

**nexen**

formerly Hinton Industrial Products

"Air Champ"®



# COURTAULDS L-600 INSTALLATION AND SERVICE GUIDE



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 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.

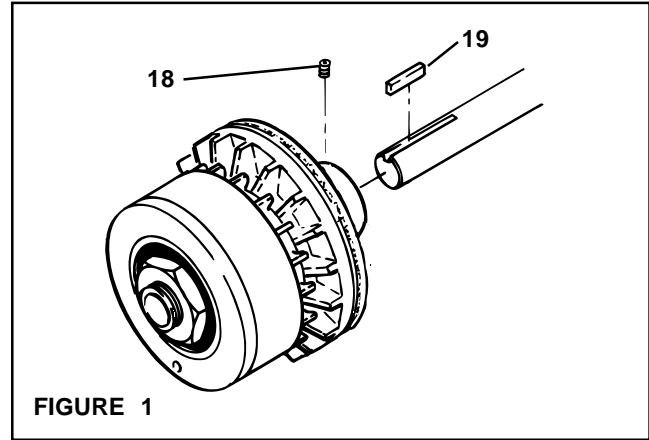
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## INSTALLATION

1. Insert the Key (Item 19) into the shaft keyway (See Figure 1).
2. Slide the L-600 onto the shaft as far as possible with the Key (Item 19) fully seated into the keyway of the L-600 hub (See Figure 1).
3. Tighten the Set Screws (Item 18) to 21 in. Lbs. [2.4 N•m] torque (See Figure 1).



## AIR CONNECTIONS

For quick response, a short air line between the control valve and the L-600 is recommended. An Air Line (Item 20) is furnished and air controls with 1/8 NPT ports are recommended. Where long air lines are required, a Quick Exhaust Valve (Nexen Product No. 945100) is recommended to ensure rapid disengagement.

Align the air inlet to a down position to allow condensation in the air chamber to drain out of the exhaust port.

Due to bearing seal drag, the outer portion of the L-600 will rotate when it is engaged. Rest the air line against a support that is parallel to the centerline of the L-600 to stop this rotation.

### NOTE

**Because of the necessary movement of the air chamber and hose upon engagement, flexible tubing or air lines must be used on the L-600.**

## 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 the L-600 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 L-600, 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 counter clockwise until closed.
7. Turn the Lubricator Adjustment Knob clockwise one third turn.
8. Open the air line to the unit.

## TROUBLESHOOTING

<b>Failure to Engage.</b>	Air not getting to the L-600 due to a control valve malfunction or low air pressure.
	Defective O-ring Seals, causing air leaks.
	Lack of lubrication on the Hub spline or in the air chamber.
	Rigid pipe instead of flexible tubing for air line connections.
<b>Failure to Disengage.</b>	Friction lock due to a lack of lubrication on the Hub spline or in the air chamber.
	Broken Compression Spring.
	Unexhausted air due to a control valve malfunction.
<b>Excessive drag load on the air hose.</b>	Defective Bearings.
	Air hose not properly supported.

