MAKE YOUR OWN SHAFT TYPE CONVERSION

Our MILE MARKER KIT is the result of over two years of experimental kits and testing. It has all the advantages of the best shaft type conversion kits, yet it uses all the original parts, with no new yokes necessary. It has none of the disadvantages of the crown type kits by being one unit. No thrust is applied to the bearing. Our bearing serves as a spacer to keep the chain sprocket clear of the planetary ring. No elbow for extra oil. Simple-Easy Installation. Fits all 203 Transfer Cases. Fits All Transfer 203 Cases.

- Increase Gas Mileage Up To 30%
- Improve Tire Life
- Get Better Handling
- Extend Drive Train Life
INSTALLATION INSTRUCTIONS FOR TRANSFER CASE CONVERSION

(NOTE: THERE ARE TWO STYLES OF OUTPUT SHAFTS USED ON THE PN 203, OUR DIRECTIONS ONLY COVER THE BOLT TOGETHER STYLE)

TOOLS NEEDED:
- 1 5/16 Socket with Breaker Bar
- 9/16 Socket with Extension and Rachet
- 10” Crescent wrench or Channel Locks
- Rubber Mallet
- Gasket Sealer

DIRECTIONS:

1. Unbolt the rear drive shaft from the transfer case yoke, wrap tape around the U-joint cups and wire the drive shaft up and out of the way of the tail housing.

2. Unscrew the speedometer cable retaining nut, then remove the cable from the side of the tail housing.

3. Remove yoke with 1 5/16 socket and breaker bar. (Figure 1)

4. Unbolt the 8 bolts that retain the tail housing assembly to the Transfer Case. Remove entire tail housing (tap with a rubber mallet to loosen, if necessary). (Figure 2)

CAUTION: Some oil will spill.

Note: On Ford 203 Transfer Cases with optional lock-out light switch in the differential housing, both the switch and the poppet ball plug, spring, etc., must be removed before the housing can be removed from the chain housing.

5. Remove near output shaft. (Figure 3)

Note: 15 needle bearings will fall out. Catch these in your hand. Save these.

6. Remove planetary gear ring by pulling straight back. (Figure 4)
7. On 1973 and early 1974 models, remove the spacer from shaft and replace with later model (74-80) spacer. The correct spacer measurements are 1.74 in O.D., 1.51 in I.D., 0.31 in wide. (Figure 5)

**Note:** On all models, this spacer must be used; never reassemble without it.

8. Install 3 piece spacer assembly. Dip in clean oil before installing. (Consist of one steel ring + roller bearing + another steel ring or one thick steel ring [install first] + roller bearing + thin steel ring.) (Figure 6)

9. Disassemble planetary gear ring; set aside spider gears, curved washers, needle bearings. Reassemble as in Figure 7 and 8. Torque the 4 bolts holding the assembly together to 35 ft lbs. (Figure 7 and 8)

**Note 1:** The cross piece (Figure 9) must have the long side facing the rear output shaft when you install the transfer case wedges.

**Note 2:** The unit will fit together snug. However, if you have excessive wear, it may be necessary to make and install thin shims behind the wedges.

10. Install needle bearings (15) in rear output shaft. Install unit on main output shaft. (Figure 10)

**Note:** Leave all stock shims on shaft behind speedometer gear.

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To ensure adequate lubrication to all non-moving parts, it is recommended the shifting lock lever be engaged for a few miles, once a week!
OPERATIONS:
11. Clean transfer case and install new gasket (gasket sealer will hold it in place).

12. Install tail housing and tighten all 8 bolts. (Figure 1)

13. Check end play (move rear output shaft in and out). You need .010 to approximately .050. No end play - too much? Remove 6 bolts that hold rear section of tail housing; now remove or add shims from behind speedometer gear as needed and reassemble.

Note: If the transfer case is on a bench, and not installed on a vehicle, the carrier may have dropped. Reach into the case and spin the spider gear while lifting up on it. Feel for the alignment pin to click into place.

