

Installation instructions for TDS p/n 306020 Bolt-On or Weld-On Sub-Frame Connectors 1982-92 F-Body

CAUTION: WHEN WORKING UNDER A CAR, ALWAYS BE AWARE THAT THERE IS A HEAVY VEHICLE ABOVE YOU. REGARDLESS OF LIFTING METHOD USED, THE REAR WHEELS SHOULD BE CHOCKED OR BLOCKED. TRANSMISSION IN PARK (IF AUTOMATIC) OR REVERSE (IF MANUAL) AND PARKING BRAKE SET. THE VEHICLE SHOULD BE ON A LEVEL SURFACE SUFFICIENT TO SUPPORT THE JACK AND JACK STANDS OR RAMP. A CONCRETE SURFACE IS PREFERABLE TO AN ASPHALT ONE. ASPHALT WILL SOFTEN WITH HEAT AND COULD ALLOW THE JACK, JACK STAND OR RAMP TO SETTLE. NEVER RELY SOLELY ON A HYDRAULIC JACK TO SUPPORT THE VEHICLE. LIFT THE VEHICLE WITH THE JACK, AND THEN USE JACK STANDS TO SUPPORT THE VEHICLE. REFER TO THE OWNER'S MANUAL FOR THE JACK STANDS OR RAMPS FOR FURTHER CAUTIONS AND INSTRUCTIONS. DO NOT USE THIS PRODUCT IN ANY WAY OTHER THAN DIRECTED OR ON ANY CAR OTHER THAN A 1982-92 F-BODY.



Contents:

RH Sub-Frame Connector (top)
LH Sub-Frame Connector (bottom)
(4) Zinc-Plated, Grade 8 High Strength Hex Head bolts, 3/8"-24 x 4-1/2 NF
(4) Zinc-Plated, Grade 8 High Strength Hex Head bolts, 3/8"-24 x 3-1/2 NF
(8) Zinc-Plated, Nylon-Insert Nuts 3/8"-24 NF
(16) Zinc-Plated, 3/8 USS Washers
Installation Instructions

Tools needed:

9/16" Socket or Wrench, drill motor and a 3/8" drill bit (if you bolt them in)
air-operated die grinder or Dremel tool (to grind off the paint where they are to be welded)
MIG welder (if welded)
Ramps, floor jack and jack stands (if installing at home)

Recommendations:

It is recommended that the SFC's be installed professionally. The car must be supported in a level position with the weight of the car on the suspension. The easiest way to do this is by using a drive-on style lift. If you are welding the SFC's (which we also recommend) you'll need to use a MIG welder (aka GMAW gas-metal arc welding). A SMAW (shielded metal arc welder, aka "stick" welder), which has a flux-covered electrode that is struck to start an arc is not recommended. You'll just wind up burning holes through the thinner gage metal of the car body. MIG welding is the preferred method of attachment. Bolting alone will work for a short time, but as the car flexes it will cause movement of the bolts attaching it to the car, which will wear the holes compromising the attachment of the SFC's. Mounting bolts are included in the kit to allow you the option of installing these SFC's yourself, then driving the car to a shop to have them welded. You can leave the bolts in place after welding for additional strength.

There are some precautions that need to be taken before welding these in. Welding of the SFC's to the sub-frames causes intense localized heating to the floorboards. The interior of the car needn't be removed, but you should remove the plastic doorsill plates and slip in a few 2x4's to lift the carpeting and insulation away from the floor. It is also a good idea to keep a wet rag handy or a squirt bottle filled with water in the event that something gets a little too warm. **Welding can cause an arc to the ECM harness shorting it out. It is also a good idea to disconnect the negative terminal on the battery when welding.**

Installation:

1. Verify the contents of the kit.
2. Jack the car up and install jack stands under car. Two in front under the lower A-arm, two in the rear under the rear-end housing. An alternate method is to drive the front tires up onto ramps, then jack up the rear and install the two jack stands under the rear end housing. Make sure the car is sitting level.
3. Remove the bolts from the head pipe and catalytic converter. Support the converter with a block of wood and a jack. Disconnect the hanger from the catalytic converter and remove front head pipe, catalytic converter tube hanger and heat shield.

