Instruction Guide

Frame Connector Kit
67-69 F-Body

Speedtech PERFORMANCE

CHASSIS - SUSPENSION - PRO TOURING - AUTOCROSS - DRAG RACING - CUSTOM BUILDS

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Figure 1: 1967 Camaro Phat68 features our ExtReme subframe and Torque Arm suspension [photo by Michael Cuthbertson]

Congratulations on the purchase of your new Speedtech Performance frame connector kit. Use only approved and appropriately rated jack and jack stands, and be sure to take all safety precautions required to complete the job safely and correctly. If you have uncertainties, seek the assistance of a highly qualified workshop to assist you.

Read and understand all instructions thoroughly before you begin. Your main assembly and set up of your new frame connector kit can be done in a home garage with hand tools and basic welding equipment.

Speedtech enjoys seeing the progress our customers are making as they work through their builds. Join the group, Team Speedtech, on Facebook and share your pictures and your story.

Speedtech Performance sends you best wishes for your project!

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1.0 GENERAL INFORMATION

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1.1 THIS GUIDE

Thank you for purchasing your new Speedtech Performance frame connector kit. Read through all instructions thoroughly before beginning and take all safety precautions required to do the job carefully and correctly. If you have uncertainty, seek the assistance of a highly qualified workshop.

The following instructions are intended for professional installers and are guidelines only. Speedtech Performance assumes no responsibility for the installation of any of its products installed by others. All products are intended to be installed by qualified professionals.

NOTE: Some items pictured may look different then the parts you have in the kit you received. For example, in this guide we have only used pictures of the frame connector kit for the early Camaro. Your application may have a slightly different shape; the part is functionally the same and is installed in the same manner described.

1.2 OVERVIEW

These instructions outline the frame connector kit. The system has been designed to work with factory subframe or chassis. Photos in the instruction process may vary slightly from your exact operation.

Installing this product will require extensive modification and welding to the car's floor pan. Although this is not a hard installment for a technician with the proper experience, you must follow the directions to do the job properly. Please read through all the instructions first tobecome familiar with the installation process.

NOTE: At the end of the instructions are diagrams to help see things in an overall view. Use all resources to complete the job properly. Please reach out to Speedtech Performance if you have any questions.

1.3 TOOLS

Installation of the Speedtech Performance frame connector can be done on the floor with a cut off wheel, basic welder, and simple hand tools.

Additional things to have before you start:

- Wrench/Socket
- Drill
- Floor Stands
- Floor Jack
- Welder
- Grinder

2.0 CHECK IN PARTS AND HARDWARE

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2.1 CHECKING IN THE ORDER

Check in your order as soon as possible. To check in the order, Speedtech has provided a table which can be used as a check list, as displayed in figure 2. All bolts and nuts are NF unless otherwise noted. Hardware comes in several boxes. If you discover anything missing from your order, call your authorized dealer as soon as possible.

2.2 CHECK IN TABLE

BRACING

X	#	Description	Size
	2	Side Connector Rail	
	1	Crossmember Hoop	
	2	Side Brackets	
	2	Torque Arm Crossmember	
	2	Cap Screw	½ x 4 ½
	4	Flat Washer	½
	2	Nylock Nut	½

Figure 2: Check in table with the amounts, descriptions, and sizes

Figure 3: Numerous individual parts and hardware

3.0 GETTING STARTED

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3.1 LEVELING AND SUPPORT

WARNING: The vehicle should be on a level surface before you start.

First, jack up and properly support the vehicle's frame. Next, remove the front wheels. For cars with drop off style rotors, reinstall one lug nut if needed to prevent the rotor from falling off.

4.0 CUTTING/REMOVAL

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4.1 SEAT PAN REMOVAL

Drill out spot welds and remove both seat mounting pans.

They will later need to be notched to clear the crossmember before you reinstall them.

Figure 4: Seat pan removal

NOTE: Some aftermarket floor pans have poor quality control and the subframe brace under the seat pan may be welded incorrectly.

IMPORTANT: It must be at a 90-degree angle to the rocker for this installation to go correctly.

Drill spot welds and then remove, adjust, and reinstall this brace if necessary.

NOTE: Look closely at the angle difference between the brace and square in figure 5.

Figure 5: Angle difference

4.2 FLOOR HOOKS / POCKET CUT

Remove rear seat floor hooks. Cut out a pocket to have access for welding the subframe connector to the inner rear frame support plate. Rear cut should start 4" from the rocker, should be 5" wide, and about 1" back from the vertical to horizontal transition. Front cut should be at the floor's vertical to horizontal transition.

Then drill out spot welds, remove, and set plate aside.

