



P/N 12628HKR

GM 1967-69 F-Body/1968-72 X-Body LS Swap Powerglide*/TH350*/7004R* Transmission Adapter Kit

*Requires the use of a Hooker 12625HKR 4L60-4L75 transmission crossmember

P/N 12650HKR

TH400 / 2004R Transmission Mount Adapter Kit

Installation Instructions 199R10685

Thank you for choosing to use Hooker Blackheart products as part of your engine/transmission swap project. These products are designed as part of the most comprehensively engineered systems of mounting components, headers, and exhaust systems available for LS engine swaps. Hooker Blackheart LS swap systems are 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.

IMPORTANT DESIGN AND PRE-INSTALLATION INFORMATION:

These components have been designed for use in multiple Hooker Blackheart LS engine swap system applications. They have been CAD designed and FEA validated to provide optimized strength and fitment geometry for each application they are called out to be used with.

Installation of these products requires the use of a **Prothane™ 7-1604** poly mount, or an **Anchor™ 2268** rubber transmission mount for as-designed installation geometry to be achieved.

Use of the 12628HKR adapter kit with a 12625HKR 4L60-4L70 crossmember to install a Powerglide, TH350 or 700R4 transmission into an LS swapped GM 1st-gen F-body/3rd-gen F-body (using Hooker Blackheart 12618HKR LS swap engine brackets only) requires modifications (cutting and welding) be performed on the 12625HKR crossmember to complete the installation. The increased exhaust passage and ground clearance gained by using the 12625HKR crossmember as part of your LS swap project will more than justify the extra effort required for this operation.

Use of the 12650HKR spacer block kit with a 12626HKR T56 crossmember to install a 2004R transmission into an LS swapped GM 1st-gen F-body/3rd-gen X-body (using Hooker Blackheart 12618HKR LS swap engine brackets only) requires slight modification/welding to be done to the 12626HKR crossmember to fit around the case and pan of a 2004R transmission. The steel gusset bracket included within the 12650HKR kit is intended for this purpose and its use is outlined in these instructions. The increased exhaust passage and ground clearance gained by using the 12626HKR crossmember as part of your LS swap project will more than justify the extra effort required for this operation.

Use of the 12650HKR spacer block kit with any other Hooker Blackheart transmission crossmember to install a 2004R or TH400 transmission will not require any modifications to be done to the crossmember, or the use of the steel gusset bracket included in the 12650HKR adapter kit. Discard the gusset bracket in such cases.

These instructions are intended to supplement the basic installation steps outlined in various Hooker Blackheart transmission crossmember instruction sheets that call out the use of these parts. The drawings below can be seen in color by going to www.holley.com and searching for either 12628HKR or 12650HKR.

INSTALLATION OF 12628HKR

1. Check that the hardware package includes the following:

Qty.	Description	Qty.	Description
1	Adapter Bracket Assembly	2	7/16" Nuts
2	7/16" Bolts		

If any are missing, please contact Technical Service at 1-866-464-6553 or 270-781-9741.

2. Cut a notch as wide as the 12628HKR bracket into the front of the 12625HKR crossmember. Place the notch in the center of the crossmember and cut it back 1-1/8" from the face of the crossbeam front flange (**Figure 1**).
3. Attach the bracket to the crossmember placing the supplied bolts and nuts in the holes that pass through both the bracket and crossmember (**Figure 2**).
4. If you are using this kit to install a 700R4 transmission, trim the front of the bracket off so that it is even with the front edge of the bracket gusset plate (**Figure 2**) and slightly notch the top edges of the upright crossmember gussets to clear the isolator mount base plate (**Figure 3**). If you are using this kit to install a Powerglide or TH350, leave the bracket length as-is, as you will be attaching the transmission mount to the forward set of holes in the bracket.
5. Once notching/clearancing is complete, clean parts and weld them together using either a MIG or TIG welder (**Figure 2**) and spot-paint as desired to match.

