

FLANGE MOUNTED CLUTCH BRAKE




Model 1625



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
(651) 484-5900

www.nexengroup.com

	<div data-bbox="625 558 922 611"> 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.

Nexen Group, Inc.
560 Oak Grove Parkway
Vadnais Heights, Minnesota 55127

ISO 9001 Certified

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GENERAL SPECIFICATIONS


Specifications	
Max Static Clutch Torque	2000 in-lb (226 Nm)
Max Static Brake Torque	2400 in-lb (271 Nm)
Actuation Pressure	1 - 80 psi
Service Temperature	4.5 - 104 C (40 - 220 F)
Approximate Weight	148 lbs (67 kg)

GENERAL SAFETY PRECAUTIONS




CAUTION

Use lifting aids and proper lifting techniques when installing, removing, or placing this product in service.




CAUTION

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




CAUTION

Watch for sharp features when interacting with this product. The parts have complex shapes and machined edges.




CAUTION

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




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".



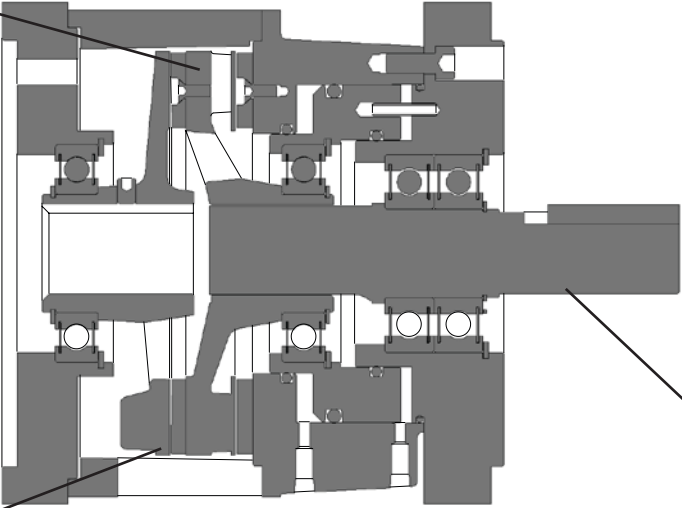
WARNING


This product is capable of emitting a spark if misused, therefore it is not recommended for use in any explosive environment.



CAUTION


The temperature limits for the product are 4.5-104 degree Celsius (40-220 degree F).





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

SECTION A: MOUNTING ON THE SHAFT END OF A MOTOR

NOTE: Refer to Figure 1.

1. Insert the customer supplied key into the motor shaft keyway.
2. Remove the four Socket Head Cap Screws, (Item 8), to separate the Female Pilot, (Item 1), from the Housing (Item 7).
3. Secure the Female Pilot (Item 1) to the motor face using Nexen supplied socket head cap screws. Tighten cap screws to 1425 in-lbs (161 Nm).
4. Tighten the Set Screw (Item 35) to 175 in-lbs (20 Nm).
5. Secure Housing (Item 7) to the Female Pilot (Item 1) using Socket Head Cap Screws (Item 8). Apply Loctite® 242 to the threads of Item 8.
6. Tighten Socket Head Cap Screws to 509-662 in-lbs (57.5-74.8 Nm).

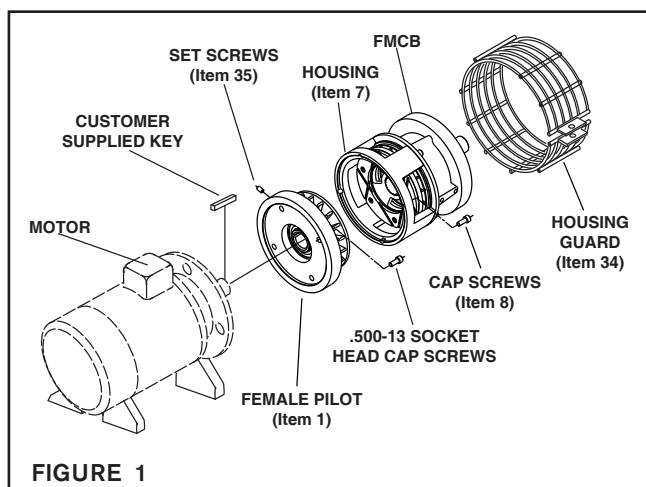


FIGURE 1

7. Install the Housing Guard (Item 34) over the open areas of the FMCB, and secure it using the provided fasteners.

SECTION B: MOUNTING BETWEEN A GEAR REDUCER AND MOTOR

NOTE: Refer to Figure 2.

1. Insert the Key (Item 33) into the output shaft of the FMCB-1625.
2. Slide the FMCB output shaft into the gear reducer.
3. Secure the FMCB to the gear reducer using customer supplied cap screws and lock washers.
4. Complete steps 1-7 from Section A.

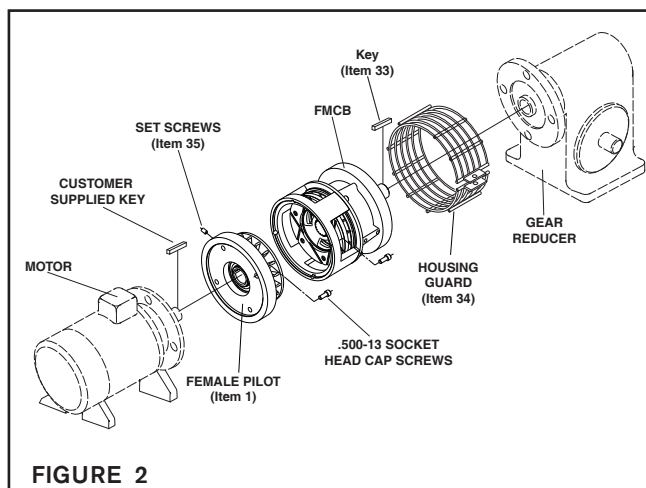


FIGURE 2

SECTION C: OPTIONAL INPUT UNIT AND FEET

NOTE: Refer to Figures 1 and 3.

NOTE: Use Loctite® 242 on all Socket Head Cap Screws.

1. Remove the four Socket Head Cap Screws (Item 8) and separate the Female Pilot (Item 1) from the Housing (Item 7).
2. Place Key (Item 19) into the keyway of the Input Unit.
3. Slide the Female Pilot (Item 1) onto the Input Unit. Secure the Input Unit and the Mounting Foot to the Female Pilot (Item 1) using four Socket Head Cap Screws (Items 39 and 40). Tighten the Socket Head Cap Screws to 1425 in-lbs (161 Nm).
4. Tighten the Set Screw (Item 35) to 175 in-lbs (20 Nm).
5. Secure the second Mounting Foot (Item 38) to the FMCB Assembly.
6. Secure the Female Pilot (Item 1) assembly to the FMCB Assembly (Item 7) with the Socket Head Cap Screws (Item 8). Tighten to 509-662 in-lbs (57.5-74.8 Nm).

