



## 1999-2004 Ford Mustang Engine Swap Transmission Crossmember BHS507

### Installation Instructions

LS swap – TH350, Powerglide, 4L60-4L70, or TKO 500/600 transmissions

Coyote swap – Powerglide, TKO 500/600, or TR-3550 transmissions



Thank you for choosing to use this Hooker Blackheart transmission crossmember as part of your engine swap project. This crossmember is part of the most comprehensively engineered system of mounting components, headers and exhaust systems available for 1999-2004 Ford Mustang vehicles. Hooker Blackheart engine swap systems for this application are designed to decrease your total swap installation effort while increasing the engineered quality of your vehicle. Please read these instructions in their entirety before attempting installation.

### **PRE-INSTALLATION CONSIDERATIONS:**

This crossmember has been CAD designed to provide an optimized balance of weight, stiffness and strength and also provide for installation of available Hooker Blackheart 2.5" and 3" exhaust systems for this application, or any custom system of your choice.

To meet specific design geometry requirements, this crossmember should be installed using a Hooker Blackheart 71223029HKR (black) / 71223030HKR (red) or an Anchor Industries™ 2268 transmission mount with all transmissions listed. Any TKO 500/600 or TR-3550 transmission that is drilled/tapped with the Ford trans mount hole pattern only will need to be drilled/tapped with the narrower GM mount hole pattern to attach the required trans mounts listed above.

Attempts to install the crossmember with headers and/or engine mounting plates/brackets other than those developed by Hooker Blackheart for this vehicle application will most likely be unsuccessful. When used with any of the Hooker Blackheart engine mounting brackets/adaptor 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:**

1. Check that the hardware package includes the following:

Qty.	Description
1	Crossmember Assembly
1	1/8" Thick Mount Spacer
2	1/4" Thick Mount Spacers

**NOTE:** These instructions have been written with the assumption that you have already installed an engine into your vehicle using Hooker Blackheart engine mounting brackets/adaptor plates also designed for this application.

**NOTE:** Some hammer clearancing to the trans tunnel should be expected in the following areas: TH350, Powerglide and 4L60-4L70- around the servo bore/cover on the right side of the case, TKO 500/600 or TR-3550 – around the shifter housing and the front and middle top covers of the transmission (or use one of the available TKO transmissions with low-profile top covers).

2. Raise vehicle to comfortable working height and support it by proper means.
3. If in place, remove the factory transmission crossmember from the vehicle.
4. Attach the transmission to the engine and then raise the tailshaft of the transmission as high as possible with a floor jack or screw jack.
5. Attach your chosen transmission mount to the rear of the transmission (bolts for this purpose are user supplied).
6. Attach the Hooker Blackheart transmission crossmember to the crossmember receiver brackets under the car in the following manner:

LS 4L60-4L70 applications – Install the crossmember so that the four slots closely grouped together in the center of the crossmember are oriented towards the **rear** of the car. Attach the crossmember to the car using the **front-most and middle** set of slots in the crossmember attachment flanges.

LS Powerglide/TH350 or Coyote Powerglide (with JW Performance bellhousing) applications – Install the crossmember so that the four slots closely grouped together in the center of the crossmember are oriented towards the **front** of the car. Attach the crossmember to the car using the **middle and rear-most** set of slots in the crossmember attachment flanges.

LS TKO 500/600 or Coyote TKO 500/600 & TR-3550 applications – Install the crossmember so that the four slots closely grouped together in the center of the crossmember are oriented towards the **front** of the car. Attach the crossmember to the car using the **forward-most and middle** set of holes in the crossmember attachment flanges.

7. Attach the transmission to the crossmember in the following fashion:

LS swap 4L60-4L70 – Place one supplied 1/4" spacer and the supplied 1/8" spacer on top of the crossmember and then lower the transmission down onto the crossmember and attach the mount to the crossmember with user-supplied fasteners.

LS Powerglide/TH350 or Coyote Powerglide applications – Lower the transmission down onto the crossmember and attach the mount to the crossmember with user-supplied fasteners.

LS TKO 500/600 or Coyote TKO 500/600 & TR-3550 applications – Place both supplied 1/4" spacers on top of the crossmember and then lower the transmission down onto the crossmember and attach the mount to the crossmember with user-supplied fasteners.

## **COMPATIBILITY INFORMATION:**

This transmission crossmember was specifically designed for bolt-in compatibility only with Hooker Blackheart engine mounting bracket/adaptor plate kits, headers and exhaust systems also developed for this application.

The engine/transmission positioning provided by this crossmember was designed for compatibility with specific Holley® or Weiland® oil pans.

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