

CROWN GEAR DRIVES INSTALLATION AND REPAIR INSTRUCTIONS

INSTALLATION INSTRUCTIONS

1. Your Crown Gear Drive has been shipped filled with grease.
2. Check your load requirements and refer to the service factor chart.
3. Check following carefully:

YES

- Use all bolt holes on surface used for mounting.
- Mount load as close to flange as possible.
- Follow lubrication recommendations.
- Accurately align all couplings.

NO

- Do not use flat belt drive.
- Do not reverse rotation while unit is loaded.
- Do not hammer on shafts while installing couplings or sprockets.
- Do not use on high shock or starting loads.

SERVICE FACTORS

The service factors listed below will cover most usual applications. Applications dealing with single and multi-cylinder internal combustion engines, extreme repetitive shock loads and high energy loads are not covered. For additional information, please contact the factory.

Prime Mover	Duration of Service	Driven Machine Load Classifications		
		Uniform	Moderate	Heavy
Electric Motor	Occasional 1/2 hr. per day	0.50	0.80	1.25
Steam Turbine or Hydraulic Motor	Intermittent 3 hrs. per day Over 3 hrs. up to and including 10 hrs. per day Over 10 hrs. per day	0.80 1.00 1.25	1.00 1.25 1.50	1.50 1.75 2.00

*Extracted from AGMA Standard Practice for Enclosed Speed Reducers or Increases Using Spur, Helical, Herringbone and Spiral Bevel Gears (AGMA 420.04), with the permission of the publisher, the American Gear Manufacturers Association, 1330 Massachusetts Avenue, N.W., Washington, D.C. 20005.

LUBRICATION

If necessary, lubricate with grease (Beacon 325-EXXON Co. or equivalent).

Models With Shaft Diameters As Listed Below	Weight of Lubricant (Approx.)*	
	Grams	Ounces
3/8" dia.	11	0.4 oz.
1/2" dia.	22	0.8 oz.
5/8" dia.	34	1.2 oz.
3/4" dia.	46	1.6 oz.
1" dia.	238	8.4 oz.

*Assuming unit is totally empty of grease.

REPAIR PARTS AND PROCEDURE

Using the charts, follow the procedures below for proper repair. It is recommended that new gears, bearings, shims and retaining rings be installed if removed from the shaft.

A. Remove Grease Plug.

B. Remove Retaining Ring from Housing at Input Shaft location and slide out Shaft assembly. **CAUTION:** Note the exact position and thicknesses of stainless steel Shims (Washer, Seals and Washer, Spacers) on the Shaft or in the Housing. Note that the Gear is flush against the Bearing.

C. Remove Retaining Ring from housing at Output Shaft location and slide out Shaft assembly. **CAUTION:** Note the exact position and thicknesses of stainless steel Shims on the Shaft or in the Housing. Measure the distance from the back of the Gear to one of the Bearings. (A new, replacement Gear must have the same mounting distance.)

D. Removing Bearing from Shaft: Remove bearing retaining ring from shaft. Use bearing puller or press by applying removal force **only** to inner ring of bearing or shaft.

E. Removing Gear from Output Shaft: Remove bearing (reference D). Remove gear roll pin using pin punch with hammer or press. Press gear from shaft.

F. Removing Gear from Input Shaft: Remove gear roll pin using pin punch with hammer or press. Using bearing puller or press, remove bearing and gear simultaneously.

G. Re-assembly of Output Shaft Parts: Press gear onto shaft until hole in shaft and hole in gear align. Support the shaft near gear while pressing the roll pin into the gear and shaft hole (new roll pins are recommended for re-assembly). Install bearing retaining ring to shaft. Press bearing onto shaft until firmly seated on retaining ring, applying force **only** to inner ring of bearing. Re-assemble output shaft assembly into housing using the same number and position of washers and shims prior to disassembly (reference C). Install retaining ring in housing.

