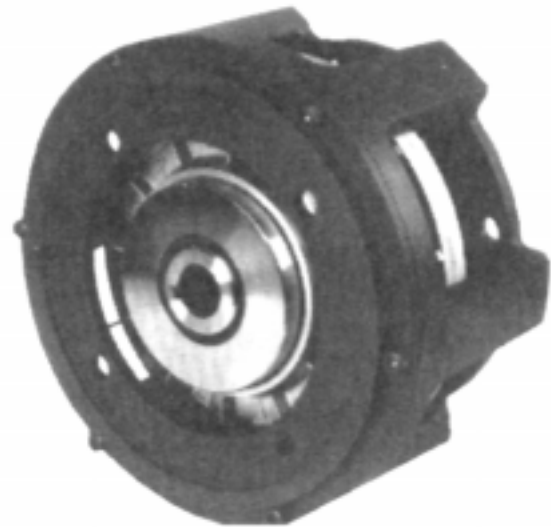
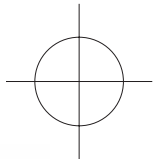


AIR CHAMP® PRODUCTS

User Manual



Fluid Coupling

FC-605, FC-607, FC-707, FC-709, FC-809,
FC-811, FC-911, and FC-913

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



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.

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

TABLE OF CONTENTS

Introduction ----- 1

Installation ----- 2

Fluid Coupling Oil Levels ----- 3

Operation ----- 4

Parts Replacement ----- 4

Parts List ----- 7

Repair Kit Numbers ----- 8

Replacement Parts ----- 8

Warranties ----- 9

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.

INSTALLATION

1. Coat the threads of the Socket Head Cap Screws (Item 9) with Loctite® 242 and secure Mounting Pilot (Item 7) to NEMA C-Faced Motor (See Figure 1).
2. Tighten the Socket Head Cap Screws (Item 9) to the recommended torque (See Table 1).
3. Insert customer supplied key into motor shaft (See Figure 1).
4. Slide Fluid Coupling and Housing onto motor shaft.
5. Coat the threads of the Socket Head Cap Screws (Item 8) with Loctite® 242 and secure Housing (Item 3) and Fluid Coupling (Item 1) to Mounting Pilot (Item 7) (See Figure 1)
6. Tighten the Socket Head Cap Screws (Item 8) to recommended torque (See Table 2).
7. Install Housing Guard (Item 10) onto Fluid Coupling and secure with Screws, Lock Washers, and Nuts provided with Housing Guard.
8. Insert customer supplied key into Fluid Coupling's output shaft (See Figure 1).
9. Slide Fluid Coupling's output shaft into gear reducer or driven unit (See Figure 1).
10. Coat the threads of the customer supplied socket head cap screws with Loctite® 242 (See Table 1) and secure Fluid Coupling to the gear reducer or driven unit (See Figure 1).
11. Tighten the socket head cap screws to the recommended torque (See Table 1).

