nexen®

AIR CHAMP® PRODUCTS

User Manual

Straight-Bore Clutch

LSCC-32, 44, 54

FORM NO. L-21099-E-0904

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.

Technical Support: 800-843-7445
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www.nexengroup.com

DANGER

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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Vadnais Heights, Minnesota 55127

ISO 9001 Certified

FORM NO. L-21099-E-0904

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INSTALLATION

1. Secure a sheave or sprocket onto the Pilot end of the clutch using the appropriate bolts (See Table 1).
2. Insert the customer supplied key onto the machine shaft.
3. Slide the LSCC onto the machine shaft. (See Figure 1.)
4. Secure the Pilot to the machine shaft using the three Set Screws (Item 16). (See Figure 1.)
5. Attach the airline in the six o'clock position to avoid water from accumulating inside.

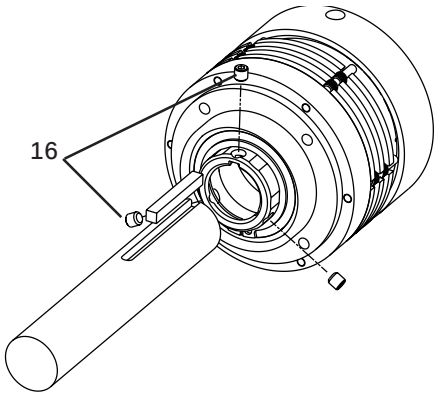


Figure 1

Table 1

Model	LSCC-32	LSCC-44	LSCC-54
Bolt Size	1/4 - 20	1/4 - 20	5/16 - 20

MAINTENANCE

Nexen offers two different kits to aid in the maintenance of the LSCC: a facing kit and a repair kit (See REPAIR KITS SECTION for part numbers). The facing kit contains friction facings, steel friction plates, and springs. The repair kit includes o-rings and bearings.

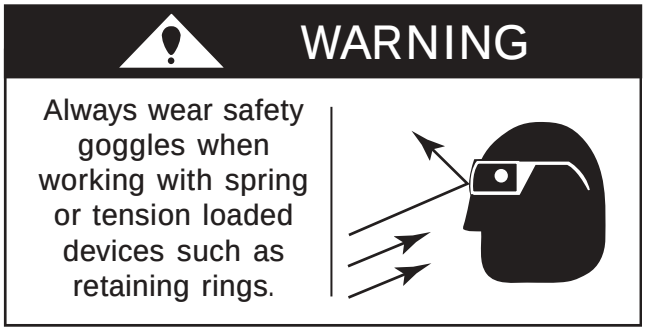
FACING KIT

NOTE: The following tools are needed to press the unit apart: a shaft, two sections of I-beam, and standard retaining ring pliers.

To press the unit together, you will use a hollow shaft fixture, making sure there is contact with the inner race of the bearing while pressing (See Table 2 and Figure 2).

DISASSEMBLY

1. Remove the Retaining Ring (Item 14) from the Hub Item 2) at the Air Chamber end of the unit.
2. Set the unit on the two pieces of I-beam (as shown in Figure 2) with the Air Chamber end of the unit resting on the I-beams.



