Instruction Guide

Frame Brace Kit
71-76 B-Body

Speedtech PERFORMANCE

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

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Figure 1: 1971-76 Impala that features our components; Photo by: Zach Randolph.

Congratulations on the purchase of your new Speedtech Performance ExtReme frame brace 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 ExtReme frame brace 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 ExtReme frame brace 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.

Installing this product will require the removal of your factory transmission crossmember. Use only approved and appropriately rated jack and jack stands. To install the subframe onto the unibody, body modifications will be required. Portions of the bracing tubes may need to be trimmed.

While Speedtech's ExtReme suspension systems are safer and more comfortable compared to factory suspension on the street, it is also designed to meet the needs of those intending to participate in off highway road races and autocross competitions. To achieve maximum benefit from our system, you should anticipate adjusting and tuning of the suspension to achieve optimum performance specific to the vehicle, driver, and type of racing. Some of this, such as tuning sway bars and shock settings, can be done track side through making adjustments and seeing or feeling how the car reacts to these changes. Speedtech recommends that a tire probe pyrometer and an air pressure gauge be in your track side kit.

Other adjustments, such as tuning a bump steer and caster may require specialized equipment and professional help. Speedtech's technical department can share insight on making these adjustments to help get you started.

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.

1.2 OVERVIEW

These instructions outline the frame brace kit. Photos in the instruction process may vary slightly from your exact operation.

This frame brace kit can be installed with basic hand and power tools and requires a slight bit of welding. You will be required to drill some holes and cut and trim pieces for your exact set up. If you are unsure how to use the tools and materials and carryout the work required to install this cover, stop and seek a professional installer’s help.

1.3 TOOLS

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

Additional things to have before you start:

- Welder
- Drill
- Grinder
- Floor Stands
- Floor Jack

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 tables which can be used as check lists, 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 TABLES

Figure 2: Check in table including amounts, descriptions, and sizes

X	#	Description	Size
	1	Side Frame Boxing Plate (B)	Driver
	1	Side Frame Boxing Plate (B)	Passenger
	1	Rear Crossmember (A)	
	1	Main Brace Tube (C)	Driver
	1	Main Brace Tube (C)	Passenger
	2	Transmission Crossmember Side Supports (D)	
	1	Transmission Crossmember (E)	
	4	Brace to Frame Plate (F)	
	2	Rear Brace Tubes (G)	
	4	Bolts	7/16 x 1 ½ NC
	8	Flat Washer	7/16
	4	Nylock Nut	7/16