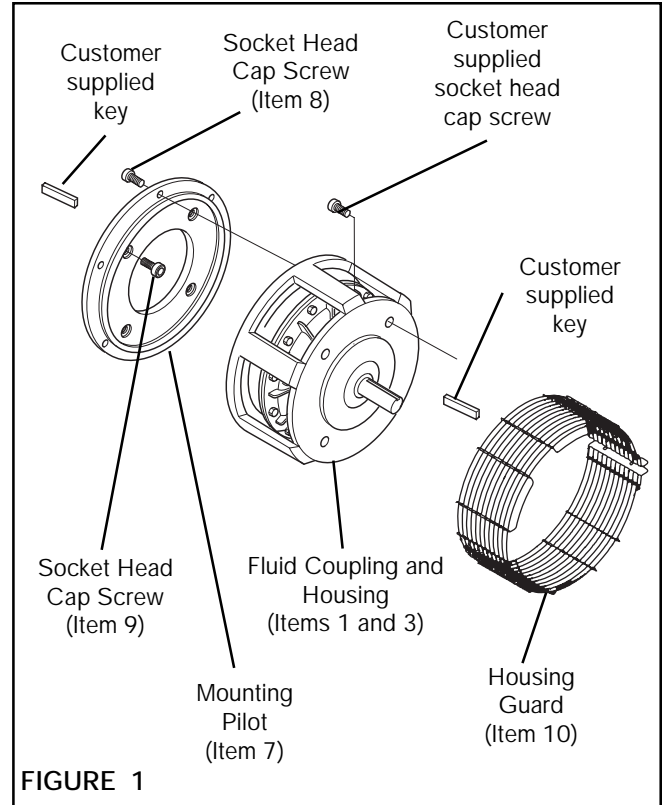


TABLE 1

MODEL	CAP SCREW	TORQUE
FC605	3/8-16	30 Ft. Lbs. [40.6 N•m]
FC607	3/8-16	30 Ft. Lbs. [40.6 N•m]
FC707	3/8-16	30 Ft. Lbs. [40.6 N•m]
FC709	1/2-13	75 Ft. Lbs. [101.7 N•m]
FC809	1/2-13	75 Ft. Lbs. [101.7 N•m]
FC811	1/2-13	75 Ft. Lbs. [101.7 N•m]
FC911	1/2-13	75 Ft. Lbs. [101.7 N•m]
FC913	1/2-13	75 Ft. Lbs. [101.7 N•m]

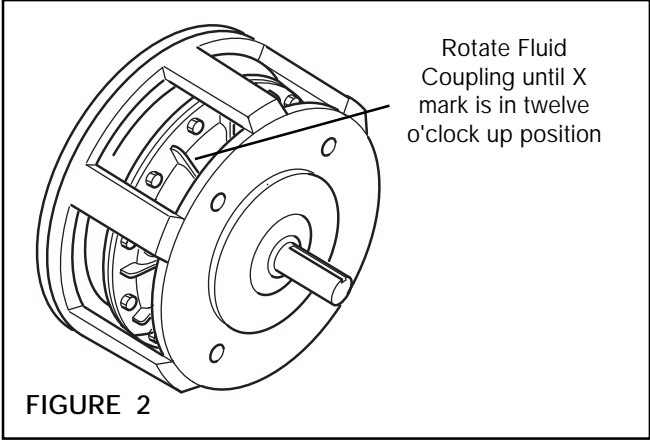
TABLE 2

MODEL	CAP SCREW	TORQUE
FC605	5/16-18	17 Ft. Lbs. [23 N•m]
FC607	5/16-18	17 Ft. Lbs. [23 N•m]
FC707	5/16-18	17 Ft. Lbs. [23 N•m]
FC709	5/16-18	17 Ft. Lbs. [23 N•m]
FC809	3/8-16	30 Ft. Lbs. [40.7 N•m]
FC811	3/8-16	30 Ft. Lbs. [40.7 N•m]
FC911	3/8-16	30 Ft. Lbs. [40.7 N•m]
FC913	3/8-16	30 Ft. Lbs. [40.7 N•m]

FLUID COUPLING OIL LEVELS

NOTE: Nexen Fluid Couplings are shipped dry (not filled with oil).

1. With Fluid Coupling mounted in the horizontal position, rotate coupling until X mark cast in Housing is in the twelve o'clock up position (See Figures 2 and 3).
2. Remove Fusible Plug (See Figure 3).
3. Rocking the Fluid Coupling on its axis to excess air is vented from the filler hole, fill Fluid Coupling with recommended oil (See Table 3).



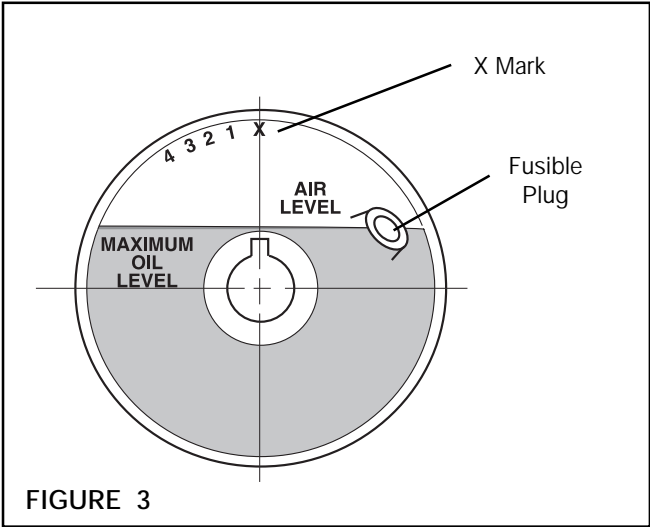
CAUTION

Never use transmission fluid in the Fluid Coupling. Use of transmission fluid will cause overheating and result in increased slip and potential unit failure.

