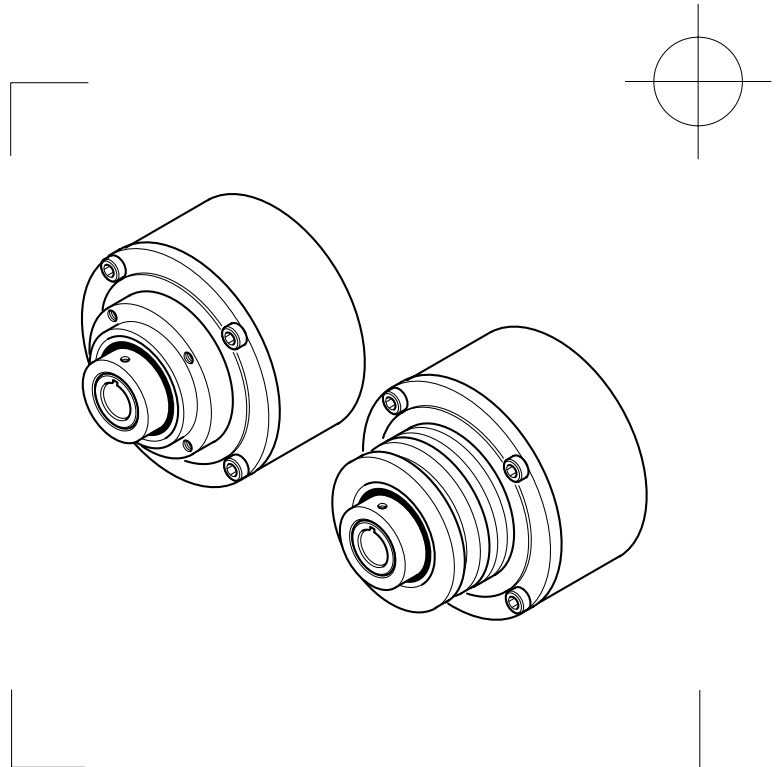


AIR CHAMP® PRODUCTS

User Manual



Sheave and Pilot Mount Clutch Brake Model BCB-275

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



WARNING

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



TABLE OF CONTENTS

Introduction ----- 1

Installation ----- 2

Air Connections ----- 3

Lubrication ----- 4

Troubleshooting ----- 5

Parts Replacement ----- 6

Replacement Parts ----- 8

Parts List ----- 9

Warranties ----- 10

INTRODUCTION

Read this manual carefully, making full use of its explanations and instructions. The "Know How" of safe, continuous, trouble-free operation depends on the degree of your understanding of the system and your willingness to keep all components in proper operating condition. Pay particular attention to all NOTES, CAUTIONS, and WARNINGS to avoid the risk of personal injury or property damage. It is important to understand that these NOTES, CAUTIONS, and WARNINGS are not exhaustive. Nexen cannot possibly know or evaluate all conceivable methods in which service may be performed, or the possible hazardous consequences of each method. Accordingly, anyone who uses a procedure that is not recommended by Nexen must first satisfy themselves that neither their safety or the safety of the product will be jeopardized by the service method selected.