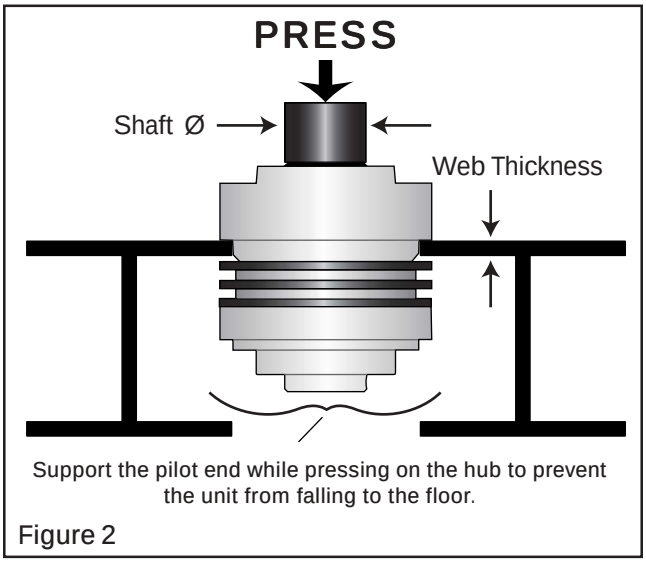


Figure 2

Table 2

Model	Shaft Ø	Hollow Shaft Ø		Web Thickness
LSCC-32	25.4 - 34.8mm [1.00 - 1.37"]	ID	35.5mm [1.4"]	6.6mm [0.25"]
		OD	53.3mm [2.10"]	
LSCC-44	41.3 - 43.1mm [1.625 - 1.70"]	ID	45.7mm [1.80"]	10.2mm [0.40"]
		OD	66.0mm [2.60"]	
LSCC-54	41.1 - 50.8 [1.62 - 2.00"]	ID	57.2mm [2.25"]	8.6mm [0.34"]
		OD	88.9mm [3.50"]	

3. Using an Arbor Press, align the proper shaft (as shown in Table 2) with the Hub and apply pressure with the Arbor Press.

NOTE: Support the pilot end of the unit as the Hub is pressed out to prevent the unit from falling to the floor.

4. Remove the Friction Facings (Item 4) and Friction Plates (Item 5) along with the springs from the drive pins.

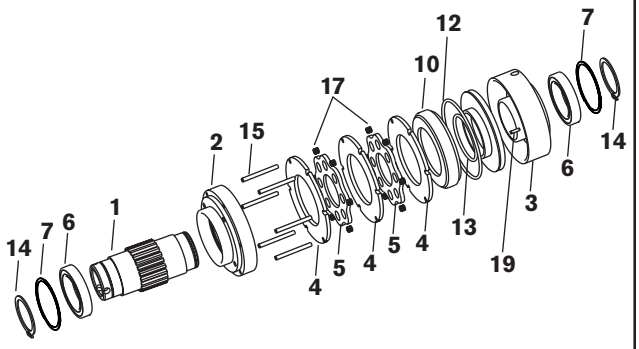


Figure 3

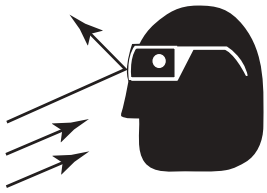
Reassembly

(Refer to Figure 3)

5. Using a degreaser, clean both ends of the unit removing all facing dust and grease before reassembly.
6. Reassemble the unit (Pilot end down) by replacing (in order) the Facings, Friction Plates, and Springs on the Drive Pins.
7. Position the unit in an Arbor Press and place the Air Chamber/Piston combination on top of the Hub.
8. Holding the Air Chamber (Item 3) and the hollow shaft on top of the Hub (Item 2), press the Air Chamber (Item 3) back onto the Hub using the hollow shaft fixture.
9. Insert the Retaining Ring (Item 14) back onto the Hub (Item 1).
10. Verify that the unit is functional by applying air to the unit and watching it engage and disengage.

WARNING

Always wear safety goggles when working with spring or tension loaded devices such as retaining rings.



REPAIR KIT

The repair kit replaces bearings and o-rings.

NOTE: See Figure 2 and Table 2 for correct tools.

1. Remove the Retaining Ring (Item 14) from the Hub (Item 2) at the Air Chamber end of the unit.
2. Set the unit on the two pieces of I-beam (as shown in Figure 2) with the unit sitting on the I-beams.
3. Using an Arbor Press, align the proper diameter shaft with the Hub and apply pressure with the Arbor Press.

NOTE: Support the pilot end of the unit as the Hub is pressed out to prevent the unit from falling to the floor.

4. Remove the Friction Facings (Item 4) and Friction Plates (Item 5) along with Springs from the drive pins.

NOTE: Take care not to lose any springs as they are not provided in this kit.

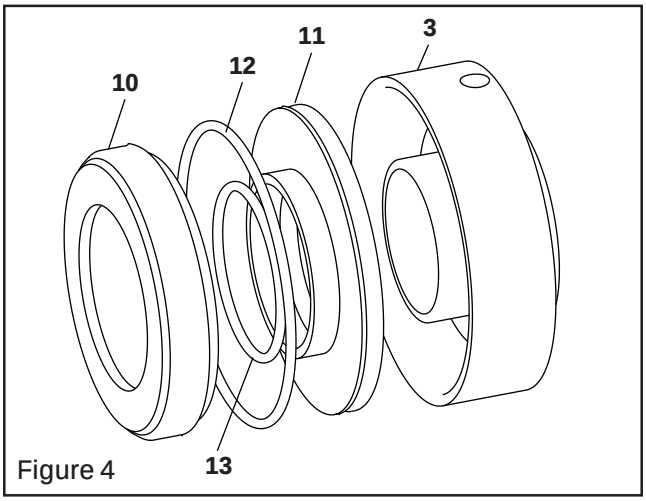


Figure 4

Refer to Figures 4 & 5.

