






5H-SE, 5HP-SE & 5HP-SE-E
Spring-Engaged, Multiposition Tooth Clutches
Flange Mount, Pilot Mount & Pilot Mount Enclosed



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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	<div data-bbox="537 562 834 617"> DANGER</div> <p>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, cause injury or death. Comply with all applicable codes.</p>	
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This document is the original, non-translated, version.

Conformity Declaration: In accordance with Appendix II B of CE Machinery Directive (2006/42/EC):

A Declaration of Incorporation of Partly Completed Machinery evaluation for the applicable EU directives was carried out for this product in accordance with the Machinery Directive. The declaration of incorporation is set out in writing in a separate document and can be requested if required.

This machinery is incomplete and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the applicable provisions of the Directive.

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ISO 9001 Certified

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GENERAL SPECIFICATIONS

Nexen 5H Spring Engaged Multiposition Tooth Clutches have a Drive Flange with a single Bearing and tapped mounting holes. The 5HP Series has a Drive Flange with two Bearings, a pilot diameter, and tapped holes for mounting a pulley, sprocket, gear, or coupling adapter (see below).

Spring Engaged Tooth Clutch Type	Product Number	Model	No. of Springs	Torque (in-lbs)	Minimum Disengagement Air Pressure, psi
Flange Mounted	906701	5H30SE	12	880	60
	910089	5H35SE	8	1480	45
	910097	5H35SE, 1.125	8	1480	45
	910098	5H35SE, 1.000	8	1480	45
	910099	5H35SE, 25 mm	8	1480	45
	910121	5H35SE, 39 mm	12	2212	75
	910122	5H35SE, 20 mm	12	2212	75
	910126	5H35SE, 20 mm	8	1480	45
	907106	5H50SE, 1.250	6	1480	45
	907109	5H50SE, 40 mm	6	1480	45
	907113	5H50SE, 1.500	4	5480	70
Enclosed	910421	5H60SE-E, 1.500	12	6790	40
Pilot Mount	906708	5H30PSE	12	880	60
	910091	5H35PSE, 1.000	8	1480	45
	910093	5H35PSE, 0.875	8	1480	45
	910094	5H35PSE, 25 mm	8	1480	45
	910095	5H35PSE, 25 mm	8	1480	45
	910125	5H35PSE, 1.250	8	1480	45
	910204	5H45PSE-E	7	3650	70
	910224	5H45PSE, 1.375	7	3650	70
	910225	5H45PSE, 1.250	7	3650	70
	910226	5H45PSE, 1.750	7	3650	70
	910232	5H45SE-E, 40	7	3650	70
	910233	5H45PSE, 40 mm	7	3650	70
	910246	5H45PSE-E-HT	10	5000	115
	910304	5H50PSE, 1.500	6	8230	105
	910323	5H50PSE, 1.750	6	8230	105
	910325	5H50PSE, 1.250	4	5487	70
	910404	5H60PSE	6	6970	40
	910407	5H60PSE, 1.625	6	6970	40
	910419	5H60PSE	6	6790	40
	910432	5H60PSE	9	10200	60
	910446	5H60PSE, 2.000	12	13580	80
SP-Enclosed	912705	5H60PSPSE	10	6790	62
Enclosed	910410	5H60PSE-E	12	15000	90
Enclosed	910424	5H60PSE-E	7	18750	100
Enclosed	913171	5H80PSE-E, 2.938	12	33000	80
Enclosed	913172	5H80PSE-E, 2.875	12	33000	80
Enclosed	913108	5H100PSE-E	11	37000	50
Enclosed	913112	5H100PSE-E, 3.938	14	46000	60
Enclosed	913123	5H100PSE-E, 3.938	21	72000	95


GENERAL SAFETY PRECAUTIONS

	<p>CAUTION</p> <p>Use appropriate guarding for moving components. Failure to guard could result in serious bodily injury.</p>		<p>CAUTION</p> <p>Use lifting aids and proper lifting techniques when installing, removing or placing this product in service.</p>
	<p>CAUTION</p> <p>Watch for sharp features when interacting with this product. The parts have complex shapes and machined edges.</p>		<p>WARNING</p> <p>This product is capable of emitting a spark if misused, therefore is not recommended for use in any explosive environment.</p>
	<p>CAUTION</p> <p>This product has possible pinch points. Care should be taken when interacting with this product.</p>		<p>WARNING</p> <p>Ensure proper guarding of the product is used. Nexen recommends the machine builder design guarding in compliance with OSHA 29 CFR 1910 "Occupational Safety and Health Hazards."</p>



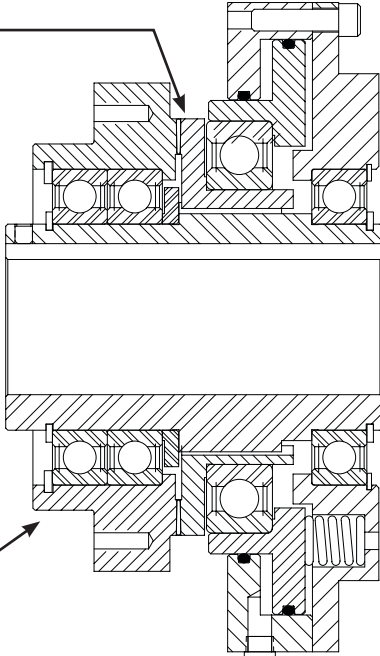
CAUTION

This product has possible pinch points. Care should be taken when interacting with this product.



CAUTION

Use appropriate guarding for moving components. Failure to guard could result in serious bodily injury.



INSTALLATION

REFER TO FIGURE 1.

1. Install coupling adapter or bearing supported sprocket, sheave, or gear onto the clutch pilot (See Table 1).
2. Insert customer supplied key into shaft.

NOTE

Nexen Spring Engaged Multiposition Tooth Clutches mount on a full shaft using a full length key.

NOTE

Whenever possible, arrange the input drive to the Tooth Clutch through the drive flange to prevent the Tooth Clutch bearings from rotating unnecessarily.

3. Using Set Screws, secure the Tooth Clutch to the shaft.
4. Tighten Set Screws.

In severe applications, the Tooth Clutch may tend to move axially along the shaft. To prevent this movement, confine the Tooth Clutch between shoulders.

TABLE 1

TIGHTENING TORQUE (with Loctite® 242)		
Size	Grade 8 Socket Head Cap Screws	Grade 8 Hex. Head Cap Screws
#10	5 ft-lbs	6 ft-lbs
1/4 - 20	6 ft-lbs	9 ft-lbs
5/16 - 18	20 ft-lbs	18 ft-lbs
3/8 - 16	36 ft-lbs	35 ft-lbs
1/2 - 13	108 ft-lbs	114 ft-lbs
5/8 - 11	211 ft-lbs	223 ft-lbs
3/4 - 10	367 ft-lbs	400 ft-lbs

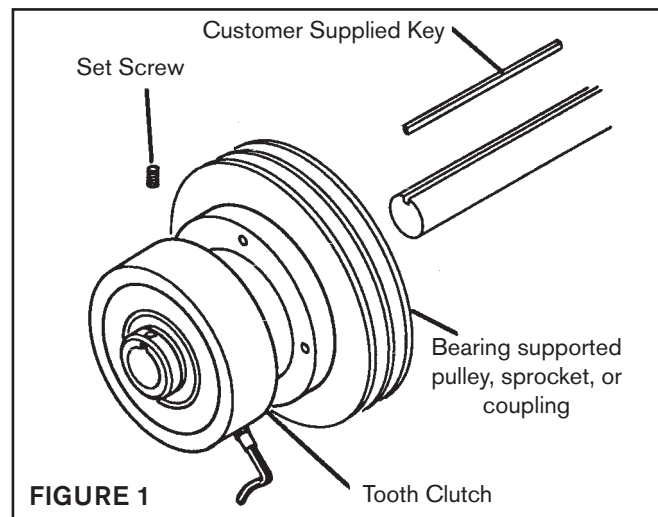


FIGURE 1

LUBRICATION

NOTE

Nexen pneumatically actuated devices require clean, pressure regulated air for maximum performance and life. All seals in Nexen pneumatically operated devices are lubricated for life, and do not require additional lubrication.