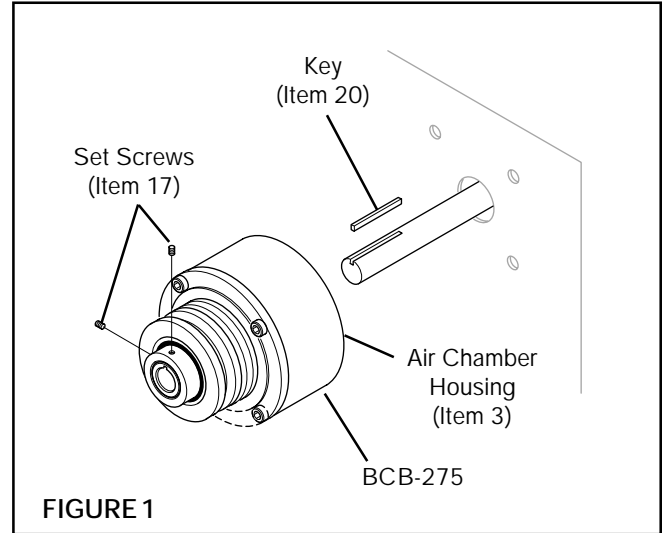
WARNING

This unit has rotating parts. A guard that will not restrict the flow of cooling air around the unit must be used if the unit is installed where injury to an operator could occur, as stated in the Occupational Safety and Health Act (OSHA), Standard (29 CFR 1910) Section 1910.219K.

INSTALLATION

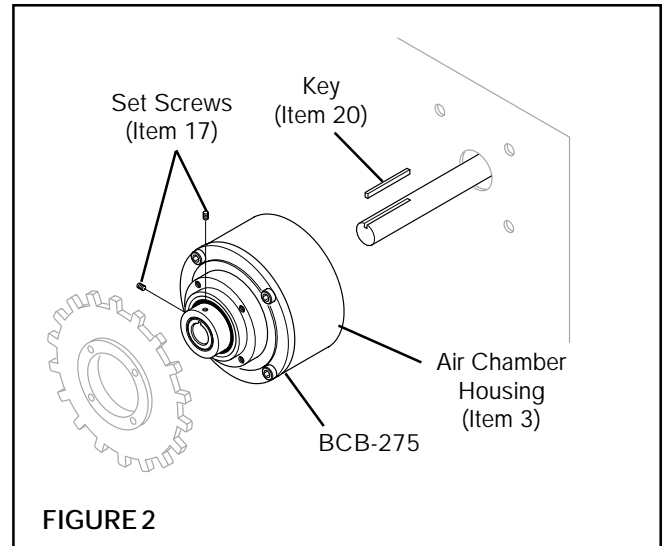
SHEAVE MOUNT BCB-275

1. Insert the Key (Item 20) into the machine shaft; then, slide the BCB-275 onto the machine shaft and Key (See Figure 1).
2. Install and tighten the Set Screws (Item 17) (See Figure 1).
3. Align the BCB-275 air inlet ports to the six o'clock down position to allow condensation to drain out of the ports.
4. Using customer supplied 1/4-20 bolts, secure the Air Chamber Housing (Item 3) to a fixed member of the machine (See Figure 1).



PILOT MOUNT BCB-275

1. Secure a customer supplied sheave or sprocket to the BWCB (See Figure 2).
2. Insert the Key (Item 20) into the machine shaft; then, slide the BCB-275 onto the machine shaft and Key (See Figure 2).
3. Install and tighten the Set Screws (Item 17) (See Figure 2).
4. Align the BCB-275 air inlet ports to the six o'clock down position to allow condensation to drain out of the ports.
5. Using customer supplied 1/4-20 bolts, secure the Air Chamber Housing (Item 3) to a fixed member of the machine (See Figure 2).

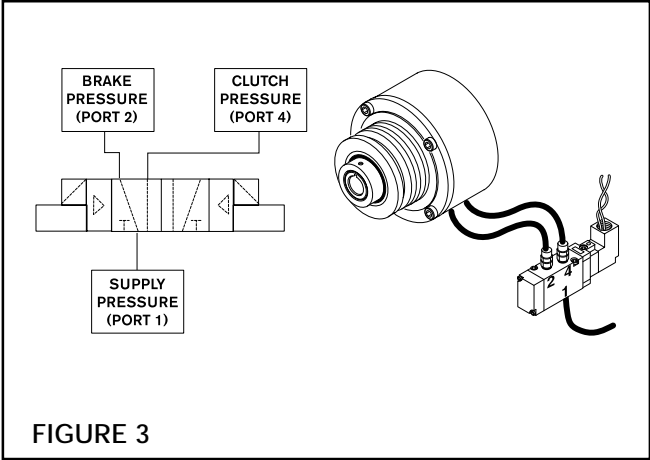


AIR CONNECTIONS

NOTE: For quick response, Nexen recommends a quick exhaust valve and short air lines between the BCB-275 and control valves.