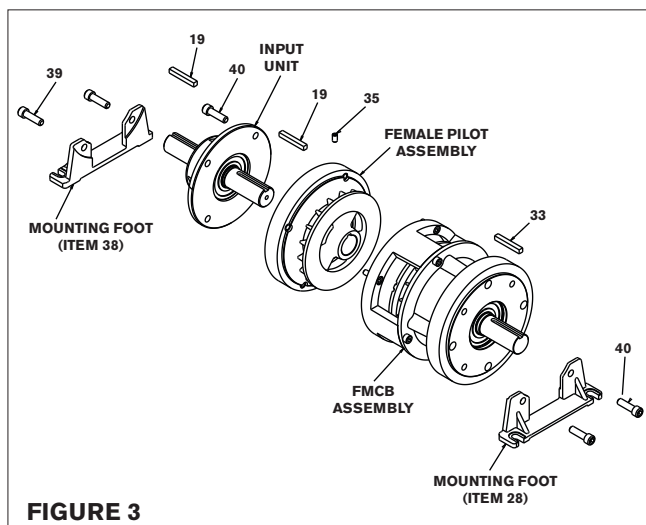
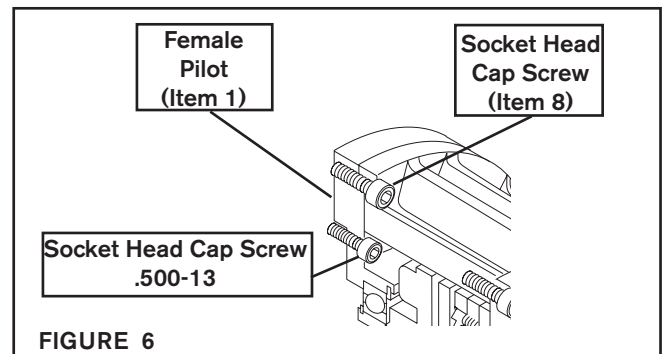
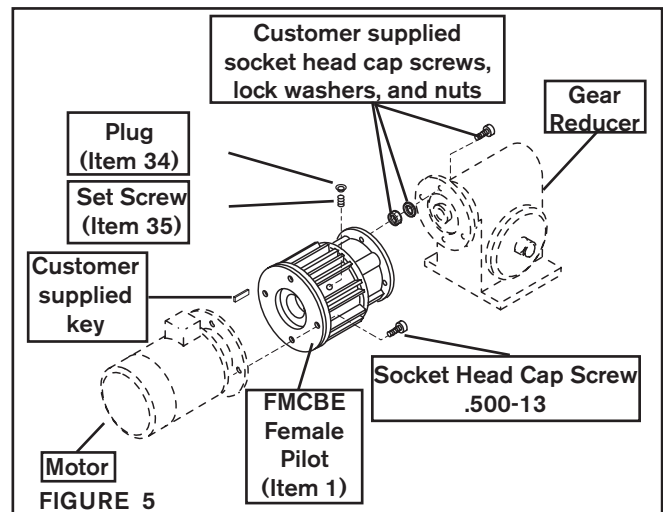
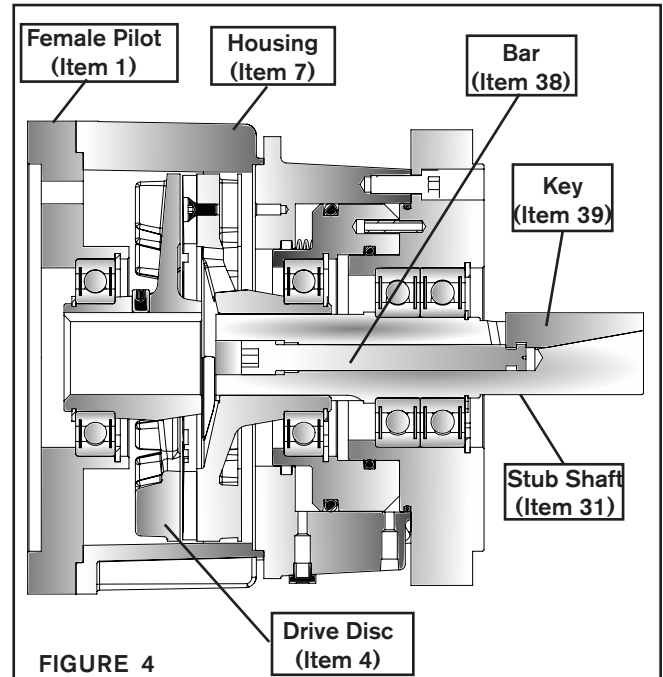


FIGURE 3

INSTALLATION (FOR LOCKING KEY OPTION)

NOTE: Refer to Figures 4 thru 6.

1. Coat the threads of the Bar (Item 38) with Loctite® 242; then, thread the Bar into the Stub Shaft (Item 31) until the end of the Bar is visible in the keyway slot of the Stub Shaft.
2. Apply a thin film of Never-Seez® to Key (Item 25).
3. Place the Key (Item 39) into the keyway of the Stub Shaft (Item 31).
4. Slide the FMCBE output shaft into the gear reducer.
5. Secure the FMCBE to the gear reducer, using customer supplied socket head cap screws, lock washers, and nuts.
6. Tighten the Bar (Item 38) to 192 in-lbs [16.0 Nm] to firmly seat the Key (Item 39) in the gear reducer.
7. First remove the Socket Head Cap Screws (Item 8) and Female Pilot (Item 1); then, secure the Female Pilot to the motor face using Socket Head Cap Screws .500-13. Tighten to 1425 in-lbs [161 Nm].
8. Insert the customer supplied key into the motor shaft keyway.
9. Secure the Housing (Item 7) to the Female Pilot (Item 1) using Socket Head Cap Screws (Item 8) and tighten them to 650 in-lbs [73 Nm] torque.
10. Align the tapped hole in the Drive Disc (Item 4) with the hole in the Housing (Item 7).
11. Tighten the Set Screw (Item 35) to 175 in-lbs [20 N•m] and install the Plug.



Note: LOCTITE is a registered trademark of Henkel Corporation

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.

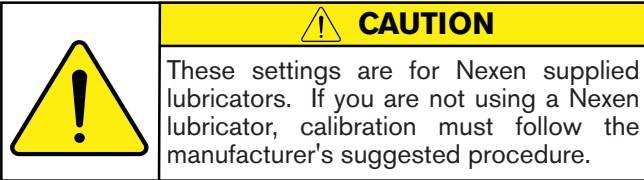
However, some customers prefer to use an air line lubricator, which injects oil into the pressurized air, forcing an oil mist into the air chamber. This is acceptable, but care must be taken to ensure once an air mist lubrication system is used, it is continually used over the life of the product as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



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.

OPERATION

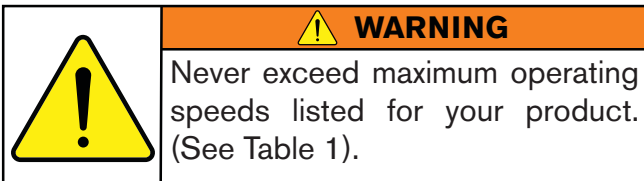
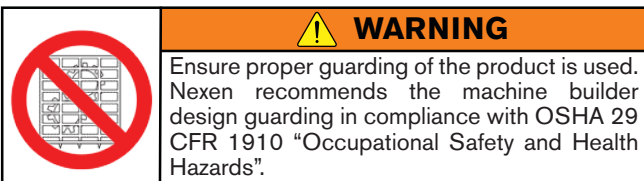
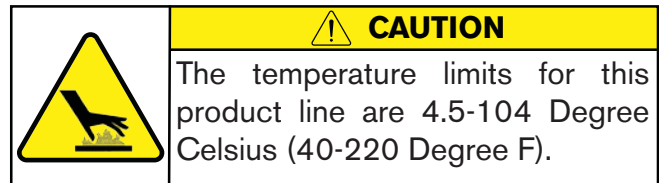
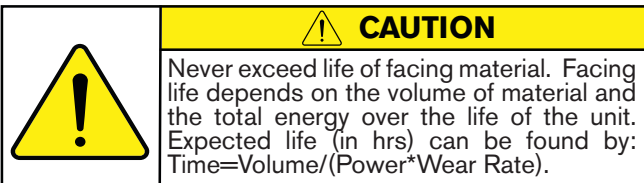


TABLE 1

Size	Max RPM
FMCB-1625	1800



AIR CONNECTIONS

All Nexen pneumatically actuated devices require clean and dry air, which meet 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 product. Align the air inlet ports to a down position to allow condensation to drain out of the air chambers of the product.

The following are common air supply schemes used with this product. These are examples and not an all-inclusive list. All air circuits to be used with this product must be designed following EN983 guidelines.



