



DEZURIK ENK NECK EXTENSION USED WITH G-SERIES ACTUATORS ON PEC ECCENTRIC VALVES

Instruction D10076
July 2016

Instructions

These instructions are for use by personnel who are responsible for the installation, operation and maintenance of DeZURIK valves, actuators or accessories.

Safety Messages

All safety messages in the instructions are identified by a general warning sign and the signal word CAUTION, WARNING or DANGER. These messages indicate procedures to avoid injury or death.

Safety label(s) on the product indicate hazards that can cause 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 which have been removed from service with suitable protection for any potential pipeline material in the valve.

Inspection

Your DeZURIK product has been packaged to provide protection during shipment; however, items 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

Replaceable wear parts are listed on the assembly drawing. These parts can be stocked to minimize downtime. Order parts from your local DeZURIK sales representative or directly from DeZURIK. When ordering parts please provide the following information:

If the valve has a data plate: please include the 7-digit part number with either 4-digit revision number (example: 9999999R000) or 8-digit serial number (example: S1900001) whichever is applicable. The data plate will be 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.

If there isn't any data plate visible on the valve: please include valve model number, part name, and item number from the assembly drawing. You may contact your local DeZURIK Representative to help you identify your valve.

DeZURIK Service

DeZURIK service personnel are available to 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 DeZURIK.com.

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DeZURIK - ENK Neck Extension

Used With G-Series Actuators On PEC Eccentric Valves

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 actuator 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 PEC Eccentric Valves.

Disassembly - All Valve Sizes

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.



WARNING!

This valve is a pressure vessel. On 4, 5, 6 and 10" valves, the same bolts hold both the extension and the bonnet. Removing the bolts on 4, 5, 6 and 10" valves before relieving pipeline pressure can result in personal injury or equipment damage. Always relieve pipeline pressure before removing the extension.

Disassembly - 4" thru 20" Valves

To remove the actuator from the extension

1. Remove the lock nut, spring washers, wrenching square, and pointer from the top of the actuator.
2. Remove the cover screws and the cover from the actuator.
3. Note the orientation of the actuator gear with respect to the extension drive shaft.
4. Remove the screws that mount the actuator to the extension, and lift the actuator from the extension.

To remove the extension from the valve

1. Remove the locknut, spring washers, wrenching square, and pointer from the top of the actuator.
2. Remove the mounting screws that mount the outer extension to the valve, and lift the outer extension and actuator from the valve.
3. Remove the drive pin that fastens the inner extension to the valve stem, and remove the inner extension from the valve. Before reassembly, remove the gaskets or sealant from all mating mounting surfaces. If gaskets were used, do not reuse the gaskets; apply a thin bead of silicone sealant to one of the mating surfaces. Apply the sealant between the inside diameter and the mounting hole pattern.

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Reassembly - 4" thru 20" Valves

Before reassembly, remove the gaskets or sealant from all mating mounting surfaces. If gaskets were used, do not reuse the gaskets; apply a thin bead of silicone sealant to one of the mating surfaces. Apply the sealant between the inside diameter and the mounting hole pattern.

To replace the extension on the valve

1. Align the pin holes, and place the inner extension on the valve stem. Replace the drive pin in the holes.
2. Mount the extension to the valve with the mounting screws, and tighten the screws. On valve sizes 4", 5", 6", and 10", the extension is mounted with the valve bonnet screws.

To replace the actuator on the extension

1. Place the actuator on the extension, and engage the extension with the actuator gear so that the open and closed positions of the actuator match the open and closed positions of the valve.
2. Mount the actuator to the extension with the mounting screws, and tighten the screws.
3. Mount the cover to the actuator with the cover screws, and tighten the screws.
4. Place the pointer, wrenching square, spring washers, and locknut on the stud on the top of the actuator. Stack the spring washers in series as shown in Figure 1.
5. Screw the lock nut down the stud until it is tight and the spring washers are completely compressed, then back the nut off one full turn.

