



**Installation and Maintenance Manual
For CbN Series 2000
Gearmotors and Reducers**

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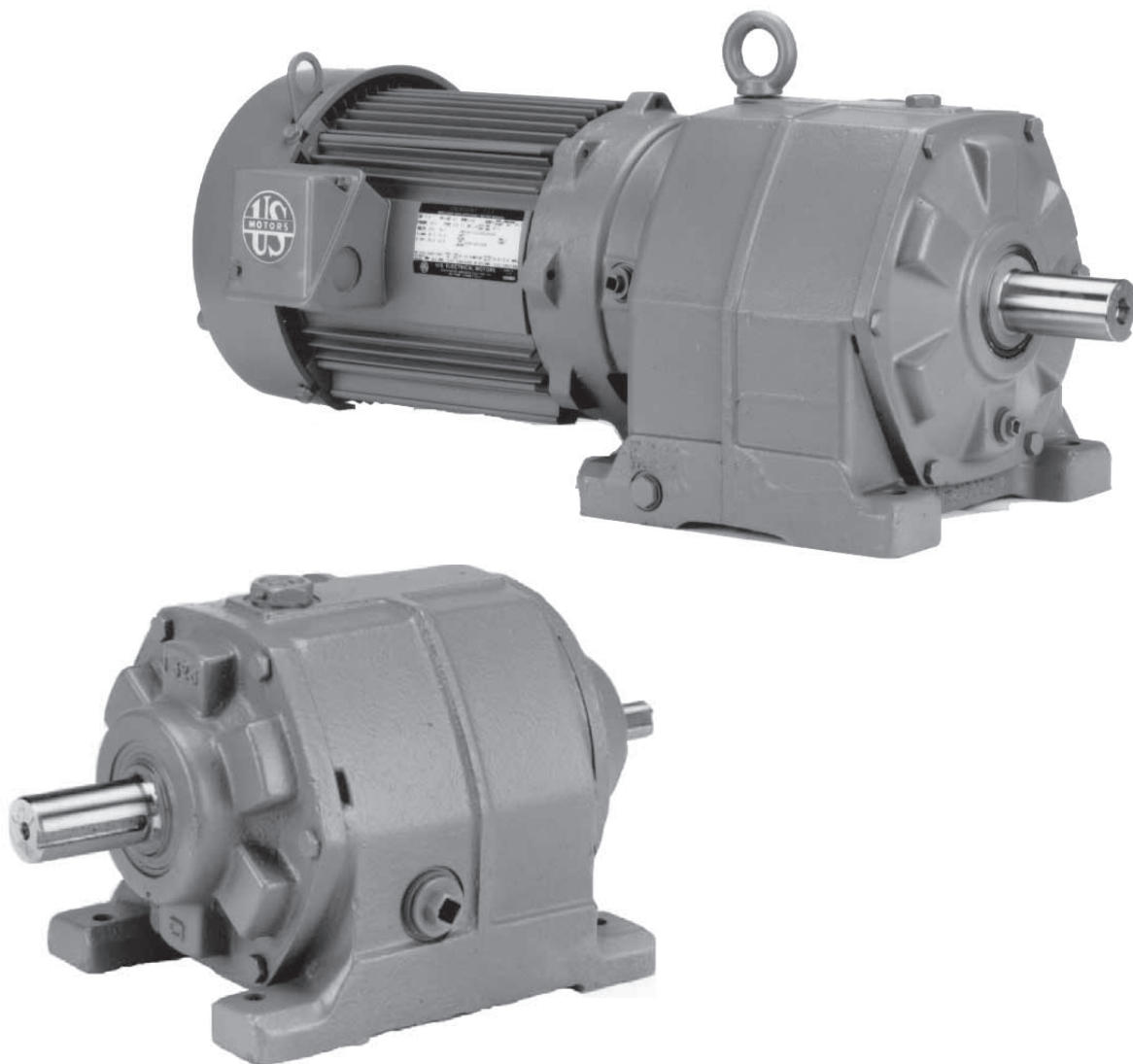
FORM
8610E
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⚠ WARNING

- Read and follow all instructions carefully.
- Disconnect and lock-out power before installation and maintenance.
Working on or near energized equipment can result in severe injury or death.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.

⚠ CAUTION

- Periodic inspections should be performed. Failure to perform proper maintenance can result in premature product failure and personal injury.



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EMERSON
Industrial Automation



CbN Series 2000

Gearmotors and Reducers

Thank you for choosing CbN gearing products. Each CbN **Series 2000** gearmotor or reducer is a high quality drive unit manufactured with the most modern materials, and is thoroughly tested prior to shipment. To ensure you obtain optimum life from the unit, read and follow these instructions.

Safety First

High voltage and rotating parts can cause serious or fatal injury. Safe installation, operation and maintenance must be performed by qualified personnel. Familiarization with and adherence to NEMA MG2, the National Electric Code and local codes is recommended. It is important to observe safety precautions to protect personnel from possible injury. Personnel should be instructed to:

1. Avoid contact with energized circuits or rotating parts.
2. Disconnect all power sources before initiating any maintenance or repair.
3. Act with care in accordance with prescribed procedures in handling and lifting this equipment.
4. Be sure unit is electrically grounded in accordance with code requirements.
5. Be sure equipment is properly enclosed to prevent access by children or other unauthorized personnel in order to prevent possible accidents.
6. Be sure shaft key is fully captive before unit is energized.
7. Avoid contact with capacitors until safe discharge procedures have been completed.
8. Most units are shipped with oil. Always be sure oil lubricated units are filled with correct oil to proper level before operating.
9. Provide proper safeguards for personnel against rotating parts and applications involving high inertia loads which can cause overspeed.
10. Avoid extended exposure to equipment with high noise levels.
11. Be familiar with the equipment and read all instructions thoroughly before installing or working on equipment.

Installation Instructions

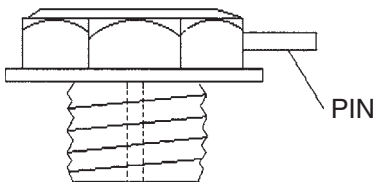
Start-Up

Before operating the reducer or gearmotor, the following must be done:

- Install the drive on a rigid and vibration-free surface.
- Remove the protective coating on the shaft and flange. Use solvent if necessary.
- Carefully install coupling, sheaves, sprockets, or pinions on shaft. Mount as close to the shaft shoulder as possible.
- It is preferable to use heat instead of force. **Do not hammer on shaft!**
- Check shaft alignment when using direct coupling.
- Check shaft parallelism when using belt or chain drive.

CAUTION: Refer to belt manufacturer's recommendation for belt tension.
(Tension should not be applied on chain drives.)

- Check oil level in oil lubricated reducer.
- Install breather plug in the plug hole per recommendations shown on page (8). **Remove pin from center of breather plug if breather design is per diagram below.**



- Reducer breathers not supplied with cross-pin do not get modified but must be properly positioned at the top of the reducer.
- For motor/coupling mounting of reducers with one piece splined coupling, refer to instruction included in this manual on page (4).