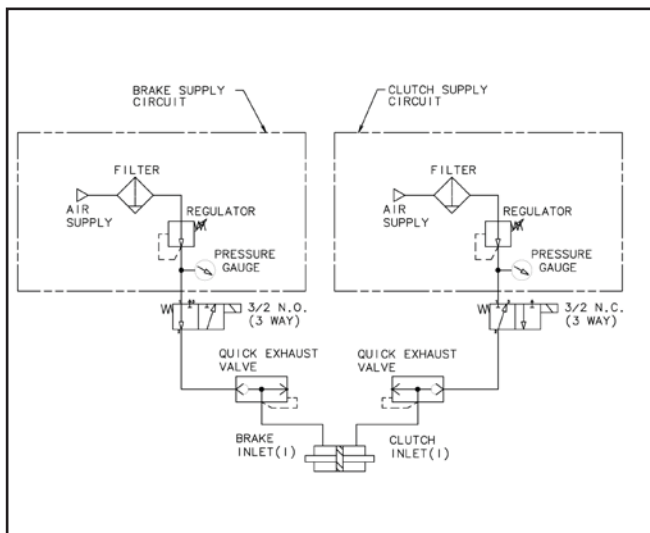
CAUTION

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

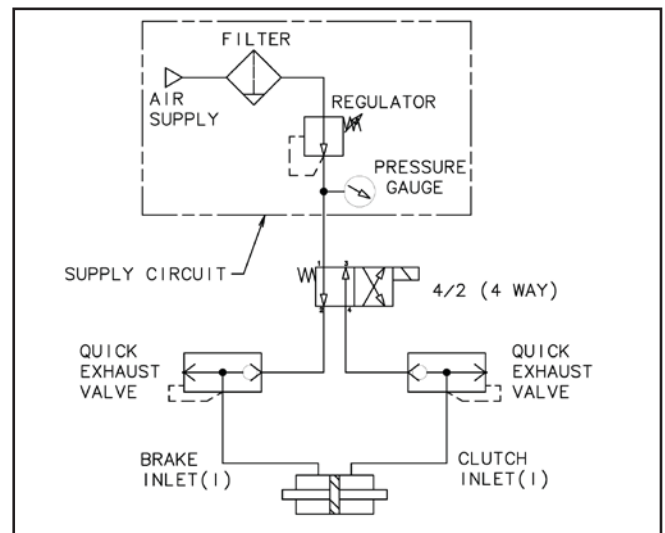
Air Pressure (Gage) Limits

6.9 Bar (100 PSI) Absolute Max.

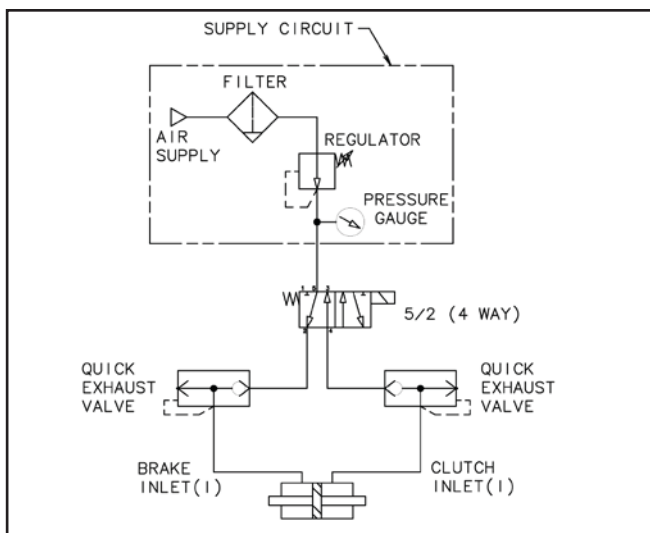
0 Bar (0 PSI) Absolute Min.



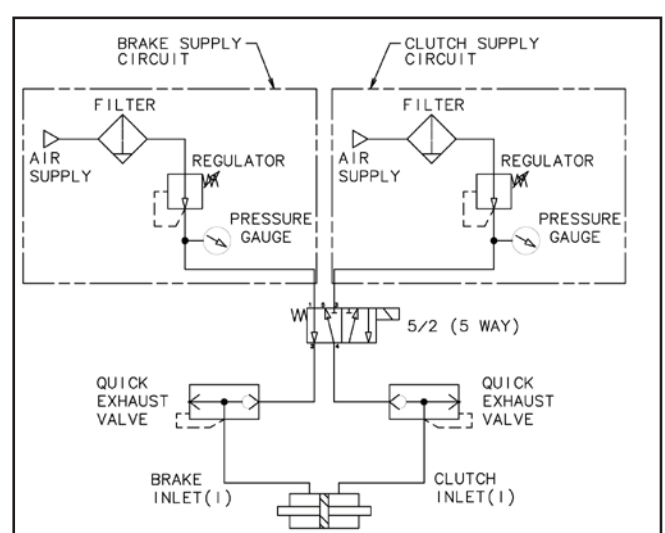
3/2 (3 Way)



4/2 (4 Way)



5/2 (4 Way)



5/2 (5 Way)

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Failure to engage.	Air not getting to the FMCB due to a control valve malfunction.	Check for a control valve malfunction or low air pressure, and replace the control valve if necessary.
	Lack of lubrication on Stub Shaft spline.	Lubricate Stub Shaft spline.
	Air leaks around the O-ring Seals.	Replace the O-ring Seals.
Failure to disengage.	Unexhausted air due to a control valve malfunction.	Check for a control valve malfunction and replace the control valve if necessary.
	Lack of lubrication on Stub Shaft spline.	Lubricate Stub Shaft spline.
Loss of torque.	Air leaks around the O-ring Seals.	Replace the O-ring Seals.
	Worn or dirty Friction Facings.	Replace the Friction Facings.

