

Lubrication and Handling

We introduce the adequate lubricant for good performance and long life.

1. Grease Lubricant

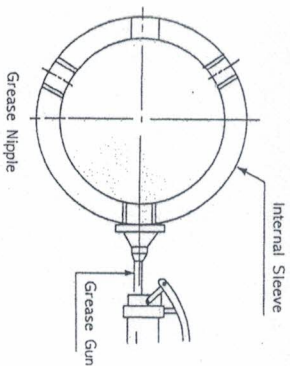
- (1) Grease the flanged sleeve and the crown gear tooth, and fill enough after assembly.
- (2) Lube weight, refer to "Dimensions" section.
- (3) Supplement and Replacement

Add grease every month or every 240-250 hours operating.

Replace all the deteriorated grease every 3 mounts or every 4,000 hours operating.

(4) Selection

The temperature operating range of grease is from -17°C to 70°C Refer to the table 6 that shown the coupling RPM allowed for the listed grease.



Tables

Oil	Grease # 1	Grease # 0
Gulf Oil Corp.	Gulfcrown Grease EP#1	Gulfcrown Grease EP # 0
Shell Oil Corp.	Alvania Grease EP#1	Alvania Grease EP - RO
Texaco Inc.	Multifrak EP-1	Multifrak EP - O
Mobil Oil Corp.	Mobilux EP-1	Mobilux EP - O

NOTE : Lubricants listed in this manual are typical products and should not be construed as exclusive recommendations.

Table6

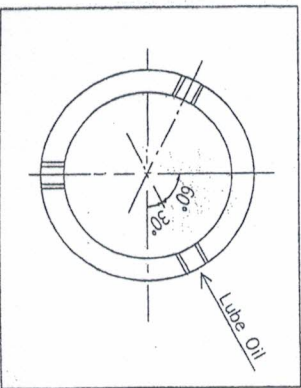
Coupling Size	Gear Coupling rpm														
	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
Max.	7000	6000	5000	4750	4400	3900	3600	3200	2900	2650	2450	2150	1750	1550	1450
Min.	1030	700	550	460	380	330	290	250	230	210	190	160	140	120	110

Refer to # 0 of table 5 when is below Min. rpm.

2. Oil Lubricant

- (1) Packing with oil holes on the internal gear with 2 holes horizontal level.

Fill up oil until it overflows from the opposite oil hole.



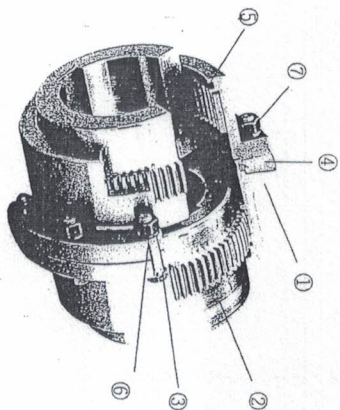
- (2) Supplement and Replacement.

Every month, or 240-250 hours operating. Replace completely all the deteriorated oil, every 3 months or every 4,000 hours operating.

Please see "Selection of oil" in table 7

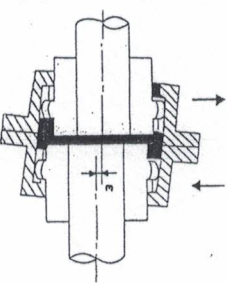
GEAR COUPLING

Characteristic

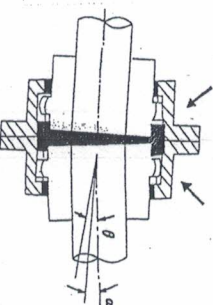


1. High torque, small size, long life and very little loss of transmitting power.
2. The concave-convex flange design help a easy assembly, and the high quality gasket prevent leakage of lubricant.
3. Gear Coupling permits parallel, angular and end floating misalignments by its crown gear tooth.

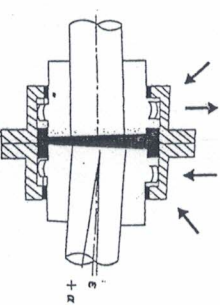
1. Flanged Sleeve
2. Crown Gear Hub
3. Reamer Bolt
4. Gasket
5. O - ring Seals
6. Spring Washer
7. Hex. Nut.



Parallel Misalignment
The driving and driven shafts are parallel to each other, but not on the same straight line.



Angular Misalignment
The driving and driven shafts installed with a limited angle.



End Floating
The driving and driven shafts slide slightly along the gear teeth.

Composite Misalignment
Most of cases, above 3 misalignments appear mixed in an application.

