

AIR CHAMP[®] PRODUCTS

User Manual



Motor Brake MB450S, MB600S, and MB800S

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.

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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.

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INSTALLATION

MOTOR BRAKE

NOTE: The Nexen MB Series Motor Brake must be mounted horizontally.

1. Using the Socket Head Cap Screws (Item 16), mount the Adapter Ring (Item 15) to the motor (See Figure 1).
2. Tighten the Socket Head Cap Screws (Item 16) to the recommended torque (See Table 1).
3. Insert the Key (Item 21) into the motor shaft (See Figure 1).
4. Slide the Hub (Item 19) onto the motor shaft (See Figure 1).
5. Install and tighten the Set Screws (Item 20) (See Figure 1).

NOTE: The face of the Hub (Item 19) must be flush with the surface of the Adapter Ring (Item 15) (See Figure 2).

6. Slide the Motor Brake Assembly onto the Hub (Item 19) (See Figure 3).
7. Apply 65 psi of air pressure to the Motor Brake to release the Motor Brake.
8. Align the mounting holes of the Motor Brake with the holes of the Adapter Ring (Item 15) and install the Socket Head Cap Screws (Item 17) (See Figure 3).

NOTE: Align the air inlet to the six o'clock down position to allow condensation in the air chamber of the Motor Brake to drain out of the exhaust port.

9. Tighten the Socket Head Cap Screws (Item 17) to the recommended torque (See Table 2).
10. Release hold off air pressure.

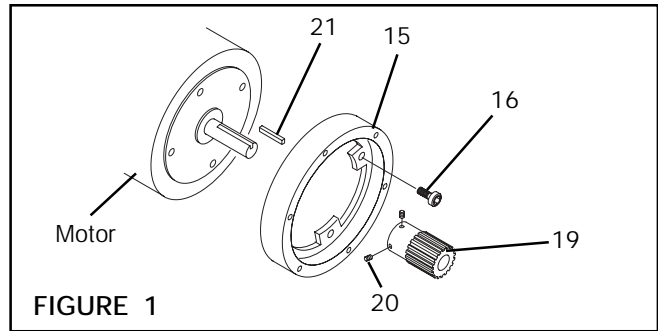


FIGURE 1

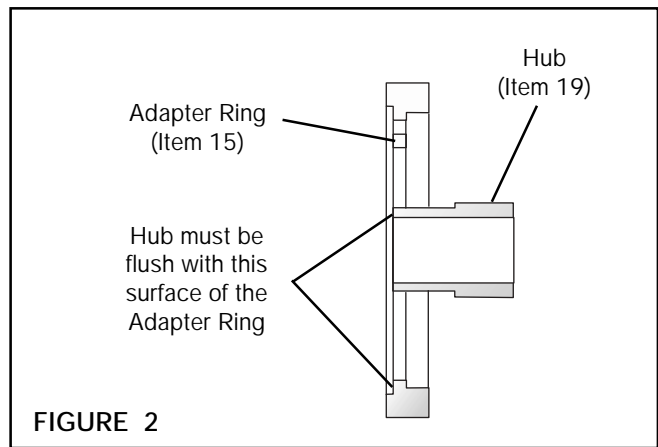


FIGURE 2

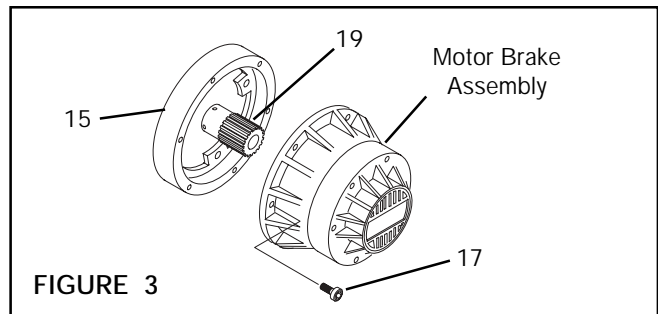


FIGURE 3

TABLE 1

RECOMMENDED TIGHTENING TORQUE SOCKET HEAD CAP SCREW (Item 16)	
MB450S	143 In. Lbs. [16.16 N•m]
MB600S	313 In. Lbs. [35.37 N•m]
MB800S	313 In. Lbs. [35.37 N•m]

TABLE 2

RECOMMENDED TIGHTENING TORQUE SOCKET HEAD CAP SCREW (Item 17)	
MB450S	46 In. Lbs. [61.82 N•m]
MB600S	80 In. Lbs. [107.52 N•m]
MB800S	143 In. Lbs. [192.19 N•m]

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 MB Series Motor Brakes.

