1967-69 GM F-BODY/1968-74 GM X-BODY LS SWAP ENGINE BRACKETS
P/N 12618HKR
Installation Instructions

Thank you for choosing to use Hooker Blackheart engine swap brackets as part of your engine/transmission swap project. These mounting brackets are part of the most comprehensively engineered system of mounting components, headers and exhaust systems available for this application. The entire Hooker Blackheart 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.

PRE-INSTALLATION CONSIDERATIONS:

Check that the hardware package includes the following**:**
(4) M10 x 1.5 Lock Nuts
(8) M10 x 1.5 x 30 Bolts
(4) M10 x 1.5 x 25 Flat Head Cap Screws
(4) 3/8”-16 x 1-1/2” Bolts
(4) 3/8”-16 x 1/2” Bolts
(4) 3/8-16 Lock Nuts

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

Required Hardware (not included)
(2) 7/16” -14 x 5-1/4” Bolts
(2) 7/16”-14 Lock Nuts

These brackets are designed to be used in conjunction with stock OE clamshell style engine mounts (as installed on all 1972-81 Camaro vehicles) that will be retrofitted into the swap vehicle through the use of the specially designed spacer plates included with this kit. The clamshell mounts and the long horizontally installed bolts used to secure them to the Hooker Blackheart brackets are not included with this kit and will need to be purchased separately. Anchor brand P/N 2292 stock rubber replacement clamshell mounts, or Hooker/Holley 71221004HKR clamshell mount cages and 712210014HKR / 71221015HKR poly inserts are recommended for use with these engine mounting brackets.

NOTE: 1973 and 1974 model year X-body cars that are factory equipped with clamshell mounts may have to the clamshell mounting holes re-drilled in the subframe to properly position the engine for correct fitment of Hooker Blackheart headers for this application (see more info under the INSTALLATION heading of this document).

The combined use of these mounting brackets and related Hooker Blackheart transmission swap crossmembers, will allow installation of an LS engine with a GM Powerglide, TH350, TH400, 700R4, 2004R or 4L60/4L65/4L70 automatic into any 1967-69 GM F-body vehicle without requiring any cutting or hammering to the vehicle body.

With the exception of the needed shifter hole, these components also permit no-cutting-required installation of a TREMEC® LS F-body/GTO T56 transmission into any 1967-69 F-body. TREMEC® aftermarket T56 Magnum transmission installations will require tunnel modifications for installation into a 1967-69 F-body.

Due to their considerably lower transmission tunnel height, 1968-74 X-body vehicles will require tunnel modifications to install either a TREMEC® LS F-body/GTO T56 transmission, or a TREMEC® aftermarket T56 Magnum transmission using the Hooker Blackheart system of engine mounts and transmission crossmembers.

For best fitment and overall component clearances, Hooker Blackheart headers and mounting components for this swap application are designed with a chassis-centered engine and transmission location, which varies only slightly from the original minor passenger’s side offset used by GM. The engine and transmission have also been positioned to enable hassle-free installation and to promote good vehicle handling performance. The unique design geometry of these engine brackets require the use of Hooker Blackheart transmission crossmembers and headers to achieved the designed fitment between all components in this swap application. Use of any non-Hooker brand transmission crossmember or headers will have adverse effects on the ease of installation, component

clearance, ground clearance and engine inclination angle (3°-3.5° with Hooker Blackheart engine mounts and transmission crossmembers) you can expect from your installation.

With these components installed, your driveline will be purposely configured with compound U-joint angles, due to the chassis-centered alignment of your engine/transmission and the stock pinion offset of your rear differential. If you wish to check your U-joint working angles, you merely need to sum together the calculated horizontal angular offset of your driveline (half a degree as designed by HOOKER™) and the typical measured vertical angles of your driveline components. Detailed information on how to measure and calculate single plane and compound U-joint working angles is available from Spicer. Go to www.spicerparts.com and search for publication number J3311-1-DSSP.

