

SE BRAKES SE-500-1 INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS



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 of 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.

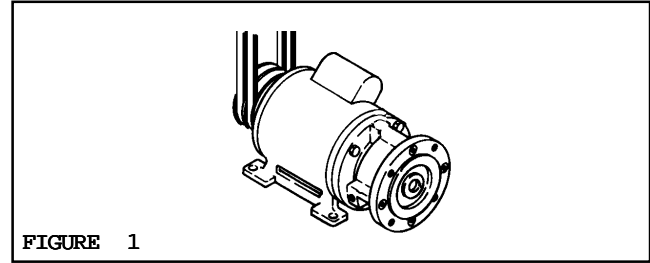
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INSTALLATION

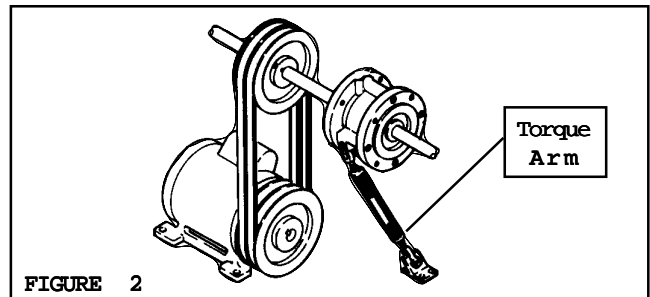
MOTOR SHAFT MOUNTED SE BRAKE OPPOSITE DRIVE END ON DOUBLE C-FACED MOTOR

1. Insert the Key (Item 37) into shaft keyway (See Figure 1).
2. Slide the SE Brake onto motor shaft and secure with mounting bolts (See Figure 1).



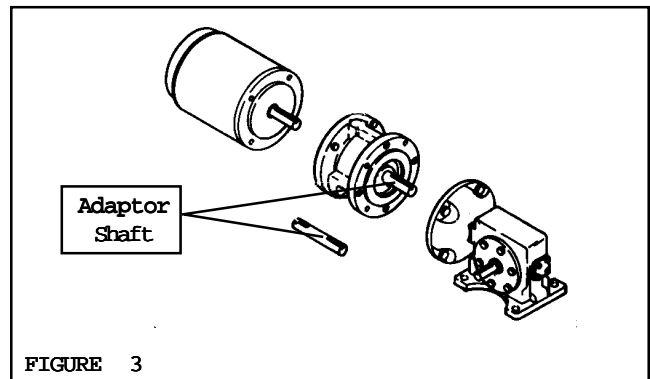
SHAFT MOUNTED SE BRAKE WITH TORQUE ARM

1. Insert the Key (Item 37) into the shaft keyway (See Figure 2).
2. Slide the SE Brake onto the shaft (See Figure 2).



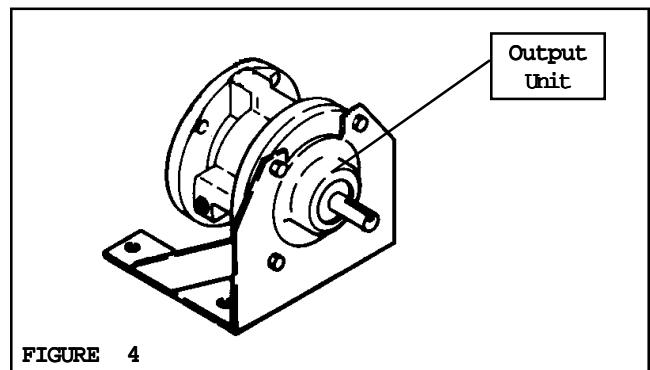
SE BRAKE MOUNTED BETWEEN A MOTOR AND GEAR REDUCER

1. Insert the Key (Item 37) into the shaft keyway.
2. Slide the SE Brake onto motor shaft and secure it with mounting bolts (See Figure 3).
3. Insert the first customer supplied key into the adaptor shaft and insert the adaptor shaft into the SE Brake (See Figure 3).
4. Insert the second customer supplied key into the adaptor shaft; then, insert the adaptor shaft into reducer and bolt the SE Brake and motor to the gear reducer (See Figure 3).



