INSTALLATION GUIDE

Transmission Crossmember for LS Engine Swap into 1978-87 GM G-Body Cars (El Camino, Monte Carlo [thru-88], Regal, Cutlass, Grand Prix)

(Fits TH400, 4L60E [later 2-piece housing], 4L65E, 4L70E, 4L80E, T56 transmissions)

PART # 6422

1978-87 A/G-Body frames have a distinct difference, when it comes to the transmission installed at the factory. Later model G-bodies (typically 83 and later) had a frame rail extension on the driver (left) side of the frame rail, commonly referred to as a 200R4 framerail extension *(see ill G & H)*. GM added a pair of mounting holes to the framerail extension moving the driver (left) side transmission crossmember mounting point farther back on the rail. This crossmember (6422) is for cars ***with*** this driver side framerail extension. If your vehicle ***does not*** have this extension, you will need to acquire a Trans-Dapt #6423 framerail adapter kit to complete this crossmember installation. The #6423 kit will require that 2 holes be drilled into the framerail for installation. #6423 is ***SOLD SEPARATELY.***

READ ENTIRE INSTALLATION GUIDE BEFORE BEGINNING THIS INSTALLATION

This transmission crossmember is specifically designed to assist in the installation of a 4L60/65/70/80E, TH400 or T56 transmission *('96-later with separate bellhousing only)* into 1978-87 GM G-Body cars (Buick Century, Regal, Chevy Malibu, Monte Carlo, El Camino, Olds Cutlass, Pontiac Bonneville, Grand Prix, others) powered by an LS platform engine. It was developed for use with Trans-Dapt's LS swap engine mount kit #4206, and Hedman Hedders #68020 series G-Body/LS headers. To ensure a drivetrain/pinion angle that is within recommended factory specification, it is strongly recommended that this crossmember be used in conjunction with Trans-Dapt's #4206 engine mount kits only. Trans-Dapt Performance Products cannot guarantee a proper pinion angle if installed with any other LS/G-Body engine mounts.

This is a complex engine swap project that may require cutting, drilling or other modification to the vehicle. There are many installation factors to consider when performing this engine swap and exact steps may vary from model to model. This installation guide offers general instructions for the proper installation of the transmission crossmember only. For further details regarding any other aspect of the engine swap, we recommend the use of a published how-to guide, dedicated to the engine swap project you are about to perform. This is an advanced user project. If you're uncomfortable with any aspect of it, we suggest you consult with a certified mechanic.

The crossmember and brackets are shipped with a temporary black finish to protect the components from corrosion while awaiting installation This finish is not intended to be the final finish. Thoroughly clean these components to the bare metal before applying any final finish.

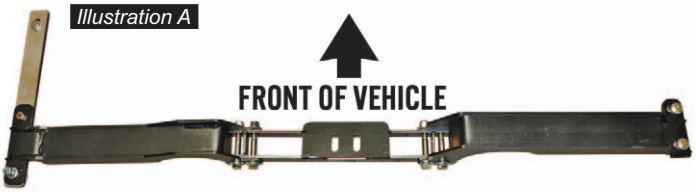
THIS KIT CONTAINS

Transmission Crossmember (3 piece set)
1pc. Framerail Reinforcement Bracket
1pc. Rubber Isolator Pad
1pc. T-56 Isolator Spacer
1pc. 4L60 Adapter Plate
1pc. 4L80 Adapter Plate
4pc. 3/8"-16 x 1" Hex Head Bolts
1pc. 3/8"-16x3/4" Hex Head Bolt
1pc. 3/8"-16x2" Hex Head Bolts
4pc. 3/8"-16 Nylon Insert Locknuts
8pc. 3/8" Hardened Flat Washers
20pc. 7/16" USS Flat Washers
4pc. 7/16"-14 x 1" Hex Head Bolts
2pc. 7/16"-14 x 2" Hex Head Bolts
4pc. 7/16"-14 x 3" Hex Head Bolts
6pc. 7/16"-14 Nylon Insert Locknuts