For quick response, Nexen recommends a short air line between the control valve and the Motor Brake.

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 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 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 counter-clockwise 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 counter-clockwise one-third turn.
8. Open the air line to the unit.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Failure to Engage.	Broken Compression Springs.	Replace the Compression Springs.
	Worn Friction Facings.	Replace the Friction Facings.
Failure to Disengage.	Air leaks around the O-ring Seal.	Replace the O-ring Seal.
	Low air pressure.	Check air line for leaks and replace air line if necessary. Minimum Motor Brake release air pressure is 65 psi.

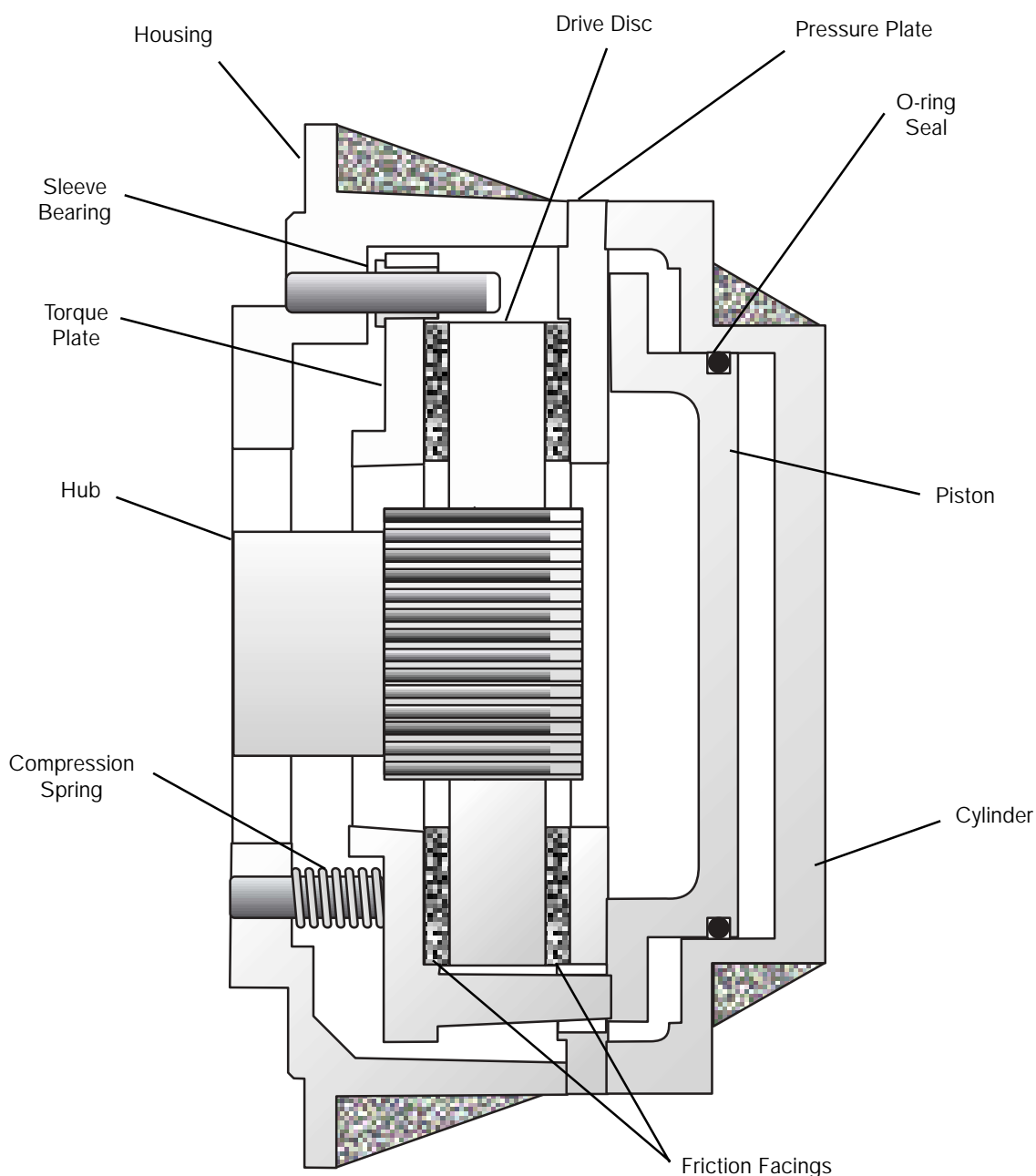


FIGURE 4

PARTS REPLACEMENT

MOTOR BRAKE

WARNING

Nexen MB Series Motor Brakes are spring engaged. The Compression Springs (Item 14) may force the Cylinder Assembly off the Housing resulting in operator injury. Use caution when removing the Socket Head Cap Screws.