Maintenance

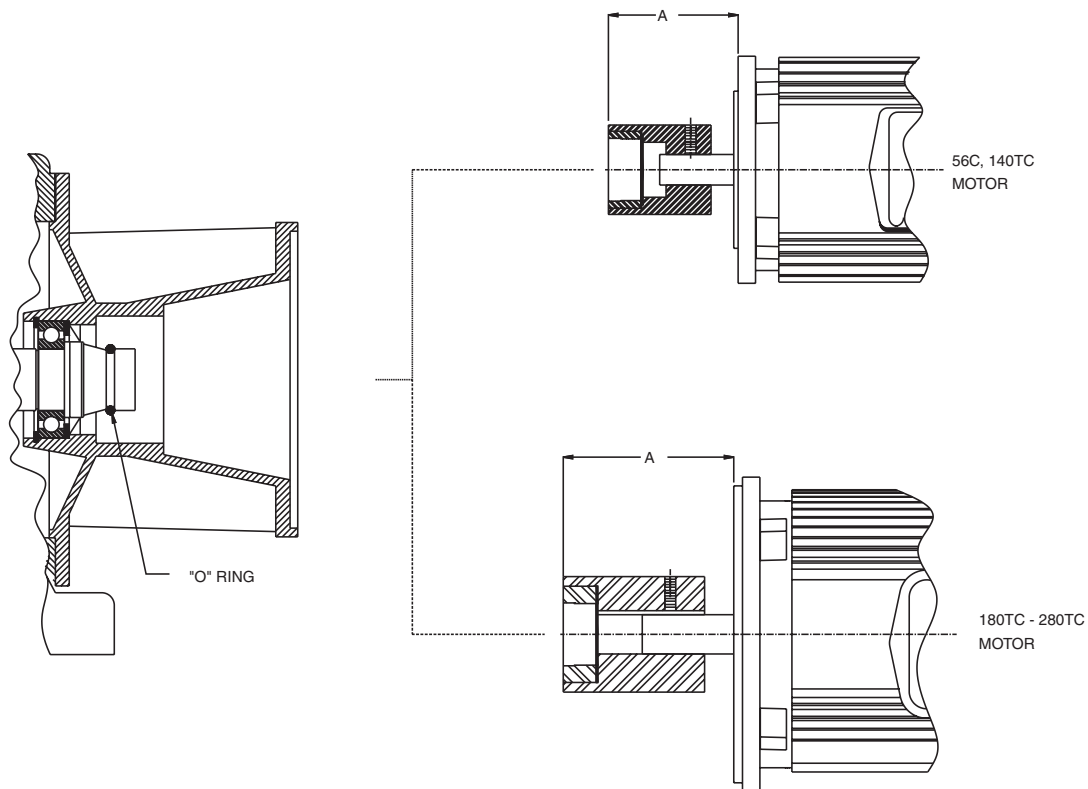
To ensure safe operation and to avoid problems, it is recommended the reducer or gearmotor be inspected **every 50 hours** of operating time.

- Check mounting bolts and belt tension (if applicable).

The preventative maintenance list below should be performed **every 5000 hours** of operating time:

- Check oil level and add oil if necessary.
- Make sure the vent hole in the breather is clean.

C-Face Assembly One-Piece Splined Coupling



Notes:

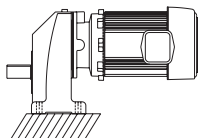
1. Install motor shaft key onto motor shaft.
2. Lubricate spline teeth of coupling and input shaft with Mobil® Grease XTC or equivalent coupling grease.
3. Install coupling onto motor shaft and set to the specified distance.
Refer to table below (dimension "A") for correct setting distances.
4. Apply thread locking compound to set screw and install. Tighten into coupling.
5. Assemble motor to gear reducer engaging splined coupling and bolt the motor to the c-face.

INPUT TYPE	REDUCER SIZE	MOTOR SIZE	A (INCHES)
	CbN		
UE	20, 21, 22	56C, 140TC	3.06
		180TC, 210TC	4.04
UE	23, 24	56C, 140TC	3.12
		180TC, 210TC	4.11
		250TC	4.75
		280TC	5.64
U	25	140TC	3.86
		180TC, 210TC	5.34
		250TC	5.34
		280TC	6.31

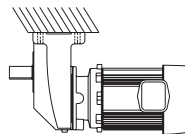
Mounting Positions Foot Mount (S)

Single Reduction

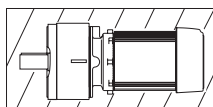
B3



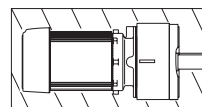
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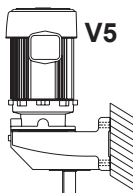
B6



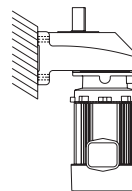
B7



V5

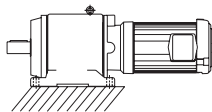


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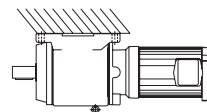


Multiple Reduction

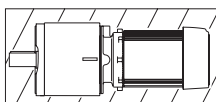
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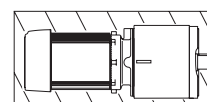
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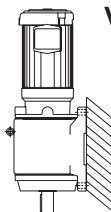
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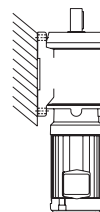
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V5

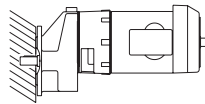


V6

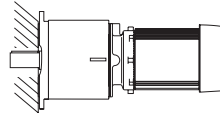


Flange Mount (BS)

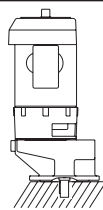
Single Reduction



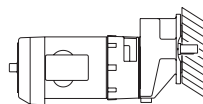
B5



B52



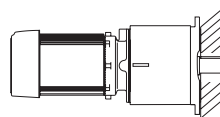
V1



B53

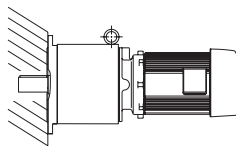


V3

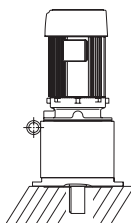


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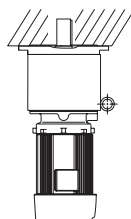
Multiple Reduction



B5



V1



V3



CbN Series 2000

Gearmotors and Reducers

Series 2000 CbN gearing is shipped with one of the following lubricants per the table below and fitted with a magnetic drain. Each reducer is filled according to the mounting position specified when ordered. Refer to unit nameplate and the chart on pages 5 and 6 for mounting position arrangement for your unit.

In the case of synthetic oil, the lubricant does not require changing but it is recommended that proper oil level be checked periodically.

Standard Synthetic Gear Oil

No Backstop	
Manufacturer	-25° F to 125° F (-30° C to 50° C)
Fuchs*	Sintogear* 125
Mobil*	SHC 629
Shell*	Omala* Fluids HD 150

With Backstop	
Manufacturer	-25° F to 125° F (-30° C to 50° C)
Shell*	Omala* RL 100

CAUTION: Never mix synthetic oil and mineral oil.

Never use lubricants with extreme pressure (EP) additives in a HWN Gearmotor or Reducer.

Acceptable Mineral Oil Lubricants

Ambient Range of Installation					
-4°F to 14°F (-20°C to 10°C)	14°F to 122°F (-10°C to 50°C)				122°F and Above (50°C +)
	No Backstop			With Backstop	
ISO VG 68	ISO VG 100	ISO VG 150	ISO VG 220	ISO VG 150	ISO VG 320

Oil Capacities (U.S. Quarts)

Mounting Positions

Gear Frame	B3	B5	B6	B7	B8	B52	B53	B54	V1(BS)	V3	V5	V6
2101	0.25	0.18	0.43	0.43	0.66	0.21	0.42	0.21	0.34	0.26	0.55	0.57
2201	0.33	0.26	0.52	0.52	0.79	0.32	0.53	0.32	0.49	0.36	0.63	0.74
2301	0.95	0.85	1.48	1.48	2.01	1.16	1.69	1.16	1.69	2.22	2.22	2.22
2401	0.63	1.06	1.59	1.59	2.64	1.69	2.64	1.69	2.43	2.96	2.22	2.22
2501	1.16	1.06	3.49	3.49	5.18	2.32	3.59	2.32	2.64	3.59	4.65	5.49
2002	0.23	0.42	0.41	0.41	0.62	—	—	—	0.42	0.74	0.52	0.63
2102	0.49	0.34	0.87	0.83	1.24	—	—	—	1.22	1.26	1.32	1.11
2202	0.57	0.62	1.39	1.34	2.19	—	—	—	2.10	1.95	2.35	1.54
2302	1.60	1.69	3.04	2.88	4.46	—	—	—	4.65	4.65	4.70	4.79
2402	2.10	2.64	5.09	4.76	7.52	—	—	—	8.03	7.82	8.35	8.03
2502	3.70	4.44	8.88	8.03	13.1	—	—	—	13.2	14.3	13.9	14.8
2602	6.55	6.34	16.8	15.9	25.9	—	—	—	21.5	21.1	25.4	27.9
2702	8.77	8.45	23.6	22.9	37.3	—	—	—	31.0	27.3	36.2	39.2
2802	16.2	15.4	47.6	44.9	74.0	—	—	—	60.2	56.0	78.2	71.9
2902	19.0	—	74.0	69.7	123	—	—	—	—	—	126	110
2103	0.46	0.32	0.87	0.85	1.24	—	—	—	1.24	1.27	1.32	1.07
2203	0.56	0.55	1.34	1.33	2.20	—	—	—	2.06	1.87	2.24	1.50
2303	1.51	1.48	3.02	2.81	4.34	—	—	—	4.54	4.44	4.61	4.66
2403	1.90	2.32	4.81	4.63	7.52	—	—	—	7.71	7.61	8.03	7.82
2503	3.28	4.23	8.35	8.03	13.0	—	—	—	13.1	14.4	13.6	14.1
2603	5.92	5.71	15.9	16.0	25.7	—	—	—	21.3	21.3	27.1	28.4
2703	7.93	7.61	22.2	23.0	37.0	—	—	—	31.4	27.5	38.7	39.9
2803	14.6	13.9	44.9	45.2	72.9	—	—	—	52.8	56.0	83.5	72.9
2903	18.0	—	72.9	68.7	122	—	—	—	—	—	125	109