CROSSMEMBER ASSEMBLY

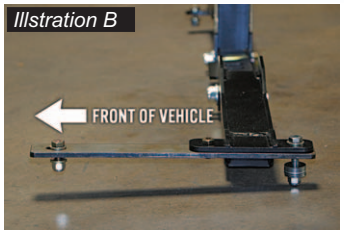
1. Connect the 3 sections of the crossmember, as shown in the image at the right *(ill. A)*, using two 7/16-14 x 3" Bolts, four larger flat washers, and two 7/16"-14 nylon locknuts to connect each segment. Thread the locknuts on, but do not fully tighten the bolts at this time.

Illustration A



2. Position the kit's flat framerail bracket beneath the driver (left) side mounting bracket on the crossmember. Align the two rear holes in the frame bracket with the holes on the crossmember, insert a 3/8"-16x3/4" hex bolt into the front hole on the crossmember, and thread it into the middle hole in the framerail bracket *(ill. B)*.

Illstration B



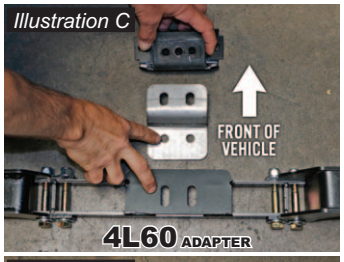
3. If necessary, bolt the appropriate transmission pad adapter plate to the top of the cross member perch using two 7/16"-14x1" hex bolts, securing it with a flat washer and 7/16"-14 locknut from beneath. Do not completely tighten at this time.

T56: Spacer Block [to be installed later)] *(ill. D)*

4L60: Install adapter plate, marked 4L60, towards front *(ill. C)*

4L80: Install adapter plate, marked 4L80, towards rear *(ill. E)*

Illustration C



At this point:

a. The tail of the transmission is lifted up as high as it can go to allow for the installation of the crossmember, OR the transmission is not yet installed in the vehicle (the center section of crossmember can be removed without having to remove the segments attached to the framerails).

b. The old transmission crossmember is out, and old mounting hardware has been removed from the framerail and transmission.

c. If the vehicle is not going to be blown apart again for primer and paint, make sure framerails are free of debris and rust.

If your vehicle has the 200R4 framerail extension, skip to step 5. If your vehicle DOES NOT have the extension, continue to step 4 to attach the #6423 non-200R4 framerail adapter kit [sold separately].

Illustration D

Illustration E

(Continued On Reverse Side)

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CROSSMEMBER INSTALLATION

VEHICLES NOT EQUIPPED WITH 200R4 FRAMERAIL EXTENSION

4. If your vehicle does not have the 200R4 framerail extension shown in illustrations G & H, attach Trans-Dapt's #6423 S-shaped frame rail adapter to the crossmember as shown *(ill. J)*. Position the crossmember in the car with the two passenger side crossmember holes, and the very front hole on the driver side bracket aligned with the holes in the framerail *(see ill. F and H)*. With the S bracket resting in position on top of the framerail, mark and drill 2 holes in the framerail. If the frame rail is bent, position the flat spacer plate provided in the 6423 kit between the frame and the s-bracket using 2 bolts, washers and locknuts.

VEHICLES EQUIPPED WITH 200R4 FRAMERAIL EXTENSION (Highlighted in ill. G and H)

5. Lift the crossmember up into position, and lay the crossmember on top of the framerail. Align the two holes on the passenger (right) side of the crossmember with the two holes in the frame rail. Place a hardened flat washer on a 3/8"-16 x 1" hex bolt, and drop a bolt and washer into each hole on the passenger side of the crossmember. using another flat washer and 3/8"-16 lock nut, loosely bolt the passenger side of the crossmember to the passenger framerail *(ill. F)*.

