

FORD NP205-32SPL INPUT TO FIT GM 6L80 32 SPL TRANS

KIT CONSISTS OF:

No.	Qty	Part No.	Description
1	*1	340407	SNAP-RING EXT INPUT GEAR NP
2	1	51-0220	ADAPTER RING FOR FORD T/C
3	1	51-9600	ADAPTER- 6L80/6L90 TO ATLAS
4	*1	52-9600	GEAR- NP205 INPUT 46T
5	*1	52-9603	SHAFT- NP205 INPUT 32T LONG
6	*1	716315	BEARING 6210-T/C INPUT GEAR BEARING
7	*1	716467	SNAP RING-EXTERNAL 1 15/16
8	2	720044	H.H.C.S. 10mm X 1.5TH X 20mm GRD10.9 zinc
9	6	723704	LOCK WASHER 3/8 ZINC
10	6	723724	H.H.C.S. 3/8 -16 X 1-3/4 PLT G5
11	6	723735	WASHER 3/8 SAE FLAT PLT
12	6	723766	BOLT 3/8 -16 X 2.00" SHCS
13	2	724302	FLAT WASHER 7/16 SAE ZINC
14	2	724303	LOCK WASHER 7/16 STD PLTD
15	2	724307	H.H.C.S. 7/16 -14 X 1

* ITEMS NEED TO BE ASSEMBLED

Note: Transfer case shifter linkage bracket will need to be fabricated.

SPECIAL INSTRUCTIONS:

When assembling the transmission to the transfer case, **DO NOT FORCE** the two gear boxes together. If the shaft is too long, there is the possibility of pre-loading the transmission bearings for premature failure. Take the extra time to make sure that the shafts do not bottom out internally. If there is an interference problem, it may be necessary to grind the end of the new output shaft to obtain the proper length.

All Ford NP205 transfer cases are a 31 spline female input shaft. This kit will replace the 31 spline input with a new 32 spline input to match the 6L80 32 spline output shaft spline. The transfer case will require some disassembly of the front input to install the new gear assembly.

This kit has been modified to clear a portion of the shift rail; however, the 6L80 tailhousing must be modified for the shift rail clearance also. The 1" adapter plate can be used as a template to mark the notch needed in the adapter.

1. Align U-shaped notch of adapter with rearmost cylindrical boss of tailhousing, keeping in mind that the tailhousing's bolt pattern aligns with the adapter's tapped hole bolt pattern. Once aligned, transfer outline of notch to tailhousing with felt tip marker.
2. Take a 1/4" drill bit and wrap a piece of tape around bit 1" from the tip. This serves as a depth gauge. With a hand drill or drill press, drill as many holes in the outlined area as possible.
3. With a cold chisel, knock out the remaining material. With the shift rods in the fully extended position, make a trial fit of components to ensure that the pocket depth is enough to clear shift rods and cross link.



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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GM's new Hydra-Matic 6L80 transmissions are the first of a new family of modular six-speed rear-drive transmissions. The transmissions feature two overdrive gears and a wide gear ratio spread to improve performance and fuel economy when compared with conventional four- and five-speed automatic transmissions. With two overdrive gears, engine rpm is reduced by approximately 9 percent at 60 mph - a reduction to about 1,500 rpm. GM estimates the wide ratio spread can help cut 0-60 mph times by as much as 7 percent and enhance fuel economy by up to 4 percent.

The modular design of the transmission permits several versions of the transmission to be tailored with minimal changes to the precise performance requirements of different vehicles. As many as 47 percent of all components are common for all four transmission variants. In fact, the new transmission design is so flexible that different variants theoretically could run sequentially down the same assembly line. The new six-speed automatic's manufacturing plan dovetails completely with GM's Global Manufacturing System strategy to implement a common manufacturing process and procedure at every worldwide GM assembly plant.

Technically sophisticated clutch-to-clutch operation reduces complexity and packaging. It also enhances the performance feel of the transmission, as shifts feel more immediate and precise. It is a simple, less complex design that enables the six-speed transmission to be packaged in a size not much larger than a four-speed automatic.

Notes: GM's new Hydra-Matic 6L80 transmissions are the first of a new family of modular six-speed rear-drive transmissions. The transmissions feature two overdrive gears and a wide, 6.04:1 gear ratio spread to improve performance and fuel economy when compared with conventional four- and five-speed automatic transmissions. With two overdrive gears, engine rpm is reduced by approximately 9 percent at 60 mph - a reduction to about 1,500 rpm. Lower engine rpm can bolster fuel economy because less fuel is used. A lower-rpm cruising speed also enhances smoothness and reduces noise heard in the vehicle's cabin. The gear ratio's are 1st - 4.03:1 / 2nd - 2.36:1 / 3rd - 1.53:1 / 4th - 1.15:1 / 5th .085:1 / 6th .67:1.

