



**Transmission Swap Brackets  
1972-1993 W100/W150  
GEN3 Hemi with 545RFE Transmission & NP241D Transfer Case  
BHS5151**

**Installation Instructions**



Thank you for choosing to use HOOKER™ transmission mounting brackets as part of your GEN3 HEMI Swap project. This bracket set is part of the most comprehensively engineered system of mounting components, headers, and exhaust systems available for this application. Please read these instructions thoroughly before attempting installation.

**IMPORTANT:** Requires engine mounts **P/N: BHS5118**, Transmission mount - Anchor **P/N 2638**. See compatibility below for part numbers and installation notes.

Modifications to the transfer case input shaft is required when the output shaft of the transmission is not splined deep enough to allow the transmission and transfer case to be bolted together. This is common with 545RFE transmissions. The procedure is relatively simple, does not weaken the transfer case input shaft and is outlined in these instructions.

Visit [www.holley.com](http://www.holley.com) for a complete selection of transmission crossmember, headers, exhaust, and more GEN3 HEMI support products to complete your GEN 3 HEMI Swap or transmission Swap.

**COMPATIBILITY INFORMATION:**

- \*This Transmission mounting bracket kit was designed specifically to install the 545RFE transmission and NP241D transfer case with GEN3 Hemi Engine swaps. It is for use in 72-93 W100 and W150 pickup trucks originally equipped with V8 engines, NP435, NP445, or A727 transmissions. Other base vehicle combinations may work but have not been verified at this time.
- Engine and transmission drive line inclination angles are acceptable for stock ride height and vehicles with up to 3 inches of suspension lift. Drive line and U-Joint operation angles should always be checked and corrected if necessary for your particular application.
- Uses OEM front and rear drive shaft from NP435 4 speed or A727 transmission and NP208D transfer case combination.
- Uses OEM 85-87 NP208D transfer case shifter and shift linkage rod (shifter mounting bracket supplied with BH5151 kit).

\*Drive shafts and components from other transmission transfer case combinations may work, but have not been verified.

**Supporting parts required for use with BHS5151 Transmission/ Transfer Case Swap Brackets**

- BHS5118 Engine mounting plates
- Anchor PN: 2638 transmission mount
- 85-87 NP208 shifter assembly (direct fit)
- 85-87 NP208 Shift linkage rod (direct fit)

**INSTALL NOTES:**

- Engine must be installed in the optional 1" forward position on the BHS5118 engine mounting plates.
- Transfer case shift rod length adjustment may be required.
- A727 may require shift linkage modification or cable shift conversion, Kick down cable fabrication required if applicable.
- Requires Gen 3 Hemi 545RFE Flex Plate and Torque converter.

## PARTS LIST:

Qty.	Description
1	Transmission Mounting Plate
1	Adapter Top Mount (A)
1	Adapter Top Mount (B)
1	Transfer Case Adapter Bracket
1	Transfer Case Support Bracket (1)
1	Transfer Case Shifter Bracket

## ACCESSORY PACK CONTENTS:

10		M10 x 1.5 x 25mm Flanged Bolt
14		M10 Flanged Nut
3		M10 x 1.5 x 45mm Flanged Bolt
2		5/8 Serrated Flanged Nut
2		5/8 x 1 1/4" Flanged Bolt
2		5/8" Flat Washer
2	599R94	Hooker Blackheart Decal
1	199R12334	Instruction Sheet

Check the hardware package. If anything is missing, please contact Technical Service at 1-866-464-6553 or 270-781-9741.

## TOOLS NEEDED:

3/8" Drive Standard Socket Set	9/16 Flex Socket or 3/8" Drive Universal
3/8" Drive Metric Socket Set	90° Grinder
15mm Wrench	40 Grit Flap Disk
15/16 Wrench	1/16 Cutoff Disk
15/16 Socket	Calipers
9/16 Wrench	Black Sharpie
1/2" Wrench	Rotary Grinder w/ 40 grit flap wheel
30" 3/8 Drive Extension	

## Pre-Installation Measurements- Do you need to modify your transfer case?

- Measure the overall length of the output shaft on the **545RFE 4x4** transmission. It should measure 4.400in from case flange to the end of the output shaft with no adapter (**Figure 1**).
- **545RFE 4x4 Output shaft spline depth:**  
Measure the spline depth of your (OEM) **545RFE 4x4** output shaft. The majority of 545RFE 4x4 transmissions have a partially splined output shaft that measures 1-13/16" (1.812) deep (**Figure 2**).
- Measure from the NP241D **Transfer case** flange to the end of the NP241D input shaft (no adapter). It should measure 2.125" **Figure 3** (next page).
- The NP241D input shaft requires a Minimum spline depth of 2.235" with these measurements. If your 545rfe Output shaft is fully splined to the step up on the output shaft and measures 2.235 or more you will not need to perform the following modifications to your NP241D Input shaft. If it is partially splined and measures 1.812 (1-13/16) as shown Fig.2, you will have to perform the outlined modification to the NP241D input shaft and remove .500in.

