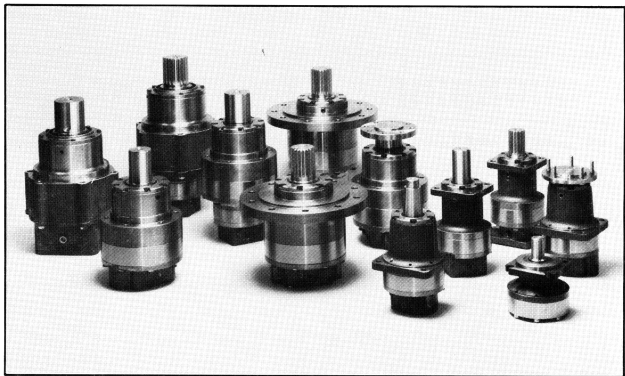


MODEL 50D

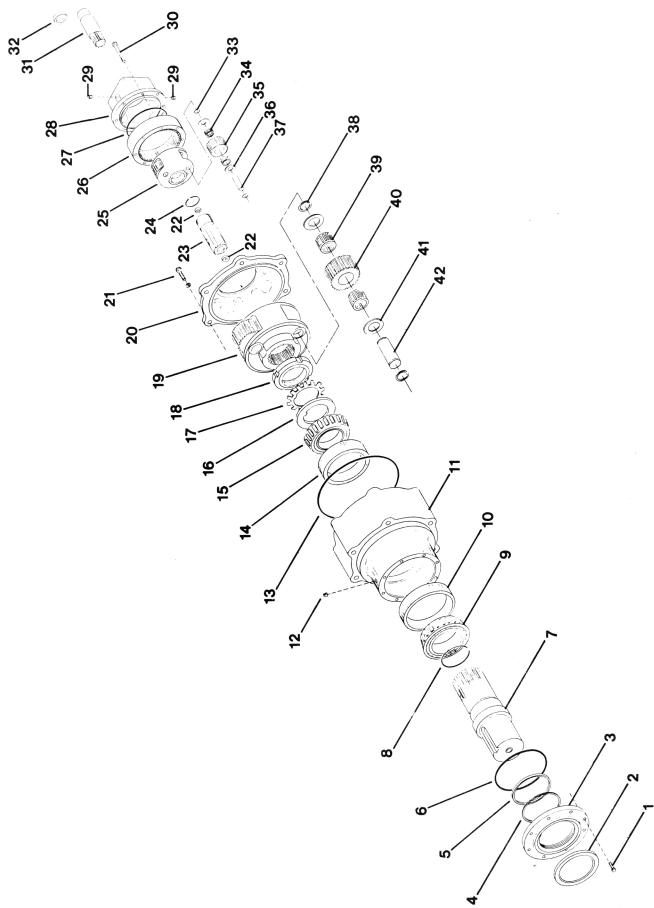
PARTS AND LUBRICATION INFORMATION



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ITEM #	PART #	DESCRIPTION	QTY/ASSY	ITEM #	PART #	DESCRIPTION	QTY/ASSY
1.	50116	Cap Screw	8	32.	15116	Bushing (Char-Lynn Bearingless Only)	1
* 2.	50111	Shaft Seal	1		20113	2000 Char-Lynn Bearingless	
3.	50010	Seal Carrier	1	33.	15107	4000 Char-Lynn Bearingless	6
* 4.	50110	Backup Ring	1	34.	15115	Retaining Ring	6
* 5.	50109	Quad Ring	1	35.	15006	Planet Bearing	3
* 6.	50108	O Ring	1	36.	15112	Planet Gear	6
7.		Output Shaft	1	37.	15008	Thrust Washer	3
	50007	3.875 Straight Keyed		38.	50112	Planet Pin	3
	50026	20T 6-12 Spline		39.	50119	Retaining Ring	3
8.	50017	Retaining Ring	1	40.	50002	Planet Bearing	6
9.	50101	Cone	1	41.	50118	Planet Gear	3
10.	50102	Cup	1	42.	50004	Thrust Washer	6
11.	50020	Housing	1		50950	Planet Pin	3
12.	15129	Pipe Plug	1		50960	Seal Kit — BUNA	
* 13.	50107	O Ring	1			Seal Kit — VITON	
14.	50103	Cup	1			Seal Kits include	
15.	50104	Cone	1			items indicated by *	
16.	50123	Keyed Washer	1				
17.	50122	Lockwasher	1				
18.	50121	Locknut	1				
19.	50006	Planet Carrier	1				
20.	50015	Transition Plate	1				
21.	15169	Bolt	6				
22.	150152	Thrust Washer	1				
23.	50016	Intermediate Gear	1				
24.	15011	Retaining Ring	1				
25.	15004	Planet Carrier	1				
26.	15003	Internal Gear	1				
* 27.	15102	O Ring	2				
28.		Motor Adapter	1				
	15205	SAE A 2-Bolt					
	15064	SAE B 2-Bolt					
	15018	SAE B 4-Bolt					
	15209	SAE C 2 & 4-Bolt					
	150901	Ross MAB & MAE A 4-Bolt					
29.	15129	Pipe Plug	2				
30.	15110	Bolt	8				
31.		Sun Gear Kit (Input Shaft Adapter)	1				
	16B	3/8"-13T 16/32 Spline					
	16C	1"-15T 16/32 Spline					
	16D	1" Straight Key					
	16E	2000 Char-Lynn Bearingless					
	16F	4000 Char-Lynn Bearingless					
	16H	1 1/2" Straight Key					
	16I	1 1/2"-14T 12/24 Spline					
	16M	1"-SAE 6B Spline					



