

How To Use This Manual

This manual applies to standard Falk Type NRT backstops. This manual provides detailed instructions on oil seal replacement. Use the following Table of Contents to locate required information.

Table of Contents

Oil Seal Replacement (Cast Iron End Covers)	1-2
Backstop Removal	1
Backstop Disassembly	1
Seal Replacement	2
Backstop Assembly	2
Backstop Installation	2
Oil Seal Replacement (Fabricated Steel End Covers)	2-3

CAREFULLY FOLLOW THE INSTRUCTIONS IN THIS MANUAL FOR OPTIMUM PERFORMANCE AND TROUBLE FREE SERVICE.

Introduction

This manual covers oil seal replacement for both cast iron and fabricated steel end covers. See Page 2 for oil seal replacement for backstops with fabricated steel end covers.

BACKSTOP SEAL REPLACEMENT — For Backstops with Cast Iron End Covers, See Figure 3, Page2.

CAUTION: Remove all external loads from drive before servicing drive or accessories. Do not damage cam or hub face: new seals will leak if seal contacting surface is marred. Do not use abrasive material on seal contacting surface.

Required Equipment

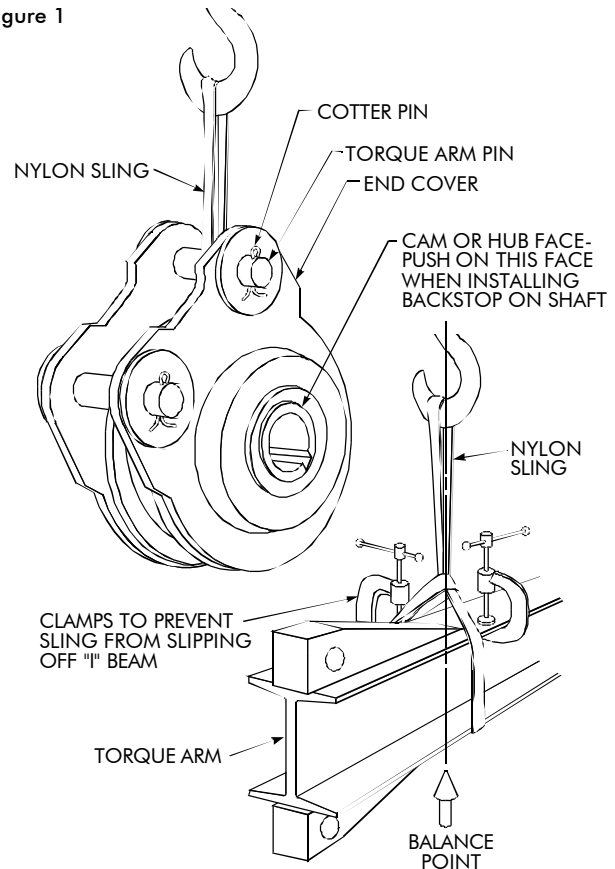
In addition to standard mechanic's tools, the following equipment is required: hoist, sling, torque wrench, dial indicator with stand or depth micrometer and puller.

CAUTION: Do not attempt to service or remove backstop before removing load. When removing backstop from shaft, do not apply heat to the backstop. Apply axial force to the hub of the backstop only.

Backstop Removal

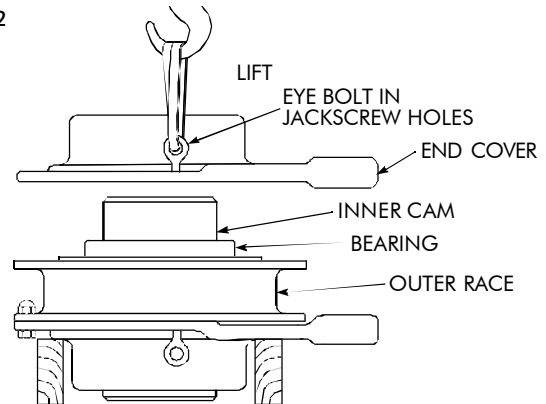
1. Drain and discard lubricant in an environmentally safe method.
2. Remove oil sight gauge and breather assembly and insert pipe plugs in cover holes.
3. Remove torque arm. Refer to Figure 1 for proper method of supporting and lifting.
4. Reassemble torque arm pins in backstop and lock in place with cotter pins for lifting.
5. If the backstop is furnished with a axial retaining collar(s), loosen set screws and mounting bolts and remove collar. Remove burrs on shaft caused by set screws.
6. Remove backstop from shaft. Apply force to the inner cam of the backstop only. (Figure 1)
7. Thoroughly clean exterior of backstop with clean solvent to prevent dirt from falling into the backstop when disassembling.
8. Position backstop on clean work surface with bore vertical.