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CbN Series 2000 **Gearmotors and Reducers**

Positions of Plugs and Breathers - Reducer

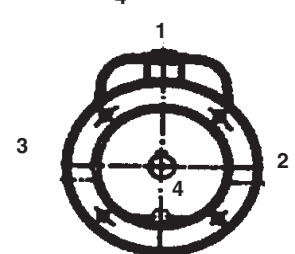
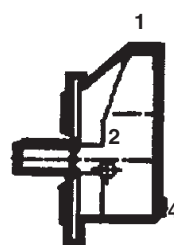
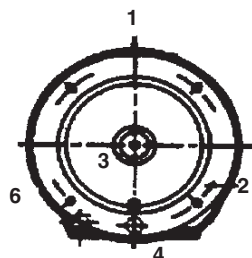
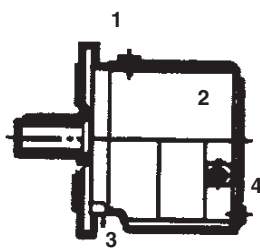
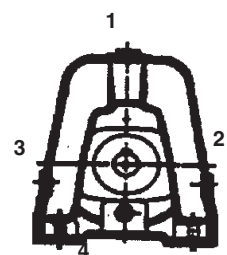
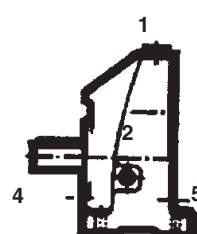
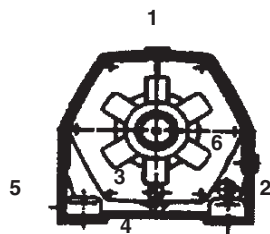
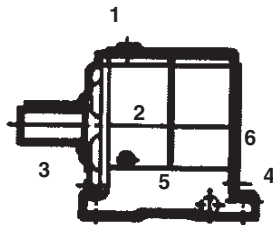
CBN: 20 - 21 - 22- 23				CbN: 24 - 25				CbN: 26 - 27 - 28 - 29				CbN: BS				CbN: 21 - - 25			
Position	F/B	L	D	Position	F/B	L	D	Position	F/B	L	D	Position	F/B	L	D	Position	F/B	L	D
2 & 3 Stages				2 & 3 Stages				2 & 3 Stages				2 & 3 Stages				1 Stage			
B3	1	2	5	B3	1	2	5	B3	1	2	5	B5	1	2	4(6)	B3	1	2-3	5
B6	5	1	2	B6	5	1	2	B6	5	1	2	V14(6)	2	1	B7	B6	3	4-1	2
B7	2	1	5	B7	2	1	5	B7	2	1	5	V31	1	4(6)	B8	2	4-1	3	
B8	5	2	1	B8	5	2	1	B8	5	2	1	Use (6) for CbN21-22-23				4-5	2-3	1	
V5	5	5	1(3)	V5	4	5	3	V5	6	5	3					V5	5	1	4
V6	1(3)	2	5	V6	3	2	4	V6	3	2	6					V6	4	2-3	5
																B5	1	2-3	4
																V1	4	1	2-3
																V3	2-3	2-3	4
																B52	3	1	2
																B53	2	1	3
																B54	2	1	3

Use (3) for CbN23

F/B: Filling/Breather

L: Level

D: Drain





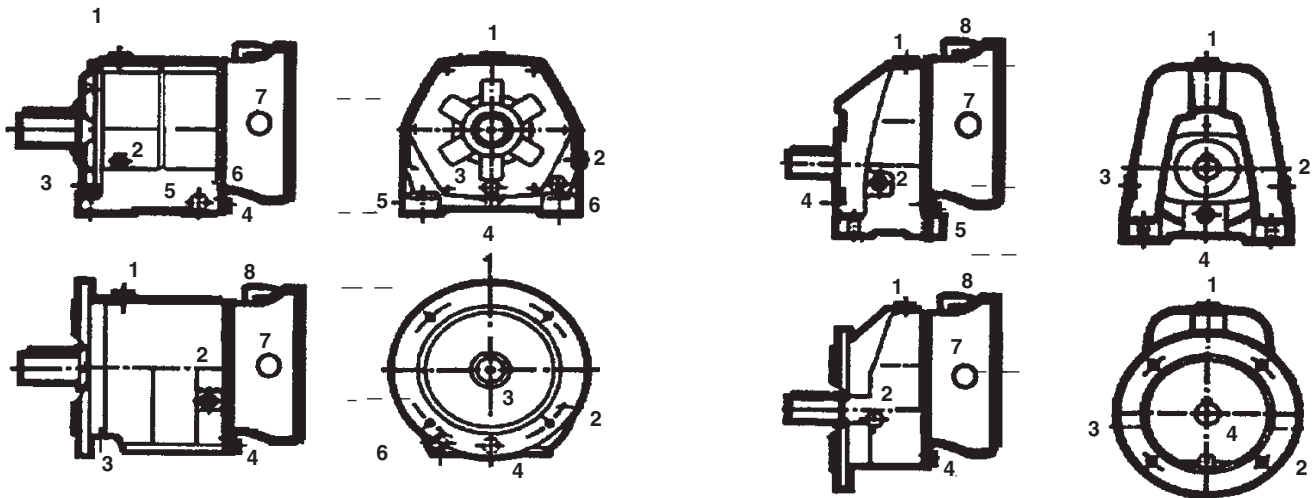
CbN Series 2000 **Gearmotors and Reducers**

Position of Plugs and Breathers - Gearmotors

CBN: 20 - 21 - 22 - 23				CbN: 24 - 25				CbN: 26 - 27 - 28 - 29				CbN: BS				CbN: 21 - - 25			
Position	F/B	L	D	Position	F/B	L	D	Position	F/B	L	D	Position	F/B	L	D	Position	F/B	L	D
2 & 3 Stages				2 & 3 Stages				2 & 3 Stages				2 & 3 Stages				1 Stage			
B3	8	2	5	B3	8	2	5	B3	8	2	5	B5	8	2	4(6)	B3	8	2-3	5
B6	5	1	2	B6	5	1	2	B6	5	1	2	V1	8	2	1	B6	3	4-1	2
B7	2	1	5	B7	2	1	5	B7	2	1	5	V3	1	1	8	B7	2	4-1	3
B8	5	7	1	B8	5	7	1	B8	5	7	1	Use (6) for CbN21-22-23				B8	4-5	2-3	1
V5	8	5	1(3)	V5	8	5	3	V5	7	5	3					V5	8	1	4
V6	1(3)	2	8	V6	3	2	8	V6	3	2	8					V6	4	2-3	8
																B5	1	2-3	4
																V1	8	1	2-3
																V3	2-3	2-3	8
																B52	3	1	2
																B53	2	1	3
																B54	2	1	3