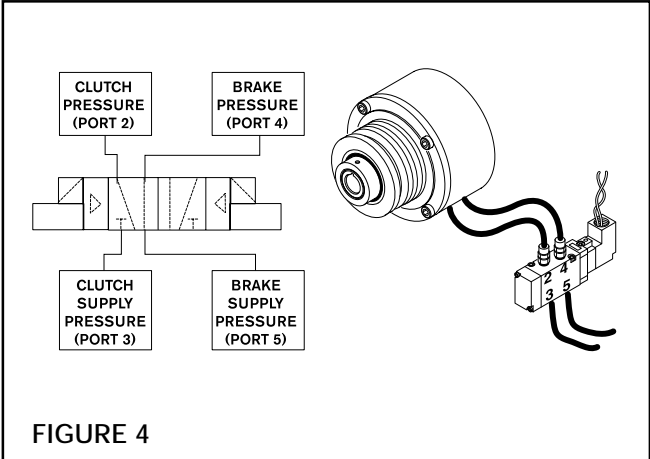
4-WAY CONTROL VALVE

1. If the brake is to be set when the solenoid is de-energized, connect the port marked **2** to the brake and the port marked **4** to the clutch (See Figure 3).
2. Connect the air supply line to the inlet port marked **1** (See Figure 3).



5-WAY CONTROL VALVE

1. If the brake is to be set and the clutch is to be **OFF** when the solenoid is de-energized, connect the port marked **4** to the brake and the port marked **2** to the clutch (See Figure 4).
2. Connect the brake air supply line to the port marked **5** and the clutch air supply line to the port marked **3** (See Figure 4).



LUBRICATION

NOTE: Pneumatically actuated devices require clean, pressure regulated, and lubricated air for maximum performance and long life. The most effective and economical way to lubricate Nexen Clutches and Brakes is with an Air Line Lubricator, which injects oil into the pressurized air, forcing an oil mist into the air chamber.

Locate the lubricator above and within ten feet of the Clutch or Brake, and use a low viscosity oil such as SAE-10.

Synthetic lubricants are not recommended.

LUBRICATOR DRIP RATE SETTINGS

NOTE: These settings are for Nexen supplied lubricators. If you are not using a Nexen lubricator, calibration must replicate the following procedure.

1. Close and disconnect the air line from the unit.
2. Turn the Lubricator Adjustment Knob counterclockwise three complete turns.
3. Open the air line.
4. Close the air line to the unit when a drop of oil forms in the Lubricator Sight Gage.
5. Connect the air line to the unit.
6. Turn the Lubricator Adjustment Knob clockwise until closed.
7. Turn the Lubricator Adjustment Knob counterclockwise one-third turn.
8. Open the air line to the unit.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Failure to engage.	Air not getting to the BCB-275 due to control valve malfunction.	Check for a control valve malfunction and replace the control valve if necessary.
	Air leaks at the air lines or O-ring Seals.	Replace the air lines and/or O-ring Seals.
Failure to disengage.	Unexhausted air due to a control valve malfunction.	Check for a control valve malfunction and replace the control valve if necessary.
	Air leaks at the air lines or O-ring Seals.	Replace the air lines and/or O-ring Seals.
Loss of torque.	Air leaks at the air lines or O-ring Seals.	Replace the air lines and/or O-ring Seals.
	Worn Friction Facing/Drive Disc Assembly.	Replace the Friction Facing/Drive Disc Assembly.