However, some customers prefer to use an air line lubricator, which injects oil into the pressurized air, forcing an oil mist into the air chamber. This is acceptable, but care must be taken to ensure once an air mist lubrication system is used, it is continually used over the life of the product as the oil mist may wash free the factory installed lubrication.

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

Synthetic lubricants are not recommended.

Nexen product's bearings are shielded and pre-lubricated, and require no further lubrication.

LUBRICATOR DRIP RATE SETTINGS



CAUTION

These settings are for Nexen supplied lubricators. If you are not using a Nexen lubricator, calibration must follow the manufacturer's suggested 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.

AIR CONNECTIONS

All Nexen pneumatically actuated devices require clean and dry air, which meets or exceeds ISO 8573.1:2001 Class 4.4.3 quality.

NOTE

For quick response, Nexen recommends a quick exhaust valve and short air lines between the Control Valves and the unit. Align the air inlet ports to a down position to allow condensation to drain out of the air chambers of the product.



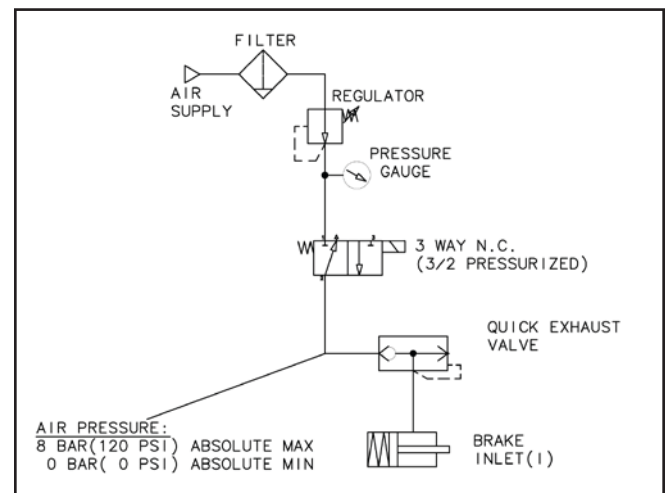
CAUTION

Low air pressure will cause slippage and overheating. Excessive air pressure will cause abrupt starts and stops, reducing product life.

NOTE


Use only flexible hose or tubing when making air line connections. Rigid pipe or tubing connected directly to the Tooth Clutch will prevent proper actuation of the Tooth Clutch.

The following is a common air supply scheme used with this product. This is an example and not an all-inclusive list. All air circuits to be used with this product must be designed following ISO 4414 guidelines.




To prevent hose breakage, rest the hose against a support mounted parallel to the Tooth Clutch center line to stop rotation.

OPERATION




WARNING

Ensure proper guarding of the product is used. Nexen recommends the machine builder design guarding in compliance with OSHA 29 CFR 1910 "Occupational Safety and Health Hazards."



CAUTION

The temperature limits for this product line are 4.5° - 100° C (40°-220° F).



WARNING

Never exceed maximum operating speeds listed for your product (See Table 2). Speeds listed in Table 2 are for open units only.

TABLE 2

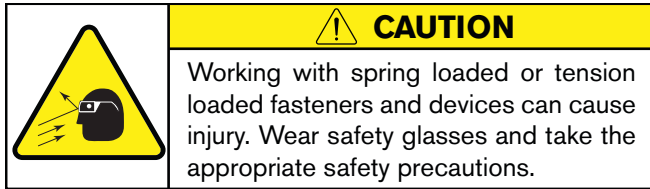
Size	Max RPM
5H30	3700
5H35	3200
5H45	3000
5H50	3000
5H60	2400
5H80	2000
5H100	1000

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Failure to Engage	Damaged engagement springs	Contact Nexen.
	Unexhausted air due to control valve malfunction	Replace control valve.
	Lack of lubrication in the air chamber	Check air chamber lubrication. (See LUBRICATION section.)
	Using a rigid coupling connected directly to the Drive Flange	Contact Nexen.
Failure to Disengage	Control valve malfunction or low air pressure	Check system for air leaks or replace control valve.
	Using a rigid pipe or tubing for air line connections	Use flexible tubing for air line connections.
	Using a rigid coupling connected directly to the Drive Flange	Contact Nexen.
	Lack of lubrication in the air chamber	Check air chamber lubrication. (See LUBRICATION section.)
Tooth Wear or Clicking Sound	Excessive engagement RPM, or unintentional disengagement due to torque overload	Contact Nexen for specifications.
Bearing Failure	Stay within specified speed limits as specified in the OPERATIONS SECTION.	
	Avoid applying excessive overhung loads to Pilot Mount 5HP Tooth clutches. Wide pulleys or sprockets which extend beyond the end of the clutch will increase the radial load and reduce bearing life.	

PARTS REPLACEMENT

5H-SE, FLANGE MOUNT



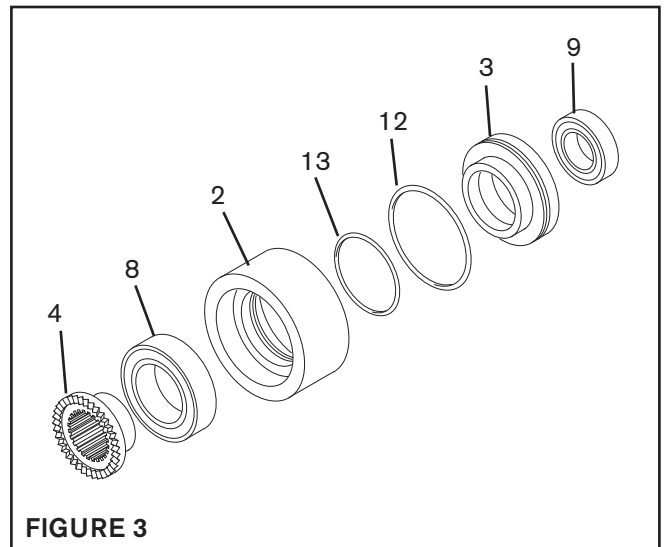
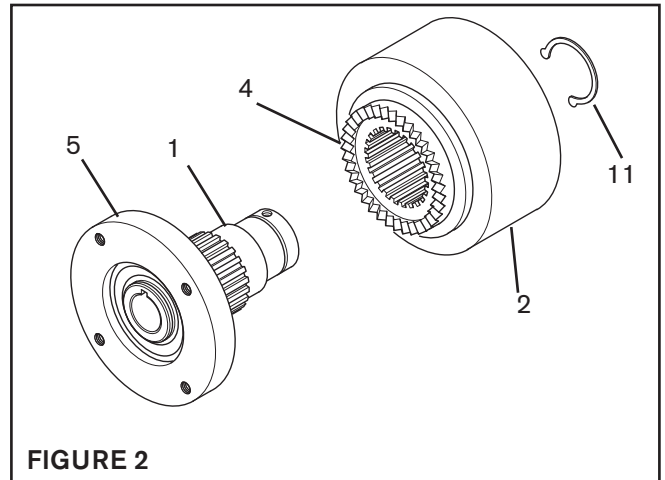
REFER TO FIGURES 2 & 3.

