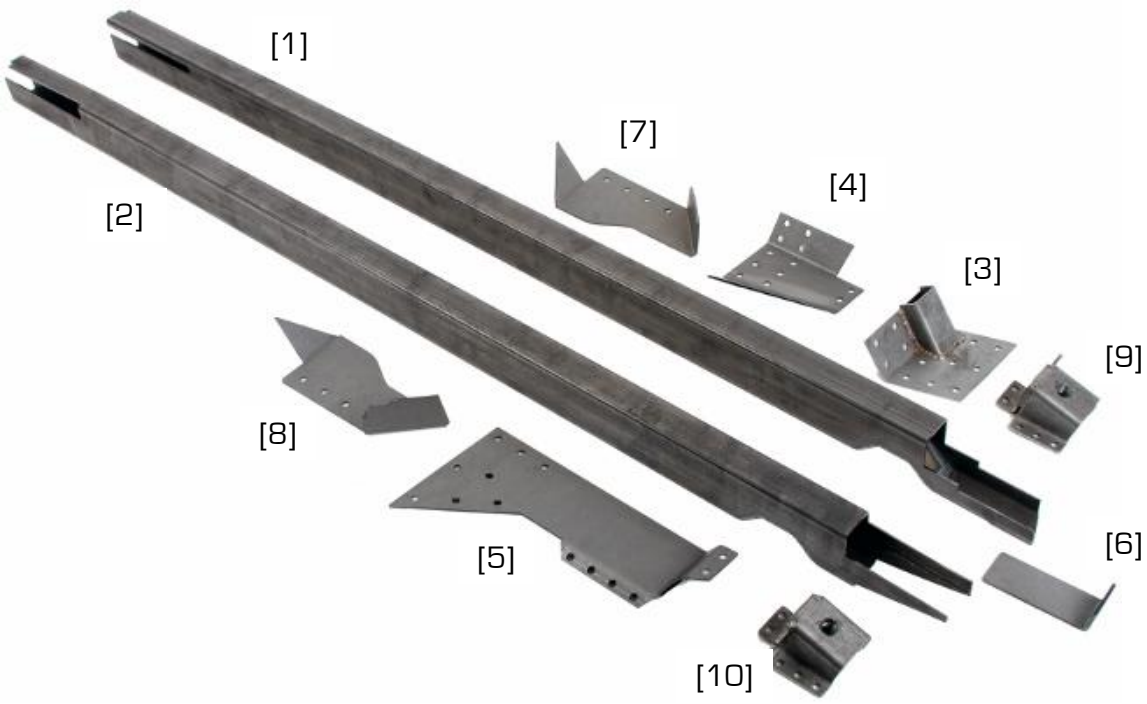
Detroit Speed, Inc.
Subframe Connectors
1982-92 Camaro/Firebird
P/N: 010110

The Detroit Speed, Inc. Subframe Connectors are designed to give maximum longitudinal and torsional stiffness connecting front and rear torque box structures. Laser cut brackets are included to attach the front and rear of the connector tubes to the torque box structures. The connectors do not hang lower than the rocker pinch flange so ground clearance is unaffected. This kit also includes new seat belt brackets that are stronger than stock and provide mounting points for the stock belt system or a race style belt lap. They also function as a side jacking rail and provide a nice mounting structure for roll cage installations.



Item	Part Description	Quantity
1	Subframe Connector, LH	1
2	Subframe Connector, RH	1
3	Front Inner Torque Box Doubler, LH	1
4	Front Outer Torque Box Doubler, LH	1
5	Front Torque Box Doubler, RH	1
6	Front Torque Box Doubler Close-Out, RH	1
7	Rear Torque Box Doubler, LH	1
8	Rear Torque Box Doubler, RH	1
9	Seat Belt Mount, LH	1
10	Seat Belt Mount, RH	1
11	Instructions	1

NOTE: All work should be performed by a qualified welder and technician.

NOTE: There is an installation video available through the Detroit Speed website in the tech/install video shown here:
https://www.detroitspeed.com/1982-92-camaro-firebird-installation-videos.

