



RUBICON EXPRESS 1900 EL CAMINO AVE., SACRAMENTO, CA. 95815 866-533-7706, www.Rubiconexpress.com

**INSTALLATION INSTRUCTIONS FOR:
RE1811
SLIP YOKE ELIMINATOR KIT
(For New Process 231 Transfer Case Assemblies)**

Safety Warning:

Suspension systems or components that enhance the off-road performance of your vehicle may cause it to handle differently, on and off-road, than it did from the factory. Care must be taken to prevent loss of control or vehicle rollover during sudden maneuvers. Failure to drive the vehicle safely may result in serious injury or death to driver and passengers. We recommend you always wear your seatbelt, drive safely and avoid quick turns and other sudden maneuvers. Constant maintenance is required to keep your vehicle safe. Thoroughly inspect your vehicle before and after every off-road use.

Installation Warning:

We recommend that certified technicians perform the installations of our products. Attempts to install these products without knowledge or experience may jeopardize the safety of the vehicle. These instructions only cover the installation of our products and may not include factory procedures for disassembly and reassembly of factory components. Read instructions from start to finish and be sure all parts are present before disassembling the vehicle. Included instructions are guidelines only for recommended procedures and in no way are meant to be definitive. Installer is responsible to insure a safe and controllable vehicle after performing modifications. Do not perform test drives on public roads with partially completed installations. Always double and triple check your work before use.

REQUIRED TOOLS:

Basic mechanics' hand tools
Jack and Jack Stands or Vehicle Lift
File
Automatic Transmission Fluid (ATF)

Press or Bearing Puller
Grinding Wheel or Saw
Silicone RTV sealant (PN 05010884AA)
Pry Bar

RE1811 KIT CONTENTS:

Rear Housing Assembly (Includes rear housing, rear input sale, rear out put bearing and rear output bearing and rear output snap ring, pre-assembled.