NOTE

An output unit can be mounted to the SE Brake when a through drive arrangement is desired (See Figure 4). The output unit can then be used to mount a sheave, sprocket, or other desired drive.



AIR CONNECTIONS

Nexen's SE Brakes engage when the air supply is exhausted by the control valve or when there is a loss of air supply, and disengage when air pressure is applied (See Table 1).

For maximum performance, mount the control valve as close to the SE Brake as possible. A Hose Assembly (Item 36) is supplied.

SE Brake engagement is controlled by a Restrictor Valve (Item 41). For faster response, remove the Restrictor Valve. If fastest response time is needed, install a Quick Exhaust Valve in place of the Restrictor Valve.

MINIMUM DISENGAGEMENT AIR PRESSURE	
MODEL	AIR PRESSURE
SE-500-1	30 PSI

TABLE 1

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 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 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 counterclockwise until closed.
7. Turn the Lubricator Adjustment Knob clockwise one-third turn.
8. Open the air line to the unit.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Failure to engage.	Air not being exhausted due to Control Valve malfunction.	Replace Control Valve.
	Broken Engagement Springs.	Replace Engagement Springs.
	Internal contamination or corrosion.	Align exhaust port to the six o'clock down position to allow condensation to drain out of exhaust port.
Failure to disengage.	Low or lack of air pressure.	Check for Control Valve malfunction; replace the Control Valve if defective. Check for leaks in air lines and replace the air lines if defective.
	Friction lock due to lack of lubrication on Hub Spline or in Air Chamber.	Lubricate Hub Spline with NEVER-SEEZfi . Use an Air Line Lubricator.
	Internal contamination or corrosion.	Align exhaust port to the six o'clock down position to allow condensation to drain out of exhaust port.
Loss of torque.	Worn or dirty Friction Facings.	Replace Friction Facings.

MEX (56) 53 63 23 31 MTY (81) 83 54 10 18
 QRO (442) 1 95 72 60 ventas@industrialmagza.com

PARTS REPLACEMENT

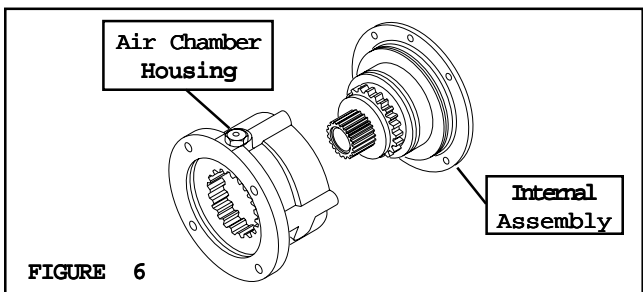
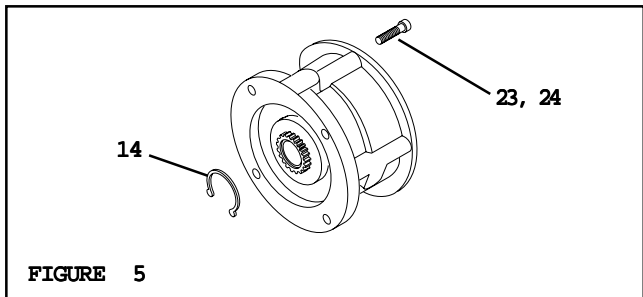
SE DISASSEMBLY

1. Apply air pressure to disengage the SE Brake.

WARNING

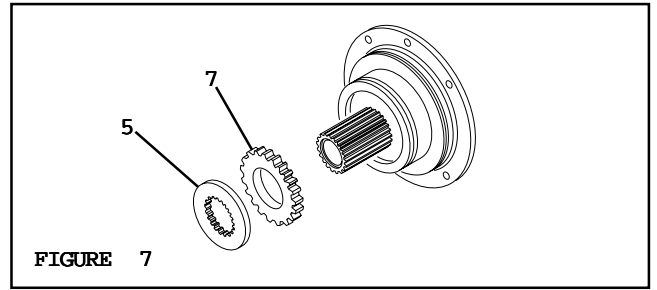
Special attention should be exercised when working with retaining rings. Always wear safety goggles when working with spring or tension loaded fasteners or devices.

