

# **WILD HORSES**

**FOUR WHEEL DRIVE III**

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## **NV 4500 to Bronco Dana 20 or Atlas**

#8473, 8480, 8482, 8484, 8486 Date 03/31/10

### **Hardware Kits:**

#### **Adapter Plate**

- 2 - 7/16" x 1 1/2" NC Flat head cap screws
- 2 - M10-1 1/4" Fine hex nuts
- 2 - 7/16" x 1 1/2" NC G8 Bolts
- 2 - 7/16" NC Lock nuts
- 6 - 7/16" Flat washers
- 2 - 3/8" Lock washers

#### **Cross Member**

- 8 - 3/8" x 1" NC G5 Bolts
- 8 - 3/8" Flat Washers
- 8 - 3/8" Lock washers

### **Options:**

#### **T-Shift Adapter**

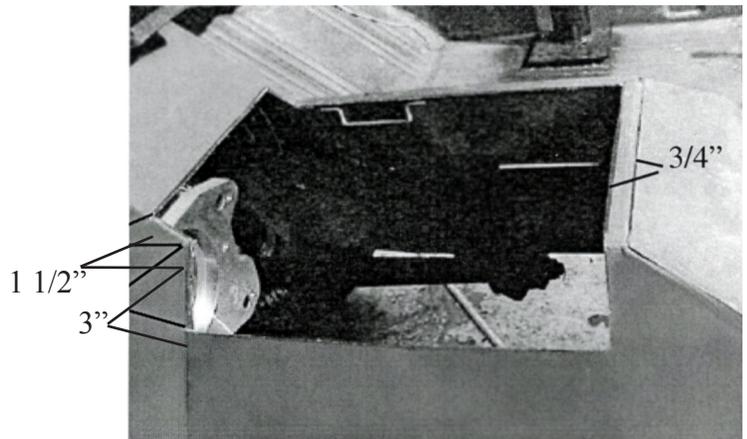
- 1 - 1/2" NC Lock nut
- 8 - 1/2" Flat washers
- 2 - 3/8" x 1 1/2" NC Allen cap screws

#### **J-Shift Adapter**

- 2 - 3/8" x 1" NC Allen cap screws
- 1 - 7/16" x 1" NF Bolt
- 1 - 3/8" x 1" NC Bolt

***For best results read all instructions, mock up on bench & check all linkage and shifters.***

1. Remove old drive train up to the flywheel. Good time to replace the clutch and surface the flywheel if necessary.
2. Install the new pilot bushing into the crank. (Pilot bushing is included with bellhousing adapter) Check for fit on transmission first just to be safe.
3. Check fit on splines and install new clutch disc and your pressure plate.
4. Install bell housing with clutch fork, boot, and throw-out bearing.
5. Install bell housing adapter to bell housing.
6. Use tape and cover hole in bell housing to keep out metal shavings.
7. Cut hole in tunnel for NV4500. See photo. (Note photo is Bronco with no body lift)
8. Install NV4500 into bell housing.
9. Remove transfer case by input shaft. Be careful not to drop the 13 loose roller bearings into the case. (Dana 20 only)
10. Hold 13 loose bearings in place with grease. (Dana 20 only)
11. Install new input shaft, bearing retainer, seal, bearing and o-ring into transfer case. (Dana 20 only)
12. Install transfer case adapter to transfer case. (Dana 20 only)
13. Install transfer case assembly to transmission. Leave top two bolts out until shifter bracket install.
14. Install transfer case shifter and shifter bracket to transfer case adapter. (See J-shifter instructions)
15. Install shifter linkage. (Dana 20 only T-shift)
16. Install transmission mount adapter to bottom of transmission adapter. Use taper-headed bolt provided.
17. Install transmission mount to mount adapter.
18. Install cross member to frame.
19. Lower complete assembly into cross member and install with hardware.
20. Install drive shafts. The new NV 4500 assembly is about 2" longer than stock with the Dana 20 and about 5" longer than stock with the Atlas. Shorten and lengthen driveshafts appropriately for your particular application.
21. Install all clutch linkage and adjust clutch.