6. Install the crossmember per the instructions contained in its packaging.

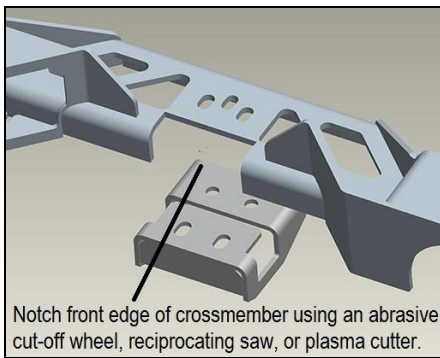


Figure 1

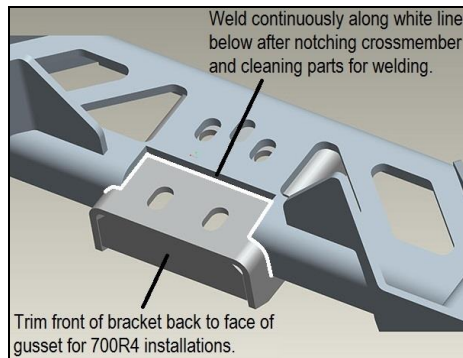


Figure 2

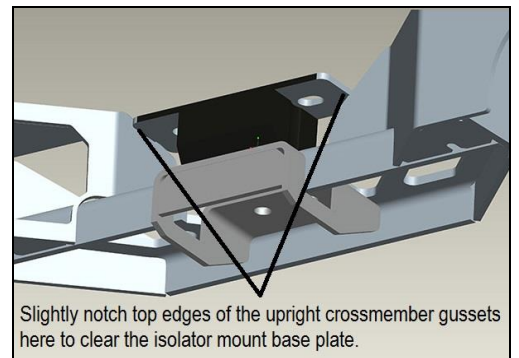


Figure 3

INSTALLATION OF 12650HKR

1. Check that the hardware package includes the following:

Qty.	Description	Qty.	Description
1	Aluminum Spacer Block	2	7/16" Bolts
1	Steel Gusset Bracket	2	7/16" Washers

If any are missing, please contact Technical Service at 1-866-464-6553 or 270-781-9741.

2. If you are using this spacer block kit to install a 2004R into a GM 1st-gen F-body or 3rd-gen X-body using the Hooker Blackheart 12626HKR T56 crossmember, modify/cut the inside left upright wall of the crossmember to match what is shown in **Figures 4 and 5** below. Once modifications are complete, clean parts and weld them together using either a MIG or TIG welder, as indicated in **Figure 6** below and spot-paint as desired to match. Install the crossmember per the instructions contained in its packaging while installing the spacer block included in this kit between the crossmember and transmission isolator. Use the included long fasteners to attach the transmission mount to the crossmember.

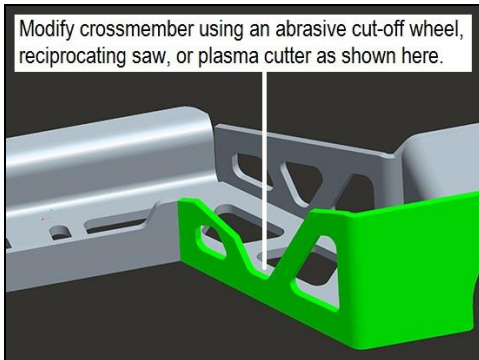


Figure 4

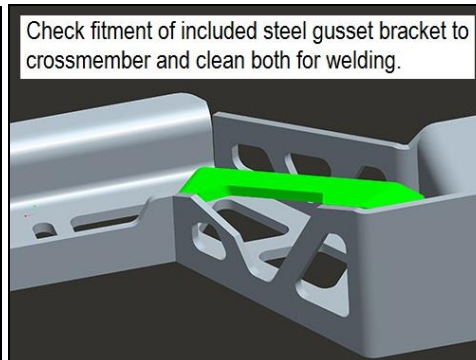


Figure 5

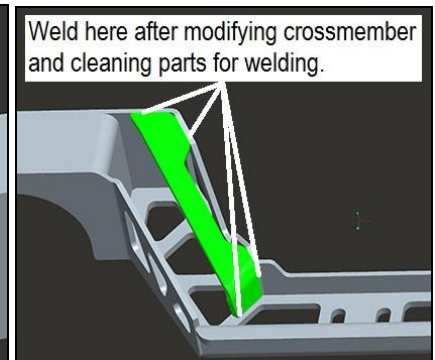


Figure 6

3. If you are using this spacer block kit and a Hooker Blackheart transmission crossmember to install a 2004R or TH400 transmission into any other vehicle besides a GM 1st-gen F-body or 3rd-gen X-body, do not modify the crossmember in any way. Install the crossmember per the instructions contained in its packaging while installing the spacer block included in this kit between the crossmember and transmission mount. Use the included long fasteners to attach the transmission mount to the crossmember. Discard the included gusset bracket as it is not needed in these applications.

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

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199R10685

Revision Date: 8-22-18



1964-67 GM A-Body LS Swap Engine Mounting Brackets 71221008HKR & 71221009HKR Installation Instructions



Thank you for choosing to use Hooker Blackheart engine swap mounting brackets as part of your LS 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.

PRE-INSTALLATION CONSIDERATIONS:

Successful installation of an LS engine using these components is more highly ensured by installing new body bushings prior to installation of these components.

Installation of these engine mounting brackets requires the use of 1998-2002 GM Camaro/Firebird LS1 engine motor mounts. GM replacement rubber mounts (part number 22179268) or Hooker/Holley polyurethane motor mounts (71221018HKR clamshell housings and 71221016HKR or 71221017HKR inserts) are recommended. Aftermarket poly motor mount inserts from other sources have been found to deviate from factory design specifications and will cause installation issues.

