



**1996-2004 Ford Mustang -Team Z and AJE K-member
LS Engine Swap Mounting Brackets
BHS503 and BHS504
Installation Instructions**



Thank you for choosing to use these Hooker Blackheart engine 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 LS swap application. Please read these instructions thoroughly before attempting installation.

These engine mounting brackets are designed for use on 1996-04 Mustangs only. Please visit www.holley.com for Hooker Blackheart LS engine mounting brackets intended for use on 1979-93 Fox Body Mustang LS swap applications.

PRE-INSTALLATION CONSIDERATIONS:

These engine mounting brackets have been designed for use with current production **Team Z TZM-KM-SWAP4** or **AJE MU40-UM** K-members only. Installation of the engine using these brackets will allow the use of any Holley, or Weiand brand LS oil pan.

BEFORE BEGINNING:

Check that the hardware package includes the following:

Team Z brackets		AJE brackets	
Qty.	Description	Qty.	Description
2	1/2"-13 x 3-1/4" bolts	2	M14 x 1.5 x 110mm bolts
2	1/2"-13 nuts	2	M14 x 1.5 nuts
8	M10 x 1.5 x 25mm bolts	8	M10 x 1.5 x 25mm bolts

INSTALLATION:

1. Disconnect the battery.
2. Discharge any residual pressure in the stock fuel system.
3. Remove the stock driveshaft, transmission, and engine from the vehicle.
4. Install the Team Z or AJE K-member into the vehicle per their included instructions.
5. Using the supplied M10 bolts, attach the Hooker Blackheart engine brackets to the sides of the LS engine to be installed. Install the bracket with the "V" shaped notches along the outer profile of its base plate on the passenger's side of the engine and the bracket with the "semi-circle" shaped notches on the driver's side of the engine.
6. If you are using a Team Z K-member, chase through the holes in the engine mount stand tubes with a 1/2" drill bit to rid them of any burrs or welding slag that may be inside the tubes.
7. Lower the engine into the vehicle and down onto the K-member engine support stands. The M10 holes in the passenger's side bracket are slightly slotted to account for manufacturing tolerances of the K-member. Adjust the bracket as needed to allow the engine the drop down over the mounting tubes of the K-member.
8. Couple the engine brackets to the K-member with the included M14 (AJE brackets) or 1/2" (Team Z brackets) bolts and nuts.

COMPATIBILITY INFORMATION:

These AJE and Team Z K-members may require the use of an aftermarket steering shaft to accommodate the lower steering rack position they provide.

When used with the related Hooker Blackheart engine swap transmission crossmembers for this application, these engine mounting brackets locate the engine in the same nominal position (fore-aft location, height, inclination angle and offset) used for the stock Ford 4.6L V8 engine in 1996-04 Mustangs.

Accessory Drives-

Holley Corvette-style system – compatible with battery relocation to trunk (use Holley low-mount or hi-mount compressor bracket); installation at Corvette offset will require modification/relocation of electrical power distribution box. Clears stock hood.

Holley F-body-style system – compatible; use of the Holley low-mount SD7B10 compressor/bracket *may* require front anti-sway bar to be spaced down with SN95 Mustang sway bar brackets (or use Holley hi-mount SD7B10 compressor bracket). Clears stock hood.

OE Corvette – compatible, **excluding** A/C compressor (use Holley low mount or high-mount A/C bracket/compressor); requires battery relocation to trunk and modification/relocation of electrical power distribution box. Clears stock hood.

OE F-body – compatible, **excluding** A/C compressor (use Holley low-mount or high-mount A/C bracket/compressor). Clears stock hood.

OE GTO – compatible, **excluding** A/C compressor (use Holley low-mount or high-mount A/C bracket/compressor). Clears stock hood.

OE Vortec truck – compatible, **excluding** A/C compressor (use Holley low-mount or high-mount A/C bracket/compressor). Large truck alternator clearance under stock hood with OE or Maximum Motorsports K-members may require use of 1/2" K-member shims.