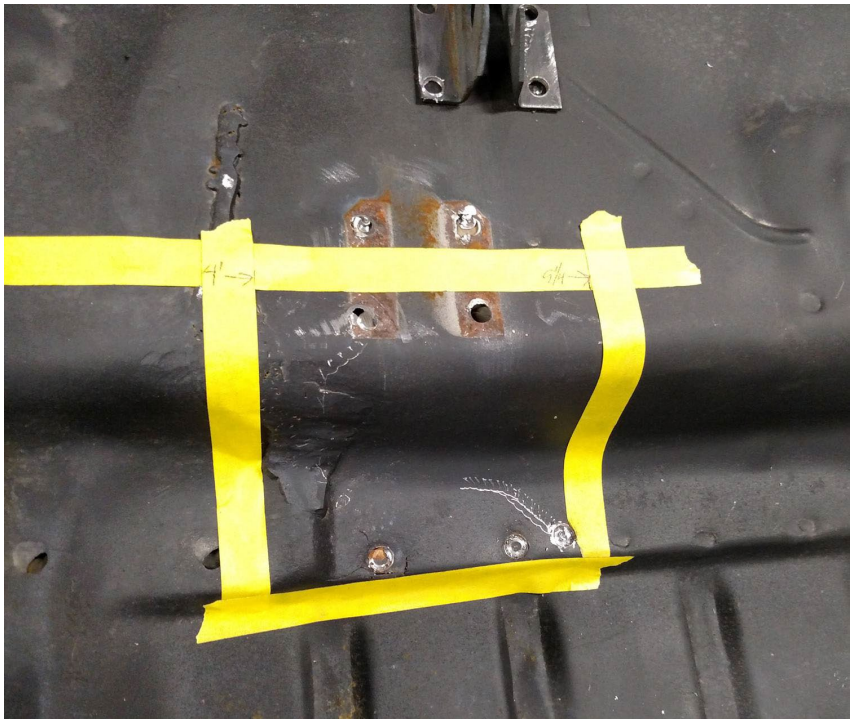


Figure 6: Pocket that will be cut

Figure 7 is what you should end up with.

Look closely at the lighter color inner frame rail support. The frame connectors will be welded to this making a strong connection between the rear frame rails and the frame connectors.

The cut-out section will be reused later, so do not discard. A notch in the front of this piece will need to be cut to clear the crossmember for installation.

Figure 7: Pocket with the inner frame rail

4.3 CONNECTOR SLOT CUT

Refer to labels in figure 8.

Mark and cut out subframe connector slot.

Measure in from the rocker 5 3/4" (**A**.) for the first front to rear cut.

Make a 1/2" cut at either end so you can bend 1/2" of the floor upward 90 degrees front-to-back to create a vertical tab to weld to the frame connector to.

After installation the frame connector should be 5 1/4" from the rocker. Mark and cut out brake cable/fuel line channel.

Measure 9 1/4" from the rocker (**B**.) and mark a line rear to front 24.5" long. Then start measuring from the front of the rear frame bracket (**C**.). This area will house the 1" x 24.5" channel that gives you a convenient and protected routing channel for fuel lines, brake cables, etc.

