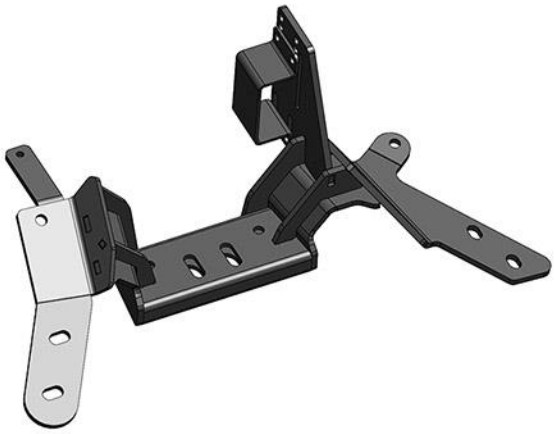
1984-92 GM F-Body LS Swap T56/T56 Magnum/4L60-4L70*/4L80-4L85*/TH400*/2004R* Transmission Crossmember
71222005HKR
Installation Instructions



*** Installation requires the use of a separately available Hooker transmission adapter kit.**

Thank you for choosing to use this Hooker™ transmission crossmember as part of your LS swap project. This crossmember is part of the most comprehensively engineered system of mounting components, headers and exhaust systems available for this application. The entire Hooker™ swap system is designed to decrease your total swap installation effort and cost while increasing the engineered quality of your vehicle and compatibility of these components with other popular aftermarket components. Please read these instructions in their entirety before attempting installation.

PRE-INSTALLATION CONSIDERATIONS:

This crossmember is designed as part of a fully-engineered LS swap mounting system for 1984-92 GM F-body vehicles. It has been CAD designed to provide an optimized balance of weight, stiffness and strength. This crossmember provides direct installation capability for 4th-gen F-body/GTO T56 and aftermarket Tremec T56 Magnum transmissions. Installation of a 4L60-4L70, 4L80/4L85, TH400 or 2004R automatic transmission can also be accomplished using this crossmember and the Hooker **12650HKR**, **71223003HKR,** or **71223004HKR** adapter kits referenced later in this document.

Installation of this crossmember, with any of the above mentioned transmissions, requires the use of an aftermarket **Prothane™ 7-1604** polyurethane mount (or stock/aftermarket rubber mount) and an **Energy Suspension 3.1111** 4th-gen F-body V-8 torque arm bushing.

Due to the unique design geometry of this transmission crossmember, attempts to install it with headers and/or engine mounting plates/brackets other than those developed by HOOKER™ for this application will more than likely not be successful.

When used with the related Hooker™ **71221003HKR** engine mounting bracket kit, this CAD designed transmission crossmember will replicate the stock small block Chevy engine/transmission inclination angle designed into these cars by GM.

A suitable lifting jack will be required to install this crossmember with the appropriate transmissions for which it is intended. An automotive lift or a jack and jack stands will be required to safely raise and support the vehicle.

CAUTION! WORK ONLY ON A LEVEL SURFACE. USE JACKS /JACK STANDS OF SUFFICIENT CAPACITY TO LIFT AND SUPPORT YOUR VEHICLE. NEVER WORK UNDER A VEHICLE SUPPORTED BY A FLOOR OR BUMPER JACK.

COMPATIBILITY INFORMATION:

This transmission crossmember was specifically designed for bolt-in compatibility with the HOOKER™ LS swap engine mounting bracket kit, headers and exhaust systems also developed for this application. Various other Holley® and OE LS components have been designed and/or validated for use with this system of components, as follows:

The engine/transmission positioning provided by this crossmember was designed for compatibility with the Holley® **302-2** LS oil pan; compatibility with other aftermarket/OE engine oil pans is unknown. The Holley 302-1 LS engine oil pan is not bolt-in compatible with this transmission crossmember.

The Hooker **70101316-RHKR** and **70101315-RHKR** LS swap headers are both compatible with the stock A/C evaporator case when installed using this Hooker LS engine swap transmission crossmember and the related Hooker **71221003HKR** engine mounting bracket kit.

This crossmember was intentionally designed with high-tuck geometry to optimize the ground and dual exhaust routing clearances of this application.

More LS swap/engine performance components, such as EFI fuel control systems, fuel filters, fuel pumps, plumbing hose/fittings and valve covers can be found at www.holley.com.

INSTALLATION:

NOTE: These instructions have been written with the assumption that you have already installed an LS engine into your vehicle using the Hooker **71221003HKR** engine swap bracket kit. Satisfactory engine and transmission installation with any other type or brand of engine mounts is not intended with this crossmember.

1. Check that the hardware package includes everything listed below. If any are missing, please contact Technical Service at 1-866-464-6553 or 270-781-9741.

Hardware Kit:					
Qty.	**Description**	**Qty.**	**Description**	**Qty.**	**Description**
1	Crossmember Assembly	2	3/8 Black Oxide Washers	1	1/4 Bolt
1	Torque Arm Bushing Attaching Bracket	4	5/16 Bolts	1	1/4 Lock Nut
2	Welded Nut Backing Plates	4	5/16 Lock Nuts	1*	T56 Magnum Spacer
2	3/8 Flanged Head Bolts				

*If you are installing a T56 Magnum transmission, the included two-hole spacer is to be installed between the crossmember and the isolator to compensate for the isolator mounting surface of the T56 Magnum being closer to the transmission output shaft centerline than the same surface on an LS 4th-gen F-Body/GTO T56.