**NOTE: These measurements are for original equipment parts. Aftermarket parts may be different. Consult the manufacturer for reference measurements for comparison or simply install the transfer case and check clearances accordingly.**

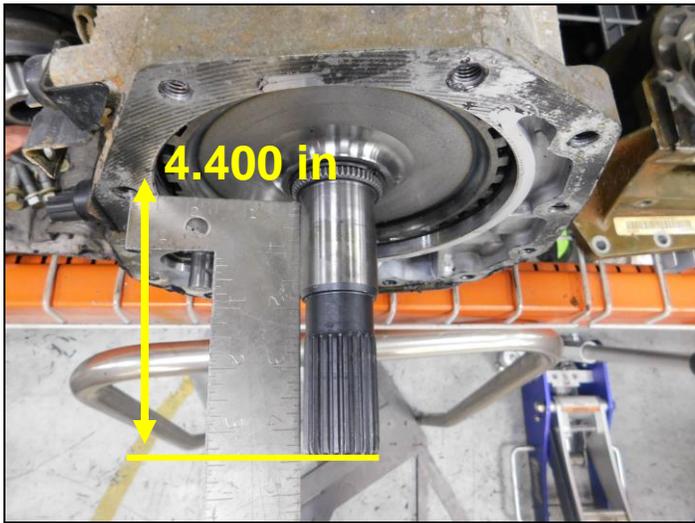


Figure 1

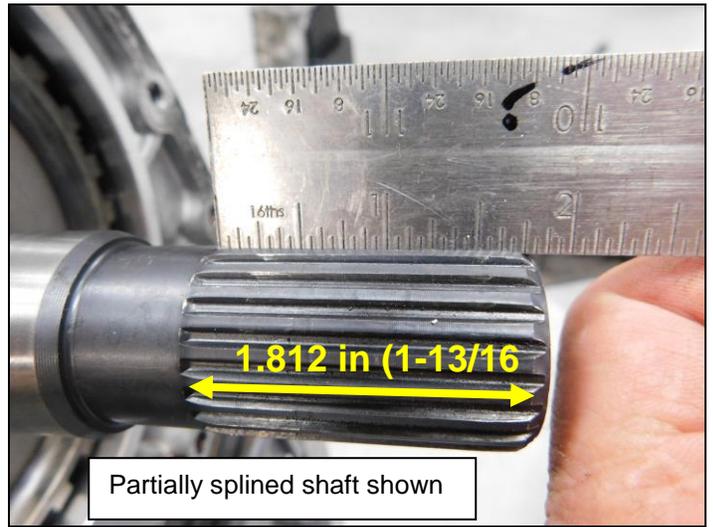


Figure 2

### NP241D Input Shaft Modification

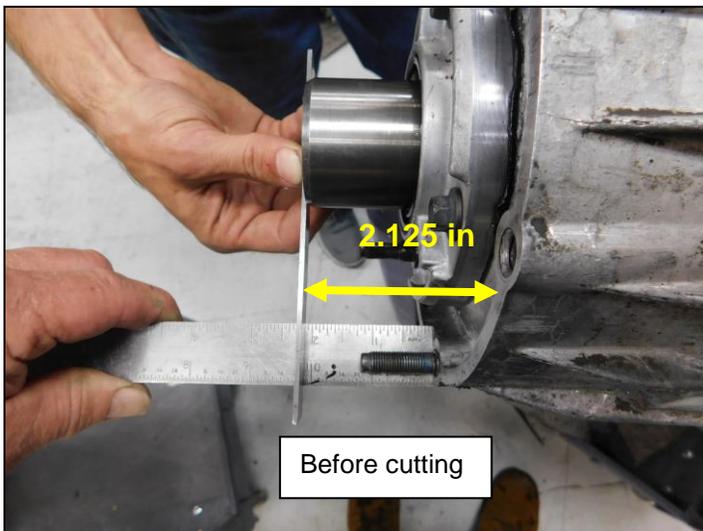


Figure 3

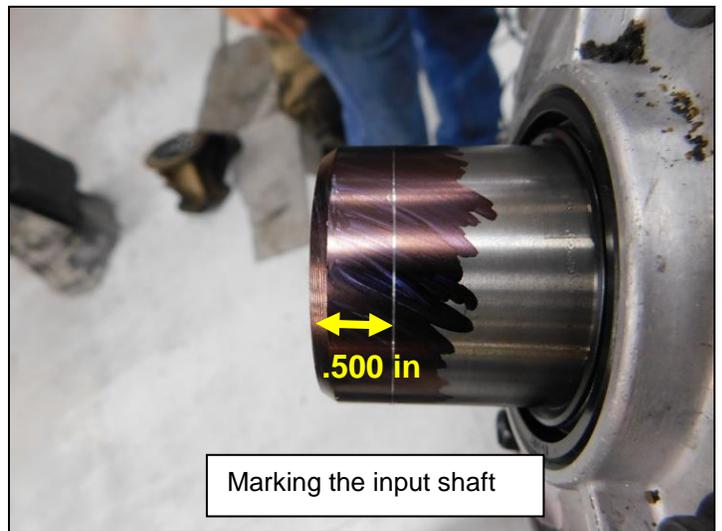
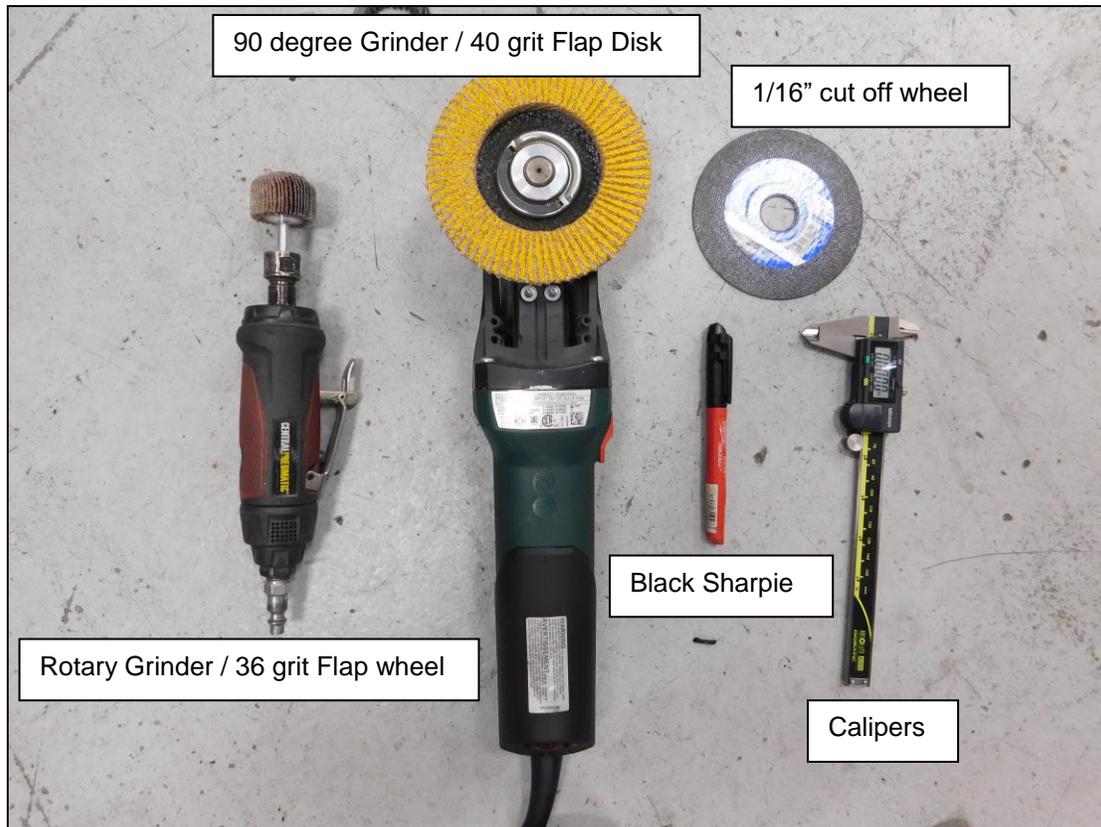


Figure 4

You will need the following tools:



## INSTALLATION:

**STOP!** Are you sure you need to perform this operation? If yes, are you sure your measurements are accurate? If yes, are you capable of performing this operation safely? If yes, do you have the proper tools and safety equipment to perform this operation safely?

If you answered **NO** to any of these questions or you are unsure of your ability to perform this operation accurately and or safely, you should consult a professional to help you.

The flowing operations involve power tools that can cause bodily injury and property damage when not used with the proper safety equipment and procedures.

\* Follow all safety procedures and use all the safety equipment, Tool Guards, Gloves, Masks and Eye protection required when performing this or any other operation involving power tools.

### Cutting the Input Shaft

It is necessary to remove .500" +/- .025" from the NP241D input shaft. This is easily accomplished with a few simple tools.