Figure 8: Connector slot cut

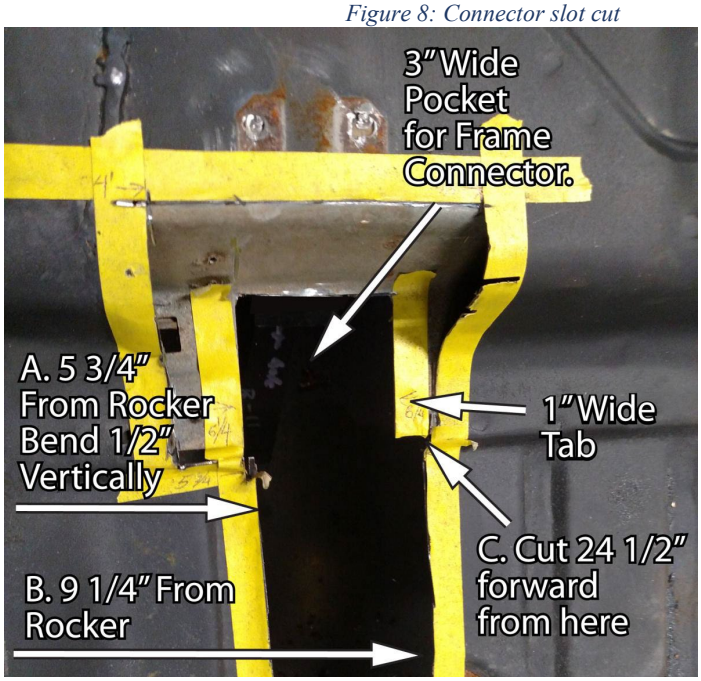


Figure 9: Cut locations and measurements on the passenger side

4.4 FLOOR CUTTING CONTINUES

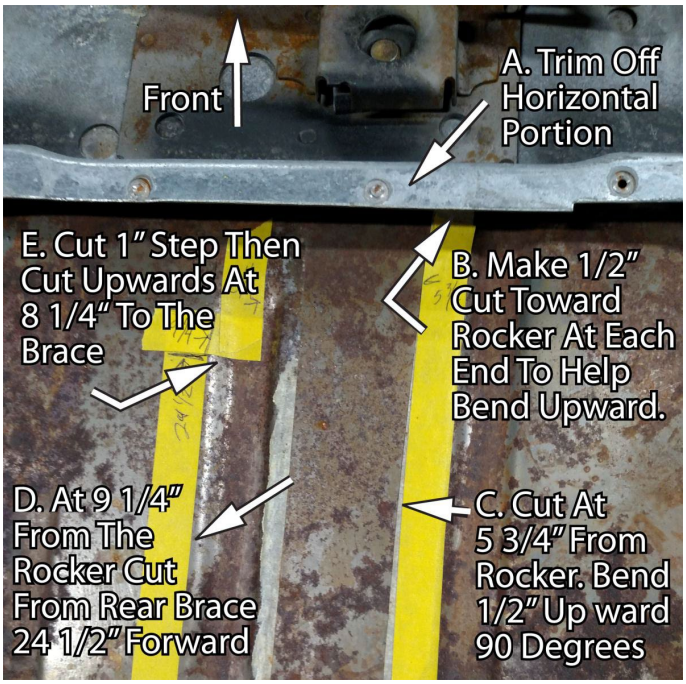
Refer to labels in figure 9.

First, refer to **A.** and trim off horizontal portion of seat pan support to allow cut and welding access.

Then, mark and cut a line from the rear frame support brace to front subframe brace, 5 3/4" from rocker (presented as **C.**).

Cut 1/2" line at **B.** parallel to the front brace, and at the opposite end parallel to the rear brace. This will allow you to bend 1/2" of the floor upward 90 degrees and give you a point of welding and a vertical "wall" to butt and clamp the frame connector.

Mark a parallel line at 9 1/4" from the rocker, cut this line from the rear frame brace forward 24 1/2" (presented as **D.**).



Finally, cut 1" back towards the rocker, then again forward to the front brace. The brake cable/fuel line channel will be installed in this notch (presented as **E.**).

4.5 CROSSMEMBER HOLE

Refer to labels in figure 10.

NOTE: The majority of the crossmember will sit on top of the floor pan.

You will create a hole for part of the crossmember to drop through the pan. First, refer to **A.** and measure 15 ¾" from the rocker and cut the floor 3” rearward from the edge of subframe brace.

Continue from this point toward and up the tunnel approximately 4 ½” (refer to **B.**). Cut forward 3" and down 4 1/2" to create a rectangular hole approximately 3”x 4 ½".

At the top and forward edge of this hole cut vertically about another 4 1/2" (refer to **C.**).

Having this extra vertical cut will allow you to bend that portion of the tunnel slightly inward to match the angle of the crossmember.