Rear Output Yoke

Mainshaft

Speedometer Snap Ring

Mode Gear Snap Ring

Speedometer Drive Gear

Housing Plug

Rear Output Soline Seal

Front Output Spline Seal

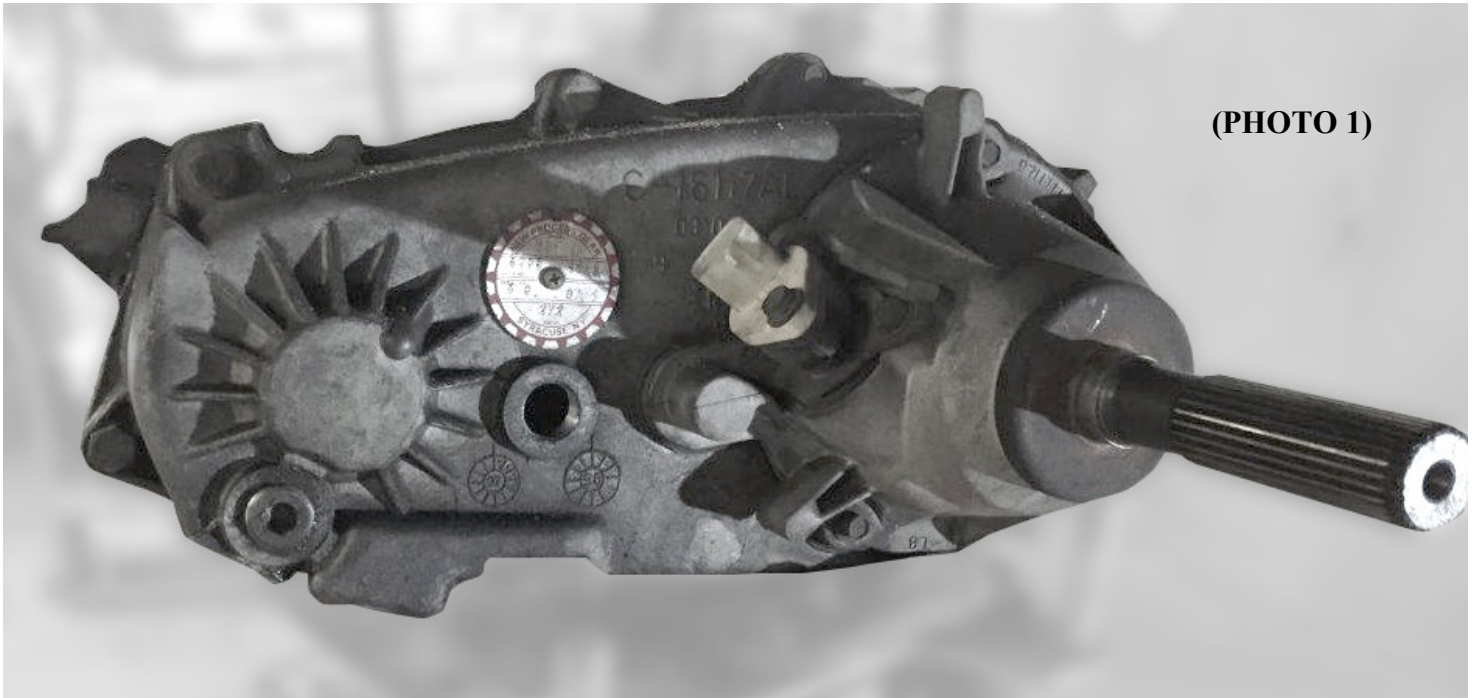
Rear Output Yoke Nut

Set Up:

- A. Read through this entire instruction manual before removing the 231 Transfer case from the vehicle.
- B. After removing the transfer case from the vehicle, disassemble the entire case assembly and inspect all existing components. If any components require replacement, order the replacement parts and install them along with this kit.
- C. Be sure to organize, label and package the removed OE hardware for reinstallation.
- D. Silicone RTV sealant, (Part # 05010884AA) will be necessary to complete installation of this kit. Access to a service manual will help you identify all components and specific torque values, etc.
- E. Labeling of components will also help during reassemble of transfer case.
- F. Carefully read service manual in advance to make sure all tools necessary are available to you.

Installation:

- A. Place the transfer case in 4L prior to removal. Remove the driveshafts, linkage and speedometer unit. Be careful to note the position of each component prior to removal. Separate the transfer case from the transmission, and then remove the transfer case from the vehicle.
(PHOTO 1)
- B. Remove the front yoke. From the transfer case.
- C. Remove the selector lever from the transfer case.
- D. Remove the output shaft boot and dust shield from the transfer case.



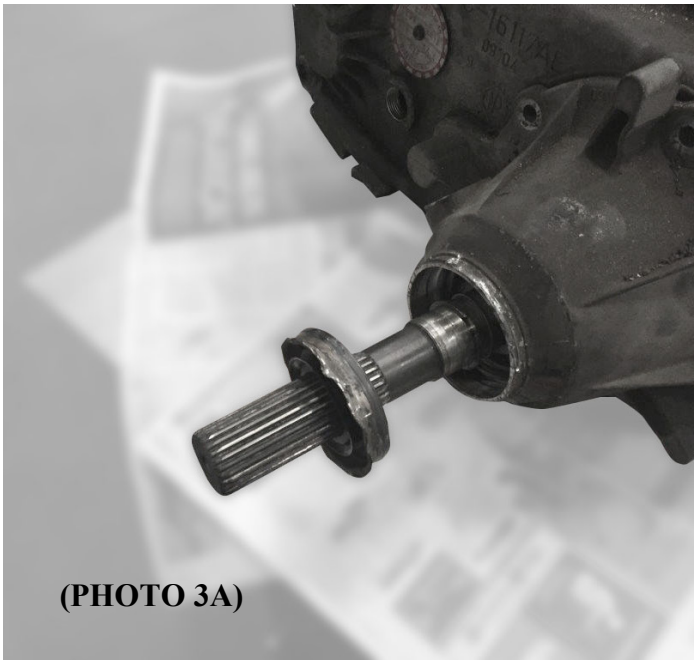
(PHOTO 1)

NOTE:

Depending on the model year, newer vehicles may have a harmonic balancer. Remove the balancer by inserting (3) 6mm X 1" bolts through the holes (Which are tapped for this purpose). When fully inserted, these bolts will act as a press, and push the balancer off the shaft. Refer to the service manual for possibility of slight model variations. (PHOTO 2)



(PHOTO 2)