Installation Instructions

1. Raise the vehicle a few feet off the ground so the underside may be accessed. Begin by properly supporting the vehicle under the rear axle and front frame to avoid tension in the body when installing the connectors.

2. Disconnect the negative battery cable. Remove the seats, carpet and padding. Any other interior panels, headliner, door panels, etc., should be removed or masked well to protect them from grinding and welding sparks.

Passenger Side Installation

3. Due to the passenger side floor pan shape, the connector only protrudes through the rear floor area while passing under the floor towards the front.

4. Measure back 5" from the backside of the front seat mount crossmember and draw a cut line to the pinch flange (Figure 1). Measure forward 1" from the front edge of the rocker support bracket and draw a cut line to the pinch flange (Figure 2). NOTE: The floor pan has already been cut out in Figure 1 & 2 to show the marked dimensions more clearly.

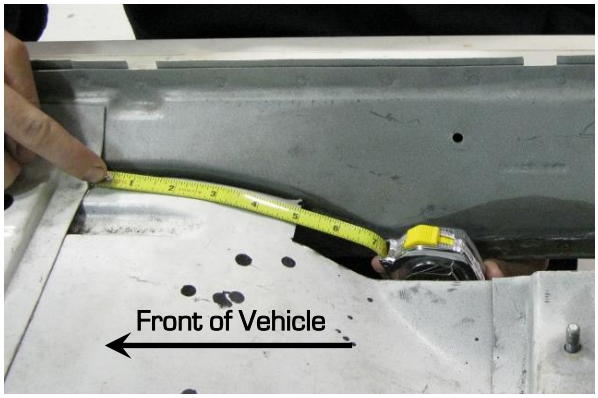


Figure 1 – Front Cut Line

Figure 2 – Back Cut Line

5. Close out the area of the floor pan that will be cut out for the connector by drawing a cut line 1-1/2" inboard and parallel to the pinch flange (Figure 3 on the next page). Drill out the welds at the front seat cross member that fall inside your cut area. (Figure 4 on the next page).

Figure 3 – 1-1/2" Cut Line

Figure 4 – Front Seat Crossmember

6. Once you have this section of the floor pan marked, using a cut off wheel, remove this section of the floor pan (Figure 5).

Figure 5 – Passenger Side Cutout

7. Grind the area at the front and rear of the connector from the bottom side of the vehicle for the torque box doubler plates. Also grind the floor pan inside the vehicle around the connector for welding.

8. Install the passenger side connector with the back first into the vehicle from the bottom of the vehicle (Figure 6 on the next page) and lift the front up to the floor pan. The slot in the connector should be slid over the floor in the rear. As the connector is pushed rearward, the front should be pushed upward into place. You may need to use a hammer at the front of the connector to tap it into position. The top of the connector will be above the floor pan and the bottom half will be below the floor pan (Figure 7 & 8 on the next page).

