

nexen[®]

AIR CHAMP[®] PRODUCTS

User Manual



Clutch and Pilot Assembly Models DPC-13T and DPC-15T

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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www.nexengroup.com



WARNING

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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INTRODUCTION

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.

Nexen’s modularized DPC (Dual Friction Plate) Clutches are designed to mount on shaft ends, or on through shafts using customer supplied Q.D. (Quick Detachable) Bushings. The dual friction plate design eliminates thrust loading of bearings when the DPC Clutch is connected to the Pilot Assembly, or a bearing supported Flywheel, Sheave, or Sprocket.

Seven components are combined to install Nexen’s DPC Clutch as an Element Clutch, Pilot Mount Clutch, or a Sheave Clutch.

The seven basic components (each sold separately) are: DPC Clutch, Q.D. Bushing (customer supplied), Rotary Air Union (supplied with DPC Clutch), Rotary Air Union Cap, Sheave, Pilot Assembly, and Bushing.

The inner and outer assemblies of the DPC Clutch rotate independently.

When mounted on a through shaft, the outer clutch assembly rotates, and upon engagement, the inner clutch assembly becomes the driven member.

When mounted on a continually running shaft, the inner clutch assembly rotates, and upon engagement, the outer clutch assembly becomes the driven member.

Nexen recommends mounting the DPC Clutch with the outer clutch assembly rotating continuously; taking advantage of the cooling effect of the fin to dissipate heat generated when the clutch is engaged.



WARNING

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 in an area where injury to an operator could occur.

INSTALLATION

NOTE: All DPC Clutch installations require a Q.D. (Quick Detachable) Bushing. Refer to Table 1 for Q.D. Bushing Specifications.

ELEMENT CLUTCH

1. Remove Lock Nuts (Item 20) (See Fig. 1).
2. Remove Friction Disc (Item 7), and Flange Mount Housing (Item 6) from Flange Mount Disc (Item 5) (See Fig. 1).
3. Set DPC inner assembly aside.
4. Using Cap Screws (Item 21), attach Flange Mount Disc (Item 6) to bearing supported component. (See Table 2).
5. Tighten Cap Screws (Item 21) to recommended torque (See Table 3).
6. Thoroughly inspect the tapered bore of the Splined Hub (Item 1), and tapered surface of the Q.D. Bushing. Remove any dirt, grease, or foreign material.
7. Install Q.D. Bushing into Splined Hub (Item 1); aligning untapped holes in Q.D. Bushing with tapped holes in Splined Hub.

CAUTION
 Do not strike the Q.D. Bushing to set it in the tapered bore.

8. Loosely insert the Q.D. Bushing Pull-Up Bolts, and Lockwashers into the Q.D. Bushing, and the tapped holes of the Splined Hub.

NOTE: Do not use lubricants or thread locking compounds on Pull-Up Bolts.

9. Using a Dial Indicator, measure runout of motor shaft. Runout must not exceed 0.002 T.I.R. (Total Indicated Reading).
10. Insert Key into motor shaft keyway.

TABLE 1

MODEL	BUSHING TYPE	MAXIMUM BORE	PULL-UP BOLT TIGHTENING TORQUE
DPC-13T	F	3.500	75 FT. LBS.
DPC-15T	J	4.000	112 FT. LBS.

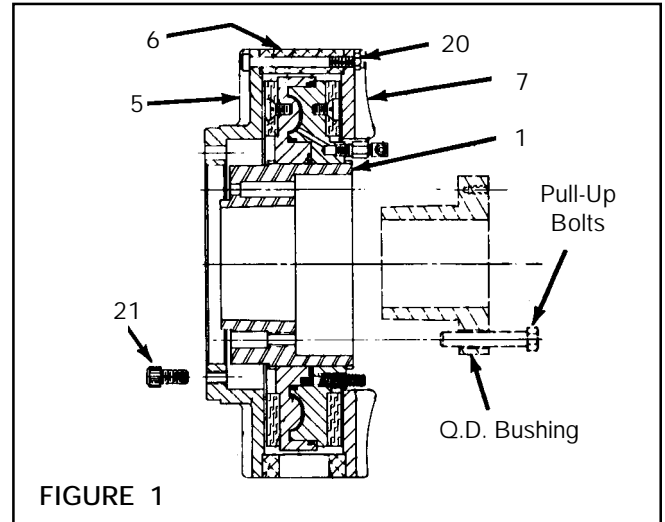


FIGURE 1

TABLE 2

MODEL	BOLT CIRCLE	BOLT HOLES
DPC-13T	8.250" [209.55 mm]	6 Equally Spaced
DPC-15T	9.00" [228.60 mm]	6 Equally Spaced