14. Replace yoke and tighten to 120 ft lbs.

15. Install drive shaft and speedometer cable.

16. Refill transfer case oil to proper level.

WARRANTY INFORMATION:

Mile Marker/Selectro hubs, and Conversion Kits limited warranty

Mile Marker Industries warrants directly to the first purchaser that all Mile Marker Conversion Kits will be free from defect in material and workmanship appearing under normal use and service for a period of one year. Please register your warranty on our website at www.milemarker.com at the time of purchase or within 30 days by the end user. If you discover a hidden defect, Mile Marker will, as its option, repair or replace the product or necessary replacement parts at no charge to you, provided you remove the product from the vehicle and return it prepaid to Mile Marker Industries. If the product was purchased in the United States, the owner must contact our warranty department to get a Return Goods Authorization (RGA) Number before returning the product. If the product was purchased outside the United States, the owner must return the product to the original place of purchase.
Installation Instructions:

1. Remove vehicle’s existing hub assembly (dust cap, axle snap ring, lock ring, drive flange, spring and oil slinger ring).
2. Set aside removed components.
3. Clean and remove corrosion from wheel housing, paying close attention to locking ring groove.
4. Put a light coat of motor oil on the axle shaft and the wheel housing splines.
5. Insert the Mile Marker body assembly (Item 3) into the wheel housing. Line up the axle splines first, then rotate the outside of the body assembly until the wheel housing splines line up. Slide body assembly in. You may need to lift the axle up slightly to center wheel bearing free play.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
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<tbody>
<tr>
<td>1</td>
<td>Allen Head Screw</td>
<td>449.14</td>
</tr>
<tr>
<td>2</td>
<td>Cap Assembly</td>
<td>449.CAS</td>
</tr>
<tr>
<td>3</td>
<td>Body Assembly</td>
<td>449SS</td>
</tr>
<tr>
<td>4</td>
<td>Alignment Pin</td>
<td>N/A</td>
</tr>
<tr>
<td>5</td>
<td>Lock Ring</td>
<td>449.09</td>
</tr>
<tr>
<td>6</td>
<td>Spirolox</td>
<td>105.15</td>
</tr>
</tbody>
</table>

6. Grasp the spirolox (Item 6) and spread it apart with your fingers. Angle the entire lock ring (Item 5) away from face of the body assembly so that the inboard can be inserted into the ring groove in the truck. Maintain the angle and continue to insert the lock ring in a spiral manner until the lock ring is installed. Insert into the groove of the wheel housing. These hold the body assembly into the housing.

7. If axle groove is visible, you can now install the optional factory axle snap ring.

8. Cap Assembly (Item 2) (See diagram on page 2)  
   A) Set the dial on the cap assembly to FREE. 
   B) Place the cap assembly over the opening on the wheel housing. Ensure that the alignment pin is in place. 
   C) Ensure the ends of the cap springs are lined up with the base of the ramps on the cam of the Mile Marker body assembly.

9. Install the six Allen head screws.

10. Turn dial to lock, then back to free, ensuring the assembly moves freely.
Service Instructions:

Hubs should be serviced at the same time as wheel bearings. Clean and coat with motor oil. The hubs should never be packed with grease. We recommend checking wheel bearing adjustment and locknut torque to be sure they are within vehicle manufacturer’s specifications. We recommend to engage hubs for at least one mile monthly. If the body assembly requires service, disassemble and clean. Put a light coat of bearing grease on the axle gear. When the cam assembly is put back together, ensure it is aligned with the cap screw holes as shown below.

Operating Instructions:

2-Wheel Drive: Both control dials set in FREE position and transfer case in 2-wheel drive.

4-Wheel Drive: Set both hubs to lock and shift transfer case to 4-wheel drive. DO NOT drive on pavement or other hard surface roads in LOCK, this can result in severe binding up and damage of the gear train.

Never drive with one hub only engaged, as this can damage the front differential.

Never drive unless the control dials are in either fully locked or fully free position. If the hubs are partially engaged, hub damage may result.

Warranty Information:

Mile Marker Industries warrants directly to the first purchaser that Mile Marker Locking Hub Part Numbers 104, 302, 420, 423, 430, 432, 435, 449SS, 459SS, 457, 466, 470, 481, and 490 will be free from defect in material and workmanship appearing under normal use and service for as long as said purchaser owns the locking hub. Warranty registration cards for each product must be submitted within 30 days by the end user, or online at www.MileMarker.com/warranty. If you discover a hidden defect, Mile Marker will, as its option, repair or replace the product or necessary replacement parts at no charge to you, provided you remove the product from the vehicle and return it prepaid to Mile Marker Industries. If the product was purchased in the United States, the owner must contact our warranty department to get a Return Goods Authorization (RGA) number before returning the product. If the product was purchased outside the United States, the owner must return the product to the original place of purchase.