2.3 ASSEMBLY OVERVIEW

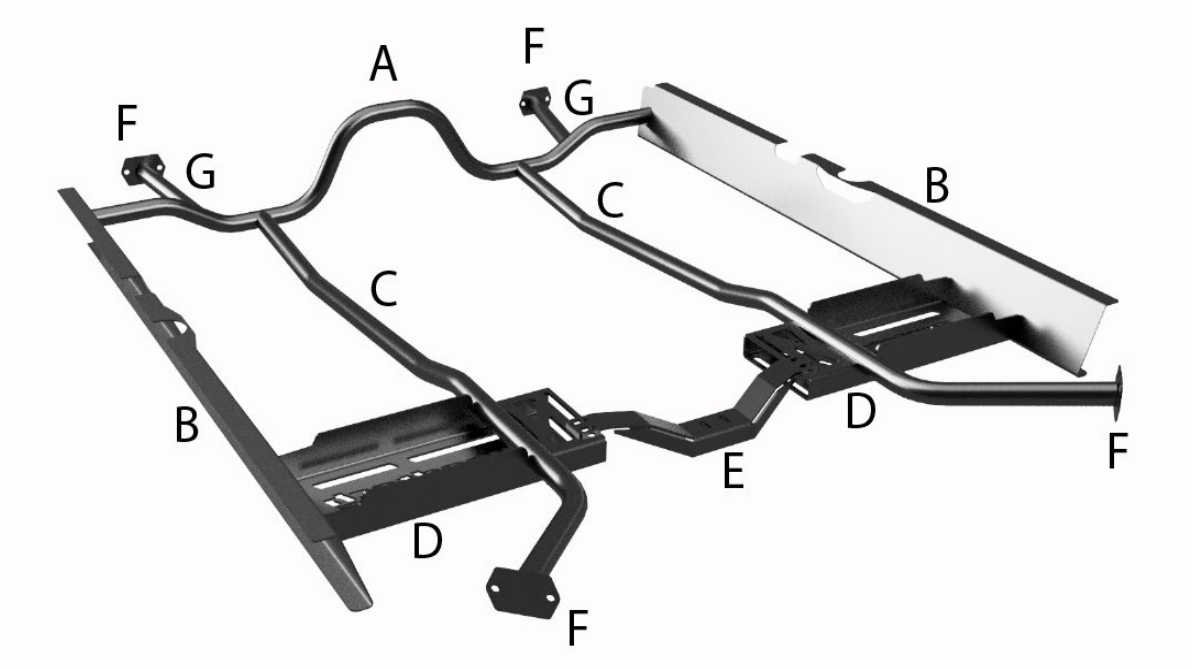

Figure 3: Assembly overview; impression one

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. The suspension should be at drive height when installing the bar. If the car is on a lift and the suspension is in droop when you install the kit, it will not line up properly when back on the ground. The sway bar brackets will all need to be testfit into place before final installation to achieve proper alignment of the bar and that no binding is experienced during the suspension's travel.

This kit requires fitting and welding. If you do not have welding skills and/or access to a welder, make arrangements ahead of time to have them available during installation. We highly recommend removing the body from the frame. You will need to reunite the frame and body several times during the installation. A two-post style lift, although not required, will make the job go smoothly and easily.

3.2 CHASSIS PREP

Either sandblast the chassis or use a wire wheel/grinder to clean the surface where you will be welding.

3.3 SQUARE

Take measurements to ensure your chassis is level and square before starting.

3.4 REMOVAL

Remove the factory transmission crossmember.

4.0 INSTALLATION

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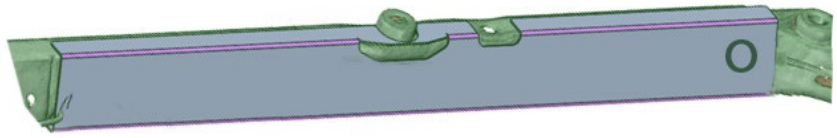
4.1 SIDE BRACING PLATES

With the body removed from the car, place one of the side frame rail boxing plates in position and check for alinement. Lining the plate up should be fairly easy due to the areas designated for the factory body mount locations. Ensure that the pre-cut hole in the side plate is toward the rear of the rail.

- Once one side is in place, tack weld to hold.
- Slide the cross member into the hole of the tacked side, place the other side plate hole over the crossmember tube.
    - The center of the crossmember hoop should be centered between the side plates.
    - You may need to trim material off each side of the crossmember – be sure to remove the same amount of material from each end.
- Tack weld the other side plate after lined up.

Figure 4: Side bracing plates



4.2 REAR CROSSMEMBER

Install your body mounts onto the chassis and lower the body into place.

IMPORTANT: Line the rear crossmember up with the hat channel. This fit is tight so if not done correct, it can impede with the drive shaft.

