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PAGE 1 OF 4 Page Rev. Date: 03-10-22  
P/N: 50-0217

## NEW VENTURE 4WD GM 4500 5 SPEED TO GM NP205 1971-1984 10 SPLINE

### KIT CONSISTS OF:

No.	Qty	Part No.	Description
1.	1	51-0216	ADAPTER PLATE
2.	1	51-0217	ADAPTER HOUSING 6.375" LG (Modified 51-0205)
3.	1	52-0217	COUPLER
4.	1	715529	T/C SHIFTER LINKAGE BRKT.
5.	1	716056	STEEL TUBING CROSSMEMBER
6.	1	716301	SEALED BEARING
7.	1	716462	2-PIECE SET COLLAR
8.	1	716721	NATIONAL SEAL
9.	8	720028	10mm x 1.5 35mm LG. S.H.C.S. (NV4500 BOLTS)
10.	8	723730	3/8"-16 x 1-1/4" LG. S.H.C.S.
11.	6	723740	3/8"-16 x 1-1/2" LG. S.H.C.S.
12.	2	724317	7/16"-14 x 1-1/4" S.H.C.S.
13.	1	725603	NUT-SERRATED FLANGE 9/16 -12 PLATED (Nut for T/C pivot bolt)

### NOTES

1. This adapter is designed for exclusive use of the 4WD GM version New Venture Model 4500 transmission. You must use this transmission due to the spline area where the GM harmonic balancer is located. The shaft must be shortened to 4.498" long which will be directly behind the 31 spline area. In order to cut off the shaft, you will need to remove the tailhousing. The shaft can be cut off using an abrasive cut off saw or a skill saw equipped with a special metal cutting blade. Be sure to use safety glasses during this procedure. You must remove the harmonic balancer and install the 2 piece set collar.
2. Bolt the new larger tailhousing to the back of the transmission. Make sure all of the gears clear the new housing and the dowel pins are used. Assemble the plate to the transfer case. Make sure the cut out for the transfer case linkage will allow the necessary clearance for your shifter control.
3. The bolt pattern on the front side of the New Venture gear box is unique to only late model GM transmissions. The original GM bellhousing provides a slave cylinder on the passenger side of the vehicle that will interfere with the early GM front driveshaft. We have a new aluminum bellhousing that will have this bolt pattern provided for all Chevy V8 conversions.
4. The NP205 transfer case must be equipped with a 10 tooth male input spline as illustrated. This shaft is common to all GM NP205 transfer cases used with the manual truck 4 speed transmissions. The original input shaft required a special seal on the outside diameter. Install the new sealed bearing into the front of the NP205 transfer case and install the oil seal into the adapter housing (casting number 51-0205). This will prevent the transfer of oil between the two gear boxes. You will also be required to use some RTV blue silicone on the splines of the transfer case side of our coupler. Unless this is done, the coupler shaft we manufacture will allow fluid to transfer down the splines into the transfer case. **ONLY** Apply silicone to the inside of our coupler and to the transfer case side of our coupler. As you slip the coupler over the splines, the silicone will fill the voids on the splines. We also recommend that you take the excess silicone that should have squeeze inward towards

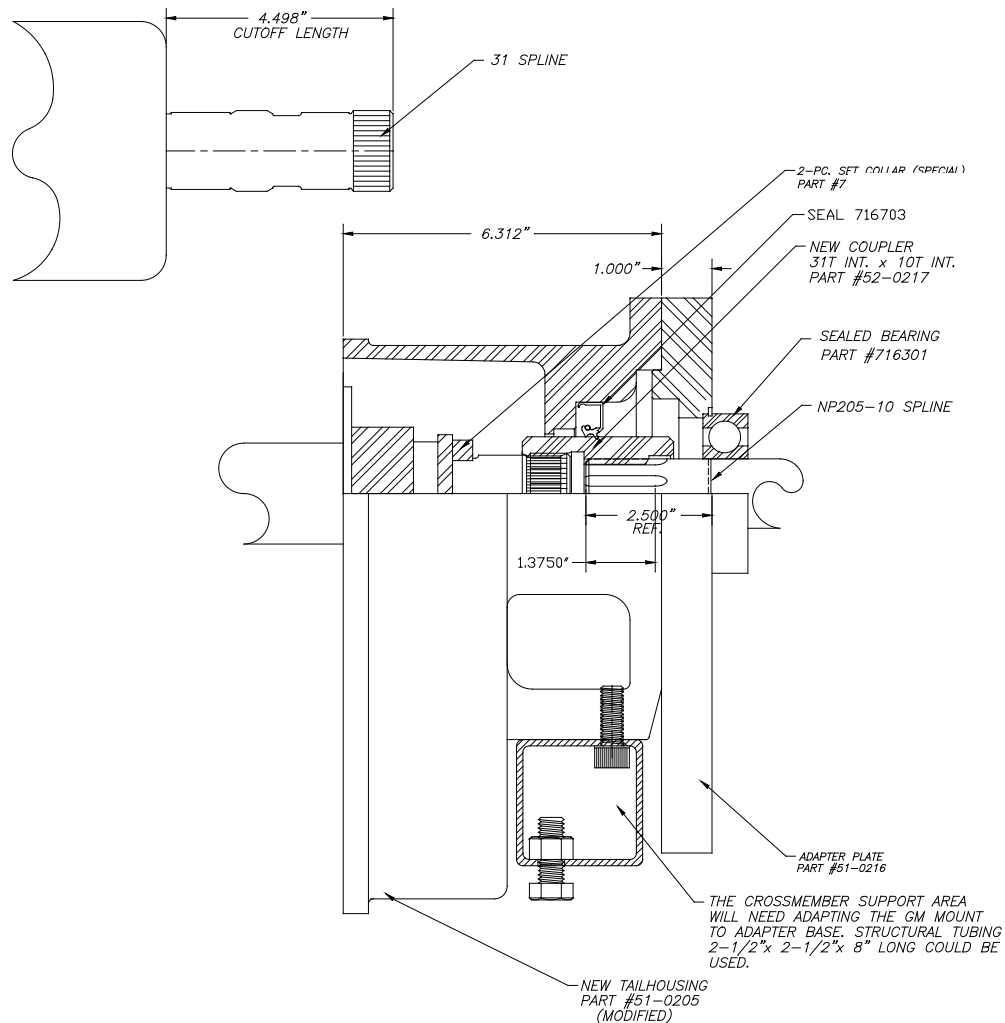
**SPECIAL NOTE:** The components packaged in this kit have been assembled and machined for specific type of conversions. Modifications to any of the components will void any possible warranty or return privileges. If you do not fully understand modifications or changes that will be required to complete your conversion, we strongly recommend that you contact our sales department for more information. This instruction sheet is only to be used for the assembly of Advance Adapter components. We recommend that a service manual pertaining to your vehicle be obtained for specific torque values, wiring diagrams and other related equipment. These manuals are normally available at automotive dealerships and parts stores.