1. Remove the Retaining Ring (Item 11) on Spring Housing End.
2. Press the Drive Flange (Item 5) and the Hub (Item 1) out of the Spring Housing (Item 20) and the Drive Ring (Item 4).

NOTE

At this point, the spline on the Hub (Item 1) can be lubricated with Never-Seez® without further disassembly.

3. Remove Cap Screws (Item 23) by loosening alternately and evenly to relieve the die spring force.
4. Remove and discard original Die Springs (Item 22).
5. Separate the Piston (Item 3) from Cylinder (Item 2).
6. Remove and discard the old O-ring Seals (Items 12 and 13).
7. Press the old Ball Bearing (Item 8) and Drive Ring (Item 4) out of the Piston (Item 3).
8. Press the old Ball Bearing (Item 9) out of the Spring Housing (Item 20).
9. Using a bearing puller, remove the Drive Ring (Item 4) from the Ball Bearing (Item 8).
10. Clean the bearing bore of the Spring Housing (Item 20), Cylinder (Item 2) and Piston (Item 3) with fresh safety solvent, making sure all old Loctite® residue is removed.



5H-SE, FLANGE MOUNT (continued)

REFER TO FIGURES 4 & 5.

- 11. Apply an adequate amount of Loctite® 680 to evenly coat the outer races of the new Ball Bearings (Items 8 and 9); then, press the new Ball Bearing (Item 8) into the Cylinder (Item 2) and the new Ball Bearing (Item 9) into the Spring Housing (Item 20).
- 12. Apply a thin coat of O-ring Lubricant to the O-ring contact surfaces of the Piston (Item 3), Cylinder (Item 2), and the new O-ring Seals (Items 12 & 13).
- 13. Install the new O-ring Seal (Item 13) into the Cylinder (Item 2) and the new O-ring Seal (Item 12) onto the Piston (Item 3).
- 14. Making sure not to damage the new O-rings Seals (Items 12 and 13), press the Piston (Item 3) into the Cylinder (Item 2).
- 15. Press the Drive Ring (Item 4) into the new Ball Bearing (Item 8) and Cylinder (Item 2).
- 16. Install Die Springs (Item 22) into the Spring Housing (Item 20) sockets.
- 17. Position the Spring Housing over the Cylinder/Piston assembly, align the clearance holes with the tapped holes in the Cylinder.
- 18 Insert Cap Screws (Item 23) into the Spring Housing and tighten alternately and evenly until the Spring Housing is flush with the Cylinder. Torque the Cap Screws to the values shown in Table 3.
- 19. Remove the Retaining Ring (Item 11).
- 20. Press Hub (Item 1) out of the Drive Flange (Item 5).

NOTE

Do not remove the Backing Plate (Item 6) from the Hub (Item 1).

- 21. Remove the Retaining Ring (Item 10) from the Drive Flange (Item 5).
- 22. Press the old Ball Bearing (Item 9) out of the Drive Flange (Item 5).
- 23. Clean the bearing bore of the Drive Flange (Item 5) with fresh safety solvent, making sure all old Loctite® residue is removed.
- 24. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Ball Bearing (Item 9); then, press the new Ball Bearing (Item 9) into the Drive Flange (Item 5).

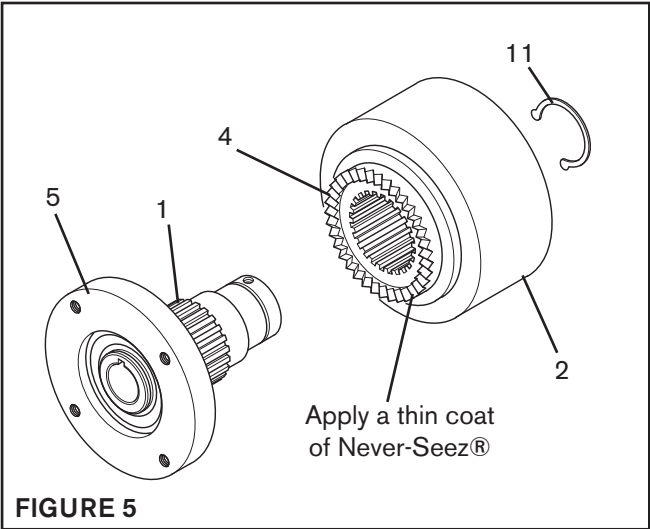
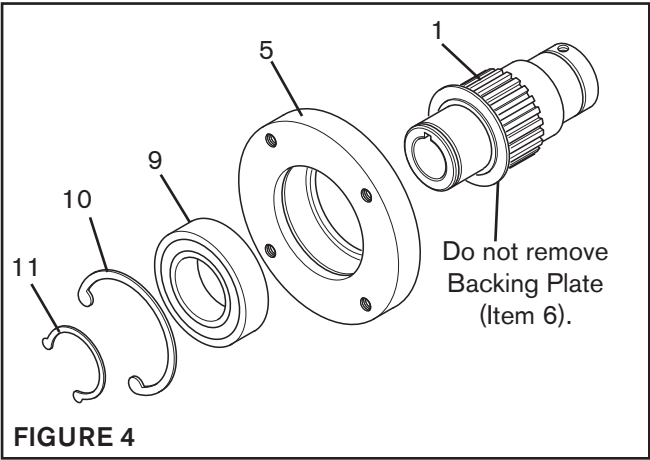


TABLE 3

Model	Tightening Torque
5H30SE	5 ft-lbs
5H35SE	5 ft-lbs
5H50SE	6 ft-lbs

- 25. Apply a thin coat of Never-Seez® to the teeth of the Drive Ring (Item 4).
- 26. Press the Drive Flange (Item 5) and Hub (Item 1) into the Cylinder (Item 2) and Drive Ring (Item 4).
- 27 Reinstall the Retaining Ring (Item 11).
- 28. Reinstall the Retaining Ring (Item 10).
- 29. Press the Hub (Item 1) into the Drive Flange (Item 5) and new Ball Bearing (Item 9); then, reinstall the Retaining Ring (Item 11).

5H-SE, PILOT MOUNT



CAUTION

Working with spring loaded or tension loaded fasteners and devices can cause injury. Wear safety glasses and take the appropriate safety precautions.

REFER TO FIGURES 6-9.

1. Remove the Retaining Ring (Item 11).
2. Press the Drive Flange (Item 15) and Hub (Item 1) out of the Cylinder (Item 2) and Drive Ring (Item 4).

NOTE

At this point, the spline on the Hub (Item 1) can be lubricated with Never-Seez® without further disassembly.

3. Remove Cap Screws (Item 23) by loosening alternately and evenly to relieve the die spring force.
4. Remove and discard original Die Springs (Item 22).
5. Separate Piston (Item 3) from the Cylinder (Item 2).
6. Remove and discard the old O-ring Seals (Items 12 and 13).
7. Press the old Ball Bearing (Item 8) and Drive Ring (Item 4) out of the Spring Housing (Item 20).
8. Press the old Ball Bearing (Item 9) out of the Piston (Item 3).
9. Using a bearing puller, remove the Drive Ring (Item 4) from the Ball Bearing (Item 8).
10. Clean the bearing bore of the Cylinder (Item 2) and Piston (Item 3) with fresh safety solvent, making sure all old Loctite® residue is removed.
11. Apply an adequate amount of Loctite® 680 to evenly coat the outer races of the new Ball Bearings (Items 8 and 9); then, press the new Ball Bearing (Item 8) into the Cylinder (Item 2) and the new Ball Bearings (Item 8) into the Piston (Item 3).
12. Apply a thin coat of o-ring lubricant to the o-ring contact surfaces of the Piston (Item 3), Cylinder (Item 2), and the new O-ring Seals (Items 12 & 13).
13. Install the new O-ring Seal (Item 13) into the Cylinder (Item 2) and the new O-ring Seal (Item 12) onto the Piston (Item 3).