5. Carefully and Slowly apply air to the Air Chamber (Item 3) while rocking the bearing and piston combination. The Piston (Item 11) and Bearing (Item 10) should now be separated from Air Chamber (Item 3) housing.
6. Remove Bearing (Item 10) from Piston (Item 11).
7. Clean the new Bearing (Item 10) and Piston (Item 11) surface and apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new bearing.
8. Press the new Bearing (Item 10) onto the Piston.
9. Press the Bearing (Item 6) out of the Air Chamber (Item 3).
10. Clean the new Bearing (Item 6) and Air Chamber (Item 3) surface and apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new bearing.
11. Install the new bearing (Item 6) into the Air Chamber (Item 3), taking care to press on the OD of the bearing to prevent Brinelling of the races.
12. Remove the O-rings (Items 12 & 13) from the Piston (Item 11) and clean the piston so it is free of any contaminants.
13. Install new O-rings (Items 12 & 13) and apply a generous amount of lubrication to the O-rings and the Air Chamber wall it rides against.
14. Remove Retaining Rings (Item 7 & 14) from the Pilot (Item 2) end of the unit.
15. Remove the Hub (Item 1) from the Pilot (Item 2).
16. Using the proper fixtures, press the old bearing (Item 6) out of the Pilot (Item 2).

NOTE: Be sure to use a fixture that will support the Pilot (Item 3), keeping the pins from being damaged.

17. Clean the new Bearing (Item 6) and Pilot (Item 2) surface and apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new bearing.
18. Press new Bearing (Item 6) into Pilot (Item 2).

Reassembly

19. Support the inner race of the pilot Bearing (Item 6) and press the Hub into the Pilot (Item 1). Reinstall the retaining rings.
20. Reinstall all of Friction Facings (Item 4), Friction Plates (Item 5), Springs (Item 19) and Washers (Item 20). (See Figure 7.)
21. Set the Pilot/Hug assembly on the Arbor Press and place the Air Chamber/Piston assembly on top of the Hub.
22. Holding the Air Chamber (Item 3) and the hollow shaft on top of the hub, press Air Chamber back onto the unit.
23. Insert the Retaining Ring (Item 14) onto the Hub (Item 1).
24. Verify the unit is functional by applying air to the unit and watching it engage and disengage.