1. Alternately and evenly remove the six Socket Head Cap Screws (Item 12) (See Figure 5).
2. Remove the Cylinder Assembly and separate the Piston (Item 5) from the Cylinder (Item 6) (See Figure 5).
3. Remove the old O-ring Seal (Item 9) and clean the O-ring seal contact surfaces with fresh safety solvent (See Figure 5).
4. Lubricate the new O-ring Seal (Item 9) with fresh O-ring lubricant and install the new O-Ring Seal onto the Piston (Item 5) (See Figure 5).
5. Slide the Piston (Item 5) and O-Ring Seal (Item 9) into the Cylinder (Item 6) (See Figure 5).
6. Slide the Pressure Plate (Item 4), Drive Disc (Item 3), and Torque Plate (Item 2) out of the Housing (Item 1) (See Figure 6).
7. Remove the twelve old Machine Screws (Item 8) securing the old Friction Facings (Item 7) to the Torque Plate (Item 2) and the Pressure Plate (Item 4) (See Figure 6).
8. Using twelve new Machine Screws (Item 8), secure the new Friction Facings (Item 7) to the Torque Plate (Item 2) and the Pressure Plate (Item 4) (See Figure 6).
9. Tighten the twelve Machine Screws (Item 8) to the recommended torque (See Table 3).
10. Remove old Sleeve Bearings (Item 11) and install new Sleeve Bearings provided in repair kit (See Figure 7).
11. Inspect the Compression Springs (Item 14) for signs of wear or fatigue and replace them if necessary (See Figure 7).
12. Slide the Pressure Plate (Item 4), Drive Disc (Item 3), and Torque Plate (Item 2) into the Housing (Item 1) (See Figure 6).

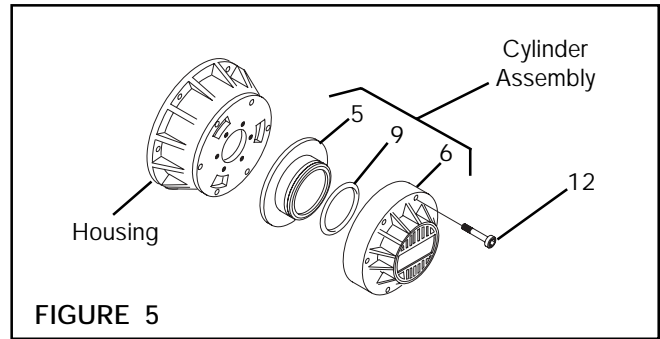


FIGURE 5

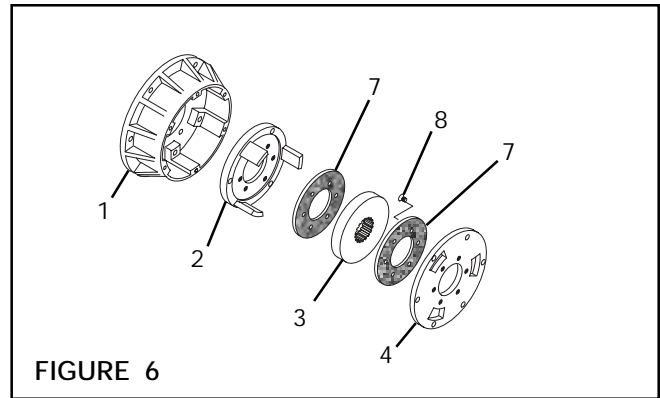


FIGURE 6

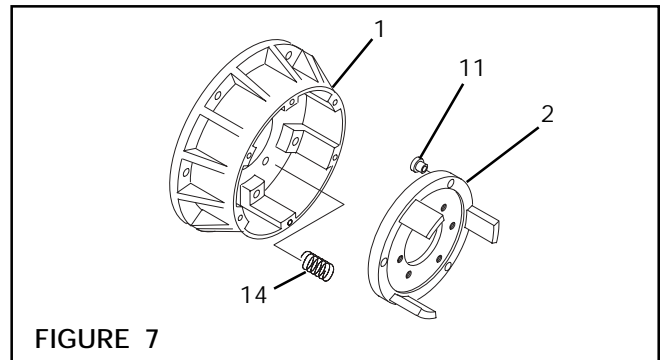


FIGURE 7

TABLE 3

RECOMMENDED TIGHTENING TORQUE MACHINE SCREW (Item 8)	
MB450S	14 In. Lbs. [1.58 N•m]
MB600S	14 In. Lbs. [1.58 N•m]
MB800S	46 In. Lbs. [5.19 N•m]

TABLE 4

RECOMMENDED TIGHTENING TORQUE SOCKET HEAD CAP SCREW (Item 12)	
MB450S	14 In. Lbs. [1.58 N•m]
MB600S	46 In. Lbs. [5.19 N•m]
MB800S	80 In. Lbs. [9.03 N•m]

13. Apply a drop of Loctite® 242 to the six Socket Head Cap Screws (Item 12) and secure the Piston (Item 5) and Cylinder (Item 6) to the Housing (Item 1) (See Figure 7).

