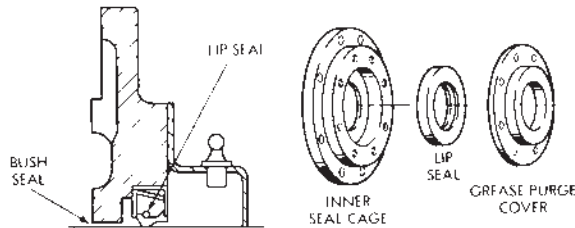
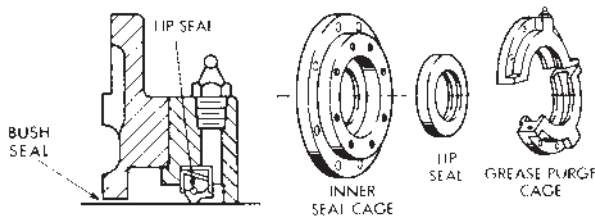


## Introduction

This manual covers instructions for converting Model A, B, C or K, 1000 series YF and 2000 series Y and YB drives with standard or optional grease purged seals to the improved magnum seal design (Model L). These instructions also apply to the previous mentioned drives with features such as lowered foundation (YN, YBN) and extra capacity bearings (YT, YBT). Earlier series Y and YB drives and Sizes 2110-2145Y1, Model A drives cannot be converted.



Sizes 2050-2135 (Model L)



Sizes 1080-1195 & 2140-2195 (Model L)

Figure 1 — Typical Magnum Seal Assembly

## Required Modifications

The Magnum seal system consists of an inner seal cage with a throttling bush seal. An effective seal is created by the minimum clearances between the cage lip-shaft and the cage lip-inner bearing race. In the event that oil would get beyond the bush seal, drainback holes in the cage and housing route the oil back into the drive.

A further feature of the Magnum seal is the use of a grease purgeable contaminant seal cover on Sizes 2050-2135Y & YB and a grease purgeable split cage on Sizes 2140-2195Y & YB and 1080-1195YF. This outer cover/cage when filled with grease, traps airborne debris before it can enter the inner bush seal and the drive. A lip type seal prevents the grease and contaminants from entering. Contaminated grease can be purged by introducing fresh grease through the grease fitting. Contaminated grease will be forced out along the shaft.

The complete Magnum seal system consisting of bush seal, drainback and grease-purge feature can be incorporated into all Type Y and YF high speed shafts. Most Type Y, YF & YB low speed shafts can utilize the complete Magnum seal design except those with high oil levels. Refer to the Factory to determine which drives have high oil levels. Type YB high

speed shafts cannot be provided with the bush seal or drainback but can use the grease-purge cover or cage feature.

The usable shaft length is reduced when this seal assembly is used.

When ordering parts or requesting information, specify the M.O. number, drive size, model number, rpm, ratio and date stamped on the reducer nameplate. Also specify whether high or low speed shaft Magnum seal assemblies are required. Include quantity required.

Parts required in the Magnum seal assembly for retrofitting are as follows-

- Inner Seal Cage
- Grease Purge Cover/Cage with Lip Seal and Fasteners
- Shim-Gasket Kit

Parts no longer required are as follows-

- Standard Seal Cage and Seal (do not discard fasteners)
- Baffle Ring and Fasteners
- Old Split Seal Cage with Seal and Fasteners (when applicable)

## General Instructions

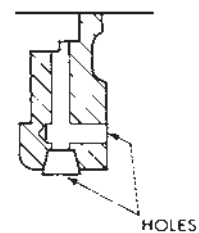
**CAUTION:** Lock out power source and remove all external loads from drive before servicing drives or accessories. Consult applicable local and national safety codes for proper guarding of rotating members.

1. **PRE-DISASSEMBLY** — To prevent dirt from falling into the drive, clean all external surfaces of reducer before disassembly. Record mounting dimensions of couplings and accessories for reference when reassembling. If it is necessary to remove the reducer from its operating area, disconnect all connected equipment and lift reducer from its foundation by means of the four lifting holes.