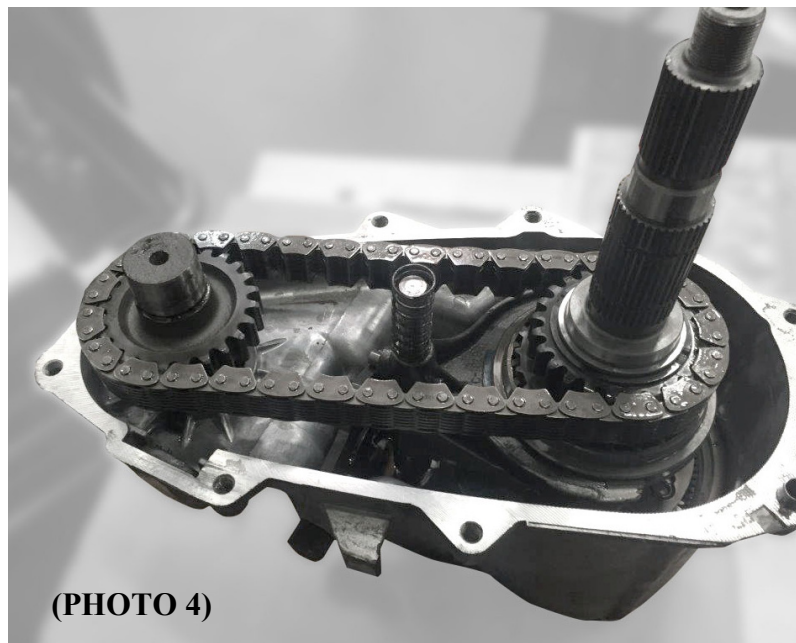


(PHOTO 3A)

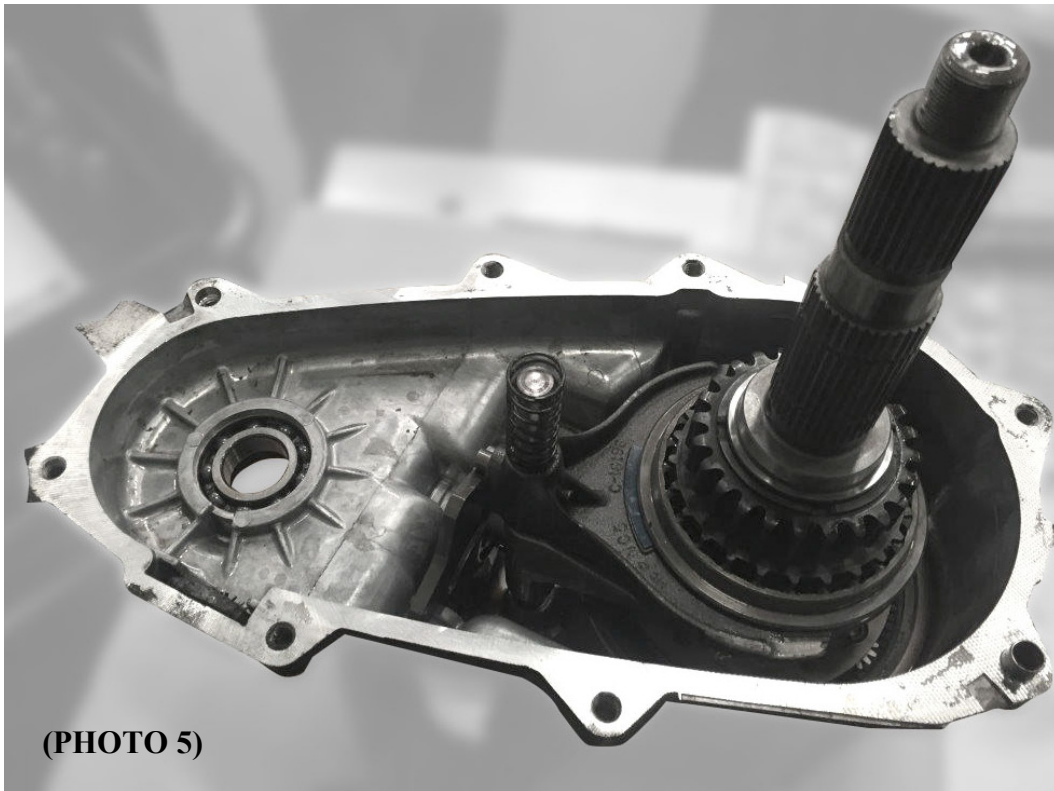


(PHOTO 3B)

