



P.O. Box 247, 4320 Aerotech Center Way
Paso Robles, CA 93447
Telephone: (800) 350-2223 Fax: (805) 238-4201
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4L80E TO JEEP JK NP241 TRANSFER CASE 2.72:1

KIT CONSISTS OF:

No.	Qty.	Part No.	Description
1.	1	51-6450	ADAPTER HOUSING
2.	1	52-9940	NP241 MODIFIED INPUT GEAR
3.	1	716511	O-RING
4.	6	720020	10MM X 1.5 X 30MM
5.	1	300619	SENSOR
6.	1	300617	RELUCTOR
7.	3	300617A	1/4-20 SET SCREWS

The index hub diameter is 4.800". This casting will only work with the 4L80 4WD output shaft and the 4L80 slip yoke output shaft. The slip yoke output shaft must be shortened to work with our casting.

4WD 4L80 OUTPUT SHAFT GM# 24204291

SLIP YOKE OUTPUT SHAFT GM# 24204289

GM 4L80E 4 SPEED AUTOMATIC OVERDRIVE- BACKGROUND INFORMATION

The GM 4L80E has a case length of 26" and has 17 bolts for retaining the oil pan. The rear side of the transmission case will have a hex shaped bolt pattern that uses 6 bolts. There are several different lengths of output shafts that the transmission has been equipped with, but **THIS KIT REQUIRES A 4WD OUTPUT SHAFT.**

The 4L80E transmission is normally equipped with an internal reluctor ring on both the transmissions input shaft and output shaft. The computer needs both of these readings for the proper shifting and operation of this transmission. The rear reluctor ring is not always installed into the transmission. The basic rule of thumb is 4WD transmissions up to 1996 should have a rear reluctor ring in the main transmission case. All 2WD transmissions should have the rear reluctor in the main transmission case. The 1997 & newer 4WD 4L80E transmissions had a sensor provision; however, the reluctor ring in the transmission was left out. Since it is expensive to disassemble the transmission to add a reluctor ring, this kit has a vehicle speed sensor built in that can be used in place of the 4L80E Output Shaft Speed Sensor.

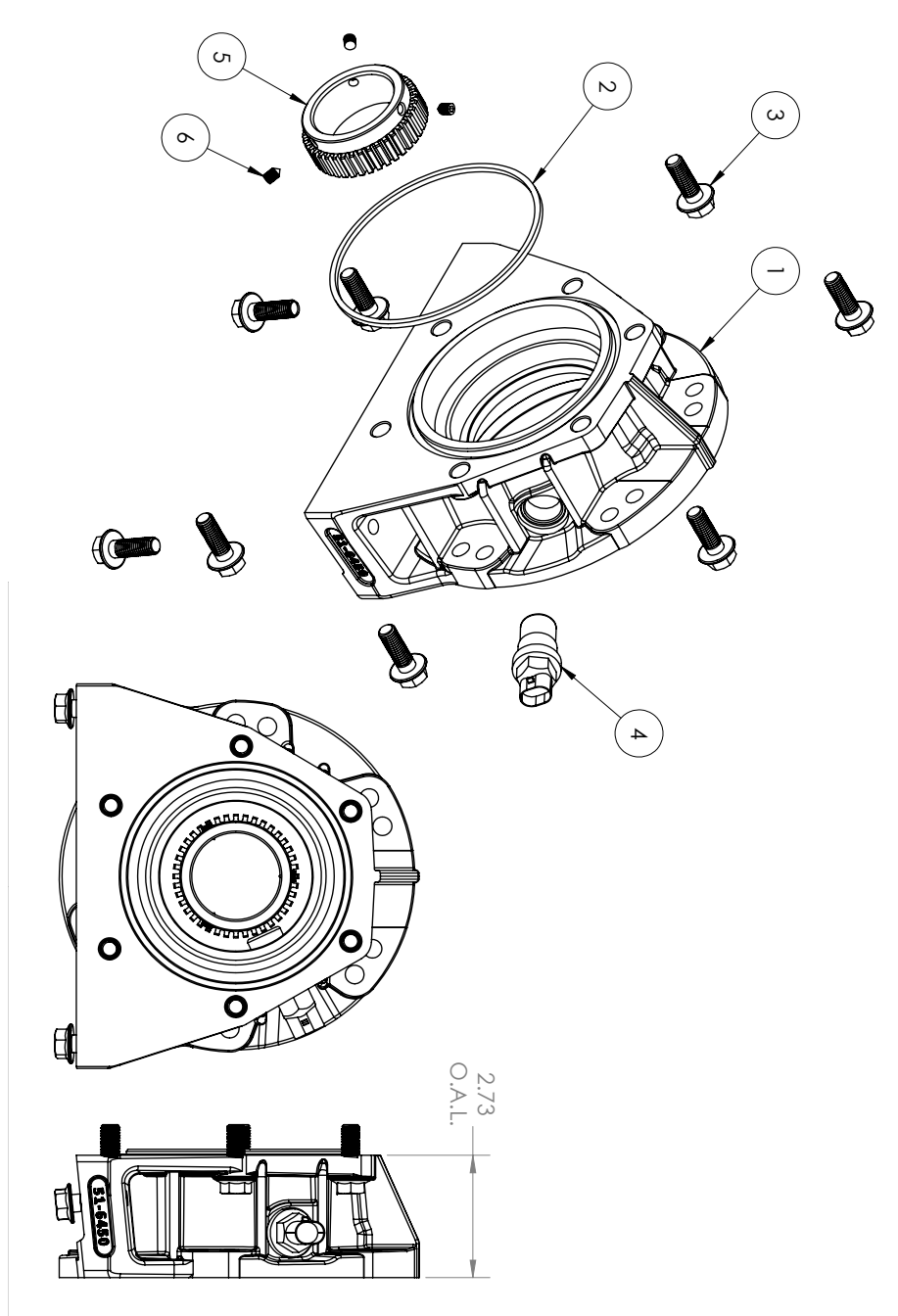
Note: The information on years and models of the 4L80E transmission mentioned in the above section is obtained from various sources. You should always verify what your transmission is equipped with before beginning a conversion with the 4L80E transmission.