NOTE: Under normal conditions, use SAE-10-W. At low ambient temperatures, SAE-5-W may be used. Synthetic lubricants are not recommended.

4. Install Fusible Plug.

NOTE: Different oil fill levels can be selected at the users judgment. With X as maximum fill, the Fluid Coupling will operate with minimal slip and maximum efficiency, and the starting torque will be at maximum. By decreasing Fluid Coupling oil fill level (1-2-3-4 marks on the Coupling), the starting torque decreases.



CAUTION

High values of slip decrease Fluid Coupling efficiency and will cause the oil to overheat.

TABLE 3

RECOMMENDED OILS		FLASH POINT
Chevron	HYDRAULIC Oil 32	374° F [190° C]
Mobil	HYDREX AW32	375° F [190.6° C]
Texaco	RANDO HD32	385° F [196.1° C]
Do not use any oil with a flash point below 370° F [187.8° C].		

OPERATION

1. Start and stop motor several times to verify performance of Fluid Coupling.
2. Check oil level and Socket Head Cap Screws securing Fluid Coupling after the first 20 days of operation.
3. Check oil level and Socket Head Cap Screws securing Fluid Coupling on a monthly basis.
4. Change oil in Fluid Coupling after every 4,000 hours of operation.

NOTE: Oil must be at room temperature when checking oil level.



WARNING

The Fluid Coupling is supplied with a Fusible Plug rated at 293°F [145°C] to protect the machine from damage in an overload situation. The Fusible Plug is designed to allow hot oil 293°F [145°C] to be discharged from the Fluid Coupling in an overload condition. If there is any chance an operator could come in contact with the hot oil, additional shielding must be provided by the customer. Isolate oil from all surfaces where temperatures may exceed 300°F [145°C].

An overload may be caused by any of the following conditions:

1. Insufficient oil
2. Absorbed power is greater than the motor rated power
3. High ambient temperature
4. Excessive or frequent starts
5. Prolonged starting time
6. Inadequate ventilation restricting cooling of Fluid Coupling. If Fluid Coupling is operated in restricted areas, adequate ventilation must be provided

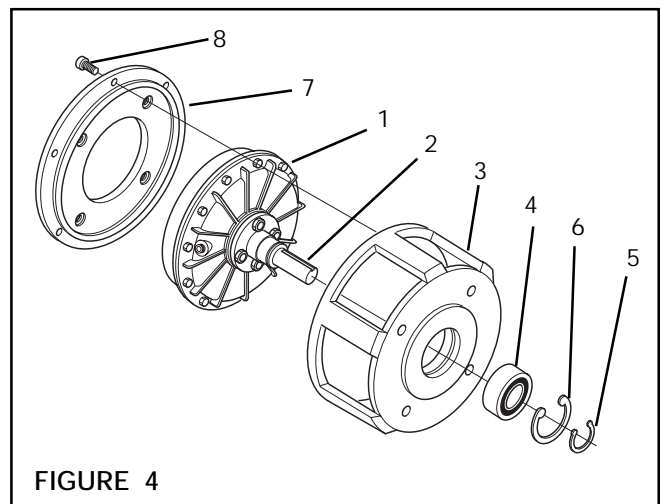
Maximum operating temperatures should not exceed 194°F [90°C]. If higher operating temperatures are required, contact Nexen for information concerning the use of special seals.

PARTS REPLACEMENT


HOUSING BEARING (Item 4)

1. Remove Socket Head Cap Screws (Item 8) and separate Mounting Pilot (Item 7) from Housing (Item 3) (See Figure 4).

NOTE: Mounting Pilot (Item 7) may be left installed on drive unit or motor.



2. Remove Retaining Ring (Item 5) (See Figure 4).

 **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.

3. Fully supporting Housing (Item 3), press Stub Shaft (Item 2) and Fluid Coupling (Item 1) out of Bearing (Item 4) and Housing (Item 3) (See Figure 4).