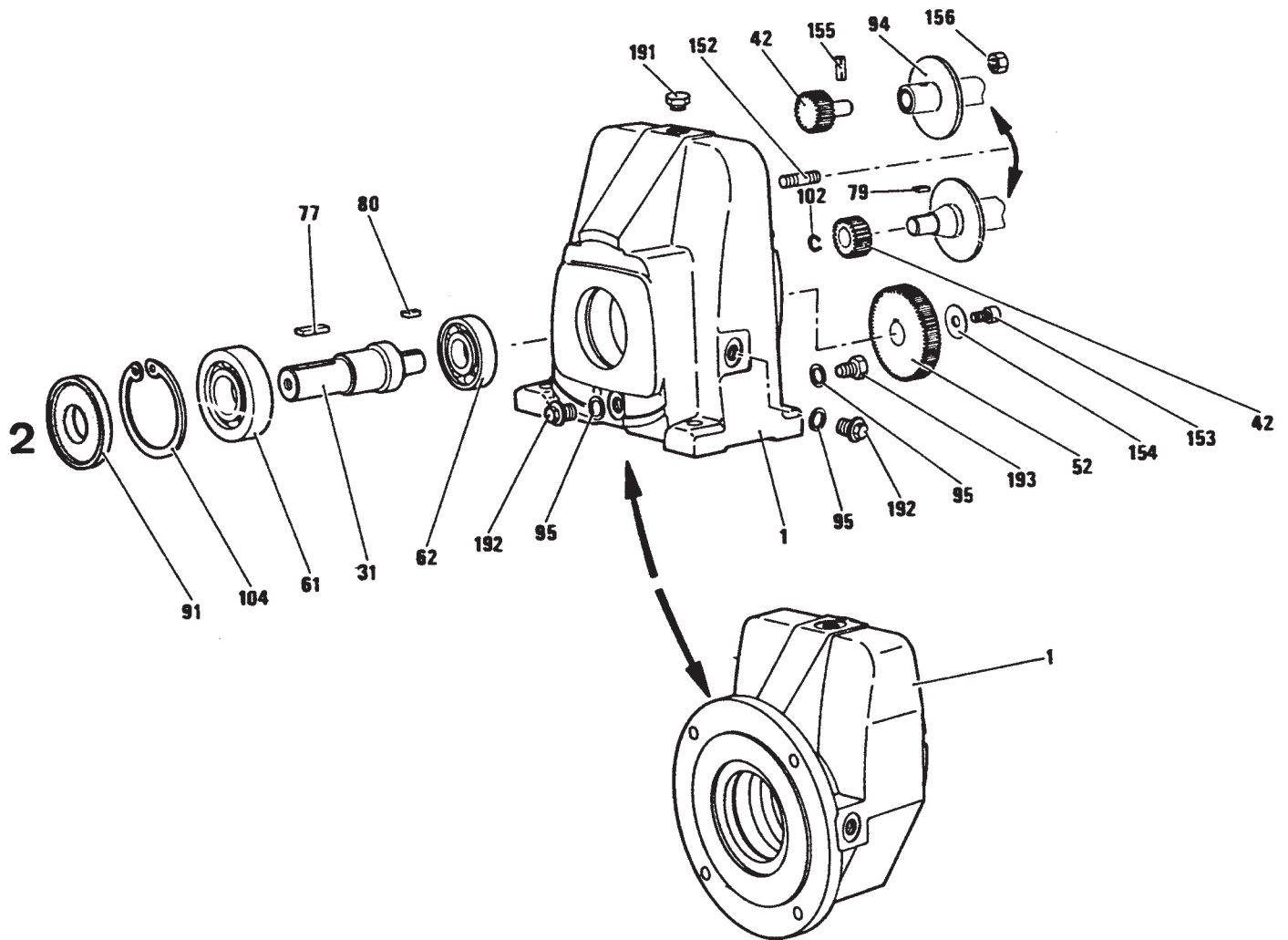
Use (3) for CbN23

F/B: Filling/Breather
L: Level
D: Drain



CBN 21 . . . 25

Single Reduction





CbN Series 2000

Gearmotors and Reducers

Spare Unit or Parts Orders

When ordering, always include:

Complete gear nameplate data;
Complete motor nameplate data;
I.D. number;
Mounting Position;
Number and designation of spare part(s).

CbN 2101 to 2501 Parts List

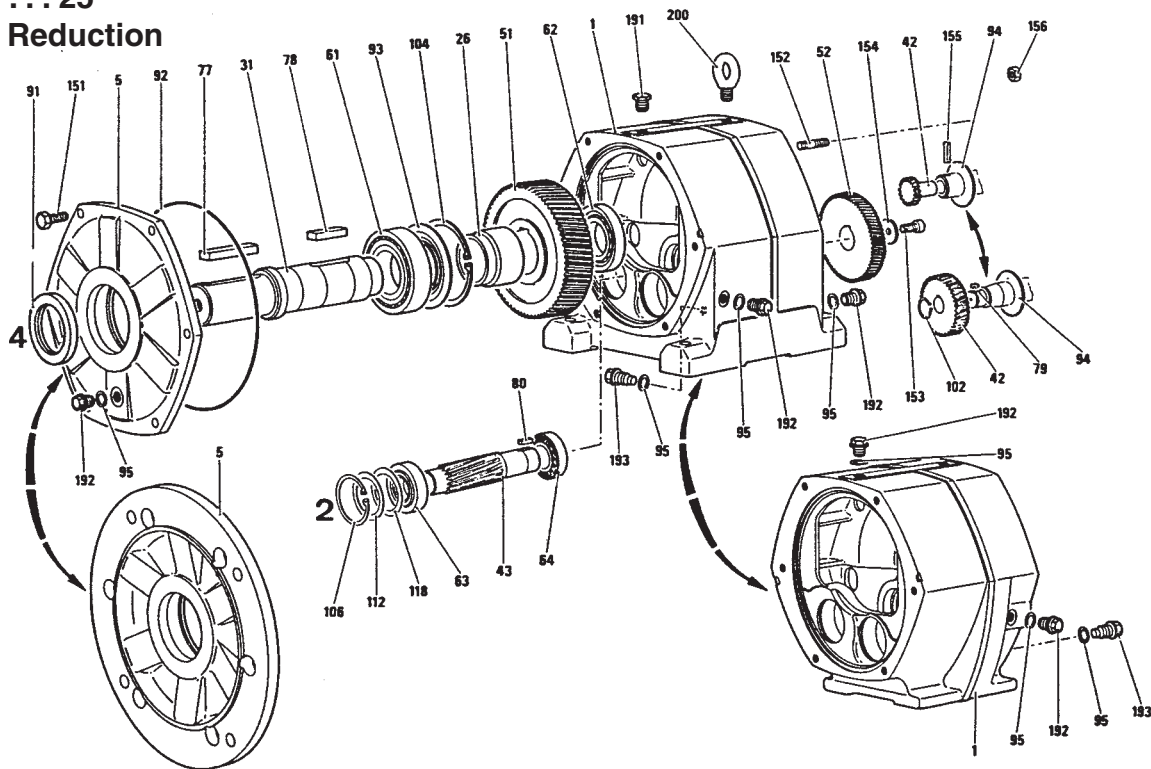
Part #	Description	Qty.
001	Housing	1
031	Output Shaft	1
042	Input Pinion	1
052	Wheel Axis 2	1
061	Bearing, front	1
062	Bearing, back	1
077	Output Shaft Key	1
079	Pinion Key	1
080	Wheel Key	1
091	Oil Seal	1
095	Plug Seals	4
102	Retaining Ring	1
104	Retaining Ring	1
152	Studs	4
153	Screw	1
154	Washer	1
155	Pinion Pin	1
156	Nuts	4
191	Breather Plug	1
192	Level Plugs	3
193	Magnetic Drain Plug	1

CbN 2101 to 2501 - Maintenance Parts

Size CbN	Part #					
	061(S)	062(S)	061(BS)	062(BS)	091(S)	091(BS)
2501	6310 RS	6309	30210	30209	50x110x12	60x90x10/12
2401	6309 RS	6308	6309 RS	6308	45x100x8	45x100x8
2301	6308 RS	6307	6308 RS	6307	40x90x8	40x90x8
2201	6206 RS	6305	6206 RS	6305	30x62x7 B1SL	30x62x7 B1SL
2101	6205 RS	6304	6205 RS	6304	25x52x7 BASL	25x52x7 BASL