## PARTS REPLACEMENT

1. Loosen the two Set Screws (Item 17) and remove the Adjustment Nut (Item 16) (See Figure 2).
2. Slide the Hub (Item 6), Compression Spring (Item 7), and Spacer (Item 2) out of the L-600 (See Figure 2).
3. Apply air pressure to separate the Piston (Item 13) from the Cylinder (Item 11) and Friction Disc (Item 9) (See Figure 3).
4. Remove the two O-ring Seals (Items 14 and 15) from the Piston (Item 13) (See Figure 3).
5. Press the Bearing (Item 10) out of the Piston (Item 13) (See Figures 4 and 5).
6. Clean the bearing bore of the Piston with fresh safety solvent, making sure that all old Loctite<sup>®</sup> residue has been removed.
7. Apply Loctite<sup>®</sup> 680 to the outer race of the new Bearing (Item 10) and align it with the bore of the Piston (Item 13); then pressing on the outer bearing race, press the new Bearing into the Piston.
8. Using a bearing puller, remove the Cylinder (Item 11) from the Bearing (Item 10) and Friction Disc (Item 9) (See Figures 6 and 7).
9. Using a bearing puller, remove the Bearing (Item 10) from the Friction Disc (Item 9) (See Figures 6 and 8).
10. Pressing on the inner bearing race, press the new Bearing (Item 10) onto the Friction Disc (Item 9).
11. Clean the bearing bore of the Cylinder (Item 11) with fresh safety solvent, making sure that all old Loctite<sup>®</sup> residue has been removed.
12. Apply Loctite<sup>®</sup> 680 to the outer race of the new Bearing (Item 10) and align it with the bore of the Cylinder (Item 11); then press the new Bearing (Item 10) and Friction Disc (Item 9) into the Cylinder (Item 11).
13. Clean the O-ring Seal contact surfaces of the Piston (Item 13) and Cylinder (Item 11) with fresh safety solvent (See Figure 9).
14. Coat the new O-ring Seals (Items 14 and 15) and the O-ring Seal contact surfaces of the Piston (Item 13) and Cylinder (Item 11) with fresh O-ring lubricant.
15. Install the new O-ring Seals (Items 14 and 15) onto the Piston (Item 13), then wipe off any excess O-ring lubricant (See Figure 9).
16. Slide the Piston (Item 13) into the Cylinder (Item 11) (See Figure 9).
17. Slide the Spacer (Item 2) and compression Spring (Item 7) onto the Hub (Item 6) (See Figure 10).
18. Coat the splines of the Hub (Item 6) with a thin film of Never-Seez<sup>®</sup> (See Figure 10).