An engine hoist will be required to position the engine/trans into the vehicle in its proper orientation. Use of an angle-adjustable engine sling will greatly ease the hoisting/loading operation and negate the possible need to reposition the lifting chains mid-operation. 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:

These engine swap mounting brackets were specifically designed for bolt-in compatibility with Hooker Blackheart transmission swap crossmembers, headers and exhaust systems, and Holley® LS oil pans and accessory drive components for this application.

OIL PANS that are bolt-in compatible with these mounts are:

- Holley® F-body LS retrofit pan (part number **302-2**), a notched stock F-body, and various aftermarket fabricated steel pans are also usable with these mounting brackets.
- Holley® oil pan number **302-1** is also installable with these mounts, but requires notching of the engine crossmember to allow installation, due to the stroker crank compatible dimensions at its front end.

ACCESSORY DRIVES (F-body, GTO and Corvette) are all installable with these mounts following these guidelines:

- Low-mount alternators will require notching/clearancing of the engine crossmember for installation
- The stock plastic shroud on rear of the F-body alternator may have to be modified or removed completely. GTO alternators may need to be swapped to an F-body alternator for maximum clearance.
- If swapping a Corvette LS engine with factory accessory drive components, the power steering pump pulley will likely need to be swapped for a smaller diameter pulley/pump to clear the upper control arm.
- Stock low-mount A/C compressors are not installable with these mounts; compressor must be upper-mounted to right cylinder head with the use of a Holley® **20-133** (GM R4), **20-134** (Sanden SD508 or SD7), or similar bracket assembly. A custom right side engine mounting bracket can be fabricated that attaches further back on the subframe if low-mount compressor location is an absolute requirement for your swap.

If desired, a Holley® **20-135** upper-mounted Corvette style alternator/power steering bracket can be installed and configured for compatibility with either stock truck or F-body water pump/balancer offsets. The additional spacer plate kit needed to achieve proper spacing is as follows: F-body/GTO - **21-2**, and Chevy/GMC truck/2010-up Camaro - **21-3**.

Two additional complete accessory drive bracket kits are available that include both the A/C and alternator/power steering brackets listed above. These kits are part numbers **20-131** (GM R4 compressor) and **20-132** (Sanden SD508 or SD7 compressor).

Hooker Blackheart LS swap mid-length headers **(70201305-RHKR/70201505HKR & 70201306-RHKR/70201506HKR),** and full-length headers **(70101307-RHKR/70101507HKR & 70101308-RHKR/70101508HKR)** will all allow the use of the stock A/C evaporator case on the firewall, when installed with these Hooker Blackheart LS engine swap mounting brackets. Round truck coils/brackets will clear the evaporator case, while others will require relocation of the rear passenger's side coil to clear the case.

The engine position obtained with these brackets is compatible with the factory installed wiper motor and power brake booster.

More LS 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.

TIPS FOR A SUCCESSFUL ENGINE SWAP:

1. Mark all hoses, wires, and vacuum lines, according to their function. Use masking tape and a pen to achieve this.

2. Whenever possible, utilize the existing wiring and lines.

3. Get a wiring diagram of your vehicle and one for the vehicle from which the new motor was removed. Make photocopies of both systems; add your modifications to these copies, so you will have accurate records for future reference.
4. Think carefully before removing or defeating any emissions device; a legal engine swap requires the emissions components to be intact, especially when you try to sell the vehicle.

5. Save as much hardware that is removed from the donor engine as possible. You may need some of these items later on.

6. Taking the time to do it right is cheaper than taking short-cuts and having to do it again. Make sure you pay close attention to critical areas like fuel systems and brake lines. Neglecting to double-check your work could have life or death consequences.

7. Do not overstress components that are designed for stock four or six cylinder torque by over-abuse with a motor of greater horsepower, i.e. drive shafts.