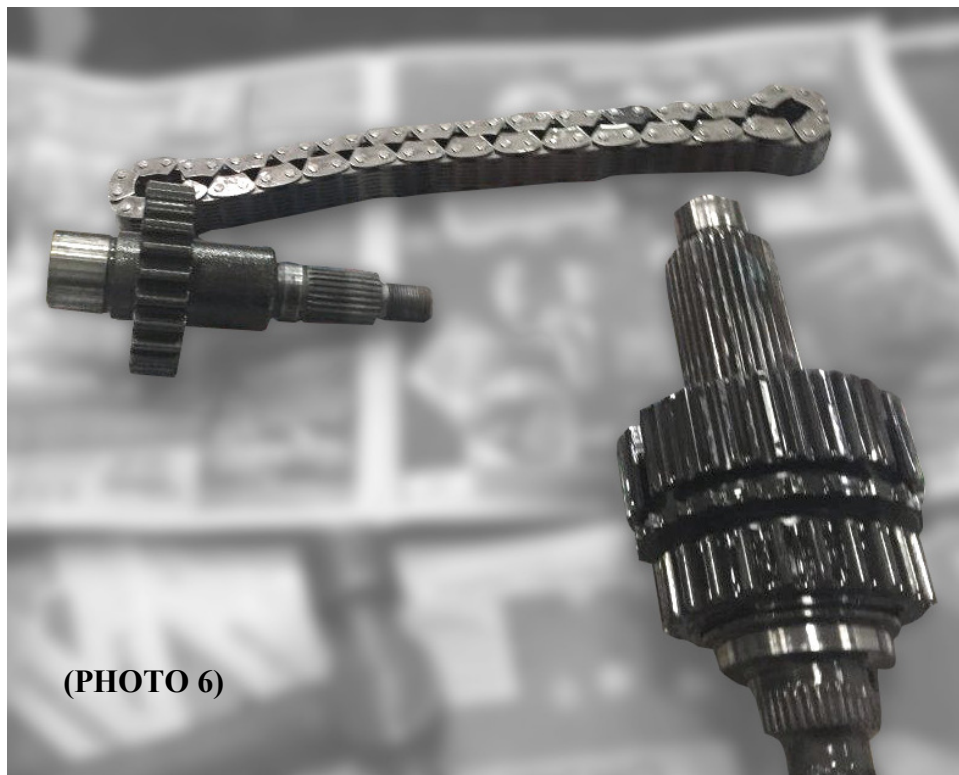
- E. Remove the spacer and snap ring. Remove the seal, inner snap ring from the shaft. Remove the bearing retainer ring. Remove the 10mm bolts securing the output housing and remove the OE output assembly. **(PHOTO 3A & 3B)**
- F. Mark the locations of the rear case half 12 pt. 10mm bolts before removing them. Carefully separate the case using a pry bar in the pry bar location slots only. Using a pry bar in any other locations may damage the mating surfaces, causing the case to not properly seal. Carefully begin to pry the case halves apart. With the case halves separated, disconnect the pickup tube and pump assembly from the rear case. DO NOT disassemble the pump. Inspect the O-rings, and replace them if they are nicked or worn. Be sure to clean the inner case. Inspect for wear or damage.
- G. Remove the front output shaft from the bearing. Remove the chain from the mainshaft. Be sure to clean and inspect the chain and shafts. If the chain shows signs of stretching or fatigue, replace it with a new chain (Part # 4338935). **(PHOTO 4)**



(PHOTO 4)



- H. Remove the mainshaft from the front case. Be sure to document the locations of the snap rings, mode hub and sprocket. These parts will be reinstalled onto the new shaft. **(PHOTO 5)**
- I. 231 Transfer cases assembled prior to 1997 have caged roller bearings on the output shaft. After 1997 there were no bearings in this position. If you have a pre-1997 model, the bearings must be removed from the sprocket using an appropriate press or bearing puller.



- J. Inspect all of the components. Make sure each is clean and in good condition. Pre-lube all components prior to installation with a suitable assembly lubricant.

(PHOTO 6)

- K. Replace the OE mainshaft with the new one supplied with the kit. Slide the drive sprocket into position on the new mainshaft.

- L. Slide the mode hub into position, and install the retaining ring.

(PHOTO 7)

- M. Pre-lube the mainshaft assembly, chain, and shaft bearing surfaces with a suitable automatic transmission fluid (ATF). Insert the mainshaft assembly into the front case half planetary assembly. Install the chain onto the front output shaft and onto the mainshaft assembly.

- N. Secure the mode spring on the shift rail.

