

nexenTM
formerly Horton Industrial Products

AIR CHAMP PRODUCTS

USER MANUAL



Single Post Caliper Brakes

Product No. 837414, 837415, 837416

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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ISO 9001 Certified



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.

Comply with all applicable codes.

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-NOTES-

INSTALLATION

FRAME

1. Locate the SPC Brake in the desired position in relation to the disc. The brake shoes need to be mounted with approximately 1/16 In. [1.6 mm] space between the outside edge of the shoe and the disc O.D.
2. Apply air to the brake to lock it into position in relation to the disc.
3. Align the frame on the customer supplied support so the brake arms are parallel with the brake disc and the brake shoes are positioned at least 1/16 In. [1.6 mm] in from the disc edge.

NOTE

The support must be capable of sustaining loads produced during braking.

If shims are used under the Frame (Item 1) mounting pads, care must be taken to prevent warping of the Frame when tightening the Cap Screws (Item 17).

4. Release the SPC Brake from the disc.

CAUTION

The Cap Screws (Item 17) must sustain the loads produced by the mounting torque. The torque rating specified above allows a significant load safety factor. **DO NOT OVER TORQUE THE CAP SCREWS.**

5. Tighten the Cap Screws (Item 17) and the Lock Washers (Item 20) to 50 Ft. Lbs. [67.8 N•m] torque (See Figure 1).

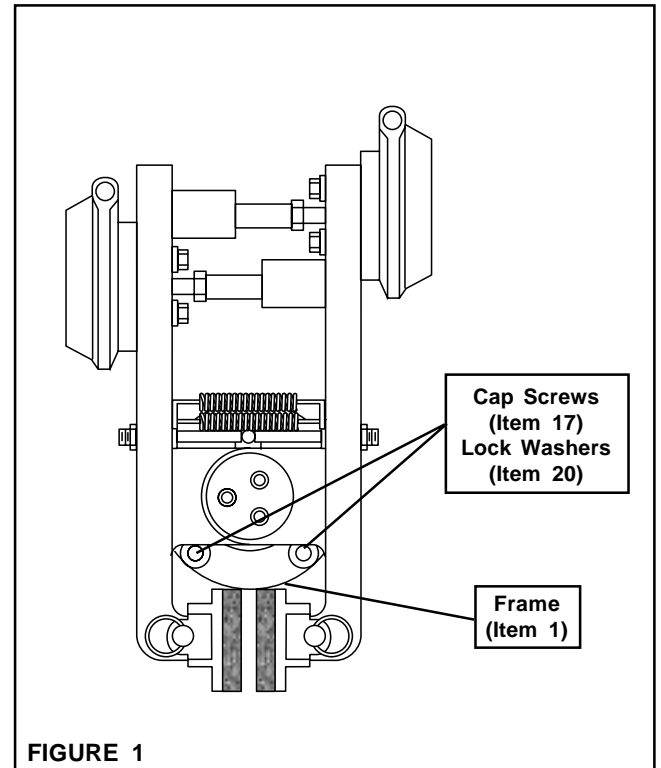


FIGURE 1

FRICITION FACING ADJUSTMENT

AIR ACTUATED

1. Loosen the Jam Nut (Item 19) (See Figure 2).
2. Turn the Adjustment Screw (Item 18) counterclockwise until a 1/32 In. [0.79 mm] customer supplied spacer can be inserted between each Friction Facing (Item 6) and the disc. Each side may be adjusted individually (See Figure 2).
3. With customer supplied spacers inserted, turn each Adjustment Screw (Item 18) clockwise until a resistance is felt (See Figure 2).
4. Remove the customer supplied spacers and tighten the Jam Nut (Item 19) to 15-20 Ft. Lbs. [20.3-27 N•m] torque (See Figure 2).
5. Loosen the Jam Nut (Item 31) (See Figure 2).
6. Adjust the Spacer (Item 32) until its spherical end touches the Block (Item 21) (See Figure 2).
7. Tighten the Jam Nut (Item 31) to 15-20 Ft. Lbs [20.3-27 N•m] torque (See Figure 2).