1. Coat the input shaft of the 241D transfer case with a black sharpie or machinist dye. Use calipers to make a witness mark around the outside of the shaft .500" from the end of the shaft (**Figure 5**).
2. Use the 90° grinder with the cut off wheel installed **and blade guard in place**.
3. Place the transfer case in 2 wheel high gear – the input shaft should turn as a second person turns the yolk on the primary output shaft (rear drive shaft yolk).
4. Cover the transfer case and put a piece of wet rag inside the input shaft about 1" deep to prevent debris from getting inside.
5. Have the second person turn the output shaft yolk. This will spin the input shaft allowing the person operating the cut off wheel to accurately cut the input shaft just before the reference line (**Figure 6**).

**NOTE:** Leave a small amount of extra material that can be removed with the flap disk on the grinder to make a smooth face on the input shaft.

- Use the 90° grinder with flap disk with the same technique spinning the input shaft and run the flap wheel on the outside leading edge to chamfer the edge to a 45° angle (**Figure 7**).
- Use the rotary grinder and 36 grit flap wheel to chamfer the inside of the splines and remove all burrs and potential stress risers (**Figure 7**).
- Measure from the transfer case flange to the end of the input shaft and the final measurement should now be 1.600 to 1.625". This will allow full engagement of the input shaft and allow room for thermal expansion of the parts (**Figure 8**).