## Drainback

Drainbacks are not required on Type YB high speed shafts or Type Y, YF and YB low speed shafts with high oil levels. Determine if a low speed shaft drainback is required by examining the new inner seal cage. If through holes are drilled in the bottom of the cage as shown at right, a drainback is required.

2. **INTERNAL DRAINBACK** — Remove reducer cover and rotating elements per the instructions in the following manuals  
 Type Y — Manual 148-110.  
 Type YF — Manual 148-210.  
 Type YB — Manual 248-110.



- A. Drill holes in housing for each shaft extension to create an internal drain system. Refer to Tables 1 & 2 on Page 2 to determine which figure number to follow for drilling of drainback holes.
  - B. Replace parts and reassemble housing per the appropriate manuals mentioned above.
  - C. Install Magnum seal assembly per Manual 148-130 as follows:
    - C1. Type Y, Sizes 2050-2135 - Figure 1, Section 1.
    - C2. Type Y, Sizes 2140-2195 & Type YF, Sizes 1080-1195 - Figure 4 (Section II; for drives with high oil levels) Figure 6 (Section IV; low oil levels) or Figure 7 (Section IV; for split seal).
    - C3. Type YB, Low Speed Shaft, Sizes 2050-2135 - Same as C1 above. Type YB, Low Speed Shaft, Sizes 2140-2195 - Same as C2 above.
    - C4. Type YB, High Speed Shaft, All Sizes - Figure 1 (Section I; standard cage) Figure 3 (Section 11; split cage) or Figure 5 (Section III; split cage with split seals).
  - D. Figure 7 only - Remove lower pipe plug from inner seal cage and using commercially available hardware, connect each seal cage to the drilled hole with tubing or piping.
- 3. EXTERIOR PIPING TO DRIVE DRAIN** — Remove old seal assemblies and install Magnum seal assemblies per step 2C. Using commercially available tubing or piping and hardware, connect each inner seal cage to drive drain.

**TABLE 1 — Type YF**

DRIVE SIZE	Shaft (High or Low Speed)	Ratio Range	Figure No.
1080	LS	All 1.84 thru 4.57 5.06 thru 7.59	2
	HS		2 or 7★
	HS		2
1090	LS	All 1.84 thru 5.06 5.60 thru 7.59	2
	HS		2 or 7★
	HS		2
1100	LS	All	2
	HS		2 or 7★
1110	LS	All	2
	HS		2 or 7★
1120	LS	All	2
	HS		2 or 7★
1130	LS	All	2
	HS		2 or 7★
1140 thru 1195	LS	All	2
	HS		2

★ If spherical roller bearing is not pinned in housing base bore, use Figure 2. If bearing is pinned, use Figure 7.

**TABLE 2 — Types Y & YB**

DRIVE SIZE	Reduction	Shaft (High or Low Speed)	Figure No.
2050	Y1, 2, 3 & YB2, 3, 4 Y1 Y2 Y3	LS	2
		HS	5
		HS	2
		HS	6
2060	Y1, 2, 3 & YB2, 3, 4 Y1 Y2 Y3	LS	2
		HS	5
		HS	2
		HS	6
2070	Y1, 2, 3 & YB2, 3, 4 Y1 Y2 Y3	LS	2
		HS	2
		HS	5
		HS	4
2080	Y1, 2, 3 & YB2, 3, 4 Y1 Y2 Y3	LS	2
		HS	2
		HS	5
		HS	4
2090	Y1, 2, 3 & YB2, 3, 4 Y1 Y2 Y3	LS	2
		HS	2
		HS	2
		HS	3
2100	Y1, 2, 3 & YB2, 3, 4 Y1 Y2 Y3	LS	2
		HS	2
		HS	2
		HS	3
2110	Y1, 2, 3 & YB2, 3, 4 Y1, 2 Y3	LS	2
		HS	2
		HS	3
2120	Y1, 2, 3 & YB2, 3, 4 Y1, 2 Y3	LS	2
		HS	2
		HS	3
2130	Y1, 2, 3 & YB2, 3, 4 Y1, 2 Y3	LS	2
		HS	2
		HS	3
2140	Y1, 2, 3 & YB2, 3 Y2 Y3	LS	2
		HS	2
		HS	3
2150	Y2, 3 & YB2, 3 Y2 Y3	LS	2
		HS	2
		HS	3
2160	Y2, 3 & YB2, 3 Y2 Y3	LS	2
		HS	2
		HS	3
2170	Y2, 3 & YB2, 3 Y2, 3	LS	2
		HS	2
2180	Y2, 3 & YB2, 3 Y2, 3	LS	2
		HS	2
2190	Y2, 3 & YB2, 3 Y2, 3	LS	2
		HS	2