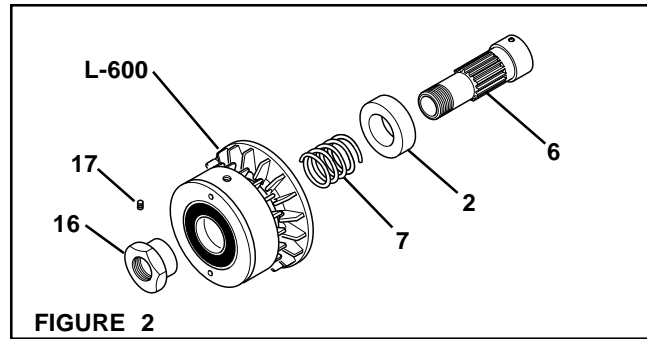


FIGURE 2

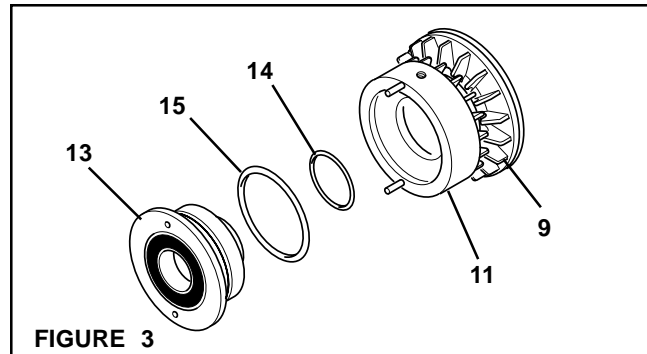


FIGURE 3

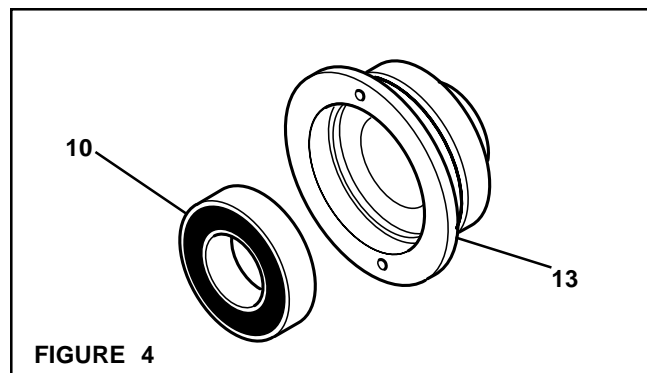


FIGURE 4

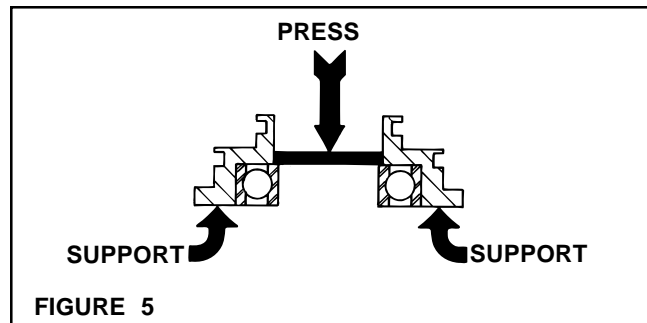


FIGURE 5

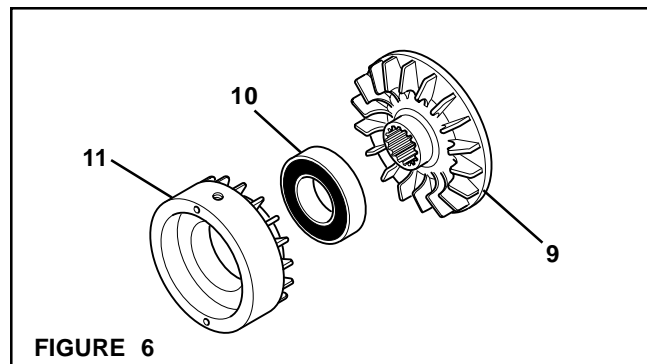


FIGURE 6

19. Slide the Hub (Item 6) into the L-600 (See Figure 10).
20. Install the Adjustment Nut (Item 16) (See Figure 10).
21. Remove the six Machine Screws (Item 5) and the old Friction Facing (Item 4) (See Figure 11).
22. Using six new Machine Screws (Item 5), install the new Friction Facing (Item 4) (See Figure 11).
23. Tighten the six Machine Screws to 19 In. Lbs. [1.2 N•m] torque.