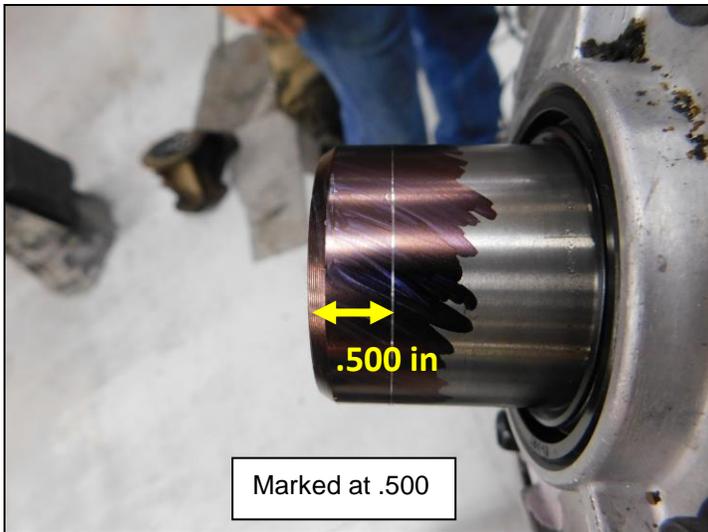


Figure 5

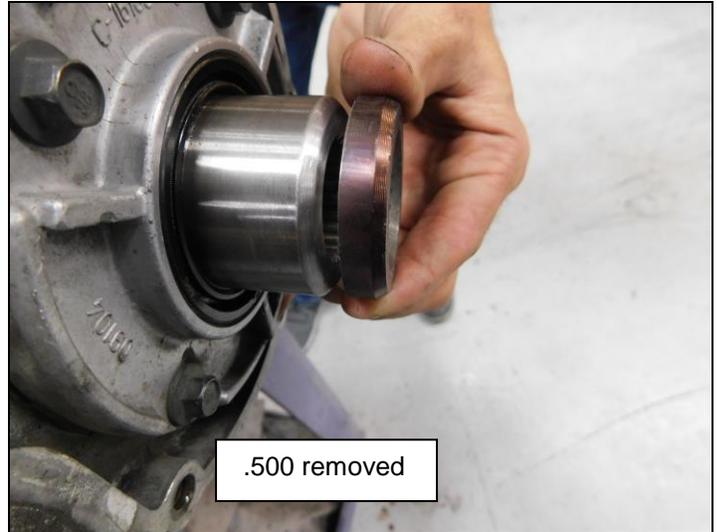


Figure 6

### After Cutting the Shaft

\* Clean all parts completely to remove any abrasive residue or metal shavings



Figure 7

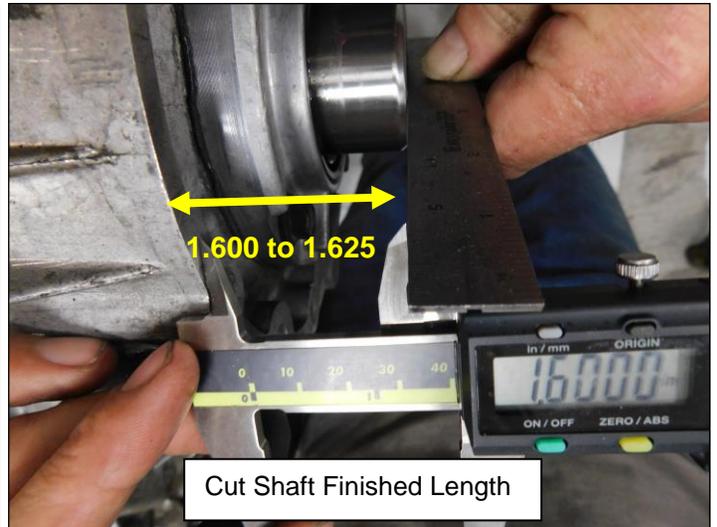


Figure 8

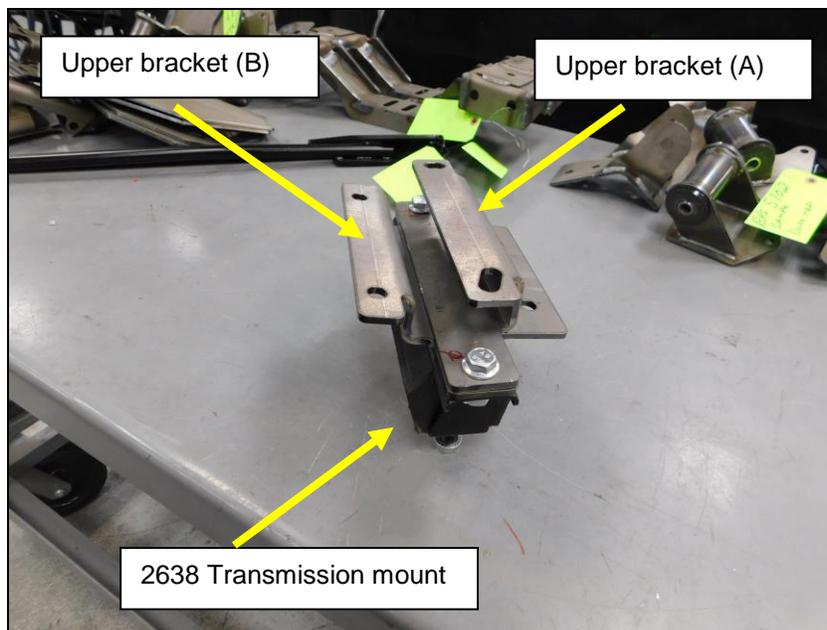
### **Installing the Transmission and Transfer Case:**

These instructions assume the GEN 3 Hemi engine is installed using the BH5118 engine mounting brackets.

**IMPORTANT:** The GEN 3 Hemi engine and 24095LKW engine mounts must be installed in the 1" forward position on the BH5118 frame plates. Installing the engine in the rearward position will cause the Anchor 2638 transmission mount to misalign with the BHS5151 transmission mounting plate.

- Install the 545RFE transmission into the vehicle with correct flex plate and torque converter.
- Support the transmission to prevent damage to the engine mounts.
- Pre-assemble the transmission mounting upper brackets (A) & (B) to the Anchor 2638 transmission mount using the supplied M10 x 25mm flanged bolts and flanged nuts (**Figure 9**).

4. Install the transmission brackets and transmission mount as an assembly to the transfer case adapter on the 545RFE transmission using the supplied M10 x 25mm flanged bolts (**Figure 10**).