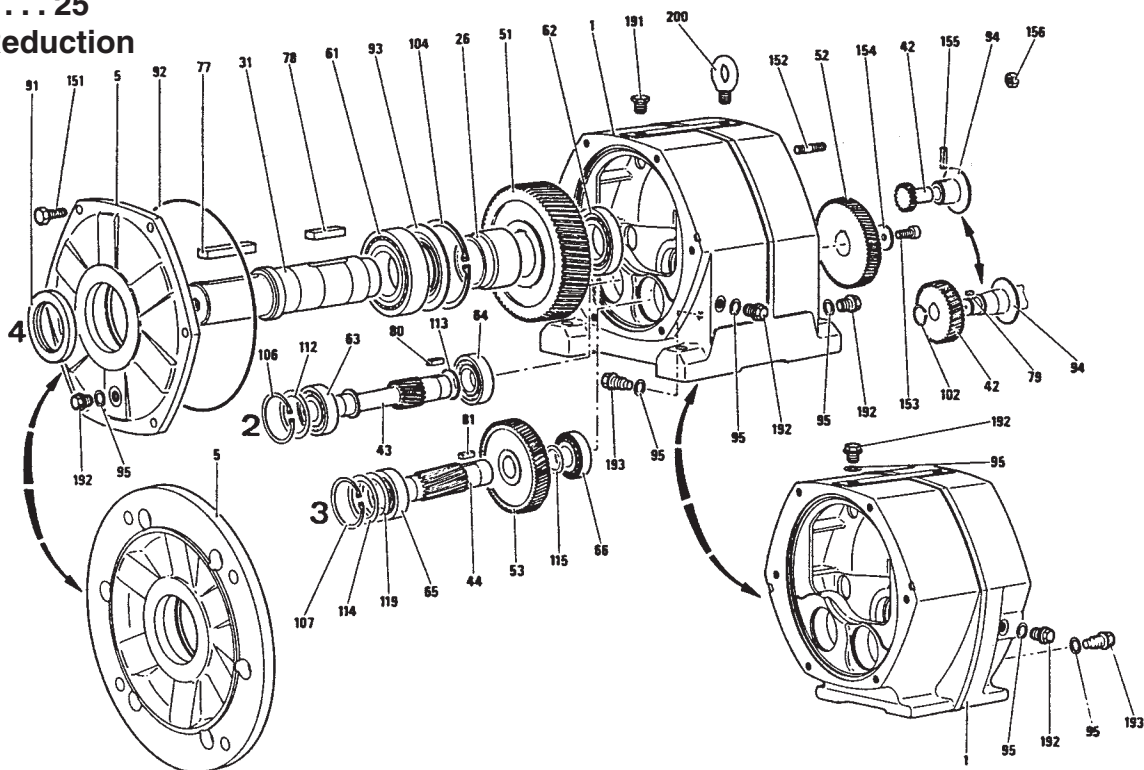
CbN 21 ... 25

Double Reduction



CbN 21 ... 25

Triple Reduction





CbN Series 2000

Gearmotors and Reducers

CbN 21 __ to 25 __ Parts List

When ordering, always include:

Complete gear nameplate data;
 Complete motor nameplate data;
 I.D. number;
 Mounting Position;
 Number and designation of spare part(s).

Part #	Description	Qty
001	Housing	1
005	Endshield	1
026	Spacer	1
031	Output Shaft	1
042	Input Pinion, Axis 1	1
043	Pinion Shaft, Axis 2	1
044	Pinion Shaft, Axis 3	1
051	Wheel Axis 4	1
052	Wheel Axis 2	1
053	Wheel Axis 3	1
061	Output Bearing Axis 4, Front	1
062	Output Bearing Axis 4, Back	1
063	Bearing Axis 2, Front	1
064	Bearing Axis 2, Back	1
065	Bearing Axis 3, Front	1
066	Bearing Axis 3, Back	1
077	Output Shaft Key	1
078	Wheel Key Axis 4	1
079	Pinion Key Axis 1	1
080	Wheel Key Axis 1	1
081	Wheel Key Axis 3	1
091	Oil Seal Axis 4	1

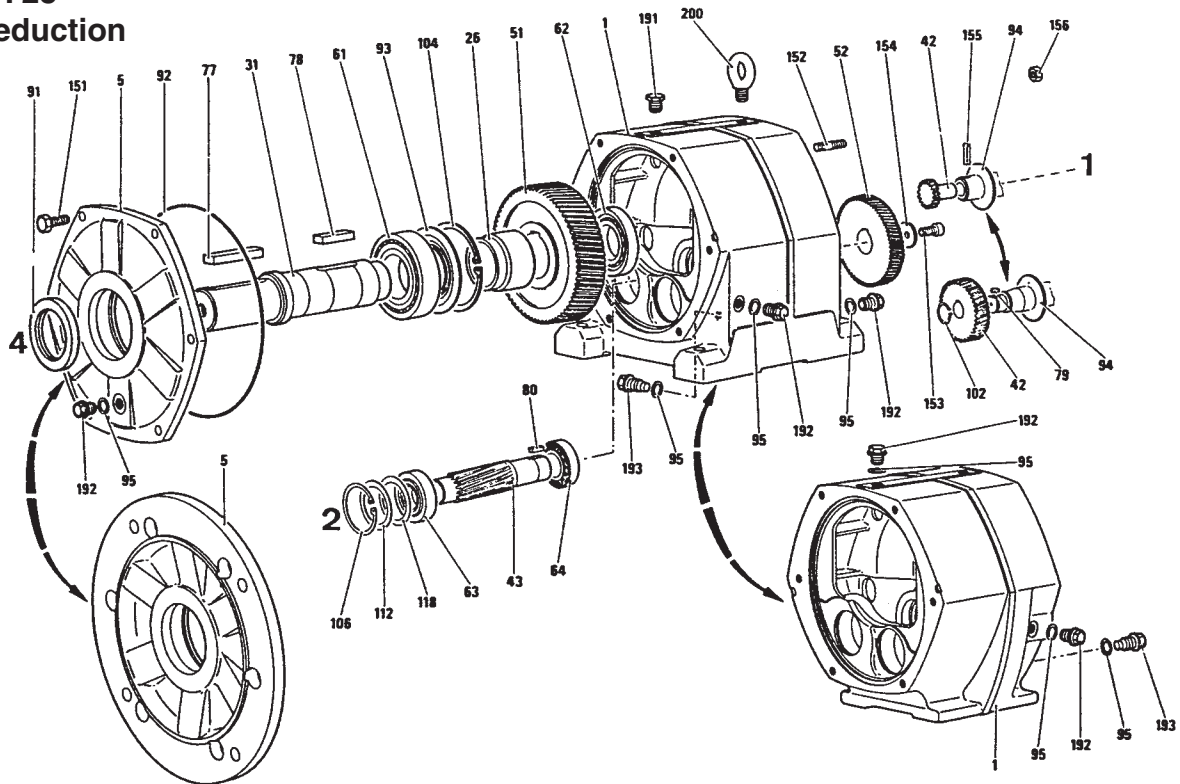
Part #	Description	Qty
092	O Ring Seal	1
093	Nilos Bearing Shield	1
095	Plug Seal	3
102	Pinion Retaining Ring	1
104	Retaining Ring Axis 4	1
106	Retaining Ring Axis 2	1
107	Retaining Ring Axis 3	1
112	Front Ring Axis 2	1
113	Back Ring Axis 2	1
114	Front Ring Axis 3	1
115	Back Ring Axis 3	1
118	Space Washer Axis 2/3	set
151	Endshield Screws	6
152	Studs	4
153	Screw	1
154	Washer	1
155	Pinion Pin	1
156	Nuts	4
191	Breather Plug	1
192	Level Plugs	2
193	Magnetic Drain Plug	1
200	Lifting Lug	1

CbN 21 __ to 25 __ - Maintenance Parts

SIZE CbN	Part #						
	061	062	063	064	065	066	091
2503	22213	NJ 211	6306	6207	30207	30207	75x100x10 BASL
2502	22213	NJ 211	33207	33207	---	---	75x100x10 BASL
2403	22211	NJ 208	6206	6206	30305	30305	65x85x13 BASL
2402	22211	NJ 208	30305	30206	---	---	65x85x13 BASL
2303	6309 RS	NJ 205	6304	6205	6304	NJ 205	55x68x8/10 BASL
2302	6309 RS	NJ 205	NJ 205	NJ 205	---	---	55x68x8/10 BASL
2203	6207 RS	NJ 203	6203	6203	6203	6203	40x58x9 BASL
2202	6207 RS	NJ 203	NJ 203	6203	---	---	40x58x9 BASL
2103	6206 RS	NJ 202	6300	6202	6300	6202	35x52x10 BASL
2102	6206 RS	NJ 202	NJ 202	6202	---	---	35x52x10 BASL