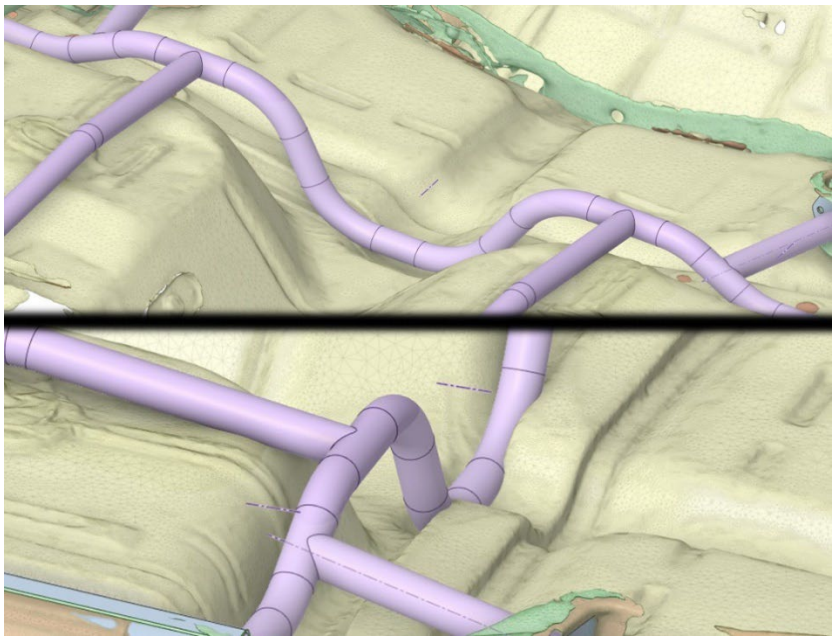


Figure 5: Installing body mounts onto the chassis

Rotate the crossmember for the tightest fit. Tack weld in place to the side bracing plates.

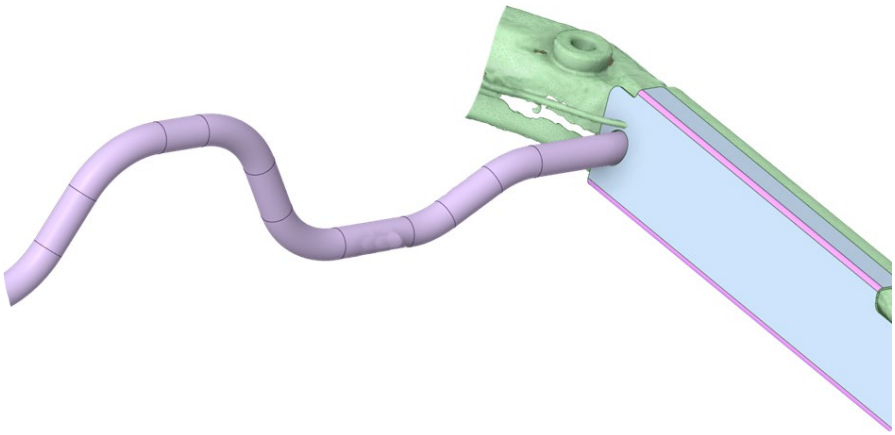


Figure 6: Rotation of crossmember

4.3 REAR BRACING TUBE

NOTE: One side of the tube is coped, this side will be welded to the rear crossmember.

Test fit this tube into place. It may need to be trimmed, but keep in mind there needs to be enough space to fit the frame plates (F) between the tube and chassis.

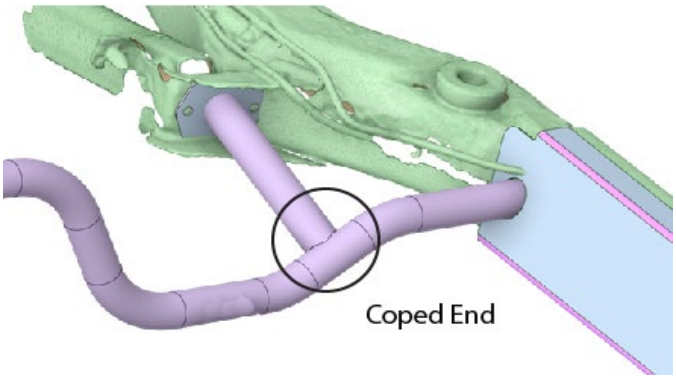


Figure 7: Coped end

- Tack weld the frame plate to the chassis.
- Tack weld the tube to the rear crossmember on the coped side.
- Tack weld the tube to the frame plate.