**Figure 9**

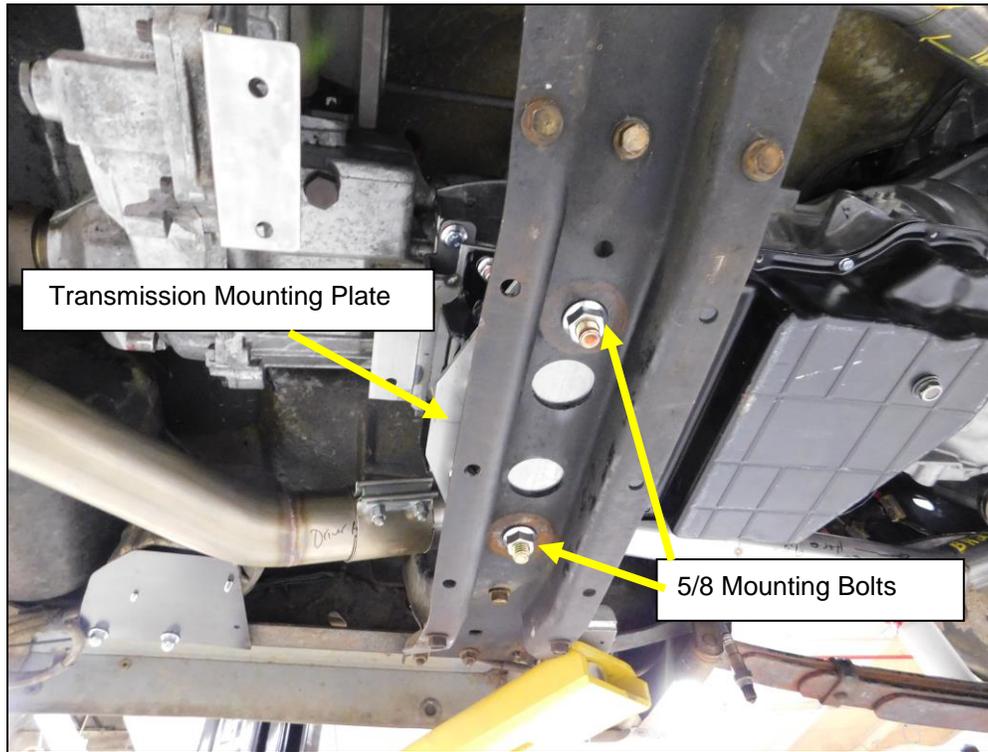


**Figure 10**

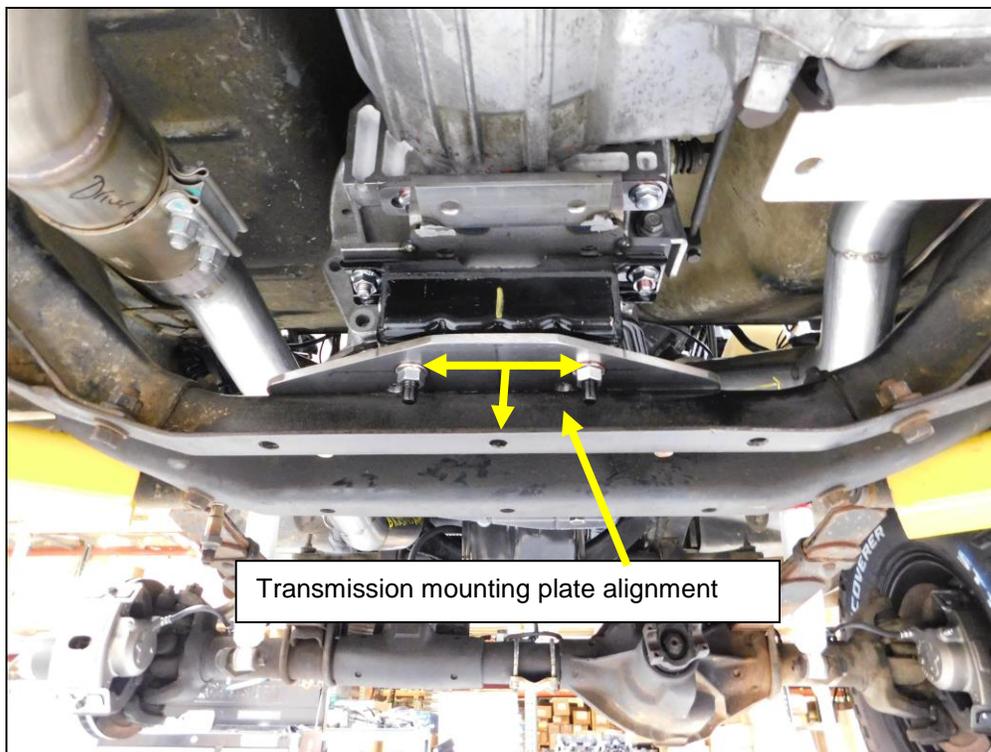
5. Install the transmission mounting plate on to the transmission crossmember. Use the supplied 5/8 x 1-1/4" flanged bolts and flanged nuts (**Figure 11**).

**NOTE:** The 2638 transmission mount bolt holes will align centered over the bolt hole in the transmission crossmember. Flip the mounting plate if they are offset (**Figure 12**).

6. Lower the transmission on to the mounting plate guiding the studs of the transmission mount through the holes.
7. Install the M10 flange nuts and tighten.



**Figure 11**



**Figure 12**

8. Install the transfer case on to the 545RFE tail housing adapter.
9. Install the (x6) M10 nuts and tighten.
10. Install the transfer case support bracket adapter to the bottom studs on the transfer case and install the M10 flange nuts and tighten (**Figure 13**).
11. Install the transfer case support bracket between the adapter bracket and upper bracket (B). Install the M10 x 25mm flange bolts and flange nuts. Make any necessary adjustments and tighten the hardware (**Figure 14**).

