

nexen.

Model S-450, S-600, S-800 and S-1000 Brake Installation, Operation and Maintenance Instructions

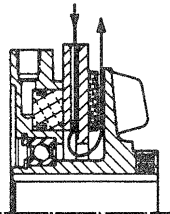
I. Installation

- A. Insert Key (16) into shaft keyway.
- B. Slide brake over key onto shaft.
- C. Tighten Set Screws (17).
- D. Align the brake's air inlet to the six o'clock down position.
- E. Using the four holes provided in the air chamber flange, or a torque pin in the slot provided, secure the brakes Air Chamber (4) to prevent brake rotation and to take up braking torque.

Caution: 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. Contact your local Horton distributor for guards specifically designed for "Air Champ" brakes.

II. Air Connections

- A. Pneumatic activated 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.
- B. For quick response, a short air line between the control valve and brake is recommended. The brake's air inlet, located in the Air Chamber Assembly (4) is tapped 1/4 N.P.T. Air controls with 3mm ports are recommended and a quick exhaust valve should be used when long air lines or high cyclic rates are required.
- C. A #10-32 tapped hole is provided in the Piston Plate (3) to allow auxiliary cooling of the brake's friction surface.



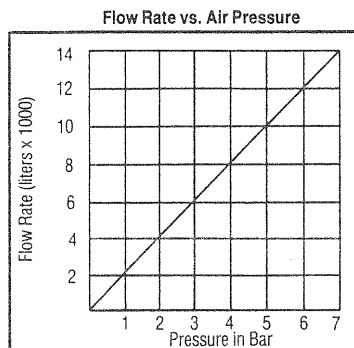
Flow Path Of Cooling Air

An air hose, Product Number 8570, with proper fittings is available from Nexen for use with this feature. Internal air cooling will increase the brakes thermal capacity approximately 50 watts per 2000 liters/min. of cooling air over the brakes rated thermal horsepower at any rpm.

Example: A S-1000 develops 746 watts at 200 rpm. Referring to the flow rate vs. air pressure graph, 6 bar of cooling air increases the thermal horsepower 300 watts.

$$\text{Result: } 746 + 300 = 1046 \text{ watts}$$

Use non-lubricated air tapped off the air line ahead of the lubricator.



III. Lubrication

- A. The most effective and economical way to lubricate the "S" series brake is with an air line lubricator. Available from Nexen, the lubricator injects oil into the pressurized air, forcing a constant oil mist into the air chamber.
Locate the lubricator above and within 3m of the brake. Use a low viscosity petroleum base oil such as SAE10. Synthetic lubricants are not recommended. For brakes cycled infrequently, apply two or three drops of oil into the air inlet every two weeks.
- B. The Bearing (8) used in the "S" series brake is prelubricated and does not require periodic lubrication.

IV. Troubleshooting

With periodic inspection and proper lubrication your Nexen Clutch should provide trouble-free service. The following list is provided as a troubleshooting aid in the event of a malfunction.

- A. Failure to Engage
 1. Air not getting to unit due to Control Valve malfunction or low air pressure.
 2. Defective 0-rings causing air leaks.
- B. Failure to Disengage
 1. Broken return springs.
 2. Unexhausted air due to control valve malfunction.
 3. Dry or dirty 0-rings.
- C. Loss of Torque
 1. Worn friction facing.
 2. Dirty friction facing.
 3. Low air pressure.
 4. Mechanical interference.
- D. Noise (other than lining squeal)
 1. Bearing failure.
 2. Loose fasteners.

V. Parts Replacement

Replacement parts are available in two repair kits consisting of:

- A. Facing Kit: 2 facings and 6 machine screws.
- B. Rebuild Kit: Facing kit plus bearing, 3 shoulder screws, 3 return springs and 2 0-rings.

To order a repair kit, specify the model and repair kit product number from the following table.

Model	Facing Kit	Repair Kit
S-450	818971	818900
S-600	820571	820500
S-800	827471	827400
S-1000	827571	827500

- A. Friction Facing (5) Replacement
 1. The split friction facing can be replaced without disassembling the brake. The Brass Machine Screws (14) are accessible through holes provided in the hub/friction disc.
 2. The Machine Screws (14) are assembled with a red anaerobic compound. If removal is difficult, strike the end of the screwdriver with a hammer to break the crystalline structure of this compound before attempting to remove the screws.