The long horizontally installed through bolts/nuts that couple the engine mounts to the Hooker Blackheart engine brackets are to be user supplied. Stock GM bolts/nuts or the Hooker Blackheart 71223015HKR hardware kit are recommended to be used.

COMPATIBILITY INFORMATION:

When used with the related Hooker Blackheart **71222008HKR** transmission crossmember, each of these engine swap mounting bracket sets will provide the most geometrically optimized LS engine/transmission mounting solution available for this vehicle platform.

These engine swap mounting bracket kits are designed for use with a Holley® **302-2** or **302-3** (302-3 recommended as the only pan to use with the 71221008HKR brackets) oil pans and have been validated to be compatible with the following engine accessory drive systems and vehicle components:

Accessory Drive Systems – Both engine bracket kits are compatible with the **Holley** or stock **Corvette** (excluding the A/C compressor/bracket, which must be relocated) or **Truck** (must use smaller 5" diameter power steering pump pulley and stock Denso A/C compressor without rear pressure sensor) FEAD systems.

Air Conditioning/Heater – Both engine bracket kits are compatible for use with the stock vehicle A/C evaporator case (relocation of the rear coil on the passenger side valve cover is required) and low-mounted A/C compressors. The 71221008HKR forward-bias engine bracket kit provides more desirable clearance for the stock heater core inlet/outlet stubs and the heater hoses.

Steering Boxes/Linkage – Both engine bracket kits are compatible with the stock Saginaw power steering box or Delphi 600 series power steering box. Pro Forged brand tie rod ends and center link and Moog brand tie rod ends have been validated to be compatible for use with either of these engine bracket kits and the Holley 302-2 or 302-3 oil pans.

Exhaust Headers/Manifolds – Both engine bracket kits are compatible with Hooker Blackheart LS swap headers developed for this application and Hooker LS cast iron manifolds. Compatibility with any other brand/type of headers or exhaust manifolds has not been validated.

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

BEFORE BEGINNING...

Check that the hardware package includes the following:

Qty.	Description	Qty.	Description
4	3/8 x 1" Bolts	8	M10 x 1.5 x 25mm Bolts
2	3/8 Carriage Bolts	6	3/8 Nuts

INSTALLATION:

1. Remove the factory engine stands from the K-member and clean the bracket mounting surfaces.
2. **Loosely** attach the Hooker Blackheart engine mounting brackets to the K-member, as depicted in **Figures 1, 2, and 3**, using the supplied 3/8" bolts/nuts. Install the carriage bolts into the rectangular slot position on each bracket. The driver's side bracket is identifiable by the triangular shaped notch located on its outer profile. The passenger's side bracket has a semi-circle shaped notch located along its outer profile.

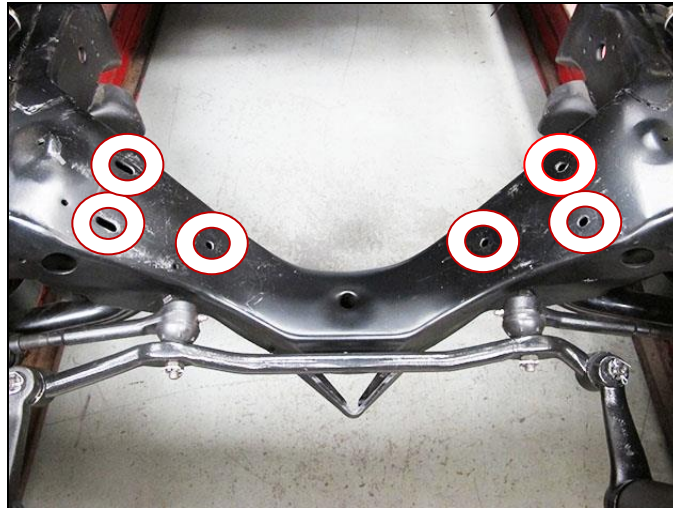


Figure 1 – Attach engine mounting brackets using the stock holes in vehicle frame that are circled above.

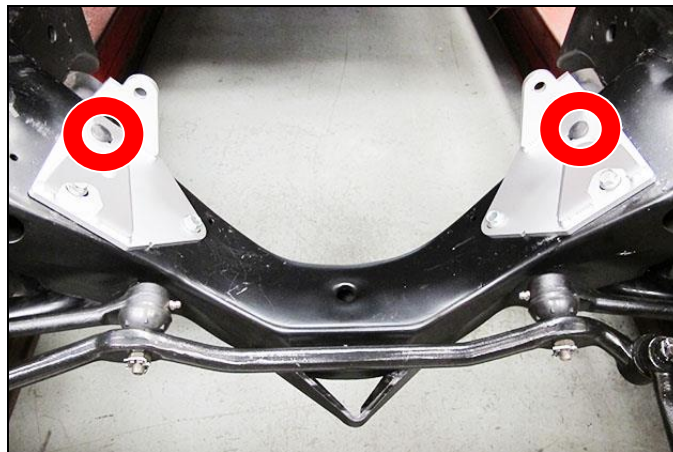


Figure 2 – Install carriage bolts into **top rear** hole of each bracket when installing 71221009HKR rear biased brackets.