Figure 6 – Install Connector

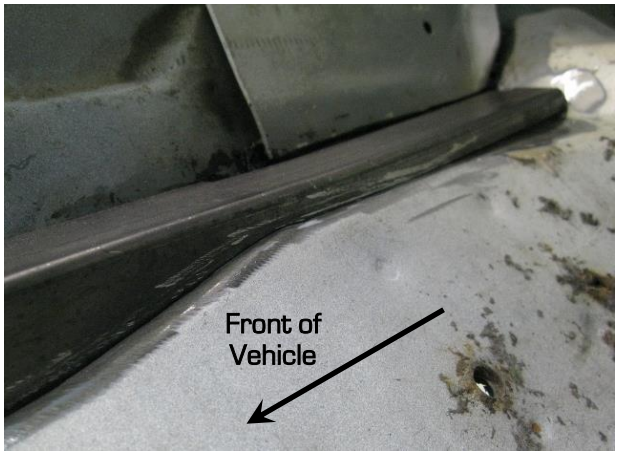


Figure 7 – Inside of Vehicle

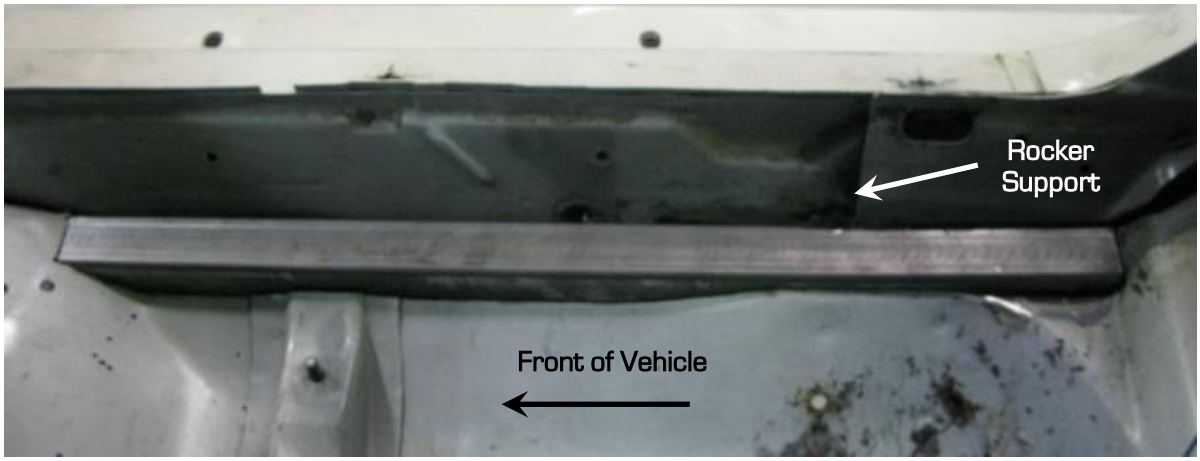


Figure 8 – Passenger Side Connector

9. The back of the connector should sit up against the rear seat riser (Figure 9). With the connector in position, clamp it to the pinch flange using multiple clamps (Figure 10).

Figure 9 – Back of Connector

Figure 10 – Clamp Connector

10. With the connector clamped in position, fit the passenger side front and rear torque box doubler plates to the floor pan and connector. Make any necessary modifications to the plates to fit tightly against the profile of the floor pan.

11. Hold the doubler plates in place with Cleco fasteners or sheet metal screws using one of the existing plug weld holes. (Figure 11). Tack weld the connector in place in a couple spots at the front and rear of the connector.