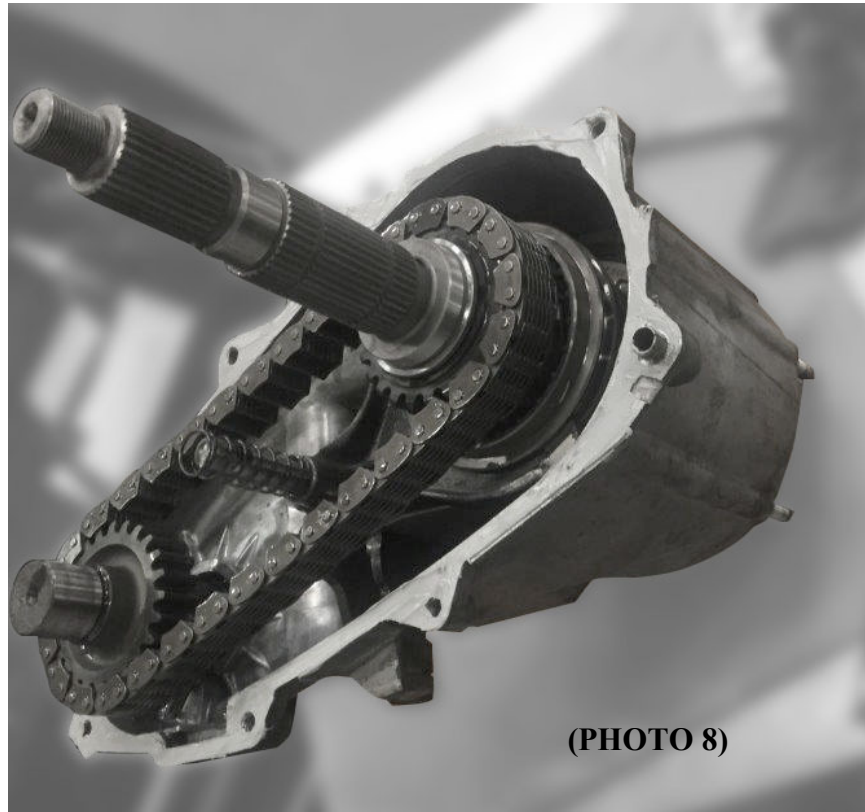
- O. Perform a final inspection prior to assembling the rear case half onto the front case half planetary assembly and main shaft assembly. If all components are properly positioned and clean, prepare case halves for installation by applying silicone RTV Sealant to the mating surfaces. **(PHOTO 8)**

- P. Carefully slide the oil pump and rear case half into position. The mode fork shift rail extends through the rear case. Re-install all the previously removed bolts into their original locations. Torque bolts to 20-25 ft./lbs.

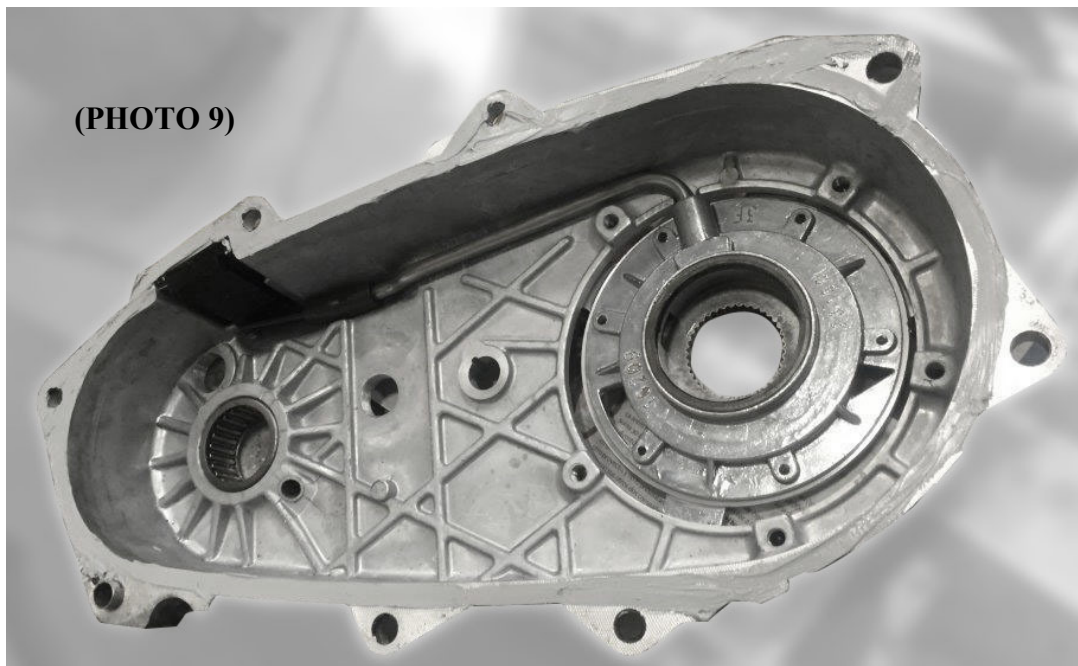
(PHOTO 9)

NOTE: Be careful to not force the case halves together.