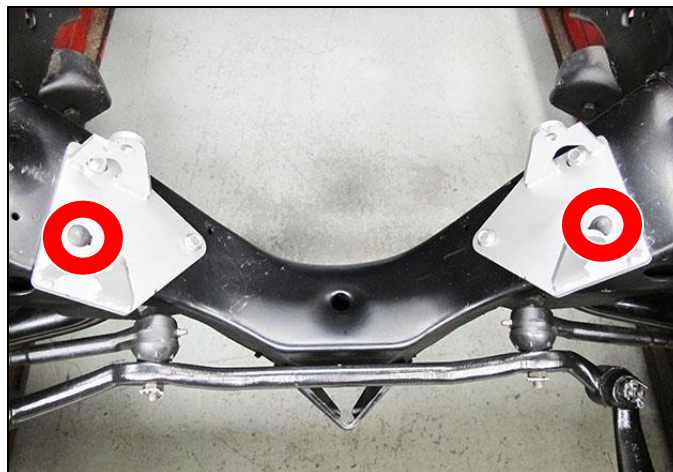


Figure 3 – Install carriage bolts into **top front** hole of each bracket when installing 71221008HKR forward biased brackets.

3. Install new motor mounts onto the LS engine using the supplied (x8) M10 bolts.

4. Install the engine and transmission into the car and couple the engine to the Hooker Blackheart engine brackets using the user-sourced bolts/nuts. Use of the **71221008HKR** forward-bias engine bracket kit may require the engine and transmission to be installed separately due to the close clearance between the Holley oil pans (302-3 recommended to be with these brackets) and the back of the engine crossmember.
5. Raise the rear of the transmission as high as it will go and install the stock or Hooker Blackheart **71222008HKR** transmission crossmember as detailed below for the particular Hooker engine bracket kit/transmission combination you are installing.

NOTE: Each set of Hooker Blackheart A-body engine swap brackets provides the user with unique fitment/compatibility advantages that determine the amount of effort required to install a particular transmission and/ or engine accessory drive system in the swap vehicle. The amount of work to be expected when installing either set of engine brackets with a particular transmission is listed below. You may need to install the transmission multiple times (depending on the transmission) to obtain proper clearance with the floor, so be sure to use suitable lifting equipment to avoid injury.

71221008HKR Forward-Bias Engine Brackets:

4L60-4L70 Installations -

- No floor cutting required, but slight impact clearancing (hammering) of the floor **MAY** be required around the location of the upper left bolt boss at the bellhousing/transmission case interface and **WILL** be required around the area of the 2-4 servo piston bore/cap on the right side of the transmission case.
- Install using a Hooker Blackheart **71222008HKR** transmission crossmember, per the instructions included in its packaging.
- Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.

TH350, TH400, and 2004R Installations -

- No floor cutting or floor modifications are required to install these transmissions.
- Install using a Hooker Blackheart **71222008HKR** transmission crossmember (TH400 or 2004R transmissions) per the instructions included in its packaging or by using the stock vehicle transmission crossmember (TH350 transmissions) and sliding it 1" forward on the frame rails. You will need to drill new mounting holes in the frame rails for the purpose of attachment.
- Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.

T56/T56 Magnum Installations -

- **Moderate** floor cutting/modification is required. Cut a long slit down the center top of the tunnel and remove all of the tunnel sheet metal directly above the transmission extension housing. After slitting/cutting of the floor, install the transmission per the instructions included with the Hooker crossmember and pry open the tunnel on either side of the slit until sufficient clearance above the transmission is obtained. Close up the slit with a narrow patch panel and rebuild the tunnel surrounding the extension housing once the transmission is solidly mounted to the crossmember.
- Install using a Hooker Blackheart **71222008HKR** transmission crossmember, per the instructions included in its packaging.
- Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.

4L80/4L85 Installations -

- No floor cutting required – slight heating (oxy/acetylene torch) and/or focused impact clearancing (hammering) of the floor will be required around the output speed sensor and electrical plug on the left side of the transmission, the cooler fittings/lines on the right side of the transmission, and the two rear band anchor lugs that protrude from the top right side of the case near the rear of the transmission.
- Install using the Hooker Blackheart **71222008HKR** transmission crossmember, per the instructions included in its packaging.
- Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.

71221009HKR Rear-Bias Engine Brackets:

4L60-4L70 Installations -

- **Moderate** floor cutting/modification is required. The areas of sheet metal that will need to be modified will be directly above the upper bolts at the transmission bellhousing/case interface and the area adjacent to the 2-4 servo piston bore/cap on the right side of the transmission case.