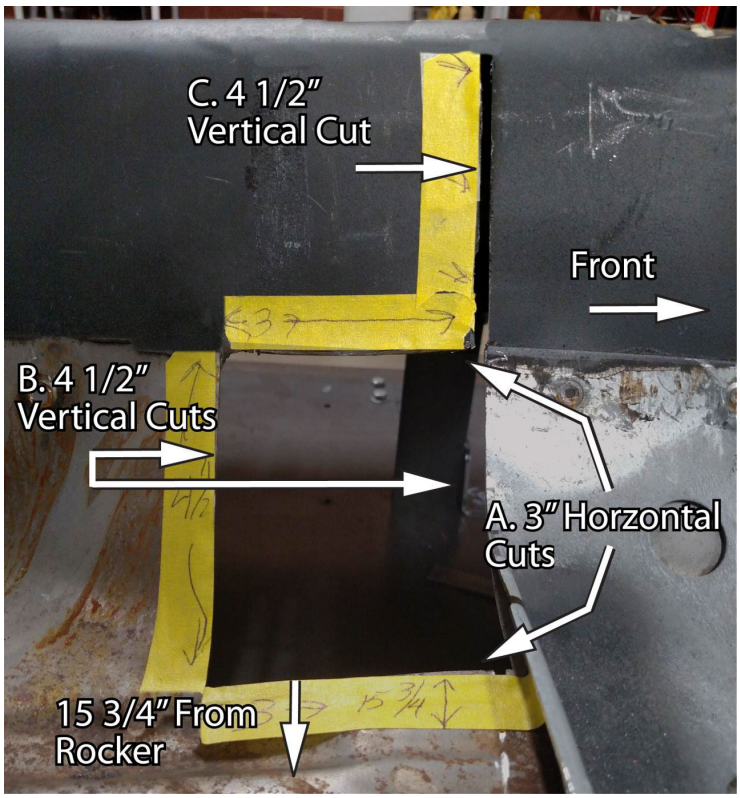


Figure 10: Cut lines with the crossmember

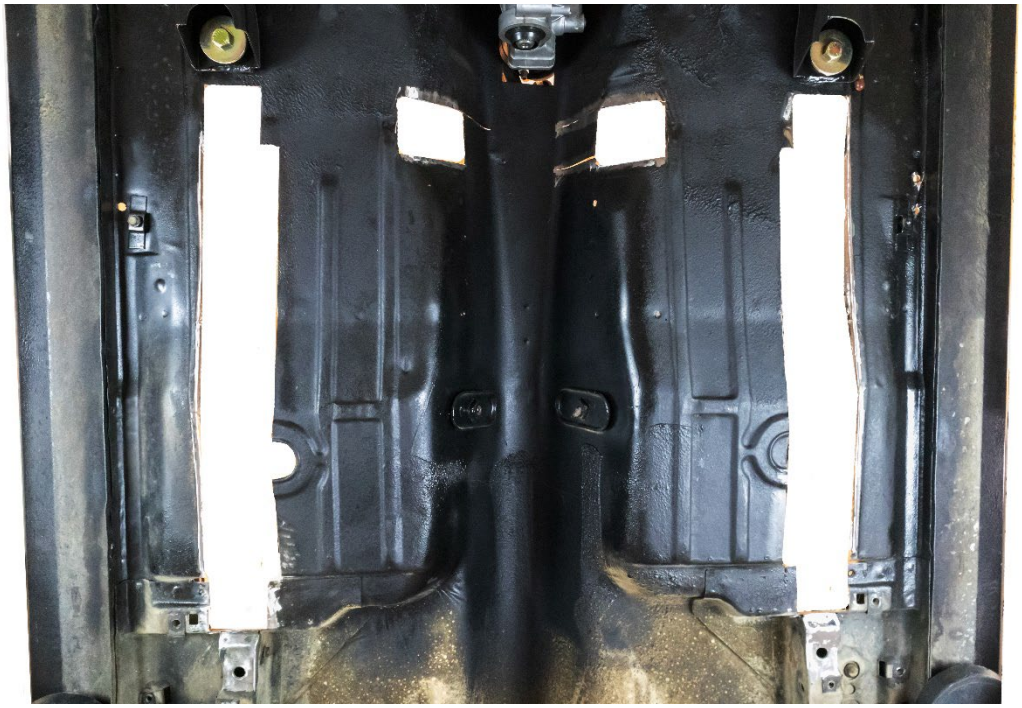


Figure 11: What the final cuts should look like

5.0 INSTALLATION

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5.1 MOCK UP

This is what you should end up with as the crossmember is set down on top of the pan.

Only the bolt together portions of the crossmember should be below the floor pan, figure 13.

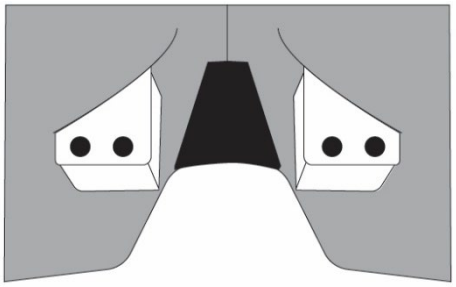

Figure 13: Bolt together portions

Figure 12: Crossmember set down on top of the pan

5.2 SUBFRAME CONNECTOR

Figure 14: Installing the subframe connector

Install subframe connectors.

NOTE: They are cut slightly long to be trimmed to custom fit your vehicle.

The front will slide under the crossmember and the rear will set down against the rear frame brace. Place the 24 1/2" x 1" channel against the inner side of each crossmember to complete filling the hole you've opened up in the floor pan.

Use the 1/2" vertical "wall" you created earlier to clamp and hold the frame connector and channel in place. Square everything up and adjust the fit as necessary.

Tack weld everything together. Double-check fit and finish welding the assembly into the floor.

It is anticipated that the installer is a competent welder and will know how to do this step without instruction; however, there is a welding diagram and note provided in figure 18.

5.3 CROSSMEMBER

Mock up the seat pans in place and notch accordingly for clearance around crossmember and frame connectors.

After the notch welding is in place, trim the floor pan plugs as necessary and reinstall.

NOTE: Photo has only frame connectors installed. Torque arm crossmember is not shown.