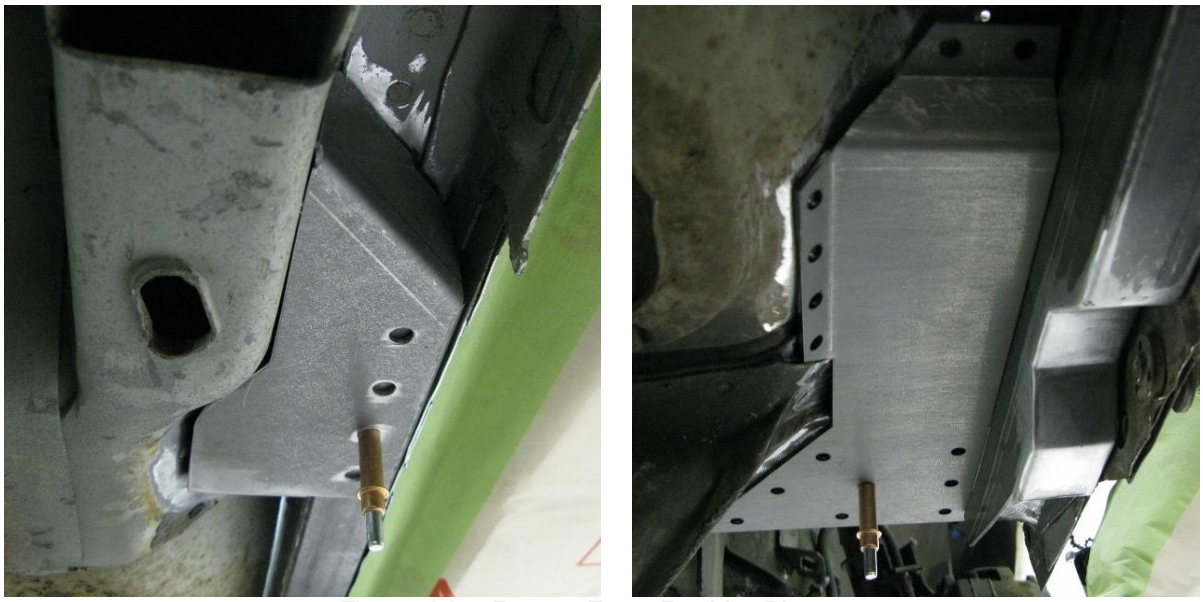


Figure 11 – Rear & Front Doubler Plate

12. Tack weld the doubler plates to the floor pan and pinch flange in multiple locations. Re-position the clamps if needed to make sure the pinch flange is tight against the connector. Tack weld the connector to the vehicle on the inside and underneath of the vehicle. Remove the clamps (Figure 12).

Figure 12 – Tack Weld Connector

13. Remove the Cleco fasteners or sheet metal screws and plug weld the doubler plates using the pre-drilled holes. Install the front torque box doubler closeout on the passenger side frame rail (Figure 13 on the next page). You may need to trim the top of the closeout to fit your vehicle. Mark a line and trim accordingly on the closeout (Figure 14 on the next page).

Figure 13 – Doubler Closeout

Figure 14 – Trim Closeout

14. Tack weld the closeout in place and check for proper fitment. Finish weld the closeout and the doubler plates to the floor pan and connector. Grind the closeout and plug welds smooth for a clean finish (Figure 15).

Figure 15 – Finish Weld Doubler & Closeout Plates

15. Stitch weld the connector underneath the vehicle at the pinch flange with enough spacing to reduce the amount of heat in one location during welding. Once that step is complete, finish weld the connector on the inboard side underneath the vehicle. From the inside of the vehicle, finish weld the connector (Figure 16).

Figure 16 – Finish Weld the Connector

16. Before you remove the factory seat belt bracket, mark the location on the rocker panel. The new Detroit Speed seat belt mount will go in the same location and sit on the top of the connector. The tab should be point towards the front of the vehicle (Figure 17). The threaded hole on the top of the bracket is for the factory seat belt and if you plan to install a racing style harness you can use the threaded hole on the side of the seat belt mount to attach your racing belts.

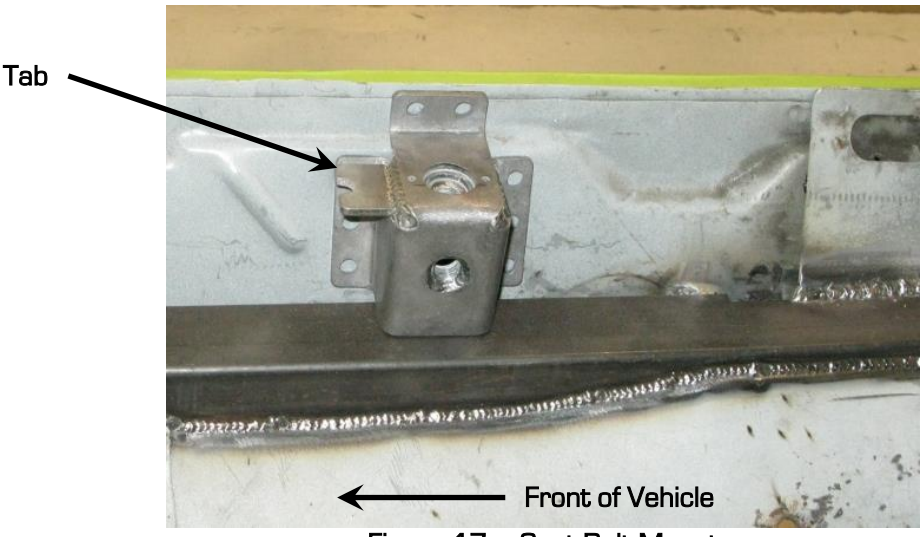


Figure 17 – Seat Belt Mount

17. Once the seat belt mount is in position, tack weld it to the top of the connector. Re-install the door sill panel and mount the seat belt to the new bracket to ensure proper location before finish welding. Once the location is correct, plug weld the seat belt mount to the rocker panel. Then finish weld the mount to the connector.

