HD Standard Length SYE Kit Using OEM Housing

Manufactured by JB CONVERSIONS, INC.

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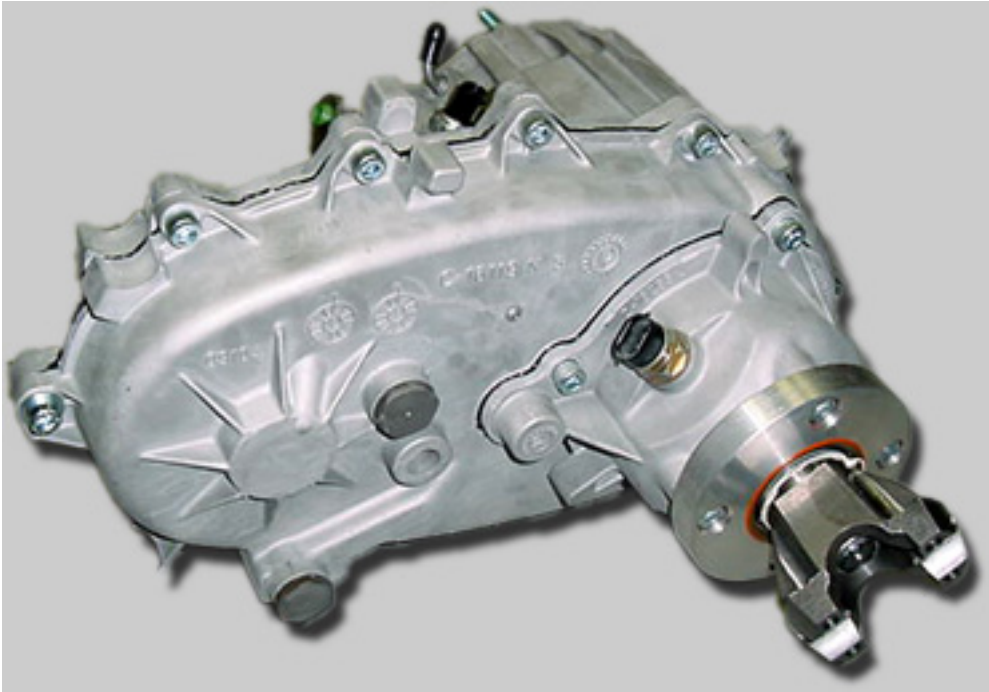
Installation Instructions for the NP241C, NP241DLD, NP231D, NP231C, and NP233C Transfer Case

Part No. 16-1205-1941 (w/1310 CV Yoke)
Part No. 16-1205-1950 (w/1350 Non CV Yoke)
Part No. 16-1205-1965 (w/1350 Rear Output Flange)

Instruction Rev: 2010.03.28-01



Installed photo.

Applications:

- Use for installing Dodge NP241 into Jeep TJ, YJ, XJ *(see Notes below)*
- Install in existing Dodge NP241 (truck) rear differential speedo pickup
- Use for installing Chevy NP241 into Jeep TJ, YJ, XJ requiring electronic GM speedometer pickup
- Install in existing Chevy NP241 (truck) retaining original truck speedometer (**driver's** or **passenger** F/O)
- Use for installing Chevy or Dodge NP241 into custom chassis requiring electronic GM speedometer pickup
- Use with NP231C & NP233C retaining original speedo housing and GM speed sensor

NOTES:

- Kit includes **new HD 32-spline** output shaft
- All applications for this kit **retain** the existing NP241 rear speedo housing
- This kit applies to both passenger and driver's side front output applications.
- This kit will **not** work on the NP241DHD with PTO cover.

Installation Instructions

Note: 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.

1) Drain the fluid from the transfer case. This kit can be installed while the transfer case remains in the vehicle however, removal is recommended for an easier installation.

2) Remove the 10mm bolts (4) holding the tail cone onto the bearing housing (Fig.1).