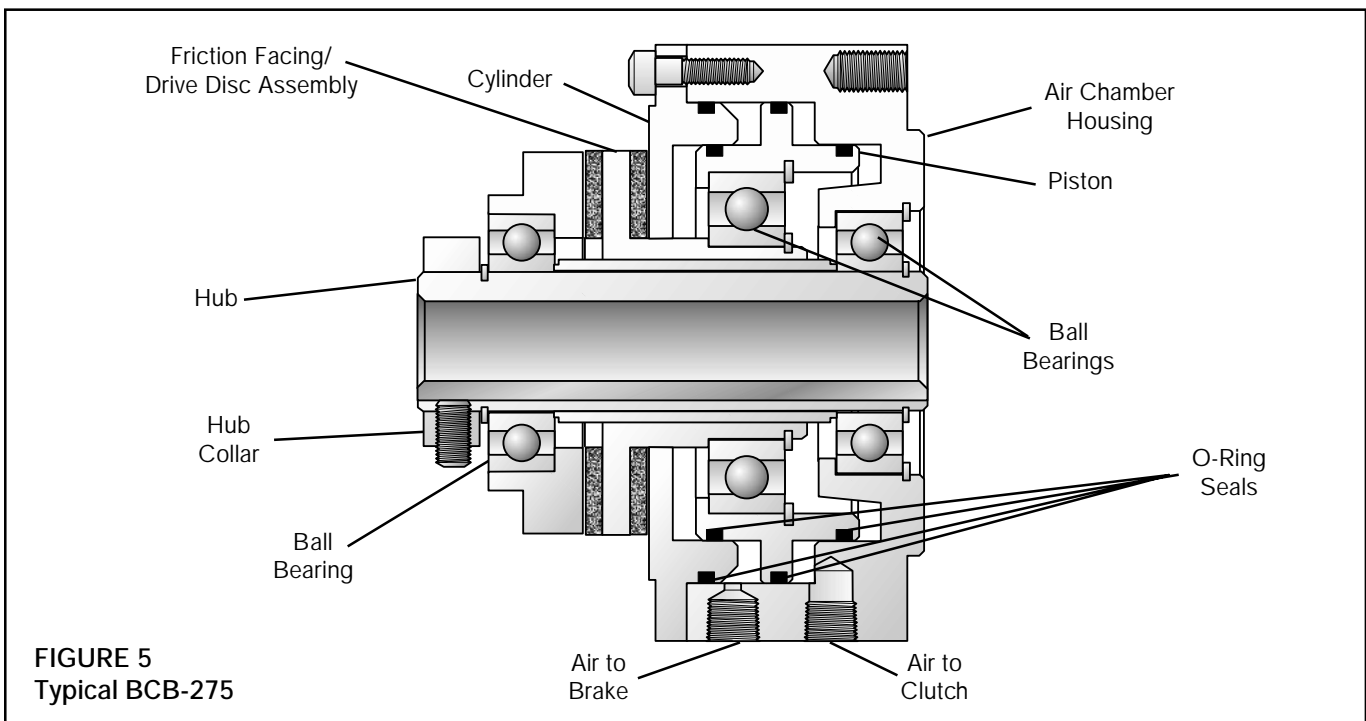


FIGURE 5
 Typical BCB-275

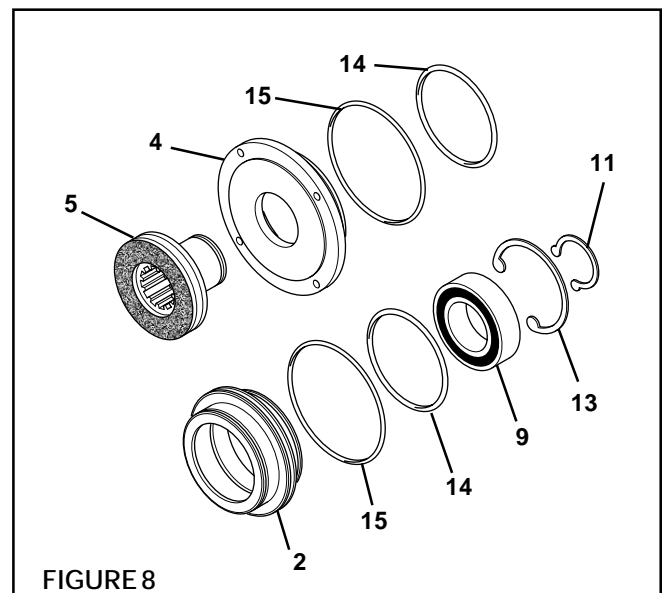
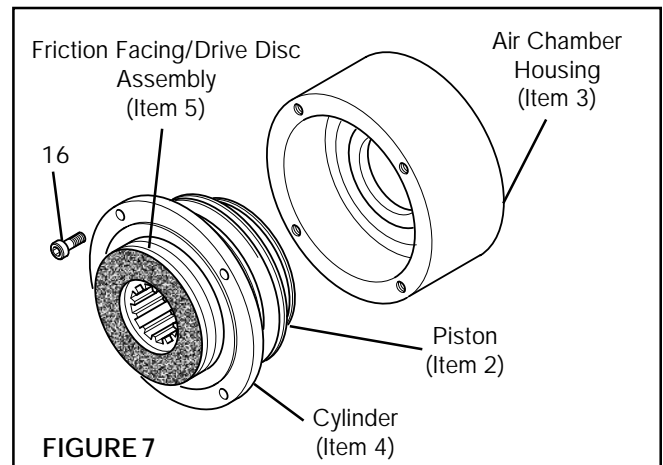
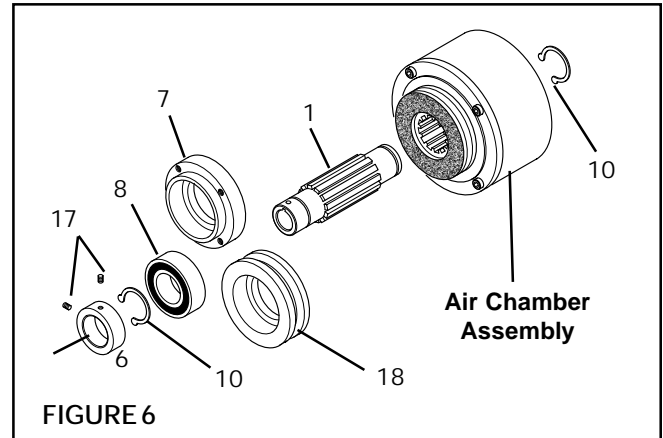
PARTS REPLACEMENT



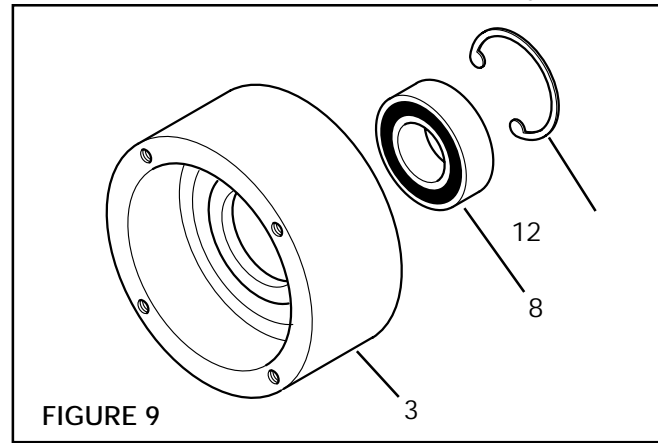
WARNING

Special attention should be exercised when working with retaining rings. Always wear safety goggles when working with spring or tension loaded fasteners or devices.