4.4 BRACING TUBES

Note that one side of the tube is coped, this side will be welded to the rear crossmember.

- Test fit this tube into place, and it may need to be trimmed in the front, keeping in mind there needs to be enough space to fit the frame plates (F) between the tube and chassis.

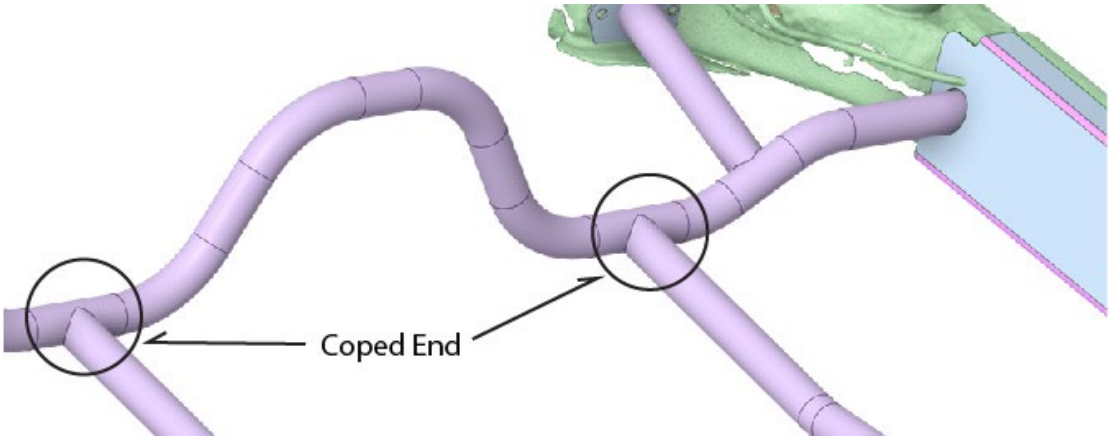


Figure 8: Test placement of the tube

- Tack weld the tube to the rear crossmember on the coped side.
- Locate where the frame plate needs to be placed.
- Tack weld the frame plate to the chassis.
- Tack weld the tube to the frame plate.

4.5 TRANSMISSION CROSSMEMBER BRACE

The bottom of the crossmember will line up with the top of the radius-bend of the side plate.

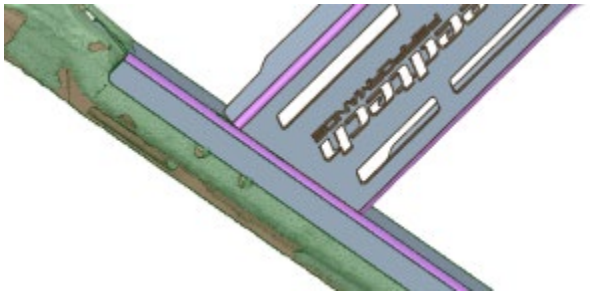


Figure 9: Crossmember lined up

The center of the factory crossmember is roughly seven inches from the front edge of the added side bracing plate. This may need to be adjusted due to your specific set up of engine and transmission. Use a bar or plate with spacers across the bottom of the chassis to make sure the crossmember plates are level and parallel. Tack weld to the side brace plate.