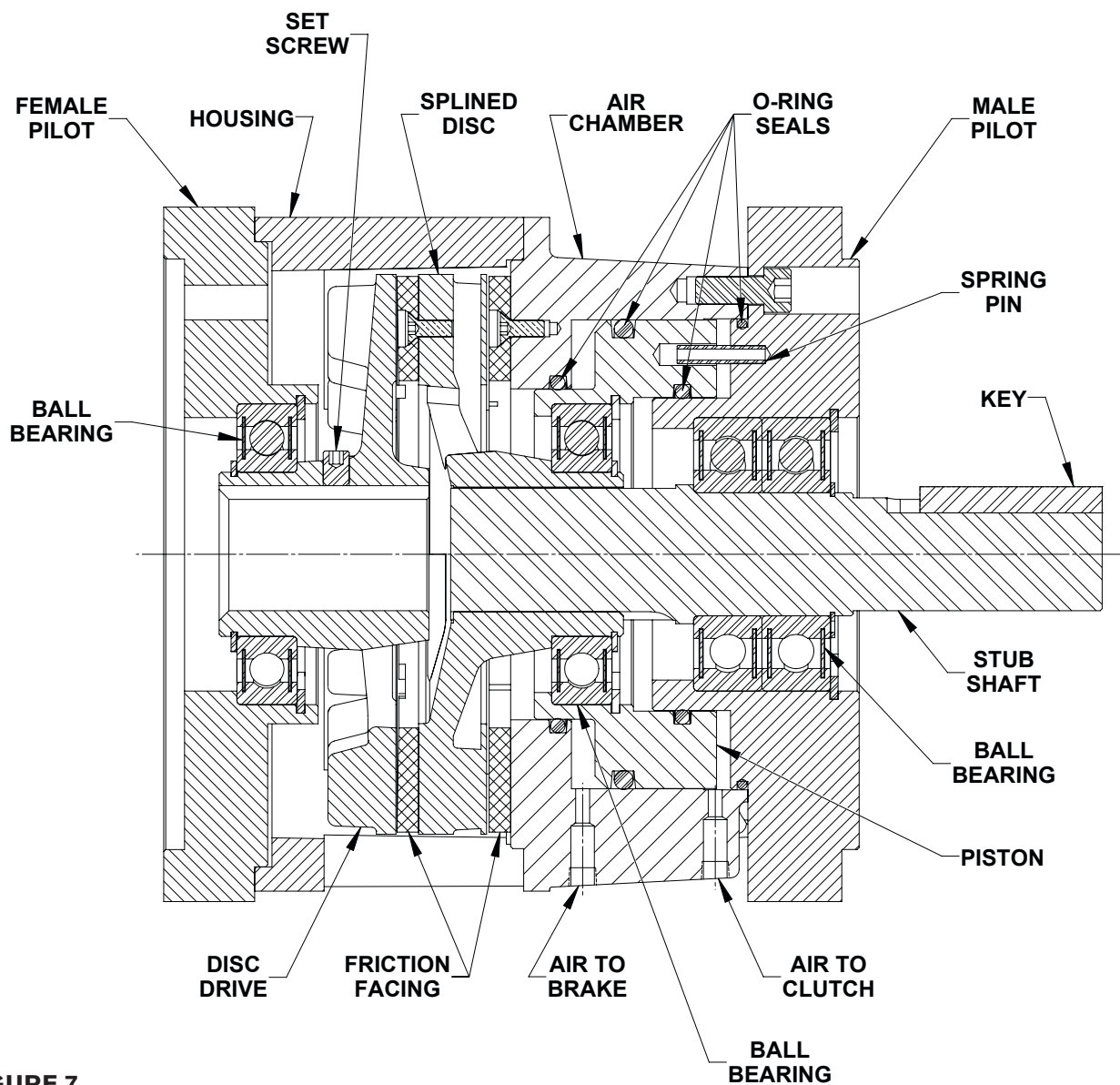
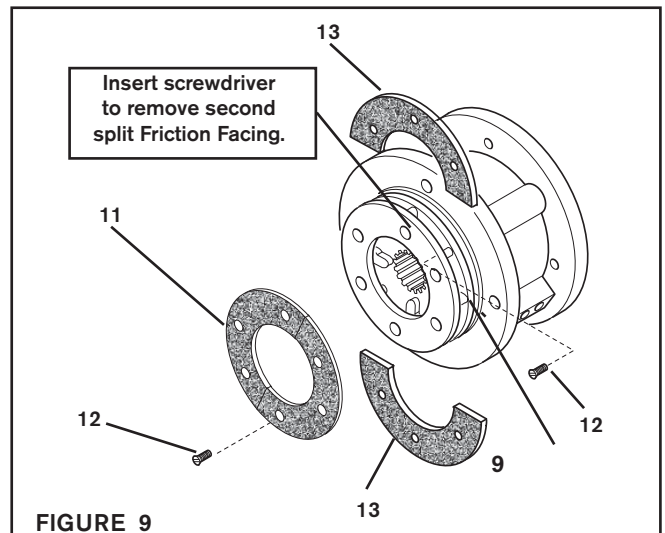
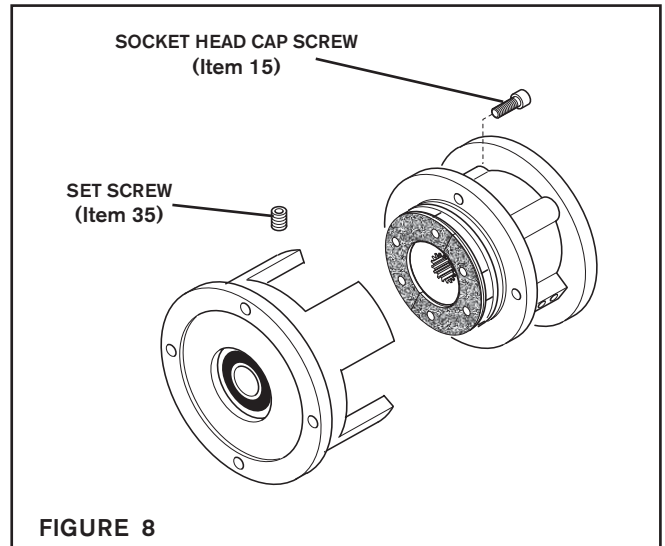


FIGURE 7

REPLACEMENT PROCEDURE-FRICTION FACINGS

Refer to Figures 8 and 9.

1. Remove the four Socket Head Cap Screws (Item 15) and separate the two halves of the FMCB.
2. Remove the six old Flat Head Screws (Item 12) and the first old Friction Facing (Item 11).
3. Align the holes in the Splined Disc (Item 9) with the Flat Head Screws (Item 12) that secure the second split Friction Facing (Item 13).
4. Remove the six old Flat Head Screws (Item 12) and the second old Friction Facing (Item 13).
5. Install the first new split Friction Facing (Item 13) and new Flat Head Screws (Item 12).
6. Tighten the six new Flat Head Screws (Item 12) to 71 in-lbs (8.02 Nm) torque.
7. Install the second new Friction Facing (Item 11) and new Flat Head Screws (Item 12).
8. Tighten the six new Flat Head Screws (Item 12) to 71 in-lbs (8.02 Nm) torque.
9. Apply a drop of Loctite® 242 to the threads of the Socket Head Cap Screws (Item 15).
10. Install and tighten the four Socket Head Cap Screws securing the two halves of the FMCB to 509 in-lbs (57.5 Nm) torque.

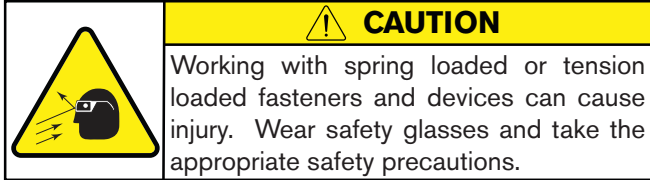


REPLACEMENT PROCEDURE-FEMALE PILOT BEARING

FMCB-1625

NOTE: Refer to Figure 7.

1. Remove the four Socket Head Cap Screws (Item 8) and slide the Female Pilot (Item 1), Bearing (Item 2), and the Drive Disc (Item 4) out of the FMCB.



2. Remove the Retaining Ring (Item 6).
3. Press the Drive Disc (Item 4) out of the Bearing (Item 2) and the Female Pilot (Item 1).
4. Remove the Retaining Ring (Item 3).
5. Fully supporting the Female Pilot (Item 1), press the old Bearing (Item 2) out of the Female Pilot (Item 1).

NOTE

Do not reuse the bearing. Applying force to the inner bearing race to remove a bearing held by the outer race causes damage to the bearing.

6. Clean the bearing bore of the Female Pilot (Item 1) with fresh safety solvent, making sure all old Loctite® residue is removed.

7. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the new Bearing (Item 2).
8. Carefully align the outer race of the new Bearing (Item 2) with the bore of the Female Pilot (Item 1).
9. Supporting the Female Pilot (Item 1) and pressing on the outer race of the new Bearing (Item 2), press the new Bearing into the Female Pilot.
10. Reinstall the Retaining Ring (Item 3).
11. Support the inner race of the new Bearing (Item 2) and press the Drive Disc (Item 4) into the new Bearing (Item 2) and the Female Pilot (Item 1).
12. Reinstall the Retaining Ring (Item 6).
13. Apply a drop of Loctite® 242 to the threads of the Socket Head Cap Screws (Item 8).
14. Slide the Female Pilot (Item 1), Bearing (Item 2), and Drive Disc (Item 4) into the FMCB and reinstall the four Socket Head Cap Screws (Item 8).
15. Tighten the four Socket Head Cap Screws (Item 8) to 509 in-lbs (57.5 Nm).