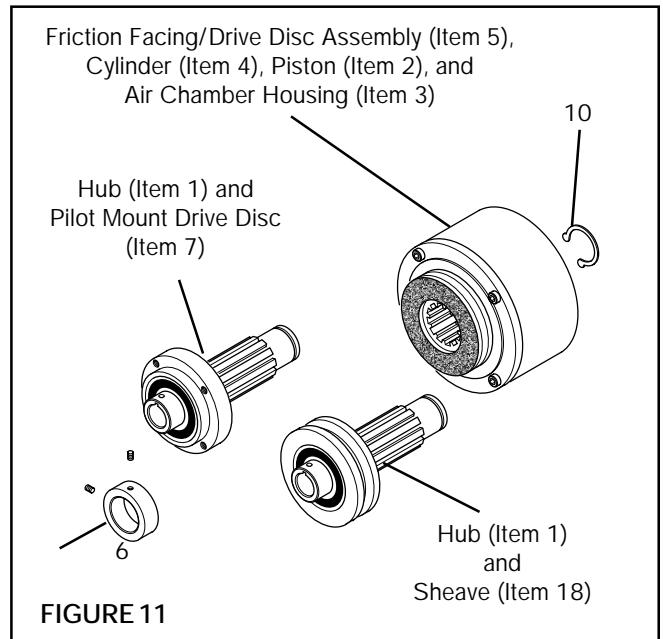
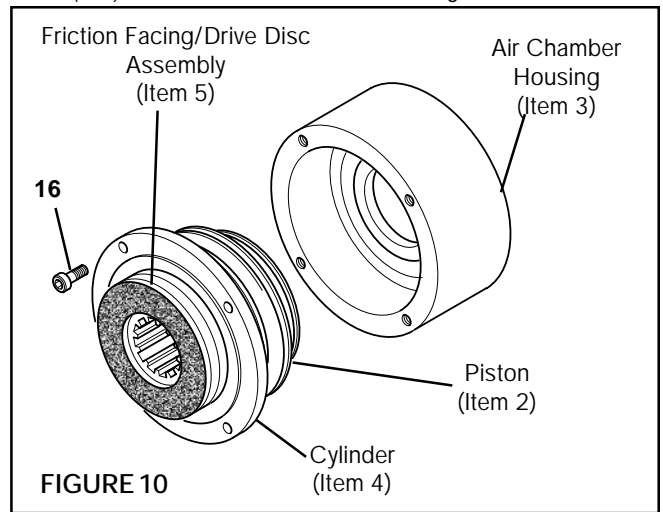
1. Remove the Retaining Ring (Item 10) and press the Air Chamber Assembly off the Hub (Item 1) (See Figure 6).
2. Loosen the Set Screws (Item 17) and slide the Hub Collar (Item 6) off the Hub (Item 1); then, remove the Retaining Ring (Item 10) (See Figure 6).
3. Press the Pilot Mount Drive Disc (Item 7) or Sheave (Item 18) off the Hub (Item 1) (See Figure 6).
4. Press the old Ball Bearing (Item 8) out of the Pilot Mount Drive Disc (Item 7) or Sheave (Item 18) (See Figure 6).
5. Clean the bearing bore of the Pilot Mount Drive Disc (Item 7) or Sheave (Item 18) with fresh safety solvent, making sure all old Loctite® residue is removed (See Figure 6).
7. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Ball Bearing (Item 8) (See Figure 6).
8. Supporting the Pilot Mount Drive Disc (Item 7) or the Sheave (Item 18) and pressing on the outer race of the new Ball Bearing (Item 8), press the new Ball Bearing into the Pilot Mount Drive Disc or Sheave (See Figure 6).
9. Press the new Ball Bearing (Item 8) and Pilot Mount Drive Disc (Item 7) or Sheave (Item 18) onto the Hub (Item 1); then, reinstall the Retaining Ring (Item 10) (See Figure 6).
10. Remove the four Socket Head Cap Screws (Item 16); then, slide the Friction Facing/Drive Disc Assembly (Item 5), Cylinder (Item 4), and Piston (Item 2) out of the Air Chamber Housing (Item 3) (See Figure 7).
11. Remove the Retaining Ring (Item 11) and press the Friction Facing/Drive Disc Assembly (Item 5) out of the Cylinder (Item 4) and Piston (Item 2) (See Figure 8).
12. Slide the Piston (Item 2) out of the Cylinder (Item 4); then, remove the old O-ring Seals (Items 14 and 15) from the Piston and Cylinder (See Figure 8).