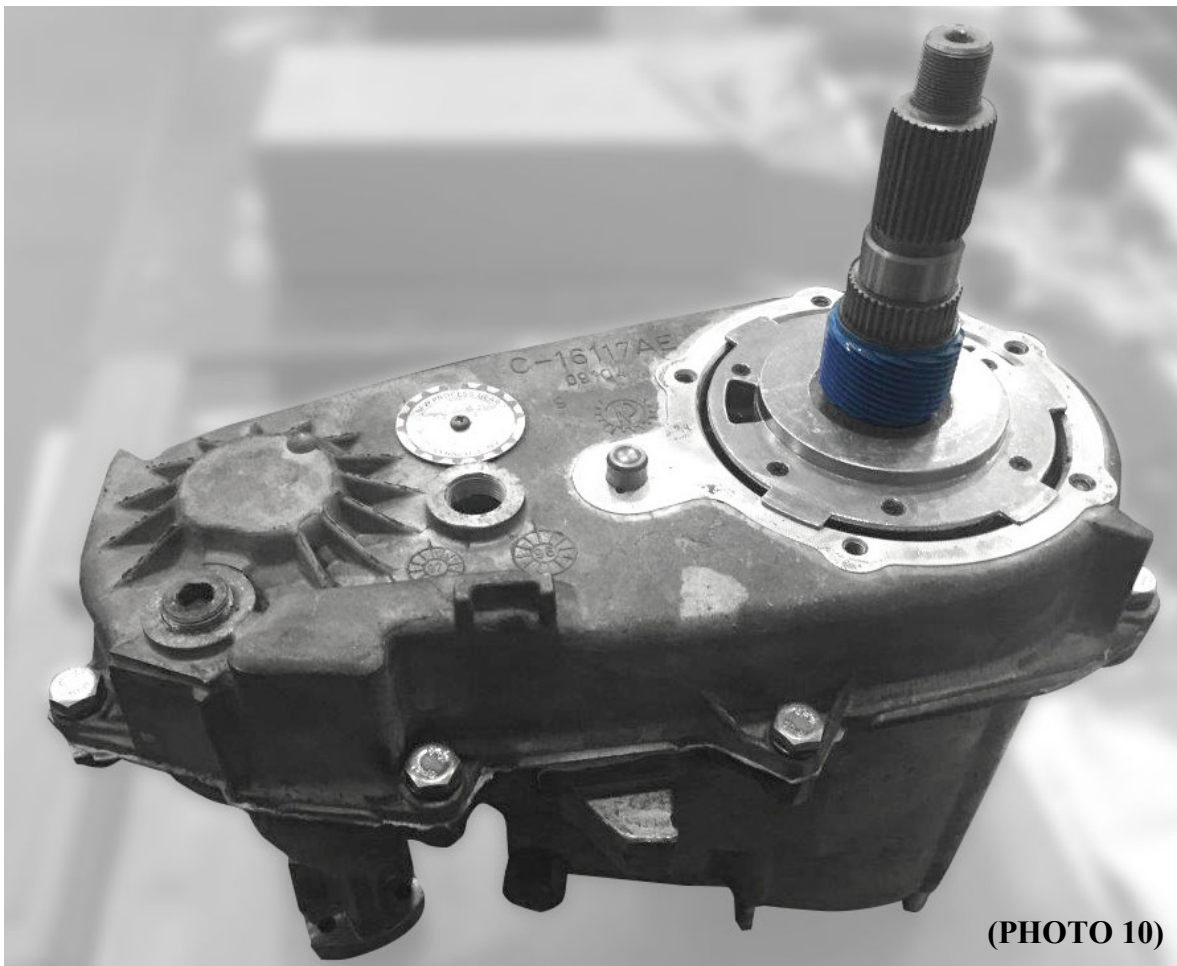




- Q. Reinstall the selector lever to the transfer case.
- R. Install the speedometer gear snap Ring in the groove on the shaft next to the oil pump. Install the blue Speedometer Gear on the shaft and secure using with the snap ring.
- S. If the vehicle is an XJ Cherokee model, a vacuum actuator will be located on the rear output housing. If the vacuum actuator is present, reinstall it.
- T. If the vehicle is a Wrangler model, a plug with a seal has been included in this kit. Install the plug using silicone RTV sealant.