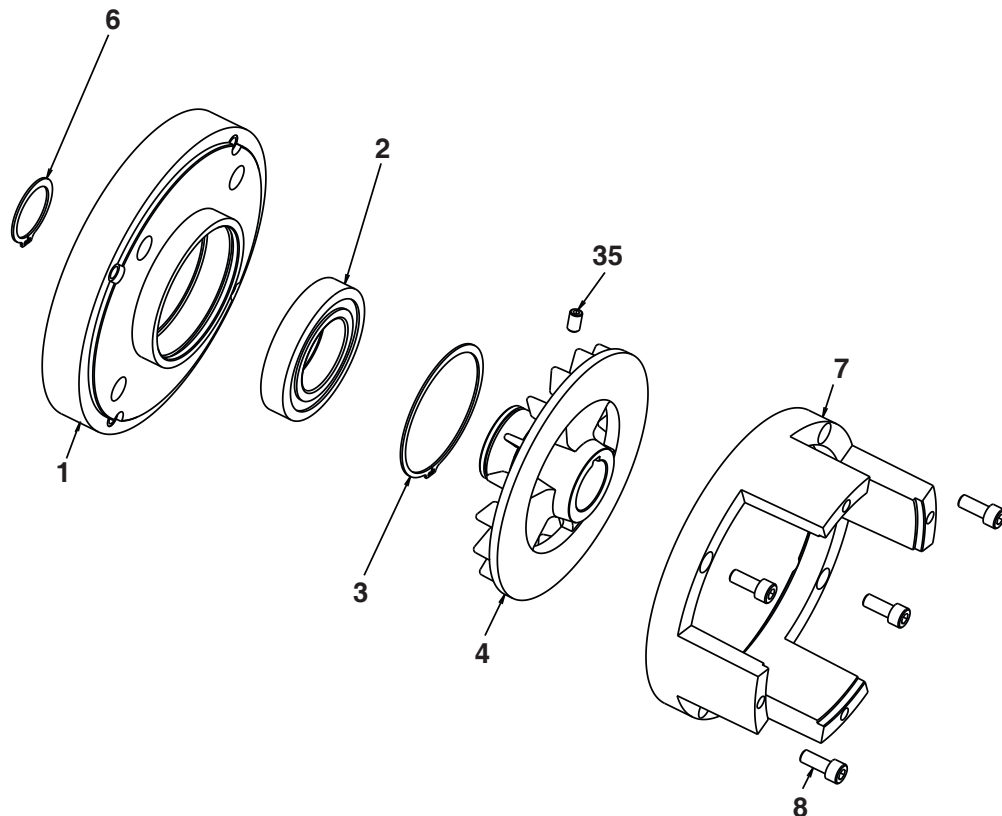


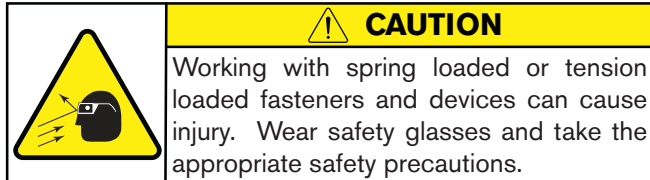
FIGURE 10

REPLACEMENT PROCEDURE—PISTON BEARING AND O-RING SEALS

FMCB 1625

Refer to Figures 11 and 12.

1. Remove the four Socket Head Cap Screws (Item 15) that secure the Air Chamber (Item 14) to the Housing (Item 7).
2. Remove the four Socket Head Cap Screws (Item 15) that secure the Male Pilot (Item 27) to the Air Chamber (Item 14).
3. Remove the Male Pilot (Item 27) and Stub Shaft (Item 31) from the Air Chamber.



4. Remove the Retaining Ring (Item 6) from the Splined Disc (Item 9).
5. Press the Splined Disc (Item 9) out of the Bearing (Item 2) and Piston (Item 17).
6. Remove the Piston (Item 17) from the Air Chamber (Item 14).
7. Remove the old O-Ring Seals (Items 16, 21 & 23) from the Piston and Air Chamber.
8. Remove the Retaining Ring (Item 3) from the Piston (Item 17).
9. Press the Bearing (Item 2) out of the Piston (Item 17).
10. Clean the bearing bore of the Piston 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 race of the new Bearing (Item 2).
12. Carefully align the outer race of the new Bearing (Item 2) with the bore of the Piston (Item 17).
13. Supporting the Piston (Item 17) and pressing on the outer race of the new Bearing, press the new Bearing into the Piston.
14. Reinstall the Retaining Ring (Item 3), securing the Bearing to the Piston.
15. Coat the O-Ring contact surfaces of the Air Chamber (Item 14), Piston (Item 17), Male Pilot (Item 27) and the new O-Ring Seals (Items 16, 21, 23, and 24) with a thin film of O-Ring lubricant and install the new O-Ring Seals.
16. Slide the Piston (Item 17) into the Air Chamber (Item 14).
17. Support the inner race of the Bearing (Item 2) and press the Splined Disc (Item 9) into the Bearing and Piston (Item 17).

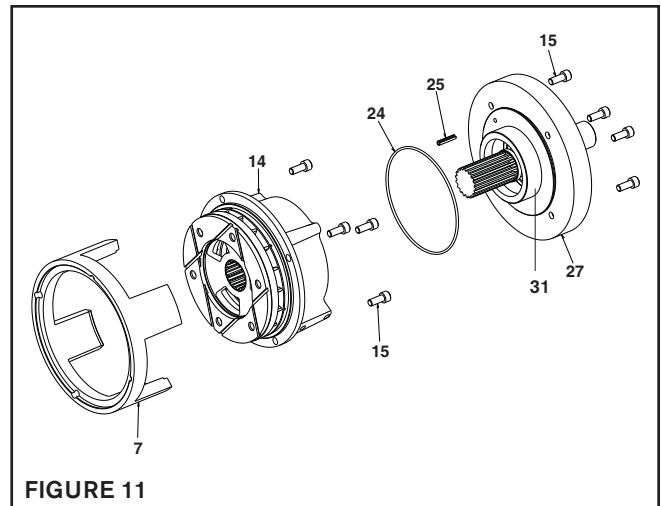


FIGURE 11

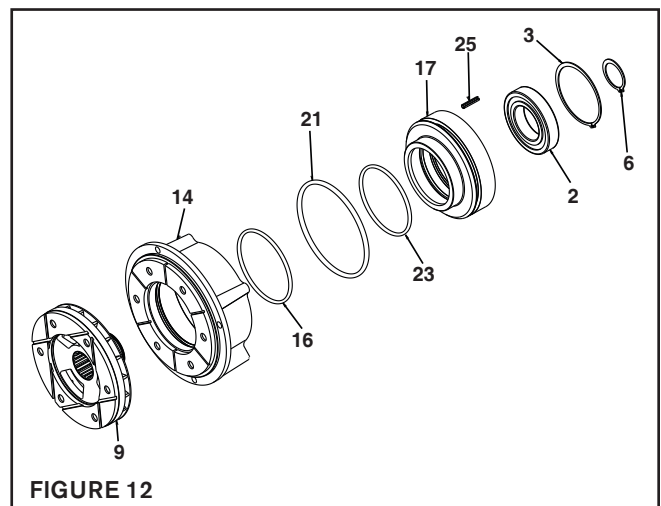


FIGURE 12

18. Reinstall the Retaining Ring (Item 6) that secures the Splined Disc to the Bearing (Item 2).
19. Align the Spring Pin (Item 25) in the Male Pilot (Item 27) with the hole in the Piston (Item 17); then, slide the Male Pilot into the Piston.
20. Apply a drop of Loctite® 242 to the threads of the Socket Head Cap Screws (Item 8).
21. Reinstall and tighten the four Socket Head Cap Screws securing the Male Pilot (Item 27) to the Air Chamber (Item 14) to 509 in-lbs (57.5 Nm).
22. Apply a drop of Loctite® 242 to the threads of the Socket Head Cap Screws (Item 8).
23. Reinstall and tighten the four Socket Head Cap Screws (Item 15) securing the Air Chamber (Item 14) to the Housing (Item 7) to 509 in-lbs (57.5 Nm).