13. Remove the Retaining Ring (Item 13) from the Piston (Item 2); then, press the old Ball Bearing (Item 9) out of the Piston (See Figure 8).
14. Clean the bearing bore of the Piston (Item 2) with fresh safety solvent, making sure all old Loctite® residue is removed (See Figure 8).
15. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Ball Bearing (Item 9) (See Figure 8).
16. Supporting the Piston (Item 2) and pressing on the outer race of the new Ball Bearing (Item 9), press the new Ball Bearing into the Piston (See Figure 8).
17. Reinstall the Retaining Ring (Item 13) (See Figure 8).
18. Clean the o-ring grooves and o-ring contact surfaces of the Piston (Item 2) and Cylinder (Item 4) with fresh safety solvent and lubricate the o-ring grooves and contact surfaces with fresh o-ring lubricant (See Figure 8).
19. Lubricate the new O-ring Seals (Items 14 and 15) and install the new O-ring Seals onto the Piston (Item 2) and Cylinder (Item 4); then, slide the Piston back into the Cylinder (See Figure 8).
20. Support the inner race of the new Ball Bearing (Item 9) and press the new Friction Facing/Drive Disc Assembly (Item 5) into the Cylinder (Item 4), Piston (Item 2), and new Ball Bearing (Item 9) (See Figure 8).
21. Reinstall the Retaining Ring (Item 11) (See Figure 8).
22. Remove the Retaining Ring (Item 12) from the Air Chamber Housing (Item 3) (See Figure 9).
23. Press the old Ball Bearing (Item 8) out of the Air Chamber Housing (Item 3) (See Figure 9).
24. Clean the bearing bore of the Air Chamber Housing (Item 3) with fresh safety solvent, making sure all old Loctite® residue is removed (See Figure 9).
25. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Ball Bearing (Item 8) (See Figure 9).
26. Supporting the Air Chamber Housing (Item 3) and pressing on the outer race of the new Ball Bearing (Item 8), press the new Ball Bearing into the Air Chamber Housing (See Figure 10).
27. Reinstall the Retaining Ring (Item 12) (See Figure 9).



28. Slide the Friction Facing/Drive Disc Assembly (Item 5), Cylinder (Item 4), and Piston (Item 2) into the Air Chamber Housing (Item 3) (See Figure 10).
29. Apply a drop of Loctite® 242 to the threads of the four Socket Head Cap Screws (Item 16); then, using the four Socket Head Cap Screws, secure the Friction Facing/Drive Disc Assembly (Item 5), Cylinder (Item 4), and Piston (Item 2) to the Air Chamber Housing (Item 3) (See Figure 10).
30. Alternately and evenly tighten the four Socket Head Cap Screws (Item 16) to 66 In. Lbs. [7.4 N•m] torque (See Figure 10).
31. Press the Hub (Item 1) and Pilot Mount Drive Disc (Item 7) or Sheave (Item 18) back into the Friction Facing/Drive Disc Assembly (Item 5), Cylinder (Item 4), Piston (Item 2), and Air Chamber Housing (Item 3) (See Figure 11).
32. Reinstall the Retaining Ring (Item 10); then, slide the Hub Collar (Item 6) back onto the Hub (Item 1) (See Figure 11).



REPLACEMENT PARTS

The item or balloon number for all Nexen products is used for part identification on all product parts lists, product price lists, unit assembly drawings, bills of materials, and instruction manuals.

When ordering replacement parts, specify model designation, item number, part description, and quantity. Purchase replacement parts through your local Nexen Distributor.