2. Raise the tailshaft of the transmission to its maximum height against the vehicle floor.

3. Remove the stock transmission crossmember from the vehicle, if present.

4. Attach a user-supplied Prothane™ 7-1604 isolator, or equivalent factory replacement rubber isolator, to the rear of the transmission.

5. Install the transmission into the car in the following manner:

   4L60-4L70, 4L80/4L85, TH400 or 2004R – Attach the transmission to the engine and raise the tailshaft of the transmission up into the tunnel as far as it will go with a floor jack or screw-type stand.

   4th-gen T56 or T56 Magnum – Attach the transmission to the engine with three bolts. Raise the tailshaft of the transmission up against the floor and mark the location for the shifter with a permanent marker. Remove the transmission and cut/trim the hole for the shifter. If the car was originally equipped with a T5 manual transmission, only a small approximately 3/4" deep notch will be required along the back edge of the shifter opening to be able to install a 4th-gen T56 transmission.

   Once the shifter opening has been cut/trimmed, attach the transmission to the engine and raise the tailshaft of the transmission up into the tunnel as far as it will go with a floor jack or screw-type stand.

6. Temporarily attach the Hooker crossmember to the bottom of the vehicle subframe using the four threaded factory attachment holes and factory bolts (do not fully torque the bolts at this time). The two rear attachment holes in the crossmember will be observed to be obstructed by the subframe sheet metal at this point.

7. Use a 7/16" drill bit and drill through the sheet metal obstructing the rear attachment holes of the crossmember and then remove the crossmember from the vehicle.

8. Insert the two included (one per side) welded nut backing plates into the subframe rails through the large oval factory holes located in the bottom of each frame rail. The offset nut should be facing towards the rear of the car. See **Figure 1**. Using a telescoping magnet, or other suitable tool, push the backing plates all the way to the rear of the subframe rails until the hole/threaded nut in each is visible through the holes drilled in the previous step.

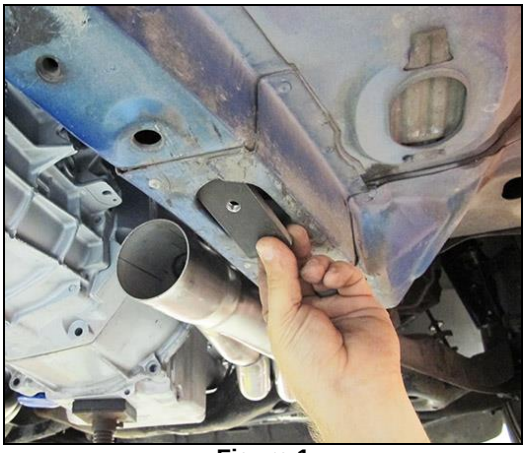


Figure 1

9. Install the crossmember onto the vehicle in the following manner:

4L60-4L70 – Attach a user supplied Hooker **71223003HKR** 4L60 transmission adapter bracket to the crossmember, using the fasteners included with the bracket, as shown in **Figure 2**. Attach the crossmember to the bottom of the subframe using the stock fasteners in the four forward holes. The supplied 3/8 bolts are to be installed through the two rear holes and into the welded-nut backing plates, which were previously installed inside the subframe rails. **The two supplied 3/8 black oxide washers are to be installed between the crossmember and the subframe at the location of the rear drilled hole on the driver's side of the crossmember**. Lower the transmission down onto the crossmember adapter and attach them together using the hardward supplied with the Prothane transmission isolator, or other user supplied hardware.

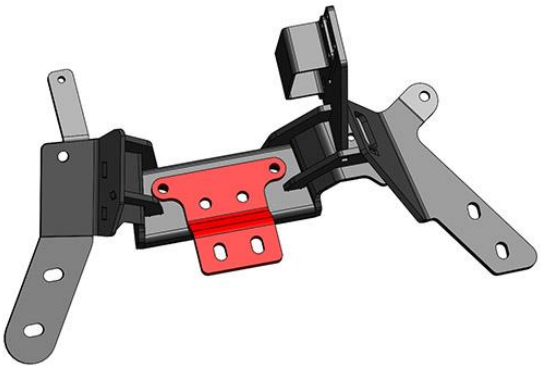


Figure 2

4L80 / 4L85 – Attach a user supplied Hooker **71223004HKR** 4L80 transmission adapter bracket to the crossmember, using the fasteners included with the bracket, as shown in **Figure 3**. Attach the crossmember to the bottom of the subframe using the stock fasteners in the four forward holes. The supplied 3/8 bolts are to be installed through the two rear holes and into the welded-nut backing plates, which were previously installed inside the subframe rails. **The supplied 3/8 washer/spacer is to be installed between the crossmember and the subframe at the location of the rear drilled hole on the driver's side of the crossmember**. Lower the transmission down onto the crossmember adapter and attach them together using the hardward supplied with the Prothane transmission isolator, or other user supplied hardware.