REPLACEMENT PROCEDURE-MALE PILOT BEARINGS

FMCB 1625

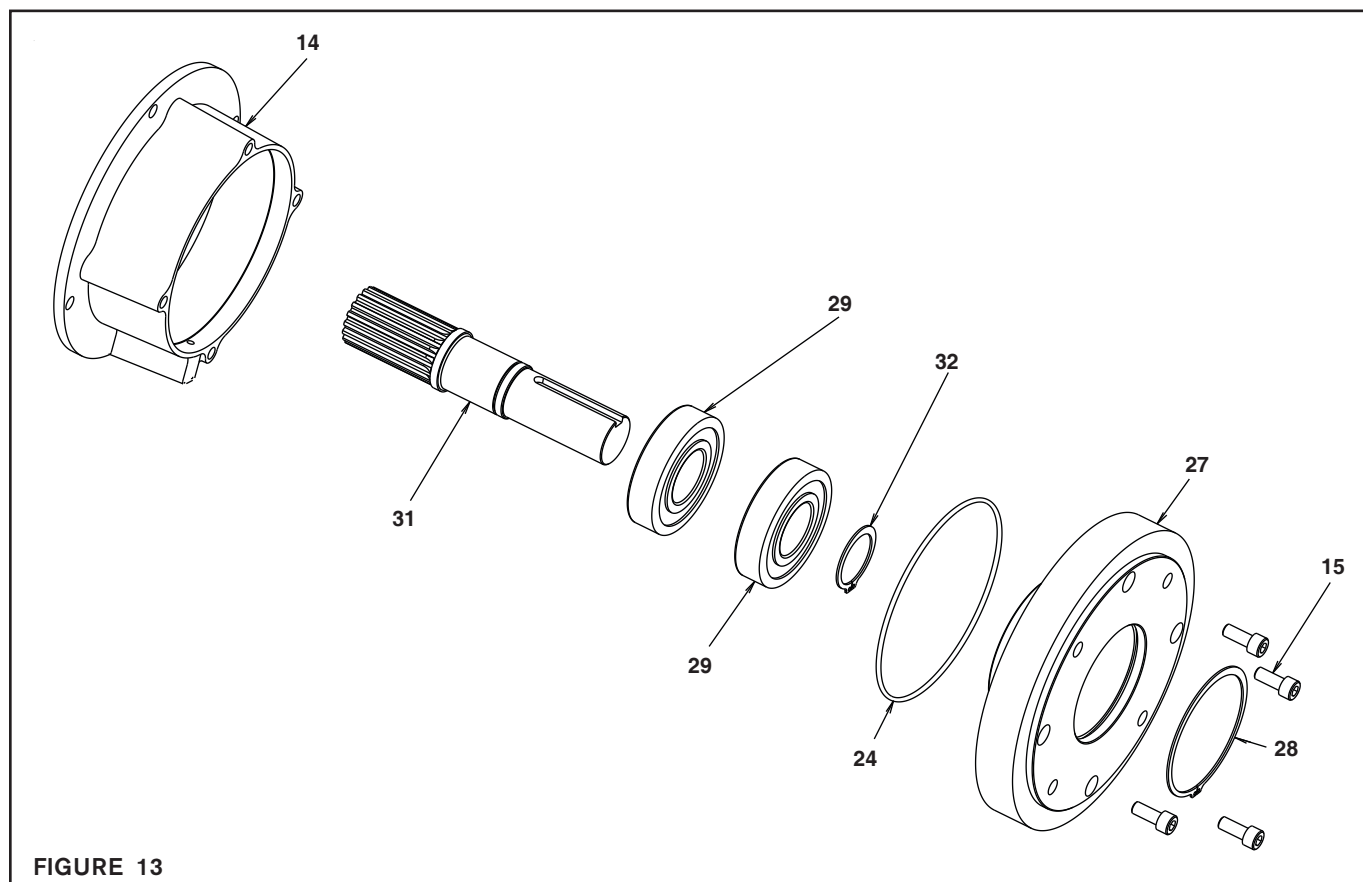



FIGURE 13

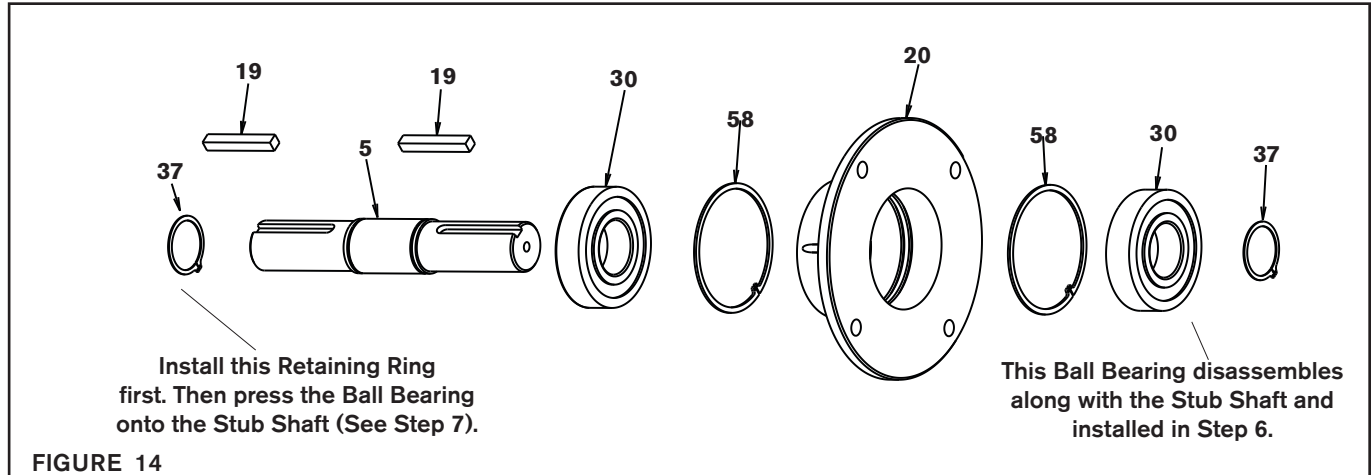
	<p style="text-align: center;">CAUTION</p> <p>Working with spring loaded or tension loaded fasteners and devices can cause injury. Wear safety glasses and take the appropriate safety precautions.</p>
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Refer to Figure 13.

1. Remove the Retaining Ring (Item 32) from the Stub Shaft (Item 31).
2. Press the Stub Shaft (Item 31) out of the Male Pilot (Item 27).
3. Remove the Retaining Ring (Item 28) from the Male Pilot (Item 27) and press the old Bearings (Item 29) out of the Male Pilot (Item 27).
4. Clean the bearing bore of the Male Pilot (Item 27) with fresh safety solvent, making sure all old Loctite® residue is removed.
5. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of new Bearings (Item 29).
6. Carefully align the outer race of the new Bearings (Item 29) with the bore of the Male Pilot (Item 27).
7. Press the new Bearings (Item 29) into the Male Pilot (Item 27).
8. Reinstall the Retaining Rings (Item 28 and 32).
9. Apply a thin film of NEVER-SEEZ® to evenly coat the spline of the Stub Shaft (Item 31).
10. Slide the Male Pilot (Item 27) and the Stub Shaft (Item 31) into the Air Chamber (Item 14), aligning the Spring Pin (Item 25) in the Male Pilot (Item 27) with a hole in the Piston (Item 17). (See Figures 8 & 9)
11. Apply a drop of Loctite® 242 to the threads of the Socket Head Cap Screws (Item 8).
12. Reinstall the four Socket Head Cap Screws (Item 8) securing the Male Pilot (Item 27) to the Air Chamber (Item 14).
13. Tighten the four Socket Head Cap Screws to 509 in-lbs (57.5 Nm).

REPLACEMENT PROCEDURE-INPUT UNIT

FMIU-1625



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 14.

1. Remove both Retaining Rings (Item 37).
2. With face of Bearing Flange (the side without ribs) (Item 20) facing downward and fully supported, press Stub Shaft (Item 5) down and out of the Bearing Flange.

NOTE

One Ball Bearing (Item 30) will come out with the Stub Shaft (Item 5).

3. Remove the first old Ball Bearing (Item 30) from the Stub Shaft (Item 5).

NOTE

Do not remove the two Retaining Rings (Item 58) from the Bearing Flange (Item 20).

4. Press the second old Ball Bearing (Item 30) out of the Bearing Flange (Item 20).

5. Clean the bore of the Bearing Flange (Item 20) with fresh solvent, making sure all old Loctite® residue is removed.
6. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the first new Ball Bearing (Item 30). Then press this Ball Bearing into the Bearing Flange (Item 20) until it is seated against the Retaining Ring (Item 58).
7. Reinstall the first Retaining Ring (Item 37) on Stub Shaft (Item 5) (See Figure 13).
8. Fully support the inner bearing race of the second new Ball Bearing (Item 30), and press it onto the Stub Shaft (Item 5) until it is seated against the Retaining Ring (Item 37).
9. Apply an adequate amount of Loctite® 680 to evenly coat the outer race of the second new Ball Bearing (Item 30).
10. Supporting the inner race of the Ball Bearing located in the Bearing Flange (Item 20), press the second new Ball Bearing (Item 30) and Stub Shaft (Item 5) into the Bearing Flange and Ball Bearing until the second new Ball Bearing is seated against the Retaining Ring (Item 58).
11. Reinstall the second Retaining Ring (Item 37).