4. Remove Retaining Ring (Item 6) (See Figure 4).

5. Fully supporting Housing, press old Bearing out of Housing.

6. Clean bearing bore of Housing (Item 3), removing all traces of old Loctite®; then, coat the outer race of the new Bearing with Loctite 680® and press new Bearing (Item 4) into place.

7. Install Retaining Ring (Item 6).

NOTE: If Fluid Coupling Seals are to be replaced, proceed with PARTS REPLACEMENT, FLUID COUPLING SEALS.

8. Fully supporting inner race of Bearing (Item 4), press Stub Shaft (Item 2) and Fluid Coupling (Item 1) into Bearing (Item 4).

9. Install Retaining Ring (Item 5).

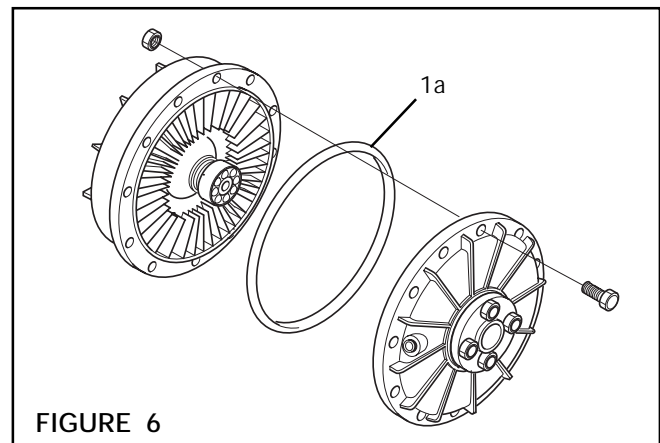
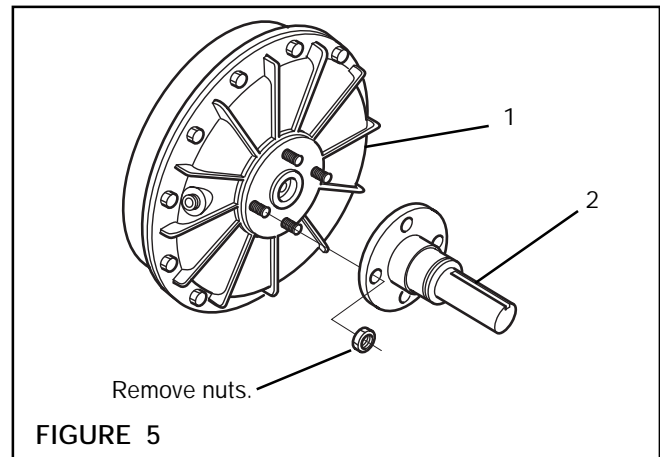
10. Install Fluid Coupling (See **INSTALLATION**).

FLUID COUPLING SEALS (Items 1a, 1b, 1c, 1d, and 1e)

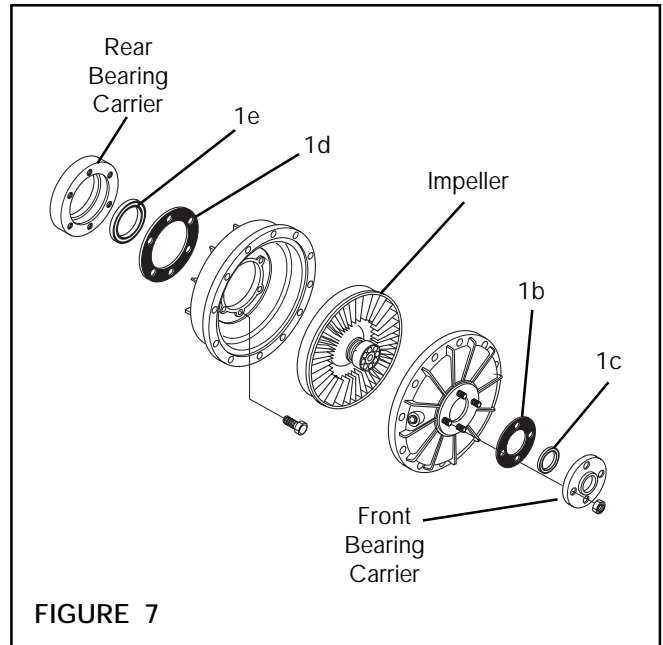
1. Remove Nuts securing Stub Shaft (Item 2) to Fluid Coupling (Item 1); then, remove Stub Shaft from Fluid Coupling (See Figure 5).