Driver Side Installation

18. Measure forward 1" from the front edge of the rocker support bracket and draw a cut line to close out the area of the floor pan that will be cut out for the connector (Figure 18). **NOTE:** The floor pan has already been cut out in Figure 18 to show the marked dimensions more clearly.

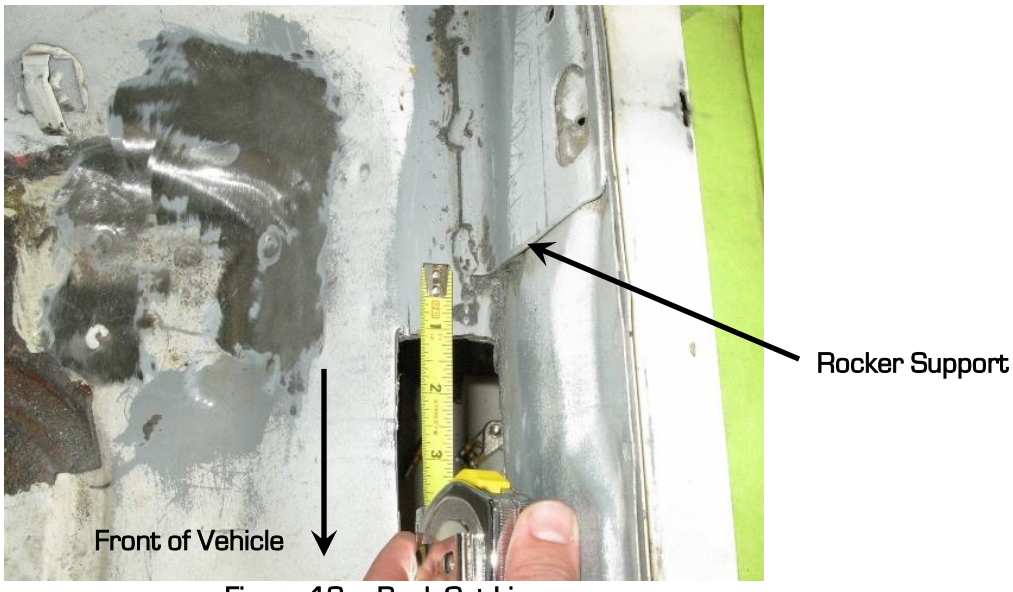


Figure 18 – Back Cut Line

19. Measure forward 44-3/8" of the line drawn in Step 17 and make another cut line to the pinch flange (Figure 19).

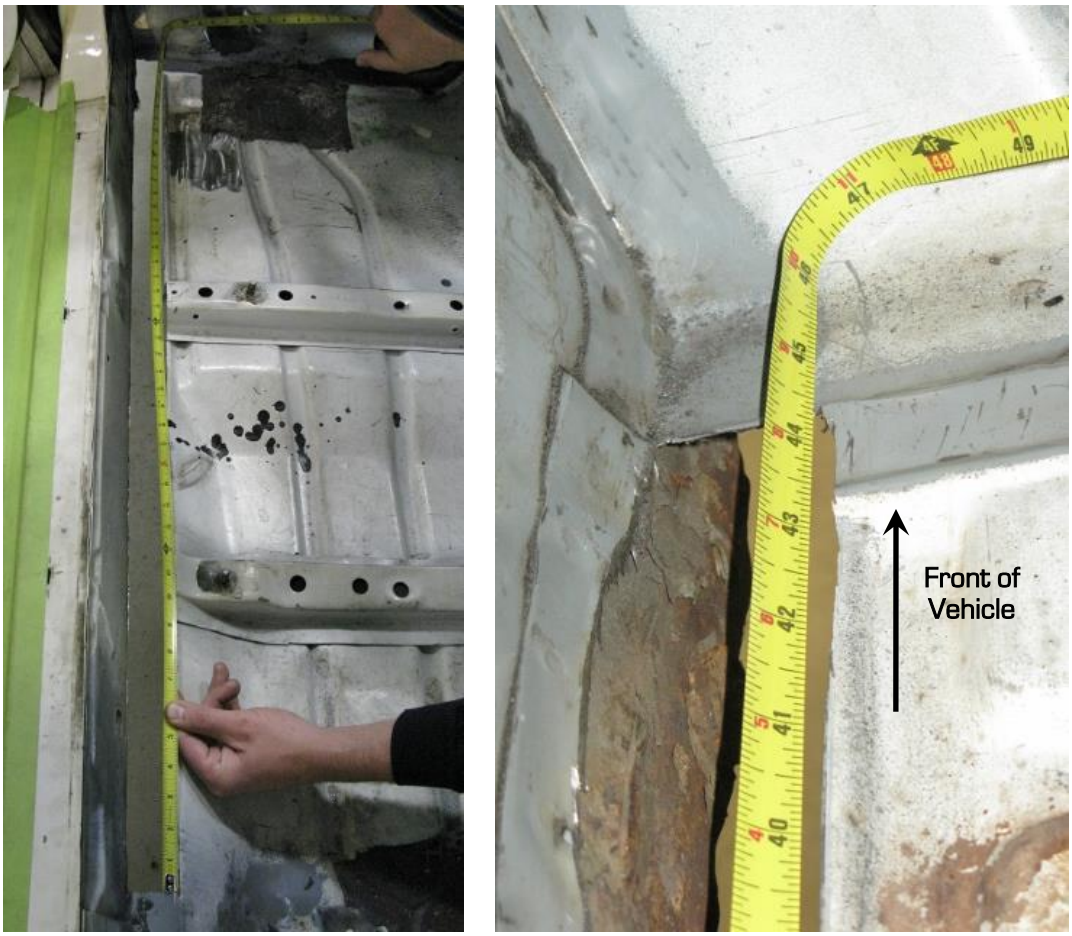


Figure 19 – Cut Driver Side Floor Pan

20. Close out the area of the floor pan that will be cut out for the connector by drawing a cut line 1-1/2" inboard and parallel to the pinch flange (Figure 20). Drill out the welds at the front seat cross member that fall inside your cut area. (Figure 21).

Figure 20 – 1-1/2" Cut Line

Figure 21 – Front Seat Crossmember

21. Once you have this section of the floor pan marked, using a cut off wheel, remove this section of the floor pan. Grind the area at the front and rear of the connector from the bottom side of the vehicle for the torque box doubler plates. Also grind the floor pan inside the vehicle around the connector for welding.

22. Install the driver side connector similar to the passenger side with the back of the connector going into the vehicle first from the bottom and lift the front up to the floor pan. You may need to use a hammer at the front of the connector to tap it into position. The top of the connector will be above the floor pan and the bottom half will be below the floor pan (Figure 22).

Figure 22 – Driver Side Connector

23. The back of the connector should sit up against the rear seat riser (Figure 23). With the connector in position, clamp it to the pinch flange using multiple clamps (Figure 24).

Figure 23 – Back of Connector

Figure 24 – Clamp Connector

24. With the connector clamped in position, fit the driver side rear and front outer torque box doubler plates to the floor pan and connector. Make any necessary modifications to the plates to fit tightly against the profile of the floor pan. Hold the doubler plates in place using Cleco fasteners or sheet metal screws (Figure 25).