8. Don't forget to upgrade your radiator, fan(s), and hoses to accommodate the cooling requirements of your LS engine.

VEHICLE PREP:

1. Remove hood from vehicle.

2. Disconnect battery and fuel lines.

3. Remove existing wiring harness and set aside for later re-use of connectors, as needed, to complete electrical connections to the swap engine harness.

4. Drain and remove radiator/hoses from vehicle.

5. Remove the driveshaft, engine, engine frame stands, transmission, transmission crossmember, and related parts from the vehicle.

SWAP ENGINE/TRANS PREP:

1. Carefully remove the following components from the engine: spark plug wires, exhaust manifolds/O2 sensors, wiring harness/computer, MAF sensor, starter motor/plate and dust covers, A/C compressor and bracket, and the oil dipstick/tube and motor mounts.

2. Clean and paint parts to be re-used, if desired.

3. Secure engine or engine/trans assembly to lifting sling and engine hoist.

4. Attach the included left and right side Hooker Blackheart engine brackets to the engine. The proper indexing and left/right orientation of the brackets is achieved by ensuring the profiled clamshell **support ears** are positioned towards the front of the engine and the long **stepped jog** along the outer profile of the base plates are positioned up towards the top of the engine **(Figure 1)**.

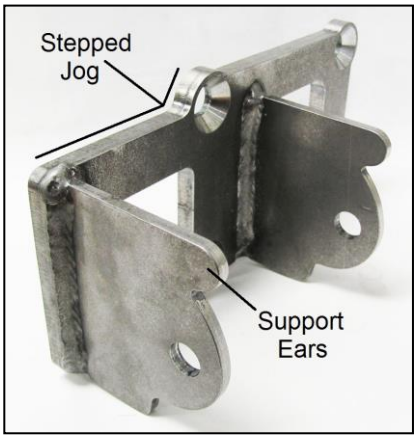

Figure 1 – Driver's Side Mount

ENGINE/TRANS INSTALL:

NOTE 1: Although it's possible to install Hooker Blackheart Headers for this application after installation of this mounting kit has been completed, it is most efficient to move the driver's side header assembly into position around the steering box as you lower the engine into place. Once the engine has been lowered into place, you can complete the installation of the headers as per the instructions included in their packaging. Use an assistant to lower the engine slowly while you hold the header in position; use caution to keep your fingers clear of any potential pinch points.

NOTE 2: Installation of these components into a 1973 or 1974 model year X-body vehicle will likely require new holes to be drilled into the subframe to accept the spacer plates in this kit that were designed to install into 1968-72 model year X-body cars that were factory equipped with engine frame stands. In such installations, it is recommended to remove your factory clamshells from the crossmember and perform a mock-up installation of your engine and transmission using your Hooker Blackheart engine mounts, transmission crossmember and headers. With the engine resting on the mounts and adapter plates against the subframe and the transmission supported by the Hooker Blackheart crossmember mounted in its intended position, move the engine and transmission forward and back as required to split the clearance evenly between the header tubes and steering box. Ensure that the included short 3/8" bolts can be installed into the rear threaded holes of the adapter plates without interference with the subframe. Now, mark the position of the motor mount holes to be drilled in the subframe and remove the engine and transmission for drilling. Drill the holes to accept 3/8 fasteners and continue the installation as outlined below.

1. Attach the included adapter plates to each side of the subframe. Drill two 3/8" holes through the subframe and prep the upper rear corner of the driver's side clamshell mount as indicated in **Figure 2** on the next page. Install nuts on all four countersunk bolts and tighten through the access openings you used to remove the stock frame stands; a 6" socket extension works well for this purpose.

   - If you are performing a **simultaneous engine and transmission installation**, it is recommended that you attach the clamshell mounts to the engine brackets (two wide-spaced holes positioned up) with the required long horizontal bolts and then move the entire assembly into position in the engine compartment and lower it down onto the subframe. Adjust the angle of the engine and transmission until the mounts are fairly flat against the crossmember and install the included 3/8" bolts into the four holes on each mount; the shortest bolts are to be installed in the threaded holes at the rear of the plates. Now, install the remaining supplied nuts onto the four bolts that protrude inside the crossmember and tighten all fasteners.