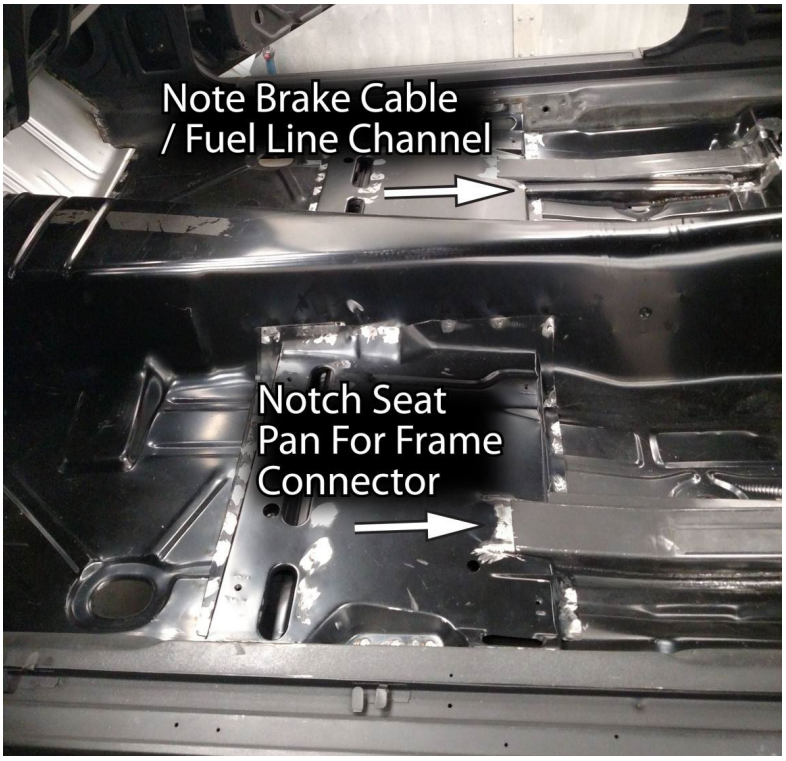

Figure 15: Notching seat pan

6.0 DIAGRAMS

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CROSSMEMBER MEASUREMENT LAYOUT DIAGRAM