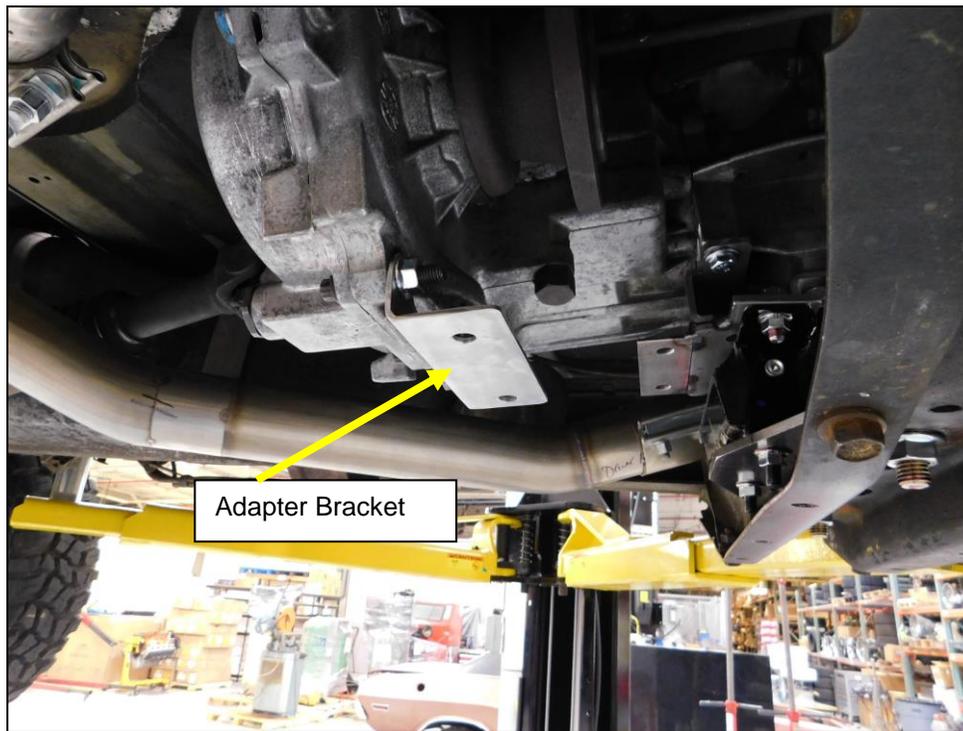


Figure 13

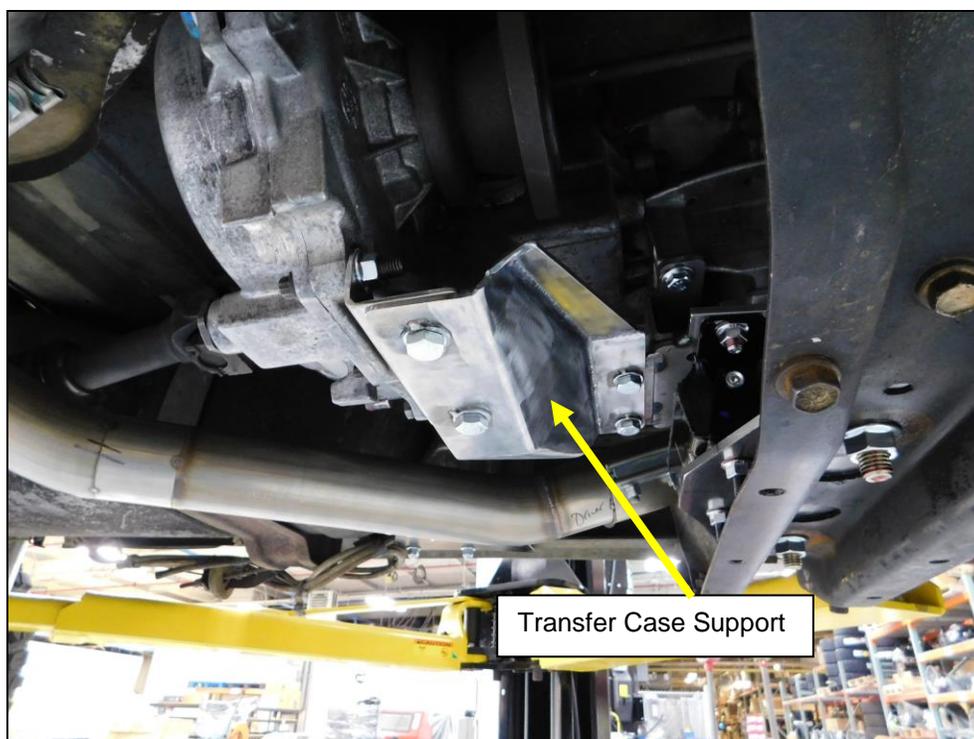


Figure 14

## Installation: Transfer Case Shifter

1. Remove the 5/8 bolt in the OEM shifter assembly from the 85-87 NP208 shifter bracket. Pay attention to how it is disassembled.
2. Install the shifter assembly into the provided shifter bracket for the NP241D transfer case. It will assemble the same way it was removed from the NP208 shifter bracket using the original 5/8 bolt.
3. Install the plastic bushing into the shift arm of the transfer case, if it is not already present.
4. Install the shift linkage rod from the 85-87 NP208 transfer case into the shift arm of the new NP241D shifter.
5. Install the transfer case shifter and bracket assembly into the vehicle.
6. Install the shifter handle on to the shifter assembly using the existing bolts or (x2) 3/8-16 x 1 bolts and flange nuts (not provided).