- If you are performing an **engine-only installation** at this time, it is recommended that you attach the clamshell mounts to the spacer plates attached to the subframe (two wide-spaced holes positioned up) with the supplied 3/8 bolts; the shortest bolts are to be installed in the threaded holes at the rear of the plates. Now, install the remaining supplied nuts onto the four bolts that protrude inside the crossmember and tighten all fasteners.

2. Move the engine into position in the engine compartment and lower it down onto the clamshell mounts. Adjust the angle of the engine so that the engine bracket ears are resting squarely on the clamshell mounts and install the long horizontally positioned bolts through each mount and install and tighten a nut on each.

3. Prop-up and support the transmission tail shaft and then proceed to install your Hooker Blackheart transmission crossmember and headers per the instructions included in their packaging.

4. If using, proceed to installing your Hooker Blackheart transmission swap crossmember and headers per the instructions included with their packaging.

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

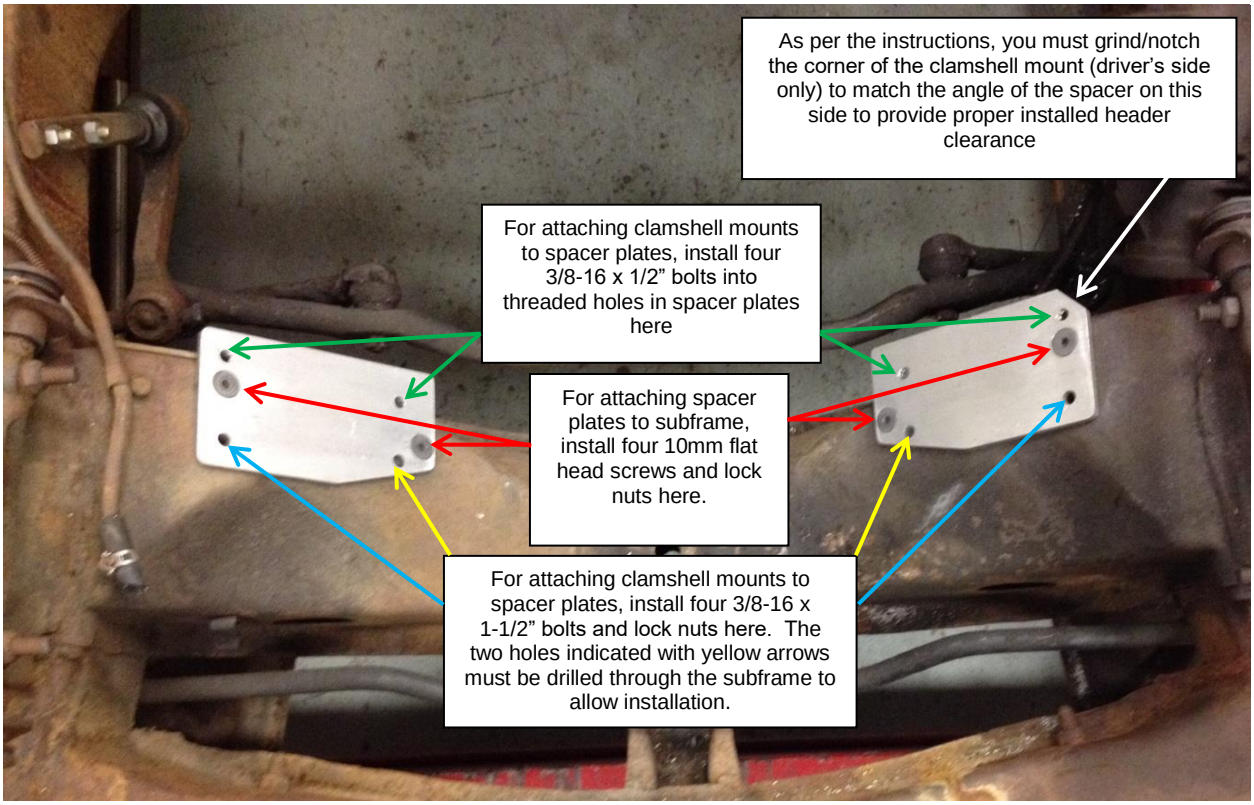

Figure 2 Adapter Plate/Clamshell Fastener Schedule

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 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.
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 Blackheart 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.

Technical Service: 1-866-464-6553 Phone: 1-270-781-9741 Website: www.holley.com

1967-1969 GM F-Body/1968-1974 GM X-body LS Swap
4L80E/4L85 Transmission Crossmember
P/N 12627HKR

Installation Instructions

Thank you for choosing to use this Hooker Blackheart transmission crossmember as part of your engine/transmission 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 Blackheart 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.

IMPORTANT DESIGN AND INSTALLATION INFORMATION:

This crossmember is designed as part of a fully-engineered LS swap mounting system for GM 1st-gen F-body/ 3rd-gen X-body vehicles. It has been CAD designed and FEA validated to provide excellent structural strength and stiffness from its high-strength low-alloy steel construction. As a further benefit to the user, a maximized ground clearance pathway for routing 2.5" or 3" exhaust system tubing is included as a main design feature.

The design geometry of this crossmember provides for direct installation of a 4L80/4L85 series automatic transmission, on cars which are equipped with original floors and stock rubber subframe bushings that are in good condition. **Note: cars that have had floor replacement work performed may require modification to the floor crossmember pockets due to design geometry deviation in the floor panel manufacturer's stamp tooling.**

