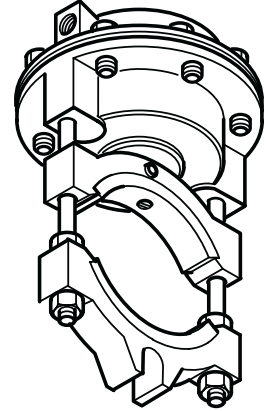
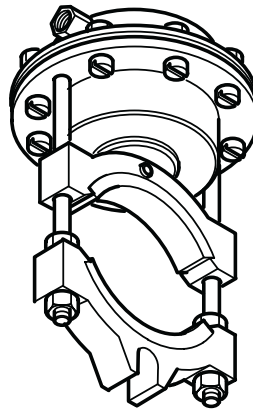
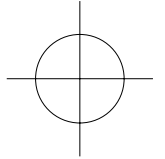


nexen®

AIR CHAMP® PRODUCTS

User Manual



DIAPHRAGM BRAKES MODELS "J" AND "K"

In accordance with Nexen's established policy of constant product improvement, the specifications contained in this manual are subject to change without notice. Technical data listed in this manual are based on the latest information available at the time of printing and are also subject to change without notice.

Technical Support: 800-843-7445
(651) 484-5900

www.nexengroup.com



DANGER

Read this manual carefully before installation and operation.

Follow Nexen's instructions and integrate this unit into your system with care.

This unit should be installed, operated and maintained by qualified personnel **ONLY**.

Improper installation can damage your system or cause injury or death.

Comply with all applicable codes.

Nexen Group, Inc.
560 Oak Grove Parkway
Vadnais Heights, Minnesota 55127

ISO 9001 Certified

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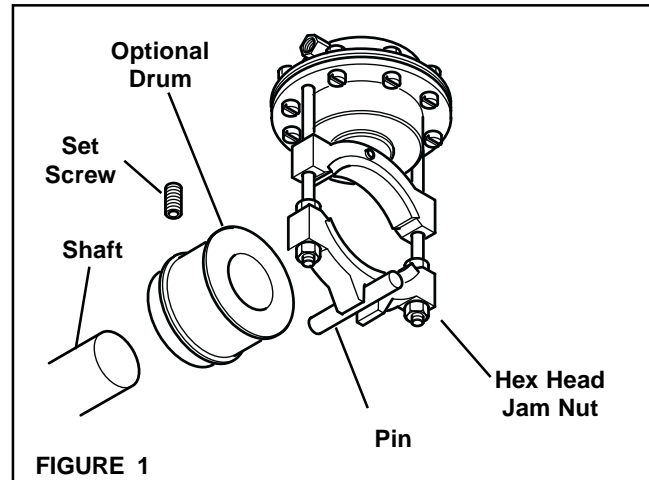
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INSTALLATION

"J" OR "K" DIAPHRAGM BRAKE WITH OPTIONAL DRUM

NOTE: Refer to Figure 1

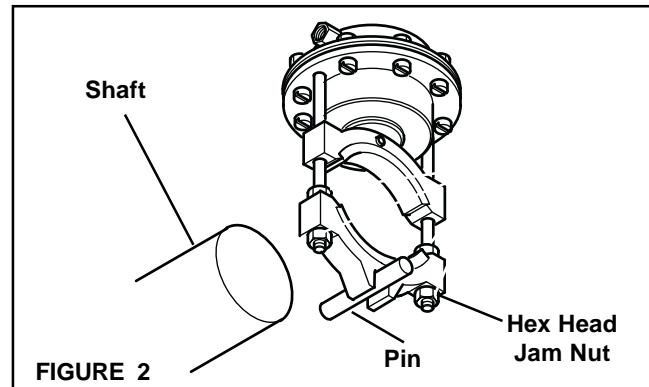
1. Slide the Optional Drum onto the shaft.
2. Tighten the Set Screw; securing the Optional Drum to the shaft.
3. Position the "J" or "K" Diaphragm Brake on the Optional Drum, with the Pin passing through the slot in the Fixed Shoe.
4. Adjust the Fixed Shoe by loosening the Hex. Head Jam Nuts to provide sufficient clearance between the Facings and Optional Drum to allow free rotation of the Optional Drum; then, tighten the Hex. Head Jam Nuts.



