

## 800 SERIES GROVE GEAR IRONMAN - SIZES 813 thru 832 PROCEDURE FOR SWITCHING THE HAND OF OUTPUT ASSEMBLY

The 800 series speed reducers feature a single output cover design. To change the speed reducer assembly from position R to position L or vice-versa, it is actually the input assembly that is switched to the opposite side of the reducer. However, the output assembly is first partially removed from the reducer before the input assembly is reversed. The following instructions will assist you in switching the input shaft.

Before you start, you will need:

1. Replacement input oil seal (see below)
2. Hollow sleeve - Inside diameter of the sleeve should be slightly larger than the outside diameter of the input shaft extension or quill coupling. Outside diameter of the sleeve should be slightly smaller than the outside diameter of the replacement seal.
3. Electrician's tape
4. Clean container for storing drained oil
5. Bearing grease
6. Thread locking compound - Loctite® 243 or equivalent
7. Sealant - Permatex® Form-a-Gasket or equivalent
8. Standard mechanic's tools

1. Remove the motor flange bolts and motor flange, if applicable.
2. Drain the oil from the unit. The oil can be reused if it is drained into a clean container and covered to prevent contamination.
3. Cover the keyway of the output shaft extension with electrician's tape so the lips of the oil seal are not cut when the shaft is pulled through the seal. Apply a light coat of bearing grease to the shaft extension.
4. Remove the output cover bolts and pry the output cover off of the housing with an even amount of force on opposite edges of the cover. Do not pry on the shims that may be underneath the output cover. Remove any shims after the cover has been removed. There is an o-ring seated in a groove on the register diameter of the output cover.

 **CAUTION**: The metal shims used under the cover are thin and can cut fingers

5. Slide the output shaft assembly out of the gear housing just enough to disengage the gear mesh. **Note: Do not force the output gear out of its mesh with the input shaft. Doing so may damage the output gear teeth.**
6. Remove the input cover bolts and then the cover. There is an o-ring seated between the register diameter of the input cover and gear housing input bore. Remove this o-ring and set it aside.
7. The input assembly can now be pulled out of the gear housing through the end of the housing that the input cover was removed from.
8. The input seal is still in the gear housing. The seal should be removed and discarded, as it will be damaged during its removal from the housing. To remove the old seal, push it out of the housing from behind with a screwdriver or metal rod. There will be sealant residue in the gear housing bore where the input seal was removed from. This bore should be carefully cleaned prior to re-assembly.
9. Apply sealant to the input bore. The input assembly should now be replaced in the gear housing facing the opposite direction of the original assembly position.
10. Apply a light coating of grease to the o-ring for the input cover and reposition it at the base of the register diameter on the cover. Apply a thread locking compound to the threaded portion of the input cover fasteners. Reassemble the input cover to the gear housing. The input cover bolts should be tightened to 185 inch-pounds.

**800 Series - size 813 thru 832**

11. The replacement input seal should now be installed. See the chart below for seal usage.
  - a. Grease the seal lips with bearing grease.
  - b. Apply a light coat of bearing grease to the shaft extension or quill coupling.
  - c. Slide the seal onto the shaft extension or quill coupling being careful not to fold the inner lip over on any shaft steps.
  - d. Press the seal into its bore with a sleeve that presses on the seal casing, being careful to keep the seal square in its bore. The face of the seal should be recessed below the housing surface approximately 7/32".
  
12. The output assembly should now be placed completely back in its original position in the gear housing. **Note: Do not force the output gear into its mesh with the input shaft. Doing so may damage the output gear teeth.**
  
13. Apply a light coating of grease to the o-ring on the output cover. Apply a thread locking compound to the threaded portion of the output cover fasteners. Reassemble the shims and output cover (and output flange, if applicable) to the gear housing. For unit sizes 813 through 826, the output cover bolts should be tightened to 185 inch-pounds. For unit sizes 830 through 832, the output cover bolts should be tightened to 330 inch-pounds.
  
14. If a motor flange was removed during disassembly of the input, it should now be reassembled to the gear housing. Apply a thread locking compound to the threaded portion of the motor flange fasteners. The motor flange bolts should be tightened to 185 inch-pounds.
  
15. Remove the electrician's tape from all keyways and refill the unit with oil to the appropriate level.

**800 SERIES GROVE GEAR IRONMAN SEAL USAGE**

Upper line(s) list Grove Gear part # (Chicago Rawhide part #)

Lower line gives seal dimensions, expressed as: (shaft dia.) x (seal bore dia.) x (seal width)

All seals are double lip, style CRWA1, and Viton lip material

UNIT SIZE	SINGLE SOLID INPUT	DOUBLE INPUT COVER END	QUILL INPUT [Motor Size]	SOLID OUTPUT	HOLLOW OUTPUT
813	93207A (534948) .625 x 47mm x 7mm	93150 (6383) .625 X 1.375 x .25	[All]: 93212A (534951) 1.375 x 47mm x 7mm	93216A (534953) .875 x 1.624 x .25	93217A (9939) 1.000 x 1.624 x .25
815	93207A (534948) .625 x 47mm x 7mm	93150 (6383) .625 X 1.375 x .25	[All]: 93212A (534951) 1.375 x 47mm x 7mm	93216A (534953) .875 x 1.624 x .25	93217A (9939) 1.000 x 1.624 x .25
818	93207A (534948) .625 x 47mm x 7mm	93150 (6383) .625 X 1.375 x .25	[All]: 93212A (534951) 1.375 x 47mm x 7mm	93217A (9939) 1.000 x 1.624 x .25	93174 (14259) 1.438 x 2.250 x .313
821	93207A (534948) .625 x 47mm x 7mm	93150 (6383) .625 X 1.375 x .25	[All]: 93212A (534951) 1.375 x 47mm x 7mm	93217A (9939) 1.000 x 1.624 x .25	93143 (19227) 1.938 x 2.623 x .313
824	93208A (534956) .750 x 52mm x 7mm	93180A (7624) .750 X 1.624 x .25	[All]: 93214A (534958) 1.563 x 52mm x 7mm	93218A (534955) 1.250 x 2.125 x .25	93143 (19227) 1.938 x 2.623 x .313
826	93209A (534949) .938 x 62mm x 8mm	93211A (9308) .938 X 1.624 x .25	[All]: 93215A (534957) 1.875 x 62mm x 8mm	93218A (534955) 1.250 x 2.125 x .25	93143 (19227) 1.938 x 2.623 x .313
830	93335 1.125 x 2.835 x .315	93335 1.125 x 2.835 x .315	[All]: 93340 1.875 x 2.835 x .315	93035 (14994) 1.500 x 2.374 x .313	93163 2.75 x 3.5 x .375
832	93335 1.125 x 2.835 x .315	93335 1.125 x 2.835 x .315	[All]: 93340 1.875 x 2.835 x .315	93035 (14994) 1.500 x 2.374 x .313	93163 2.75 x 3.5 x .375