- B. O-ring (11 and 12 and Bearing Replacement)
1. Remove Retaining Rings (9 and 10).
 2. Press Hub/Friction Disc (1) out of Bearing (8).
 3. Remove Shoulder Screws (6) and return Springs (7).
 4. Remove Piston Plate (3) and Piston (2).
 5. Press Bearing (8) out of Air Chamber (4).
 6. Apply Loctite RC601 to the outer race of the new bearing and care-fully press it into the air chamber.
 7. Lubricate O-rings with O-ring lubricant and install them into piston.
 8. Replace piston and piston plate.
 9. Supporting the bearings inner race, press hub/friction disc into bearing and replace retaining rings.
 10. Install new springs and replace shoulder screws.
 - a. Use a red anaerobic thread locking compound on shoulder screws to prevent loosening.
 - b. Tighten shoulder screw to recommended torque.

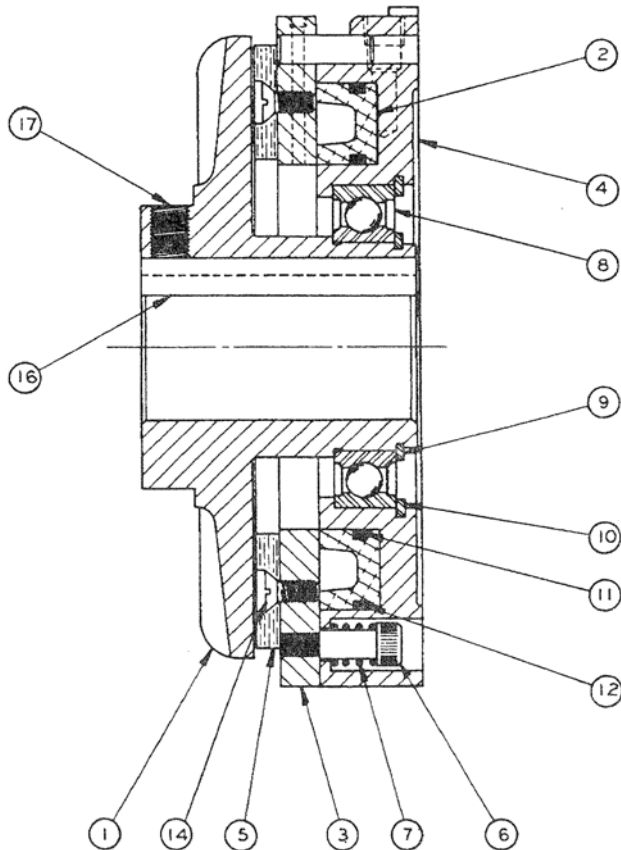
S-450	5,4 Nm torque
S-600	5,4 Nm torque
S-800	25,8 Nm torque
S-1000	43,4 Nm torque

VI. Replacement Parts

The item number or "balloon" number for all Nexen products is used for parts identification on all Product Parts Lists, Product Price Lists, Unit Assembly Drawings, Bills of Materials, and Instruction Manuals.

When ordering replacement parts, specify the model designation, item number, part description, and quantity.

Purchase replacement parts through your local Nexen Distributor.



Notes:

1. Approx. gap between disc (1) and facing (5) 0,9mm.
2. Use red Loctite #271 to secure item (6) into (3).

Parts List

Item	Description	Quantity
1	Hub/Friction Disc	1
2	Piston	1
3	Plate, Piston	1
4	Air Chamber Assembly	1
*5	Facing, Friction	2
*6	Screw, Shoulder	3
*7	Spring, Return	3
*8	Bearing	1
9	Ring, Retaining	1
10	Ring, Retaining	1
*11	O-Ring	1
*12	O-Ring	1
*14	Screw, Machine	6

*Repair Kit Items

Accessories

Model	Torque Pin Bracket Product No.	Brake Safety Guard Product No.
S-450	819900	817700
S-600	821400	818300
S-800	823400	826300
S-1000	825500	828200

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