2. Remove the Retaining Ring (Item 14) (See Figure 5).
3. Exhaust air pressure.
4. Alternately and evenly remove Socket Head Cap Screws (Item 23) and Lock Washers (Item 24) (See Figure 5).
5. Slide the Air Chamber Housing (Item 2) off the internal assembly of the SE Brake (See Figure 6).



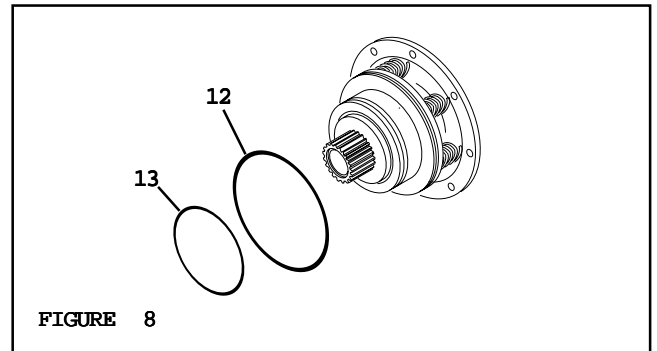
FRICITION FACING REPLACEMENT

1. Remove the three Friction Plates (Item 5) and old Friction Facings (Item 7) (See Figure 7).
2. Install the new Friction Facings (Item 7).



O-RING SEALS

1. Remove old O-ring Seals (Items 12 and 13) (See Figure 8).
2. Clean O-ring contact surfaces of the Piston (Item 3) and Air Chamber Housing (Item 2) with fresh safety solvent.
3. Lubricate new O-ring Seals (Items 12 and 13) and O-ring contact surfaces with a thin film of fresh O-ring lubricant.
4. Install new O-ring Seals (Items 12 and 13).



BEARINGS

1. Slide Friction Disc (Item 6) and Piston (Item 3) off Hub (Item 1) (See Figure 9).

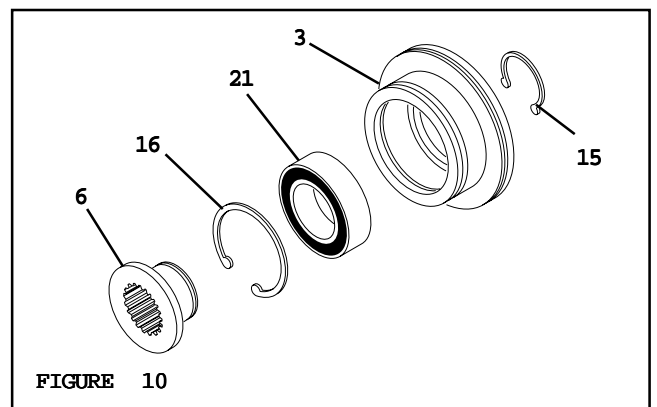
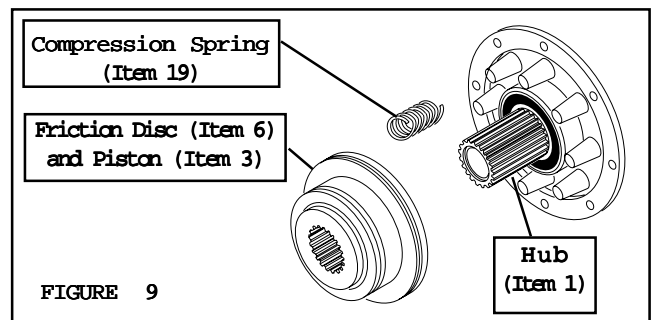
NOTE

Inspect Compression Springs (Item 19) for signs of wear or fatigue. Replace springs if worn or if signs of fatigue exist (See Figure 9).

WARNING

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

2. Remove Retaining Ring (Item 15) and press the Friction Disc (Item 6) out of the old Bearing (Item 21) (See Figure 10).
3. Remove the Retaining Ring (Item 16) and press the old Bearing (Item 21) out of the Piston (Item 3) (See Figure 10).
4. Clean the bearing bore of the Piston (Item 3) with fresh safety solvent.



