

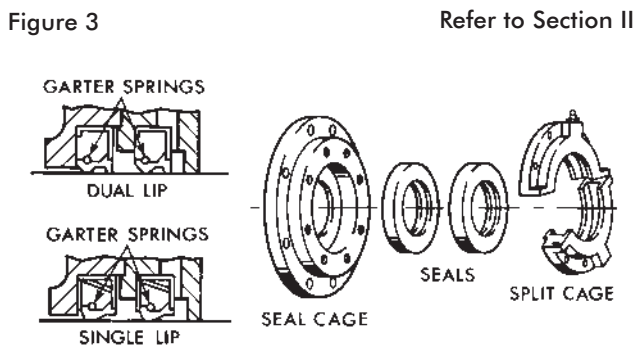
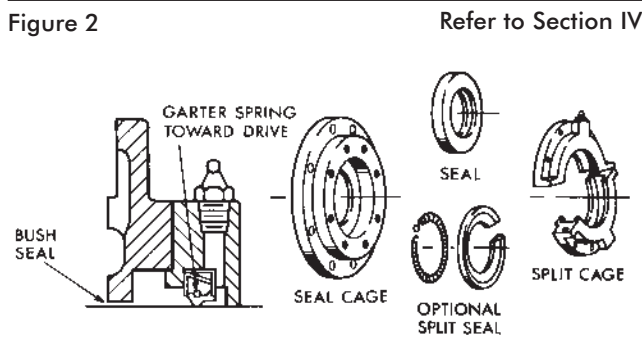
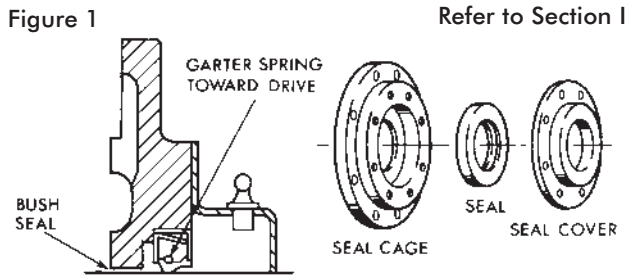
Introduction

The following instructions cover replacement of shaft seals on Types Y, YB, YF, YBX and GHB drives. These instructions also apply to the above mentioned drive types with features i.e., lowered foundation, Type YN and extra capacity low speed bearings, Type YT, etc. Drawings are representative and may not agree in exact detail with all drive sizes. When ordering parts or requesting information, specify the M.O. number, drive size, model number, rpm, ratio and date stamped on the drive nameplate.

There are several different types of Falk™ seal assemblies (Figures 1 thru 5). For drives operating in atmospheres laden with taconite or other similar severely abrasive dusts or in areas that are periodically hosed down with water under pressure, grease purgeable assemblies are recommended, (Figures 1, 2, 3 & 5). This feature is being incorporated as standard on new model drives along with a bush type seal. The split seal assembly, for emergency field replacement only, is used when it is impractical to break shaft connections to replace solid ring seals, (Figure 5).

CAUTION: Lock out power source and remove all external loads from drive before servicing drive or accessories. Consult applicable local and national safety codes for proper guarding of rotating members.

Model L



General Instructions

Before removing seals, clean external surfaces of drive to prevent dirt from entering drive.

Record mounting dimensions of shaft accessories for reference when reassembling.

During disassembly, note and record type of seals, (single or dual lip, split or solid, single or dual seal) used and direction seal(s) garter spring(s) is/are facing.