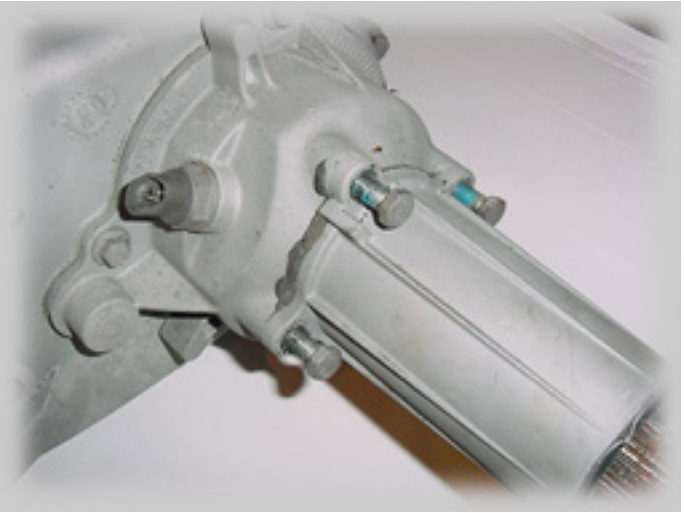


FIG: 1

3) Remove the retaining ring (Fig.2).

FIG: 2

4) Remove the 10mm bolts (4) holding the rear bearing housing onto the rear case half (Fig.3).

FIG: 3

5) Remove the bearing housing using a pry device. Be careful not to damage the case during this process (Fig.4).

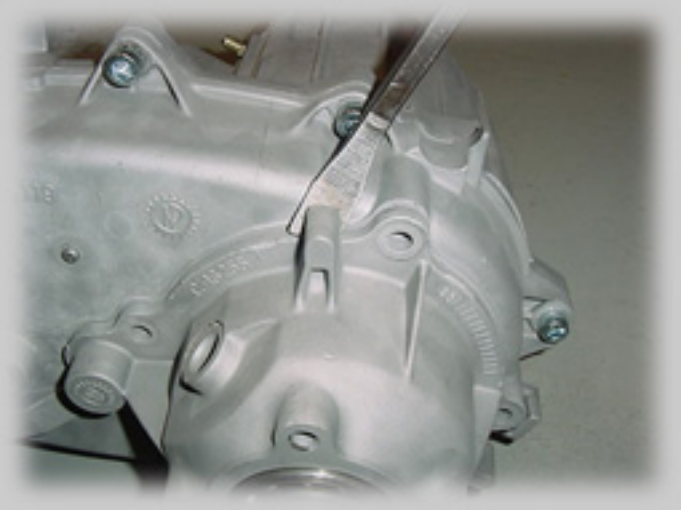


FIG: 4

6) Remove the retaining ring above the tone wheel (Fig.5).

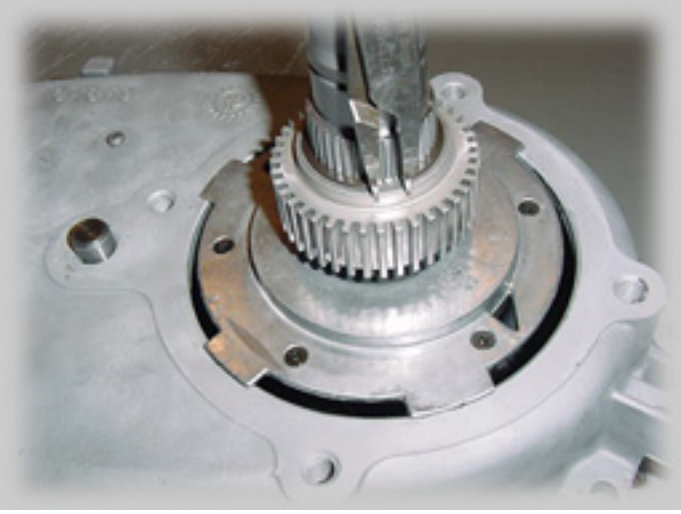


FIG: 5

7) Remove the tone wheel (Fig.6).

FIG: 6

8) Remove the lower retaining ring (Fig.7).

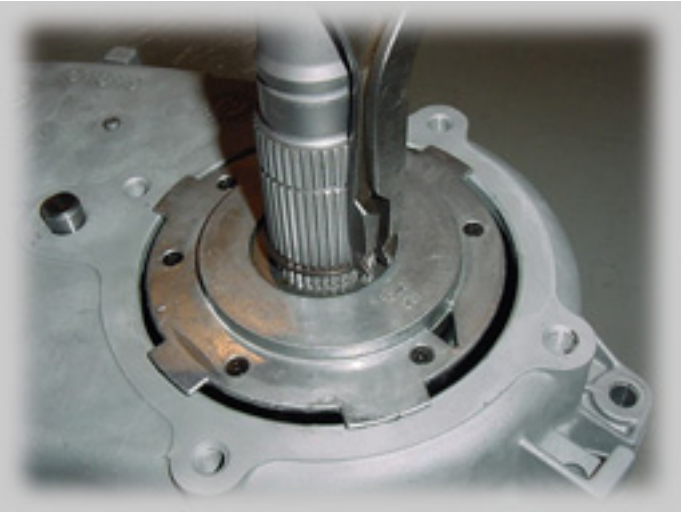


FIG: 7

9) Remove the 10mm bolts holding the two case halves together.