**TABLE 3 — Figure 2, Type Y & YB Drainback Dimensions**

DRIVE SIZE	Reduction	Dimensions - Inches									
		Shaft	A	B	C	D	E	F	G	H	J (NPT)
2050	Y1, 2, 3 & YB2, 3, 4 Y2	LS	0.50	0.375	2.50	3.12	0.332	0.75	5.00	0.332	1/8-27
		HS	0.50	0.375	2.88	2.00	0.250	0.75	4.25	0.332	1/8-27
2060	Y1, 2, 3 & YB2, 3, 4 Y2	LS	0.50	0.375	2.12	3.75	0.332	0.75	5.00	0.332	1/8-27
		HS	0.50	0.375	2.88	2.00	0.250	0.75	4.25	0.332	1/8-27
2070	Y1, 2, 3 & YB2, 3, 4 Y1	LS	0.50	0.375	2.88	3.75	0.332	0.75	5.75	0.332	1/8-27
		HS	0.50	0.375	3.25	2.88	0.332	0.75	5.50	0.332	1/8-27
2080	Y1, 2, 3 & YB2, 3, 4 Y1	LS	0.50	0.375	2.50	4.25	0.332	0.75	6.00	0.332	1/8-27
		HS	0.50	0.375	2.50	3.12	0.332	0.75	5.00	0.332	1/8-27
2090	Y1, 2, 3 & YB2, 3, 4 Y1 Y2	LS	0.50	0.375	3.00	4.75	0.332	0.75	6.50	0.332	1/8-27
		HS	0.50	0.375	2.50	3.12	0.332	0.75	5.00	0.332	1/8-27
		HS	0.50	0.375	3.25	2.88	0.332	0.75	5.50	0.332	1/8-27
2100	Y1, 2, 3 & YB2, 3, 4 Y1 Y2	LS	0.50	0.375	3.12	5.25	0.332	0.75	7.50	0.332	1/8-27
		HS	0.50	0.375	3.12	3.75	0.332	0.75	6.00	0.332	1/8-27
		HS	0.50	0.375	3.25	2.88	0.332	0.75	5.50	0.332	1/8-27
2110	Y1, 2, 3 & YB2, 3, 4 YT1, 2, 3 & YBT2, 3, 4 Y1 Y2	LS	0.50	0.375	4.25	6.38	0.332	0.75	8.00	0.332	1/8-27
		LS	0.50	0.375	4.75	6.38	0.332	1.00	8.00	0.332	1/8-27
		HS	0.50	0.375	3.50	4.25	0.332	0.75	7.00	0.332	1/8-27
		HS	0.50	0.375	2.98	3.12	0.332	0.75	5.48	0.332	1/8-27
2120 2125	Y1, 2, 3 & YB2, 3, 4 YT1, 2, 3 & YBT2, 3, 4 Y1 Y2	LS	0.50	0.375	3.75	5.75	0.332	0.75	8.50	0.332	1/8-27
		LS	0.50	0.375	2.50	7.00	0.332	0.75	8.50	0.332	1/8-27
		HS	0.50	0.375	3.50	4.25	0.332	0.75	7.00	0.332	1/8-27