- Install using a Hooker Blackheart **71222008HKR** transmission crossmember, per the instructions included in its packaging.
- Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.

TH350, TH400, & 2004R Installations -

- No floor cutting or floor modifications are required to install these transmissions.
- Install using a Hooker Blackheart **71222008HKR** transmission crossmember (TH400 or 2004R transmissions) per the instructions included in its packaging or by using the stock vehicle transmission crossmember (TH350 transmissions).
- Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.

T56/T56 Magnum Installations -

- **Extensive** floor cutting/modification is required. Cut a long slit centered on top of the tunnel that extends from the top of the hump in the firewall all the way to the front edge of the center body brace that is located behind the transmission. Pull/push both sides of the cut firewall/tunnel upward as far as possible by hand (the use of gloves is highly recommended). Install the transmission per the instructions included with the Hooker crossmember. Reform/trim the sheet metal around the installed transmission/shifter housing and close up the remaining opening with a suitable patch panel.
- Install using a Hooker Blackheart **71222008HKR** transmission crossmember, per the instructions included in its packaging.
- Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.

4L80/4L85 Installations –

- **Moderate** floor cutting/modification is required. Cut and remove the choked-down area of the tunnel that resides between the rear of the transmission and the front edge of the center body brace behind the transmission then install the transmission per the instructions included with the Hooker Blackheart **71222008HKR** transmission crossmember. Close up the exposed opening over the transmission extension housing with a suitable patch panel.
 - Installation requires the use of a stock OE rubber replacement or Prothane 7-1604 poly transmission mount.
6. With the engine and transmission in place on the engine brackets and transmission crossmember, sight across the bottom of the engine K-member and use a pry bar to level the engine oil pan and transmission crossmember with the bottom of the engine K-member. Once level, tighten all six bolts attaching the engine brackets to the engine K-member.
 7. Your LS swap engine and transmission are now mounted and ready to be outfitted with headers and an exhaust system. Hooker Blackheart 1964-67 A-body LS swap headers and exhaust systems are specifically designed for use with these engine mounting brackets.

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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.

Technical Support: 1-866-464-6553

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199R11048

Revision Date: 11-20-19



1964-1967 GM A-Body LS Swap Transmission Crossmember 71222008HKR

Installation Instructions – T56/T56 Magnum/4L60-4L70*/4L80-4L85/TH400* and 2004R*

* Installation requires the use of a separately available Hooker transmission spacer 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 vehicle 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 1964-67 GM A-body vehicles (excluding convertible or El Camino models). It has been CAD designed to provide an optimized balance of weight, stiffness and strength. The dual-arch exhaust passages are provided for installation of available Hooker 2.5" and 3" exhaust systems for this application, or any custom system of your choice.

This crossmember provides for direct installation of a 4th-gen F-body/GTO T56, aftermarket Tremec T56 Magnum or 4L80/4L85 transmission. Installation of a 4L60-4L70, TH400 or 2004R automatic transmission can also be accomplished using this crossmember and a Hooker **12650HKR (TH400/2004R)** or **12657HKR (4L60-4L70)** adapter kit.

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 of equivalent installed height.

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 LS swap application will more than likely not be successful. When used with the related Hooker™ **71221008HKR** and **71221009HKR** engine mounting bracket kits and Holley 302-2 oil pan, this CAD designed transmission crossmember will provide desirable component clearances and U-joint operation angles.

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.

INSTALLATION:

1. Check that the hardware package includes the following:

Qty.	Description	Qty.	Description	Qty.	Description
1	Crossmember Assembly	1	Left side frame adapter bracket	4	7/16" Nuts
1	Transmission Spacer (5/16" thick)	1	Right side frame adapter bracket	8	3/8" Bolts
1	Transmission Spacer (3/16" thick)	4	7/16" Bolts	8	3/8" Nuts

If any are missing, please contact Technical Service at 1-866-464-6553 or 270-781-9741.

NOTE: These instructions have been written with the assumption that you have already installed an LS engine into your vehicle using one of the Hooker A-body engine mounting bracket kits.

NOTE: The included 5/16" & 3/16" spacers are provided for use with all transmissions to help achieve desirable U-joint angles. Depending on the pinon height (not angle) of the rear end used in the vehicle (i.e. Ford 9", GM 10-bolt or GM 12-bolt) and the rear suspension ride height you may need to use one, two, or none of these spacers. This crossmember kit is not packaged to achieve optimized U-joint operating angles on vehicles that have more than a typical 1" rear suspension drop. If you are installing a T56 Magnum transmission, use of the 5/16" thick spacer is required in all installations and may need to be used in conjunction with the 3/16" spacers in order to achieve optimized U-joint working angles with your particular rearend.

NOTE: 4L80/4L85 transmissions will be installed using the rearward set of holes located behind and above the cantilevered shelf in the center of the crossmember; all other transmissions will be installed using the forward set of holes located in the cantilevered shelf.