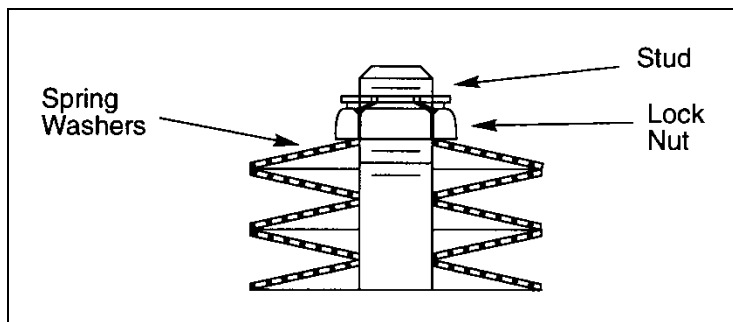


Figure 1 - Spring Washer Arrangement

DeZURIK - ENK Neck Extension

Used With G-Series Actuators On PEC Eccentric Valves

Disassembly - 24" thru 36" Valves

Before disassembly, scribe a witness mark on each side of the flanged connections between the actuator, extension, and housing. The witness marks will be helpful in aligning the connections during reassembly.

To remove the actuator from the extension

1. Loosen the two sets of lockscrews #1 and #2 on the top of the actuator as shown in Figure 2. Loosen lockscrews #1 about 6 to 8 turns; loosen lockscrews #2 about 3 turns. Tap both lockscrews #1 with a soft hammer to loosen the keys.

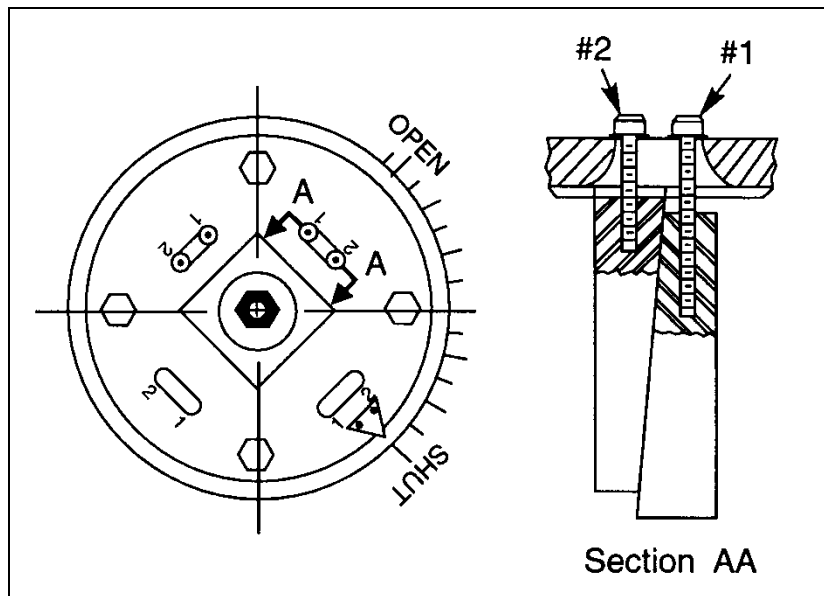


Figure 2 - Actuator Lockscrews

2. Remove the nut and spring washers from the stud on top of the actuator.
3. Remove the four screws that mount the wrenching square to the actuator gear. Then remove the wrenching nut with the keys attached.
4. Remove the screws that mount the actuator to the extension, and lift the actuator from the extension.

To remove the extension from the valve

1. Remove the screws that mount the outer extension to the housing, and remove the outer extension from the housing.
2. Remove the screws that mount the inner extension to the drive assembly, and remove the inner extension from the drive assembly.

Reassembly - 24" thru 36" Valves

Before reassembly, remove the gaskets or sealant from all mating mounting surfaces. If gaskets were used, do not reuse the gaskets; apply a thin bead of silicone sealant to one of the mating surfaces. Apply the sealant between the inside diameter and the mounting hole pattern.

During reassembly, align the witness marks (scribed before disassembly) on each side of the flanged connections between the actuator, extension, and housing.

To replace the extension on the valve

1. Mount the inner extension to the drive assembly with the mounting screws, and tighten the screws.
2. Mount the outer extension to the housing with the mounting screws, and tighten the screws.