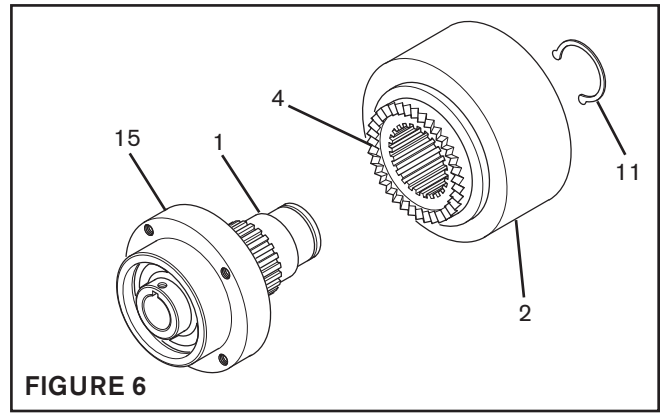


FIGURE 6

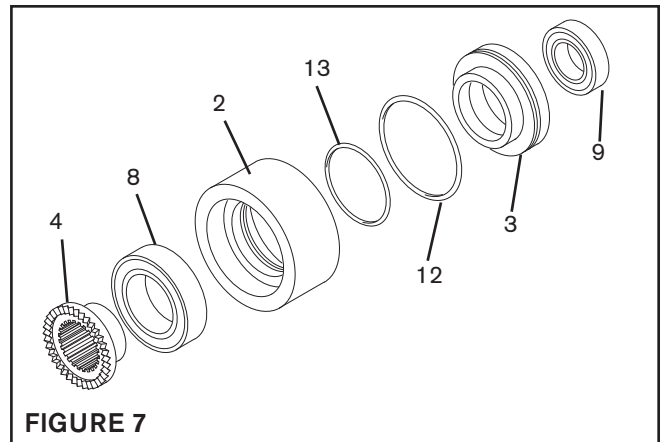


FIGURE 7

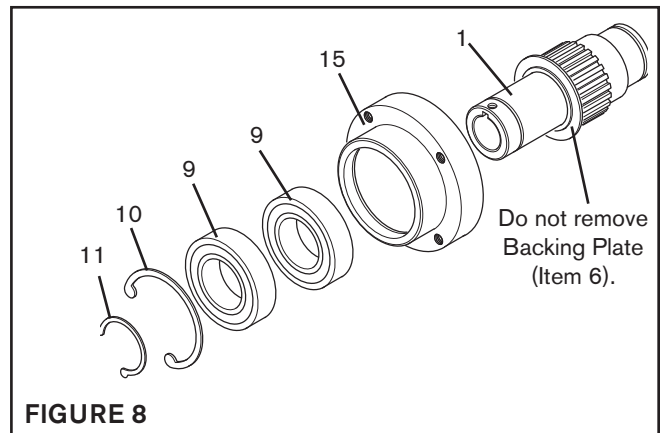


FIGURE 8

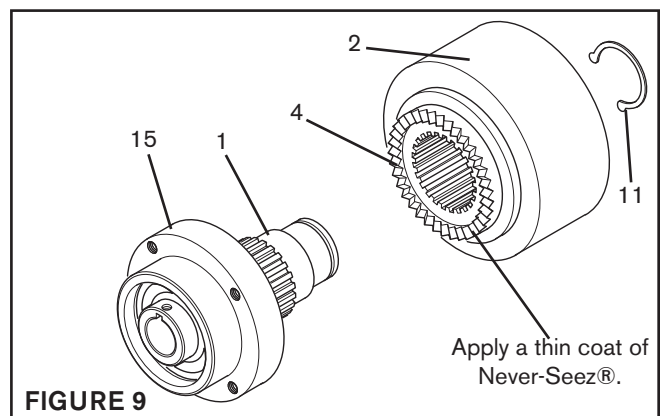


FIGURE 9

5H-SE, PILOT MOUNT (continued)

REFER TO FIGURES 7-9.

14. Making sure not to damage the new O-rings Seals (Items 12 and 13), press the Piston (Item 3) into the Cylinder (Item 2).
15. Press the Drive Ring (Item 4) into the new Ball Bearing (Item 8) and Cylinder (Item 2).
16. Install Die Springs (Item 22) into the Spring Housing (Item 20) sockets.
17. Position the Spring Housing over the Cylinder/Piston assembly, align the clearance holes with the tapped holes in the Cylinder.
18. Insert Cap Screws (Item 23) into the Spring Housing and tighten alternately and evenly until the Spring Housing is flush with the Cylinder. Torque the Cap Screws to the values shown in Table 4.
19. Remove the Retaining Ring (Item 11).
20. Press Hub (Item 1) out of the Drive Flange (Item 5).

NOTE

Do not remove the Backing Plate (Item 6) from the Hub (Item 1) (See Figure 8).

21. Remove the Retaining Ring (Item 10) from the Drive Flange (Item 5).
22. Press the old Ball Bearings (Item 9) out of the Drive Flange (Item 15).

TABLE 4

Model	Tightening Torque
5H30PSE	5 ft-lbs
5H35PSE	5 ft-lbs
5H45PSE	9 ft-lbs
5H50PSE	9 ft-lbs
5H60PSE	27 ft-lbs

23. Clean the bearing bore of the Drive Flange (Item 15) with fresh safety solvent, making sure all old Loctite® residue is removed.
24. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Ball Bearings (Item 9); then, press the new Ball Bearings (Item 9) into the Drive Flange (Item 15).
25. Reinstall the Retaining Ring (Item 11).
26. Press the Hub (Item 1) into the Drive Flange (Item 15) and new Ball Bearing (Item 9); then, reinstall the Retaining Ring (Item 11).
27. Apply a thin coat of Never-Seez® to the teeth of the Drive Ring (Item 4).
28. Press the Drive Flange (item 15) and Hub (Item 1) into the Cylinder (Item 2) and Drive Ring (Item 4).
30. Reinstall the Retaining Ring (Item 11).

5HP-SE-E, PILOT MOUNT, ENCLOSED



CAUTION

Working with spring loaded or tension loaded fasteners and devices can cause injury. Wear safety glasses and take the appropriate safety precautions.

REFER TO FIGURE 10.

1. Remove the Set Screws (Item 18).
2. Remove the Retaining Ring (Item 11).
3. Fully supporting the lip of Drive Flange Assembly press the Hub (Item 1) and Piston/Cylinder/Spring Housing Assembly out of the Drive Flange Assembly.
4. Remove the old Rotary Seal (Item 4).