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.

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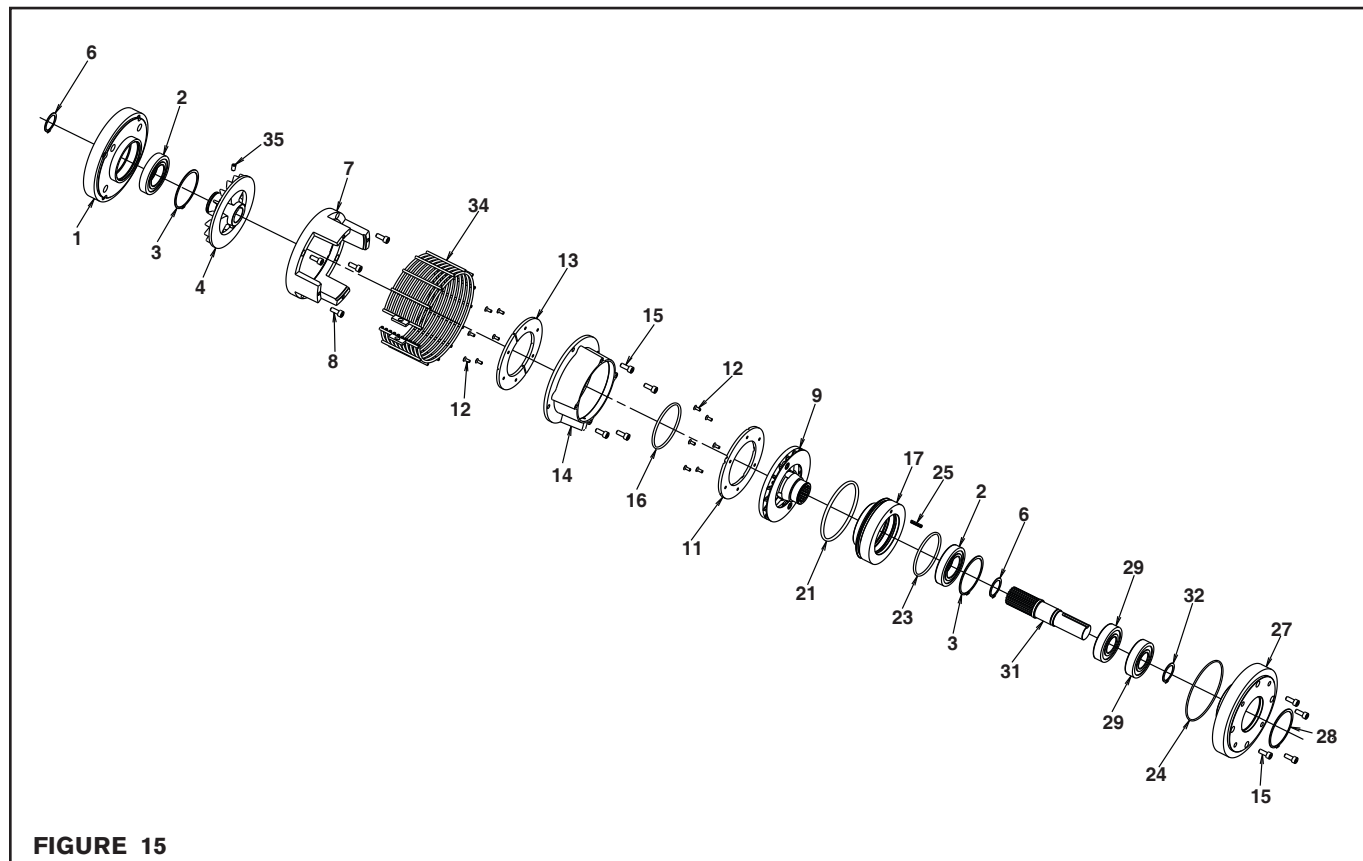


FIGURE 15

ITEM	DESCRIPTION	QTY
1	Female Pilot	1
2 ¹	Bearing	2
3	Retaining Ring (Int.)	2
4	Drive Disc	1
6	Retaining Ring (Ext.)	2
7	Housing	1
8	Socket Head Cap Screw (M10-1.5)	4
9	Splined Disc	1
11 ²	Friction Facing (Clutch)	1
12 ^{2,3}	Flat Head Screw (M6-1.0)	12
13 ³	Split Friction Facing (Brake)	1
14	Air Chamber	1
15	Socket Head Cap Screw (M10-1.5)	8

ITEM	DESCRIPTION	QTY
16 ¹	O-Ring Seal	1
17	Piston	1
21 ¹	O-Ring Seal	1
23 ¹	O-Ring Seal	1
24 ¹	O-Ring Seal	1
25	Slotted Spring Pin	1
27	Male Pilot	1
29 ¹	Bearing	2
31	Stub Shaft	1
32	Retaining Ring (Ext.)	1
33	Key (not shown)	1
34	Housing Guard	1
35	Set Screw (.375-16)	1

¹ Denotes Repair Kit items:

Repair Kit No. 801742

² Denotes Clutch Facing Kit items:

Clutch facing Kit No. 801650

³ Denotes Brake Facing Kit items:

Brake facing Kit. No. 801649

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.