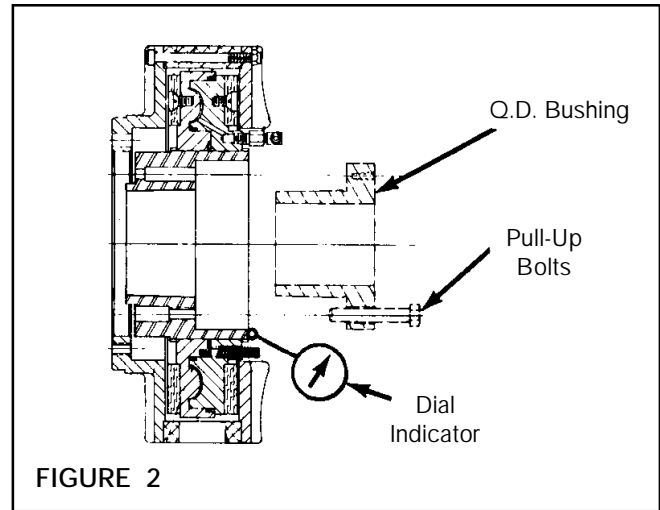
TABLE 3

DESCRIPTION	DPC-13T	DPC-15T
Cap Screw (Item 21)	119 FT. LBS.	119 FT. LBS.
Lock Nut (Item 20)	70 FT. LBS.	70 FT. LBS.
Pull-Up Bolts	75 FT. LBS.	112 FT. LBS.

11. Slide the DPC Clutch inner assembly onto the motor shaft.

CAUTION

There must be a gap of approximately $\frac{1}{32}$ " between the Friction Facing (Item 4), and the friction surface of the Flange Mount Disc (Item 5). To obtain this $\frac{1}{32}$ " gap; insert three equally spaced $\frac{1}{32}$ " shims between the Friction Facing and the Friction surface of the Flange Mount Disc, and clamp the DPC inner assembly, and the Flange Mount Disc together at each shim location.



12. Alternately, and evenly, tighten Q.D. Bushing Pull-Up Bolts to the recommended torque (See Table 3).

CAUTION

To avoid preloading of the bearings; the motor shaft must be free to "float" when tightening the Q.D. Bushing Pull-Up Bolts.

NOTE: Runout is minimized if a Dial Indicator is used as the Q.D. Bushing Pull-Up Bolts are tightened. Place the contact tip of the Dial Indicator on the machined surface of the Splined Hub to measure runout. Runout at this surface must be within 0.003 T.I.R when the Pull-Up Bolts are tightened (See Fig. 2).

CAUTION

Do not over tighten Pull-Up Bolts. If excessive tightening torque is applied; bursting pressure is created in the Splined Hub.

13. Remove all shims and clamps.

14. Install the Housing (Item 6), and Friction Disc (Item 7), and secure them with Lock Nuts (Item 20).

15. Tighten the Lock Nuts (Item 20) to the recommended torque (See Table 3).

PILOT CLUTCH

NOTE: The Pilot Clutch is a combination of the Element Clutch and a Pilot Assembly (See Fig. 3).

1. Install Support Bushing, if required.

NOTE: The Support Bushing provides radial load support at the shaft, and is used when bore sizes smaller than standard are required.

- a. Place Pilot Assembly face down, and fully support the flange of the Extension Hub (Item 22) (See Fig. 3).
- b. Insert the Support Bushing into the bore of the Extension Hub (Item 22).
- c. Apply even pressure around the entire diameter of the Support Bushing, and press the Support Bushing into the Extension Hub.

NOTE: Do not use a hammer to install the Support Bushing; a small Arbor Press is recommended.

2. Push the Pilot Assembly into the Element Clutch, and align the counterbored holes in the Pilot Housing (Item 23) with the tapped holes in the Flange Mount Disc (Item 5) (See Fig. 3).
3. Install the Cap Screws (Item 21), and tighten them to the recommended torque (See Table 4 & Fig. 3).
4. Align the counterbored holes of the Splined Hub (Item 1) with the tapped holes of the Hub Extension (Item 22) (See Fig. 3).
5. Install Cap Screw (Item 28), and tighten them to the recommended torque (See Table 4, & Fig. 3).
6. Thoroughly inspect the tapered bore of the Splined Hub, and the tapered surface of the Q.D. Bushing; remove any dirt, grease, or foreign material.

NOTE: Do not use lubricants when installing the Q.D. Bushing.

7. Install the Q.D. Bushing into the Splined Hub; aligning the untapped holes in the Q.D. Bushing with the tapped holes in the Splined Hub.

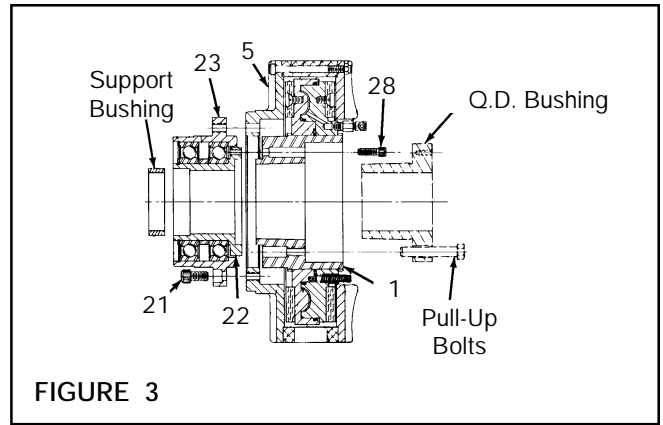


FIGURE 3

TABLE 4

DESCRIPTION	DPC-13T	DPC-15T
Cap Screw (Item 21)	119 FT. LBS.	119 FT. LBS.
Cap Screw (Item 28)	48 FT. LBS.	48 FT. LBS.
Lock Nut (Item 20)	70 FT. LBS.	70 FT. LBS.
Pull-UP Bolts	75 FT. LBS.	112 FT. LBS.