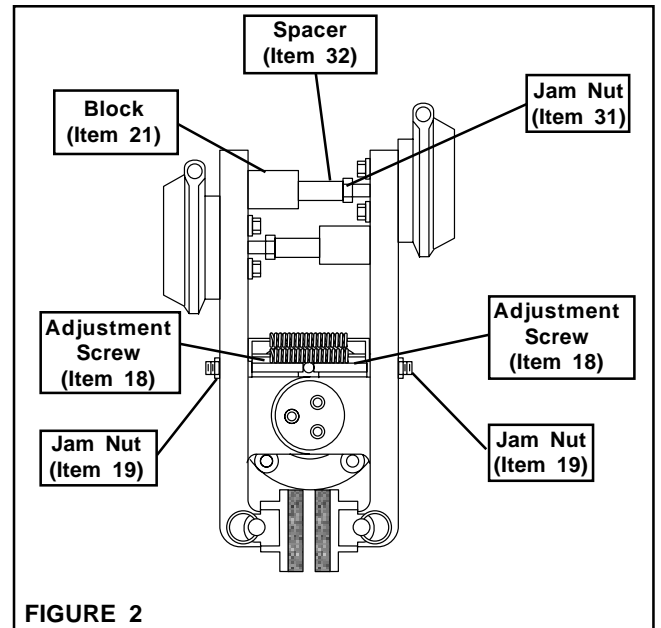


FIGURE 2

AIR CONNECTIONS

Pneumatically actuated devices require clean, pressure regulated, and lubricated air for maximum performance and long life. Your Nexen Distributor carries filters, regulators, and lubricators specifically designed to operate with Nexen clutches, brakes, and valves.

The Actuator air connections may be rotated 360° by loosening the Ring Clamp and rotating the Actuator Head.

NOTE

Maximum operating pressure is 100 psi [6.9 bar] (See Figure 6).

Tighten the Ring Clamp Bolts to 25-35 Ft. Lbs. [33.7-47.3 N•m] torque.

CAUTION

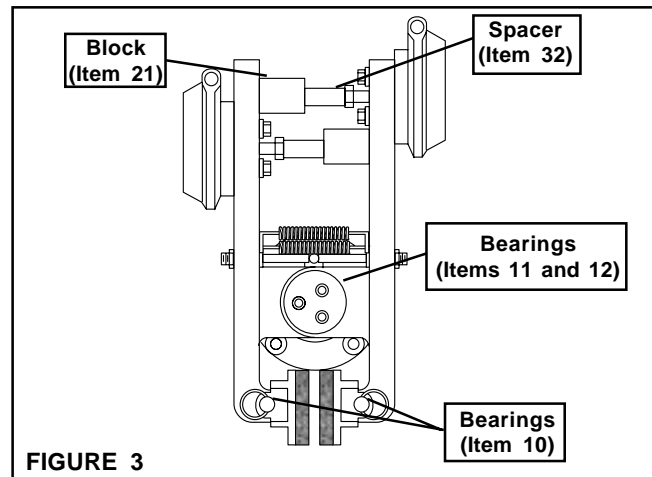
Do not use rigid pipe or tubing when connecting directly to the Brake. Care must also be taken to prevent an unshielded air hose from rubbing on metal surfaces or edges, as this will cause rapid deterioration of the hose.

LUBRICATION

All pivot points on the Single Post Caliper Brake use self-lubricated bearings.

For tension control applications where the disc is held at elevated temperatures for extended periods, use a light machine oil on Bearings (Items 10, 11, and 12) (See Figure 3).

The sliding spherical contact between the Block (Item 21) and Spacer (Item 32) should be lubricated with a molybdenum disulfide-based grease (See Figure 3).