10) Gently pry the two halves apart using a screwdriver. There are two locations in the case designed for use as pry points. Only use these two locations. They are located on the sides of the case half (Fig.9).

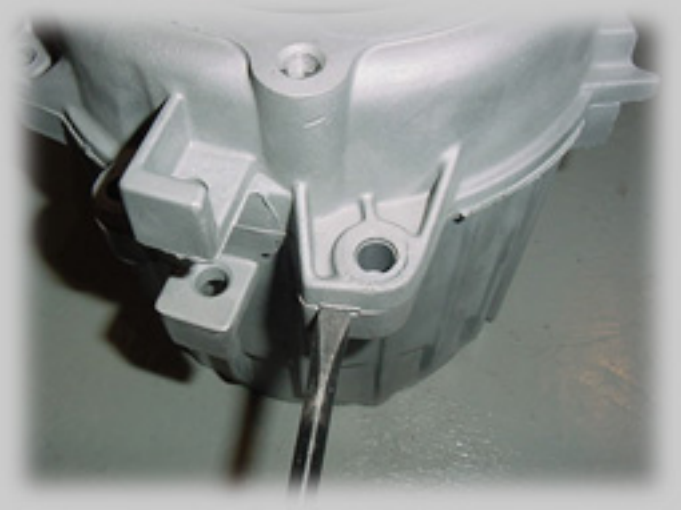


FIG: 9

11) Lift the rear case half and pump off of the front case half (Fig.10).

FIG: 10

12) Remove the spring from the mode fork shaft (Fig.11).

FIG: 11

13) Remove the retaining ring holding the front output sprocket in place (Fig.12).

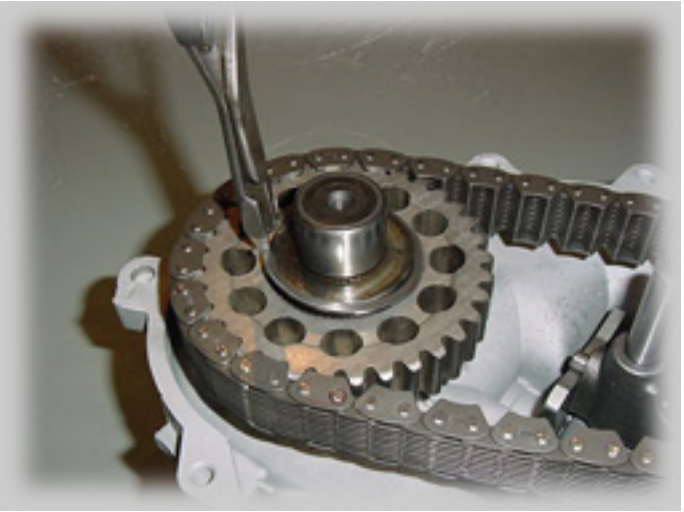


FIG: 12

14) Lift the mainshaft assembly and front output sprocket out of the case as an assembly (Fig.13).

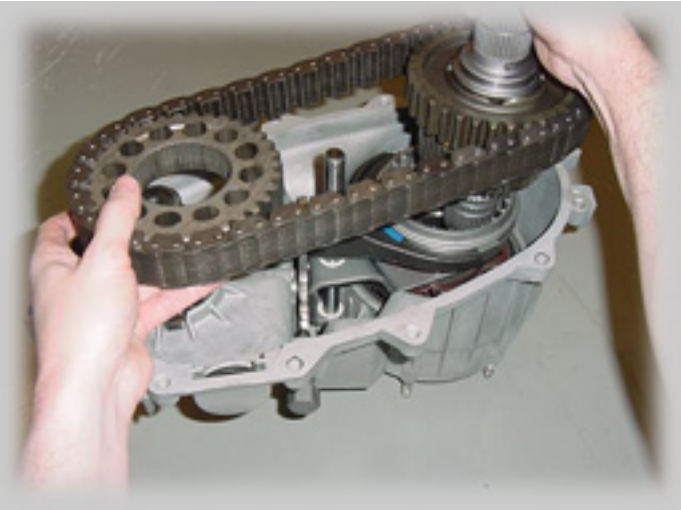


FIG: 13

15) The synchro hub ring may stay in the case with the mode fork as the mainshaft is removed. If this happens, be sure to notice the top and bottom orientation of the ring. Remove the mode fork and ring. It is possible to reinstall this ring incorrectly causing malfunction (Fig.14, 14A).