		HS	0.50	0.375	3.12	3.75	0.332	0.75	6.00	0.332	1/8-27
2130 2135	Y1, 2, 3 & YB2, 3, 4 YT1, 2, 3 & YBT2, 3, 4 Y1 Y2	LS	0.44	0.312	4.18	7.00	0.332	0.75	9.50	0.332	1/8-27
		LS	0.44	0.312	3.62	7.00	0.332	0.75	9.50	0.332	1/8-27
		HS	0.50	0.375	4.62	4.75	0.332	0.75	8.50	0.332	1/8-27
		HS	0.50	0.375	3.12	3.75	0.332	0.75	6.00	0.332	1/8-27
2140 2145	Y & YT1, 2, 3 & YB & YBT2, 3 Y & YT2	LS	0.75	0.562	2.75	7.50	0.438	1.12	9.00	0.438	1/4-18
		HS	0.75	0.375	3.50	4.25	0.332	1.00	7.00	0.332	1/8-27
2150 2155	Y & YT1, 2, 3 & YB & YBT2, 3 Y & YT2	LS	0.75	0.562	2.75	8.00	0.438	1.12	9.50	0.438	1/4-18
		HS	0.50	0.375	3.50	4.75	0.332	0.75	7.50	0.332	1/8-27
2160 2165	Y & YT1, 2, 3 & YB & YBT2, 3 Y & YT2	LS	0.75	0.562	2.75	8.62	0.438	1.12	10.25	0.438	1/4-18
		HS	0.75	0.375	4.25	5.25	0.332	1.00	9.00	0.332	1/8-27
2170 2175	Y2, 3 & YB2, 3 YT2, 3 & YBT2, 3 Y2 Y3	LS	0.75	0.562	3.75	9.50	0.438	1.12	11.25	0.438	1/4-18
		LS	0.75	0.562	2.88	9.50	0.438	1.12	11.25	0.438	1/4-18
		HS	0.75	0.375	3.00	5.75	0.332	1.00	7.88	0.332	1/8-27
		HS	0.75	0.375	4.94	3.75	0.332	1.00	7.88	0.332	...
2180 2185	Y2, 3 & YB2, 3 YT2, 3 & YBT2, 3 Y2 Y3	LS	0.75	0.562	3.75	10.38	0.438	1.12	12.00	0.438	1/4-18
		LS	0.75	0.562	2.88	10.38	0.438	1.12	12.00	0.438	1/4-18
		HS	0.75	0.562	4.88	6.38	0.438	1.12	10.00	0.438	1/4-18
		HS	0.75	0.375	4.88	3.75	0.332	1.00	7.75	0.332	1/8-27
2190 2195	Y2, 3 & YB2, 3 YT2, 3 & YBT2, 3 Y2 Y3	LS	0.75	0.562	3.75	10.75	0.438	1.12	12.50	0.438	1/4-18
		LS	0.75	0.562	2.88	10.75	0.438	1.12	12.50	0.438	1/4-18
		HS	0.75	0.562	5.50	7.00	0.438	1.12	11.00	0.438	1/4-18
		HS	0.50	0.375	4.50	4.75	0.332	0.75	8.50	0.332	1/8-27