MAINTENANCE

1. Adhere to the following bolt tightening torques (See Table 1).
2. Check tightness of all air line connections, and condition of all air lines. Replace worn or damaged air lines.
3. Inspect Friction Facings for wear. Replace if worn to approximately 5/16 In. [7.93 mm] thick.
4. Lubricate Items that require lubrication (See LUBRICATION).

ITEM	DESCRIPTION	TORQUE
15	Machine Screw (Friction Facing)	8-12 Ft. Lbs. [12-16 N•m]
17	Cap Screw (Frame Mounting)	50 Ft. Lbs. [67.5 N•m]
19	Jam Nut (Adjustment Screw)	15-20 Ft. Lbs. [20.3-27 N•m]
22	Cap Screw	42-55 Ft. Lbs. [57-75 N•m]
24	Cap Screw (Retaining Plate)	25-33 Ft. Lbs. [34-44 N•m]
31	Jam Nut (Spacer)	15-20 Ft. Lbs. [20.3-27 N•m]
33	Cap Screws (Actuator)	48 Ft. Lbs. [64.8 N•m]
-	Actuator Clamp Ring, Bolt & Nut	25-35 Ft. Lbs. [34-47.3 N•m]
-	Tap Bolt (Spring Engaged Unit)	10-15 Ft. Lbs. [13.5-20.2 N•m]

TABLE 1

PARTS REPLACEMENT

FRICITION FACINGS

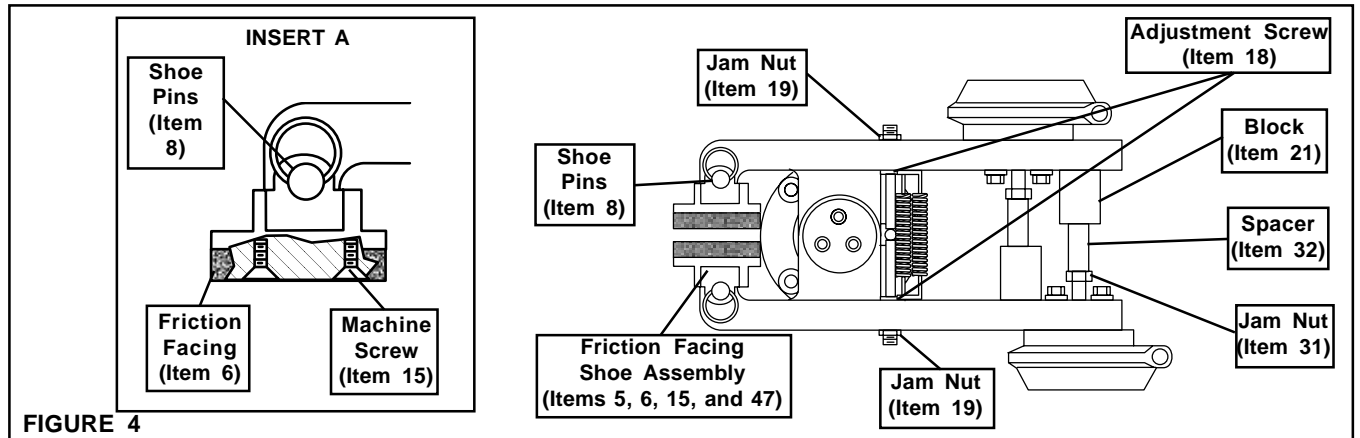


FIGURE 4

NOTE

When replacing Friction Facings, inspect the Friction Disc for scoring or grooves. If necessary, the Rotor may be turned.

1. Remove the Shoe Pins (Item 8) (See Figure 4).

NOTE

Two Belleville Springs (Item 47) are compressed between the Arm (Item 2 or 3) and the Shoe (Item 5). When the Shoe is removed, the Belleville Springs will fall free from the Brake Arms.

2. Remove the Friction Facing Shoe Assembly (Items 5, 6, 15, and 47) (See Figure 4).

NOTE

The Machine Screws are assembled with an anaerobic locking compound. Inserting a properly fitting screwdriver into the head of the Machine Screw and striking the screwdriver with a hammer will break the crystalline structure of this locking compound and allow removal of the Machine Screws. Never use an impact wrench to remove the Machine Screws.