Figure 1



Support lower end cover with wood blocks. (Figure 2)

Figure 2



Backstop Disassembly

9. Remove upper end cover bolts and end cover using eyebolts as jackscrews for separation and lifting. (Figure 2) Do not remove cam, bearings, stop lugs, springs or roller cage assembly; removal will void applicable warranties.
10. Remove and note number of gaskets; discard old gaskets.
11. Clean outer race gasket area.
12. Remove grease from around the seals if the grease purge feature has been used. Drive out seals and remove sealing compound from mounting surface. Clean entire end cover with clean non-flammable solvent and wipe dry.

Seal Replacement

13. Check seal surface for any damage prior to installing new seals. Install one seal at a time. Coat both seal outside diameters with Permatex #3 or equivalent sealant.
14. **OUTER SEAL** — Position the outer seal squarely in the end cover with the garter spring positioned per Figure 3.
NOTE: Use seal with smaller outer diameter as outer seal for Sizes 130 thru 170 and Sizes 1130 thru 1175.

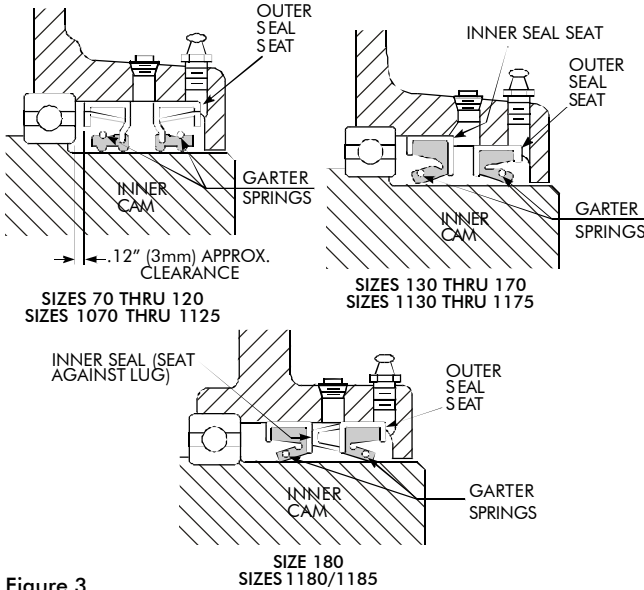
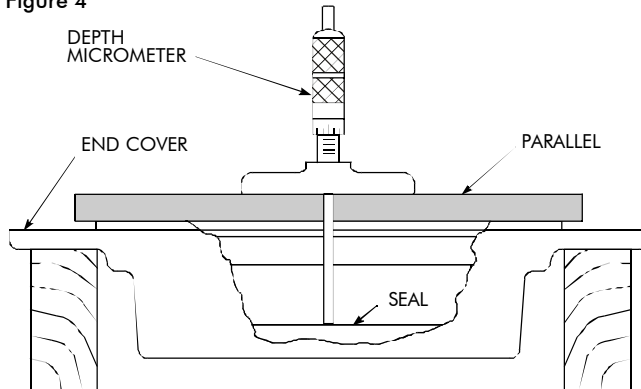


Figure 3

15. Place a square ended cylindrical tool against the seal and press or lightly tap the tool (not the seal) until the seal is seated against the shoulder. (Figure 3)
16. Check seal runout with a depth micrometer, dial indicator or bar micrometer as shown in Figure 4. Runout must not exceed .010" (0.25mm) TIR.

Figure 4



17. **INNER SEAL** — Install the inner seal per Steps 15 and 16 and as follows:
Sizes 70 thru 120 & Sizes 1070 thru 1125 — Install to depth shown in Figure 3.
Sizes 130 thru 170 & Sizes 1130 thru 1175 — Seat as shown in Figure 3.
Size 180 & Sizes 1180 thru 1185 — Seals have built-in spacer lugs. Lugs of inner seal are to be in contact with case of outer seal.

Backstop Assembly

18. Coat seal lips and chamber between seals with NLGI #2 grease. Hand pack grease cavity between inner and outer seal with NLGI #2 grease. Reinstall end cover and the same number of new gaskets as noted in Step 10. Do not use gaskets made from substitute material; use only the new gaskets furnished by the Factory.
19. Reinstall end cover fasteners but do not tighten; this will facilitate torque arm pin assembly.
20. Turn backstop over and replace seals in opposite end cover per Steps 9 thru 19.
21. Align end covers by inserting torque arm pins. Tighten all end cover fasteners to the torque shown in Table 1.

