position of the pointer, then remove the screws fastening the pointer in place and lift the pointer off the actuator.
10. Unscrew the sleeve from the plug stud.

    Note: This is a left-hand thread.
11. Lift the flat bearing washer from the actuator.
12. Remove the screws fastening the gear assembly to the extension flange, and then carefully lift the complete gear assembly off the extension.

    Note: **DO NOT TURN THE HANDWHEEL!**

Disassembly *(continued)*

To remove the actuator from the extension

Before disassembly, relieve the pressure and stop the flow in the pipeline.

WARNING!

Relieve the pressure and stop the flow in the pipeline. Pressure and/or flow with the extension or actuator removed can cause the valve to slam closed, and can cause water hammer damage to the valve and other pipeline equipment.

1. Scribe a line on the valve bonnet and outer extension pipe to use for alignment during extension reassembly.

   If your valve has only one handwheel or a cylinder to operate the valve, go to step 2.

   If your valve has two handwheels, one on top of the gear unit and one on the side of the gear unit, go to Step 6.
2. Unscrew the nut from the top of the wrenching square.
3. Take out the four socket head screws and remove the wrenching square.
4. Note the position of the pointer, then remove the two socket head screws and slide the pointer off the actuator.
5. Unscrew the plug adjusting nut from the stud and slide the bearing washer off the stud. GO TO STEP 12.
6. Turn the handwheel on top of the actuator fully clockwise.
7. Loosen the setscrew in the nut on top of the handwheel.
8. Remove the nut, and then slide the handwheel off the sleeve. Do not lose the woodruff key.
9. Note the position of the pointer, then remove the screws fastening the pointer in place and lift the pointer off the actuator.

   Note: Unscrew the sleeve from the plug stud.
10. This is a left-hand thread.
11. Lift the flat bearing washer from the actuator.
12. Remove the screws mounting the extension flange to the valve, and then carefully lift the outer extension housing complete with the actuator from the valve.

    Note: **DO NOT TURN THE HANDWHEEL!**
13. Drive out the pin holding the inner extension assembly to the valve plug.
14. Remove the extension shaft from the valve.

Reassembly

To replace the extension on the valve

1. Line up the pinning holes in the extension assembly and valve plug stem, then slide the inner extension shaft onto the plug.
2. Install the pin.
3. Slide the outer extension housing over the inner assembly and line up the scribe marks made during extension removal, then set the outer extension housing onto the valve making sure the hex at the top of the inner assembly slides into the hex in the gear of the actuator, then fasten the outer extension to the valve.
4. Slide the bearing washer over the stud until it rests on the gear sector.

   If your valve has only one handwheel or a cylinder to operate the valve, go to Step 5.

   If your valve has two handwheels, one on top of the Gear unit and one on the side of the Gear unit, go to Step 9.
5. Turn the plug adjusting nut clockwise until there is .010" clearance between the plug face and the body seat. If the valve is used for paper stock, the clearance should be .03 ".

   Note: The holes in the bearing washer must line up with the tapped holes in the top of the gear sector.
6. Set the pointer on the bearing washer so it fits down over the plug adjusting nut, then turn it until it is positioned as noted during DISASSEMBLY. Fasten the pointer to the gear sector with the two shorter socket head screws.
7. Set the wrenching square on the pointer and fasten it to the gear sector with the four remaining socket head screws.
8. Screw the nut on the stud until it contacts the wrenching square. Tighten the nut to lock the assembly into place. GO TO STEP 13.
9. Screw the sleeve onto the plug stud until it contacts the bearing washer.

   Note: This is a left-hand thread.
10. Slide the pointer over the sleeve and turn it to the position noted in the DISASSEMBLY section. Fasten the pointer in place with the screws removed earlier.
11. Place the key in the sleeve keyseat, and then slide the handwheel onto the sleeve.
12. Install and tighten the nut against the handwheel; secure the nut in place by tightening the setscrew in the nut.
13. Check the stop settings and readjust if necessary. The correct adjustment procedure is described in the STOP ADJUSTMENT section of the Actuator Instruction Manual.
14. Pipeline flow and pressure can now be restored.

Reassembly *(continued)*

To replace the actuator on the extension

1. Line up the scribe marks on the adaptor and extension flange that you made before you removed the gear assembly, then slide the gear assembly over the stud and onto the extension flange so the hex on the extension stem engages the hex in the actuator gear.
2. Install and tighten the screws that hold the gear assembly to the extension.
3. Slide the bearing washer over the stud until it rests on the gear sector.

   If your valve has only one handwheel or a cylinder to operate the valve, go to Step 4.

   If your valve has two handwheels, one on top of the Gear unit and one on the side of the Gear unit, go to Step 8.
4. Turn the plug adjusting nut clockwise until there is .010" clearance between the plug face and the body seat. If the valve is used for paper stock, the clearance should be .030".

   Note: The holes in the bearing washer must line up with the tapped holes in the top of the gear sector.
5. Set the pointer on the bearing washer so it fits down over the plug adjusting nut, then turn it until it is positioned as noted during DISASSEMBLY. Fasten the pointer to the gear sector with the two shorter socket head screws.
6. Set the wrenching square on the pointer and fasten it to the gear sector with the four remaining socket head screws.
7. Screw the nut on the stud until it contacts the wrenching square. Tighten the nut to lock the assembly into place. GO TO STEP 12.
8. Screw the sleeve onto the plug stud until it contacts the bearing washer.

   Note: This is a left-hand thread.
9. Slide the pointer over the sleeve and turn it to the position noted in the DISASSEMBLY section. Fasten the pointer in place with the screws removed earlier.
10. Place the key in the sleeve keyseat, and then slide the handwheel onto the sleeve.
11. Install and tighten the nut against the handwheel; secure the nut in place by tightening the setscrew in the nut.
12. Check the stop settings and readjust if necessary. The correct adjustment procedure is described in the STOP ADJUSTMENT section of the Actuator Instruction Manual.
13. Pipeline flow and pressure can now be restored.