3. Remove the old Machine Screws (Item 15) and old Friction Facings (Item 6) (See Figure 4).
4. Using new Machine Screws (Item 15), install new Friction Facings (Item 6) (See Figure 4).
5. Tighten the new Machine Screws (Item 15) to 8-12 Ft. Lbs. [12-16 N•m] torque.
6. Reinstall the Friction Facing Shoe Assembly (Items 5, 6, 15, and 47) (See Figure 4).
7. Reinstall the Shoe Pins (Item 8) (See Figure 4).
8. Perform Friction Facing clearance adjustment (See FRICTION FACING ADJUSTMENT).

AIR ACTUATOR

1. Insert the Rod (Item 30), Jam Nut (Item 31), and Spacer (Item 32) into the Actuator (See Figure 5).

NOTE

Mount this assembly on either the Low Torque Arm (Item 3) or the High Torque Arm (Item 4) (See Figure 5).

2. Install the Cap Screws (Item 33) and the Lock Washers (Item 34) (See Figure 5).
3. Tighten the Cap Screws (Item 33) to 48 Ft. Lbs. [64.5 N•m] torque.

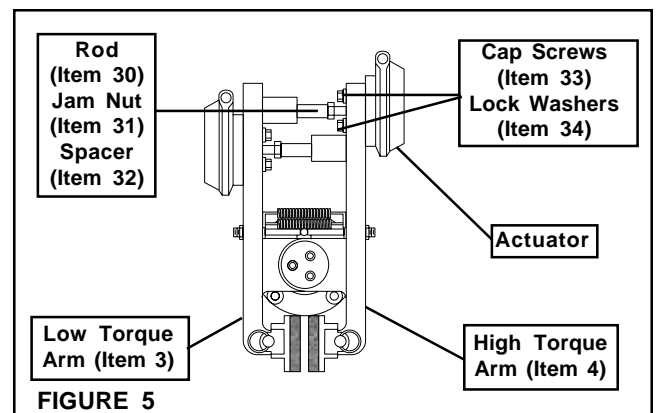


FIGURE 5

BEARINGS

1. Remove the Springs (Items 14 and 48) (See Figure 6).
2. Remove the Shoe Pins (Item 8), and Friction Facing Shoe Assembly (Items 5, 6, 15, and 47) (See Figure 6).

NOTE

Two Belleville Springs (Item 47) are compressed between the Arm (Item 2 or 3) and the Shoe (Item 5). When the Shoe is removed, the Belleville Springs will fall free from the Brake Arms.

3. Remove the three Cap Screws (Item 24) (See Figure 6).
4. Remove the top Retaining Plate (Item 13) (See Figure 6).
5. Remove the Low Torque Arm (Item 3), one old Thrust Bearing (Item 12), the High Torque Arm (Item 4), and the second old Thrust Bearing (Item 12) from the Pivot Pin (Item 2) (See Figure 6).
6. Press the old Bearings (Items 10 and 11) out of the Arms (Items 3 and 4).
7. Press new Bearings (Item 10 and 11) into the Arms (Items 3 and 4) (See Figure 6).
8. Reinstall the first new Thrust Bearing (Item 12), Low Torque Arm (Item 3), the second new Thrust Bearing (Item 12), and the High Torque Arm (Item 4) onto the Pivot Pin (Item 2) (See Figure 6).
9. Reinstall the top Retaining Plate (Item 13) (See Figure 6).
10. Reinstall the three Cap Screws (Item 24) (See Figure 6).
11. Tighten the Cap Screws (Item 24) to 25-33 Ft. Lbs. [34-44 N•m] torque.
12. Reinstall the Friction Facing Shoe Assembly (Items 5, 6, 15, and 47) and the Shoe Pins (Item 8) (See Figure 6).
13. Reinstall the Springs (Items 14 and 48) (See Figure 6).

