

MODEL 300 FLIP KIT - PARTS LIST

SHIFTER PLATE – 1 EA

REAR SHIFT RAIL – 1 EA

FRONT SHIFT RAIL – 1 EA

SHIFT RAIL COVER – 1 EA

SHIFTER ASSEMBLY – 1 EA

BRASS PIPE PLUGS – 5 EA

REAR OUTPUT SHIFT FORK – 1 EA

SHIFT FORK PADS – 4 EA

SHIFTER SHAFT SEALS (PRE-INSTALLED) – 2 EA

OUTPUT SEALS – 2 EA

BRASS VENT TUBE FITTING – 1 EA

5/16" x 2-1/4" BOLTS – 9 EA

5/16" LOCK WASHERS – 11 EA

5/16" x 3/4" BOLTS – 2 EA

1/2" NPT TAP AND DRILL BIT KIT – 1 EA

1/4" NPT TAP AND DRILL BIT KIT – 1 EA

SEALED BEARING – 1 EA

DETENT BALLS – 2 EA

DETENT SPRINGS – 4 EA

RTV SEALER – 1 EA

LOCTITE – 1 EA

3/8" x 1-1/2" BOLTS – 4 EA

3/8" LOCKWASHERS – 4 EA

GASKET

INSTALLATION INSTRUCTIONS FOR MODEL 300 FLIP KIT

PLEASE READ!

This kit was designed to be a replacement for the N.P. 231 – transfer case used in Jeep Wranglers from the late 1980's until the present models. You should consider a few things before you begin your project. First, Dana model 300 transfer cases were original equipment in all CJ series Jeeps built from 1980 until 1986. This includes CJ-5's, CJ-7's and CJ-8's with any motor or transmission combination available from Jeep. There were only two different styles made, a short tail and a long tail shaft model. The short tail shaft models are the rarer of the two cases since they only came in the 1980-81 Jeep models. The output shaft is a little over an inch shorter than the long and does NOT use the large speedo gear housing that is necessary if you are to reuse your stock speedo gear assembly. The long tail shaft models were the original equipment for 1982 – 1986 CJ's. This kit will fit either of the two models built, but you MUST use the long tail shaft transfer case in order to keep your original equipment speed sensor for use in the 300 transfer case. The Model 300 has a 23 spline input shaft and will only fit a Wrangler with a 23 spline output shaft transmission. All 6-cyl Wranglers use a 23 spline output transmission; however, 4-cyl Wranglers use a 21 spline output transmission. For use with a 4-cyl, you must change your transmission for one using a 23 spline output shaft.

STEP 1

After finding a model 300 transfer case that suits your application, the first thing to do is to drain all of the fluid, remove the shifter handle and inspection cover plate. Inspect the inside of the case. Look for any metal shavings, rust and anything else that might show damage to the internal gear assembly. Our kit does NOT require you to rebuild your transfer case, but if all shafts and gears do not spin freely or if they make a grinding noise, you might want to consider this before installation. Most of the transfer cases we see do not need rebuilding. Normally, a good cleaning, some fresh fluid and new seals (supplied) will be sufficient.



STEP 2

Using a 1/2" wrench, remove the 5/16" bolt holding the idler shaft retainer on the backside of the transfer case. Remove the bolt and retainer tab and save for later use. Using a punch and hammer, tap shaft through housing from front to back. Once the shaft comes out the other side, the idler gear and needle bearings will drop to the bottom of the case. These should be visible when looking through the inspection cover. There are 24 needle bearings on each side of idler gear bore, totaling 48 in all. There is a wide spacer in the middle, dividing the two sets of needle bearings and two thin spacers, one on each end of the idler gear bore. There are two thrust washers sandwiched between the idler gear and housing, one on each side as well. Upon removing the idler gear from the housing, make sure you have all of these pieces saved and cleaned for later use.



STEP 3

Using a 3/16" Allen wrench, look down into the case through the inspection plate and locate the two set screws holding the shift forks to the shift rails. Remove both set screws and save for later use.



STEP 4

Using a hammer, tap on the two thimbles on the backside of the case until they are loose and remove. Each shift rail has three positions of movement, rear, neutral and front. Looking at the case from the front, with the inspection cover opening face-up, locate the front output shift rail on the right-hand side of the case. Put the front output shift rail in the middle/neutral position. Next, remove the shift rail seal retainer from around the front of the two shift rails. The retainer has a single 5/16" bolt attaching it to the housing. With the front output shift rail in the neutral position, insert a punch in the hole on the front of the rear output shift rail, twist and pull the shaft out of the case. Repeat this procedure for the front shift rail. Now, remove both shift forks from the housing and save the shorter of the two forks for later use.



STEP 5

Using a 9/16" socket and ratchet, remove the front output shaft bearing retainer. Once the bearing retainer is removed, clean both sealing surfaces and remove the front output shaft seal from the housing. After cleaning the bearing retainer, turn it over on the backside and measure down 3/4" from each of the two shifter shaft holes and make a mark. Using the two marks for reference, draw a line all the way across the bearing retainer. This is where you need to cut the bearing retainer using a hacksaw or sawsall. Be sure to cut on your mark and not damage the bearing retainer. After completing the cut, use a file or a grinder to clean up the rough edges from the cut. Be careful not to damage the flat sealing surface on the backside of the retainer.



STEP 6

Locate the two smooth bore holes on each side of the case where the shift rails went through the case. Using the 1/2" NPT drill bit, drill out all four holes to accept the 1/2" NPT tap. Using the 1/2" NPT tap, tap each hole all the way down until there are five threads left on the tap. This will insure proper sealing of the four supplied brass plugs. Install using the supplied Teflon tape.



STEP 7

Reinstall the front bearing retainer plate using a thin layer of RTV sealer (supplied) and three of the original retainer bolts. Using a little RVT, install the two-3/8" bolts (supplied) into each hole left vacant on each side of the two brass plugs. Use Loctite (supplied) on ALL fasteners in this transfer case.



