



# INSTALLATION GUIDE

## Manual Transmission Crossmember for LS Engine Swap into '67-69 Camaro/Firebird or '68-74 Nova, Chevy II

(compatible with T56 manual transmissions)

### PART # 6518

#### READ ENTIRE INSTALLATION GUIDE BEFORE BEGINNING THIS INSTALLATION

This transmission crossmember is specifically designed to assist in the installation of a T56 transmission into 1967-69 Chevy Camaros and Firebirds and 1968-74 Chevy II and Nova vehicles powered by an LS platform engine. It was developed for use with Trans-Dapt's LS swap engine mount kit #4201, and Hedman Hedders #68710 series of Camaro/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 #4201 engine mount kit only. Trans-Dapt Performance Products cannot guarantee a proper pinion angle if installed with any other LS/Gen 1 F-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 bracket 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

1pc. Transmission Crossmember
1pc. Frame Bracket
1pc. Rubber Transmission Isolator
1pc. Transmission Isolator Spacer
1pc. 3/8"-16 x 3/4" Hex Head Bolts
2pc. 3/8"-16 x 1" Hex Head Bolts
4pc. 3/8"-16 x 1-1/4" Hex Head Bolts
6pc. 3/8"-16 Nylon Insert Locknuts
2pc. 7/16"-14 x 1" Hex Head Bolts
2pc. 7/16" Split Lock Washers

## INSTALLATION INSTRUCTIONS

1. Prepare frame rails by removing any old hardware or brackets, and remove any rust or debris.
2. Lower engine and transmission into position as a single unit and securely mount the engine to the chassis following the mount manufacturer's instructions.
3. Using a transmission jack, raise the tail of the transmission housing to allow room for crossmember installation.
4. Raise the new transmission crossmember into position by first placing the right (passenger) side crossmember flange onto the framerrail. Place the T-shaped framerrail connector plate over the left (driver) side framerrail, but under the Trans-Dapt crossmember, interlocking the crossmember and frame bracket. Using a 3/8"-16x3/4" bolt (*apply removable threadlocker*), two 3/8"-16x1" hex bolts and 3/8"16 locknuts, securely fasten the framerrail connector plate to the crossmember. The 3/8"-16x3/4" bolt goes through the upper bolt hole on the connector bracket, and threaded into the tapped hole on the crossmember (**See ill. A**). Securely tighten these three fasteners, and allow the crossmember to rest on framerrails.

(Continued On Reverse Side)



Illustration A  
CLOSE-UP OF FRAMERRAIL CONNECTOR PLATE ASSEMBLY



Bottom view

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5. Locate the proper position for the crossmember on the frameraills and loosely bolt the crossmember to the frameraills using two 3/8"-16x1/4" hex bolts and locknuts per side.
6. Fasten the rubber transmission isolator pad to the transmission housing (*bolts not included*).
7. Determine the center point between the frameraills (i.e.  $32" \div 2 = 16"$ ). Utilizing the slotted holes on either end of the crossmember to adjust it, position the crossmember so the center isolator pad mounting hole is precisely centered between the two frameraills.
8. Once centered, securely tighten the four frameraill bolts/nuts and three frame connector plate bolts.
9. Position the supplied isolator spacer plate between the rubber isolator pad (*included with this kit*) and crossmember, aligning the bolt holes in the spacer with the attachment holes in the crossmember.
10. Lower the transmission tail onto the crossmember and loosely fasten the pad to the crossmember using two 7/16-14x1" Hex bolts and lock washers in the two outer isolator bolt slots in the crossmember (**See ill. B**). The center slot is not used for this installation.

**IMPORTANT-** *To ensure that the recommended driveline pinion angle is achieved, only use the rubber isolator pad included in this kit (Trans-Dapt pad #9442), or Trans-Dapt's high-performance polyurethane isolator pad (Trans-Dapt #4237), along with the isolator spacer included in this kit to install your transmission. Combining this crossmember with any other isolator pad, or failure to install the isolator spacer, may result in an improperly angled drivetrain.*

11. Once the drivetrain is correctly positioned, tighten all the fasteners, including the three frameraill connector plate bolts, four frameraill to crossmember bolts/locknuts, two crossmember to isolator connecting bolts, and two isolator pad to transmission housing bolts.
12. The installation of your Trans-Dapt Performance Products Transmission crossmember is complete.

**Illustration B**

CLOSE-UP OF TRANSMISSION  
ISOLATOR PAD ASSEMBLY