CAUTION
 Do not strike the Q.D. Bushing to "set" it in the tapered bore.

- Loosely insert the Pull-Up Bolts, and Lockwashers into the Q.D. Bushing, and tapped holes of the Splined Hub.

NOTE: Do not use lubricants or thread locking compounds on the Pull-Up Bolts.

- Measure the motor shaft runout. The runout must not exceed 0.002 T.I.R. (Total Indicator Reading).
- Insert Key into keyway.
- Slide "DPC" Pilot Clutch onto the motor shaft.
- Alternately, and evenly tighten Pull-Up Bolts to the recommended torque (See Table 4).

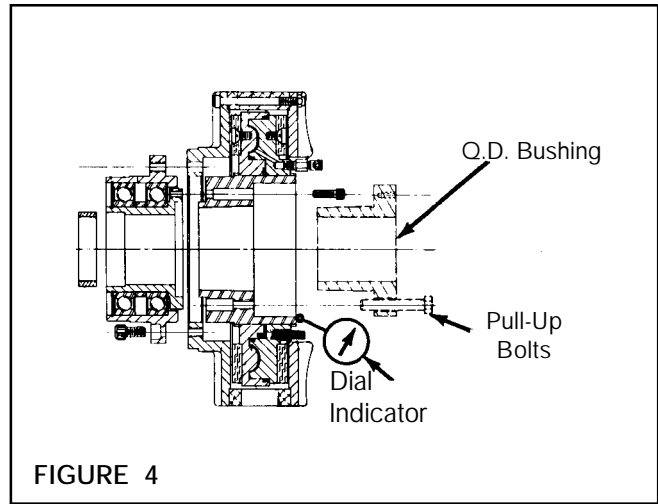


FIGURE 4

CAUTION

Do not over tighten Pull-Up Bolts. If excessive tightening torque is applied, bursting pressure is created in the Splined Hub.

NOTE: Runout is minimized if a Dial Indicator is used as the Q.D. Bushing Pull-Up Bolts are tightened. Place the contact tip of the Dial Indicator on the machined surface of the Splined Hub to measure runout. Runout on this surface must be within 0.003 T.I.R. when the Pull-Up Bolts are tightened (See Fig. 4).

SHEAVE CLUTCH

NOTE: The Sheave Clutch is a combination of the Element Clutch, Pilot Assembly, and Sheave (See Fig. 5).

- Proceed with Steps 1 through 5 for the Pilot Clutch installation.
- Slide the Sheave (Item 32) onto the Pilot Assembly (See Fig. 5).
- Align the sheave mounting holes with the tapped holes in the Pilot Housing (item 23) (See Fig. 5).
- Using Cap Screws (Item 33), and Lockwashers (Item 34), secure the Sheave onto the Pilot Assembly.
- Tighten the Cap Screws (Item 33) to the recommended torque (See Table 5).
- Proceed with Steps 6 through 12, for the Pilot Clutch installation.

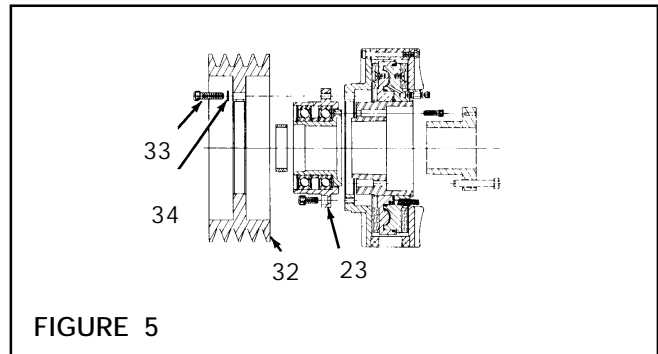


FIGURE 5

TABLE 5

DESCRIPTION	DPC-13T	DPC-15T
Cap Screw (Item 21)	119 FT. LBS.	119 FT. LBS.
Cap Screw (Item 28)	48 FT. LBS.	48 FT. LBS.
Cap Screw (Item 33)	119 FT. LBS.	119 FT. LBS.
Lock Nut (Item 20)	70 FT. LBS.	70 FT. LBS.
Pull-UP Bolts	75 FT. LBS.	112 FT. LBS.

AIR CONNECTIONS

SHAFT END MOUNTING

1. Install two Elbow Fittings (Item 17) into the Rotary Air Union Cap (Item 30) (See Fig. 6).
2. Install an Adaptor Fitting (Item 16), and an Elbow Fitting (Item 17) into each air inlet of the Piston/Drive Disc (See Fig. 6).
3. Using Cap Screws (Item 31), attach the Rotary Air Union Cap (Item 30) to the tapped holes of the Q.D. Bushing (See Fig. 6).