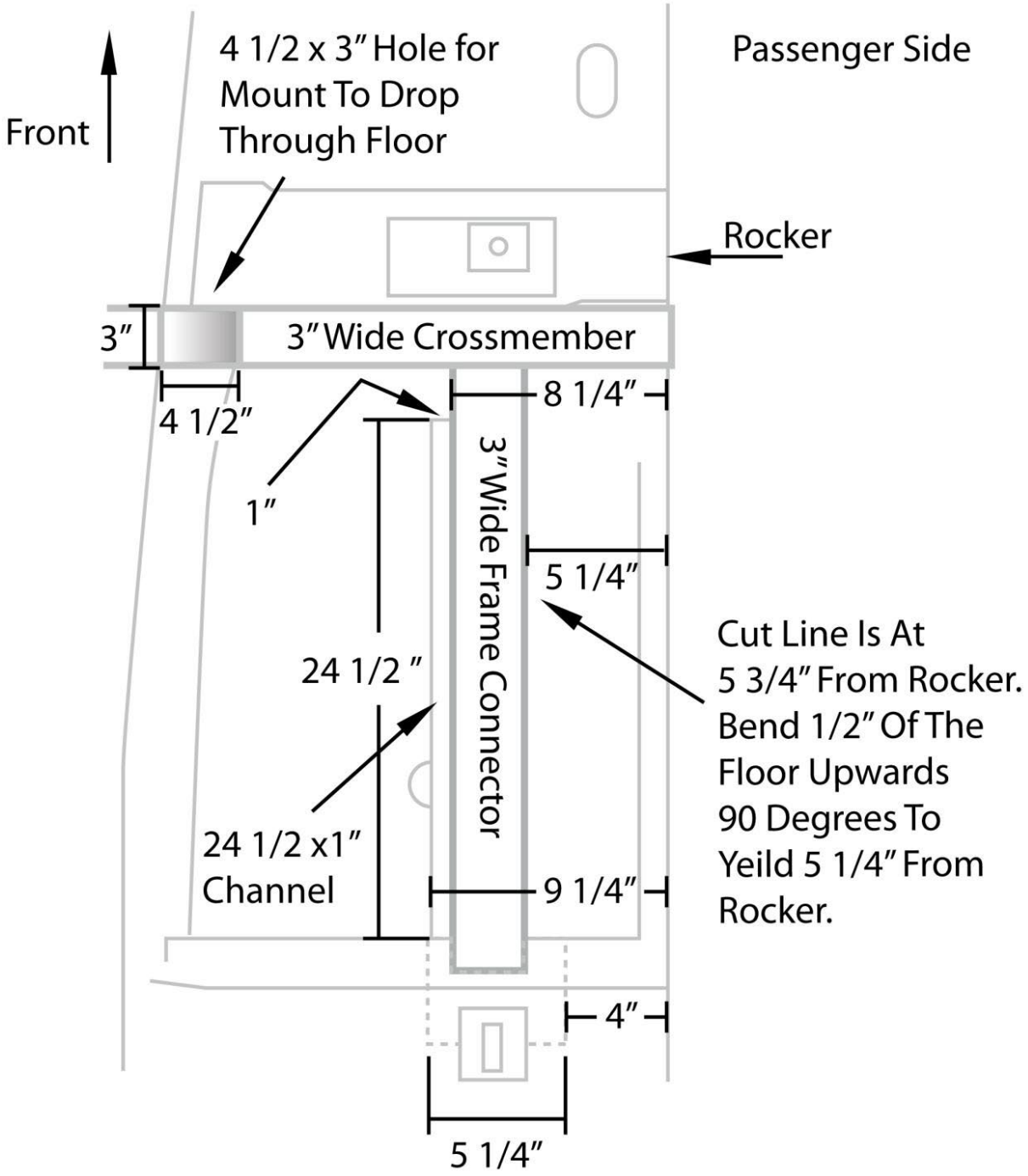

Figure 16: Crossmember measurement layout diagram

CROSSMEMBER CUT AND TRIM LAYOUT DIAGRAM

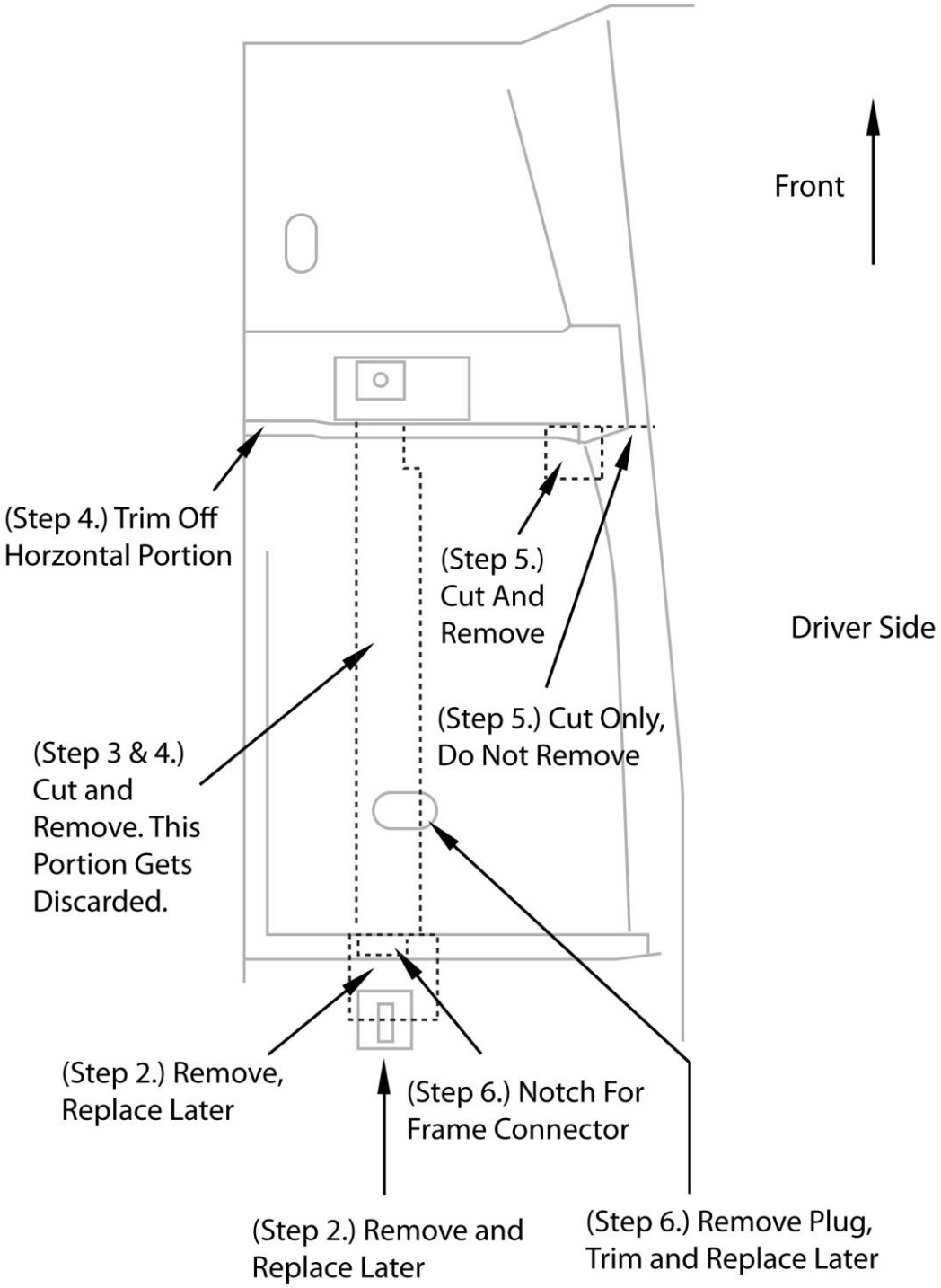

Figure 17: Crossmember cut and trim layout diagram

CROSSMEMBER WELD DIAGRAM

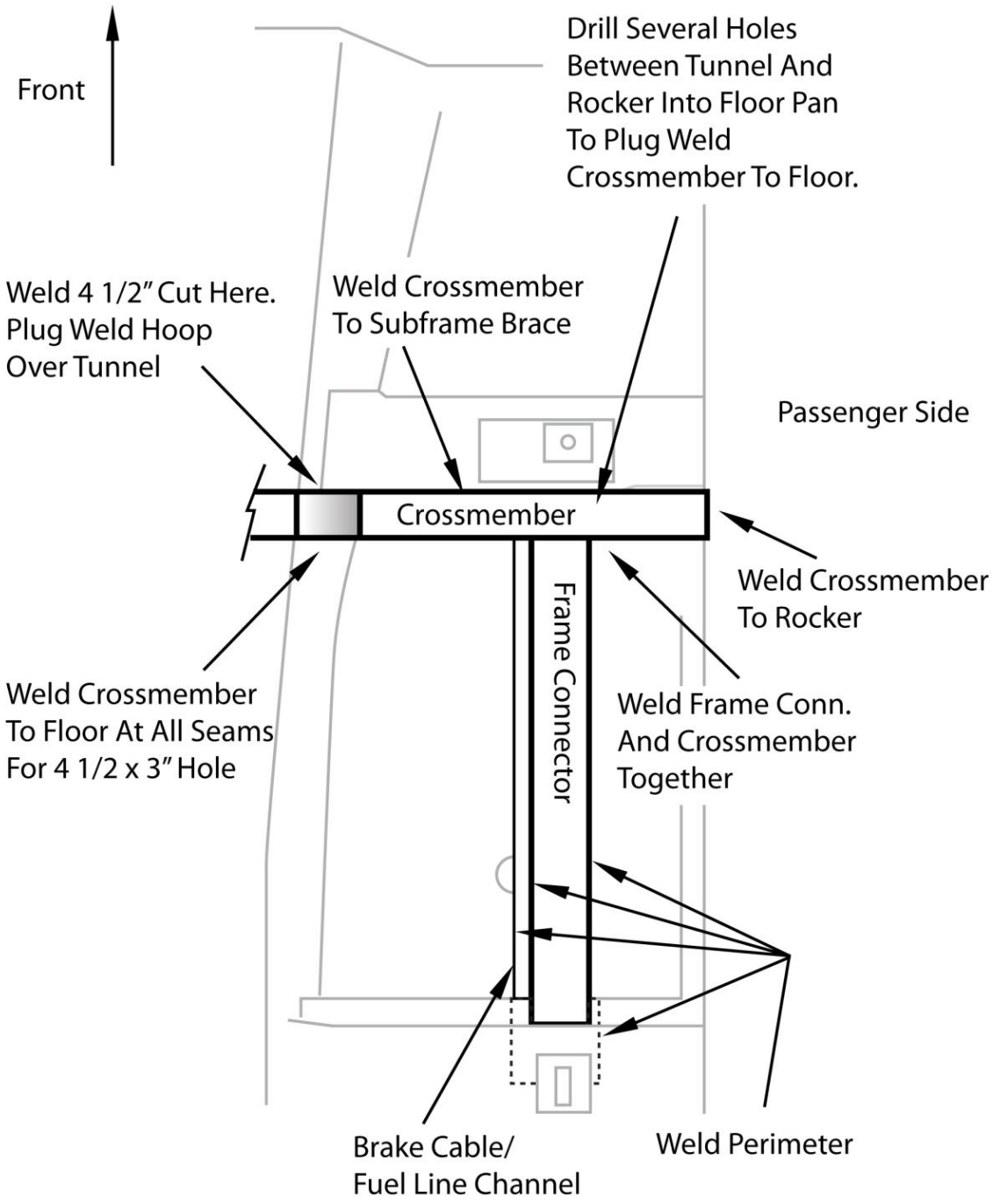

Figure 18: Crossmember weld diagram

NOTE: Not all required welding may be listed in this diagram. Some welding will be done from under the car, some from within the interior. Use good judgment of where and how to weld. Make sure all seams, where parts protrude through the floor, are sealed off to protect the interior from outside elements. Have a fire extinguisher on hand and use sound safety practices whenever welding.