Allowable Misalignment

Size	10G	15G	20G	25G	30G	35G	40G	45G	50G	55G	60G	70G	80G	90G	100G	110G	120G
S	1.2	1.3	1.7	2.1	2.4	2.9	3.2	3.6	4.1	4.5	5.0	5.9	6.7	7.4	8.2	12.7	12.7
E(mm)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	2(1)	2(1)	2(1)	2(1)
θ° (α)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	2(1)	2(1)	2(1)	2(1)

Table 1

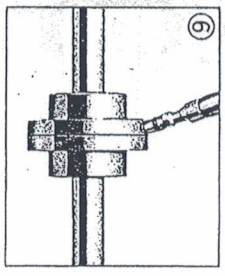
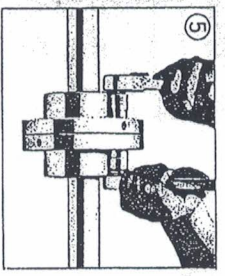
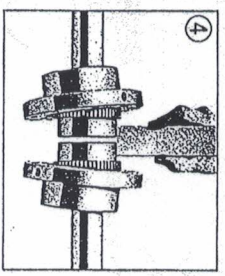
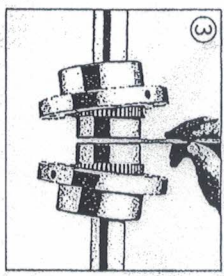
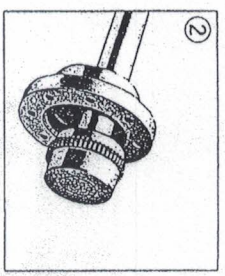
Data subject to double engagement

Instruction for Installation

1. Small Size (up to size 60)

Hub boring and keyway must be machined accurately. During the key-fit to the shaft and the hub, be careful the oilleakage.

- (1) Clean all parts. Grease the crowned gear teeth and O-Ring. Put O - Ring onto the shafts.
- (2) Place the flanged sleeves on the shafts, and mount the hubs.
- (3) Using a spacer bar, make a gab between the hubs equal to the normal gab specified in this book.
- (4) Align the shaft with a strait bar, checking every 90 degree, referring to the table 3. Make it sure with a dial gauge to not exceed the offset limit.
- (5) Insert gasket between the flanged sleeves, and fasten the bolts, positioning the lube holes at 90°
- (6) Fill up the grease until overflowing at the opened opposite hole.



2. Large Size (over size 70)

Hub boring and keyway must be machined accurately. During the Key-Fit work, be careful the oil leakage.

- (1) Clean all parts, Pack sleeve teeth with grease and lightly coat seals with grease before assembly.
- (2) Place the side covers with sealing gaskets on the shafts before mounting the hubs. Mount hubs on their respective shafts. Then mount flanged sleeves with side cover gaskets.
- (3) Use a spacer bar for equal to the gap. The difference in minimum and maximum measurements should not exceed the angular limit specified in table 3.
- (4) Align with a straight edge rests squarely at every 90° as shown in photo. Check with feelers. The tolerance should not exceed the offset limit specified in table 3.
- (5) Insert gasket between flanges. Position flanged sleeves with lube holes at about 90° and then fasten flanged sleeves. Use only bolts finished with the coupling.
- (6) Remove all lube plugs and put recommended grease into the coupling until excess flows through an opened lube hole and then plug holes.

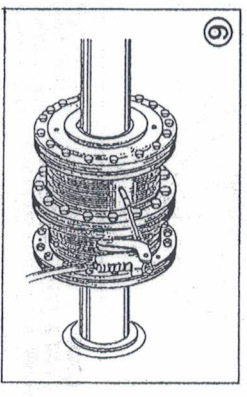
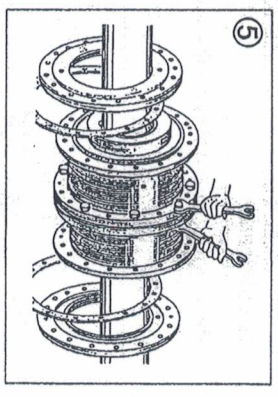
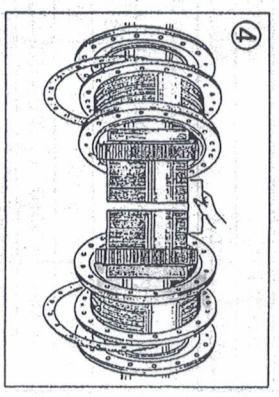
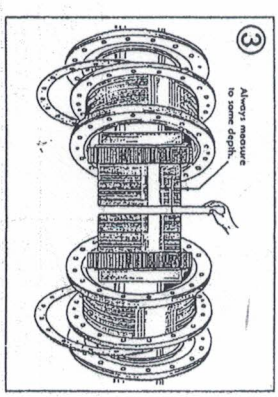
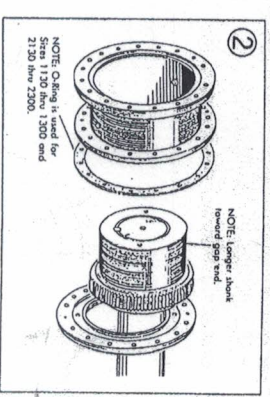