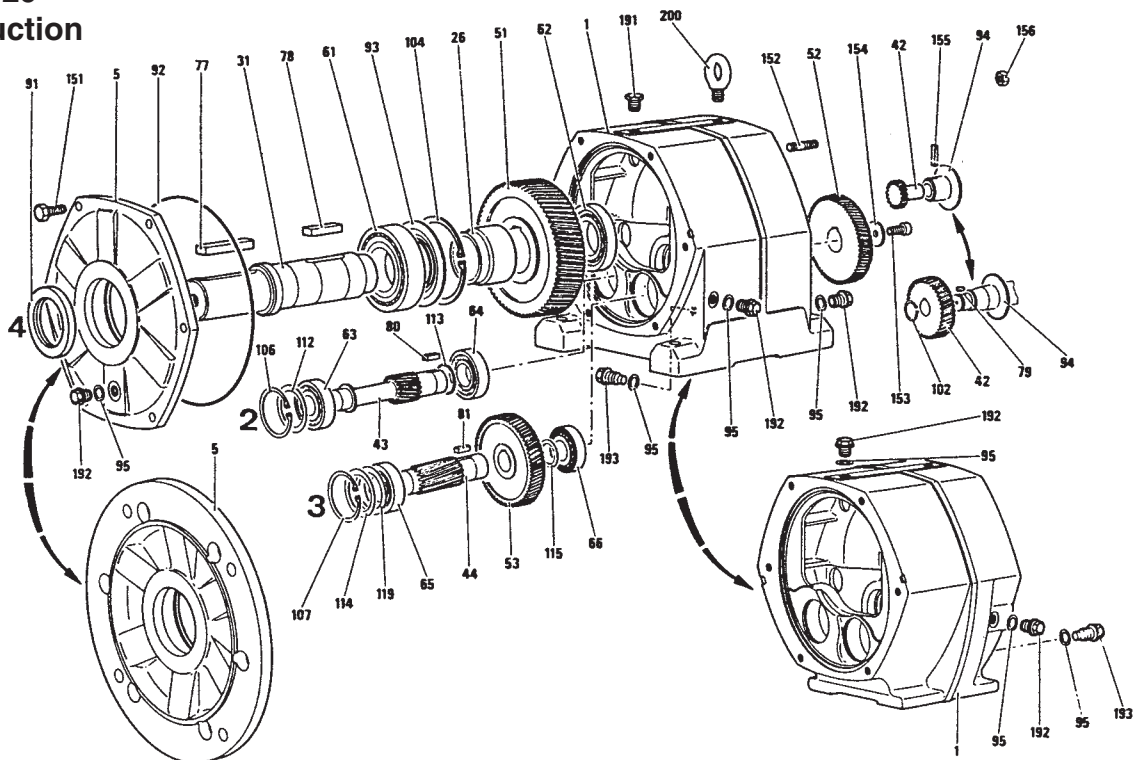
CbN 26 . . . 28

Double Reduction



CbN 26 . . . 29

Triple Reduction





CbN Series 2000

Gearmotors and Reducers

CbN 26 __ to 29 __ Parts List

When ordering, always include:

Complete gear nameplate data;
 Complete motor nameplate data;
 I.D. number;
 Mounting Position;
 Number and designation of spare part(s).

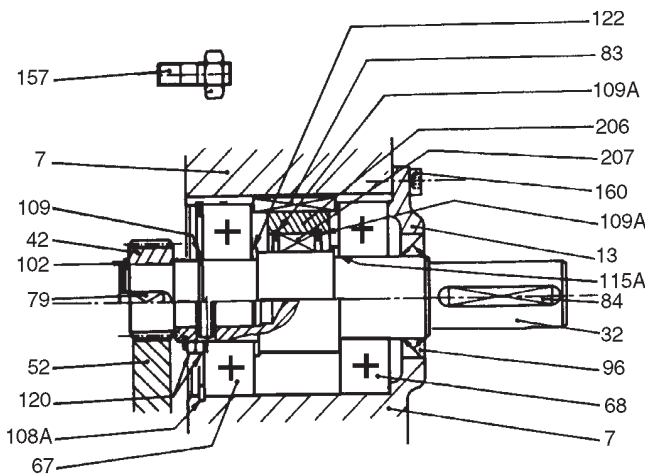
Part #	Description	Qty.
001	Housing	1
005	Endshield	1
026	Spacer Axis 4	1
027	Ring Axis 4	1
028	Ring Axis 4	1
031	Output Shaft	1
042	Pinion Axis 1	1
043	Pinion Shaft Axis 3	1
044	Pinion Shaft Axis 2	1
051	Wheel Axis 4	1
052	Wheel Axis 2	1
053	Wheel Axis 3	1
061	Bearing Axis 4, Front	1
062	Bearing Axis 4, Back	1
063	Bearing Axis 3, Front	1
064	Bearing Axis 3, Back	1
065	Bearing Axis 2, Front	1
066	Bearing Axis 2, Back	1
077	Output Shaft Key	1
078	Wheel Key Axis 4	1
079	Pinion Key Axis 1	1
080	(52) Wheel Key	1
081	Wheel Key Axis 3	1
091	Oil Seal Axis 4	1
092	"O" Ring Seal	1
093	Nilos Bearing Shield	1

Part #	Description	Qty.
095	Plug Seals	5
100	Retaining Ring Axis 4	1
101	Retaining Ring Axis 3	1
102	Pinion Retaining Ring, Axis 1	1
103	Retaining Ring Axis 4	1
104	Retaining Ring Axis 4	1
105	Retaining Ring Axis 3	1
106	Retaining Ring Axis 3	1
107	Retaining Ring Axis 2	1
108	Retaining Ring Axis 3	1
113	Ring Axis 3	1
114	Ring Axis 3	1
115	Ring Axis 3	1
116	Ring Axis 3	1
117	Ring Axis 2	1
118	Ring Axis 3	1
119	Ring Axis 2	1
151	Endshield Screws	6
152	Studs	4
153	Screw	1/3
154	Washer	1
155	Pinion Pin	1
156	Nuts	4
191	Breather Plug	1
193	Level-Drain Plug	4
200	Lifting Lug	1

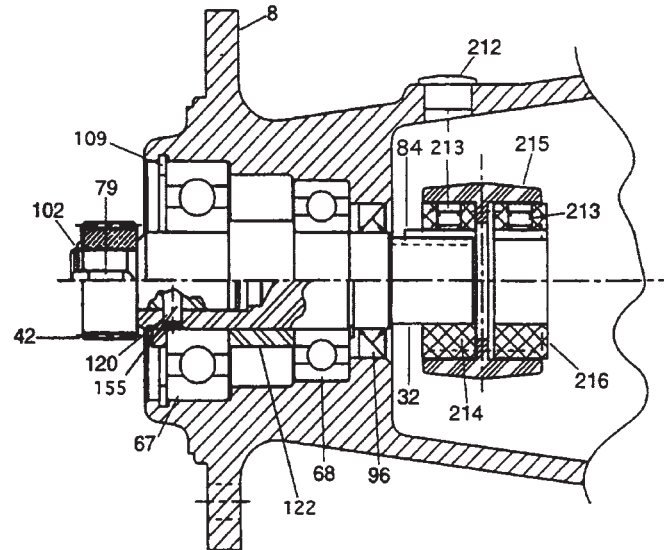
CbN 26 __ to 29 __ - Maintenance Parts

SIZE CbN	Part #						
	061	062	063	064	065	066	091
2903	23124 E	22217 E	22314 E	2216 NJ	32212	33212	130x160x15 BASL
2803	23120 E	NJ 2215 E C3	22312 E	NJ 2213 E C3	30211	30211	105x130x12 BASL
2802	23120 E	NJ 2215 E C3	22312 E	22213 E	---	---	105x130x12 BASL
2703	22217 E	NJ 2212 E C3	22310 E	NJ 2210 E C3	32207	30207	95x125x12 BASL
2702	22217 E	NJ 2212 E C3	22310 E	22210 E	---	---	95x125x12 BASL
2603	22215 E	NJ 2211 E C3	22308 E	2208 C	30207	30207	80x100x10 BASL
2602	22215 E	NJ 2211 E C3	22308 E	NJ 22208 C	---	---	80x100x10 BASL