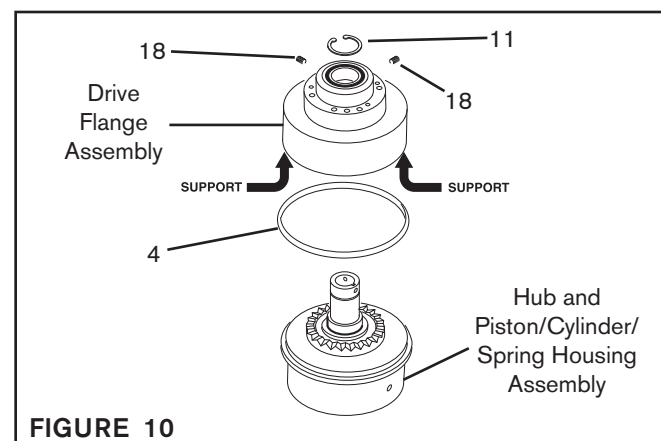


FIGURE 10

5HP-SE-E, PILOT MOUNT, ENCLOSED (continued)

REFER TO FIGURES 10-18.

5. Remove the Retaining Ring (Item 11).
6. Fully supporting the Cylinder/Piston/Spring Housing Assembly, press the Hub (Item 1) out of the Cylinder/Piston Assembly.
7. Remove the Retaining Ring (Item 24).
8. Press the old Ball Bearings (Item 9) out of the Drive Flange Assembly.
9. Clean bore of Drive Flange Assembly with fresh solvent making sure all old Loctite® residue is removed.

NOTE

When installing new Ball Bearings, carefully align the Ball Bearing O.D. with Drive Flange Assembly bore to prevent Ball Bearing misalignment.

10. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Ball Bearings (Item 9); then, press the new Ball Bearings into the Drive Flange Assembly.
11. Reinstall the Retaining Ring (Item 24).
12. Remove the Drive Ring (Item 4) from the Piston/Cylinder Assembly.
13. Remove Cap Screws (Item 23) by loosening alternately and evenly to relieve the die spring force.
14. Remove and discard original Die Springs (Item 22).
15. Separate the Piston (Item 3) from Cylinder (Item 2).
16. Remove the old O-ring Seals (Items 12 and 13) from the Piston (Item 3) and Cylinder (Item 2).
17. Press old Ball Bearing (Item 8) out of Piston (Item 3).
18. Clean the bearing bore of the Piston (Item 3) with fresh solvent making sure all old Loctite® residue is removed.
19. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Ball Bearing (Item 8); then, press new Ball Bearing into the Piston (Item 3).
20. Reinstall the Retaining Ring (Item 11).

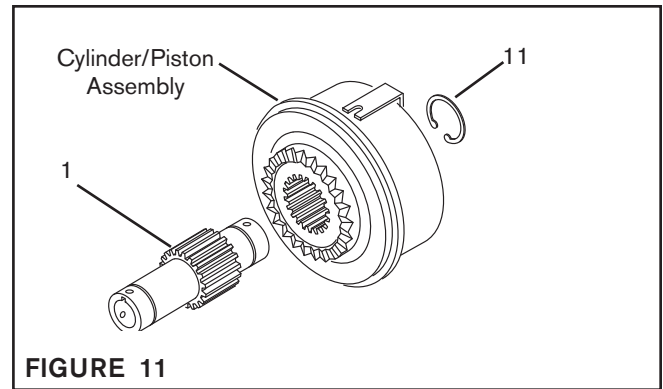


FIGURE 11

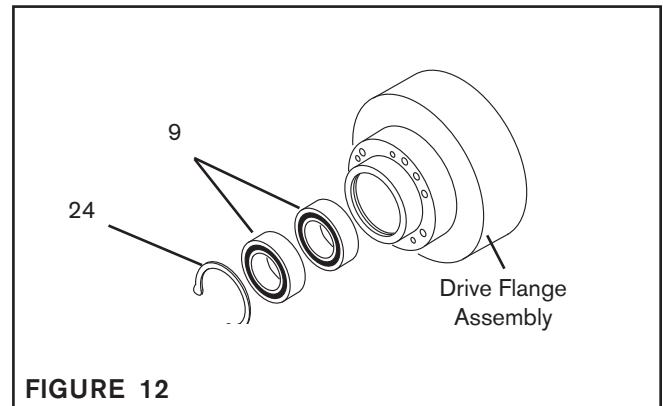


FIGURE 12

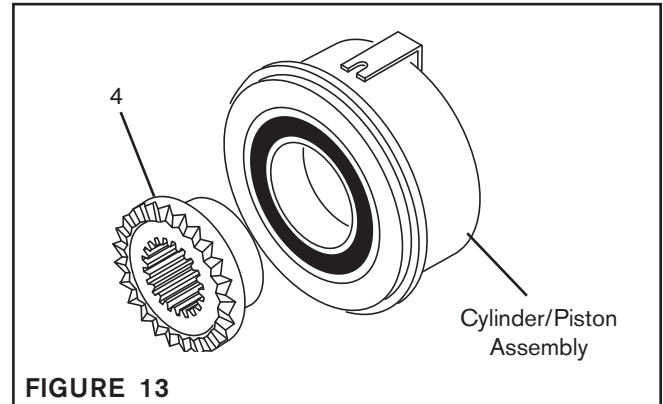


FIGURE 13

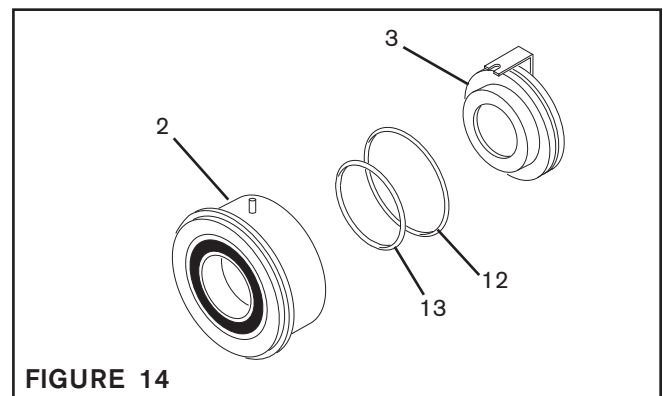


FIGURE 14

5HP-SE-E, PILOT MOUNT, ENCLOSED (continued)

REFER TO FIGURES 10-18.

- 21. Coat o-ring contact surfaces of the Piston (Item 3) and Cylinder (Item 2) with a thin film of o-ring lubricant.
- 22. Coat the new O-ring Seals (Items 12 and 13) with a thin film of o-ring lubricant.
- 23. Install the new O-ring Seals (Items 12 and 13) on the Piston (Item 3) and Cylinder (Item 2).

NOTE

Use caution when pressing the Piston into the Cylinder to avoid damaging O-ring Seals.

- 24. Press the Piston (Item 3) into the Cylinder (Item 2).
- 25. Install Die Springs (Item 22) into the Spring Housing (Item 20) sockets.
- 26. Position the Spring Housing over the Cylinder/Piston assembly, align the clearance holes with the tapped holes in the Cylinder.
- 27. Insert Cap Screws (Item 23) into the Spring Housing and tighten alternately and evenly until the Spring Housing is flush with the Cylinder. Torque the Cap Screws to the values shown in Table 5.
- 28. Slide the Drive Flange (Item 4) into the Cylinder (Item 2) and Ball Bearing (Item 8).
- 29. Coat the spline teeth of the Hub (Item 1) with Never-Seez® and slide the Hub (Item 1) into the Drive Flange.
- 30. Reinstall the Retaining Ring (Item 11).
- 31. Install the new Rotary Seal (Item 7) into the groove in the Cylinder.

NOTE

The back of the Rotary Seal must be installed facing the Drive Flange Assembly end of the clutch.

