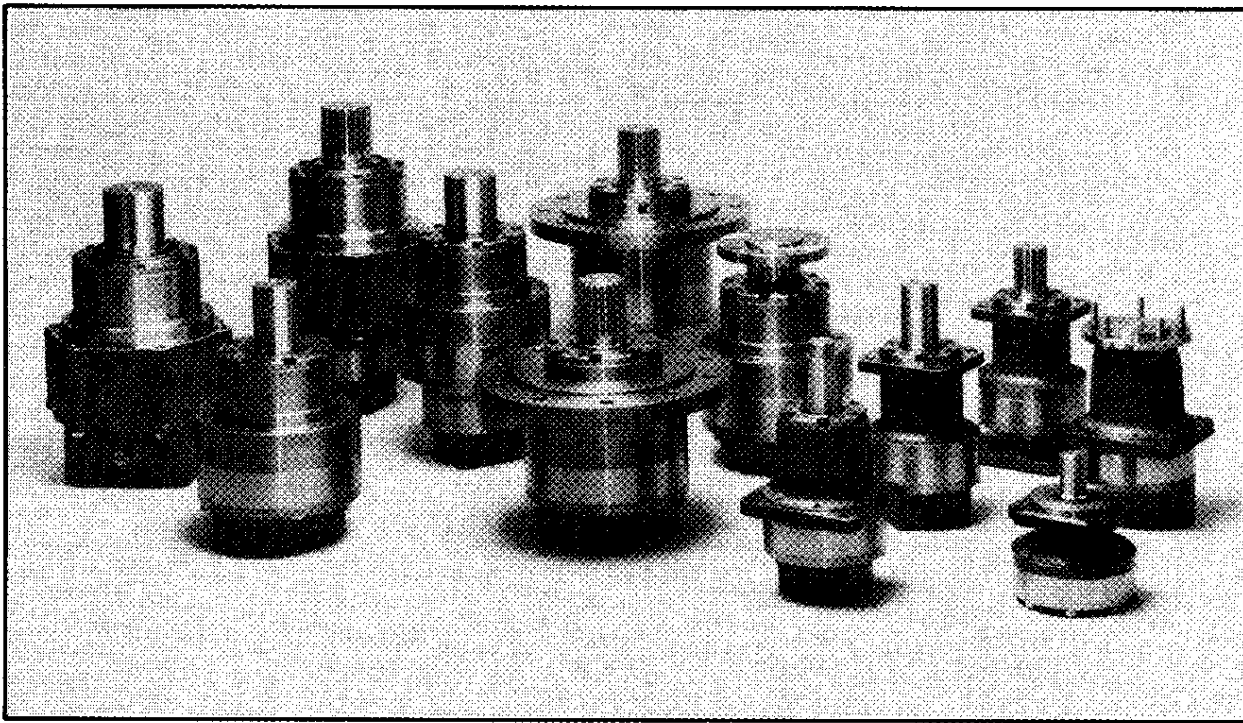


# MODEL 20

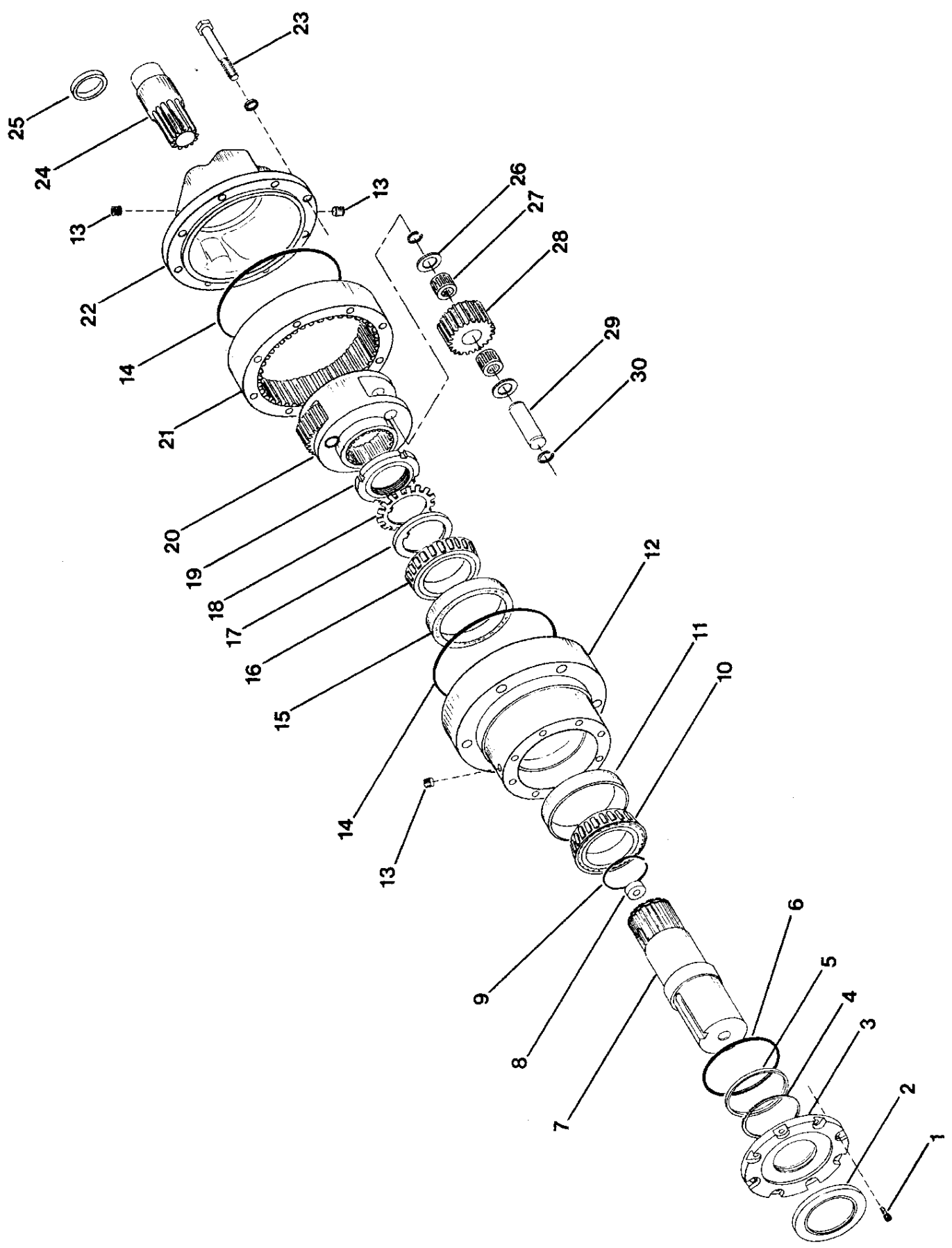
## PARTS AND LUBRICATION INFORMATION



P.O. Box 835  
West Sacramento, CA 95691  
(916) 372-5411  
Fax: (916) 373-0952  
[www.heco-inc.com](http://www.heco-inc.com)

MODEL 20

ITEM #	PART #	DESCRIPTION	QTY/ASSY	ITEM #	PART #	DESCRIPTION	QTY/ASSY
1.	15111	Cap Screw	8	29.	20010	Planet Pin	3
* 2.	20150	Shaft Seal	1	30.	20105	Retaining Ring	6
3.	20023	Seal Carrier --- 1 design	1		20932	Seal Kit --- BUINA	
* 4.	20064	Seal Carrier --- 2 design	1		20933	Seal Kit --- VITON	
* 5.	20119	Backup Ring	1		20935	Seal Kit --- H-P	
* 6.	20117	Quad Ring	1			Seal Kits include	
7.	20116	O Ring	1			items indicated by*	
		Output Shaft	1				
	20044	2.750" Straight Keyed					
	20021	3.375" Straight Keyed					
	20057	23T 8/16 Spline					
	20053	8-Hole Flange					
8.	150152	Thrust Washer	1				
9.	20011	Retaining Ring	1				
10.	20156	Cone	2				
11.	20155	Cup	2				
12.	20020	Housing	1				
13.	20110	Pipe Plug	3				
* 14.	20101	O Ring	2				
15.	20112	Cup	2				
16.	20121	Cone	2				
17.	20128	Keyed Washer	1				
18.	20106	Lock Washer	1				
19.	20107	Lock Nut	1				
20.	20005	Planet Carrier	1				
21.		Internal Gear	1				
	20019	6:1					
	20004	4.8:1					
22.		Motor Adapter	1				
	20024	SAE C 2 & 4-Bolt					
	200701	Ross MAB & MAE					
23.	20109	Bolt	8				
24.		Sun Gear	1				
