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GM NP205 Rear Output Bearing Vehicle Speed Sensor Conversion

From all of us at Precision Fabrication Plus, Inc. we would like to thank you for your business and trust in our company! Thanks to kind folks like you we have been successful following our dreams of creating this amazing powertrain conversion. and in-house services! Our family sincerely appreciates it.

Package Contents

- *(1) Modified GM NP205 Rear Output Bearing Retainer Housing*

Tools Required

- 1. Hydraulic Press with various sleeve diameters*
- 2. 9/16" Box end wrench / 9/16" Socket*
- 3. 3/8" or 1/2" Drive Ratchet*
- 4. 3/8" or 1/2" Drive Torque wrench*
- 5. Permatex Aviation Form-A-Gasket*
- 6. Permatex #2 Form-A-Gasket Sealant*
- 7. Dielectric Tune Up Grease*
- 8. Assembly Grease*

- 1. Install (2) two rows of needle bearings (32 each) separated by a spacer into the output low gear. Use sufficient grease to retain needles.*
- 2. Install thrust washer onto rear output shaft, tang down in clutch gear groove. Install output low gear onto shaft with clutch teeth facing down.*
- 3. Install thrust washer over gear with tab pointing up and away from gear. Install washer pin and also large thrust washer over shaft and pin. Rotate washer until tab flips into slot approximately 90 degrees away from pin. Finally, install snap ring and check end-play. It should be within .002”- .027”*
- 4. Grease pilot bore or rear output shaft and install needle bearings (15 each). Install thrust washer and new snap ring in bore.*
- 5. Clean, grease and install new bearing in retainer housing.*
- 6. Place rear output bearing retainer housing onto output shaft assembly, install tone wheel.*
- 7. Check clearance between the tone wheel and the rear shaft support for the OEM mechanical speedometer shaft support. We have found that the clearance varies drastically from one casting to the next. If there is less than .0625” clearance between the tone wheel and the rear shaft support you will need to remove some material by using a die grinder with a sanding drum. Take your time doing this and make sure the clearance is adequate before proceeding.*
- 8. If you had to grind in the previous step you will need to clean the inside of the rear output bearing retainer housing to ensure cleanliness and prevent damage to your transfer case caused by loose metal debris.*
- 9. Install rear output bearing into rear output bearing retainer housing.*
- 10. Press rear output oil seal into the bearing retainer housing and lightly grease seal wiper to prevent seal damage during the initial use of the transfer case.*
- 11. Apply Permatex #2 Form-A-Gasket Sealant to the threads of all (5) five 3/8”-16 x 1” Bolts.*
- 12. Install bearing retainer assembly onto the rear output bearing retainer housing with (1) one or (2) two gaskets, depending on clearance. Torque bolts to 30 ft. lbs. in a crisscross pattern.*
- 13. Install output drive yoke or flange, rubber star washer, washer and lock nut on output shaft. Torque nut to 150 ft. lbs.*

- 14. Position range rail in “high” and install output shaft and retainer assembly on transfer case housing. Torque the rear output bearing retainer housing bolts to 30 ft. lbs.*
- 15. Lightly grease the O-Ring on the inner side of the Billet Speedometer Drive Plug. Install the Billet Speedometer Drive Plug into the Mechanical Speedometer drive threaded hole. Torque to 25 ft. lbs.*
- 16. Lightly grease the O-Ring on the Vehicle Speed Sensor. Install the Vehicle Speed Sensor into the modified rear output bearing retainer housing. Hand tighten only (DO NOT OVERTIGHTEN)!*
- 17. Apply a dab of Dielectric Tune Up Grease into the Vehicle Speed Sensor plug and install Vehicle Speed Sensor Pigtail.*