Use caution when sliding Drive Flange Assembly onto Cylinder/Piston Assembly to avoid damage to Rotary Seal.

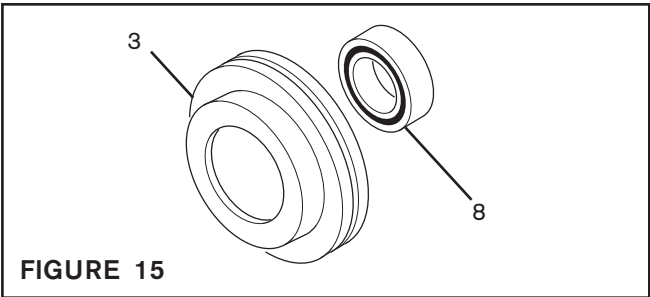


FIGURE 15

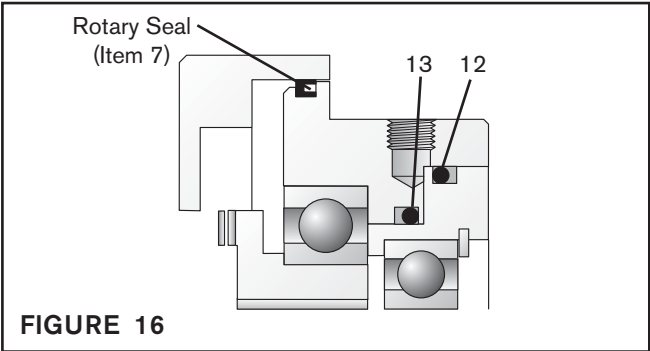


FIGURE 16

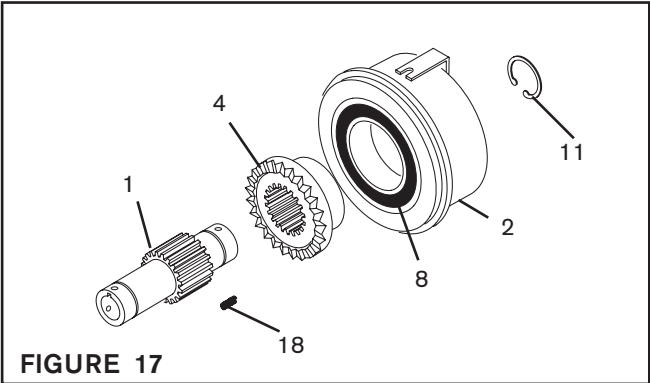


FIGURE 17

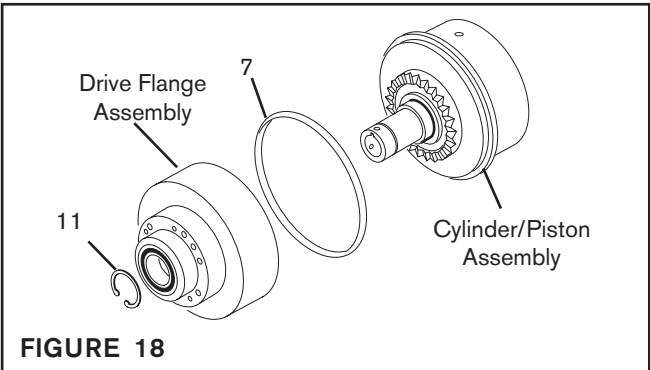


FIGURE 18

TABLE 5

Model	Tightening Torque
5H60PSE-E	20 ft-lbs
5H80PSE-E	25 ft-lbs
5H100PSE-E*	30 ft-lbs

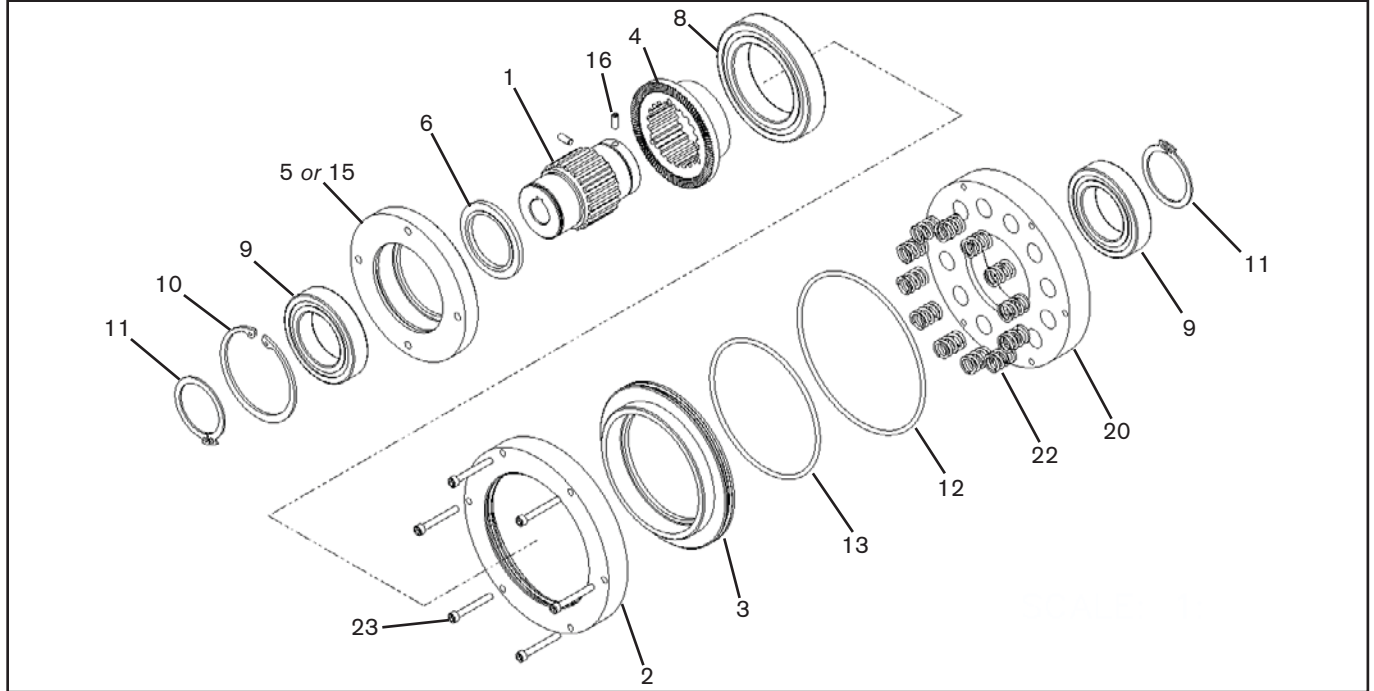
*Item #20, Model 5H100PSE-E.

REPLACEMENT PARTS LIST

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.