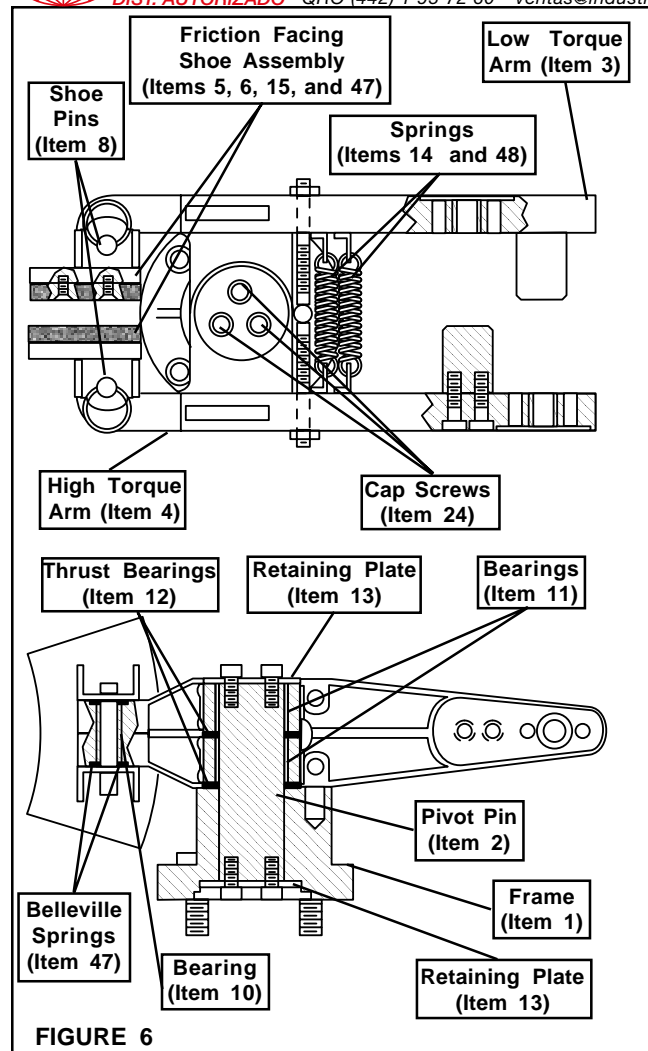


FIGURE 6

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

BRAKE

ITEM	DESCRIPTION	QTY
1	Frame	1
2	Pivot Pin	1
3	Arm (Low Torque)	1
4	Arm (High Torque)	1
5	Shoe	2
6 ^{1,2}	Friction Facing	2
7	Spring Holder	6
8	Shoe Pin	2
9	Dowel Pin	1
10 ¹	Bearing	4
11 ¹	Bearing	2
12 ¹	Thrust Bearing	2
13	Retaining Plate	2
14 ¹	Spring	1
15 ^{1,2}	Machine Screw	8
16	Cap Screw	6
17	Cap Screw	4
18	Adjustment Screw	2
19	Jam Nut	2
20	Lock Washer	4
21	Block	2
22	Cap Screw	4
24	Cap Screw	6
46 ¹	Bushing	2
47 ^{1,2}	Belleville Spring	4
48 ¹	Spring	2

¹ Denotes Repair Kit item.
Repair Kit Product No. 837478.

² Denotes Facing Kit item.
Facing Kit Product No. 837479.