5. Remove the Retaining Ring (Item 33) (See Figure 11).
6. Press the Hub (Item 1) out of the Spring Housing (Item 4) and the old Bearing (Item 22) (See Figure 11).
7. Remove the Retaining Ring (Item 17) (See Figure 12).
8. Press the old Bearing (Item 22) out of the Spring Housing (Item 4) (See Figure 12).
9. Clean the bearing bore of the Spring Housing (Item 4) with fresh safety solvent.
10. Apply Loctite® 680, or equivalent, to the outer races of the new Bearings (Items 21 and 22).
11. Carefully align the O.D. of the new Bearing (Item 22) with the bore of the Spring Housing (Item 4) and press the Bearing into the Spring Housing.
12. Carefully align the O.D. of the new Bearing (Item 21) with the bore of the Piston (Item 3) and press the Bearing into the Piston.
13. Reinstall the Retaining Ring (Item 17) (See Figure 12).
14. Press the Hub (Item 1) into the Spring Housing (Item 4) and the new Ball Bearing (Item 22) (See Figure 11).
15. Reinstall the Retaining Ring (Item 33) (See Figure 11).
16. Press the new Bearing (Item 21) into the Piston (Item 3) and reinstall the Retaining Ring (Item 16) (See Figure 13).
17. Press the Friction Disc (Item 6) into the new Bearing (Item 21) and reinstall the Retaining Ring (Item 15) (See Figure 13).
18. Slide the Friction Disc (Item 6) and Piston onto the Hub (Item 1).

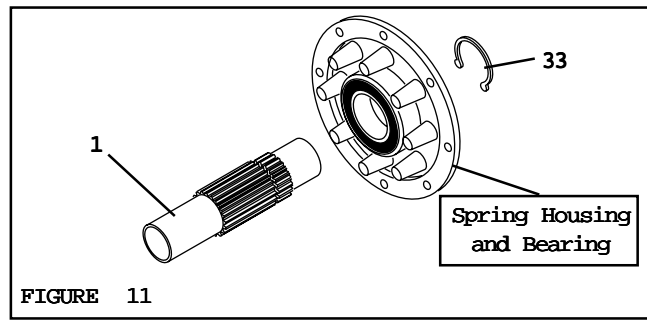


FIGURE 11

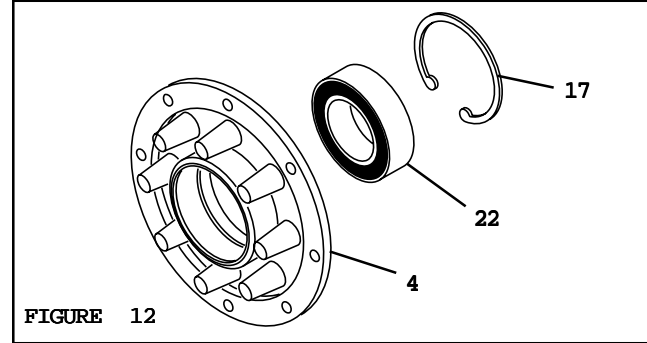


FIGURE 12

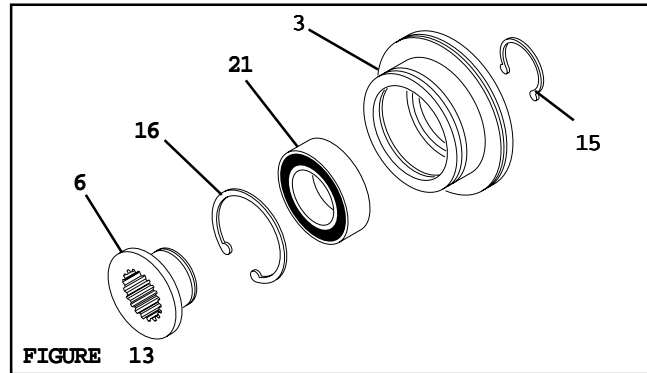


FIGURE 13

BRAKE REASSEMBLY

1. Slide the Air Chamber Housing (Item 2) onto the internal assembly (See Figure 14).
2. Using four Socket Head Cap Screws (Item 23) and Lock Washers (Item 24), secure the SE Brake halves together (See Figure 15).
3. Alternately and evenly tighten the four Socket Head Cap Screws (Item 23) to 8 Ft. Lbs. [10.8 N•m] torque.
4. Apply air pressure to disengage the SE Brake.