NOTE: The Rotary Air Union Cap air outlets must be aligned at approximately $82\frac{1}{2}^\circ$ to the Piston/Drive Disc air inlets for proper Hose (Item 18) connection (See Fig. 6).

4. Tighten the Cap Screws (Item 31) to the recommended torque (See Table 6).
5. Install Hoses (Item 18) (See Fig. 6).
6. Install the Rotary Air Union (Item 15).
7. Connect the air supply to the Rotary Air Union.

NOTE: Do not use rigid pipe or tubing for this connection. For fast engagement, and disengagement, connect the air controls as close to the "DPC" Clutch as possible. Where long air lines are required, use a Quick Exhaust Valve.

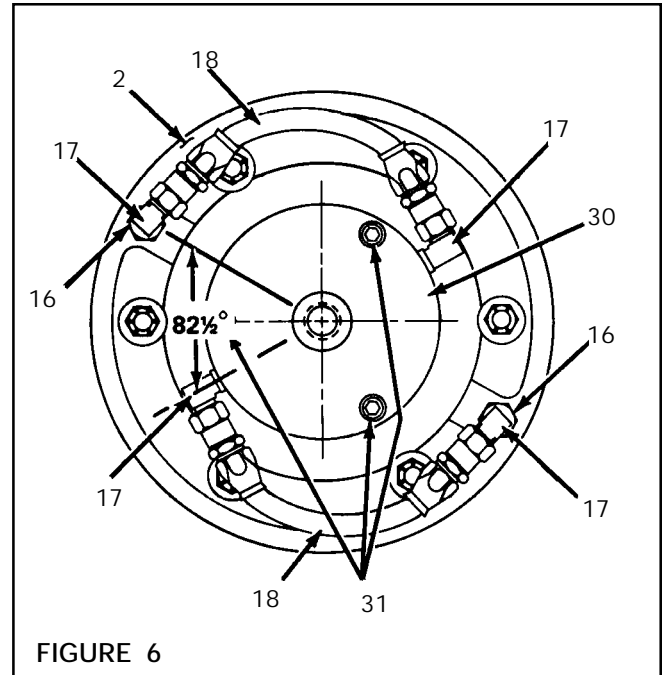


FIGURE 6

TABLE 6

DESCRIPTION	DPC-13T	DPC-15T
Cap Screw (Item 31)	75 FT. LBS.	112 FT. LBS.

THROUGH SHAFT MOUNTING

1. Drill a $\frac{3}{8}$ " diameter hole into the center of the shaft; deep enough to reach the desired air outlets.

NOTE: Air outlets should be approximately $\frac{3}{8}$ " from the end of the Hub.

2. Tap the end of the Shaft $\frac{5}{8}$ -18 by $\frac{5}{8}$ " deep (See Fig. 7).
3. Drill a $\frac{11}{32}$ " diameter air outlet hole through the Shaft; intersecting the air inlet hole approximately $\frac{3}{8}$ " from the end of the Hub (See Fig. 7).
4. Tap both air holes $\frac{1}{8}$ -27 NPT by $\frac{5}{8}$ " deep. (See Fig. 7).
5. Install two Elbow Fittings (Item 17) into each air outlet hole.

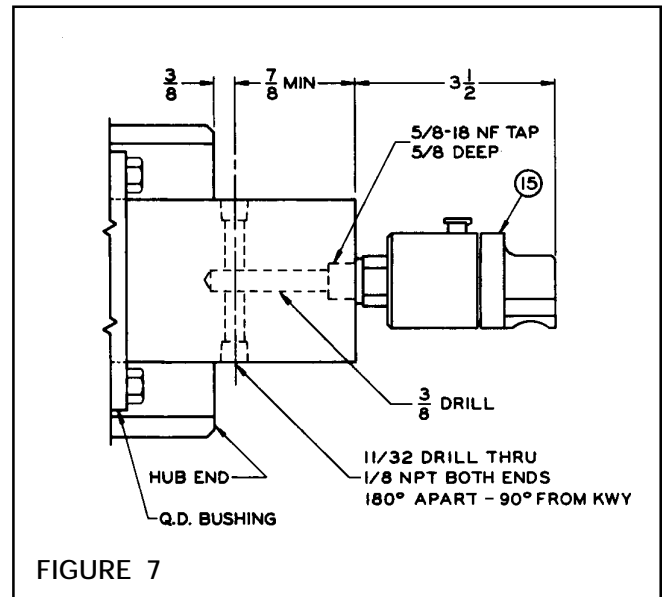


FIGURE 7



6. Install an Adaptor Fitting (Item 16), and an Elbow Fitting (Item 17) into each air inlet of the Piston/Drive Disc (Item 2).
7. Install Hoses (Item 18)
8. Install the Rotary Air Union (Item 15) (See Fig. 7).
9. Connect the air supply to the Rotary Air Union.

NOTE: Do not use rigid pipe or tubing for this connection. For fast engagement, and disengagement, connect the air controls as close to the "DPC" Clutch as possible. Where long air lines are required, use a Quick Exhaust Valve.