"J" OR "K" DIAPHRAGM BRAKE WITHOUT OPTIONAL DRUM

NOTE: Refer to Figure 2

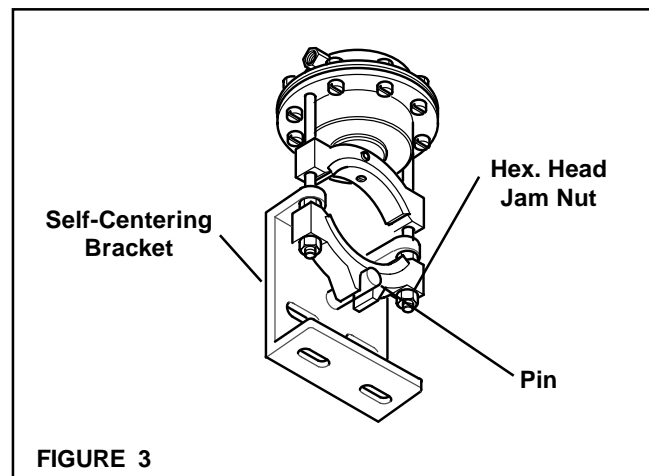
1. Position the "J" or "K" Diaphragm Brake on the shaft, with the Pin passing through the slot in the Fixed Shoe.
2. Adjust the Fixed Shoe by loosening the Hex. Head Jam Nuts to provide sufficient clearance between the Facings and shaft to allow free rotation of the shaft; then, tighten the Hex. Head Jam Nuts.



OPTIONAL SELF-CENTERING BRACKET

NOTE: Refer to Figure 3

1. Position the "J" or "K" Diaphragm Brake with the diaphragm facing up on the shaft or Optional Drum with the Pin passing through the slot in the Fixed Shoe.
2. Secure the Optional Self-Centering Bracket to the machine or support.
3. Adjust the Fixed Shoe by loosening the Hex. Head Jam Nuts to provide sufficient clearance between the Facings and shaft or Optional Drum to allow free rotation of the shaft or Optional Drum; then, tighten the Hex. Head Jam Nuts.



AIR CONNECTIONS

Pneumatically actuated devices require clean, pressure regulated air for maximum performance and long life. Your Nexen distributor carries filters and regulators specifically designed to operate with the Nexen "J" or "K" Diaphragm Brake.

For quick response, a short air line between the control valve and the "J" or "K" Diaphragm Brake is recommended. The "J" and "K" Diaphragm Brakes have a 1/8" NPT female pipe fitting for connection to the air controls. The volume of air required is less than five cubic inches. For optimal control, 1/4" air controls are recommended.

The "J" and "K" Diaphragm Brakes work on static air pressure (See Chart 1).