Attachment of the transmission to this crossmember requires the use of a Hooker Blackheart 71223029HKR (black) / 71223030HKR (red) transmission mount (polyurethane), or Anchor Industries™ 2268 transmission mount (rubber), both of which are 1-3/4" tall.

Due to its unique design geometry, this crossmember must be installed in conjunction with Hooker Blackheart 1967-69 GM F-body/1968-74 GM X-body LS swap engine mounting brackets (12618HKR) to provide proper driveline operation angles and allow installation of an LS engine and 4L80/4L85 transmission into this application without requiring any cutting or hammering to the vehicle body. This crossmember has been confirmed in multiple instances to not be compatible with any engine/transmission mounting position other than that provided by the Hooker Blackheart 12618HKR engine mounting brackets.

A suitable lift or jack and jack stands will be required to install this crossmember with the appropriate transmissions for which it is intended.

COMPATIBILITY:

This crossmember was specifically designed for compatibility with Hooker Blackheart engine swap mounts, headers and exhaust systems and Holley® LS swap oil pans accessory drive components for this application.

Oil pans that are directly installable with this crossmember include the Holley® **302-2 and 302-3** oil pans, a notched stock 4th-gen F-body oil pan, and various aftermarket fabricated steel pans.

Use of this crossmember with half-height body bushings is only possible if relief pockets are fabricated into the floor to clear the arched humps of the crossmember and may require further floor clearance operations to clear the transmission bellhousing/case.

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:

PRE-INSTALLATION NOTES:

This crossmember is designed to provide an exhaust routing path with maximized ground clearance. Worn or collapsed body bushings will further diminish the available installation space and may require increased force or leverage to be applied to the crossmember to persuade it into proper position. It is highly recommended that new stock replacement body bushings be installed prior to performing your engine/trans swap.

These instructions were formatted with the assumption that you have already mounted your LS swap engine and attached transmission into position in your vehicle using the Hooker Blackheart 12618HKR LS swap engine bracket kit, per the instructions included in its packaging.