LUBRICATION

The most effective and economical way to lubricate the DPC Clutch is with an air line lubricator. Available from Horton, the lubricator injects oil into the pressurized air; forcing an oil mist into the air chamber.

Locate the lubricator above and within ten feet of the DPC Clutch. Use a low viscosity petroleum base oil, such as SAE-10.

Lubricator drip rate is properly set when an oil drop forms in the sight gauge every time the DPC Clutch has completed approximately twenty cycles.

NOTE: Synthetic lubricants are not recommended.

For a DPC Clutch that is cycled infrequently; apply two or three drops of oil into the air inlet every two weeks, or cycle the unit approximately twenty times per week.

OPERATION

CAUTION

Prior to placing the DPC Clutch into service; verify that all screws are secured to the proper tightening torque (See Table 7).

The DPC Clutch engages when air pressure is introduced into the Cylinder/Drive Disc. Air pressure pushes the Cylinder/Drive Disc against the Flange Mount Disc, and forces the Piston/Drive Disc in the opposite direction.

TABLE 7

DESCRIPTION	DPC-13T	DPC-15T
Shoulder Screw (Item 13)	9 FT. LBS.	9 FT. LBS.
Cap Screw (Item 21)	119 FT. LBS.	119 FT. LBS.
Cap Screw (Item 28)	48 FT. LBS.	48 FT. LBS.
Cap Screw (Item 31)	75 FT. LBS.	112 FT. LBS.
Cap Screw (Item 33)	119 FT. LBS.	119 FT. LBS.
Lock Nut (Item 20)	70 FT. LBS.	70 FT. LBS.
Pull-UP Bolts	75 FT. LBS.	112 FT. LBS.

Torque is transmitted through the Cylinder/Drive Disc and Piston/Drive Disc splines to the Splined Hub attached to the shaft with Q.D. Bushings.

TABLE 8

MODEL	OUTER ASSEMBLY	INNER ASSEMBLY
DPC-13T	1200 R.P.M.	2000 R.P.M.
DPC-15T	900 R.P.M.	1700 R.P.M.

Heat generated at the friction surfaces is dissipated by windage created by fins on the Flange Mount Disc, and Friction Disc.

When air is exhausted from the Cylinder, Return Springs pull the Piston to a disengaged position.

CAUTION

Never exceed recommended operating speeds (See Table 8)

PARTS REPLACEMENT

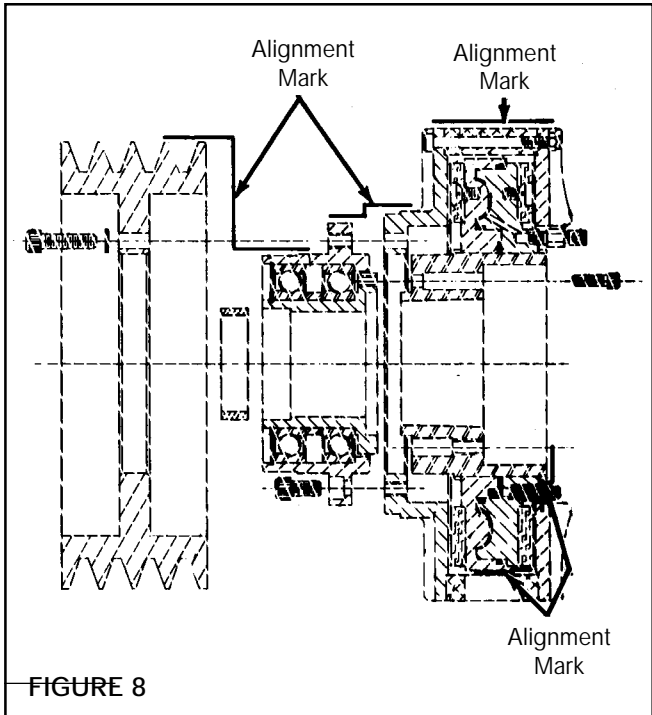
CAUTION

The Nexen DPC Clutch has been balanced at the factory. During disassembly, mark the components with chalk alignment marks to insure correct alignment, and balance as the DPC Clutch is reassembled (See Fig. 8).

When reassembling the Nexen DPC Clutch, make sure that all screws are tightened to the recommended torque (See Table 9).

TABLE 9

DESCRIPTION	DPC-13T	DPC-15T
Shoulder Screw (Item 13)	9 FT. LBS.	9 FT. LBS.
Cap Screw (Item 21)	119 FT. LBS.	119 FT. LBS.
Cap Screw (Item 28)	48 FT. LBS.	48 FT. LBS.
Cap Screw (Item 31)	75 FT. LBS.	112 FT. LBS.
Cap Screw (Item 33)	119 FT. LBS.	119 FT. LBS.
Lock Nut (Item 20)	70 FT. LBS.	70 FT. LBS.
Pull-UP Bolts	75 FT. LBS.	112 FT. LBS.




FRICITION FACING (ITEM 4).