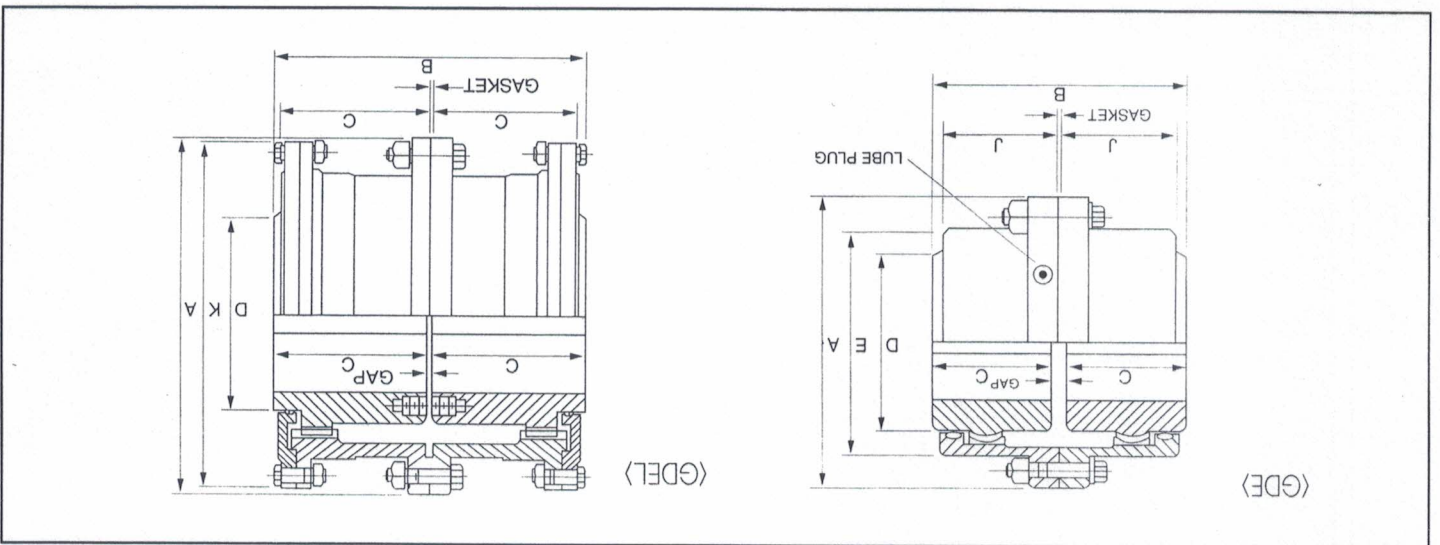
Table 3

Operating Alignment Limits	Size	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
Angular		0.125	0.125	0.25	0.25	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
GAP		3	3	3	4.5	4.5	6	6	8	8	8	8	8	9.5	10	13
Flange Bolt Torque (kg.cm)		96	320	480	960	960	1,650	1,650	1,650	2,070	2,070	2,070	2,980			

■ The life of coupling is reduced by excess of the OFFSET limit.

GEAR COUPLING

Type **GDE** (Double Engagement), **GDEL** (Double Engagement), **GDE** (Coupling), **GDEL** (Large Coupling)



<GDE>

Size	HP Per 100 rpm	Max Speed (rpm)	Basic Torque (kg.cm)	Bore Dia (mm)		A	B	C	D	E	J	Gap	Cplg Wt(kg)	Lube Wt (kg)	Size
				Max	Min										
10GDE	12	8,000	8,594	48	13	116	89	43	69	84	39	3	4.5	0.04	10GDE
15GDE	27	6,500	19,337	60	19	152	101	49	86	105	48	3	9.1	0.07	15GDE
20GDE	50	5,600	35,810	73	25	178	127	62	105	126	59	3	15.9	0.11	20GDE
25GDE	90	5,000	64,458	92	32	213	159	77	131	155	72	5	25.9	0.23	25GDE
30GDE	150	4,400	107,430	105	38	240	187	91	152	180	84	5	43.1	0.36	30GDE
35GDE	230	3,900	164,726	124	51	279	218	106	178	211	98	6	68.0	0.54	35GDE
40GDE	350	3,600	250,670	146	64	318	248	121	210	245	111	6	97.5	0.91	40GDE
45GDE	480	3,200	343,776	165	76	346	278	135	235	274	123	8	136.1	1.04	45GDE
50GDE	650	2,900	465,530	178	89	389	314	153	254	306	141	8	190.5	0.77	50GDE
55GDE	850	2,650	608,770	197	102	425	344	168	279	334	158	8	249.5	2.22	55GDE
60GDE	1,100	2,450	787,820	222	114	457	384	188	305	366	169	8	306.2	3.18	60GDE