2. Attach the supplied left and right side frame adapter brackets to the bottom flange of each frame rail using the supplied (x4) 3/8" bolts. Align the frame attachment holes in the adapter brackets with two rearmost located holes in the 1964-66 frame pattern, or with the third hole from the front and the last hole in the 1967 frame hole pattern. See **Figure 1** for visual clarification.
3. Using a 3/8" bit, drill two holes through each vehicle frame rail that correspond to the two holes in the vertical walls of each frame adapter bracket (see **Figure 1**). Then, install (x4) supplied 3/8" bolts/nuts into the drilled holes and torque them to 47 lb./ft.

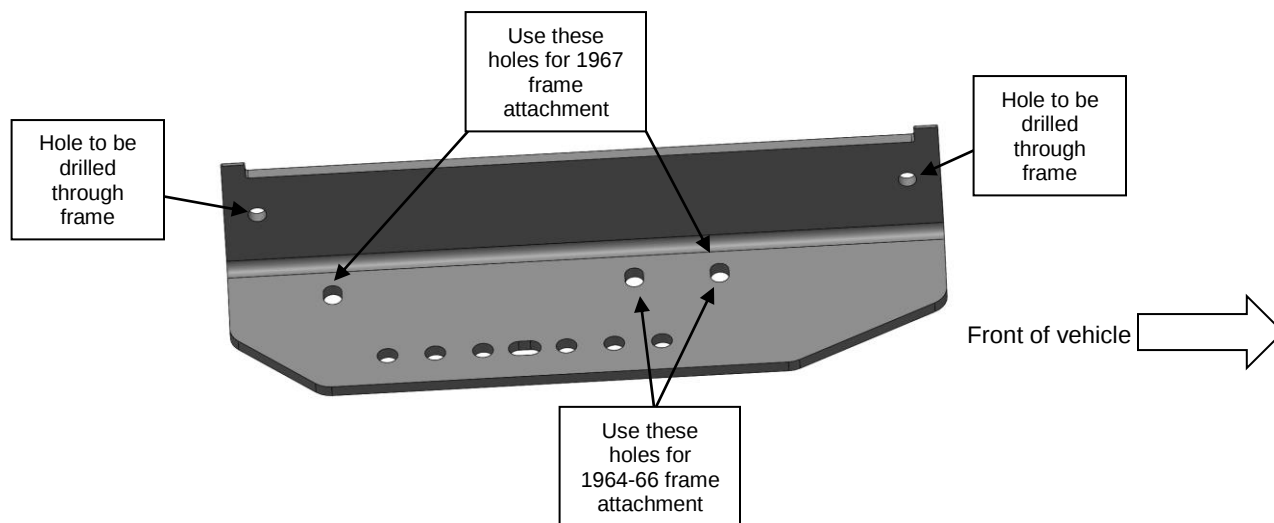


Figure 1 (Driver's side bracket shown – passenger's side similar)

4. Raise the tail of the transmission to its maximum height against the vehicle floor and attach an isolator mount to the transmission (user supplied). If you are using a Hooker **71221008HKR** or **71221009HKR** engine bracket kit and are installing any transmission other than a TH400 or 2004R, you must clearance (hammer blows) or modify the transmission tunnel to provide the required clearance to carry out the remaining installation steps below. The amount of clearance/modification needed for each specific transmission is described in the installation instructions included with the Hooker engine brackets.

5. Place the crossmember assembly on top of the frame adapter brackets and line up the holes in the ends of the crossmember with combination you are using in your swap. See **Figure 2** for the correct hole pattern to use for your combination.