FIG: 14

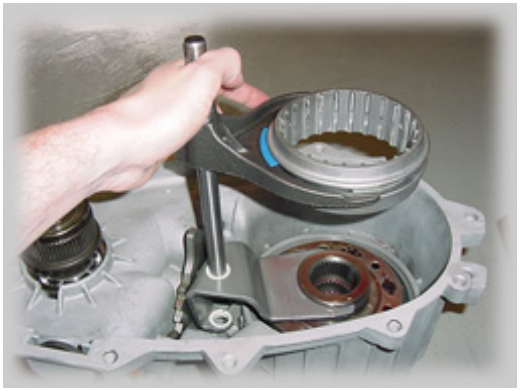


FIG: 14A

16) Remove the retaining ring holding the main drive sprocket assembly in place. Remove the sprocket assembly from the shaft (Fig.15).

FIG: 15

17) Inspect the inside of the main drive sprocket for the presence of needle bearings. If the bearings are present, remove them with a press. The deletion of these bearings is per OEM design. After 1995, the mfg. (New Venture Gear) adopted this design and it performs fine (Fig.16,17).

FIG: 16

FIG: 17

18) Install the main sprocket assembly onto the new output shaft. Retain this assembly with the new retaining ring supplied in the kit (Fig.19).

FIG: 19

19) Install the mainshaft assembly into the case. Be sure to line up the range fork as the mode fork is lowered into place with the mainshaft. It may be necessary to slightly lift the lower range fork with you finger as you lower the mainshaft/fork assembly into place. Do not force the mainshaft assembly into place (Fig.20).

FIG: 20

20) Place the chain around the front output sprocket and loop it around the main drive sprocket. You will have to slightly lift the mainshaft sprocket assembly to provide enough slack to get the front sprocket into place (Fig.21).

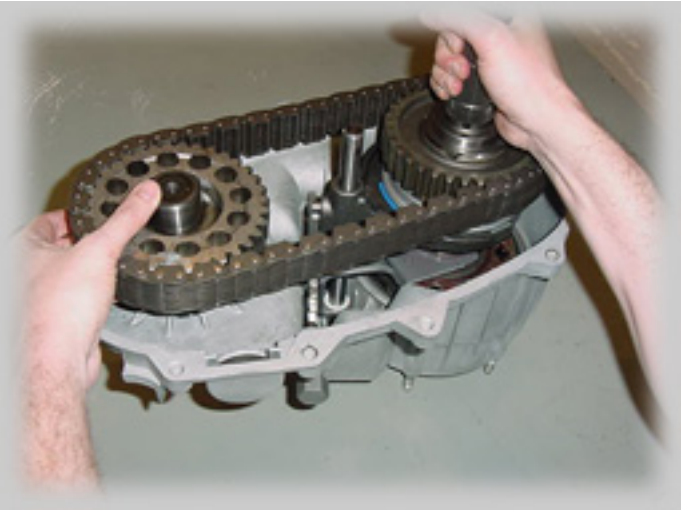


FIG: 21

21) Install the retaining ring onto the front output shaft (Fig.22).

FIG: 22

22) Install the mode fork spring. Verify the magnet is in place (Fig.23,24).

FIG: 23

FIG: 24

23) Verify the O-ring is in place within the pump (Fig.25). Orient the pump and pickup tube into the rear case as shown (Fig.26).

FIG: 25

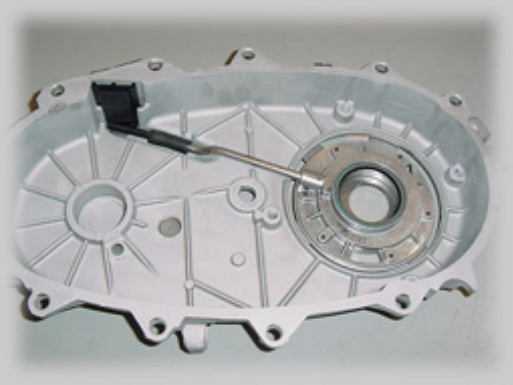


FIG: 26

24) Apply a thin bead of RTV sealant to the rear case half and install the rear case/pump assembly (Fig.27).