WARNING

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

5. Install Retaining Ring (Item 14) (See Figure 15).
6. Exhaust air pressure.

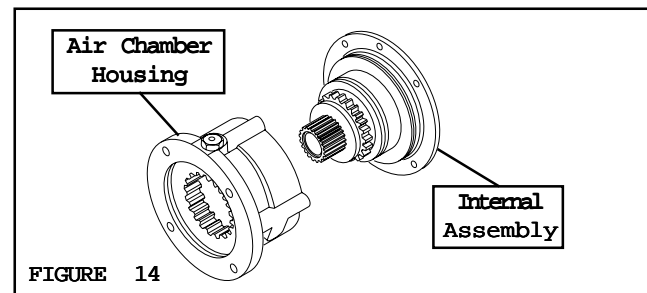


FIGURE 14

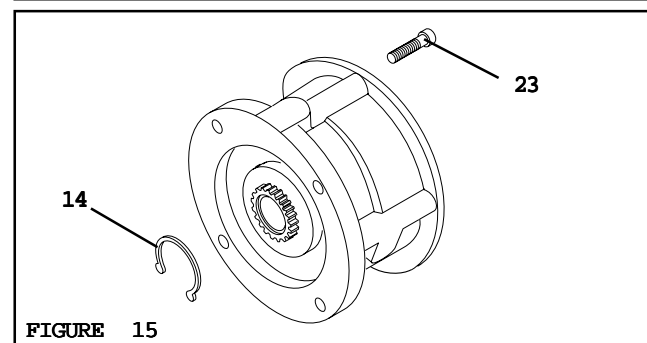


FIGURE 15

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

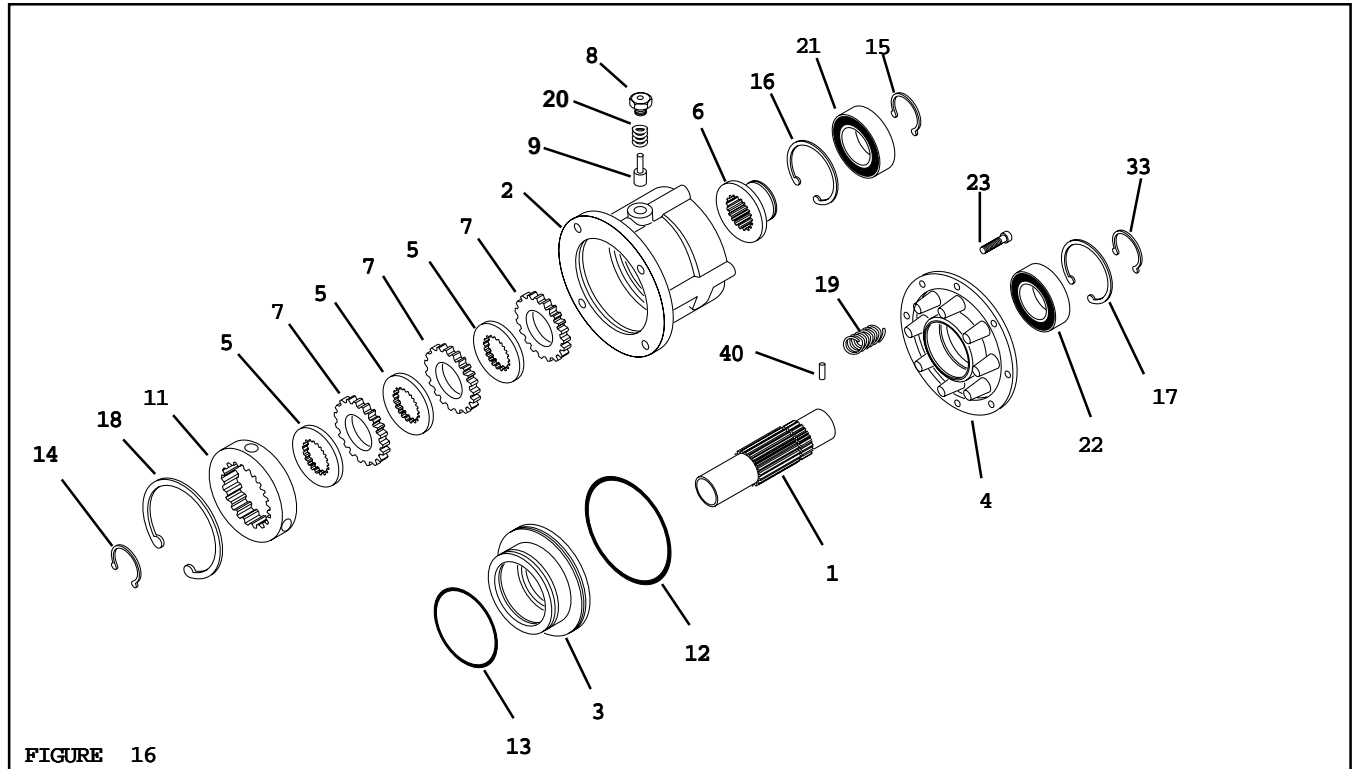


FIGURE 16

ITEM	DESCRIPTION	QTY
1	Hub	1
2	Air Chamber Housing	1
3	Piston	1
4	Spring Housing	1
5	Friction Plate	3
6	Friction Disc	1
7 ¹	Friction Facing	3
8	Locking Pin Retainer	1
9	Locking Pin	1
11	Splined Sleeve	1
12 ¹	O-ring Seal (Large)	1
13 ¹	O-ring Seal (Small)	1
14	Retaining Ring	1
15	Retaining Ring	1
16	Retaining Ring	1
17	Retaining Ring	1

ITEM	DESCRIPTION	QTY
18	Retaining Ring	1
19 ¹	Compression Spring	8
20	Spring	1
21 ¹	Bearing	1
22 ¹	Bearing	1
23	Socket Head Cap Screw	4
