800 SERIES GROVE GEAR IRONMAN - SIZES 842 and 852
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. Electrician's tape
2. Clean container for storing drained oil
3. Bearing grease
4. Thread locking compound - Loctite® 290 or equivalent
5. Standard mechanic's tools
6. Snap ring pliers*
7. Input shim kit* (#16594 req'd for size 842 #16595 req'd for size 852)

*-Needed if unit has a quill-type input (style ends in "MQ")

1. Drain the oil from the unit. The oil can be reused if it is drained into a clean container and covered to prevent contamination.

2. 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.

3. Remove the output cover bolts and pry the output cover (and output flange, if applicable) 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

4. Slide the output shaft assembly out of the gear housing just enough to disengage the gear mesh. ***Note: Do <u>not</u> force the output gear out of its mesh with the input shaft. Doing so may damage the output gear teeth.***

5. The input assembly will be one of the following three arrangements:
    a. Solid input shaft (no motor flange) models: Cover the keyway of the input 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. Remove the input cover bolts and then the covers from the reducer. Remove any shims after the covers have been removed. There are o-rings seated between the register diameter of the input covers and gear housing input bore. Remove these o-rings and set them aside. The input assembly can now be pulled out of the gear housing.
    b. Quill motor flange input (style ends in "MQ") models: Apply a light coat of bearing grease to the quill coupling's outside diameter. Remove the input cover and flange bolts and then the cover and flange from the reducer. Remove any shims after the cover and flange have been removed. There are o-rings seated between the register diameter of the input cover or flange and gear housing input bore. Remove these o-rings and set them aside. Pull the input shaft partially out of the gear housing. There is a retaining ring located in a groove inside the input bore of the gear housing on the end of the reducer that the input cover was removed from. The race of the inner input bearing uses this ring as a backing shoulder, and the race will need to be removed from its bore by inserting a long metal rod through the opposite input bore. Tap the bearing race out with the rod. The retaining ring should now be visible inside the bore. Compress the retaining ring with snap ring pliers while sliding the input assembly out of the housing.
    c. Extended motor flange input (style ends in "M") models: Cover the keyway of the input shaft extension with electrician's tape so 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. Remove the input cover and flange bolts. Beneath the flange is another input cover. Remove the flange and then the covers from the reducer. Remove any shims after the covers have been removed. There are o-rings seated between the register diameter of the input covers and gear housing input bore. Remove these o-rings and set them aside. The input assembly can now be pulled out of the gear housing.

The input assembly should now be replaced in the gear housing facing the opposite direction of the original assembly position. 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.***

6. The input assembly will be one of the following three arrangements:
   a. Solid input shaft (no motor flange) models: Apply a light coating of grease to the o-rings for the input covers and reposition them at the base of the register diameter on the covers. Apply a thread locking compound to the threaded portion of the input cover fasteners and reassemble the input covers and shims to the gear housing. The input cover bolts should be tightened to 535 inch-pounds.
   b. Quill motor flange input (style ends in "MQ") models: Apply a light coating of grease to the o-rings for the input cover and flange and reposition them at the base of the register diameter on the cover and flange. Apply a thread locking compound to the threaded portion of the input cover and flange fasteners. Reassemble the input cover, flange, and shims to the gear housing. The input cover and flange bolts should be tightened to 535 inch-pounds. See page 3 for axial endplay specifications of the input shaft. There are three different sizes of shims in the shim kit: 0.004", 0.0010", and 0.015" thick. If the measured endplay is greater than the range shown on the chart, remove the input cover from the gear housing. Add a shim or stack of shims between the register diameter of the cover and the bearing race having enough thickness so the input shaft endplay will fall within the appropriate range. Reassemble the input cover to the housing. If the measured endplay is less than the range shown on the chart, remove the input cover from the gear housing and remove a shim from between the register diameter of the cover and the bearing race. Reassemble the input cover to the housing and measure the endplay of the input shaft. If the measured endplay still does not fall within the appropriate range, add or remove shims as necessary until it does.
   c. Extended motor flange input (style ends in "M") models: Apply a light coating of grease to the o-rings for the input covers and reposition them at the base of the register diameter on the covers. Apply a thread locking compound to the threaded portion of the input cover and flange fasteners. Reassemble the input covers, flange, and shims to the gear housing. The input cover and flange bolts should be tightened to 535 inch-pounds.

7. Apply a light coating of grease to the o-ring on the output cover.

8. 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. The output cover bolts should be tightened to 535 inch-pounds.

9. 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 I/P INPUT	DOUBLE I/P COVER END	QUILL I/P [Motor Size]	SOLID O/P OUTPUT	HOLLOW O/P OO/P OUTPUT
842	93210A (534950) 1.313 x 2.062 x .313	93210A (534950) 1.313 X 2.062 x .313	[56C - 140TC & D80D - D110/112]: 93215A (534957) 1.875 x 62mm x 8mm	93219A (18737) 1.875 x 2.875 x .313	93163 (27272) 2.750 x 3.500 x .375
			[180 - 250TC & D132D]: 93179 (22361) 2.250 x 3.000 x .375		
852	93210A (534950) 1.313 x 2.062 x .313	93210A (534950) 1.313 X 2.062 x .313	[56C - 140TC & D80D - D110/112]: 93215A (534957) 1.875 x 62mm x 8mm	93177 (19995) 2.000 x 3.000 x .313	93221 (534954) 4.250 x 5.251 x .375
			[180 - 250TC & D132D]: 93179 (22361) 2.250 x 3.000 x .375		

QUILL-STYLE INPUT - RANGE OF ACCEPTABLE INPUT BEARING SETTINGS

UNIT SIZE	AXIAL ENDPLAY
842	.001" - .006"
852	.001" - .006"