Headers, manifolds and exhaust systems-

Hooker Blackheart 1994-2004 LS swap long-tube headers, 8501HKR exhaust manifolds, 8510HKR turbo manifolds and related crossover and turbine inlet tubes, full-length exhaust systems (2.5" and 3") and muffler/turn-down exhaust systems (3" only).

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.

Transmission Installation Guidelines – 1996-1998 model years

These Hooker Blackheart engine mounting brackets are compatible with the following transmissions when used with the Hooker Blackheart transmission crossmember and adapter bracket referenced for each of them:

Powerglide (with JW Performance 92462-46P Ultra-bell) Installation -

Install using a Hooker Blackheart **71222012HKR** crossmember and **BHS508** adapter bracket along with a Hooker Blackheart **71223029HKR** or **71223030HKR** transmission mount. Tunnel clearancing may be needed for transmission case servo bore/cover on right side of transmission.

T45 (exc. Cobra, 1996-98 GT spec only) and 4R70W/4R75E Installations -

Install using the stock GT transmission crossmember and GT transmission mount.

6R80 or MT82 Installations -

Install using a Hooker Blackheart **71222013HKR** crossmember and **71223019HKR** adapter bracket along with a Hooker Blackheart **71223029HKR** or **71223030HKR** transmission mount. 6R80 installations may require slight hammer clearancing of the transmission tunnel just above the rear end of the transmission case only. MT82 installations should be expected to require extensive transmission tunnel modifications/rebuilding to clear the top side of the transmission and the shifter assembly.

TKO 500/600 (with Quicktime RM-6081 bellhousing) Installations -

Install using a Hooker Blackheart **71222012HKR** crossmember and **71223012HKR** spacer along with a Hooker Blackheart **71223029HKR** or **71223030HKR** transmission mount. Hammer clearancing of the tunnel sheet metal above the shifter housing will be required as well as possible cutting/trimming of the tunnel sheet metal to clear the shifter/shifter housing.

T56 Magnum (Ford spec, with Quicktime RM-8080 bellhousing) Installations -

Install using a Hooker Blackheart 71222013HKR crossmember along with a Hooker Blackheart 71223029HKR or 71223030HKR transmission mount. Hammer clearancing of the tunnel sheet metal above the shifter housing will be required as well as possible cutting/trimming of the tunnel sheet metal to clear the shifter/shifter housing.

Transmission Installation Guidelines - 1999-2004 model years -

Powerglide (with JW Performance 92462-46P Ultra-bell) Installation -

Install using a Hooker Blackheart BH507 crossmember along with a Hooker Blackheart 71223029HKR or 71223030HKR transmission mount. Tunnel clearancing may be needed for transmission case servo bore/cover on right side of transmission.

T45, TR3650, and 4R70W/4R75E Installations -

Install using the stock transmission crossmember and mount (exc. 2003-2004 Cobra).

6R80 or MT82 Installations -

Install using a Hooker Blackheart 71222013HKR crossmember and 71223019HKR adapter bracket along with a Hooker Blackheart 71223029HKR or 71223030HKR transmission mount. 6R80 installations may require slight hammer clearancing of the transmission tunnel just above the rear end of the transmission case only. MT82 installations should be expected to require extensive transmission tunnel modifications/rebuilding to clear the top side of the transmission and the shifter assembly.

TKO 500/600 (with Quicktime RM-6081 bellhousing) Installations -

Install using a Hooker Blackheart 71222013HKR crossmember and 71223012HKR spacer along with a Hooker Blackheart 71223029HKR or 71223030HKR. Hammer clearancing of the tunnel sheet metal above the shifter housing will be required as well as possible cutting/trimming of the tunnel sheet metal to clear the shifter/shifter housing.

T56 Magnum (Ford spec, with Quicktime RM-8080 bellhousing) Installations -

Install using a Hooker 71222013HKR crossmember along with a Hooker Blackheart 71223029HKR or 71223030HKR transmission mount. Hammer clearancing of the tunnel sheet metal above the shifter housing will be required as well as possible cutting/trimming of the tunnel sheet metal to clear the shifter/shifter housing.

*If the Hooker Blackheart 71223029HKR or 71223030HKR transmission mount is out of stock, a Prothane™ 7-1604 transmission mount can be substituted.

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