1. Check that the hardware package includes the following**:**

Qty	Description	Qty	Description	Qty	Description
2	Upper anchor brackets (5/16" thickness)	**2**	Frame back-up plate	**4**	7/16-14 x 1" flanged head bolts
2	Lower anchor brackets (3/16" thickness)	**1**	Mount compensation bracket	**4**	7/16-14 x 1.5" flanged head bolts
4	3/8-16 x 1" flanged head bolts	**8**	3/8 flanged nuts	**4**	7/16-14 nut
4	3/8-16 x 3/4" flanged head bolts				

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

2. Raise the tail shaft of the transmission to its highest possible point of lift using a transmission jack, floor jack or screw type pole jack.

3. Remove the isolator/mount attached to the bottom of the transmission extension housing.

4. Remove the two lowest extension housing attachment bolts from the transmission then attach the supplied mount compensator bracket to the extension housing using the bolts just removed from the extension housing and the isolator/mount. See **Figure 1** for reference.

5. Attach the transmission mount to the bottom of the mount compensator bracket. Use two of the included 7/16" x 1" bolts and nuts for this purpose.

6. Loosely attach one of the included upper and lower anchor brackets to the right side of the crossmember by installing one of the supplied 7/16 x 1" bolts from the bottom side of the crossmember and two of the supplied 7/16 x 1.5" bolts from the top of the crossmember. Install two supplied 7/16 nuts onto the bottom of the 7/16 x 1.5" bolts. Refer to **Figure 2** for clarification.

7. Position the crossmember with attached right side upper and lower anchor brackets up onto the right side subframe rail of the vehicle while keeping the remaining upper and lower anchor brackets and 7/16 fasteners within reach for installation on the left side of the crossmember.

8. Loosely attach the remaining upper and lower anchor brackets to the left side of the crossmember by installing the remaining 7/16 x 1" bolts from the bottom side of the crossmember and the remaining 7/16 x 1.5" bolts from the top of the crossmember. Install two supplied 7/16 nuts onto the bottom of the 7/16 x 1.5" bolts. Refer to **Figure 2** for clarification.

9. Loosely attach the anchor brackets on both sides of the crossmember to the top of the subframe using the four supplied 3/8 x 1" bolts/nuts; the included frame back-up plates are to be installed between the nuts and the subframe in the interior of the subframe.

10. Measure the distance from the inside edge of each subframe rail to the center of the crossmember; nudge the crossmember left or right as needed to center the transmission isolator mounting holes between the frame rails.

11. Slide the lower anchor brackets downward until they make contact with the inside faces of the subframe; loosen the 7/16" fasteners slightly if they are not enabling movement of the brackets.

12. Re-measure to ensure the isolator mounting holes in the center of the crossmember are still centered between the subframe rails and readjust the assembly as needed before tightening the 3/8" bolts/nuts previously installed in step 9.

13. Scribe the position of the four holes in the lower anchor brackets into the inside faces of the subframe, then remove the crossmember from the vehicle.

14. Drill four 3/8” clearance holes into the subframe at the locations scribed in the previous step and reinstall the crossmember into the vehicle following steps 6 through 9 again.

15. Attach the lower anchor brackets to the subframe with the four supplied 3/8” x 3/4” bolts/nuts, which are to be installed in the holes drilled in the previous step.

16. Perform a final measure of the crossmember to ensure the isolator mount holes are again centered between the subframe rails and then tighten all fasteners in the crossmember assembly.

17. Lower the transmission onto the crossmember and attach the isolator to the crossmember with the 7/16 fasteners included with the aftermarket poly mount, or two user supplied 7/16” bolts if using the OE rubber replacement mount.