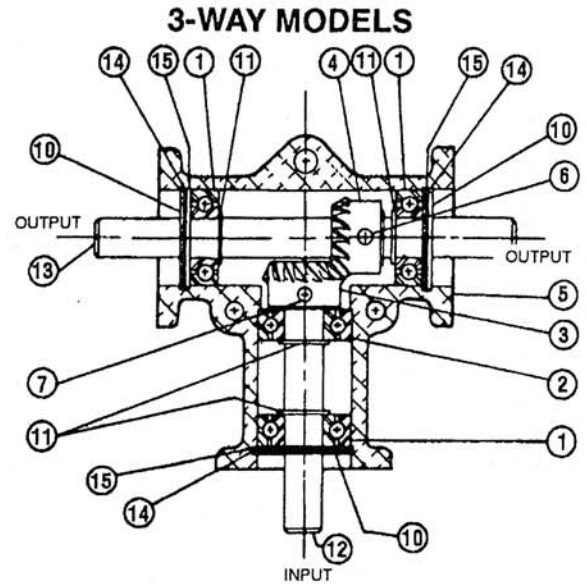
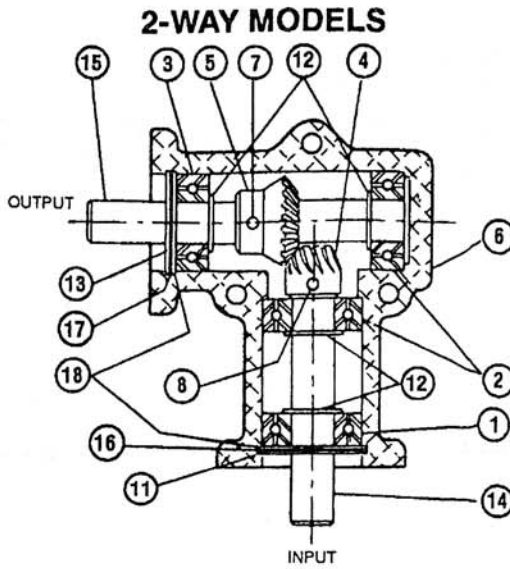
H. Re-assembly of Input Shaft Parts. Install bearing retaining ring to shaft. If gear has been removed, the bearing adjacent to the gear must be replaced. Press bearing onto shaft until firmly seated on retaining ring, applying force **only** to inner ring of bearing. Press gear onto shaft until hole in shaft and hole in gear align. Support the shaft while pressing the roll pin into the gear and shaft hole (new roll pins are recommended for re-assembly). Re-assemble input shaft assembly into housing using the same number and position of washers and shims prior to disassembly (reference B). Install retaining ring in housing.

I. Check for noise, endplay, binding, and other indications of an incorrect assembly. If necessary, remove retaining ring from output shaft and re-thrust assembly by adding or subtracting washers. Refill with approved lubricant.

J. Replace Grease Plug.

K. If any of the components in your units are broken or require repair for any cause not attributable to normal long term wear, it is advisable to re-evaluate all aspects of the application. Breakage or undue wear can be caused by many factors, such as unusual shock load, misalignment of gear unit shafting with application, excess overhung load, extraordinary thrust pressure and speed beyond recommended limit. Consult factory for information.