To replace the actuator on the extension

1. Place the actuator on the extension, and engage the extension with the actuator gear so that the open and closed positions of the actuator match the open and closed positions of the valve.
2. Mount the actuator to the extension with the mounting screws, and tighten the screws.
3. Place the wrenching nut — with the four keys attached — over the stud in the inner extension so that the pointer indicates the valve position, and guide the keys into position into the slots formed by the actuator gear and the drive of the inner extension.
4. Mount the wrenching square to the actuator gear with the four mounting screws, and tighten the screws.
5. Place the spring washers on the stud as shown in Figure 1. Screw the lock nut down the stud until it is tight and the spring washers are fully compressed, then back the nut off one full turn.
6. Refer to Figure 2. Tighten the two lockscrews #2; then tighten the two lockscrews #1 to secure the keys in position.

DeZURIK - ENK Neck Extension

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Shortening the ENK Extension

1. Scribe inner and outer extensions as shown in Figure 1 with the scribe marks at least 4" longer than the amount to remove.
2. Cut out the amount to remove from the center of the scribed area, preferably with a saw keeping the cuts square and clean.
3. Butt the cut ends of each extension piece together and match the scribe marks, keeping the end couplings in the same original alignment.

NOTE: This is important to ensure proper valve and actuator alignment when re-installing the ENK extension.

4. Weld the cut ends of each extension together, keeping the pipe as straight as possible and the scribe marks aligned.

NOTE: This is also important. It is recommended to clamp both ends of the pipe into a jig, if possible, to insure linear alignment of the pipe while welding.