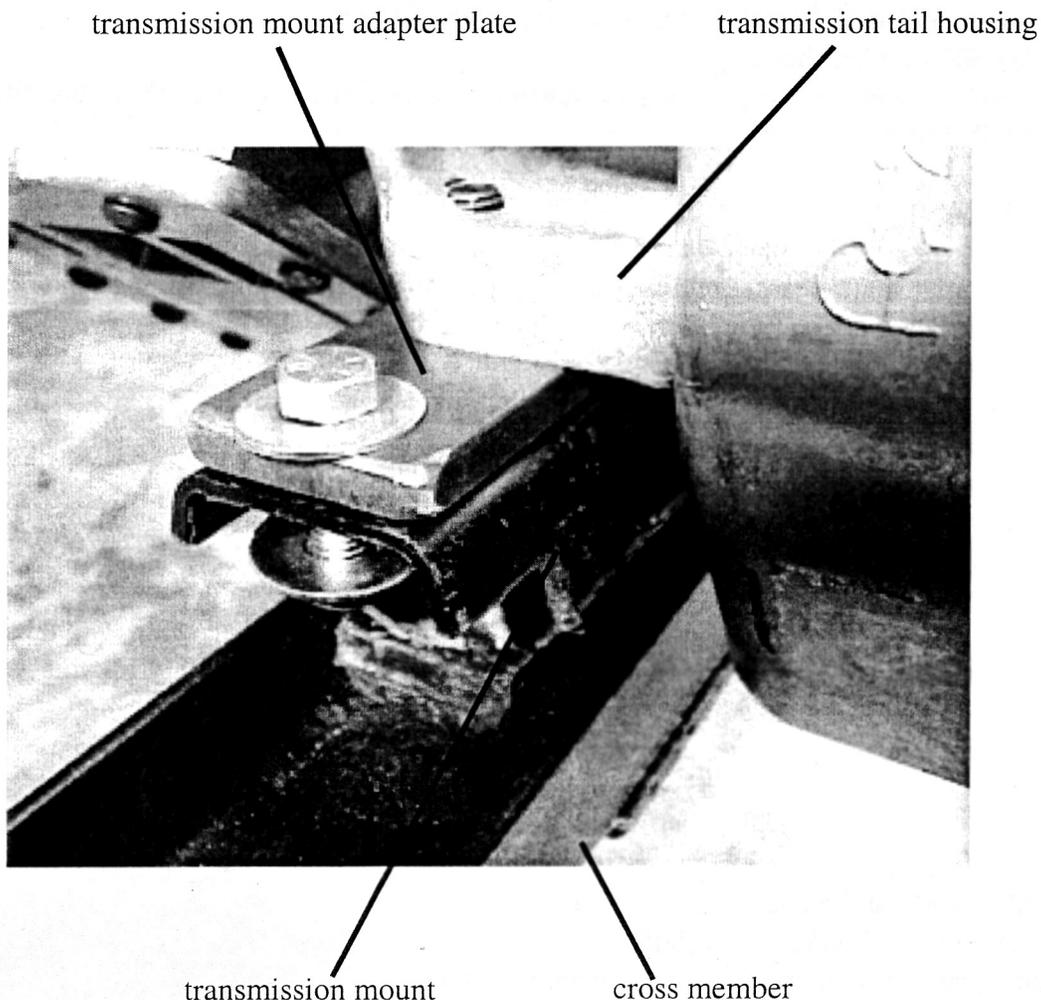


22. Make sure transmission and transfer cases are full of oil and take a short test drive before tunnel installation.
23. Install tunnel (not supplied) cover and shifter boots.
24. Make sure transmission and transfer-case are full of oil.
25. Take out your new set up and have some fun!

## Cross Member

This cross member has been designed to work with the NV 4500 kit from Wild Horses. It will work with the Dana 20 and the Advanced Adapters Atlas transfer case. It is for installation into 66-77 Broncos. There is a built in skid plate which also protects the transmission mount bolts.

1. With your NV 4500 installed and supported properly bolt the transmission mount adapter plate to the bottom of the transmission tail housing using the two taper headed 7/16" NC bolts. Use a little lock tite on the bolts.
2. Next install the two 7/16" NC bolts through the transmission mount adapter from the top down.
3. Bolt the transmission mount to the transmission mount adapter using the 7/16" NC nuts and washers.
4. Raise the cross member into place and bolt it into the frame with the 8 3/8" bolts, washers and lock washers.
5. The transmission can now be lowered into the cross member. The two transmission mount bolts will come through the two slotted holes in the cross member. With the transmission resting in place use washers and metric nuts to bolt the mount into the cross member.



## J-Shifter Twin Stick

1. Please refer to J-shifter twin stick instructions for modification of your Bronco Dana 20 transfer case.
2. There are three sections of your NV 4500 which must be modified for installation into the 66-77 Bronco. Two on the tail housing and one on the transmission case itself. You can use a cut off wheel or grinder to remove the sections of material that are in the way. See transmission and photo.
3. With the transfer case bolted to the NV 4500 you can now install the T-case shifter bracket. See photos for orientation of bracket.
4. To begin position the J-shifter block on the shifter bracket with the 7/16" fine thread hole toward the front of the transmission. Use the short 7/16" NF bolt to bolt the block to the bracket. Leave it just a little loose.
5. Bolt the bracket to the NV 4500 adapter. Use the 12 point bolt on the side with the block.
6. Rotate the block into place on the bracket. Install the 3/8" bolt through the block into the threaded hole on the bracket.
7. Now tighten the 7/16" NF bolt from the back side of the bracket. You may need a narrow wall or swivel socket to do this.
8. Now align the shifters with the block and the shift rails of the transfer case. **NOTE:** Slight bending of the shifter rods may be necessary for correct engagement to transfer case shift rails. Once the alignment is correct then tighten the shifters to the block. Use a small amount of lock tite.
9. Check to see that the shifters are operating correctly. Remember the transfer case is not synchronized so if the shifter does not move the gears in the transfer case may not be lined up just right. Move the front and or rear transfer case yokes slightly and try again.