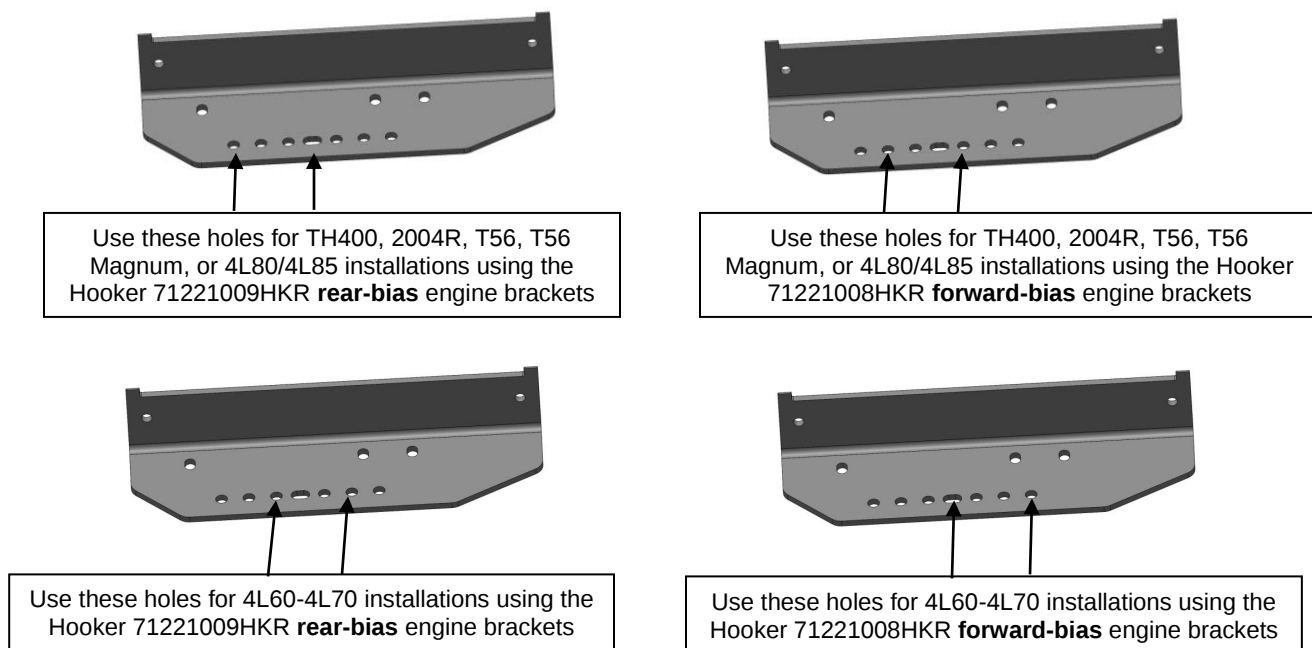


Figure 2 (Driver's side bracket shown – passenger's side similar)

6. Attach the crossmember to the frame adapter rails with the included 7/16" bolts/nuts. Torque all to 78 lb./ft.
7. Place the supplied 3/16" transmission spacer on top of the crossmember mounting surface and then place a **12650HKR (2004R, TH400)** or **12657HKR (4L60-4L70)** spacer on top of the 3/16" spacer if you are installing a 2004R/TH400 or 4L60-4L70 transmission. For T56 Magnum installations, install the supplied 5/16" spacer along with the 3/16" spacer.
8. Install your driveshaft and measure its angle along with the angles of the transmission output shaft and rearend pinion to determine your U-joint operating angles.
9. Reconfigure (add, remove, or combine) the supplied spacers, as needed, to alter your U-joint working angles.

NOTE: The installation of the Hooker crossmember described within these steps is limited to vehicles equipped with rear suspensions that are configured with no more than 1" of drop. Lowering your suspension beyond that amount will require extensive modifications to the tunnel sheet metal above and behind your transmission to achieve optimized (under 3 degrees) U-joint working angles.

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

COMPATIBILITY INFORMATION:

This transmission crossmember was specifically designed for bolt-in compatibility with the HOOKER™ LS swap engine mounting bracket kits, cast iron LS exhaust manifolds, 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 specifically 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.

Hooker™ LS swap manifolds (**8501HKR**) and Hooker Blackheart 1964-67 A-body LS swap headers are compatible with the stock A/C evaporator case (right side rear ignition coil relocation required) when installed using this Hooker LS engine swap transmission crossmember and the related Hooker **71221008HKR** and **71221009HKR** engine mounting bracket kits.

This crossmember is intentionally designed with high-tuck geometry to optimize the ground and dual exhaust routing clearances of this application. As such, installation of new body bushings may be required for successful installation. Worn body bushings have been verified to decrease body-to-frame clearances by as much as 1/2".

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.

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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.

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199R11119

Revision Date 8-9-21



**GM S10 1982-2004 700R4, TH350, and Power Glide Crossmember
Installation Instructions
71222018HKR**



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.

COMPATIBILITY INFORMATION:

This transmission crossmember was specifically designed for bolt-in compatibility with the HOOKER™ LS swap engine mounting bracket kit, cast iron LS exhaust manifolds, 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® 302-1 LS oil pans. Compatibility with other aftermarket/OE engine oil pans is unknown.

Hooker™ LS swap manifolds (71223026HKR) and mid-length headers (70201317-RHKR and 70201316-RHKR) are compatible when installed using this Hooker LS engine swap transmission crossmember and the related Hooker 71221029HKR 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.

Hooker recommends using a Prothane 7-1604 or Anchor 2268 transmission mount.

BEFORE STARTING:

Your vehicle must be raised a minimum of 36 inches. A floor hoist is ideal. If no hoist is available, we strongly urge the use of axle stands as a safety measure. Please read these instructions in their entirety before attempting installation.

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.

NOTE: These instructions have been written with the assumption that you have already installed an LS engine into your vehicle using the Hooker 71221029HKR engine swap bracket kit. Satisfactory engine and transmission installation with any other type or brand of engine mounts is not intended with this crossmember.