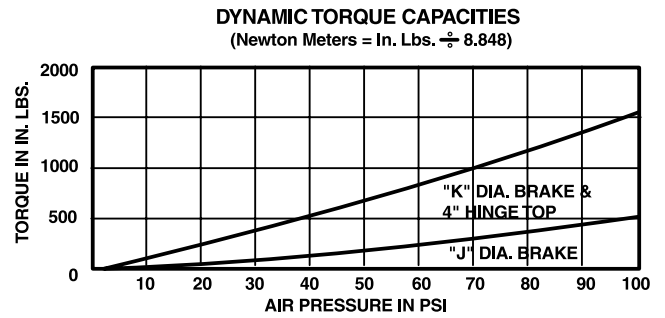


CHART 1

DIAPHRAGM BRAKE ASSEMBLY

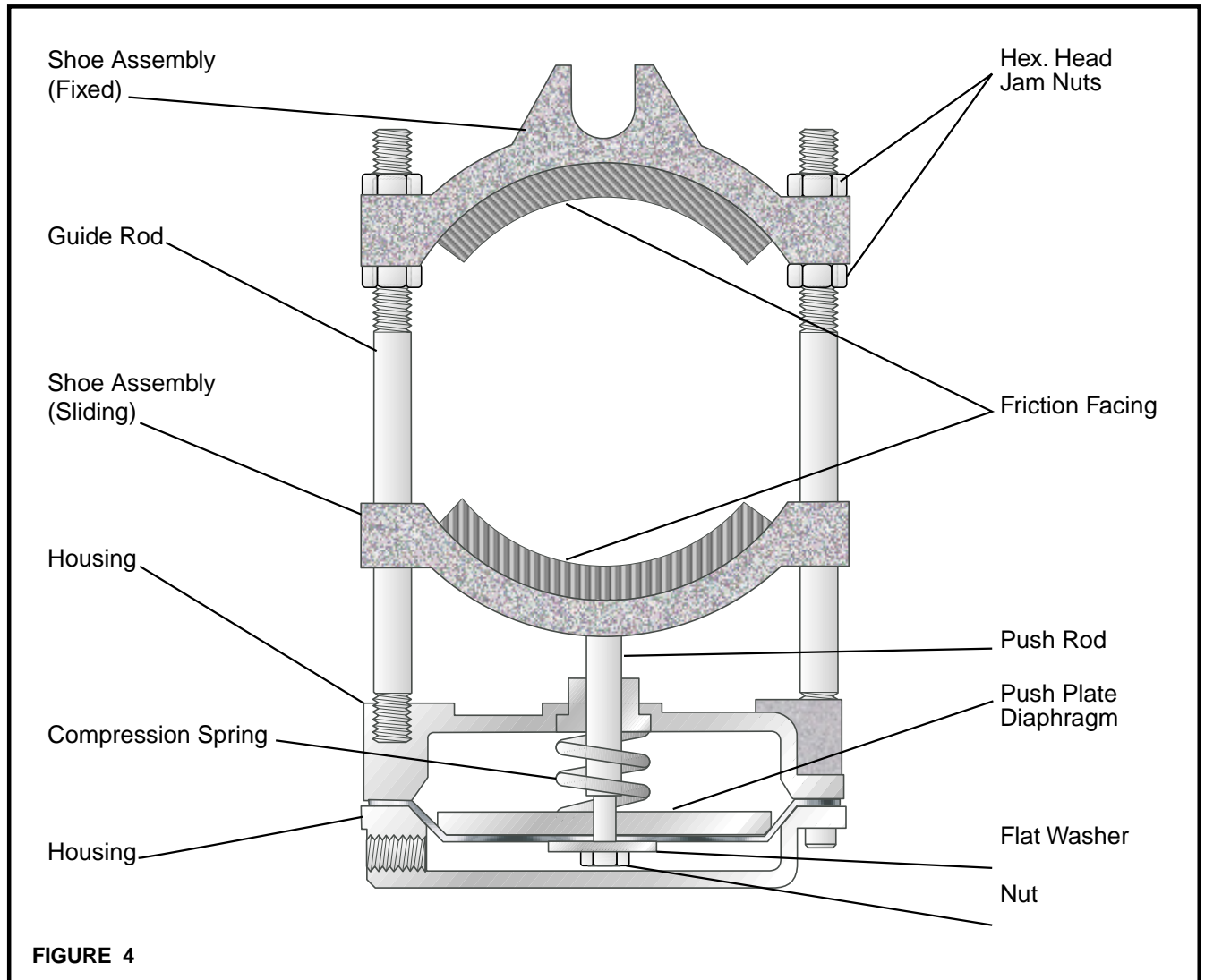


FIGURE 4

FRICION FACING ASSEMBLY

"J" DIAPHRAGM BRAKE

NOTE: Refer to Figure 5

1. Remove the first two Hex. Head Jam Nuts (Item 11).
2. Remove the Fixed Shoe Assembly (Item 1).
3. Remove the second two Hex. Head Jam Nuts (Item 11).
4. Remove the Set Screw (Item 12).
5. Remove the Sliding Shoe Assembly (Item 2).
6. Install a new Sliding Shoe Assembly (Item 2).
7. Reinstall and tighten the Set Screw (Item 12).
8. Reinstall two Hex. Head Jam Nuts (Item 11).
9. Install the new Fixed Shoe Assembly (Item 1).
10. Reinstall the second two Hex. Head Jam Nuts (Item 11).

