



**1973-1976 A-Body Mopar  
NAG1 5 SPEED AUTOMATIC  
GEN3 Hemi Swap Torsion Bar Crossmember Support**

**P/N: BHS578**



**Installation Instructions**

Thank you for choosing to use HOOKER™ engine swap mounting brackets as part of your GEN3 HEMI Swap project. These mounting brackets are 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 Hooker Blackheart Engine Mounting Brackets **P/N BHS571**, 2-bolt Chevy Transmission mount **P/N 71223029HKR**, Transmission Crossmember **P/N BHS572**, and **BHS574** Transmission Adapter Bracket.

**\* Cutting of the torsion bar crossmember hoop is required to install BH578 Crossmember Support.**

Visit [www.holley.com](http://www.holley.com) for a complete selection of Transmission Crossmembers, Headers, Exhaust, and more GEN3 HEMI support products to complete your A-Body Hemi Swap.

**COMPATIBILITY INFORMATION:**

**73-76 A-Body Mopar cars using GEN3 HEMI engines, installing the following transmission and using the listed supporting parts:**

**NAG1 (5 SPEED AUTOMATIC):**

Transmission Crossmember **P/N BHS572**, Transmission Adapter Bracket **P/N BHS574**, Transmission Mount **P/N 71223029HKR**, Engine mounts **P/N BHS571**, Transmission tunnel hoop **PN BHS578**, and Hooker Blackheart Shorty Headers **P/N BH23104**.

**INSTALL NOTES:**

- Requires torsion bar crossmember center hoop be removed for drive shaft coupler clearance. Hooker Blackheart Bolt-in Torsion Bar Crossmember Hoop **PN BHS578** is recommended to replace lost structural integrity.
- Some transmission tunnel massaging will be required for upper case clearance and around shift linkage.
- Trimming of the pinch weld at the transmission tunnel /firewall intersection will be required.
- Minor trimming of unused, nonstructural casting flash and tabs will be required to the transmission case.
- Output flange adapter (Sonnax PN T35-GMFD-01) and custom telescopic drive shaft are required.
- Floor shifter required **B&M PN 81188** or 10-14 Charger /Challenger Shifter MOPAR PN 4578584AD (Shifter only).

## PARTS LIST:

Qty.	Description
1	Torsion Bar Crossmember Support

## ACCESSORY PACK CONTENTS:

4		M8 x 1.25 x 25mm Button Head Cap Screw
4		3/8-16 x 4" Flanged Hex Bolt
4		3/8"-16 Flange Nut
4		3/8" Flat Washer
2	599R94	Decal – Blackheart 2" x 4"
1	199R12195	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
3/8" Drive Metric socket set
11/16 Wrench
5/8 Wrench
4.5" Grinder with Cut off wheel / flap disk
22oz (or larger) Ball Peen Hammer
Drill Motor
1/8" and 7/16" Drill Bit or 1/2" Spot Weld Drill

These instructions assume the engine is installed and supported to prevent damage to the engine mounts. The transmission should be removed from the vehicle for installation of **BHS578**.

**NOTE:** Installing the **BHS578** Torsion bar crossmember support as a first order operation will simplify the transmission installation and eliminate the need to remove the tail shaft flange from the NAG1 transmission during the initial transmission installation process.

## INSTALLATION:

**SAFETY NOTE:** This installation requires power tools that can damage the vehicle and possibly cause serious injury to the user when not used as intended or in an unsafe manner. Please follow all safety precautions necessary for the tool being used. If you are not confident in your ability to perform the steps outlined below safely and accurately, please have the installation performed by a professional.

1. Install the BHS572 Transmission Crossmember into the car using the supplied 3/8" x 4" bolts. Use a paint pen or marker to outline the ends of the bracket onto the torsion bar crossmember at the inside sets of bolt holes as shown in **Figure 1**.
2. Use a small square and draw a vertical reference line straight up as a guide to be used for making cuts (**Figures 2 & 4**).
3. Clean any dirt, grease, and paint from the flange along the top of the factory hoop where it is spot welded to the transmission tunnel. Cleaning the metal will expose the location of the spot welds (**Figure 3**).
4. Cut the tunnel hoop at the vertical lines using a cut off wheel or sawzall. Be careful to not cut the sheet metal of the transmission tunnel. Do not cut inside the reference line, leave the line intact as a safety margin. You will use the flap wheel or grinder to fine tune the opening for the BHS578 Hoop as needed (**Figure 4**).
5. Use the spot weld drill to remove the spot welds at the flange and remove the hoop section of the torsion bar crossmember. A grinder or drill bit will also work for this. Take your time and only remove the material at the tunnel hoop flange and avoid drilling through the transmission tunnel sheet metal (**Figure 4**).