NOTE: Inspect Friction Facings for wear; and replace them when they are approximately $\frac{9}{32}$ " thick. Friction Facings can be replaced without removing the DPC Clutch from the motor shaft.

1. Disconnect the air supply line, and Hose Assemblies at the Piston/Drive Disc Elbow Fittings.

NOTE: If the DPC Clutch is shaft end mounted, remove the Rotary Air Union End Cap (Item 30); on through shaft installations, remove Elbow Fittings (Item 17) from the shaft.

2. Remove Lock Nuts (Item 20) (See Fig. 9).
3. Remove the Friction Disc (Item 7) (See Fig. 9).
4. Remove the Shoulder Screws (Item 13), and Springs (Item 14) (See Fig. 9).
5. Slide the Piston/Drive Disc (Item 2) off the Splined Hub (Item 1) (See Fig. 9).
6. Remove the Retaining Ring (Item 10) (See Fig. 9).


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.

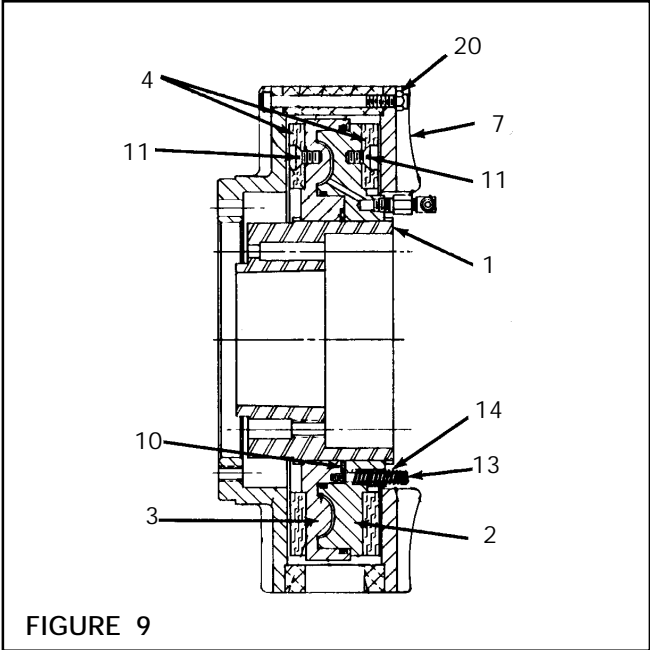


FIGURE 9

7. Slide the Cylinder/Drive Disc (Item 3) off the Splined Hub (Item 1) (See Fig. 9).
8. Remove Machine Screws (Item 11), and replace worn Friction Facings (Item 4) (See Fig. 9).

NOTE: On some models of the DPC-13T and DPC-15T the Machine Screws (Item 11) are assembled with a green anaerobic thread locking compound. If removal is difficult, strike the end of the screwdriver with a hammer to break the crystalline structure of this thread locking compound before attempting to remove the machine screws. The Machine Screws (Item 11) furnished with the new Friction Facings have a locking patch and do not require the use of a thread locking compound.

9. Reverse Steps 1 through 7 to reassemble the DPC Clutch; noting all chalk alignment marks, and tighten all screws to the recommended torque (See Table 9).

O-RINGS (ITEMS 8 & 9)

NOTE: Replace O-rings (Items 8 & 9) if there are noticeable air leaks or a loss of torque.

1. Proceed with Steps 1 through 7 for Friction Facing Replacement.
2. Remove old O-rings (Items 8 & 9) and clean o-ring contact surfaces with fresh safety solvent. (See Fig. 10).
3. Lubricate new O-rings (Items 8 & 9), and o-ring contact surfaces with fresh o'ring lubricant.

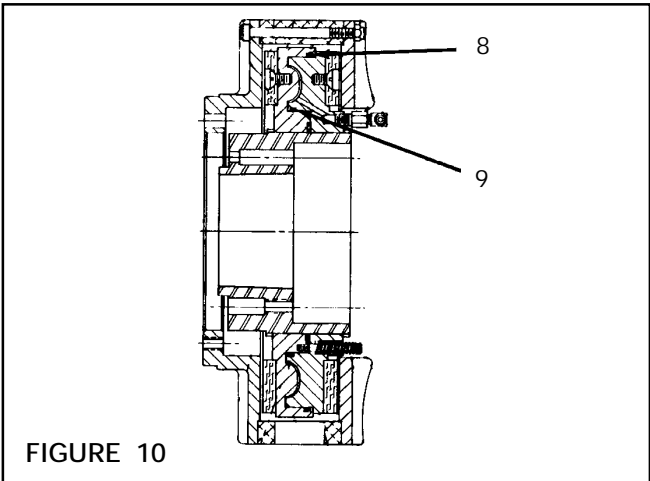


FIGURE 10

4. Install new O-rings (Items 8 & 9).
5. Revers Step 1 to reassemble the DPC Clutch, noting the chalk alignment marks, and tighten all screws to the recommended torque (See Table 9).

PILOT ASSEMBLY BEARINGS (ITEM 25).

NOTE: DPC Clutch Pilot Assembly Bearings (Item 25) are prelubricated, sealed, and do not require further lubrication.