24	Lock Washers (Not Shown)	4
33	Retaining Ring	1
35	Plug (Not Shown)	1
36	Hose Assembly (Not Shown)	1
37	Hub Key (Not Shown)	1
38	Cap Screws (Not Shown)	4
39	Lock Washers (Not Shown)	4
40	Spring Pin	1
41	Restrictor Valve (Opt., Not Shown)	1

¹ Denotes Repair Kit items.

OUTPUT DRIVE UNIT

ITEM	DESCRIPTION	QTY
25	Shaft	1
26	Bearing Flange	1
27	Bearing	1
28	Retaining Ring	2
29	Key	2
31	Cap Screw	4
32	Lock Washer (Not Shown)	4
34	Retaining Ring	1

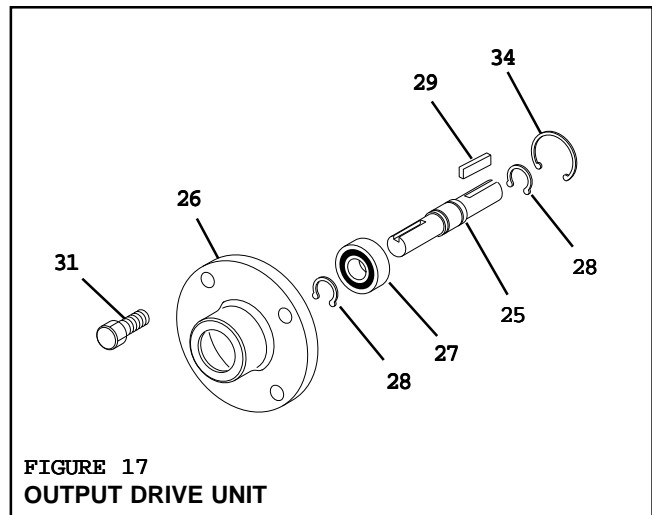


FIGURE 17
OUTPUT DRIVE UNIT

ACCESSORIES		
MODEL	DESCRIPTION	PRODUCT NUMBER
SE-500	Output Unit	933000
SE-500	Adaptor Shaft	812500
SE-500	Torque Arm	933200

REPAIR KITS	
MODEL	PRODUCT NUMBER
SE-500-1	812700

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

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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