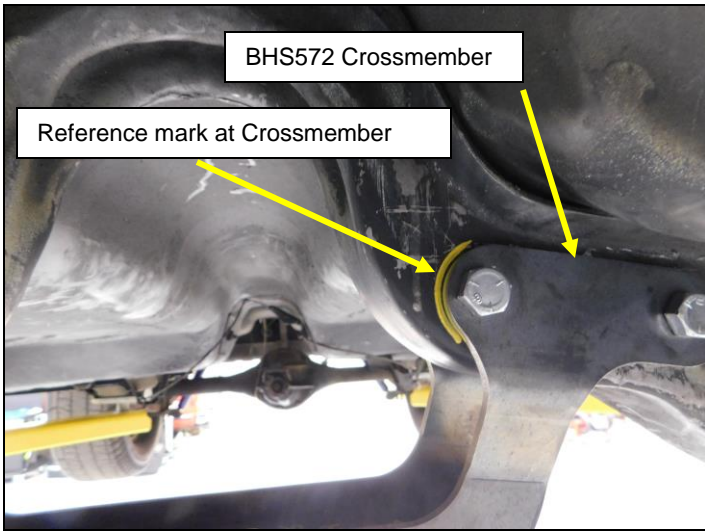


Figure 1

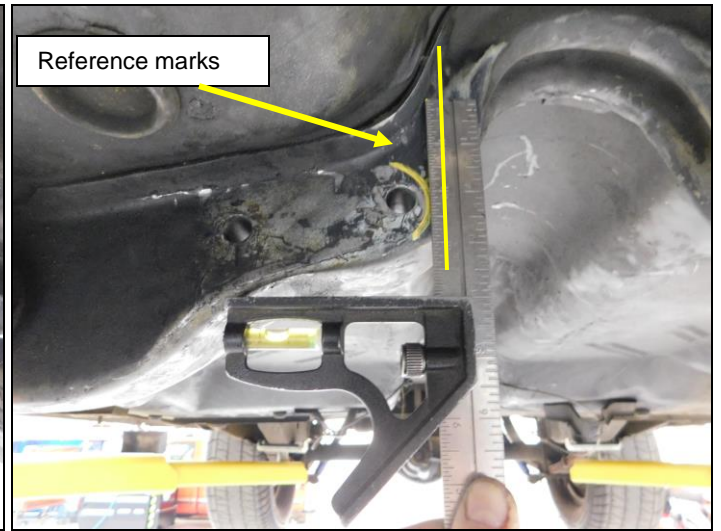


Figure 2

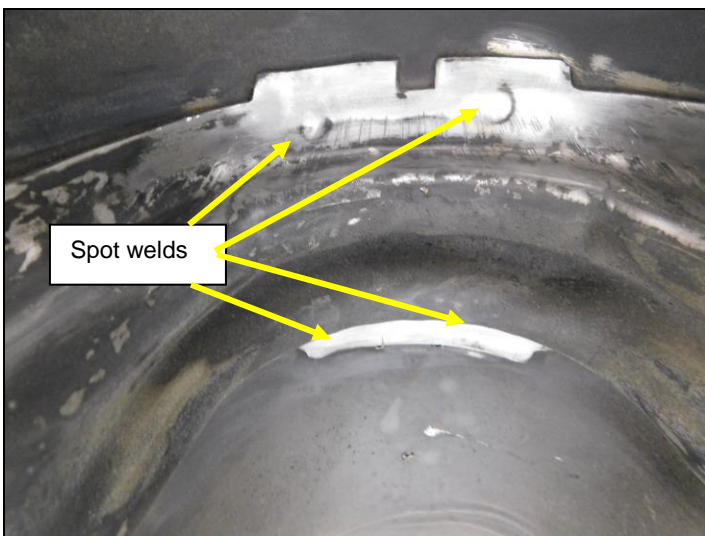


Figure 3

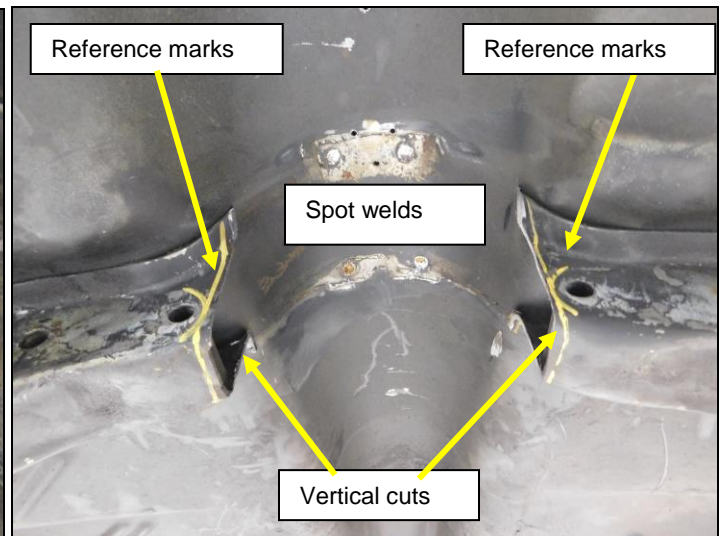
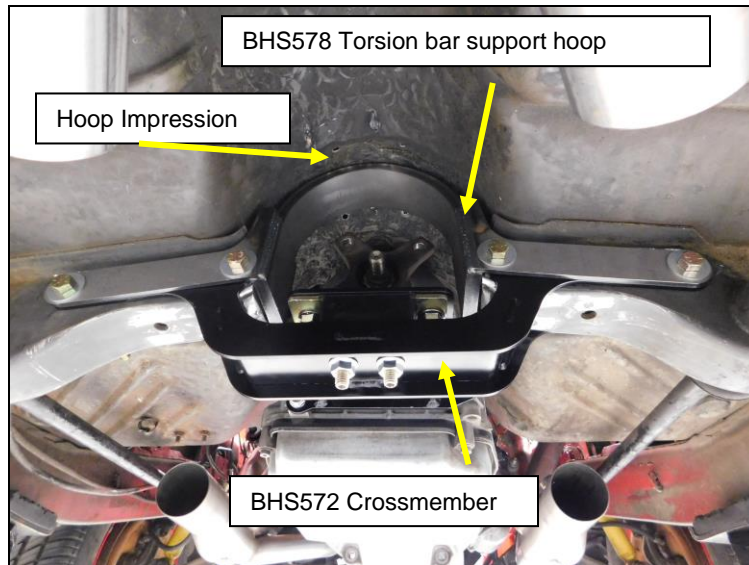


Figure 4

**NOTE:** Installing the BHS578 Torsion bar support hoop will require some additional room in the transmission tunnel. This can be accomplished in two different ways. Both methods are illustrated below.

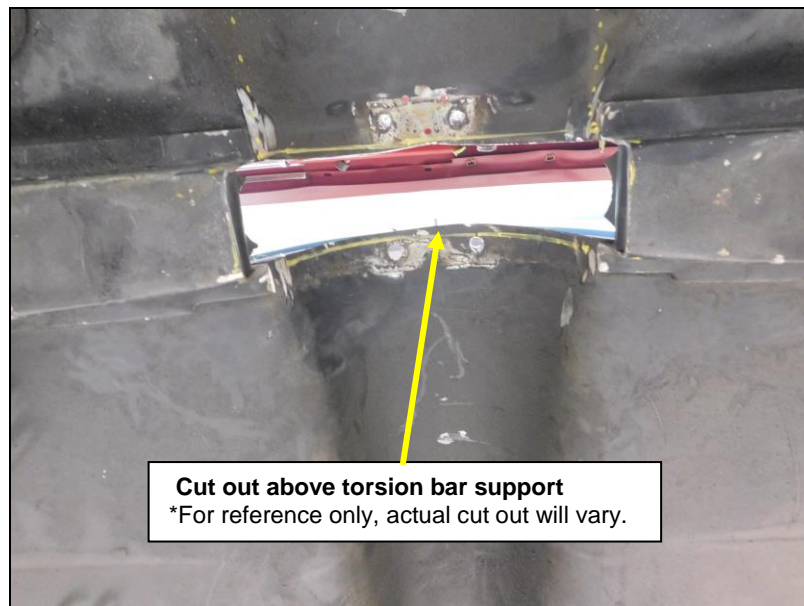
The first and least intrusive will be to massage the transmission tunnel with a ball peen hammer in the area that is in contact with the hoop and make an impression approximately 1/2" deep and 3" wide, working the sheet metal and test fitting as you go (**Figure 5**).



**Figure 5**

The second method requires cutting the transmission tunnel where it contacts the hoop allowing the hoop to extend through the sheet metal. Careful and accurate cuts are the key to making this a very clean install, removing small amounts of material as you go and test fitting the hoop until a perfect fit is achieved (**Figure 6**).

This installation method also adds to the structural integrity of the vehicle. Welding the transmission tunnel directly to the hoop only after the transmission is completely installed, all alignment adjustments are made and all the hardware is tightened. The transmission Crossmember will still be removable for service after the hoop is welded in.



**Figure 6**

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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