TABLE 4 — Figure 2, Types YF & YFT Drainback Dimensions

DRIVE SIZE	Shaft	Ratio Range	Dimensions - Inches								
			A	B	C	D	E	F	G	H	J (NPT)
1080	LS	All	0.50	0.375	2.50	4.25	0.332	0.75	6.00	0.332	1/8-27
	HS	1.84 thru 4.57	0.50	0.375	2.88	3.75	0.332	0.75	6.00	0.332	1/8-27
	HS	5.06 thru 7.59	0.50	0.375	2.50	3.12	0.332	0.75	5.00	0.332	1/8-27
1090	LS	All	0.50	0.375	3.00	4.75	0.332	0.75	6.50	0.332	1/8-27
	HS	1.84 thru 5.06	0.50	0.375	3.88	3.75	0.332	0.75	7.00	0.332	1/8-27
	HS	5.60 thru 7.59	0.50	0.375	2.50	3.12	0.332	0.75	5.00	0.332	1/8-27
1100	LS	All	0.50	0.375	3.12	5.25	0.332	0.75	7.50	0.332	1/8-27
	HS	1.84 thru 2.76	0.50	0.375	3.75	3.91	0.332	0.75	7.00	0.332	1/8-27
	HS	3.05 thru 7.59	0.50	0.375	4.00	3.75	0.332	0.75	7.00	0.332	1/8-27
1110	LS	All	0.50	0.375	4.25*	6.38	0.332	0.75*	8.00	0.332	1/8-27
	HS	1.84 thru 2.76	0.50	0.375	3.25	4.25	0.332	0.75	7.00	0.332	1/8-27
	HS	3.05 thru 7.59	0.50	0.375	3.50	4.25	0.332	0.75	7.00	0.332	1/8-27
1120	LS	All	0.50	0.375	3.75†	5.75†	0.332	0.75	8.50	0.332	1/8-27
	HS	1.84 thru 2.76	0.50	0.375	3.25	4.25	0.332	0.75	7.00	0.332	1/8-27
	HS	3.05 thru 7.59	0.50	0.375	3.50	4.25	0.332	0.75	7.00	0.332	1/8-27
1130	LS	All	0.44	0.312	4.18‡	7.00	0.332	0.75	9.50	0.332	1/8-27
	HS	All	0.50	0.375	4.00	4.75	0.332	0.75	8.00	0.332	1/8-27
1140	LS	All	0.75	0.562	2.75	7.50	0.438	1.12	9.00	0.438	1/4-18
	HS	All	0.50	0.375	3.38	5.75	0.332	0.75	8.00	0.332	1/8-27
1150	LS	All	0.75	0.562	2.75	8.00	0.438	1.12	9.50	0.438	1/4-18
	HS	All	0.50	0.375	3.75	6.38	0.332	0.75	9.00	0.332	1/8-27
1160	LS	All	0.75	0.562	2.75	8.62	0.438	1.12	10.25	0.438	1/4-18
	HS	All	0.50	0.375	3.88	7.00	0.332	0.75	9.50	0.332	1/8-18
1170	LS	All	0.75	0.562	3.75•	9.50	0.438	1.12	11.25	0.438	1/4-18
	HS	All	0.50	0.375	3.50	7.00	0.332	0.75	9.50	0.332	1/8-18
1180	LS	All	0.75	0.562	3.75•	10.38	0.438	1.12	12.00	0.438	1/4-18
	HS	All	0.75	0.562	3.62	7.50	0.438	1.12	10.00	0.438	1/8-18
1190	LS	All	0.75	0.562	3.75•	10.75	0.438	1.12	12.50	0.438	1/4-18
	HS	All	0.75	0.562	4.25	8.00	0.438	1.12	11.00	0.438	1/4-18

• For Size 1110YFT Dimension C is 4.75" and F is 1.00"  
 † For Size 1120/25YFT Dimension C is 2.50" and D is 7.00"  
 ‡ For Size 1130/35 YFT Dimension C is 3.62"  
 • For Type YFT, Dimension C is 2.88"