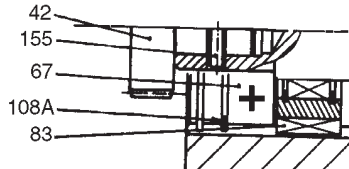
CbN 20 ... 22



Input Shaft - Hollow Pinion



C-Face Design



Input Shaft - Solid Pinion

"AP" Input Shaft & "U" Universal Mounting Part List

Part #	Description	Qty.	Part #	Description	Qty.
007	"AP" Input Flange	1	122	Spacer	1
008	"U" C-Face Housing	1	128	Ring	1
032	Input Shaft	1	155	Pinion Pin	1
042	Pinion	1	157	Screws	4
052	Wheel	1	203	One Piece Coupling (1)	1
067	Bearing (Pinion Side)	1	204	Bearing Ring	1
068	Bearing (Shaft Side)	1	208	Oil Deflector	1
079	Pinion Key	1	212	Access Plug	1
084	Shaft Key	1	213	Coupling Set Screw	4
096	Oil Seal	1	214	Gear Half Coupling	1
102	Pinion Retaining Ring	1	215	Flexible Connector	1
109	Retaining Ring	1	216	Motor Half Coupling	1
120	Retaining Ring	1			

"AD" Backstop Kit

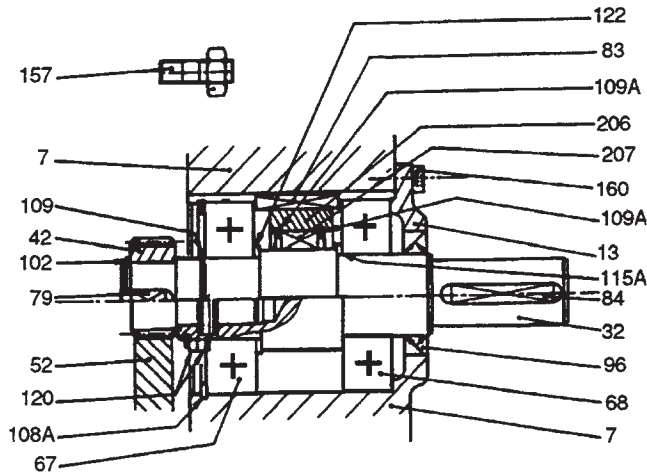
Part #	Description	Qty.
085	Race Key	1
109A	Retaining Ring	1
110	Retaining Ring	1
158	Flange Screws	4
206	Free Wheel Flange	1
207	Free Wheel	1
210	Inner Race	1
211	Oil Deflector	1

(1) Design replaced in 1994 with standard 3-piece design.

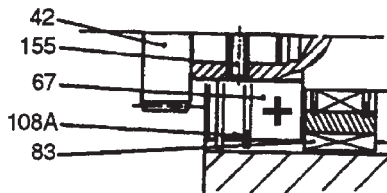
Maintenance Parts

Size CbN	"C"-Face Input			"AP" Input Shaft			"AD" Backstop Assembly			
	67	68	96	67	68	96	67	68	96	207
20,21	6305 RS	6205	25x40x8 AS	6305 RS	6304	20x30x7 AS	6305 RS	6304	20x30x7 AS	BWX133590A
22	6305 RS	6205	25x40x8 AS	6206 RS	6304	20x30x7 AS	6206 RS	6304	20x30x7 AS	BWX133590A

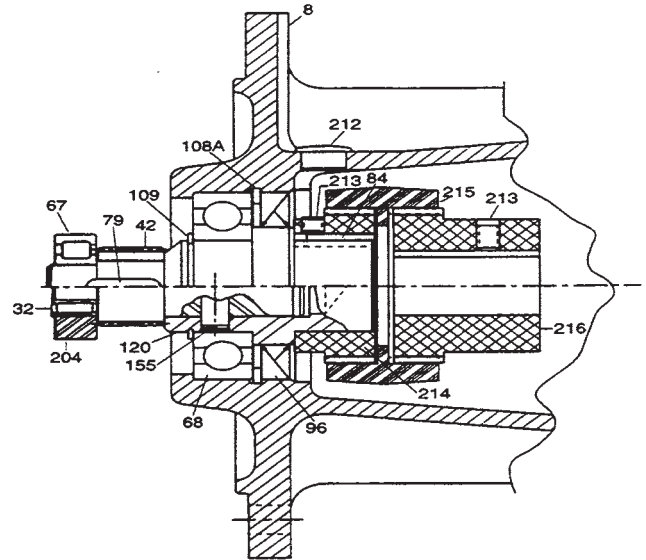
CbN 23 ... 25



Input Shaft - Solid Pinion



Input Shaft - Solid Pinion



C-Face Design

"AP" Input Shaft & "U" Universal Mounting Part List

Part #	Description	Qty.	Part #	Description	Qty.
007	"AP" Input Flange	1	122	Spacer	1
008	"U" C-Face Housing	1	128	Ring	1
032	Input Shaft	1	155	Pinion Pin	1
042	Pinion	1	157	Screws	4
052	Wheel	1	203	One Piece Coupling (1)	1
067	Bearing (Pinion Side)	1	204	Bearing Ring	1
068	Bearing (Shaft Side)	1	208	Oil Deflector	1
079	Pinion Key	1	212	Access Plug	1
084	Shaft Key	1	213	Coupling Set Screw	4
096	Oil Seal	1	214	Gear Half Coupling	1
102	Pinion Retaining Ring	1	215	Flexible Connector	1
108A	Retaining Ring	1	216	Motor Half Coupling	1
109	Retaining Ring	1			
120	Ring	1			

"AD" Backstop Kit

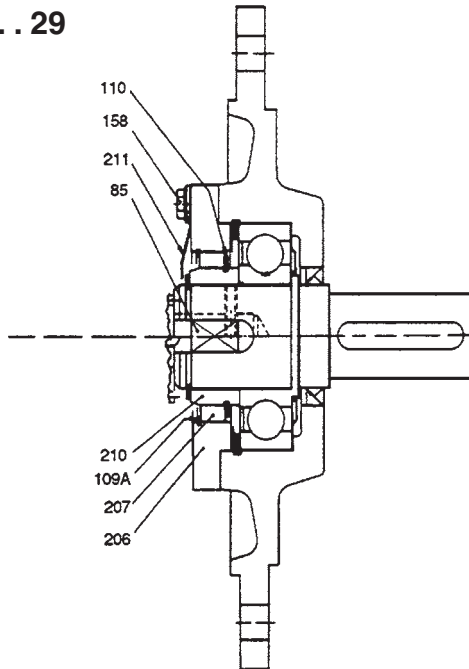
Part #	Description	Qty.
085	Race Key	1
109A	Retaining Ring	1
110	Retaining Ring	1
158	Flange Screws	4
206	Free Wheel Flange	1
207	Free Wheel	1
210	Inner Race	1
211	Oil Deflector	1

(1) Size 25, and 23 or 24 with 250 TC or 284 TC motor.

Maintenance Parts

Size CbN	"C"-Face Input			"AP" Input Shaft			"AD" Backstop Assembly			207
	67	68	96	67	68	96	67	68	96	
2302	NJ 203 E	6207 RS	45x72x8 A	6308 RS	NJ 207 E	35x62x7 A	NJ207 E	6308 RS	35x62x7 A	BWX13244
2303	NA 4900	6207 RS	45x72x8 A	6308 RS	NJ 207 E	35x62x7 A	NJ207 E	6308 RS	35x62x7 A	BWX13244
24	NJ 203 E	6207 RS	45x72x8 A	6308 RS	NJ 207 E	35x62x7 A	NJ207 E	6308 RS	35x62x7 A	BWX13244
25	NA 4900	6207 RS	45x72x8 A	6308 RS	NJ 207 E	35x62x7 A	NJ207 E	6308 RS	35x62x7 A	BWX13244