LUBRICATION INSTRUCTIONS

HECO planetary speed reducers may be lubricated as a self-contained unit (standard hydraulic motor), or as an integral part of the hydraulic system (bearingless motor).

In applications where the speed reducer is lubricated as a self-contained, horizontal unit, it is recommended that the unit be half-filled with EP ⁽¹⁾ oil (see chart for amount and proper grade gear oil). Self-contained, vertical installations (output shaft down) require the unit to be filled to the center line of the upper planetary gear train. For self-contained vertical installations (output shaft up) consult HECO. When installed as a self-contained unit, ensure adequate ventilation is provided to allow for lubricant expansion.

The oil should be changed after the first 50 hours and 100 hours of operation, and every 1000 hours thereafter. Oil should be drained while the unit is at operating temperature. The unit should be cleaned with flushing oil (use of solvents should be avoided). NOTE: The importance of a thorough gear case cleaning with flushing oil during the first lubricant change cannot be overemphasized. If the maximum oil operating temperature is exceeded, change oil immediately.

In applications where the speed reducer is lubricated by oil flow from the bearingless hydraulic motor, a petroleum based hydraulic oil with EP⁽¹⁾ additives should be used. Ensure that a minimum oil flow of 2 GPM is maintained, a separate case

drain line should be connected directly from the top of the reducer (ensure the reducer remains full) to the oil reservoir.

For maximum cooling and lubrication the case drain should be connected to the drain port at the opposite end of the reducer from the hydraulic motor. Reducer case pressure must not exceed 20 PSI with the standard shaft seal or 50 PSI with the optionally available high pressure seal installed.

(1) Extreme Pressure Lubricants — These lubricants are petroleum base liquids with chemical additives, such as, sulfur phosphorous or similar materials or soluble compounds which produce a protective film to withstand high pressures.

	HORIZONTAL OPERATION (1/2 FULL)	TOTAL CAPACITY
Model 16	20 oz. (6 dl.)	40 oz. (12 dl.)
Model 20	50 oz. (15 dl.)	105 oz. (31 dl.)
Model 20D	50 oz. (15 dl.)	105 oz. (31 dl.)
Model 50	100 oz. (30 dl.)	200 oz. (60 dl.)
Model 50D	85 oz. (25 dl.)	170 oz. (50 dl.)
Model 52D	85 oz. (25 dl.)	170 oz. (50 dl.)
Model 52T	115 oz. (34 dl.)	230 oz. (68 dl.)

OIL GRADE — Single Reduction (RPM Out)

0-25 RPM — AGMA #5
25-100 RPM — AGMA #3
100-200 RPM — AGMA #1
200 + — Consult HECO

OIL GRADE — Double Reduction (RPM Out)

0-40 RPM — AGMA #5
40-60 RPM — AGMA #1
60 + — Consult HECO

MAXIMUM OIL TEMPERATURE

140°F (60°C) continuous
170°F (76°C) intermittent
Consult HECO for higher temperatures