INSTALLATION

1. Install the modified 32 spline NP241 input into the transfer case (see page 3).
2. Install the reluctor on the NP241 front input aligning the sensor hole in the adapter with the center of the reluctor ring and then lock in place with blue loclite on the 3 set screw and retaining compound loctite 609 .
3. The sensor needs to be installed into the 51-6450 casting. Using a feeler gage, check the clearance between the sensor tip and top of the teeth on the reluctor ring. This clearance should be 0.012" +/- 0.002". This clearance may be adjusted slightly by adjusting torque used to snug the sensor. The transmission will not shift correctly if this tolerance is not correct.
3. Bolt the 51-6450 casting to the rear of the 4L80E using the new bolts. Make sure that the 4L80E output shaft and the Atlas input shaft do not bottom out. **DO NOT FORCE THE ADAPTERS TOGETHER.** If assistance is needed, please feel free to call the phone number listed above.

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 changed 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 manual are normally available at automotive dealerships and parts stores.

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INSTRUCTIONS for NP 241 input gear:

This new input gear will only fit the NP241 with the 2.72:1 low ratio. The installation of the gear will require the complete disassembly of your NP241 transfer case.

If you've never disassembled a New Process transfer case, here are a couple of points to keep in mind that will make the installation much easier:

1. Keep all bolts, nuts, washers, etc. separated into groups as you remove them. Make sure you keep them in a labeled container that indicates what part of the transfer case they came from.
2. Keep all small parts in separate containers and label as to location and origin.
3. Make sure you have plenty of time and have a clean, spacious area to perform the installation.

Remove the front and rear yoke nut with an impact wrench. Remove the rear case bolts. Start to remove the rear case from the front case by inserting pry bars at the cast-in locations **ONLY!** Pry apart evenly to break the sealer bead along the case mating surfaces.

On the front side of the transfer case, you'll need to remove the 4 bolts that retain the aluminum bearing retainer. Once this is removed, you'll find a snap ring that retains the input gear to the cases' input bearing. This snap ring must be removed so that the input gear can be removed from the inside.



On the inside of the transfer case, you'll now be able to remove the planetary assembly. Set the assembly on a work bench and locate the snap ring that retains the input gear into the planetary housing. Remove the snap ring and lift the input gear out of the planetary housing.



Once the input gear is removed, you'll find a thrust washer that must be reinstalled onto the new 32 spline input. When comparing the two input gears, they should look the same except for the internal splines. We have modified the new input gear to accept the same bearing



install the gear into the planetary, install the snap ring. Re-install the planetary assembly into the case and secure the input to the bearing with the front snap ring. **Note:** The only part you should have left out of the case is the old input gear. During reassembly, make sure the oil return hole matches the front retainer hole.

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