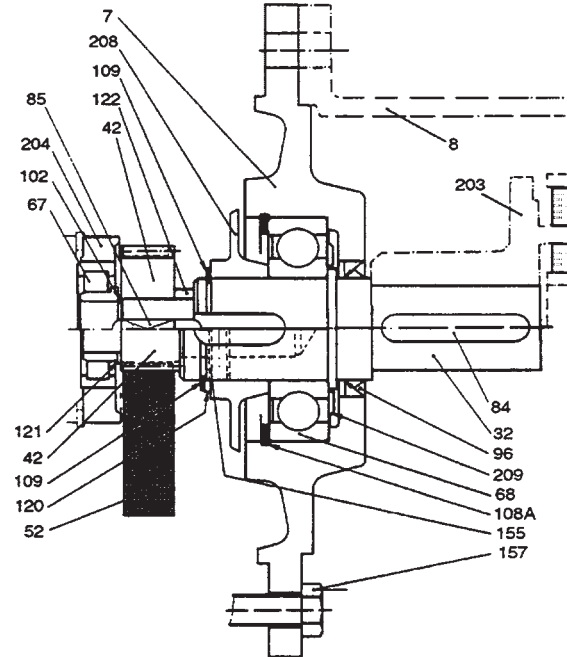
CbN 26 . . . 29



Input Shaft With Backstop

Part #	Description	Qty.
7	"AP" Input Flange	1
8	C-Face	1
32	Input Shaft	1
42	Pinion	1
52	Wheel	1
67	Bearing (Pinion Side)	1
68	Bearing (Shaft Side)	1
79	Pinion Key	1
84	Shaft Key	1
96	Oil Seal	1
102	Pinion Retaining Ring	1
108A	Retaining Ring	1
109	Retaining Ring	1
120	Ring	1
122	Spacer	1
128	Ring	1
155	Pinion Pin	1

C-Face Motor Mounting



Input Shaft Without Backstop

Part #	Description	Qty.
157	Screws	4
203	Coupling (Motor Half)	1
204	Bearing Ring	1
208	Oil Deflector	1
209	Nilos Bearing Shield	1

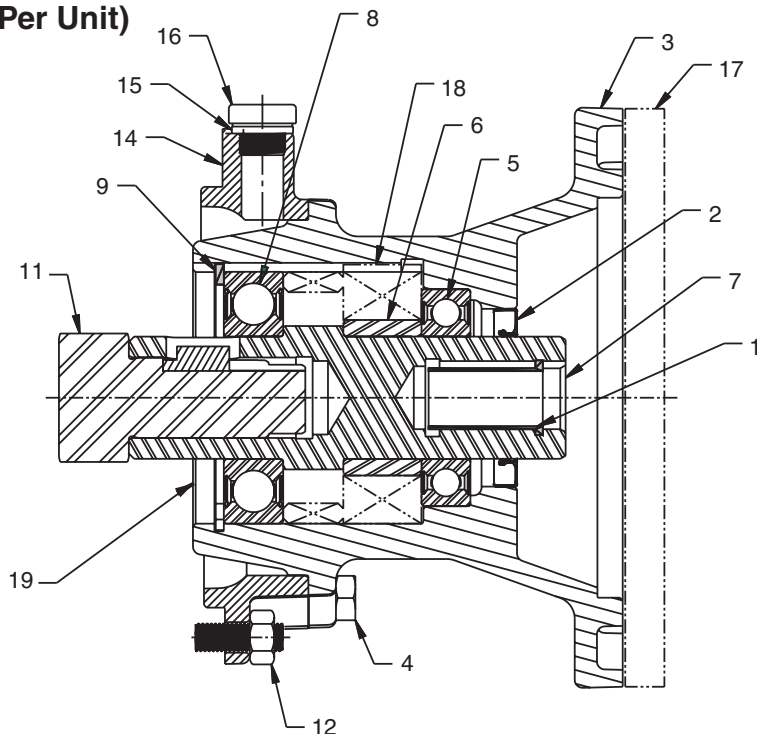
"AD" Backstop Kit

Part #	Description	Qty.
85	Race Key	1
109A	Retaining Ring	1
110	Retaining Ring	1
158	Flange Screws	4
206	Free Wheel Flange	1
207	Free Wheel	1
210	Inner Race	1
211	Oil Deflector	1

Maintenance Parts

CbN Size	C-Face Input With Coupling			"AP" Input Shaft		
	67	68	96	67	68	96
26 and 27	RO w/ratio	6311 RS	55 x 72 x 10 DL	RO w/ratio	6311 RS	55 x 72 x 10 DL
28 and 29	RO w/ratio	6313 RS	65 x 90 x 10 DL	RO w/ratio	6313 RS	65 x 90 x 10 DL

CbN 26 . . . 29 (Quantity Per Unit)



No.	Description	180TC	210TC	250TC	280TC	320TC
1	Non-Metallic Liner	1	1	1	1	1
2	Seal	1	1	1	1	1
3	Motor Adapter	1	1	1	1	1
4	Capscrew	6	6	6	6	6
5	Bearing	1	1	1	1	1
6	Spacer	1	1	1	1	1
7	Input Shaft	1	1	1	1	1
8	Bearing	1	1	1	1	1
9	Internal Snap Ring	1	1	1	1	1
11	Pinion	1	1	1	1	1
12	Bolts	**	**	**	**	**
14	Adapter Flange	1	1	1	1	1
15	Gasket	1	1	1	1	1
16	Plug (1/4")	1	1	1	1	1
17	Motor Adapter Flange	N/A	N/A	N/A	1	N/A
18	Backstop Kit (Option)	1	1	1	1	1
19	Seal	1	1	1	1	1

** Depending on gear frame size: 26 = 4, 27 = 4, 28 = 8, 29 = 8.

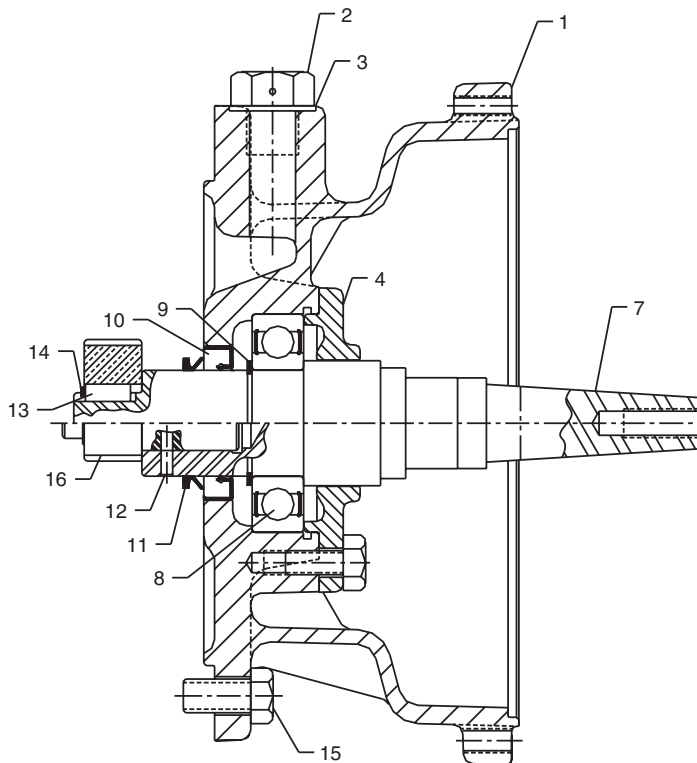
Maintenance Parts

Gear Frame	Motor Frame	Bearings		Seal
		5	8	2 (inches)
All	180TC, 210TC	6014 2RS	NJ210	4.438 x 2.625 x .437
All	250TC, 280TC	6014 2RS	NJ210	4.438 x 2.625 x .437
All	320TC	6216 2RS	NJ310	140 x 90 x 12 (mm)



CbN Series 2000 **Gearmotors and Reducers**

CbN 20 ... 29



Gearmotors

"Modular" Integral Input Style Parts List

Part #	Description	Qty.
1	"MP" Housing	1
**2	Level/Breather Plug	3
**3	Plug Seal Washer	3
4TD	Bearing Cap	1
5TD	Socket Head Screw	3
6TD	Ball Bearing	1
4	Bearing Cap *	1
5	Hex Head Screw	4

* Size 20-25 standard design converted to Snap Ring 1/98.

** Not used on size 20.

Part #	Description	Qty.
7	Input Shaft	1
8	Ball Bearing	1
9	Retaining Ring	1
10	Oil Seal	1
11	Oil Deflector	1
12	Pinion Pin	1
13	Pinion Key	1
14	Retaining Ring	1
15	Hex Head Screw	4
16	Pinion	1

Maintenance Parts

CbN Size	Part Number	
	8	10 (inches)
20, 21, 22	6206 2RS	1.156 x 1.878 x .25 Metal OD
23, 24	6207 2RS	1.375 x 2.004 x .375 Metal OD
25, 2603, 2703	6210 2RS	1.937 x 2.754 x .312 Metal OD
2602, 2702	6213 Z	2.50 x 3.376 x .375 Metal OD
28, 29	6213 Z	2.50 x 3.376 x .375 Metal OD