5H-SE, FLANGE MOUNT (SIZES 30, 35, 50)



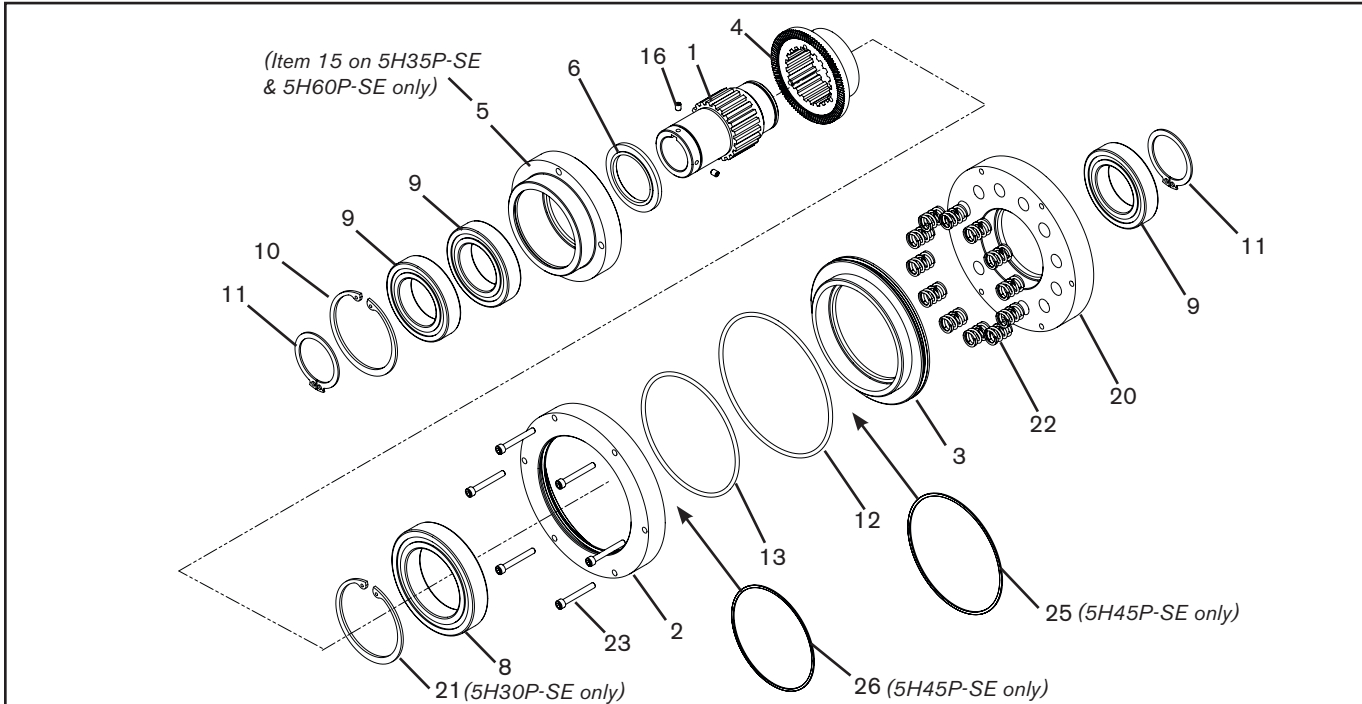
Item	Quantity	Description
1	1	HUB
2	1	CYLINDER
3	1	PISTON
4	1	RING, DRIVE
5	1	FLANGE, DRIVE
6	1	PLATE, BACKING
8*	1	BEARING
9*	2	BEARING
10	1	RING, RETAINING, INTERNAL
11	2	RING, RETAINING, EXTERNAL
12*	1	SEAL, O-RING
13*	1	SEAL, O-RING
14	1	HOSE, AIR SUPPLY (not shown)
15	1	FLANGE, DRIVE (Model 5H35-SE only)
16	2	SCREW, SET
20	1	HOUSING, SPRING
22*	see note	SPRING, COMPRESSION, DIE
23	6	SCREW, CAP

*Typical part needed to restore the unit to new condition. Order parts by item number for specific product numbers and model sizes.

*Note: Refer to the General Specifications table on page 4 for spring quantity used in specific 5H-SE models.

REPLACEMENT PARTS LIST (continued)

5HP-SE, PILOT MOUNT (SIZES 30, 35, 45, 50, 60) NON-ENCLOSED



Item	Quantity	Description
1	1	HUB
2	1	CYLINDER
3	1	PISTON
4	1	RING, DRIVE
5	1	FLANGE, DRIVE
6	1	PLATE, BACKING
8*	1	BEARING
9*	3	BEARING
10	1	RING, RETAINING, INTERNAL
11	2	RING, RETAINING, EXTERNAL
12*	1	SEAL, O-RING
13*	1	SEAL, O-RING
14	1	HOSE, AIR SUPPLY <i>(not shown)</i>
15	1	FLANGE, DRIVE <i>(Models 5H35-SE & 5H60P-SE only)</i>
16	2 ¹	SCREW, SET
20	1	HOUSING, SPRING
21	1	RING, RETAINING, INTERNAL <i>(Model 5H30P-SE only)</i>
22*	see note	SPRING, COMPRESSION, DIE
23	6	SCREW, CAP
25	1	SEAL, BACK-UP RING <i>(Model 5H45P-SE only)</i>
26	1	SEAL, BACK-UP RING <i>(Model 5H45P-SE only)</i>

*Typical part needed to restore the unit to new condition. Order parts by item number for specific product numbers and model sizes.

Note: Refer to the General Specifications table on page 4 for spring quantity used in specific 5H-SE models.

¹ Quantity 4, Model 5H35P-SE only

REPLACEMENT PARTS LIST (continued)

Refer to diagram on next page for items listed below.

5H60P-SE-E, PILOT MOUNT, ENCLOSED (refer to Figure A on Page 18).

Item	Quantity	Description
1	1	HUB
2	1	CYLINDER
3	1	PISTON
4	1	RING, DRIVE
5	1	ENCLOSURE
6	1	PLATE, BACKING
7*	1	SEAL, ROTARY
8*	1	BEARING
9*	3	BEARING
11	1	RING, RETAINING, EXTERNAL
12*	1	SEAL, O-RING

Item	Quantity	Description
13*	1	SEAL, O-RING
14	1	HOSE, AIR SUPPLY (not shown)
15	1	FLANGE, DRIVE
16	2	SCREW, SET
18	1	PIN, DOWEL (not shown)
19	4	SCREW, SET
20	1	HOUSING, SPRING
22*	see note	SPRING, COMPRESSION, DIE
23	6	SCREW, CAP
24	1	RING, RETAINING, INTERNAL
27	3	SCREW, CAP ¹

¹Fastens Enclosure (Item 5) to Drive Flange (Item 15).

5H80P-SE-E, PILOT MOUNT, ENCLOSED (refer to Figure B on page 18).

Item	Quantity	Description
1	1	HUB
2	1	CYLINDER
3	1	PISTON
4*	1	SEAL, ROTARY
7	1	PLATE, BACKING
8*	12	SPRING, COMPRESSION, DIE
11*	1	BEARING
12*	3	BEARING
13	1	RING, RETAINING, INTERNAL
14	1	RING, RETAINING, EXTERNAL

Item	Quantity	Description
15*	1	SEAL, O-RING
16*	1	SEAL, O-RING
17	1	FLANGE, DRIVE
18	3	SCREW, SET
19	1	COLLAR
22	1	RING, DRIVE
23	8	SCREW, CAP
24	1	HOUSING, SPRING
30	1	WASHER

5H100P-SE-E, PILOT MOUNT, ENCLOSED (refer to Figure A on page 18).