4. Install the drivers side SFC first. Unbolt the fuel and brake line hanger. The drivers-side connector is the straighter of the two bars. The front mounting saddle of the connectors fit exactly to the shape of the end of the front sub-frame of the car. This assures proper placement of the connector when installing. Place the connector on the front and rear sub-frame of the car. Place a bottle jack or floor jack under the front mounting cup of the sub-frame connector. Keep the front and rear of the connector raised in a mounted position to retain the proper alignment throughout the installation. If the rear of the connector is allowed to drop out of position the front mounting holes will not be in the proper position. Use a second jack to hold up the rear mount location or solicit the help of a friend. With the front cup tightly mounted in place, drill one set of holes and install the 3/8" x 4-1/2" long bolts, washers and nut. Drill the second hole and install the bolt, washers and nut.
5. Repeat the se procedures for the rear-mounting cup and install the 3/8" x 3-1/2" long bolts. The rear connector will have proper alignment because you kept the front mount cup properly located. Tighten all the bolts and nuts as you go along.
6. Use the same procedure to mount the passenger-side connector. Use the jack to push the front mount cup tight to the front sub-frame. You may have to dimple the floor slightly with a hammer to achieve proper fit. Tighten all the bolts and nuts.
7. Replace the bolts in the head-pipe, catalytic converter, hanger and heat shield. 1985-92 TPI cars may require the fuel line bracket be re-located 1" forward after installation.
8. It is now recommended to weld the connectors to the car. Grind the paint from the front and rear connector cups where it is to be welded to the car. Remember to follow the precautions mentioned in the "Recommendation" section above. The mount bolts can be left in place for added strength.
9. Lower the car and enjoy the improvement!

Additional items to consider:

Now that you've taken some of the flex out of the chassis, there is another item to consider. Figure 1 below shows an item 4 called a "Brace". This is a Steering Brace (aka Wonderbar). GM installed these on 1985-90 Camaro IROC-Z when equipped with the 16" diameter rims. The Steering Brace performs two functions. First it ties the left and right sides of the frame together under the front of the car, which maintains the correct geometry of the pitman arm and idler arm during cornering. Second, the Steering Brace strengthens the chassis and takes stress off of the steering gear box mount. It is common in ThirdGen F-Bodies for fatigue and stress cracks to form around the steering gear box mounting location. Installing a Steering Brace will help tighten up the front end and prevent stress cracks from occurring. GM has recently discontinued their Steering Brace. Top-Down Solutions makes a version of the Steering Brace (p/n 105021) for the 1982-92 F-Bodies that has several improvements over GM's original version.

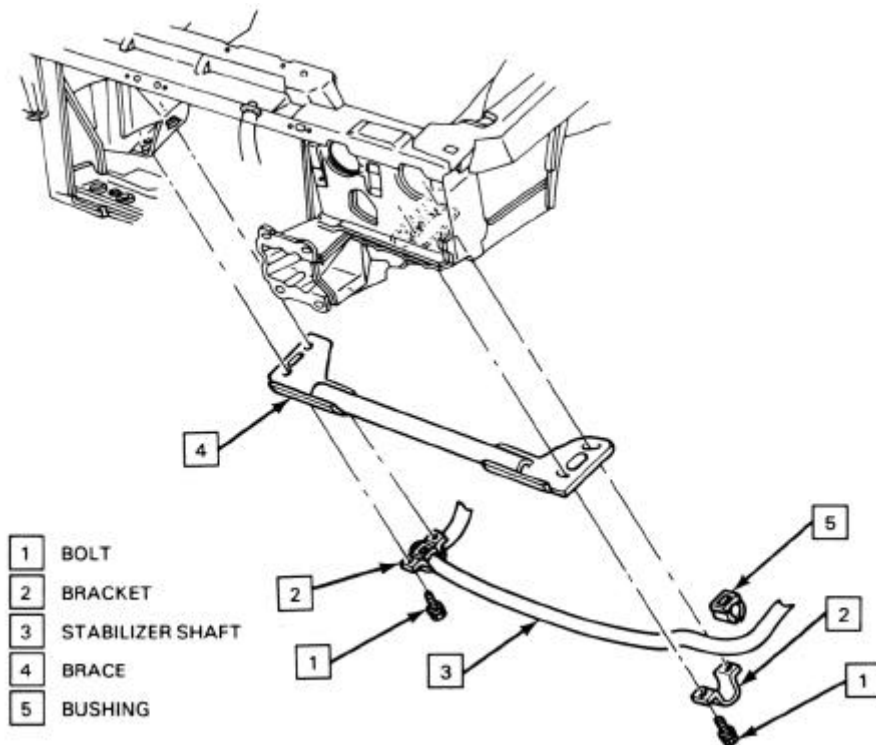


Figure 1



p/n 306020

Descr: SFC's for 1982-92 F-Bodies

Qty: 1 pair



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