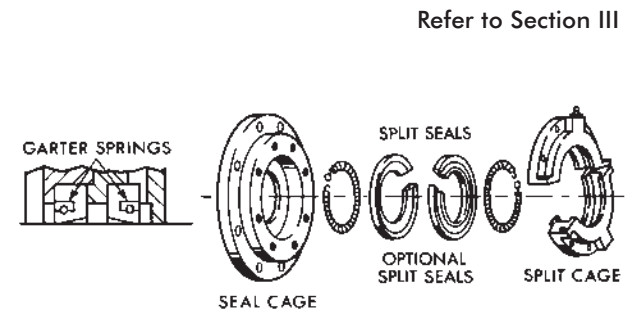
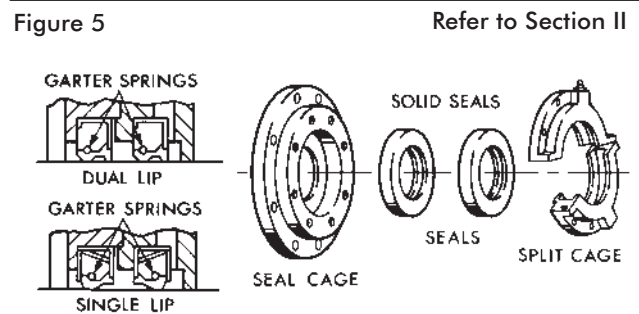
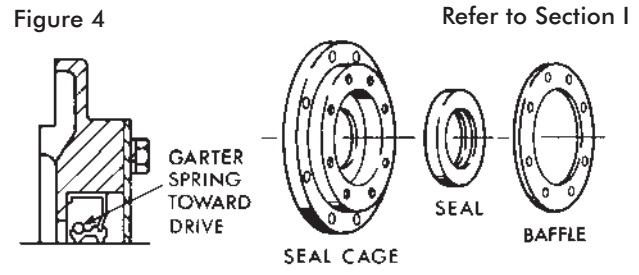
Types of Seal Assemblies

SINGLE SEAL ASSEMBLY — Consists of a solid seal cage, one single or dual lip solid seal, with one of the following: seal cover, split cage, or baffle as illustrated in Figures 1, 2 & 4.

DOUBLE SEAL ASSEMBLY — Consists of a solid seal cage, two single or dual lip solid seals and a split cage, as illustrated in Figures 3 & 5.

SPLIT SEAL ASSEMBLY — Emergency Field Replacement Only. Consists of a solid seal cage, one or two single lip split seals and a split cage in Figure 5. NOTE: A split seal may be substituted for a solid seal in Figures 1 thru 5. However, use of a split seal may result in reduced performance.

Models A, B, C & K



Seal Assembly Identification

1. Identify your seal assembly by matching all the parts of the assembly with one of Figures 1 thru 5 on Page 1. Make certain you match each part of the assembly as only one of the Figures shown will match.
2. Follow the corresponding instructions indicated in the drawing.

Section I, Figures 1 & 4

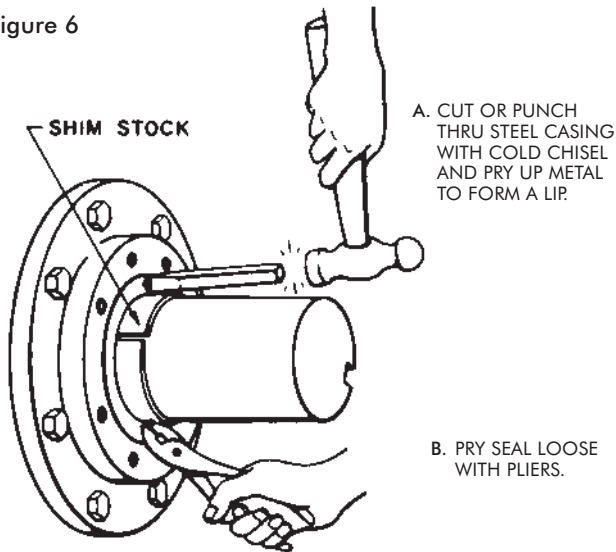
1. Remove seal cover (Figure 1) or seal baffle (Figure 4).
2. Slide a well lubricated piece of smooth brass shim stock under the seal lip to protect the shaft rubbing surface during removal.

CAUTION: DO NOT mar drive shaft.

3. If solid seal cage has been removed from drive, block up seal cage and press or drive out seal. Refer to appropriate Disassembly and Assembly Instructions for seal cage installation instructions.
4. If seal cage has not been removed from drive, use one of the following procedures for seal removal:

- A. Cut through the steel casing of the seal in two places 180° apart with a small cold chisel and pry up the metal to form a lip. Grasp the lips alternately with pliers and remove seal, Figure 6.