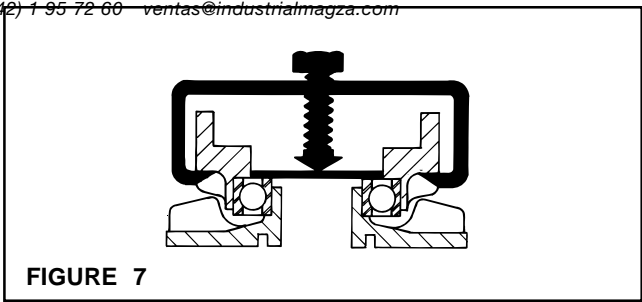


FIGURE 7

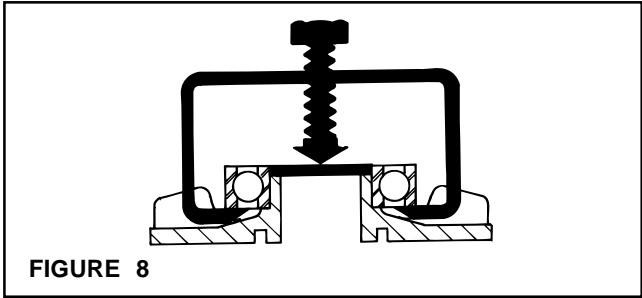


FIGURE 8

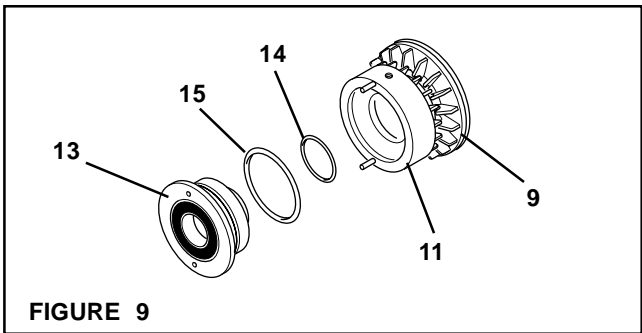


FIGURE 9

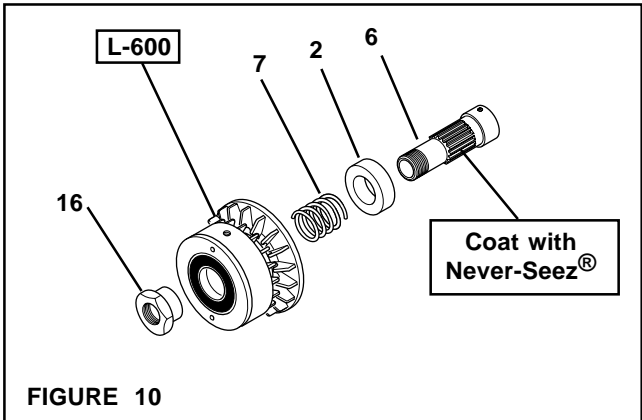


FIGURE 10

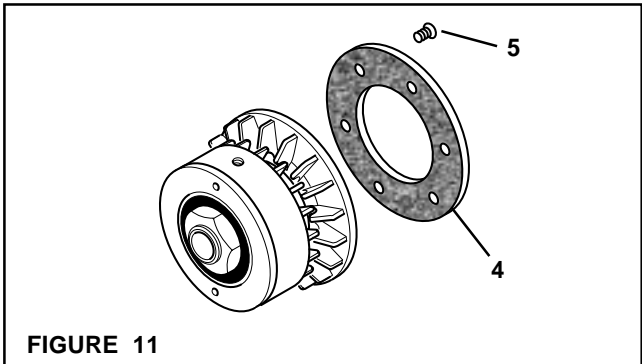
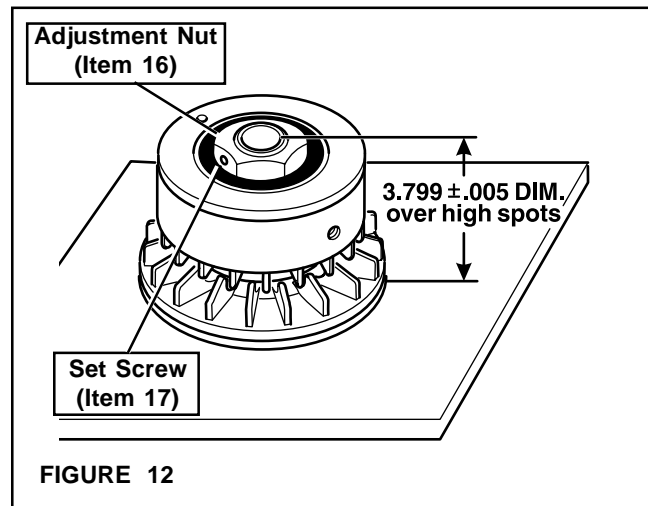


FIGURE 11

## ADJUSTMENT

1. Ensure the two Set Screws (Item 17) that lock the Adjustment Nut (Item 16) are released to allow the Adjustment Nut to be adjusted on the Hub (Item 6) (See Figure 12).
2. Place the L-600 with the Friction Facing down onto a surface plate (See Figure 12).
3. Turn the Adjustment Nut (clockwise to increase or counter clockwise to decrease the set dimension) as required until the  $3.799 \pm .005$ " dimension from the face of the L-600 to the end of the Hub (Item 6) is achieved while checking this measurement with a height gauge (See Figure 12).
4. Tighten the two Set Screws (Item 17) to lock the Adjustment Nut to the Hub.
5. Recheck the measurement of the  $3.799 \pm .005$ " dimension with a height gauge.