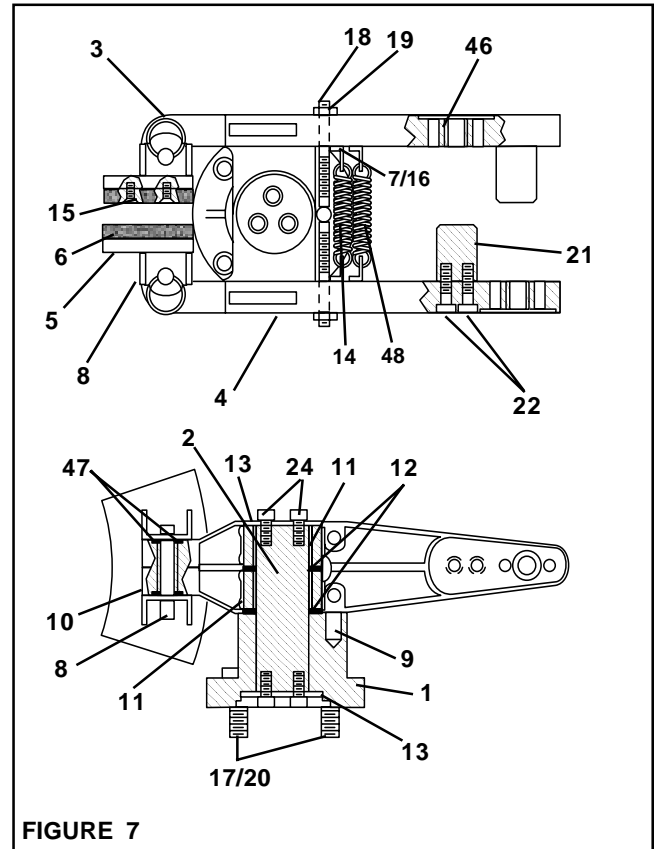


FIGURE 7

AIR ACTUATOR (PRODUCT NO. 837501)

ITEM	DESCRIPTION	QTY
25	Cap	1
26	Clamp	1
27	Bottom	1
28	Diaphragm	1
29	Piston Assembly	1
30	Rod	1
31	Jam Nut	1
32	Spacer	1
33	Cap Screw	2
34	Lock Washer	2
36	Fitting Connector (Not Shown)	1
37	Fitting Bushing (Not Shown)	1
38	Lock Washer (Ext. Tooth)	4

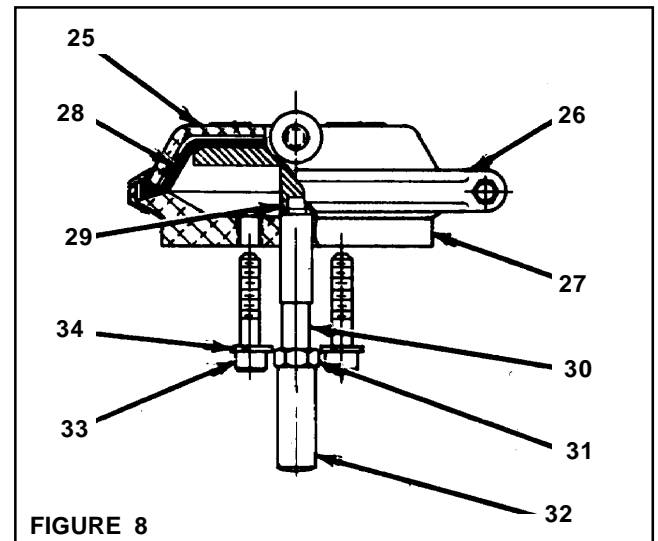


FIGURE 8

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WARRANTY

Nexen Group, Inc. (Nexen) warrants its product(s) [the Product(s)] will be free from defects in materials and workmanship under normal use and service conditions for a period of 12 months from the date of shipment. NO OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, OR OF FITNESS FOR A PARTICULAR PURPOSE, ARE GIVEN, AND ALL SUCH OTHER WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

Conditions

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) the claimant has complied with the warranty claim procedures set out below in Warranty Claim Procedures.

Exclusive Remedy

The sole and exclusive remedy for a breach of this warrant shall be, at Nexen's sole election, repair or replacement with new, serviceably used or reconditioned Product, or issuance of a credit in the amount of the current Nexen discounted price for the Product.

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 Nexen and deliver the Product to Nexen within one year of the date on which the alleged defect first became apparent.

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