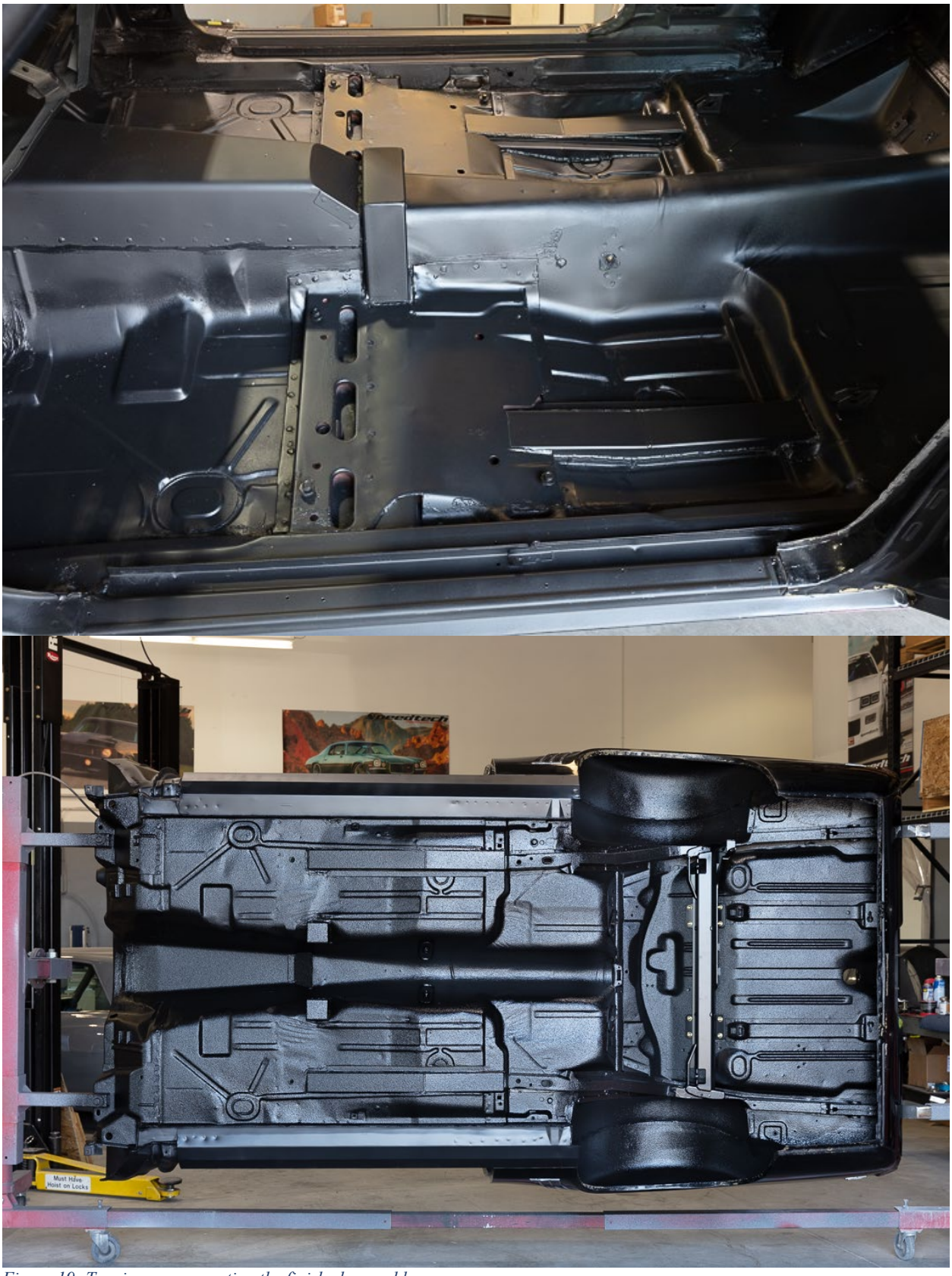

Figure 19: Two images presenting the finished assembly

7.0 CONGRATULATIONS

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Congratulations on completing your project! We know you will get many years of enjoyment from your project. Please join the group, Team Speedtech, on Facebook. Team Speedtech is a community of customers, dealers, and factory employers that have a passion for pro touring muscle cars and are using Speedtech Performance products. You can ask questions and get advice from the group members and share your experience. Everyone enjoys seeing the videos and pictures during the progress of your project and Speedtech encourages you to share them!

Thank you for choosing Speedtech Performance and entrusting us with your frame connector for your custom muscle car.

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