

HD Super Short SYE Kit for the NP231J

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Installation Instructions for the NP231J Transfer Case

Part No. 16-1201

Instruction Rev: 2009.10.28

Applications: Fits Jeep with electronic speedometer.



Installation Instructions

Note #1: This kit can be installed without removing the transfer case from the vehicle however it is recommended that the unit be removed to ease installation of the SYE kit.

Note #2: For Jeep applications 1997 and older, use Chrysler Connector Kit #5014007AA to replace the speedometer pickup connector on your factory wiring harness. Your factory connector must be cut off and this new connector spliced in. Do not alter the connector included with the SYE kit. **(see Appendix A)**

1) Secure the vehicle and remove the transfer case from the vehicle. Drain the fluid from the case. Remove the rubber boot from the rear bearing housing by prying or cutting the steel band.

2) Remove the dust shield from the mainshaft. This can be easily accomplished by using a chisel to dent the dust shield collar area (where the boot band was located) in two places at 180 degrees apart then prying the shield loose using a screwdriver. Next remove the oil seal from the rear bearing housing.

3) Remove the mainshaft retaining ring using a pair of snap-ring pliers. Remove the spacer below the retaining ring groove. (Fig.1).



FIG: 1

4) Remove the bearing housing (Fig.2) from the rear case half to expose the pump (Fig.3).



FIG: 2



FIG: 3

5) Remove the 10mm hex bolts holding the rear case half to the front half and separate the two halves. The pump can stay on top of the rear case half as the rear case half is lifted off of the front half.

6) Remove the spring from the top of the mode fork (Fig.4).

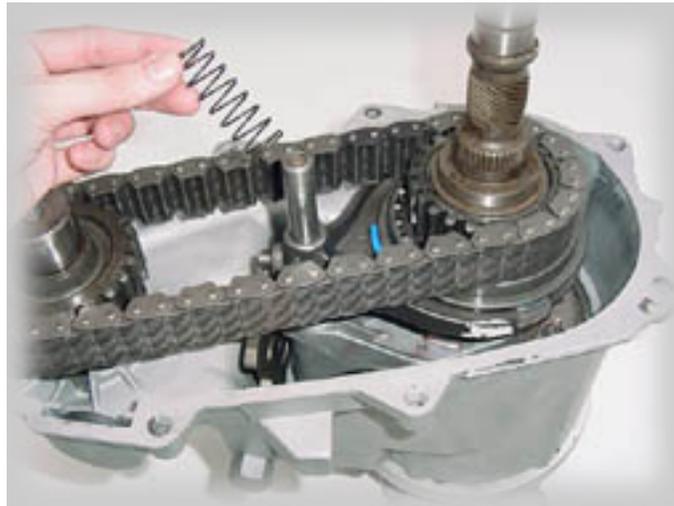


FIG: 4

7) Lift the entire mainshaft assembly, chain, and front output shaft out of the case as an assembly (Fig.5 & Fig.6).



FIG: 5



FIG: 6

8) Using flat-head snap ring pliers, remove the large retaining ring which holds the hub to the mainshaft (Fig.7).



FIG: 7

9) Install the hub and sprocket assembly onto the new mainshaft (Fig.8) followed by the new retaining ring. If your sprocket has needle bearings located within the main bore, press them out and discard. It is acceptable to delete these bearings. The deletion of these bearings is per factory, NVG design.



FIG: 8

10) Verify the length of your mode fork shift rod as shown (Fig.9). If your shift rod measures 10.2", it will need to be cut down to a length of 9.380". This is typical to 1988 and 1989 model YJ's.



FIG: 9

11) Be sure the large hub ring is arranged as shown in the photo. It is possible to install this ring in a reverse orientation therefore causing

malfunction. Place the fork back into the hub groove being sure that the pads are in place and of good condition (Fig.10).



FIG: 10

12) Install the mainshaft assembly and mode fork into the case as shown (Fig.11). The mode fork rod should be well lubricated before performing this step. The lubricated rod should slide down through the range fork easily. Install the spring you removed in step 6.



FIG: 11

13) Loop the chain around the main sprocket and front output shaft then lower the front output shaft through the bearing until it seats firmly (Fig.12).

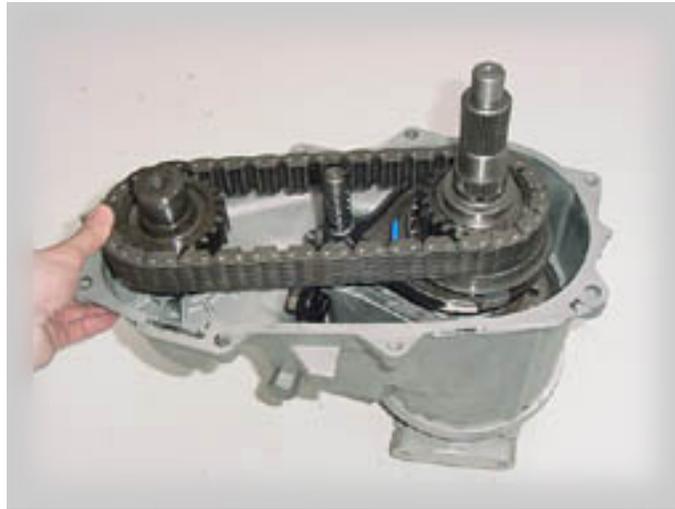


FIG: 12

14) Position the pump and pickup tube assembly into the rear case half as shown (Fig.13).