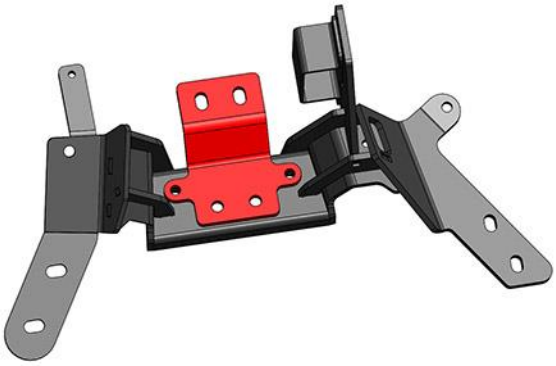


Figure 3

TH400 / 2004R – Attach the crossmember to the bottom of the subframe using the stock fasteners in the four forward holes and the two supplied 3/8 bolts the two rear holes; thread the 3/8 bolts into the welded-nut backing plates, which were previously installed inside the subframe rails. **The supplied 3/8 washer/spacer is to be installed between the crossmember and the subframe at the location of the rear drilled hole on the driver's side of the crossmember**.

Tighten all six attachment bolts and then place a user supplied Hooker **12650HKR** spacer block onto the top of the crossmember beam before lowering the transmission onto the spacer block. Attach the transmission to the crossmember using the long 7/16 bolts and washers included with the spacer block.

4th-gen T56 / T56 Magnum – Attach the crossmember to the bottom of the subframe using the stock fasteners in the four forward holes and the two supplied 3/8 bolts the two rear holes; thread the 3/8 bolts into the welded-nut backing plates, which were previously installed inside the subframe rails. **The supplied 3/8 washer/spacer is to be installed between the crossmember and the subframe at the location of the rear drilled hole on the driver side of the crossmember**. Lower the transmission down onto the crossmember and attach them together using the hardward supplied with the Prothane transmission isolator, or other user supplied hardware.

10. Apply a light spray of penetrating oil to the end of the torque arm. Install the Energy Suspension bushing onto the torque arm, as depicted in **Figure 4**, if your torque arm is formed with its flanged edges facing towards the outside of the car. If your torque arm is formed with its flanged edges facing the transmission, flip the bushing over so it's internal profile corresponds with the orientation of the shape on the tip of the torque arm and install the bushing. Place the included saddle bracket over the bushing and attach it to the corresponding holes/slots in the crossmember with the included 5/16 nuts and bolts. The lowest row of holes approximates the stock mounting position of the torque arm. Moving the mount higher will raise the instant center of the rear suspension for increased anti-squat characteristics.

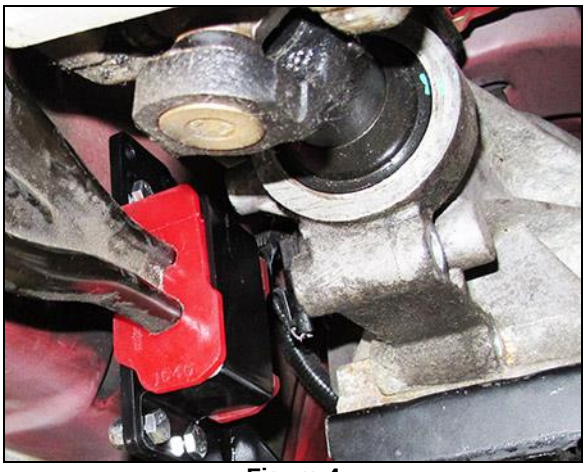


Figure 4

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

LIMITATION OF LIABILITY – DISCLAIMER:

The regulation of emissions production, noise levels, and safety standards is undertaken by the federal government, each of the fifty state legislatures, and by many local municipalities, towns, and counties.
HOOKER™ makes no warranties of merchantability, of fitness for particular purpose, or that its products are approved for general use, or that its products comply with laws, regulations, or ordinances in the state where they may be sold to the ultimate purchaser, the consumer.
Unless expressly stated to the contrary in the catalog, instruction sheet; or price list, the entire risk as to the conformity of any company product in any such state and as to repair should the product prove to be defective or non-conforming, is on the retail purchaser, the buyer, the ultimate consumer, of such product and it is not upon the seller, distributor, or manufacturer.
In this connection, the retail purchaser, the buyer, the ultimate consumer assumes the burden of the entire cost of any and all necessary service, alterations, or repair.

THE FOREGOING STATEMENT LIMITS THE LIABILITY OF THE MANUFACTURER.

California vehicle code, sections 27156 and 38391, prohibits the advertising, offering for sale, or installation of any device, which modifies a vehicle's emission control system, unless exempted, unless otherwise noted. HOOKER™ Headers that have not received an Executive Order (E.O.) exemption from these code sections are not legal for sale or use in California on vehicles originally equipped with catalytic converters, except for racing vehicles, which may never be driven upon a highway. Check with your local authorities to determine if these headers are legal for use in your particular area.

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