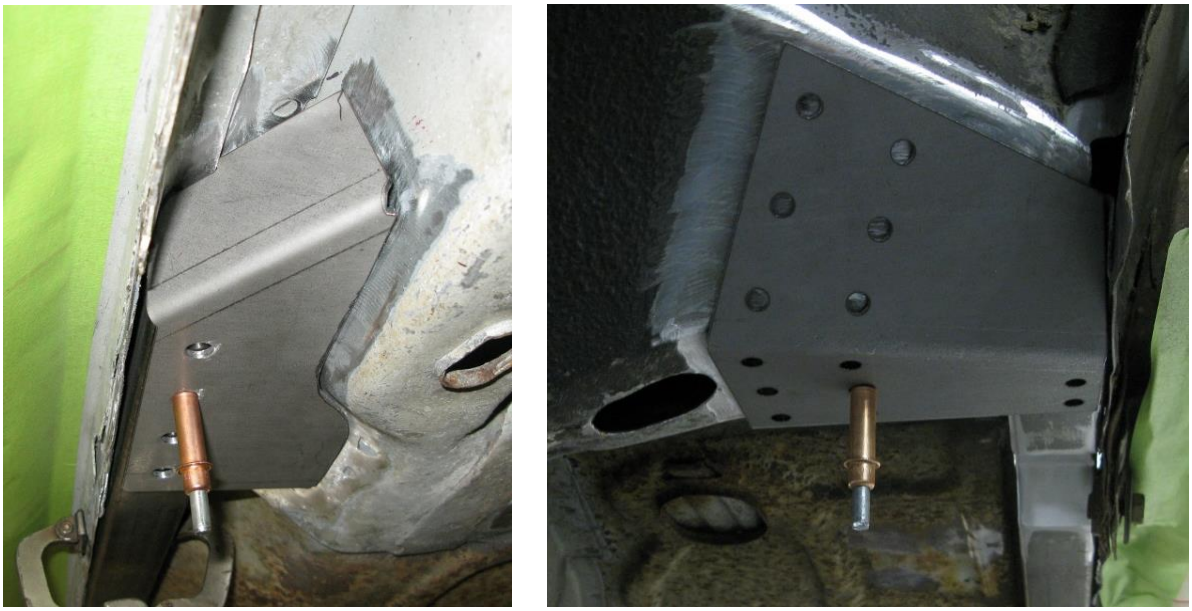


Figure 25 – Rear & Front Outer Doubler Plates

25. Mark the subframe connector underneath the vehicle on both sides of the connector and tack weld in place. Re-position the clamps if needed to make sure the pinch flange is tight against the connector. **NOTE:** You will need to remove the front outer torque box doubler plate in order to gain access to the front of the subframe connector to properly tack weld it in place.

26. From the inside of the vehicle, tack weld the connector in place on both sides of the connector. Remove the clamps (Figure 26).

Figure 26 – Tack Weld Connector

27. Re-install the front outer torque box doubler plate and hold in place with a Cleco fastener or sheet metal screw. Tack and plug weld the doubler plates to the vehicle (Figure 27).

Figure 27 – Tack & Plug Weld Doubler Plates

28. Grind the kick panel area of the floor pan in front of the connector for the front inner torque box doubler plate. Position the doubler plate in line with the connector (Figure 28) and tack weld in place. Verify fitment, plug and finish weld.

Figure 28 – Front Inner Torque Box Doubler

29. Finish and plug weld the doubler plates to the floor pan and connector (Figure 29). Grind the plug welds smooth for a clean finish.