FIG: 27

25) Install the 10mm bolts to hold the two case halves together.

26) Visually verify that the pump pickup tube is in place and has not become disconnected from the pump housing.

27) Install the small retaining ring onto the second to lowest groove on the shaft above the pump (Fig.28). Install the tone wheel onto the mainshaft followed by the second snap ring onto the top groove (threaded end).

FIG: 28

28) Install the oil seal into the aluminum bearing retainer (both supplied in the kit) (Fig.34).

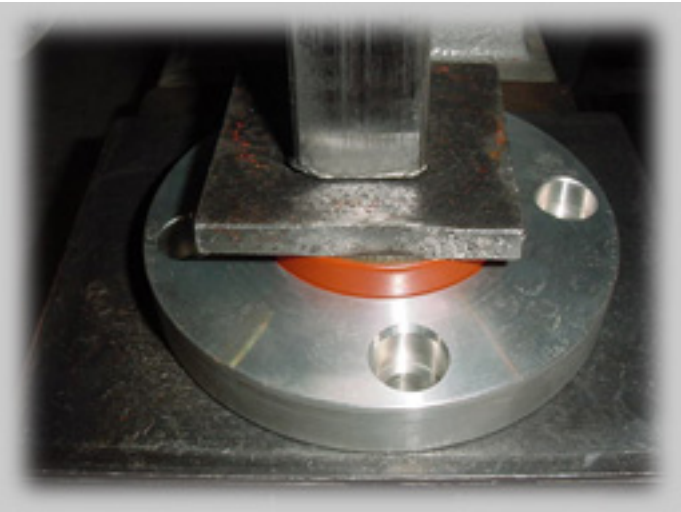


FIG: 34

29) Apply a liberal amount of grease to the oil seal (Fig.35).

FIG: 35

30) Install the new bearing supplied in the kit into your existing aluminum tail-housing (Fig.36). **Note that the new bearing has a raised inner race on one side. This raised race points to the inside of the tail-housing**. Apply a bead of RTV sealant to the bearing housing and 4 socket head cap screws. Secure the aluminum

bearing retainer to the housing using the 10mm (4) cap screws supplied in the kit (Fig.36,37,37A).

FIG: 36

FIG: 37

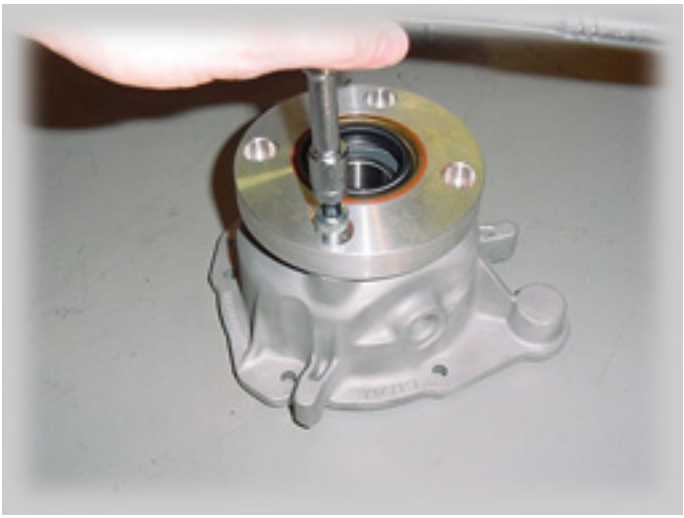


FIG: 37A

31) Apply a bead of RTV sealant to the rear case half and secure the bearing housing to the rear case using 10mm (4) bolts (Fig.38).

FIG: 38

32) Apply a liberal amount of grease to the yoke. Install the rubber star washer supplied in the kit followed by the yoke (Fig.39, 40).

FIG: 39

FIG: 40

33) Apply a bead of RTV sealant to the back of the lock nut and also on the inner threads. Torque the nut to 180 lb-ft. (Fig.41).

FIG: 41

34) Install the stock speed sensor to complete the installation.