	20F	6:1 4000 Char-Lynn Bearingless					
	20G	6:1 6000 Char-Lynn Bearingless					
	206	6:1 14T 12/24 Spline					
	204	4.8:1 14T 12/24 Spline					
25.	20113	Bushing (Char-Lynn Bearingless Only)	1				
26.	20115	Thrust Washer	6				
27.	20111	Planet Bearing	6				
28.		Planet Gear	3				
	20008	4.8:1					
	20018	6:1					



# LUBRICATION INSTRUCTIONS

HÉCO 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 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 HÉCO. 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, ensure that a minimum oil flow of 2GPM 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 15 PSI with the standard shaft seal or 50 PSI with the optionally available high pressure seal installed.

Consult HÉCO for applications involving Char-Lynn 006 design 2000 series bearingless motors, or for additional information.

## CAPACITY:

Model:	Horizontal Operation (½ Full):	Total (Capacity):
M-16	20 oz.	40 oz.
M-20	50 oz.	105 oz.
M-20D	50 oz.	105 oz.
M-50	100 oz.	200 oz.
M-50D	85 oz.	170 oz.
M-52D	85 oz.	170 oz.

## OIL GRADE:

### Single Reduction (RPM Out):

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

### Double Reduction (RPM Out):

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

## MAXIMUM OIL TEMPERATURE:

140° F Continuous  
170° F Intermittent  
For higher temperatures, consult HÉCO

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