1. Disconnect the air supply line, and Hose Assemblies at the Piston/Drive Disc Elbow Fittings.

NOTE: If the DPC Clutch is shaft end mounted, remove the Rotary Air Union Cap (Item 30). On through shaft installations, remove the Elbow Fittings (Item 17) from the shaft.

2. Loosen the Q.D. Bushing.
 - a. Remove Q.D. Bushing pull-up bolts and lockwashers.
 - b. Insert the pull-up bolts into the tapped Q.D. Bushing removal holes, and progressively tighten each one until the Splined Hub (Item 1) is loose on the Q.D. Bushing.
3. Wedge a screwdriver into the saw cut in the Q.D. Bushing to loosen the Q.D. Bushing from the shaft, then remove the DPC Clutch.
4. Remove the Cap Screws (Item 33), Lockwashers (Item 34), and Sheave (Item 32) if mounted to the DPC Clutch (See Fig. 11).
5. Remove Cap Screws (Item 28) (See Fig. 11).
6. Remove Cap Screws (Item 21) (See Fig. 11).
7. Remove the Pilot Assembly from the Element Clutch (See Fig. 11).
8. Remove Retaining Ring (Item 27) from the Pilot Assembly (See Fig. 11).

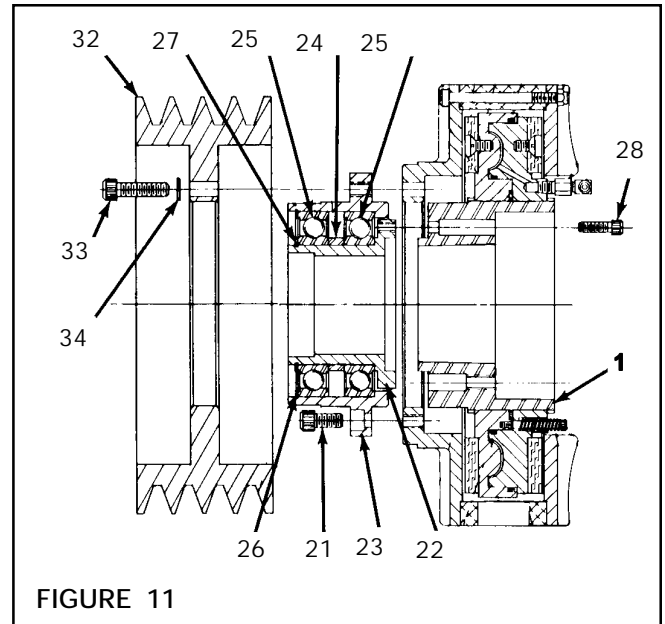



FIGURE 11

 **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.

9. Fully supporting the Pilot Housing (Item 32); press the Hub Extension (Item 22) out of the Pilot Assembly (See Fig. 11).
10. Remove Retaining Ring (Item 26) (See Fig. 11).
11. Fully supporting the Pilot Housing (Item 23); push out the Bearings (Item 25), and Spacer (Item 24) (See Fig. 11).
12. Clean bearing contact surfaces of the Pilot Housing (Item 23), and the Hub Extension (Item 22) with fresh safety solvent.
13. Press first new Bearing (Item 25) onto Hub Extension (Item 22).
14. Install the Spacer (Item 24).
15. Press the second Bearing (Item 25) onto the Hub Extension (Item 22).
16. Install Retaining Ring (Item 27).
17. Fully supporting the inner races of the new bearings; push the Hub Extension (Item 22), with Bearings (Item 25), and Spacer (Item 24) into the Pilot Housing (Item 23).
18. Install Retaining Ring (Item 26).
19. Reinstall DPC Clutch (See Sect II. Installation).