FMCE 1625 WITH LOCKING KEY

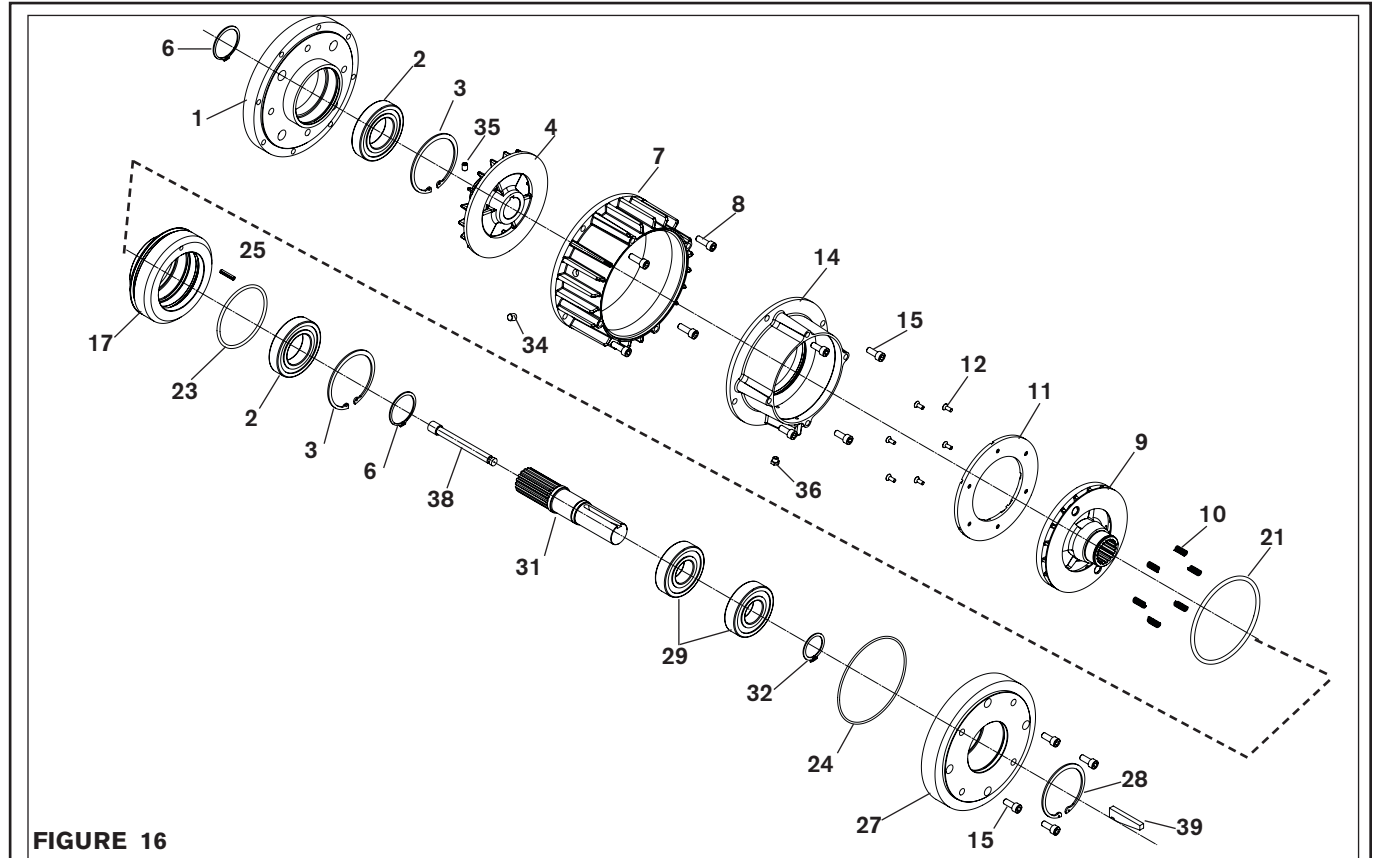


FIGURE 16

ITEM	DESCRIPTION	QTY
1	Female Pilot	1
2 ¹	Bearing	2
3	Retaining Ring (Int.)	2
4	Drive Disc	1
6	Retaining Ring (Ext.)	2
7	Housing	1
8	Socket Head Cap Screw (M10-1.5)	4
9	Splined Disc	1
11 ²	Friction Facing (Clutch)	1
12 ²	Flat Head Screw (M6-1.0)	12
14	Air Chamber	1
15	Socket Head Cap Screw (M10-1.5)	8
15	Socket Head Cap Screw (M10-1.5)	8
16 ¹	O-Ring Seal	1
17	Piston	1

ITEM	DESCRIPTION	QTY
21 ¹	O-Ring Seal	1
23 ¹	O-Ring Seal	1
24 ¹	O-Ring Seal	1
25	Slotted Spring Pin	1
27	Male Pilot	1
29 ¹	Bearing	2
31	Stub Shaft	1
32	Retaining Ring (Ext.)	1
34	Pipe Plug	1
35	Set Screw (.375-16)	1
36	Breather Plug	1
38	Locking Bar	1
39	Locking Key	1

¹ Denotes Repair Kit items:
Repair Kit No. 801742

² Denotes Clutch Facing Kit items:
Clutch facing Kit No. 801650

REPLACEMENT PARTS LIST (continued...)

INPUT UNIT

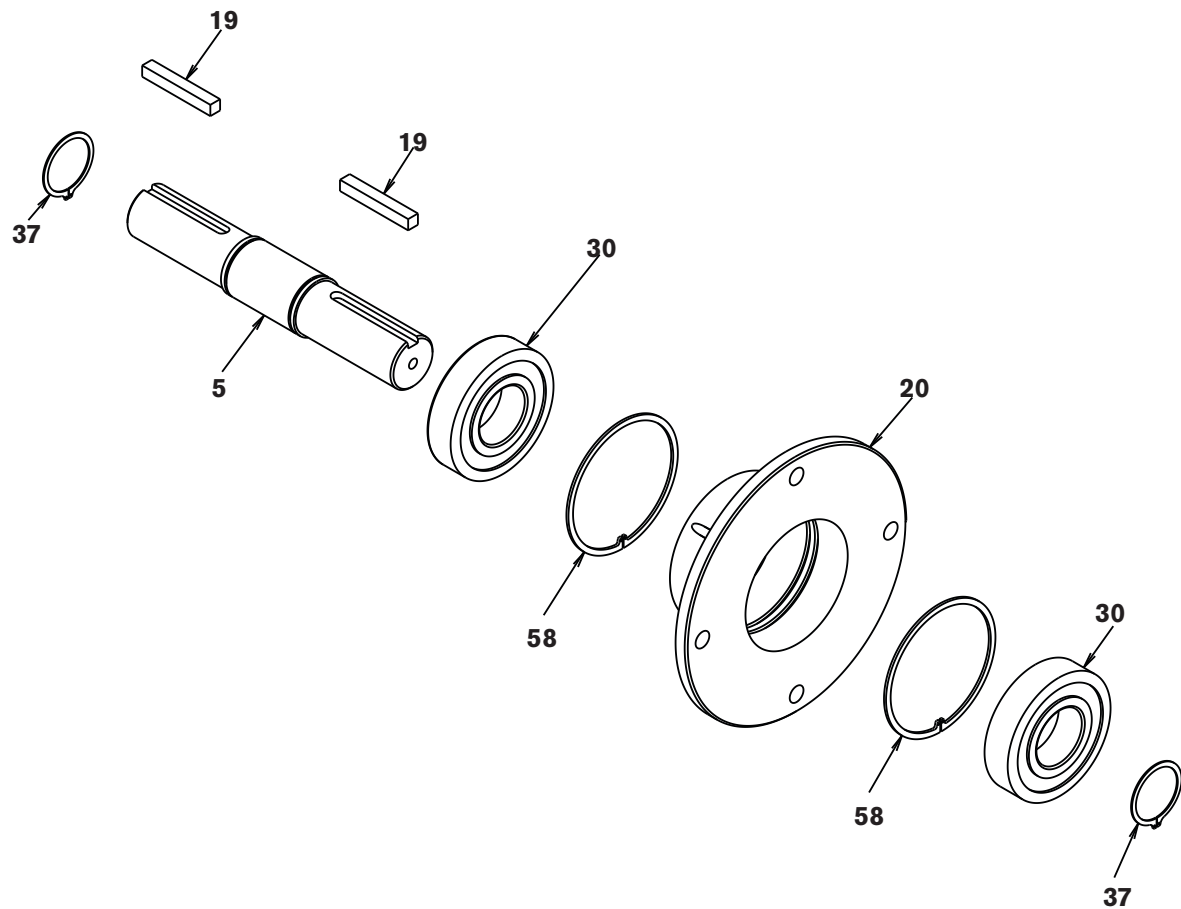


FIGURE 17

ITEM	DESCRIPTION	QTY
5	Shaft	1
19	Key	2
20	Bearing Flange	1
30	Bearing	2
37	Retaining Ring (Ext)	2
58	Retaining Ring (Int)	2

WARRANTY

Warranties

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.

Exclusive Remedy

The exclusive remedy for the Buyer for any breach of any warranties provided in connection with this agreement will be, at the election of Nexen: (a) repair or replacement with new, serviceably used, or reconditioned parts or products; or (b) issuance of credit in the amount of the purchase price paid to Nexen by the Buyer for the Products.

Agent's Authority

Buyer agrees that no agent, employee or representative of Nexen has authority to bind Nexen to any affirmation, representation, or warranty concerning the Products other than those warranties expressly set forth herein.

Limitation on 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 damages, 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.

Inspection

Buyer shall inspect all shipments of Products upon arrival and shall notify Nexen in writing, of any shortages or other failures to conform to these terms and conditions which are reasonably discoverable upon arrival without opening any carton or box in which the Products are contained. Such notice shall be sent within 14 days following arrival. All notifications shall be accompanied by packing slips, inspection reports and other documents necessary to support Buyer's claims. In addition to the foregoing obligations, in the event that Buyer receives Products that Buyer did not order, Buyer shall return the erroneously shipped Products to Nexen within thirty (30) days of the date of the invoice for such Products; Nexen will pay reasonable freight charges for the timely return of the erroneously shipped Products, and issue a credit to Buyer for the returned Products at the price Buyer paid for them, including any shipping expenses that Nexen charged Buyer. All shortages, overages and nonconformities not reported to Nexen as required by this section will be deemed waived.

Limitation on Actions

No action, regardless of form, arising out of any transaction to which these terms and conditions are applicable may be brought by the Buyer more than one year after the cause of action has accrued.

nexen®

Nexen Group, Inc.
560 Oak Grove Parkway
Vadnais Heights, MN 55127

800.843.7445
Fax: 651.286.1099
www.nexengroup.com

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