14. Alternately and evenly tighten the six Socket Head Cap Screws (Item 12) to the recommended torque (See Figure 7 and Table 4).

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

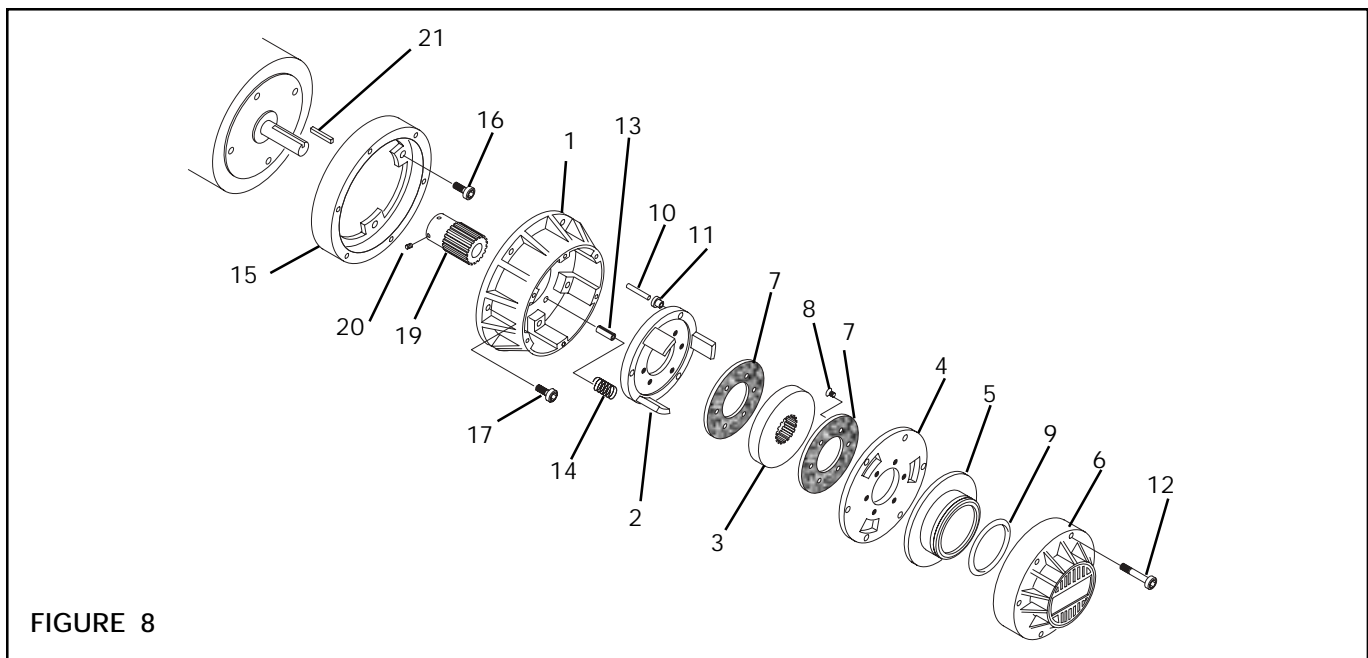


FIGURE 8

ITEM	DESCRIPTION	QUANTITY		
		MB450S	MB600S	MB800S
1	Housing	1	1	1
2	Torque Plate	1	1	1
3	Drive Disc	1	1	1
4	Pressure Plate	1	1	1
5	Piston	1	1	1
6	Cylinder	1	1	1
7	Friction Facing	2	2	2
8	Machine Screw	21	12	12
9	O-ring Seal	1	1	1
10	Dowel Pin	3	3	3

ITEM	DESCRIPTION	QUANTITY		
		MB450S	MB600S	MB800S
11	Sleeve Bearing	3	3	3
12	Socket Head Cap Screw	6	6	6
13	Spring Pin	4	10	12
14	Compression Spring	4	10	12
15	Adapter Ring	1	1	1
16	Socket Head Cap Screw	4	4	4
17	Socket Head Cap Screw	6	6	6
19	Hub	1	1	1
20	Set Screw	3	3	3
21	Key	1	1	1

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.

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