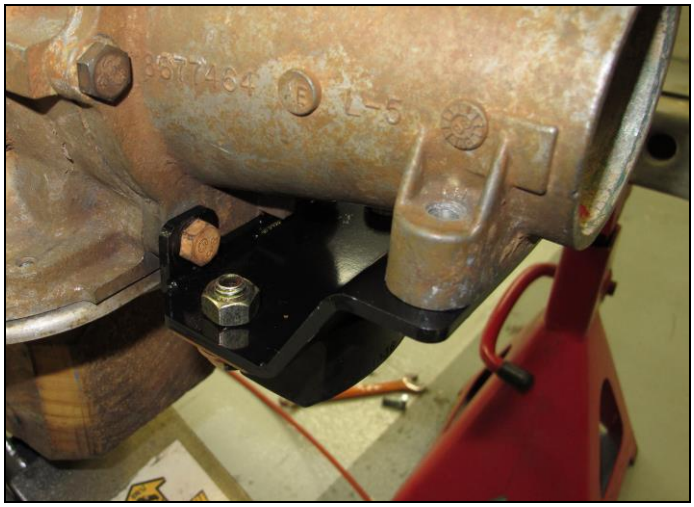

Figure 1
Mount compensation bracket attachment scheme

Attach bracket to transmission using the factory lower extension housing attachment bolts and the factory mount attachment bolts. Once completed, attach the transmission mount to the bottom of the compensation bracket with the supplied 7/16” bolts/nuts.

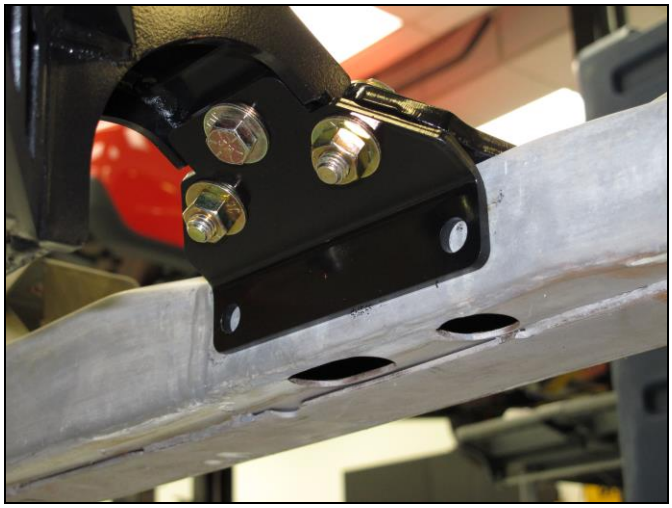

Figure 2
Anchor brackets attachment scheme

Install 7/16 x 1” bolt in the center position from the bottom with no nut on top (washer in photo supplied or used).

Install 7/16” x 1.5” bolts in the outer positions from the top and install nuts from the bottom (washers in photo not supplied or used).

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.

199R10756
Revision Date: 8-9-21

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 accomodated 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.

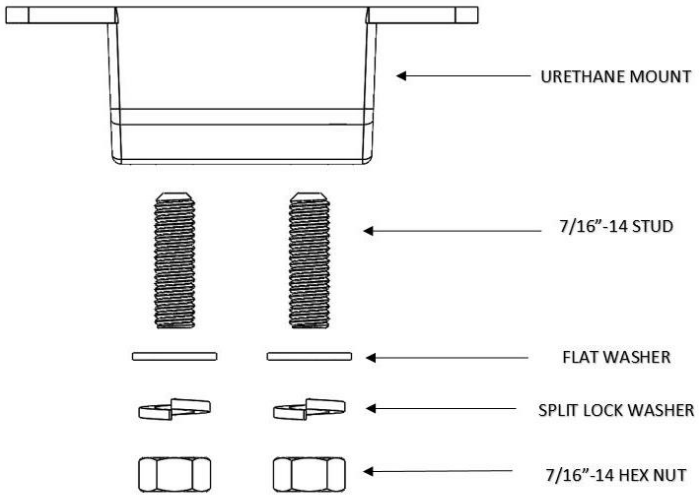

Figure 1

LIMITATION OF LIABLILITY – 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.

199R11754
Date: 1-24-19