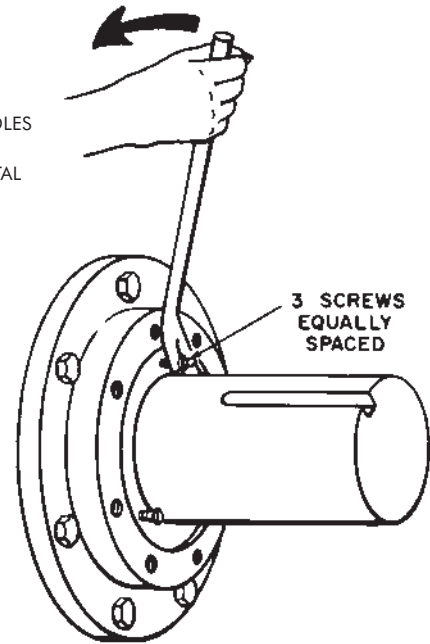
Figure 6



- B. Punch three equally spaced holes in the steel casing of the seal. Insert three sheet metal screws so the heads remain outside the seal cage. Pry out seal, Figure 7.
5. Clean shaft seal rubbing surface.

Figure 7

- A. PUNCH THREE HOLES IN STEEL CASING.
- B. INSERT SHEET METAL SCREWS.
- C. PRY SEAL LOOSE.



CAUTION: DO NOT use any abrasive materials on the rubbing surface polished by the seal. New seals will leak if the seal rubbing surface on the shaft is altered or if seal lips are cut.

6. Remove old sealing compound from seal cage bore and recoat with Permatex #3 or equivalent. Generously coat the seal lips and pocket between the lips with #2 ball bearing grease or SAE 40 oil.
7. **NOTE:** Position the garter spring toward the inside of the drive as shown in Figures 1 & 4. Protect seal lips from the sharp edges of the keyway by wrapping a thin, strong paper around the shaft and coating it with grease before sliding the seal into position. Do not expand the seal lips more than .03" diameter.
8. Drive seal into seal cage with a square faced cylindrical tool such as a piece of tubing.
9. Install seal cover (Figure 1) or seal baffle (Figure 4).
10. Coat seal cover (Figure 2) flange with Permatex #3 or equivalent and mount on seal cage. See "PREVENTIVE MAINTENANCE OF GREASE PURGED SEALS," Page 4.
11. Reinstall the drive and accessories as instructed in Manual 148-050.

Section II, Figures 3 & 5

1. Remove fasteners holding split seal cage halves together and fasteners holding split seal cage to solid seal cage.
2. Carefully pry the split seal cage away from the solid seal cage.
3. Remove the exposed outer seal.
4. Refer to Section 1, Steps 2 thru 8 to remove and reinstall the inner shaft seal.
5. Slide the outer seal on the shaft. **DO NOT** expand the seal lips more than .03" diameter.

FIGURE 3 (MODEL L) — Garter springs must face toward the inside of drive for both single lip or dual lip seals.

FIGURE 5 (MODELS A, B, C & K) —

DUAL LIP SEALS: Garter springs must face toward the inside of drive.

SINGLE LIP SEALS: Garter springs of inner seal must face toward the inside of drive and the outer seal must face toward the outside of drive.

6. Coat split seal cage bore flange face and joints with Permatex #3 or equivalent. Mount each half over outer seal and fasten halves together.
7. Pack chamber between inner and outer seal with NLGI #2 bearing grease. Fasten split and solid seal cages together. See "PREVENTIVE MAINTENANCE OF GREASE PURGED SEALS," Page 4.
8. Reinstall the drive and accessories as instructed in Manual 148-050.

Section III, Figure 5

1. Remove fasteners holding the split seal cage halves together and fasteners holding the split seal cage to solid seal cage.
2. Carefully pry the split seal cage away from the solid seal cage.
3. If the outer seal is split, remove it. If the outer seal is a solid ring, cut it off with a tin snips.
4. If the inner seal is split, pry it out at the split and remove it.
5. If the inner seal is a solid ring, refer to Section 1, Steps 2 thru 4. Cut off loosened inner seal with a tin snips.
6. Clean the shaft seal rubbing surface.