Crown Gear Drive Parts List



KEY NUMBER AND PART NAMES	TWO WAY MODELS							
	C102801 C102806 C108801 C108806	C104801 C104806	C132801 C138801	C134801	C152801 C152806 C156801 C156806	C154801 C154806	C202801 C202806 C208801 C208806	C204801 C204806
1. Bearing, Ball Sealed	C103406	C103406	C133406	C133406	C153406	C153406	C202406	C202406
2. Bearing, Ball Shielded	C103007	C103007	C133007	C133007	C153007	C153007	C202007	C202007
3. Bearing, Ball Sealed	C103406	C103406	C133406	C133406	C153406	C153406	C202406	C202406
4. Gear, Pinion (L.H.)**	C108014	C104011	C138014	C134011	C156014	C154011	C208014	C204011
5. Gear (R.H.)**	C108015	C104012	C138015	C134012	C156015	C154012	C208015	C204012
6. Housing	C102301	C102301	C132301	C132301	C152301	C152301	C202301	C202301
7. Pin, Roll (Gear)	C108010	C103010	C133010	C133010	C153010	C154010	C208010	C202010
8. Pin, Roll (Pinion)	C108010	C210019	C133010	C134010	C153010	C155010	C208010	C153010
9. Plug, Grease *	C102022	C102022	C102022	C102022	C102022	C102022	C102022	C102022
10. Ring, Retaining (Hsgn)	C103003	C103003	C133003	C133003	C153003	C153003	C202003	C202003
11. Ring, Retaining (Brg.)	C102037	C102037	C132037	C132037	C152037	C152037	C202037	C202037
12. Ring, Retaining (Hsgn)	C103003	C103003	C133003	C133003	C153003	C153003	C202003	C202003
13. Shaft, Input (Flat)			C132602	C134602				
14. Shaft, Input (keywayed)	C102606	C210606			C152606	C154606	C202606	C204606
15. Shaft, Output (Flat)			C132619	C132619				
15. Shaft, Output (Keywayed)	C102656	C102656			C152656	C152656	C202656	C202656
16. Washer, Seal	C108225		C138225		C156225		C208225	
17. Washer, Seal								
18. Washer, Spacer								

*Lubricate with EXXON Co. Beacon 325 grease or equivalent.
 **Gears should be ordered in sets for proper fit.

Disassembly of the gear drive by the customer voids the warranty. Repairs made by the customer are not covered by Zero-Max warranty.

KEY NUMBER AND PART NAMES	THREE WAY MODELS									
	C103801 C103806 C109801 C109806	C105801 C105806	C133801 C139801	C135801	C153801 C153806 C157801 C157806	C155801 C155806	C203801 C203806 C209801 C209806	C205801 C205806	C803806	C805806
1. Bearing, Ball Sealed	C103406	C103406	C133406	C133406	C153406	C153406	C202406	C202406	C803406	C803406
2. Bearing, Ball Shielded	C103007	C103007	C133007	C133007	C153007	C153007	C202007	C202007	C803406	C803406
3. Gear, Pinion (L.H.)**	C108014	C104011	C138014	C134011	C156014	C154011	C208014	C204011	C803014	C805011
4. Gear (R.H.)**	C108015	C104012	C138015	C134012	C156015	C154012	C208015	C204012	C803015	C805012
5. Housing	C103301	C103301	C133301	C133301	C153301	C153301	C203301	C203301	C803301	C803301
6. Pin, Roll (Gear)	C108010	C103010	C133010	C133010	C153010	C154010	C208010	C202010	C803010	C803010
7. Pin, Roll (Pinion)	C108010	C210019	C133010	C134010	C153010	C155010	C208010	C153010	C803010	C805010
9. Plug, Grease *	C102022	C102022	C102022	C102022	C102022	C102022	C102022	C102022	C102022	C122022
10. Ring, Retaining (Hsgn)	C103003	C103003	C133003	C133003	C153003	C153003	C202003	C202003	C803003	C803003
11. Ring, Retaining (Brg.)	C102037	C102037	C132037	C132037	C152037	C152037	C202037	C202037	C803037	C803037
12. Shaft, Input (Flat)			C132602	C134602						
12. Shaft, Input (Keywayed)	C102606	C210606			C152606	C154606	C202606	C204606	C803606	C805606
13. Shaft, Output (Flat)			C133619	C133619						
13. Shaft, Output (Keywayed)	C103656	C103656			C153656	C153656	C203656	C203656	C803656	C803656
14. Washer, Seal	C108225		C138225		C156225		C208225		C803225	
15. Washer, Spacer										

*Lubricate with EXXON Co. Beacon 325 grease or equivalent.
 **Gears should be ordered in sets for proper fit.

Disassembly of the gear drive by the customer voids the warranty. Repairs made by the customer are not covered by Zero-Max warranty.



13200 Sixth Avenue North, Plymouth, Minnesota 55441-5509

(763) 546-4300 • Fax (763) 546-8260 • Toll Free in the U.S. 1-800-533-1731

www.zero-max.com