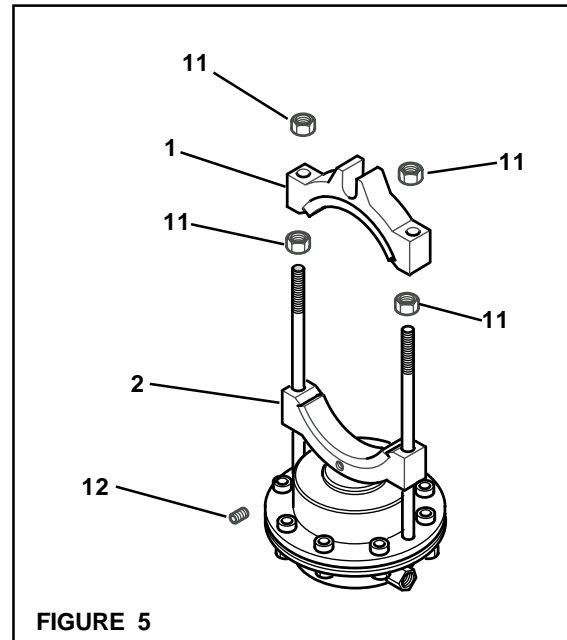


FIGURE 5

WARNING

The Flat Head Machine Screws (Item 20) are assembled with an anaerobic locking compound. If you insert a screwdriver into a Flat Head Machine screw and strike the end of the screwdriver, you will break the crystalline structure of this locking compound and the Flat Head Machine Screw can be removed or fall out.

Do NOT use any impact on the Flat Head Machine Screws.

Do NOT use an impact wrench to remove the Flat Head Machine Screws.

"K" DIAPHRAGM BRAKE

NOTE: Refer to Figure 6

1. Remove the first two Hex. Head Jam Nuts (Item 11).
2. Remove the Fixed Shoe (Item 1)
3. Remove the second two Hex. Head Jam Nuts (Item 11).
4. Remove the Set Screw (Item 13).
5. Remove the Sliding Shoe (Item 2).
6. Remove the Flat Head Machine Screws (Item 20) from the Fixed Shoe (Item 1) and the Sliding Shoe (Item 2). Remove the old Friction Facings (Item 3) from the Fixed Shoe and Sliding Shoe.
7. Using new Flat Head Machine Screws (Item 20), secure the new Friction Facings (Item 3) to the Fixed Shoe (Item 1) and the Sliding Shoe (Item 2).
8. Tighten the Flat Head Machine Screws (Item 20) to 26 In. Lbs. [2.9 N₂m] torque.
9. Install the Sliding Shoe (Item 2).
10. Reinstall and tighten the Set Screw (Item 13).
11. Reinstall two Hex. Head Jam Nuts (Item 11) .
12. Install the Fixed Shoe (Item 1).
13. Reinstall the second two Hex. Head Jam Nuts (Item 11).