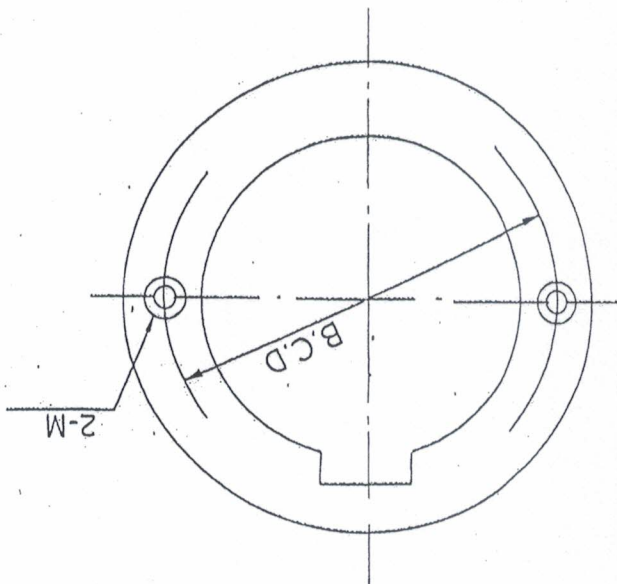
<GDEL>

Size	HP Per 100 rpm	Max Speed (rpm)	Basic Torque (kg.cm)	Bore Dia (mm)		A	B	C	D	DG	J	K	Gap	Cplg Wt(kg)	Lube Wt (kg)	Size
				Max	Min											
70GDEL	1,600	2,150	1,145,920	254	89	527	451.5	221	343	356	196	517	9.5	485.4	4.35	70GDEL
80GDEL	2,100	1,750	1,504,020	279	102	591	507.5	249	356	368	243	572	9.5	703.1	9.53	80GDEL
90GDEL	2,850	1,550	2,041,170	305	114	660	565	276	394	394	419	265	641	984.3	12.25	90GDEL
100GDEL	4,000	1,450	2,864,800	343	127	711	623	305	445	470	294	699	13	1302.0	14.97	100GDEL
110GDEL	5,500	1,330	3,939,100	387	140	775	679	333	495	521	322	749	13	1678.3	17.69	110GDEL
120GDEL	7,000	1,200	5,013,400	425	152	838	719	353	546	572	341	826	13	2113.8	20.87	120GDEL

Table 7

회社员명	品名	區分		Shell	Mobil	美孚石油	Gull	Fujikosan Nipponkoku	Houghton	한일유 出光	Caltex	
		40℃ cst	315									
320	1500	320	632	omala 320	Mobilgear	Buhmwo	Gull EP	Hirax ME GO 1500	MP Gear Oil 320	Nico Gear SP 320	Daphne CE compound 320S	Meropa Lubricant 320
150	700	150	630	omala 220	Mobilgear	Buhmwo	Gull EP	Hirax ME GO 1000	MP Gear Oil 220	Nico Gear SP 220	Daphne CE compound 220S	Meropa Lubricant 220
150	700	150	629	omala 150	Mobilgear	Buhmwo	Gull EP	Hirax ME GO 700	MP Gear Oil 150	Nico Gear SP 150	Daphne CE compound 150S	Meropa Lubricant 150, Synthetic Gear Lube
100	465	100	68	omala 68		Buhmwo	Gull EP	Hirax ME GO 500	MP Gear Oil 100	Nico Gear SP 100	Daphne CE compound 100S	Meropa Lubricant 100
88	40℃ cst	88	626	omala 68	Mobilgear	Buhmwo	Gull EP	Hirax ME GO 300	MP Gear Oil 68	Nico Gear SP 68	Daphne CE compound 68C	Meropa Lubricant 68

볼트 선정 (Selection of Puller Holes)



Size	BCD(mm)	Bolt Size
20G	89	M8
25G	112	M10
30G	128	M10
35G	152	M12
40G	181	M16
45G	200	M16
50G	216	M20
55G	238	M20
60G	268	M20
70G	305	M24
80G	318	M24
90G	356	M30
100G	394	M30
110G	426	M30
120G	498	M30

표 4

Table 4