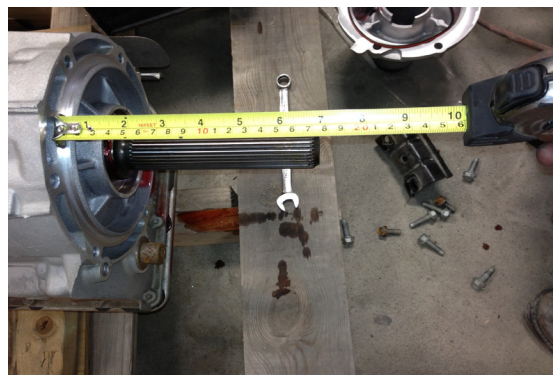
The 6L80 uses a 32 spline output shaft in the 4WD and 2WD model transmissions. Transmission length 23.2"

Please verify your spline information before starting any project.



On 2WD transmissions the holes located at 12 and 6 o'clock need to be plugged with factory soft plugs. The output shaft needs to have a seal installed.

2008 2WD 6L80 output shaft has, approximately 7" of shaft stick out and 6" of splines. This shaft could be cut and the casting used at the 3.7" length. Stock 4WD output shaft with 1.62" of spline. This spline should be recessed from the casting face .300" once the casting is installed. Shaft on the left is a fixed yoke 2WD trans. This shaft must be modified to work with this kit.

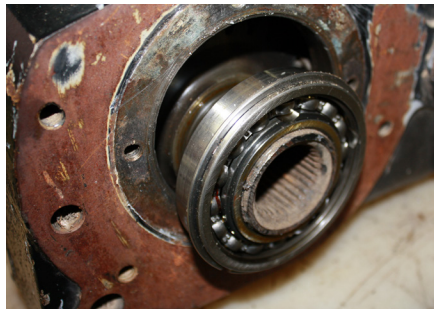
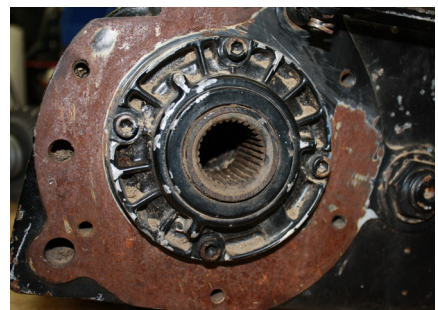


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When replacing a NP205 male input 10, 27, or 23 spline, the NP205 case will require machining for the larger input bearing bore.

Photos shown are of a Ford T/C. The installation on the new gear is the same on all models of T/C's

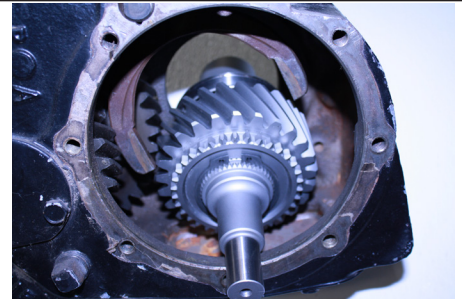


Remove the tailhousing bolts and front retainer bolts (if your transfer case has a front retainer). Shift the transfer case into 2WD high range and remove the tailhousing from the transfer case. Once the T/C output is removed, shift the T/C into low range which will release the slider. Remove the snap ring from the shaft to the bearing so the shaft and the bearing can be separated. This will allow the gear to drop downward and clear the shift fork.

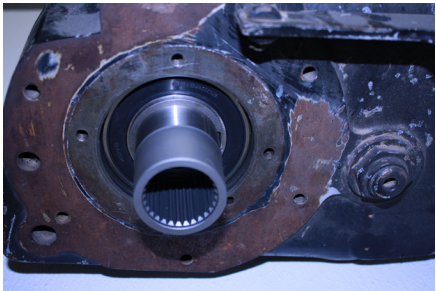
Once the old gear and bearing are removed, clean the bore of the case and get ready to reassembly the new gear assembly.

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The new gear comes assembled with the outer bearing snap ring pulled off the bearing. From the back side of the transfer case install the gear and bearing into the case. The gear gets assembled at an angle to clear the shift fork. Slide the bearing and gear up to meet the case bore. The bearing should slide into the case bore enough to align everything, you can tap the back of the gear with a rubber mallet to get the bearing fully installed. Note the bearing should come out the front of the case and expose the snap ring groove.



The slider ring of the NP205 will need to be installed back onto the shift fork in low range and then the transfer case needs to be shifted into high range. During this procedure be careful of your fingers as you need to line the slider with the gear drive teeth. Once the gear and slider are supported together you will need to install the front bearing snap ring. This will retain the gear in the proper location in the case. The snap ring can be started in the bearing groove with your thumb and then just working it into place with your other hand until it spirals into place. With the rubber mallet tap the front of the gear assembly to set the bearing and snap ring against the case.

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