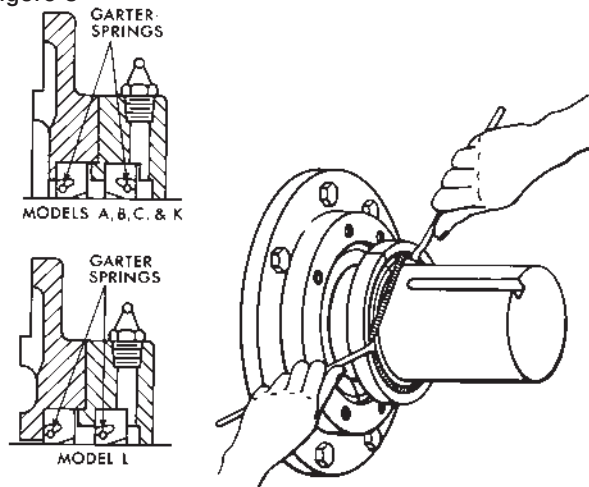
CAUTION: DO NOT use any abrasive materials on the rubbing surface polished by the seal. New seals will leak if the seal rubbing surface on the shaft is altered or if seal lips are cut.

7. Coat seal surface on shaft and seal rubbing surface with NLGI #2 bearing grease.

8. Split seals are furnished with (A) integral finger type springs or (B) detachable garter springs.

- A. To mount the finger type seal, spread the seal and slip it over the shaft.
- B. To mount split seals with the detachable garter spring, pass the spring around the shaft and connect the hook and eye ends. Spread the seal apart and slide it over the shaft. Form two welding rods into flat paddles with curved ends. Make certain that the hook and eye are not in line with the seal split, and then tuck the spring into the carrier groove with one paddle. Slide the other paddle around the groove until the spring is fully seated, as illustrated in Figure 8.

Figure 8 —



9. Apply a small amount of Permatex #3 to seal O.D. Install inner seal into seal cage with built-in finger or garter spring toward the inside of the drive. Position the seal split at an angle 45° above the housing split. Place paddles or screw drivers behind the heel of the seal and press the assembly evenly into the seal cage.
10. Mount the outer seal on the shaft with built-in finger or garter spring facing the outside of the drive for Models A, B, C and K; mount seal with garter spring toward the inside of the drive for Model L. Position the seal split at an angle 45° above the housing split.
11. Coat split seal cage bore flange face and joints with Permatex #3 or equivalent. Mount each half over outer seal and fasten halves together.
12. Pack chamber between inner and outer seal with NLGI #2 bearing grease. Fasten split and solid seal cages together. See "PREVENTIVE MAINTENANCE OF GREASE PURGED SEALS," Page 4.
13. Reinstall the drive and accessories as instructed in Manual 148-050.

Section IV, Figure 2

1. Remove fasteners holding split seal cage halves together and fasteners holding split seal cage to solid seal cage.
2. Carefully pry the split seal cage away from the solid seal cage.
3. Remove seal from shaft.
4. Clean the shaft seal rubbing surface.
CAUTION: DO NOT use any abrasive materials on the rubbing surface polished by the seal. New seals will leak if the seal rubbing surface on the shaft is altered or if seal lips are cut.
5. Coat seal surface on shaft and seal rubbing surface with NLGI #2 bearing grease.
6. Slide the seal on the shaft with the garter spring facing toward the drive. Refer to Section III, Steps 8 & 10 for split seal assembly.
7. Coat split seal cage bore flange face and joints with Permatex #3 or equivalent. Mount each half over outer seal and fasten halves together.
8. Fasten split and solid seal cages together. See "PREVENTIVE MAINTENANCE OF GREASE PURGED SEALS," at right.
9. Reinstall the drive and accessories as instructed in Manual 148-050.

Replacement of Single Seal Assembly with Grease Purged Seal Assembly — Models A thru K

To remove single seal assembly, refer to Section I, Steps 1 thru 5.

To mount dual seal assembly with solid seals, refer to Section II, Steps 4 thru 8.

To mount dual seal assembly with split seals, refer to Section III, Steps 6 thru 13.

Preventive Maintenance of Grease Purged Seals

The option of adding grease is the purchaser's. The use of this feature is recommended for drives operating in abrasive atmospheric conditions, but is NOT RECOMMENDED where grease could contaminate the product as in the food and drug industries.

To make use of this feature, pump NLGI #2 bearing grease into the seal housing cavity through the seal grease fitting until grease appears on the shaft. Periodically (at least every six months) depending upon the frequency and degree of contamination, purge contaminated grease from seals by slowly pumping fresh bearing grease through the seal with a hand grease gun until fresh grease flows out along the shaft. Wipe off purged grease.

CAUTION: Use of a power gun can force grease inward past the seals and plug the drainback system causing seal leaks.