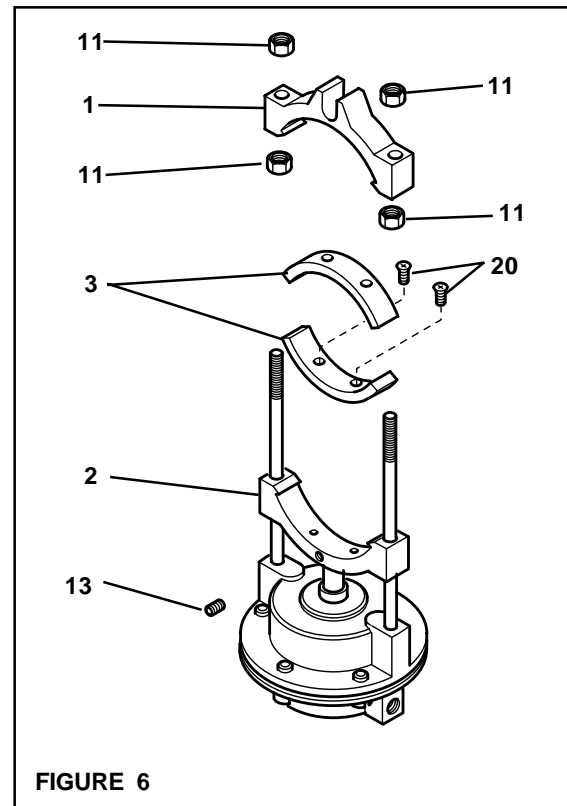


FIGURE 6

DIAPHRAGM AND SPRING ASSEMBLY

"J" DIAPHRAGM BRAKE

NOTE: Refer to Figure 7

1. Remove the Cap Screws (Item 16) and Hex. Nuts (Item 17).
2. Remove the Top Diaphragm Housing (Item 4).
3. Remove the Jam Nut (Item 10) and Washer (Item 9).
4. Remove the Diaphragm (Item 7), Push Plate (Item 6), and Compression Spring (Item 8).
5. Inspect the Compression Spring (Item 8) for signs of damage, and install a new Compression Spring if the old Compression Spring is damaged.
6. Reinstall the Push Plate (Item 6).
7. Install a new Diaphragm (Item 7); then, reinstall the Washer (Item 9) and Jam Nut (Item 10).
8. Using the Cap Screws (Item 16) and Hex. Nuts (Item 17), secure the Bottom Diaphragm Housing (Item 4) to the Housing Rod Assembly (Item 3).

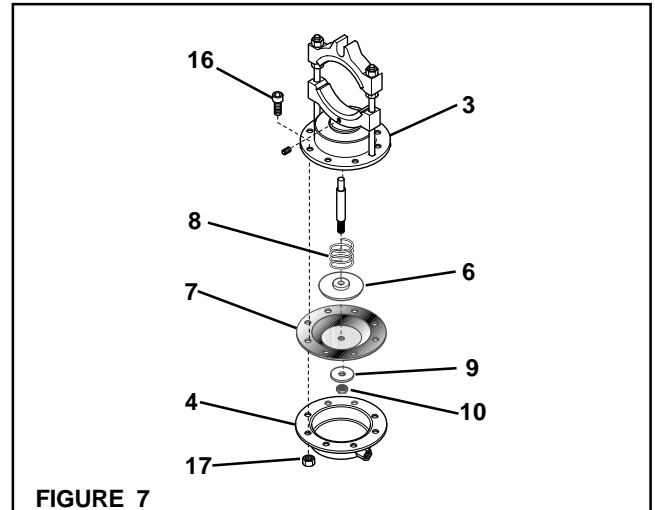


FIGURE 7

"K" DIAPHRAGM BRAKE

NOTE: Refer to Figure 8

1. Remove the Socket Head Cap Screws (Item 18).
2. Remove the Bottom Diaphragm Housing (Item 5).
3. Remove the Jam Nut (Item 12) and Washer (Item 10).
4. Remove the Diaphragm (Item 9), Push Plate (Item 7), and Compression Spring (Item 8).
5. Inspect the Compression Spring (Item 8) for signs of damage. If the Compression Spring is damaged, install a new Compression Spring.
6. Reinstall the Push Plate (Item 7).
7. Install a new Diaphragm (Item 9); then, reinstall the Washer (Item 10) and Jam Nut (Item 12).
8. Use the Socket Head Cap Screws (Item 18) to secure the Bottom Diaphragm Housing (Item 5) to the Top Diaphragm Housing (Item 4).