PARTS LIST

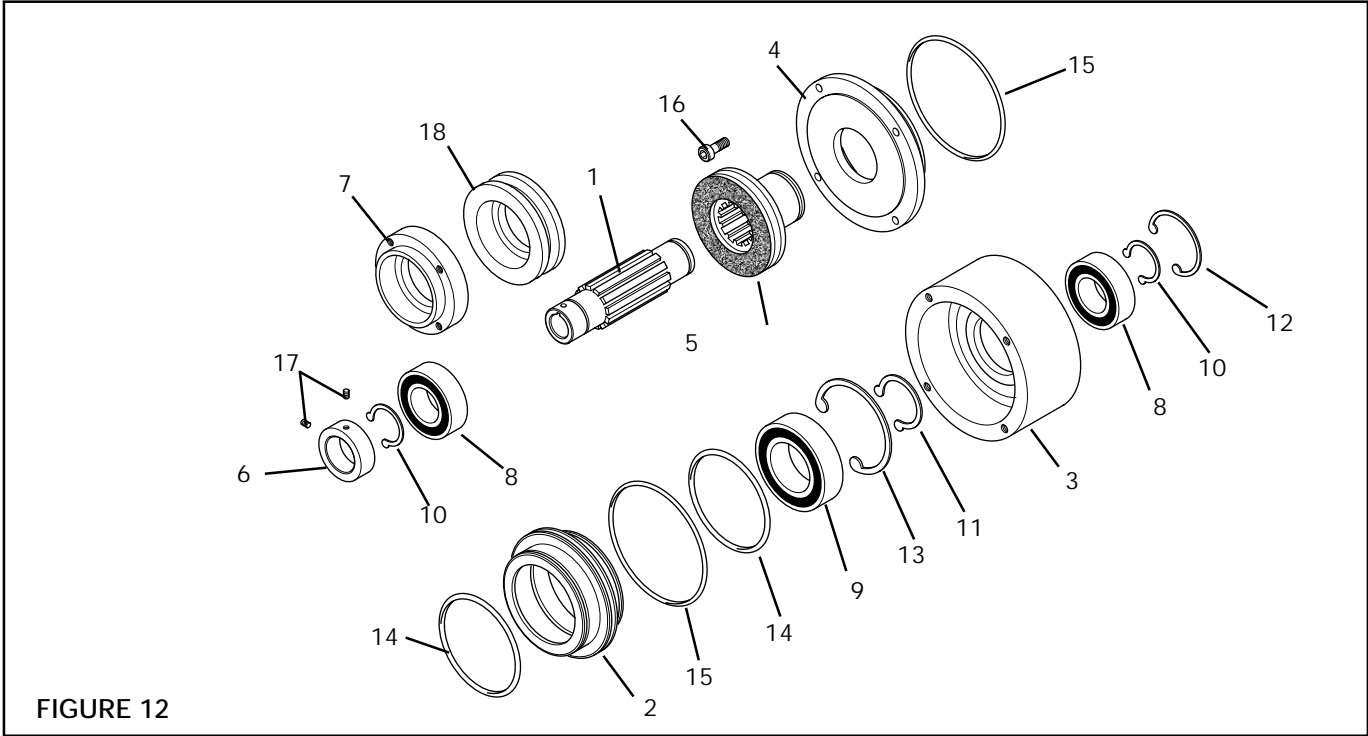


FIGURE 12

ITEM	DESCRIPTION	QTY
1	Hub	1
2	Piston	1
3	Air Chamber Housing	1
4	Cylinder	1
5 ¹	Friction Facing/Drive Disc Assembly	1
6	Hub Collar	1
7	Pilot Mount Drive Disc (Pilot Mount Only)	1
8 ¹	Ball Bearing	2
9 ¹	Ball Bearing	1
10	Retaining Ring (Ext.)	2

ITEM	DESCRIPTION	QTY
11	Retaining Ring (Ext.)	1
12	Retaining Ring (Int.)	1
13	Retaining Ring (Int.)	1
14 ¹	O-ring Seal (Small)	2
15 ¹	O-ring Seal (Large)	2
16	Socket Head Cap Screw	4
17	Set Screw	2
18	Sheave (Sheave Mount Only)	1
19	Air Line Assembly (Not Shown)	2
20	Key (Not Shown)	1

¹ Denotes Repair Kit Item.
 Repair Kit Product No. 826070.

WARRANTIES

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 images, 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.

nexen[®]

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

800.843.7445
Fax: 651.286.1099
www.nexengroup.com

ISO 9001 Certified

FORM NO. L-20106-C-0502