FIG: 13

15) Install the rear case/pump onto the front case half as shown (Fig.14a) and install the 10mm bolts (Fig.14b).



FIG: 14a



FIG: 14b

16) Place the tone wheel onto the mainshaft as shown (Fig.15). Do not install the tone wheel in reverse. You will note that at this stage of assembly, the tone wheel will rest on top of the oil pump. This is not an issue. Installation of the yoke nut in Step 18 will draw the shaft upward therefore raising the tone wheel off of the pump surface. You will also observe that the tone wheel spins freely on the shaft, however the tone wheel will become stationary upon tightening of the nut in Step 18.



FIG: 15

17) Install the new, rear bearing housing into position. Apply grease to the seal lip before lowering the housing into place (Fig.16).



FIG: 16

18) Apply a small amount of RTV to the backside of the nut and in the threads before tightening. Install the 5, 8mm bolts to hold the rear housing in place. Install the yoke and nut as shown. Torque to 200 lb-ft. (Fig.17). This kit does not utilize a rubber star washer beneath the nut.

NOTE: If you experience an erratic speedometer needle, this is an indication that the nut is insufficiently torqued. Retorque to recommended amount.



FIG: 17

19) Install the sensor into the rear housing and fill the case with Chrysler ATF to complete the installation (Fig.18).

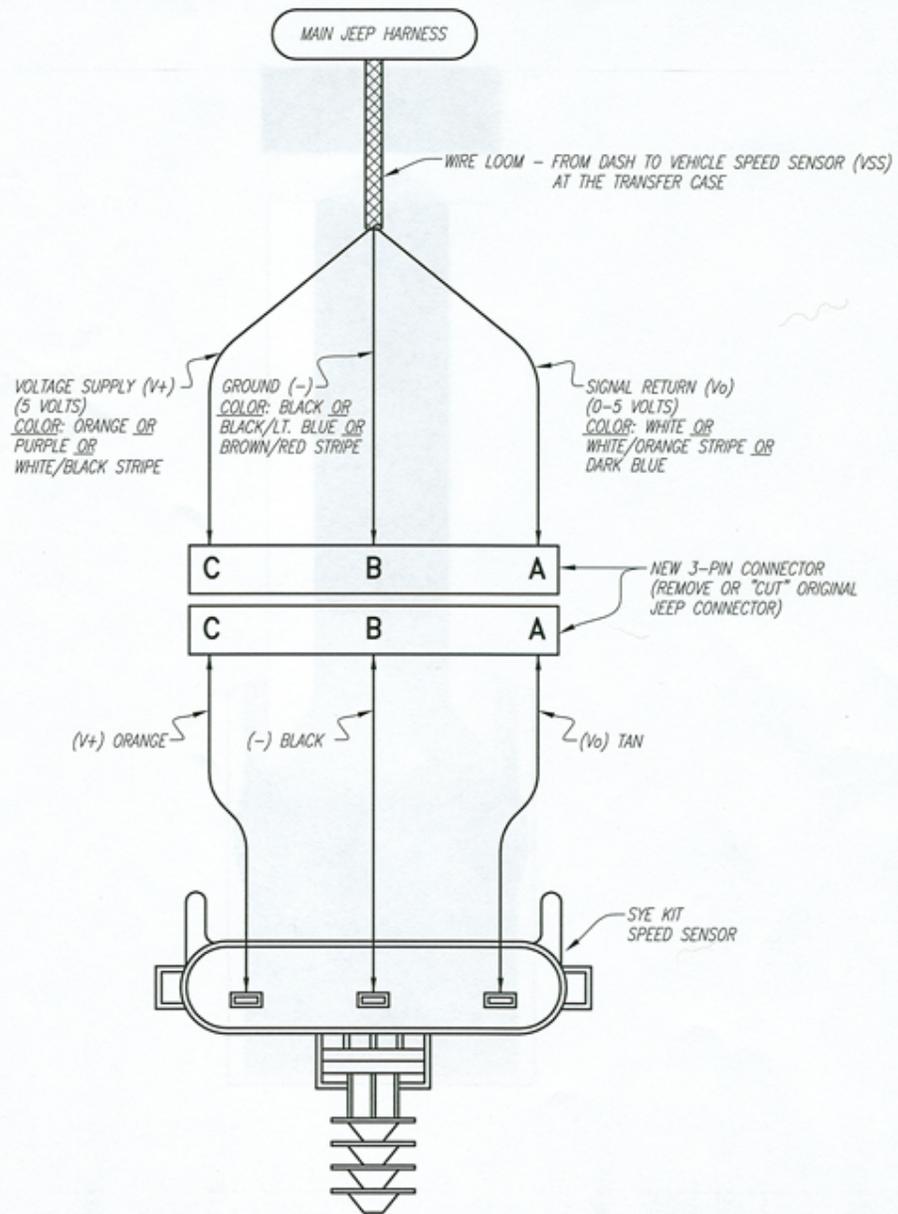


FIG: 18

Appendix A

Wiring Diagram

1992-97 JEEP YJ SPEED SENSOR WIRING DIAGRAM



Connector Kit