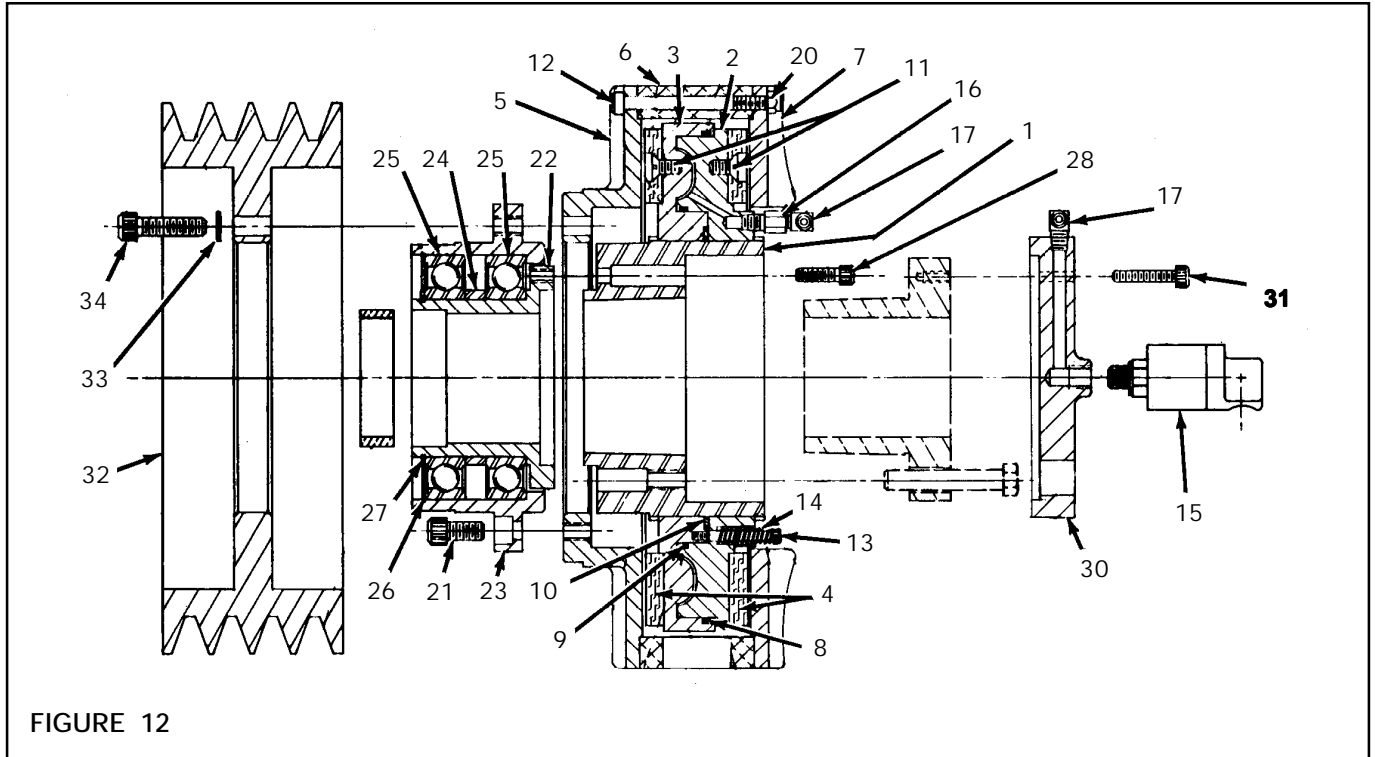
REPLACEMENT PARTS

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



ELEMENT CLUTCH

ITEM	DESCRIPTION	QTY
1	Splined Hub	1
2	Piston/Drive Disc	1
3	Cylinder/Drive Disc	1
4	Friction Facing	2
5	Flange Mount Disc	1
6	Housing	1
7	Friction Disc	1
8	O'ring (Large)	1
9	O'ring (Small)	1
10	Retaining Ring	1
11	Machine Screw	16
12	Cap Screw	*
13	Shoulder Screw	**
14	Spring	**
15	Rotary Air Union	1
16	Adaptor Fitting	2
17	Elbow Fitting	4
18	Hose Assembly (Not Shown)	2
19	Hose Assembly (Not Shown)	1
20	Lock Nut	*
21	Cap Screw	6

MODEL	* QTY	** QTY
DPC-13T	8	
DPC-15T	10	8

PILOT ASSEMBLY

ITEM	DESCRIPTION	QTY
22	Extension Hub	1
23	Pilot Housing	1
24	Spacer	1
25	Bearing	2
26	Retaining Ring	1
27	Retaining Ring	1
28	Cap Screw	3

CAP, ROTARY AIR UNION, & FASTENERS

ITEM	DESCRIPTION	QTY
30	Cap, Rotary Air Union	1
31	Cap Screw	3

SHEAVES & FASTENERS

ITEM	DESCRIPTION	QTY
32	Sheave	1
33	Cap Screw	6
34	Lockwasher	6

WARRANTIES

Warranties

Nexen warrants that the Products will be free from any defects in material or workmanship for a period of 12 months from the date of shipment. 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.

Exclusive Remedy

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.

Limitation of Nexen's Liability

TO THE EXTENT PERMITTED BY LAW NEXEN SHALL HAVE NO LIABILITY TO BUYER OR ANY OTHER PERSON FOR INCIDENTAL DAMAGES, SPECIAL DAMAGES, CONSEQUENTIAL DAMAGES OR OTHER DAMAGES OF ANY KIND OR NATURE WHATSOEVER, WHETHER ARISING OUT OF BREACH OF WARRANTY OR OTHER BREACH OF CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE, EVEN IF NEXEN SHALL HAVE BEEN ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH POTENTIAL LOSS OR DAMAGE. For all of the purposes hereof, the term "consequential damages" shall include lost profits, penalties, delay images, liquidated damages or other damages and liabilities which Buyer shall be obligated to pay or which Buyer may incur based upon, related to or arising out of its contracts with its customers or other third parties. In no event shall Nexen be liable for any amount of damages in excess of amounts paid by Buyer for Products or services as to which a breach of contract has been determined to exist. The parties expressly agree that the price for the Products and the services was determined in consideration of the limitation on damages set forth herein and such limitation has been specifically bargained for and constitutes an agreed allocation of risk which shall survive the determination of any court of competent jurisdiction that any remedy herein fails of its essential purpose.

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.

nexen

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