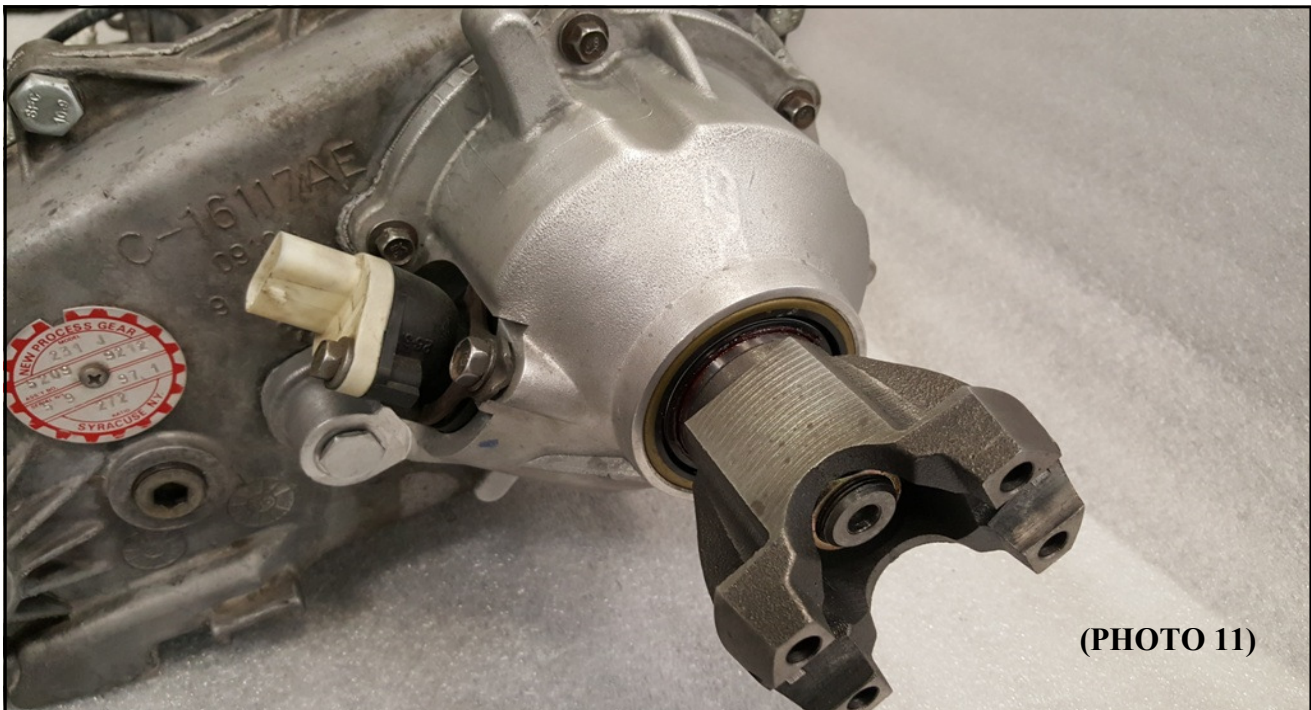


- U. Some 231 transfer case assemblies have a shift rod that extends 1-1/2" out from the case. If your vehicle has this longer shift rod, it must be shortened to protrude only 1" beyond the case. To determine this, shift the assembly into 4WD. The shift rod should be fully extended in this position. In order to make sure that there is no interference because of the length of this shaft, fit the housing to the rear case half. Align the pump outer tabs with the housing. Cut the extra length using an appropriate cutting tool (grinding wheel, Saw, etc.). Be sure to debur the shift rod with a file.
- V. Pre-lube the remaining bearing and seal and install them into the rear output housing. Secure using the Snap Ring.
- W. Apply silicone RTV sealant to the mating surfaces of the case and the output housing.
- X. Support the mainshaft assembly and slide the new rear assembly into position. Carefully index the pump outer tabs, then align and install the rear output assembly. **(PHOTO 10)**
- Y. Carefully pull the Output Shaft to seat it against the rear bearing.
- Z. Install the (5) remaining previously removed 10mm bolts into the output housing. Torque the 10mm bolts to 15-20 ft./lbs.
- AA. Place the front yoke seal into position. Pre-lube the seal and yoke with ATF. Slide the yoke into position. Tighten to 140-150 ft./lbs. Repeat this step for Rear yoke.