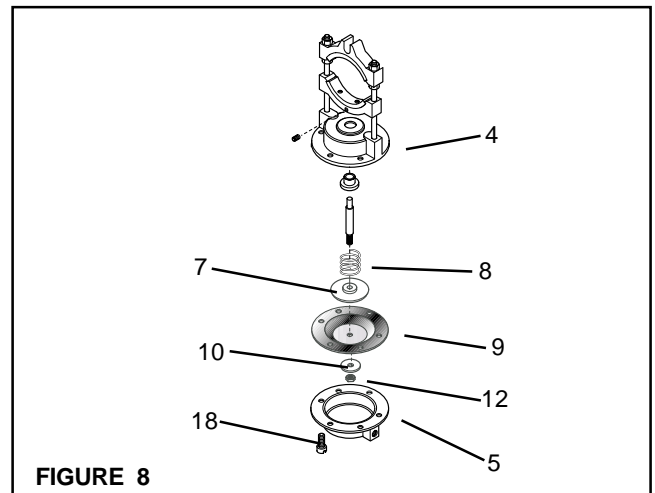


FIGURE 8

TROUBLESHOOTING

| Problem: | Probable Cause: | Solution |
|-------------------------------------|--|---|
| Failure to engage | Ruptured Diaphragm | Replace the Diaphragm |
| | Faulty air controls | Check the air controls for proper operation |
| Failure to disengage | Faulty or damaged Compression Spring | Replace the Compression Spring |
| | Faulty air controls | Check the air controls for proper operation |
| "J" or "K" Diaphragm Brake slippage | Foreign material on the Option Brake Drum or on the shaft | Clean the optional Brake Drum or the shaft |
| | Foreign material on the Friction Facings | Replace the Friction Facings |
| | "J" or "K" Diaphragm Brake working outside its torque and heat dissipating range | Check the application |

REPLACEMENT PARTS LIST

The item numbers identify the product parts on all parts lists, price lists, unit assembly drawings, bills of materials, and instruction manuals.

To order replacement parts, indicate model designation, item number, part description, and quantity. Replacement parts are available through your local Nexen Distributor.

"J" DIAPHRAGM BRAKE (See Figure 9)

| ITEM | DESCRIPTION | QTY |
|----------------|-------------------------|-----|
| 1 ¹ | Fixed Shoe Assembly | 1 |
| 2 ¹ | Sliding Shoe Assembly | 1 |
| 3 | Housing-Rod Assembly | 1 |
| 4 | Bottom Housing Assembly | 1 |
| 5 | Push Rod | 1 |
| 6 | Push Plate | 1 |
| 7 | Diaphragm | 1 |
| 8 | Compression Spring | 1 |
| 9 | Flat Washer | 1 |
| 10 | Hex. Head Jam Nut | 1 |
| 11 | Hex. Head Jam Nut | 4 |
| 12 | Set Screw | 1 |
| 16 | Socket Head Cap Screw | 8 |
| 17 | Hex. Nut | 8 |

¹ Denotes Facing Kit Item.
Facing Kit No. 845175.