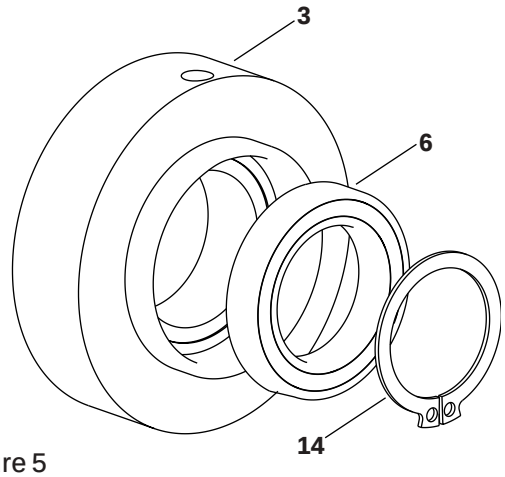


Figure 5

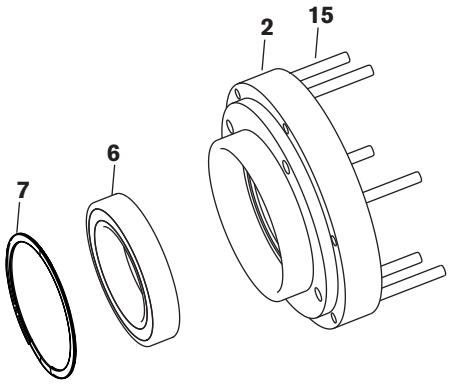


Figure 6

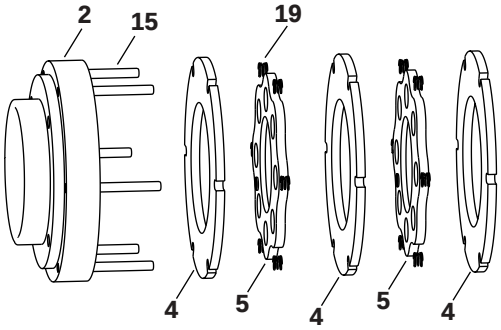


Figure 7

TROUBLESHOOTING

Symptom	Probable Cause	Solution
Failure to engage	Worn Friction Facings	Replace the Friction Facings.
	Air not getting to the Mutiple Disc. Clutch	Check for a control valve malfunction or low air pressure and replace the control valve if necessary.
	Air leaks around the O-ring Seals	Replace the O-ring Seals
Failure to disengage	Broken or weak Springs	Replace the Springs.
Excessive drag	Defective Ball Bearings	Replace the Ball Bearings.