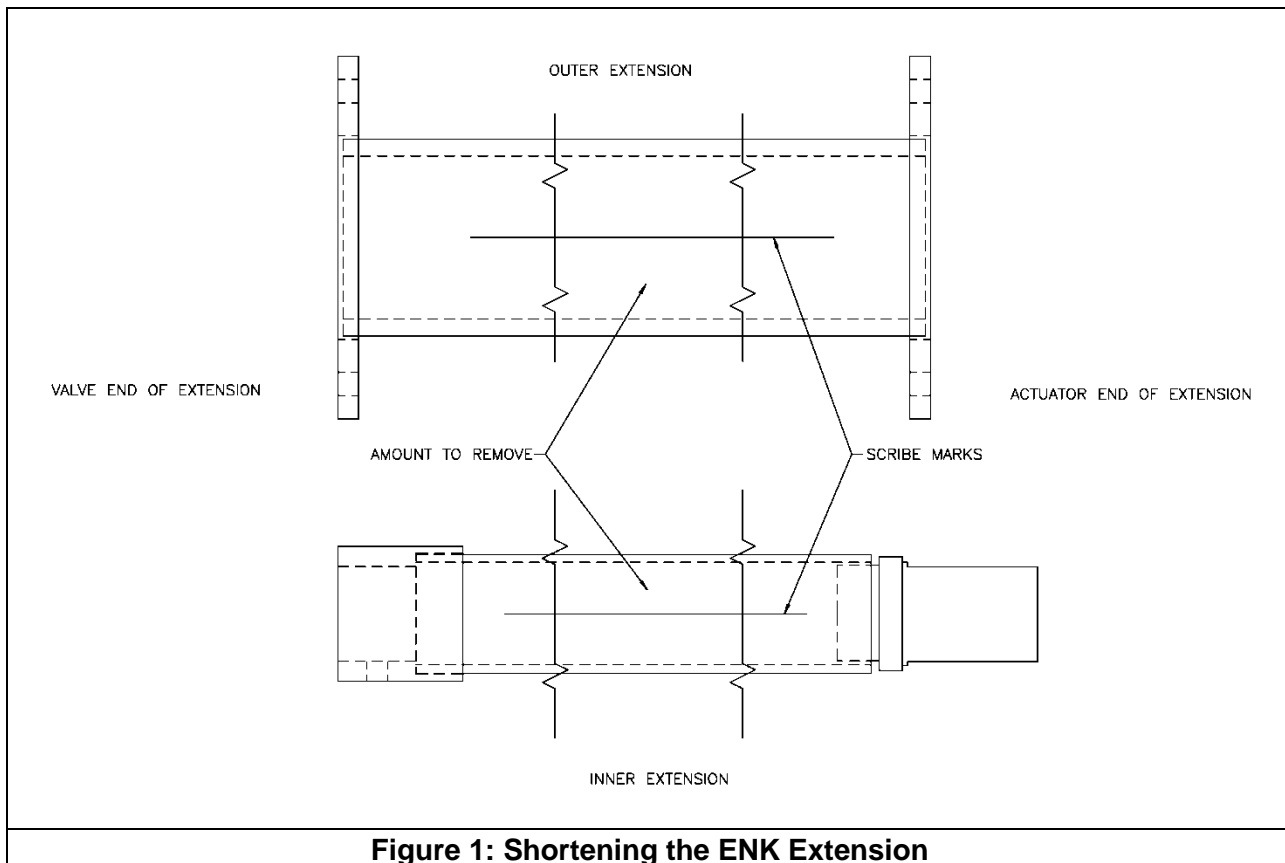


Figure 1: Shortening the ENK Extension

If instructions are followed properly, this is an authorized DeZURIK modification and will not affect the warranty.

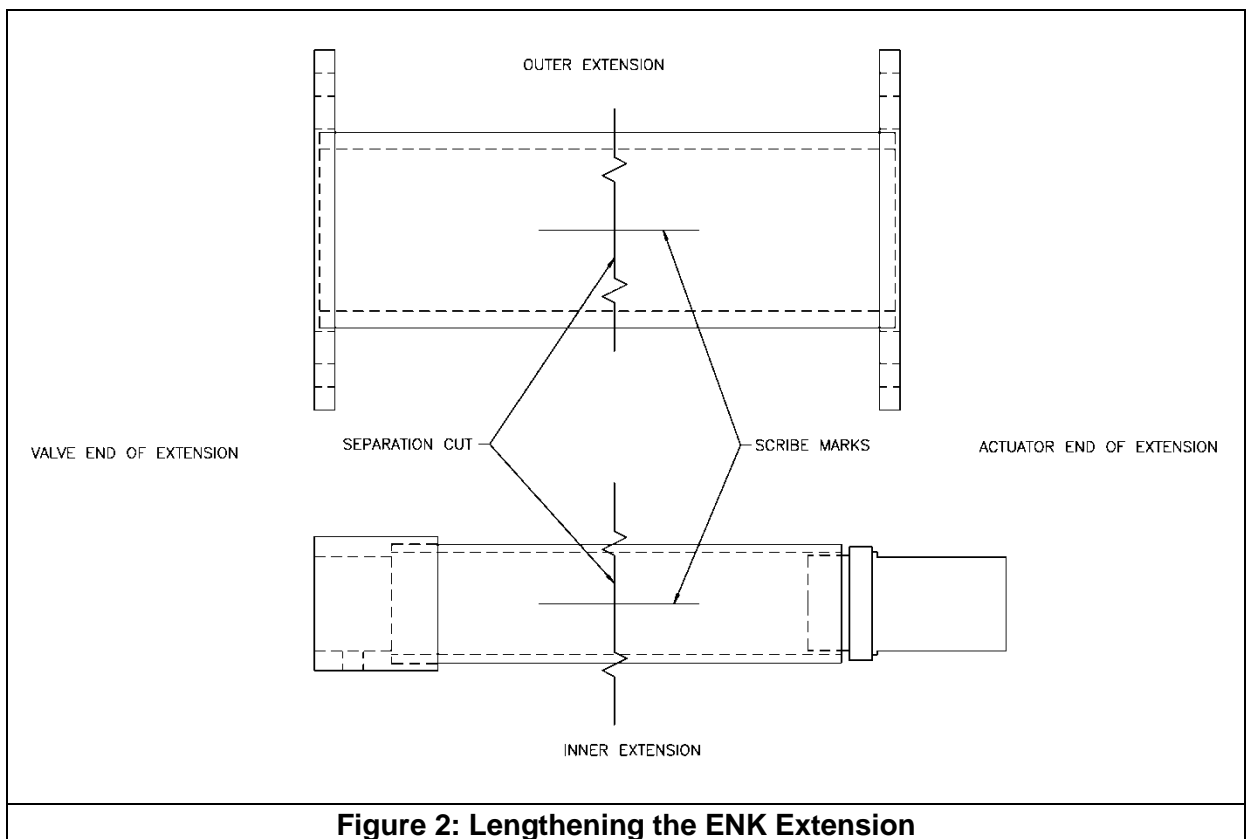
Lengthening the ENK Extension

1. Scribe inner and outer extensions as shown in Figure 2 with the scribe marks at least 4" long.
2. Cut the pipe in the middle of the scribe mark, preferably with a saw, keeping the cuts square and clean.
3. Scribe the entire length of the extension pieces to be added, keeping the scribe line parallel to the centerline of the pipe.
4. Butt the two original pieces together with the extension piece in the middle and match the scribe marks, keeping the end couplings in the same original alignment.