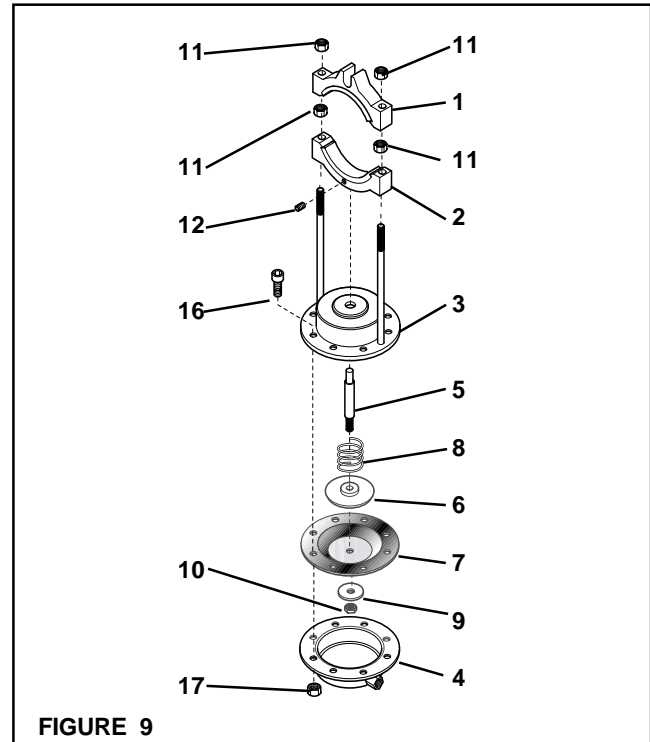


FIGURE 9

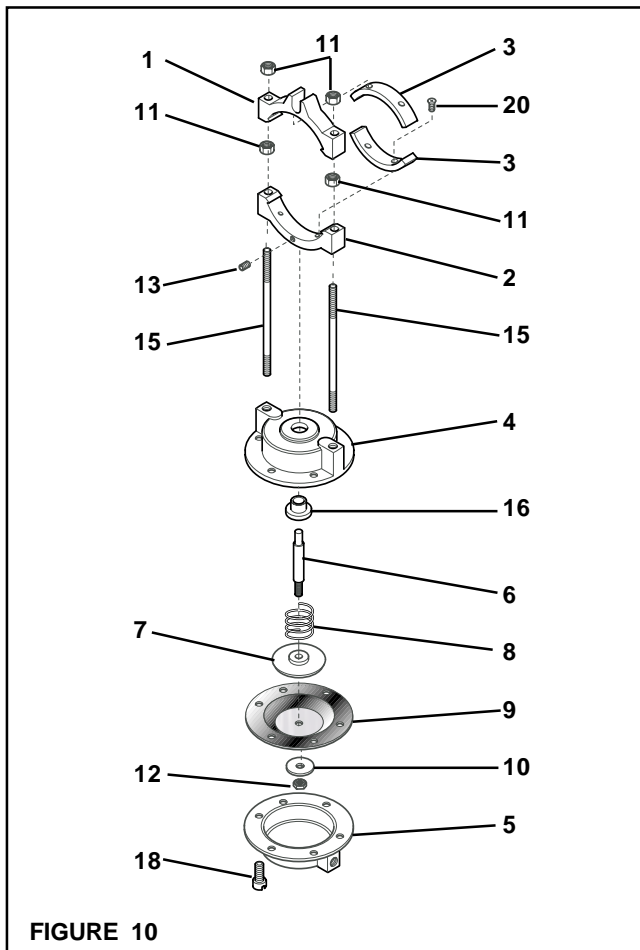


FIGURE 10

"K" DIAPHRAGM BRAKE (See Figure 10)

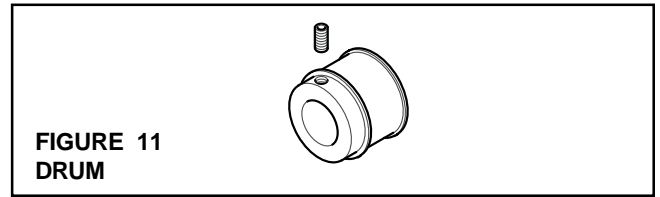
| ITEM | DESCRIPTION | QTY |
|-----------------|--------------------------|-----|
| 1 | Fixed Shoe | 1 |
| 2 | Sliding Shoe | 1 |
| 3 ¹ | Friction Facing | 2 |
| 4 | Top Diaphragm Housing | 1 |
| 5 | Bottom Diaphragm Housing | 1 |
| 6 | Push Rod | 1 |
| 7 | Push Plate | 1 |
| 8 | Compression Spring | 1 |
| 9 | Diaphragm | 1 |
| 10 | Flat Washer | 1 |
| 11 | Hex. Head Jam Nut | 4 |
| 12 | Hex. Head Jam Nut | 1 |
| 13 | Set Screw | 1 |
| 15 | Guide Rod | 1 |
| 16 | Sleeve Bearing | 1 |
| 18 | Socket Head Cap Screw | 6 |
| 20 ¹ | Machine Screw | 4 |

¹ Denotes Facing Kit Item.
Facing Kit No. 845171.