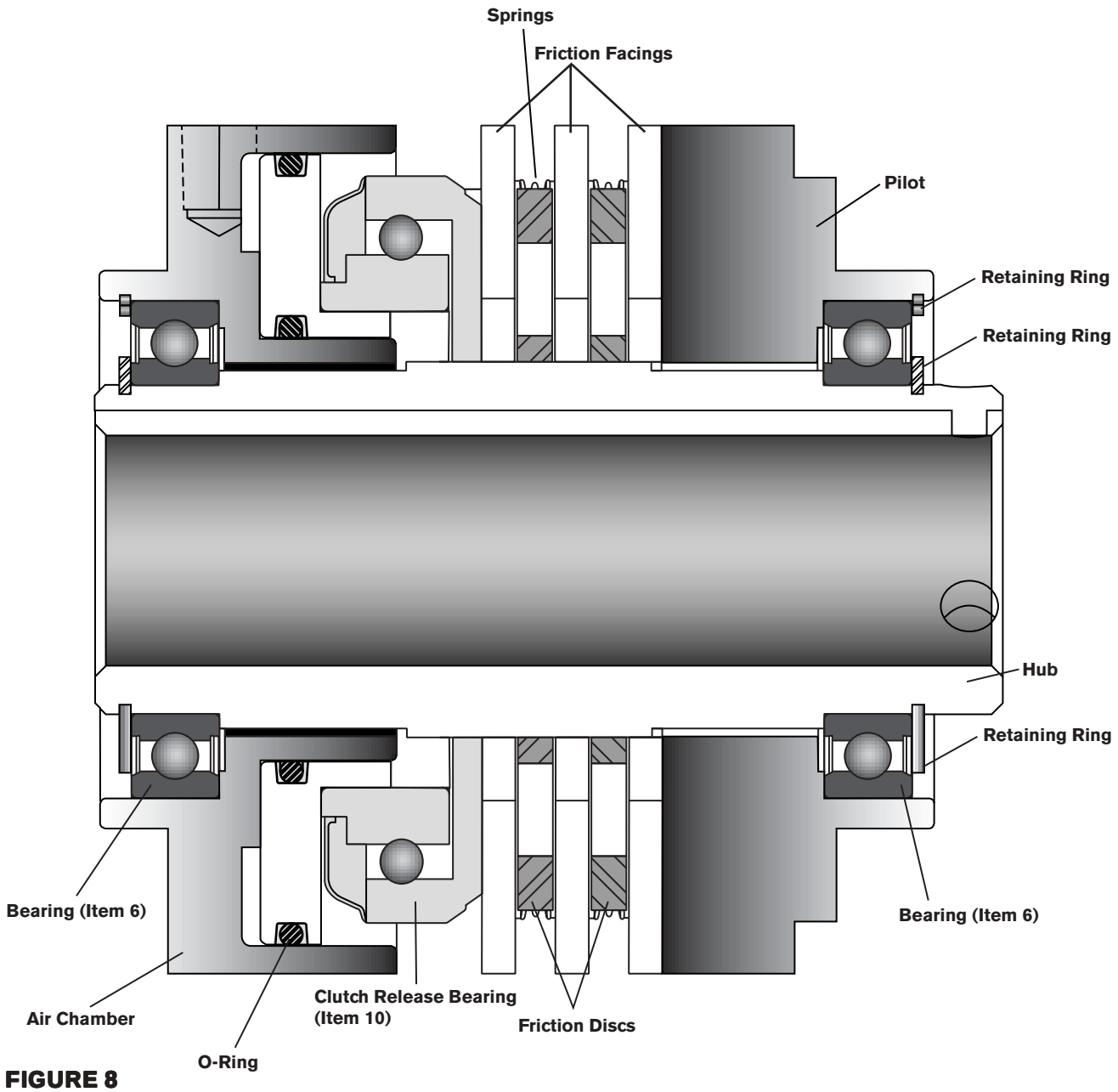


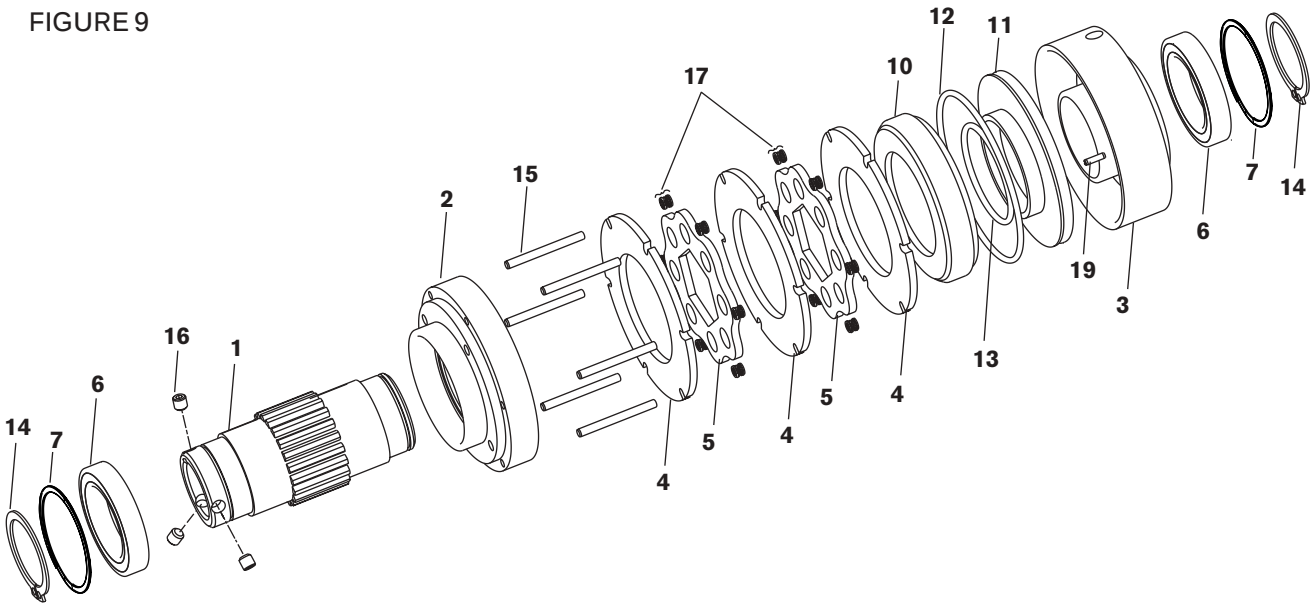
FIGURE 8

REPAIR KITS

MODEL	FACING KIT	REPAIR KIT
LSCC-32	923560	923559
LSCC-44	923552	923551
LSCC-54	923578	923577

PARTS LIST

FIGURE 9



ITEM	DESCRIPTION	QTY
1	Hub	1
2	Pilot Drive Flange	1
3	Air Chamber	1
4[2]	Friction Facing	3
5[2]	Friction Plate	2
6[1]	Ball Bearing	2
7	Retaining Ring	2
10[1]	Clutch Release Ball Bearing	1
11	Piston	1

ITEM	DESCRIPTION	QTY
12[1]	O-Ring Seal	1
13[1]	O-Ring Seal	1
14	Retaining Ring	2
15	Dowel Pin	6
16	Set Screw	3
17[2]	Compression Spring	12
18	Square Key	1
19	Slotted Spring Pin	1

[1] Denotes repair kit items. [2] Denotes facing kit items.

MAXIMUM RPM

Refer to Table 3 for maximum operating speeds (RPM) for each LSCC model.

NOTE: Contact the factory if operating at higher speeds.

Table 3 Maximum Operating Speeds

	Size 32	Size 44	Size 54
PSI	Maximum RPM		
80	300	250	250
70	400	300	300
60	550	350	350
50	800	450	450
40	1000	750	750

WARRANTY

Warranties

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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.

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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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