2. Remove Socket Head Caps Screws holding Fluid Coupling halves together (See Figure 6).

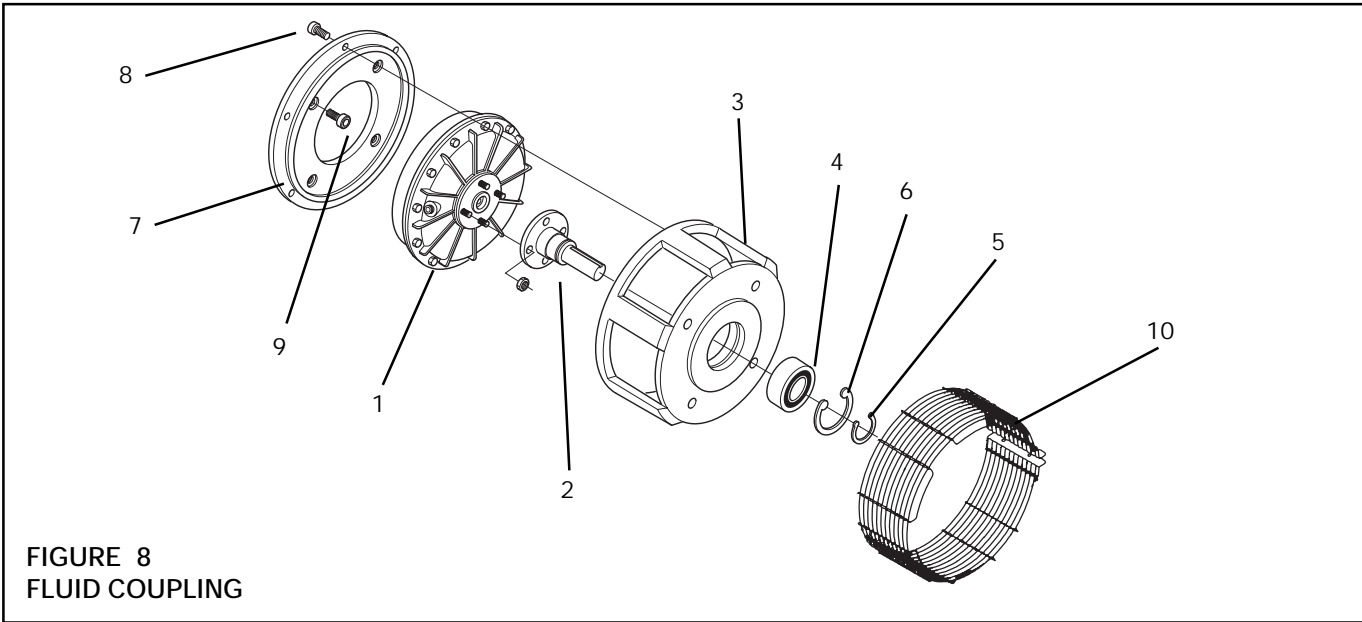
3. Separate two halves of Fluid Coupling and remove the old O-ring Seal (Item 1a) (See Figure 6).



4. Press Impeller out of Fluid Coupling covers (See Figure 7).
5. Remove Socket Head Cap Screws securing Front Bearing Carrier (See Figure 7).
6. Remove Front Bearing Carrier (See Figure 7).
7. Remove the old Gasket (Item 1b) and Seal (Item 1c) (See Figure 7).
8. Install new Seal and Gasket, and install the Front Bearing Carrier.
9. Remove Socket Head Cap Screws securing Rear Bearing Carrier (See Figure 7)
10. Remove Rear Bearing Carrier. (See Figure 7).
11. Remove old Gasket (Item 1d) and Seal (Item 1e) (See Figure 7).
12. Install new Seal and Gasket, and install the Rear Bearing Carrier.
13. Fully supporting bearings, press Impeller into Housing.
14. Install new O-ring Seal (Item 1a) and assemble Fluid Coupling (See Figure 6).
15. Assemble Fluid Coupling and Housing (See **PARTS REPLACEMENT, HOUSING BEARING**, Steps 8 - 10).