Backstop Installation

22. Refer to Manual 568-110 for backstop installation, oil sight gauge assembly and lubrication recommendations.

TABLE 1 — End Cover Fastener Tightening Torque

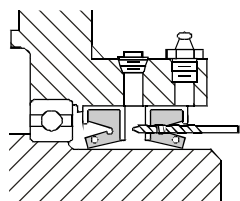
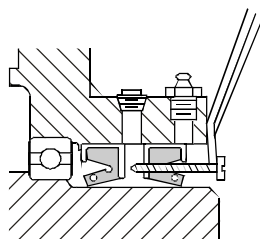
Backstop Size	Grade 8 Cap screw Size	Tightening Torque ★ lb-in (Nm)
70 & 1070/1075	.500"-13UNC	1,325(150)
80 & 1080/1085	.500"-13UNC	1,325(150)
90 & 1090/1095	.500"-13UNC	1,325(150)
100 & 1100/1105	.500"-13UNC	1,325(150)
110 & 1110/1115	.625"-11UNC	2,550(290)
120 & 1120/1125	.625"-11UNC	2,550(290)
130 & 1130/1135	.750"-10UNC	4,425(500)
140 & 1140/1145	.750"-10UNC	4,425(500)
150 & 1150/1155	.875"-9UNC	7,100(800)
160 & 1160/1165	.875"-9UNC	7,100(800)
170 & 1170/1175	.875"-9UNC	7,100(800)
180 & 1180/1185	1.000"-8UNC	10,400(1180)

★ Do not oil fasteners and locknuts or use Loctite compound.

BACKSTOP SEAL REPLACEMENT — For Backstops with Fabricated Steel End Covers, See Figures 4,5, and 6 on Page 3.

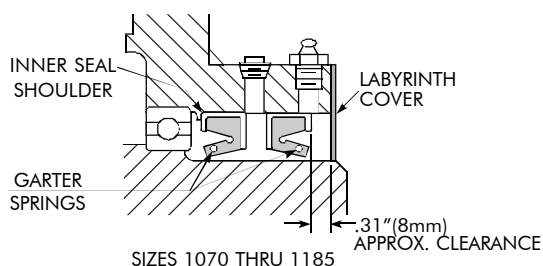
CAUTION: Remove all external loads from drive before servicing drive or accessories. Do not damage cam or hub face: new seals will leak if seal contacting surface is marred. Do not use abrasive material on seal contacting surface.

1. To prevent dirt from falling into the backstop, thoroughly clean exterior of backstop with clean non-flammable solvent.
2. If removing backstop, refer to BACKSTOP REMOVAL on Page 1.
3. Remove labyrinth shroud (See Figure 7, Page 3) from backstop. Clean cam or hub face with solvent and remove all sharp edges. Use a sharp center punch to lightly punch the seal case as a guide for the drill. Check seal surface for any damage prior to installing new seals.
4. Wrap several turns of tape around the drill approximately .250" (6mm) from the drill point to prevent the drill from entering too deeply into the housing and damaging the bearing (inner seal only). Grease or magnetize the drill to help retain the chips. Drill two .125" (3mm) diameter holes

Figure 5

Figure 6


in the seal case 180° apart. Control the angle of the drill as illustrated in Figure 5 to prevent damage to the cam.

5. Insert two #10-.750" sheet metal screws into the seal leaving .500" (13mm) of the screw protruding from the seal face. **DO NOT** drive the screw more than .250" (6mm) beyond seal face or bearing damage may occur (inner seal only). Use a claw type pry bar under the screw head as shown in Figure 6, and lift the seal out. Remove all chips. Use a magnet to remove the chips that fall into the bore. Flush the drive to remove chips from the bearing. Remove Permatex from housing bore.
6. Install one seal at a time. Coat both seal outside diameters with Permatex #3 or equivalent sealant.

Figure 7


7. **INNER SEAL** — Position the inner seal squarely in the bearing cage with the garter spring positioned per Figure 7.
8. Place a square ended cylindrical tool against the seal and press or lightly tap the tool (not the seal) until the seal is seated against the shoulder. (Figure 7)
9. Check seal runout with a depth micrometer, dial indicator or bar micrometer. Runout must not exceed .010" (0.25mm) TIR. Hand pack the grease cavity formed by the gap between the inner seal and outer seal with NLGI #2 grease before installing outer seal in Step 10.
10. **OUTER SEAL** — Install the outer seal per Steps 7 thru 9 and to depth shown in Figure 7.

CAUTION: An important part of the Falk NRT backstop manufacturing process is the full load and overrunning testing with specially instrumented equipment. Consequently, return NRT backstops to Rexnord for repair and full load testing.

Except for replacement of oil seals, NRT backstops should not be dismantled or repaired in the field. If seals are to be replaced, it is important that the cam and roller assemblies not be removed from the outer race. Removal will void applicable warranties.

When writing to Rexnord Service Department concerning required service, state nature of problem and give complete date from backstop nameplate; M.O. number, size, date, etc.