6. Align the rear hole on the driver (left) side of the crossmember with the SECOND to last hole on the driver (left) side framerail *(ill. G)*. This will align the front hole in this kit's frame bracket with the front hole on the framerail *(ill. H)*. Insert a 3/8"-16 x 1" bolt with washer into the front hole, and snugly fasten from below with a flat washer and nylon locknut.

7. The framerail on these vehicles is prone to bending, which could alter the angle of the crossmember if it is bolted directly to the framerail. The crossmember should be parallel with the floor board (front to back). If the crossmember is tilted rearward, shim the rear driver side bolt on the crossmember with the additional flat washers supplied in this kit. When properly shimmed, insert the 3/8"-16 x 2" hex bolt into the rear hole on the crossmember, THROUGH the stack of washers, and into the driver (left) side framerail. Snugly fasten the bolt from below with a flat washer and 3/8"-16 nylon locknut.

8. Tighten all fasteners connecting the crossmember to the left and right framerails.

9. Securely attach the transmission pad to the transmission housing using the appropriate bolt size for your transmission housing. ****These bolts are not included.***

10A. ***If the transmission is installed and raised out of the way:***

TH400, 200R4: Lower the transmission down onto the crossmember perch and connect the transmission pad directly to the crossmember using two 7/16"-4 x 1" bolts and flat washers.

T-56: Position the T-56 spacer block (included) between the crossmember mounting perch and the transmission pad, already installed on the transmission housing *(ill. K)*. Fasten using the 7/16"-14 x 2" bolts and flat washers provided. Run bolt through crossmember perch and spacer, then thread bolts into pad.

4L60 / 4L80: Lower the transmission and connect the transmission to the crossmember using two 7/16"-14 x 1" bolts and flat washers through the two slotted holes on the adapter plate. *(ill. L and M show 4L60)*

10B. ***If the transmission is not yet installed:*** Unbolt and remove the center section of the crossmember by removing the four bolts connecting the center segment. Do not unbolt the crossmember from the frame rails. Once the transmission is positioned in the chassis, support the transmission from below. Reinstall the center segment of the transmission crossmember, and tighten the four bolts and locknuts. Attach the transmission to the crossmember following the procedure discussed in step 10A that applies to the transmission being installed.

11. Once the crossmember is attached to transmission pad/transmission, check for proper positioning and angling of the transmission. If the position and angle are correct, securely tighten the fasteners connecting the transmission case to the transmission pad, the transmission pad to the transmission adapter plate (if required), transmission adapter plate to the crossmember. Check tightness of all 3 segments of the crossmember, and all connections between the crossmember and the chassis.

12. The transmission mounting portion of your installation is complete.

Illustration F

Illustration G

Illustration H

Illustration J

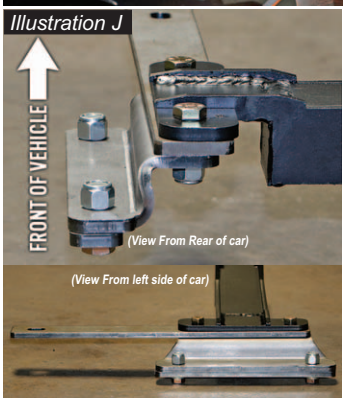

Illustration K

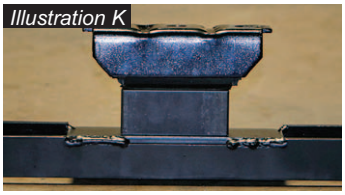

Illustration L

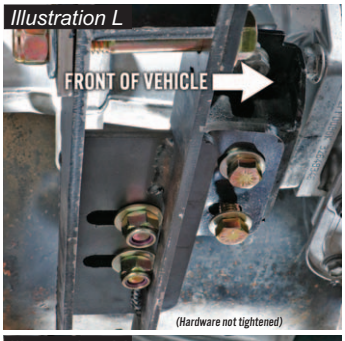

Illustration M