Item	Quantity	Description
1	1	HUB
2	1	CYLINDER
3	1	PISTON
4	1	RING, DRIVE
6	1	PLATE, BACKING
8*	1	BEARING
9*	3	BEARING
10	1	RING, RETAINING, INTERNAL
11	1	RING, RETAINING, EXTERNAL
12*	1	SEAL, O-RING

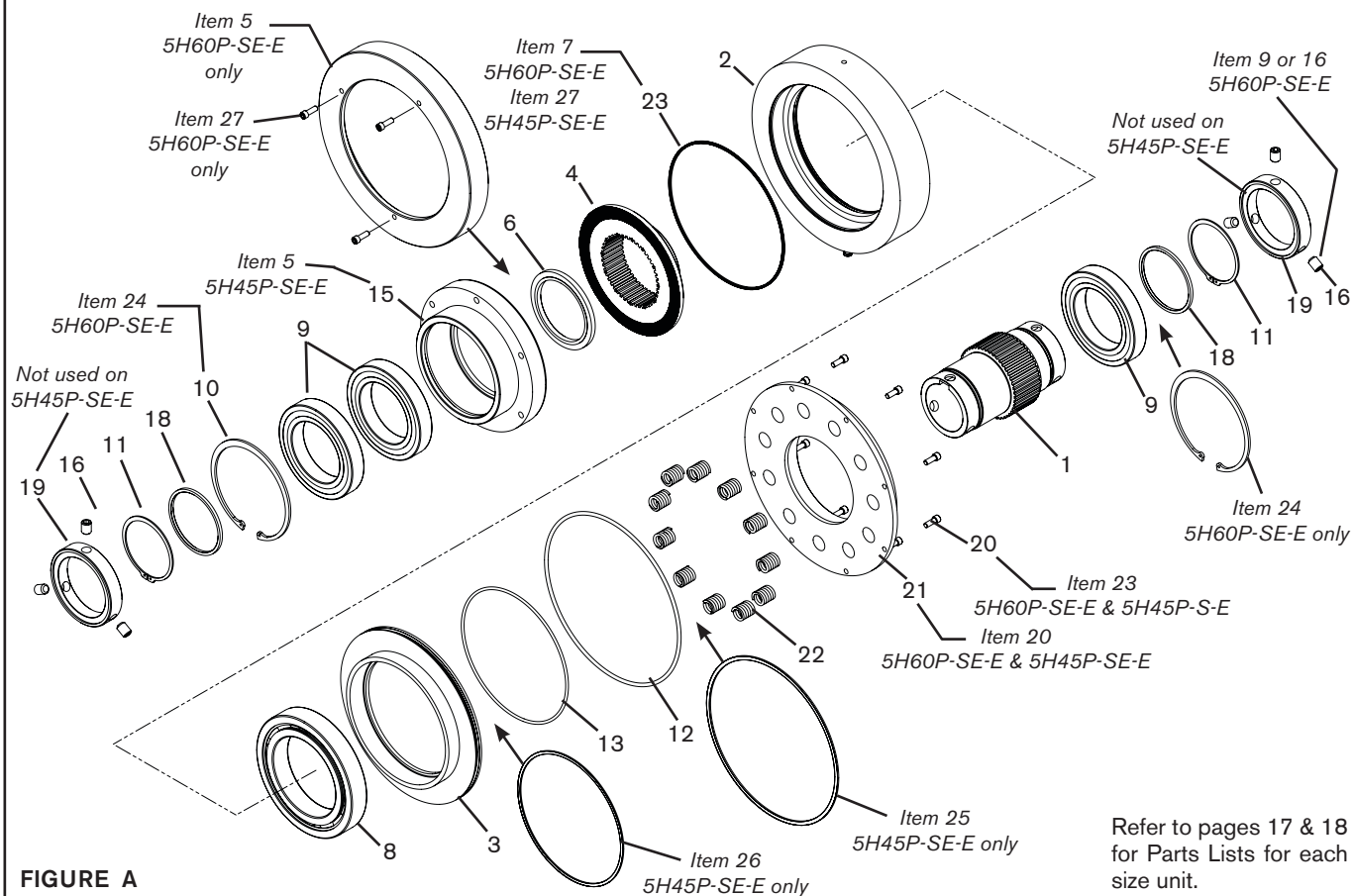
Item	Quantity	Description
13*	1	SEAL, O-RING
14	1	HOSE, AIR SUPPLY (not shown)
15	1	FLANGE, DRIVE
16	6	SCREW, SET
18	1	SPACER
19	2	COLLAR, SET SCREW
20	8	SCREW, CAP
21	1	HOUSING, SPRING
22*	see note	SPRING, COMPRESSION, DIE
23*	1	SEAL, ROTARY

*Typical part needed to restore the unit to new condition. Order parts by item number for specific product numbers and model sizes.

*Note: Refer to the General Specifications table on page 4 for spring quantity used in specific 5H-SE models.

REPLACEMENT PARTS LIST (continued)

5HP-SE-E, PILOT MOUNT (SIZES 45, 60, 100) ENCLOSED*



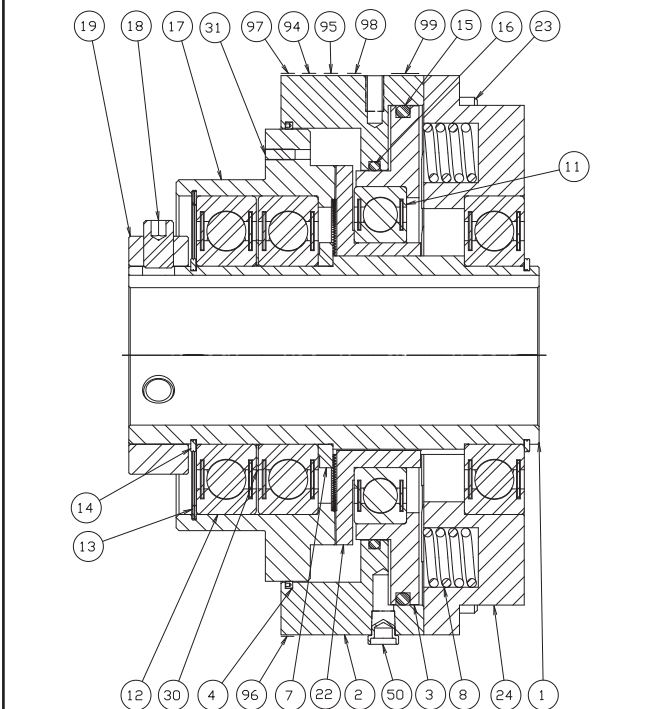
*Typical part needed to restore the unit to new condition. Order parts by item number for specific product numbers and model sizes.

Note: Refer to the General Specifications table on page 4 for spring quantity used in specific 5H-SE models.

5H45P-SE-E, PILOT MOUNT, ENCLOSED (refer to Figure A).

Item	Quantity	Description
1	1	HUB
2	1	CYLINDER
3	1	PISTON
4	1	RING, DRIVE
5	1	FLANGE, DRIVE
6	1	PLATE, BACKING
8*	1	BEARING
9*	3	BEARING
10	1	RING, RETAINING, INTERNAL
11	2	RING, RETAINING, EXTERNAL
12*	1	SEAL, O-RING
13*	1	SEAL, O-RING
14	1	HOSE, AIR SUPPLY (not shown)
16	4	SCREW, SET
17	1	CLOSURE, PLUG
20	1	HOUSING, SPRING
22*	See Note	SPRING, COMPRESSION, DIE
23	6	SCREW, CAP
25	1	SEAL, BACK-UP RING
26	1	SEAL, BACK-UP RING
27	1	SEAL, ROTARY

5HP-SE-E, PILOT MOUNT (SIZE 80) ENCLOSED



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Nexen warrants that the Products will (a) be free from any defects in material or workmanship for a period of 12 months from the date of shipment, and (b) will meet and perform in accordance with the specifications in any engineering drawing specifically for the Product that is in Nexen's current product catalogue, or that is accessible at the Nexen website, or that is attached to this Quotation and that specifically refers to this Quotation by its number, subject in all cases to any limitations and exclusions set out in the drawing. 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.

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