INCLUDED HARDWARE:

Qty.	Description
1	Center Crossmember
1	Left Side Mounting Bracket
1	Right Side Mounting Bracket
1	1" Aluminum Spacer

Qty.	Description
11	3/8" x 1" Bolts
11	3/8" Nuts
3	3/8 x 2.5" Bolts

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

INSTALLATION:

1. Raise the tail shaft of the transmission to its maximum height against the vehicle floor.
2. Install the left side bracket as it shows in the photo, on 1982-1993 you will use 3- 3/8" x 1" bolts, later 1995-2004 years will use the longer 3/8" x 2.5" bolts. Install the correct 3 bolts and tighten.
3. Install the right side bracket as shown in the photo, 1982-1993 years will be held with the 2 center bolts with 3/8" x 1" bolts, later years will use the outer 4 holes with 4 -13/8" x 1" bolts. Install hardware and tighten.
4. You are now ready to install the center section of your crossmember, install so that the center transmission mounting pad is going uphill toward the front of the vehicle.
5. There are two available positions you can mount the center section depending on your transmission type. If using a 700R4 transmission you will use the rear mounting holes, if using a TH350 or Power Glide you will use the forward mounting holes.
6. Once the center section has been installed use four of the 3/8" x 1" bolts to attach, tighten for final assembly.
7. The last step will be adding the 1" aluminum block to the transmission mount, by adding this spacer it will give your S10 the correct engine/transmission inclination angle.

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.

HOOKE™ 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. HOOKE™ 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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Date: 11-12-18



Transmission Polyurethane Mount - GM 71223029HKR & 71223030HKR Installation Instructions



Thank you for choosing to use the Hooker BlackHeart™ transmission mount as part of your performance vehicle project. Please read thoroughly and understand these instructions before attempting installation.

PRE-INSTALLATION CONSIDERATIONS:

These polyurethane transmission mounts may be used as a direct replacement for stock GM rubber mounts that measure 1.75" in height. Replacement of mounts with a greater height than 1.75" can be accommodated with the use of shim washers between the crossmember and the mount.

The polyurethane construction is capable of high horsepower applications while preserving vibration dampening and the safety interlock design of the inner components ensures that even if the polyurethane fails the mount will not separate. These polyurethane mounts are capable of fitting either a one or two stud type of crossmember interface.

BEFORE BEGINNING:

Check that the package contains the following hardware:

71223029HKR	
Qty.	Description
1	Black Polyurethane Transmission Mount
2	7/16"-14 x 1.5" Studs
2	7/16"-14 Hex Nuts
2	Flat Washers
2	Lock Washers

71223030HKR	
Qty.	Description
1	Red Polyurethane Transmission Mount
2	7/16"-14 x 1.5" Studs
2	7/16"-14 Hex Nuts
2	Flat Washers
2	Lock Washers

INSTALLATION:

1. Determine if your application requires a one or two stud crossmember interface. Install the supplied stud(s) (7/16"-14 x 1.5") into the appropriate threaded holes in the polyurethane mount with a 7/32" hex key. If no hex key is available, the studs can also be installed into the mount by "double nutting" the end of the stud with the supplied hex nuts. Install the stud(s) until firmly seated in place.
2. Install the mount onto the crossmember with hardware provided (shown in **Figure 1**). Do not tighten the hex nuts at this time.
3. Install the factory transmission bolts (user supplied). Do not tighten the bolts at this time.
4. Confirm alignment of the polyurethane mount with the transmission and crossmember. Tighten and torque the transmission bolts to factory torque specifications. Also tighten and torque the crossmember hex nut(s) to 49 ft./lbs.

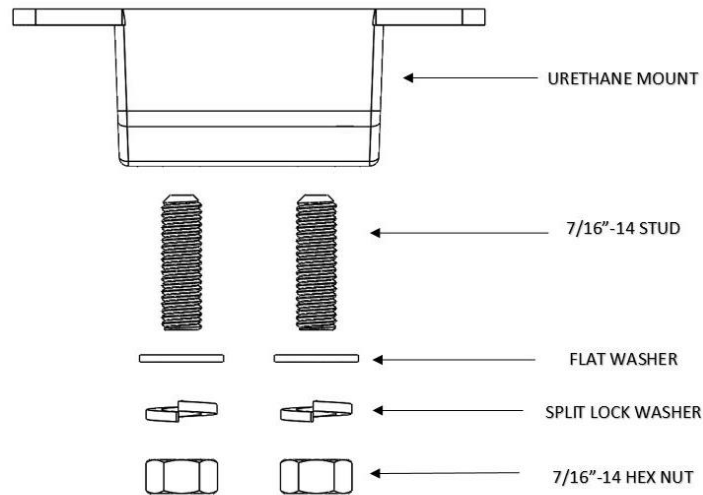


Figure 1

LIMITATION OF LIABILITY – DISCLAIMER:

HOOKER™ BLACKHEART 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.

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