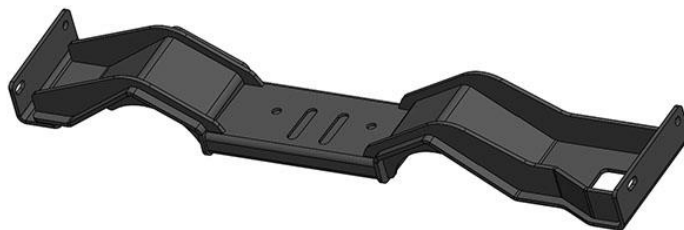




## 1979-93 Ford Mustang LS/Coyote Swap Transmission Crossmember 71222016HKR



Thank you for choosing to use this Hooker™ transmission crossmember as part of your LS/Coyote 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 fully-engineered LS/Coyote swap mounting systems for 1979-93 Ford Mustang vehicles. 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. Installation of this crossmember with certain applicable transmissions also requires the use of a specific spacer block or adapter kit as follows:

**LS swaps** – TH400 or 2004R -**12650HKR**, 4L80/4L85 -**71223013HKR**, 4L60-4L70 -**71223003HKR**

**Coyote swaps** – 4R70W/T45 - **71223018HKR**, 6R80/MT82 -**71223019HKR**

Installation of the crossmember requires the use of an Energy Suspension 3-1108 poly mount, a Prothane™ 7-1604 poly mount, or the stock OE rubber transmission mount they are designed to replace for all installations except Coyote 4R70W/TR45, which require the use of a Prothane 6-1608 T56 conversion mount.

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/Coyote swap application will most likely be unsuccessful. When used with any of the Hooker engine mounting brackets/adapter plates developed for this application, this CAD designed transmission crossmember will provide the ability to obtain desirable U-joint operating angles and component clearances.

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:**

Check that the hardware package includes the following:

Qty.	Description	Qty.	Description	Qty.	Description
1	Crossmember Assembly	1	Passenger's Side Frame Angle Bracket	2	3/8" Nuts
1	Transmission Spacer (5/16" thick)	2	Outer Frame Backing Plates	4	M10 Bolts
1	Transmission Spacer (3/16" thick)	2	3/8" Bolts	4	M10 Nuts

**NOTE:** These instructions have been written with the assumption that you have already installed an LS/Coyote engine into your vehicle using the Hooker LS or Coyote engine mounting bracket kit per its instructions.

**NOTE:** Some hammer clearancing to the trans tunnel should be expected in the following areas: **T56/T56 Magnum** - around and just forward of the shifter area, **TH400** - around the transmission cooler lines, **2004R** - around the servo cover on the right side of the case, **4L80/4L85** - around the transmission cooler lines, low-reverse band case lugs, and the electrical connector on the left side of the case, **6R80** - around the top rear edge of case, **MT82** - around entire top and rear of case and the shifter assembly.

1. Raise vehicle to comfortable working height and support it by proper means.

2. If in place, remove the factory transmission crossmember from the vehicle.
3. Attach the transmission to the engine and then raise the tailshaft of the transmission as high as possible with a floor jack or screw-type jack.
4. Attach the transmission mount to the transmission now (bolts for this purpose are user supplied), except for 4L60-4L70, 4L80/4L85, 4R70W, T45, 6R80 and MT82 installations. Mounts for these transmissions will be attached later in step 6.
5. Attach the supplied angle bracket to the bottom of the right end of the crossmember with the supplied 3/8" bolts/nuts installed loosely. Now, install the crossmember into the car by attaching it to the frame rails just behind the factory crossmember pockets. Couple the forwardmost holes in the crossmember ends to the existing hole in each frame rail, using the supplied backing plates and M10 bolts and nuts. The backing plates are to be positioned on the outside of the frame rails and the nuts are to be positioned on the inside of the frame rails against the crossmember. The rear mounting holes for the crossmember will need be drilled through the vehicle frame members, using a 25/64" bit, when called out for in step 6 below.
6. Maintain full safe support of the transmission tail with a jack/screw-type stand and complete installation of the crossmember in the following fashion:

### **LS Swap Applications-**

**4<sup>th</sup>-gen F-body T56 Transmission** - Place the supplied 3/16" thick spacer between the crossmember beam and the mount if using a stock OE rubber or Prothane 7-1604 mount. The Energy Suspension 3-1108 mount is 3/16" taller and therefore does not require the use of the 3/16" spacer. Lower the transmission/mount down lightly onto the crossmember. Level out the crossmember ends along the frame rails and mark/drill the rear attachment holes for the crossmember through the vehicle frame rails. Install the remaining bolts/nuts, feeding them through the supplied backing plates outside the frame rails, and then tighten all fasteners in the assembly.

**Aftermarket T56 Magnum Transmission (GM spec)** - Follow step above for 4<sup>th</sup>-gen F-body T56 and install supplied 5/16" spacer between the crossmember and mount along with the 3/16" spacer where required. The 3/16" is required when using a Prothane 7-1604 poly mount or OE rubber mount, but not with a Energy Suspension 3-1108 poly mount. Level out the crossmember ends along the frame rails and mark/drill the rear attachment holes for the crossmember through the vehicle frame rails. Install the remaining bolts/nuts, feeding them through the supplied backing plates outside the frame rails, and then tighten all fasteners in the assembly.