PARTS LIST

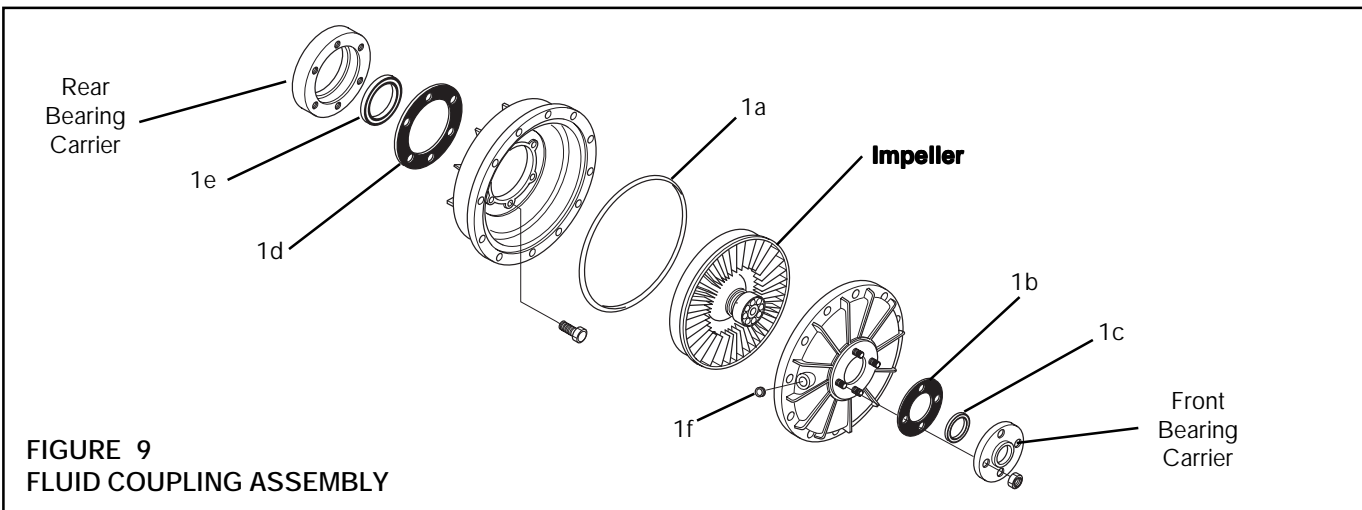


**FIGURE 8
 FLUID COUPLING**

ITEM	DESCRIPTION	QTY
1 ¹	Fluid Coupling	1
2	Stub Shaft	1
3	Housing	1
4 ²	Bearing	1
5	Retaining Ring	1
6	Retaining Ring	1
7	Mounting Pilot	1

ITEM	DESCRIPTION	QTY
8	Socket Head Cap Screw (5/16-18)	6
9	Socket Head Cap Screw (3/8-16 or 1/2-13)	4
10	Housing Guard	1
11	Housing Guard Screw (Not Shown)	2
12	Housing Guard Lock Washer (Not Shown)	2
13	Housing Guard Nut (Not Shown)	2

¹ Refer to Coupling Assembly parts list for repair kit items.
² Denotes repair kit item.



**FIGURE 9
 FLUID COUPLING ASSEMBLY**

ITEM	DESCRIPTION	QTY
1a ²	O-Ring Seal	1
1b ²	Gasket	1
1c ²	Seal	1

ITEM	DESCRIPTION	QTY
1d ²	Gasket	1
1e ²	Seal	1
1f ²	Fusible Plug	1

² Denotes repair kit item.

REPAIR KIT NUMBERS

TABLE 4

MODEL	FC-605	FC-607	FC-707	FC-709	FC-809	FC-811	FC-911	FC-913
KIT NO.	802409	802409	802410	802410	802411	802411	802412	802412

REPLACEMENT PARTS

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.



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[®]

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

800.843.7445
Fax: 651.286.1099
www.nexengroup.com

ISO 9001 Certified