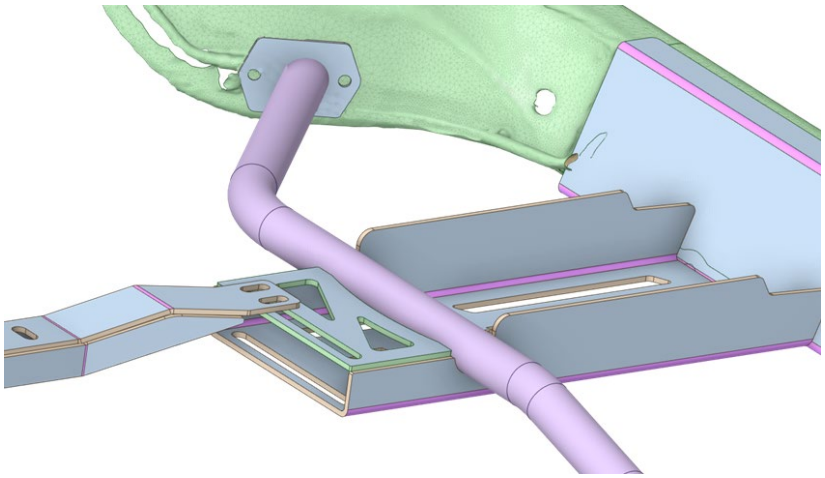


Figure 10: Making sure the crossmember plates are level

Tack weld the side bracing tube to the transmission crossmember.

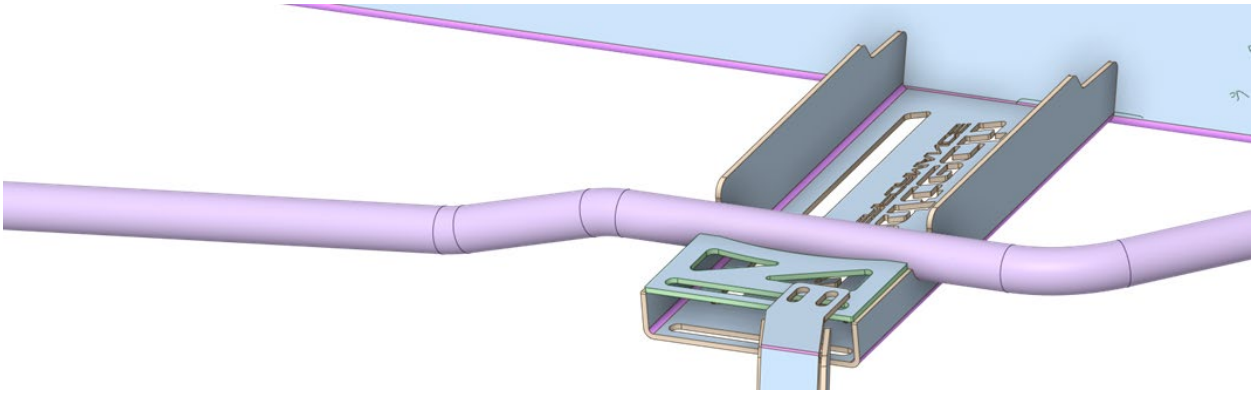


Figure 11: Tack welding the side bracing tube to the transmission crossmember

5.0 FINAL STEPS

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5.1 WELDING

After all components have been tack welded, you can begin final welding. Remove the body from the chassis and remeasure to ensure the chassis is square and level. You can use a ratchet strap to help hold the chassis square during welding. Remember to weld in smaller increments and move around front to back and side to side to allow cooling time for each area welded. The top and bottom of the side bracing plates should be stitch welded every three inches with three-inch welds.

5.2 FINISHING

Proper finish of your chassis will help with the longevity and quality of your build; painting or powder coating is recommended.

Be sure that all measurements are correct and double-check that all components have proper clearance throughout your suspension's travel range. Install chassis into the vehicle. Torque all bolts to speck. Tighten all loose suspension bolts and double-check all bolts to ensure they are all tight. (Follow the toque checklist found in the instructions.) It is recommended you fill all grease fittings at this time. Speedtech suggests using Permatex Ultra Slick Synthetic Grease, but any high-quality chassis grease will do. For your Sweet power rack and pinion we recommend using Sweet or Jones brand full synthetic power steering fluid for best performance and to avoid overheating standard type fluids during performance driving situations.

This concludes the ExtReme frame brace kit installation.

6.0 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 brace needs for your custom muscle cars.

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