NOTE: This is important to ensure proper valve and actuator alignment when re-installing the ENK extension.

5. Weld the three pieces together, keeping the pipe as straight as possible and the scribe marks aligned.

NOTE: This is also important. It is recommended to clamp the pieces together in a jig, if possible, to insure linear alignment of the pipe while welding.



If instructions are followed properly, this is an authorized DeZURIK modification and will not affect the warranty.

Limited Warranty

DeZURIK, Inc. ("Seller") manufactured products, auxiliaries and parts for a period of twenty-four (24) months from date of shipment from Seller's factory, are warranted to the original purchaser only against defective workmanship and material, but only if properly stored, installed, operated, and serviced in accordance with Seller's recommendations and instructions.

For items proven to be defective within the warranty period, your exclusive remedy under this limited warranty is repair or replacement of the defective item, at Seller's option, FCA Incoterms 2020 Seller's facility with removal, transportation, and installation at your cost.

Products or parts manufactured by others but furnished by Seller are not covered by this limited warranty. Seller will provide repair or replacement for other's products or parts only to the extent provided in and honored by the original manufacturer's warranty to Seller, in each case subject to the limitations contained in the original manufacturer's warranty.

No claim for transportation, labor, or special or consequential damages or any other loss, cost or damage is being provided in this limited warranty. You shall be solely responsible for determining suitability for use and in no event shall Seller be liable in this respect.

This limited warranty does not warrant that any Seller product or part is resistant to corrosion, erosion, abrasion or other sources of failure, nor does Seller warrant a minimum length of service.

Your failure to give written notice to us of any alleged defect under this warranty within twenty (20) days of its discovery, or attempts by someone other than Seller or its authorized representatives to remedy the alleged defects therein, or failure to return product or parts for repair or replacement as herein provided, or failure to store, install, or operate said products and parts according to the recommendations and instructions furnished by Seller shall be a waiver by you of all rights under this limited warranty.

This limited warranty is voided by any misuse, modification, abuse or alteration of Seller's product, accident, fire, flood or other Act of God, or your failure to pay entire contract price when due.

The foregoing limited warranty shall be null and void if, after shipment from our factory, the item is modified in any way or a component of another manufacturer, such as but not limited to, an actuator is attached to the item by anyone other than a Seller factory authorized service personnel.

All orders accepted shall be deemed accepted subject to this limited warranty, which shall be exclusive of any other or previous Warranty, and this shall be the only effective guarantee or warranty binding on Seller, despite anything to the contrary contained in the purchase order or represented by any agent or employee of Seller in writing or otherwise, notwithstanding, including but not limited to implied warranties.

THE FOREGOING REPAIR AND REPLACEMENT LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS AND LIABILITIES, INCLUDING ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE SELLER'S ENTIRE AND EXCLUSIVE LIABILITY AND YOUR EXCLUSIVE REMEDY FOR ANY CLAIM IN CONNECTION WITH THE SALE AND FURNISHING OF SERVICES, GOODS OR PARTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATIONS.

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IN NO EVENT SHALL SELLER BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES WHATSOEVER, AND SELLER'S LIABILITY, UNDER NO CIRCUMSTANCES, WILL EXCEED THE CONTRACT PRICE FOR THE GOODS AND/OR SERVICES FOR WHICH LIABILITY IS CLAIMED. ANY ACTION FOR BREACH OF CONTRACT BY YOU, OTHER THAN RIGHTS RESPECTING OUR LIMITED WARRANTY DESCRIBED ABOVE, MUST BE COMMENCED WITHIN 12 MONTHS AFTER THE DATE OF SALE.

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web site: www.dezurik.com E-Mail: info@dezurik.com



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