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the center of the coupler and smooth it out with your finger. This will seal the splines to avoid oil transfer. Let the silicone dry for 6 hours before installing the transmission to minimize the chance of silicone getting into the NV4500 tailhousing.

- The transfer case mounting plate, Part No. 715529, mounts to the top cover and provides a hole location for mounting the handle in similar location. The bracket has been manufactured to ways over the years. One has the threads tapped into the bracket and the other uses the 725603 nut.

Make sure both gear boxes have vents to prevent gear-generated pressure.



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### **CAUTION!**

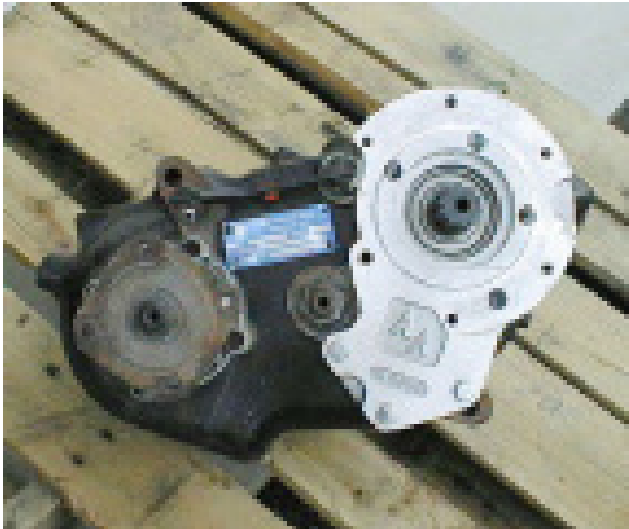
***IN ORDER TO LOCK MAIN SHAFT IN POSITION, THE SET COLLAR MUST BE INSTALLED ON THE REAR SIDE OF THE OUTPUT SHAFT MAIN BEARING.***

### **Transmission Lubrication**

The NV4500 transmission uses approximately one gallon of synthetic oil. This oil is available at your local GM authorized dealer under Part No. 12346191 (gallon), or Part No. 12346190 (quart). Unlike regular petroleum oil that breaks down when it gets too hot, this synthetic oil is made up of different properties that do not break down. Redline is one of the oil that is designed to work in the NV4500 transmissions that is not supplied from GM. **DO NOT SUBSTITUTE** any other lubricant as internal damage may occur. One of the biggest problems encountered is that people substitute different transmission fluids for use with this transmission.

**We offer the NV4500 oil under our part number 715690A.**

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NP205 transfer case with adapter in position.



Side view of the transfer case and adapter.



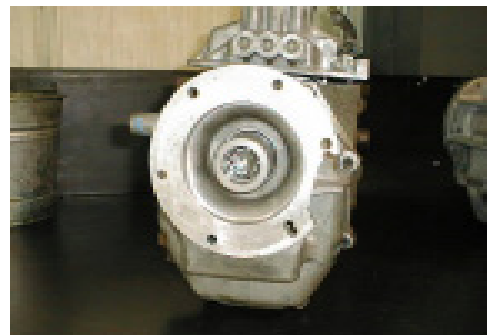
Tailhousing notched.



New coupler for 31 spline.



Output shaft shortened - 31 tooth.



Transmission ready to fit transfer case.