(PHOTO 10)

- BB. Install the speedometer housing into the new output housing. Proper position for your speedometer unit will need to be determined, depending which speedometer gear tooth count your vehicle is equipped with. There are (4) possible count types. Tooth count is indicated on the speedometer housing. Align the correct number on your housing, and secure with the retaining clip. **(PHOTO 11)**
- CC. Seal the o-ring using silicone RTV sealant.
- DD. Install the transfer case assembly into your vehicle using the previously removed hardware.
- EE. Fill the transfer case assembly to the proper level with ATF. Refer to service manual.
- FF. Reinstall the front drive shaft, linkages, speedometer cable and any remaining mating components using the previously removed hardware. Torque according to manufacturer's specifications.
- GG. Carefully measure the exact distance from the transfer case rear yoke, to the rear differential yoke. The rear differential yoke must be pointed at the transfer case yoke in order to get a correct measurement. This should be done on the ground, at vehicle's ride height. Measure from the center of the U-Joints.



(PHOTO 11)

NOTE: The driveshaft will need to be modified or replaced by a qualified driveshaft repair shop, based on your measurement. Be sure to use a CV Joint and Long Slip Spline style Shaft Assembly.

- HH. No front driveshaft modification is necessary with the installation of this kit.
- II. Installation is now complete.



RUBICON EXPRESS ADVANTAGE LIFETIME WARRANTY

Notice to Owner, Operator, Dealer and Installer:

Vehicles that have been enhanced for off-road performance often have unique handling characteristics due to the higher center of gravity and larger tires. This vehicle may handle, react and stop differently than many passenger cars or unmodified vehicles, both on and off-road. You must drive your vehicle safely! Extreme care should always be taken to prevent vehicle rollover or loss of control, which can result in serious injury or even death. Always avoid sudden sharp turns or abrupt maneuvers and allow more time and distance for braking! Rubicon Express reminds you to fasten your seat belts at all times and reduce speed! We will gladly answer any questions concerning the design, function, maintenance and correct use of our products.

Please make sure that the Dealer / Installer explains and delivers all warning notices, warranty forms and instruction sheets included with Rubicon Express product.

Application listings in this catalog have been carefully fit checked for each model and year denoted. However, Rubicon Express reserves the right to update as necessary, without notice, and will not be held responsible for misprints, changes or variations made by vehicle manufacturers. Please call when in question regarding new model year, vehicles not listed by specific body or chassis styles or vehicles not originally distributed in the USA.

Please note that certain mechanical aspects of any suspension lift product may accelerate ordinary wear of original equipment components. Further, installation of certain Rubicon Express products may void the vehicle's factory warranty as it pertains to certain covered parts; it is the consumer's responsibility to check with their local dealer for warranty coverage before installation of the lift.

Warranty and Return Policy:

Rubicon Express warrants its full line of products to be free from defects in workmanship and materials for the life of the product. Rubicon Express's obligation under this warranty is limited to repair or replacement, at Rubicon Express's option, of the defective product. Any and all costs of removal, installation, freight or incidental or consequential damages are expressly excluded from this warranty. Rubicon Express is not responsible for damages and / or warranty of other vehicle parts related or non-related to the installation of Rubicon Express product. A consumer who makes the decision to modify his vehicle with aftermarket components of any kind will assume all risk and responsibility for potential damages incurred as a result of their chosen modifications.

Warranty coverage does not include consumer opinions regarding ride comfort, fitment and design. Warranty claims can be made directly with Rubicon Express or at any factory authorized Rubicon Express dealer.

Claims not covered under warranty:

- Parts subject to normal wear; this includes bushings*, shock absorbers, driveshafts, ball joints, tie rod ends and heim joints.
- Discontinued products at Rubicon Express's discretion.
- Finish after 90 days.

Rubicon Express accepts no responsibility for any altered product, improper installation, lack of or improper maintenance or improper use of our products.

***Rubicon Express PT-MEG Super-Ride bushings are covered by the Rubicon Express Advantage Lifetime Warranty, and will be replaced in the event of failure for the life of the product.**