

Bulletin E 8.734

Installation, Lubrication, Maintenance Instructions
Ringspann Freewheel Clutches
FRX 400 thru 900
FRXG 700 thru 900



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Introduction

FRX and FRXG models are maintenance-free or low-maintenance (FRXG) ball bearing freewheels suitable for backstopping and overrunning applications with high overrunning speeds and low driving speeds.

- Ringspann FR_ Series freewheels mount on a through-shaft with the inner race driven by a key.
- The O.D. of the outer ring is designed as a mounting surface or pilot for attaching the driven member.
- The O.D. of the outer ring is ground concentric with the bore to provide proper alignment and installation.

⚠ WARNING Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel.

Pre-installation Check

Before installing, check:

1. Shaft to Bore fit:

Freewheel Bore	Shaft Fit Guide
0 to 2 inches dia.	Line fit to .002 inches loose
2 to 4 inches dia.	Line fit to .0025 inches loose
4 to 7 inches dia.	Line fit to .003 inches loose

Note: Machine builders may use non-standard shaft fits to mount Ringspann freewheels. In this event, direct any questions concerning shaft fit to the machine builder.

2. Key and keyseat

Hardness: Use a hardened key, from 30 to 40 Rockwell “C” scale. Use materials AISI 1141, 1045 or 4130

Fit: Break edges of the key before installing, to prevent any bearing at these points. Install with a push fit. Be sure the key seats squarely. Do not use force fit.

Length: The key must be equal to the length of the inner ring for proper engagement.

3. Rotation

Determine proper direction of free rotation for application and orientate the freewheel to match based on the directional arrows marked freewheel.

Installation

1. Mount the freewheel and key on the shaft.

Note: FRX and FRXG freewheels may be mounted with any orientation from horizontal to vertical.

Apply pressure only to face of freewheel inner ring. Pressure applied to the outer ring could result in bearing damage.

2. Secure the axial position of the freewheel inner ring onto the shaft. Approved methods of axial retention include the use of shaft collars, keeper plates, retention rings, or retention keys.
3. Mount attaching parts to the freewheel outer ring as required by the application.

If a torque arm is to be mounted to the freewheel, allow 1/4 to 1/2 inch clearance between stops and torque arm.

Tapped mounting holes are provided in each end of the outer ring. Center the gear, pulley or sheave on the outer ring. Avoid excessive over-hung loads.

Check with Ringspann Corporation if the freewheel must support large side loads during overrunning cycle of operation as damage may occur.

4. Check for proper rotation by spinning the freewheel by hand.

Lubrication

FRX and FRXG freewheels are lubricated for life at the factory and do not require additional lubrication maintenance in the sprag assembly. Additional lubrication in the sprag assembly can lead to failure.

Grease Seal Maintenance (FRXG Model)

⚠ CAUTION Grease seal maintenance should not be performed while equipment is in operation.

Grease seal maintenance should be performed at least every 3 months. Under severe conditions, such as heavy dust or twenty-four hours per day operation, grease seal maintenance should be performed every 2 weeks.

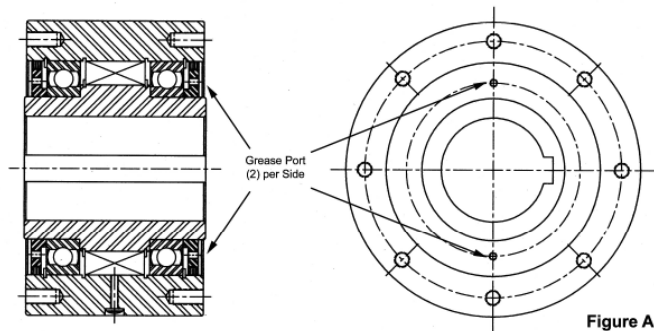
Use greases selected from the following table:

CHEVRON	SRI2
EXXON	Polyrex EM

Grease Seal Maintenance Procedure

1. Remove all 4 setscrews from grease ports (Fig. A).
2. Using a hand grease gun, add clean grease into one port per side until all “dirty” grease is purged from opposite port.
3. Resume operation of freewheel without setscrews installed to allow excess grease to purge from grease cavity.
4. Reinstall all 4 grease port setscrews after one hour of operation or after excess grease purge stops, whichever comes first.

Use Recommended Greases Only



Freewheel Rebuilding Service

CAUTION Disassembly and repair of Ringspann freewheels in the field is not recommended and will void any warranty.

Ringspann freewheels are precision devices manufactured under careful controls to meet exacting standards. When reconditioning is required, freewheels should be returned to Ringspann for service

Rotating Equipment

WARNING Rotating equipment is potentially dangerous and should be properly guarded. The user should comply with all applicable safety codes to guard rotating equipment.

Warranty

Ringspann Corporation “seller” agrees to repair or replace (at its sole option), defective materials or workmanship for a period of one year from the date of delivery. Seller must be notified of such a defect within a reasonable time after discovery (not to exceed thirty (30) days), and the defective product must be delivered, prepaid to the seller’s factory with evidence that, it has been properly installed, maintained and operated in accordance with the seller’s instructions. Seller’s limited warranty excludes remedy for damage or defect caused by abuse; failure to resist corrosion or erosion from any corrosive agent or fluid, due to deposits of foreign material from any fluid; modifications not executed by Seller; improper installation or operation; defects or failures arising out of, in any way related to, or as a result either direct or indirect, of the Buyer’s failure to properly advise Seller of all normal and special operating conditions, known to or suspected by Buyer, when Seller is manufacturing the Equipment for a specific operation; or normal wear and tear under usage. This remedy is exclusive and is given in lieu of any warranty of merchantability, fitness, for a particular purpose or any other warranty, whether express or implied. Seller shall not be liable for consequential damages (including but not limited to, loss of use, lost profits, business interruption and the like), incidental damages, indirect damages, whether the claim for such damage is based upon warranty, contract, tort, strict liability or any other theory of recovery.



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