7. Install the shift linkage rod into the shifter slider with the flat of the linkage rod facing the locking bolt in the slider. Do not tighten the locking bolt.
8. Install the shifter bracket on to the (x3) bolts at the back of the 545RFE tail shaft housing using the supplied M10 x 45mm bolts to replace the OEM bolts in the adapter housing. Tighten the bolts.
9. Adjust the linkage rod for 2W High position (shift arm on the transfer case as far to the rear of the vehicle as it goes) and the transfer case shifter in the forwardmost position in the shifter bracket (2WH) and tighten the locking bolt.

**NOTE:** this is a good starting point for the linkage adjustment, additional adjustment may be needed.

\* Check all hardware and alignment of components

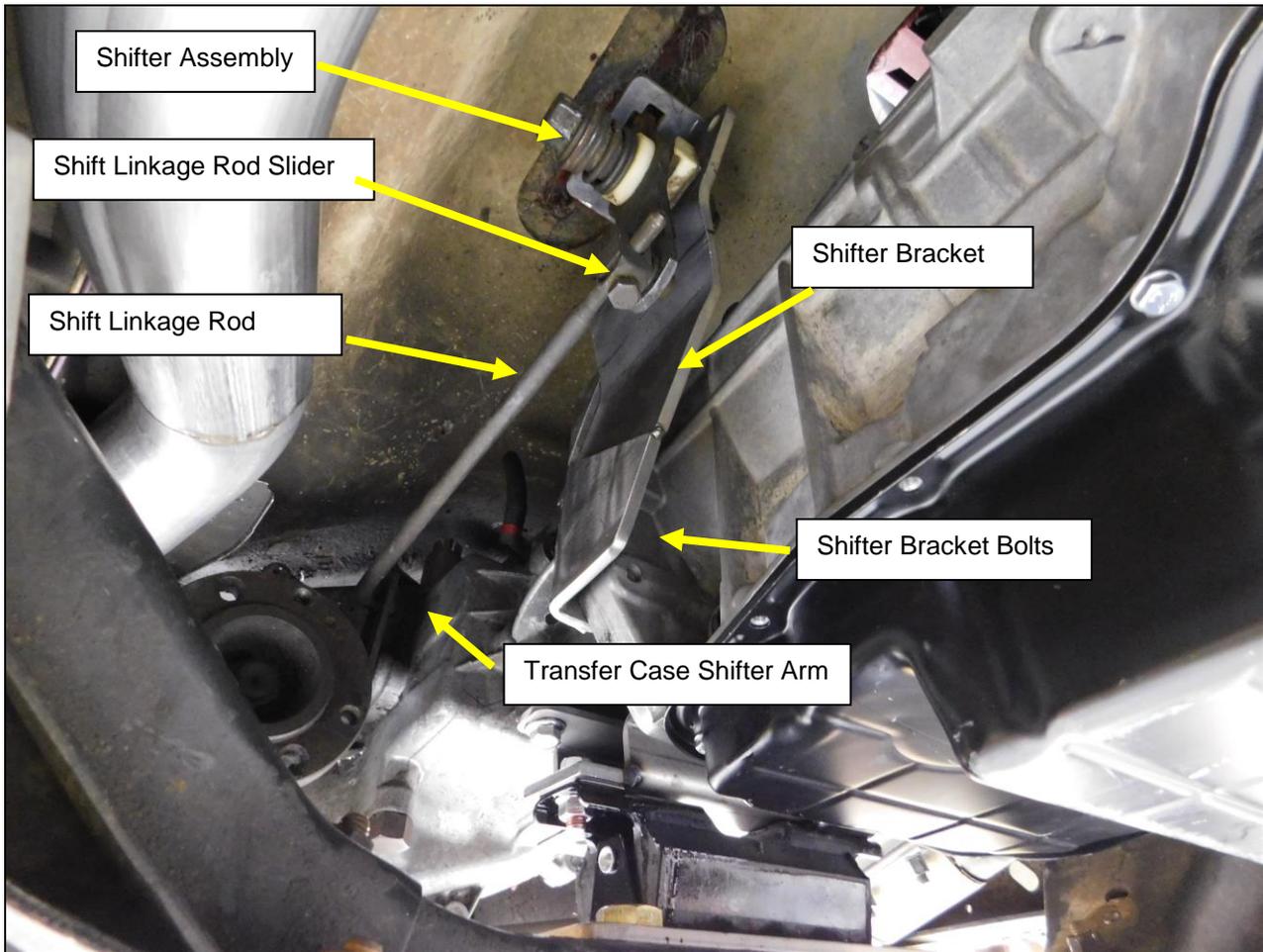


Figure 15

Any questions? Please contact Technical Service: 1-866-464-6553 or 270-781-9741. For online help, please refer to: [www.holley.com](http://www.holley.com).

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**199R12334**  
**Date: 4-15-22**