**TH400 or 2004R Transmissions** - Follow step above for 4<sup>th</sup>-gen F-body T56 above and install available **12650HKR** spacer block between the crossmember and mount. Before fastening the crossmember/spacer/transmission together using the 7/16" bolts supplied with the spacer block, place the supplied 3/16" thick spacer between the spacer block and the crossmember if using a stock OE rubber or Prothane 7-1604 mount. The Energy Suspension 3-1108 mount is 3/16" taller and therefore does not require the use of the 3/16" spacer. Level out the crossmember ends along the frame rails and mark/drill the rear attachment holes for the crossmember through the vehicle frame rails. Install the remaining bolts/nuts, feeding them through the supplied backing plates outside the frame rails, and then tighten all fasteners in the assembly.

**4L60-4L70 Transmissions** - Attach the available **71223003HKR** adapter to the crossmember center beam (cantilevered forward) and then place the supplied 3/16" thick spacer between the center beam and the mount if using a stock OE rubber or Prothane 7-1604 mount. The Energy Suspension 3-1108 mount is 3/16" taller and therefore does not require the use of the 3/16" spacer. Lower the transmission/mount lightly onto the crossmember and connect the crossmember and mount together using the hardware supplied with the mount. Level out the crossmember ends along the frame rails and mark/drill the rear attachment holes for the crossmember through the vehicle frame rails. Install the remaining bolts/nuts, feeding them through the supplied backing plates outside the frame rails, and then tighten all fasteners in the assembly.

**4L80/4L85 Transmissions** - Attach the available **71223013HKR** adapter bracket and transmission mount to the extension housing of the transmission per the instructions included with the 71223013HKR adapter bracket. Then place the supplied 3/16" thick spacer between the mount and the crossmember center beam if using a stock OE rubber or Prothane 7-1604 mount. The Energy Suspension 3-1108 mount is 3/16" taller and therefore does not require the use of the 3/16" spacer. Lower the transmission/mount lightly onto the crossmember and attach the mount to the crossmember using the hardware supplied with the mount. Level out the crossmember ends along the frame rails and mark/drill the rear attachment holes for the crossmember through the vehicle frame rails. Install the remaining bolts/nuts, feeding them through the supplied backing plates outside the frame rails, and then tighten all fasteners in the assembly.

### **Coyote Swap Applications-**

**4R70W or T45 Transmissions** - Attach the available **71223018HKR** adapter to the crossmember center beam (cantilevered forward) and then attach a Prothane 6-1608 T56 conversion mount onto the transmission case. Lower the transmission/mount onto the adapter lightly and attach the mount to the adapter using the hardware included with the mount. Level out the crossmember ends along the frame rails and mark/drill the rear attachment holes for the crossmember through the vehicle frame rails. Install the remaining bolts/nuts, feeding them through the supplied backing plates outside the frame rails, and then tighten all fasteners in the assembly.

**6R80 or M82 Transmissions** - Attach the available **71223019HKR** adapter to the rear of the transmission case with the bracket extending rearward over the crossmember center beam and then attach a Prothane 7-1604 or Energy Suspension 3-1108 poly mount (or an OE replacement rubber mount which they are each designed to replace) to the adapter. Place the supplied 3/16" thick spacer between the crossmember beam and the mount if using a stock OE rubber, or Prothane 7-1604 mount. The Energy Suspension 3-

1108 mount is 3/16" taller and therefore does not require the use of the 3/16" spacer. Lower the transmission/mount onto the crossmember center beam lightly and attach the mount to the crossmember using the hardware included with the mount. Level out the crossmember ends along the frame rails and mark/drill the rear attachment holes for the crossmember. Install the remaining bolts/nuts in the rear holes and then tighten all fasteners in the assembly.

#### **Aftermarket T56 Magnum Transmission (Ford spec)- TBA**

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).

#### **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:

Using this crossmember to perform an LS engine swap on the **stock OE**, or **Maximum Motorsports 5.0L** Fox Body Mustang K-members requires the use of a Holley® **302-3** LS oil pan and specific Hooker engine mounting brackets designed for this purpose. Holley **302-1** and **302-2**, and Weiland **5026**, **5027**, **5028**, and **5029** LS oil pans are also suitable for use with this transmission crossmember, when used with specific **AJE** or **Team Z Motorsports** K-members, and specific Hooker engine mounting brackets developed for them. The applicable Hooker engine mounting brackets for these K-members can be found at [www.holley.com](http://www.holley.com). Compatibility with any other brand/type of K-member is not implied or expected due to the proprietary design geometry of the Hooker/Holley components.

Using this crossmember to perform a Coyote engine swap on the stock OE Fox Body Mustang K-member requires the use of the Holley **302-50** Coyote oil pan and specific Hooker engine mounting brackets developed for this purpose. The stock OE 2011-14 Mustang Coyote and Holley **302-50** Coyote oil pans are both suitable for use with this transmission crossmember, when used with specific **AJE** or **Team Z Motorsports** K-members, and specific Hooker engine mounting brackets developed for them; other aftermarket oil pans may also be compatible but have not been validated by Holley Engineering. The applicable Hooker engine mounting brackets for these K-members can be found at [www.holley.com](http://www.holley.com). Compatibility with any other brand/type of K-member is not implied or expected due to the proprietary design geometry of the Hooker/Holley components.

**LIMITATION OF LIABILITY – DISCLAIMER:**

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: 1-866-646-6553**

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