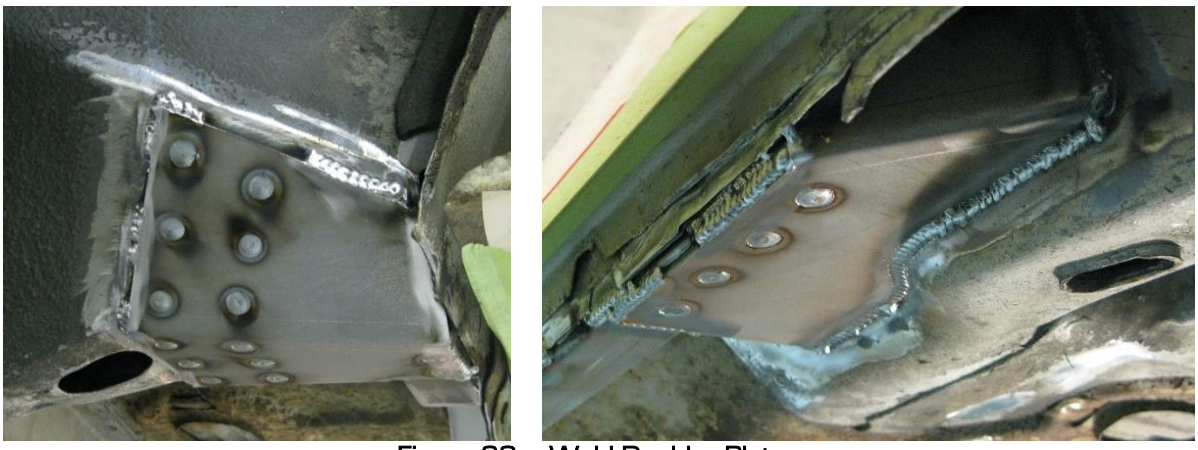


Figure 29 – Weld Doubler Plates

30. Stitch weld the connector underneath the vehicle at the pinch flange with enough spacing to reduce the amount of heat in one location during welding. Once that step is complete, finish weld the connector on the inboard side underneath the vehicle. From inside the vehicle, finish weld the connector (Figure 30).

Figure 30 – Finish Weld Connector

31. Same procedure as the passenger side seat belt mount; before you remove the factory seat belt bracket, mark the location on the rocker panel. The new Detroit Speed seat belt mount will go in the same location and sit on the top of the connector. The tab should be towards the front of the vehicle (Figure 31). The threaded hole on the top of the bracket is for the factory seat belt and if you plan to install a racing style harness you can use the threaded hole on the side of the seat belt mount to attach your racing belts.

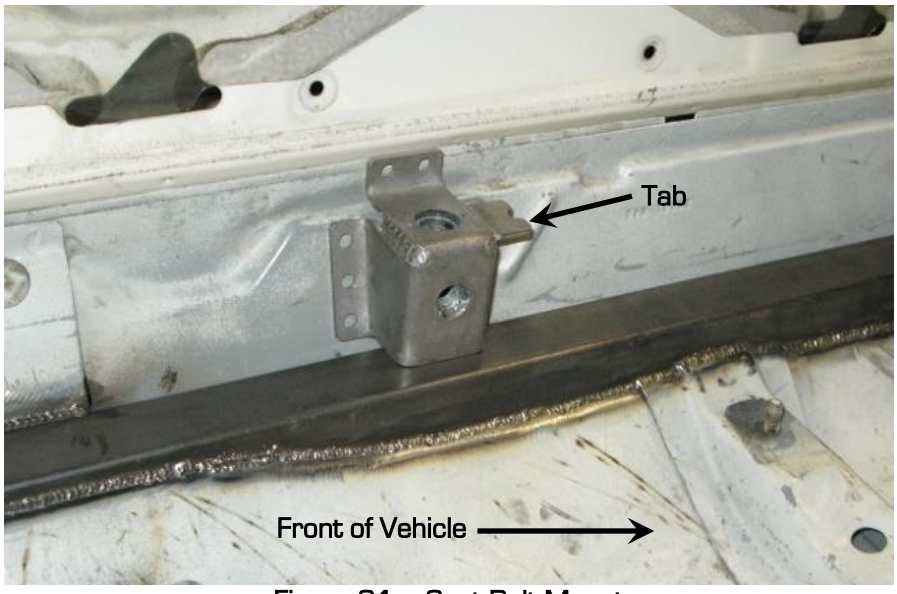


Figure 31 – Seat Belt Mount

32. Once the seat belt mount is in position, tack weld it to the top of the connector. Re-install the door sill panel and mount the seat belt to the new bracket to ensure proper location before finish welding. Once the location is correct, plug weld the seat belt mount to the rocker panel. Then finish weld the mount to the connector.

Figure 32 – Completed Fabrication

33. Paint the subframe connectors along with any bare metal areas as desired to protect from corrosion. Re-install the interior.

34. The installation is now complete.

If you have any questions before or during the installation of this product please contact Detroit Speed Inc. at tech@detroitspeed.com or 704.662.3272