**NOTE**

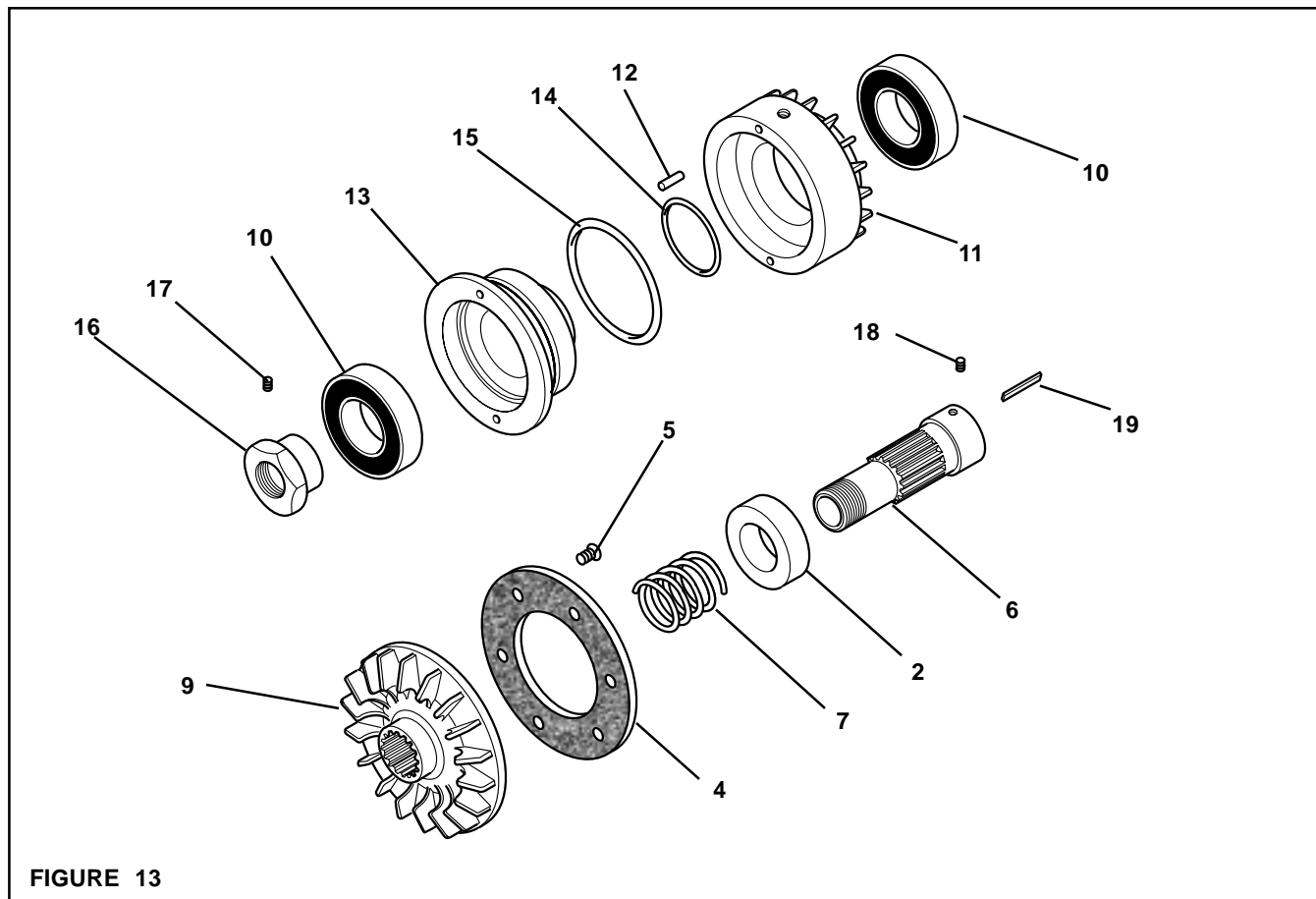
**The Hub must always project from the Adjustment Nut after the final setting.**

## REPLACEMENT PARTS

The item or balloon number for all Nexen products is used for part identification on all product parts list, product price list, 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 13**

ITEM	DESCRIPTION	QTY
2	Spacer	1
4 <sup>1</sup>	Friction Facing	1
5 <sup>1</sup>	Machine Screw	6
6	Hub	1
7 <sup>1</sup>	Compression Spring	1
9	Friction Disc	1
10 <sup>1</sup>	Bearing	2
11	Cylinder	1
12	Spring Pin (Slotted)	2

ITEM	DESCRIPTION	QTY
13	Piston	1
14 <sup>1</sup>	O-ring Seal	1
15 <sup>1</sup>	O-ring Seal	1
16	Adjustment Nut	1
17	Set Screw	2
18	Set Screw	2
19	Key	1
20	Air Line (Not Shown)	1

<sup>1</sup> Denotes Repair Kit Item.

## 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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