ACCESSORIES

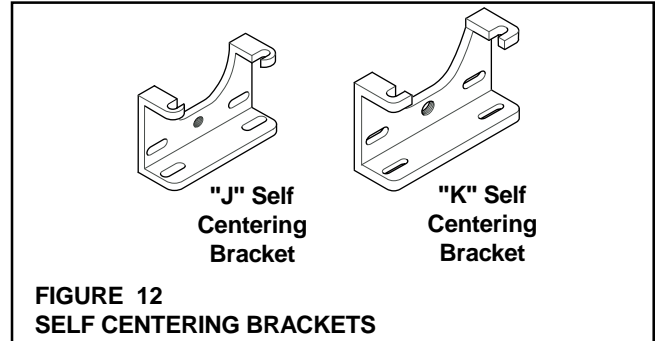
"J" DIAPHRAGM BRAKE (See Figure 11)

| DESCRIPTION | PROD. NO. |
|---|-----------|
| Drum 2-3/4" [69.85 mm] no bore | 842000 |
| Drum 2-3/4" [69.85 mm] 1" [25.40 mm] bore | 842300 |
| Self-Centering Bracket | 842100 |



"K" DIAPHRAGM BRAKE (See Figure 12)

| DESCRIPTION | PROD. NO. |
|--|-----------|
| Drum 4" [101.60 mm] no bore | 843600 |
| Drum 4" [101.60 mm] 1" [25.40 mm] bore | 844000 |
| Self-Centering Bracket | 843700 |



WARRANTY

Warranties

Nexen warrants that the Products will be free from any defects in material or workmanship for a period of 12 months from the date of shipment. NEXEN MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. This warranty applies only if (a) the Product has been installed, used and maintained in accordance with any applicable Nexen installation or maintenance manual for the Product; (b) the alleged defect is not attributable to normal wear and tear; (c) the Product has not been altered, misused or used for purposes other than those for which it was intended; and (d) Buyer has given written notice of the alleged defect to Nexen, and delivered the allegedly defective Product to Nexen, within one year of the date of shipment.

Exclusive Remedy

The exclusive remedy of the Buyer for any breach of the warranties set out above will be, at the sole discretion of Nexen, a repair or replacement with new, serviceably used or reconditioned Product, or issuance of credit in the amount of the purchase price paid to Nexen by the Buyer for the Products.

Limitation of Nexen's Liability

TO THE EXTENT PERMITTED BY LAW NEXEN SHALL HAVE NO LIABILITY TO BUYER OR ANY OTHER PERSON FOR INCIDENTAL DAMAGES, SPECIAL DAMAGES, CONSEQUENTIAL DAMAGES OR OTHER DAMAGES OF ANY KIND OR NATURE WHATSOEVER, WHETHER ARISING OUT OF BREACH OF WARRANTY OR OTHER BREACH OF CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE, EVEN IF NEXEN SHALL HAVE BEEN ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH POTENTIAL LOSS OR DAMAGE. For all of the purposes hereof, the term "consequential damages" shall include lost profits, penalties, delay damages, liquidated damages or other damages and liabilities which Buyer shall be obligated to pay or which Buyer may incur based upon, related to or arising out of its contracts with its customers or other third parties. In no event shall Nexen be liable for any amount of damages in excess of amounts paid by Buyer for Products or services as to which a breach of contract has been determined to exist. The parties expressly agree that the price for the Products and the services was determined in consideration of the limitation on damages set forth herein and such limitation has been specifically bargained for and constitutes an agreed allocation of risk which shall survive the determination of any court of competent jurisdiction that any remedy herein fails of its essential purpose.

Limitation of Damages

In no event shall Nexen be liable for any consequential, indirect, incidental, or special damages of any nature whatsoever, including without limitation, lost profits arising from the sale or use of the Products.

Warranty Claim Procedures

To make a claim under this warranty, the claimant must give written notice of the alleged defect to whom the Product was purchased from and deliver the Product to same within one year of the date on which the alleged defect first became apparent.

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