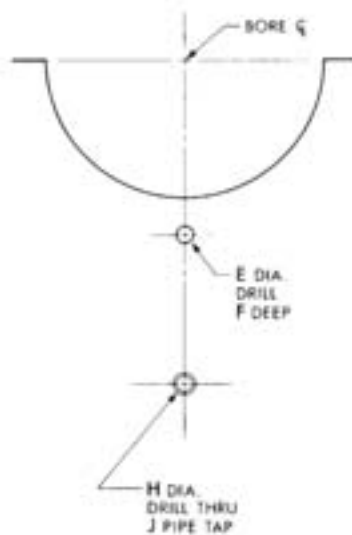


Figure 2

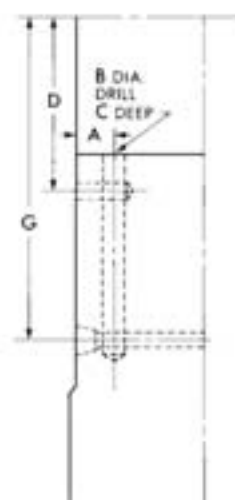
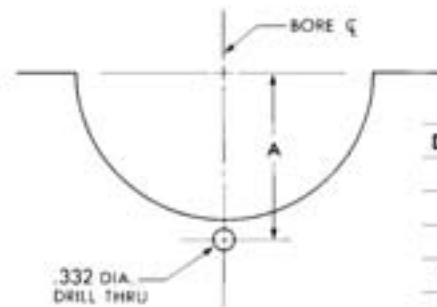


Figure 3



DRIVE SIZE	A
2090	2.88
2100	2.88
2110	3.12
2120/25	3.75
2130/35	3.75
2140/45	4.25
2150/55	4.75
2160/65	5.25

Figure 4

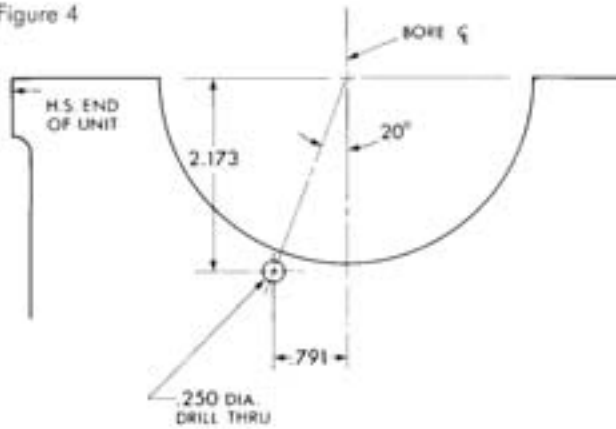


Figure 6

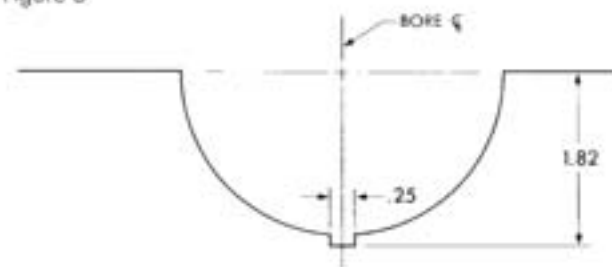


Figure 5

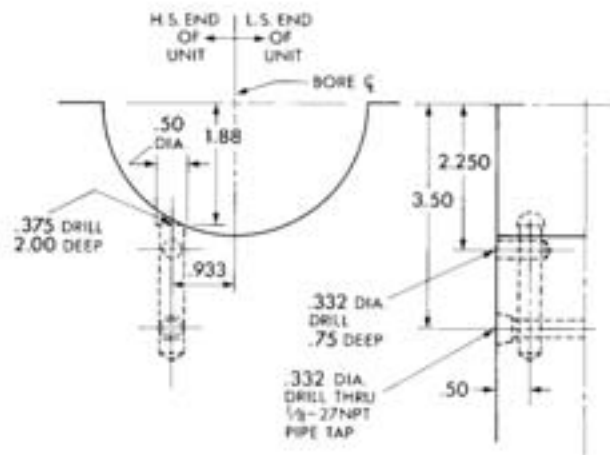


Figure 7

