Instructional Guide
Frame Brace Kit
64-72 A-Body
Congratulations on the purchase of your new Speedtech Performance Frame Brace Kit. Use only approved and appropriately rated jack and jack stands, be sure to take all safety precautions required to do the job safely and correctly. If you are unsure seek the assistance of a highly qualified workshop to assist you.

Read and understand all instructions thoroughly before you begin. For the most part, assembly and set up of your new Frame Brace Kit can be done in a home garage with hand tools and basic welding equipment.

We enjoy seeing the progress our customers are making as they work through their builds so join the Team Speedtech group on Facebook and share your pictures and your story.

From everyone at Speedtech Performance we send you all best wishes for your project!
Installation Guide

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1.0 GENERAL INFORMATION

1.1 This Guide
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 than the parts you have in the kit you received. For example, in this guide we have only used pictures of the Frame Brace 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 Brace Kit. The system has been designed to work with factory subframe or chassis. Some photos in the install process may vary slightly from your exact application.

This kit requires a fair amount of 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 and the transmission (and engine if necessary) 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.

1.3 Tools
Installation of the Speedtech Performance ExtReme Frame Brace can be done on the floor with simple hand tools, cut off wheel and a basic welder.

Additional things to have before you start:

- Wrench/Socket
- Drill
- Floor Stands
- Floor Jack
- Welder
- Grinder
2.0 CHECK IN PARTS AND HARDWARE

2.1 Checking in the Order

Best practice will be to check in your order as soon as possible after receiving the order. To check in the order we have provided tables, these can be used as check lists for your order. If you discover anything missing from your order, call your authorized dealer as soon as possible.

2.2 Check in Tables

<table>
<thead>
<tr>
<th>Description</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>Rear Cross Member (A)</td>
<td></td>
</tr>
<tr>
<td>Frame Rail Boxing Plates (B)</td>
<td></td>
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<tr>
<td>Main Brace Tubes (C)</td>
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<tr>
<td>Transmission Crossmember Side Supports (D)</td>
<td></td>
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<tr>
<td>Transmission Crossmember (E)</td>
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<tr>
<td>Rear Brace to Floor Bracket (F)</td>
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<tr>
<td>Front Brace to Floor Bracket (G)</td>
<td></td>
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<tr>
<td>Brace to Frame Plates (H)</td>
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[Image of bracing parts]
HARDWARE

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<td>4</td>
<td>4</td>
<td>Transmission Mount Flat Washer</td>
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<tr>
<td>4</td>
<td>4</td>
<td>Transmission Mount Nylock Nut</td>
<td>7/16</td>
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<tr>
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<td>4</td>
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<td>Brace to Floor Board Nylock Nut</td>
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</tbody>
</table>

3.0 GETTING STARTED

3.1 LEVELING AND SUPPORT

The **vehicle should be on a level surface before you start.** Jack up and properly support the vehicle’s frame. Remove the front wheels. For cars with drop off style rotors, reinstall one lug nut if needed to prevent the rotor from falling off.

**Note:** It is recommended when welding you hold the frame with some tension in a triangulated form with come-alongs or ratcheting straps, see diagram below. Your frame design may vary slightly from the diagram.
4.0 FRAME BOXING

4.1 BODY BRACE REMOVAL

Thread a jam-nut several threads onto both the heim joint and the inner tie rod. Paying close attention to using the correct nut left hand or right-hand thread direction in the appropriate corresponding locations.

4.2 SIDE PLATE

The bottom of the frame rail box plate has a 90° bend to help you create a strong flat bottom edge. The small bend goes towards the inside of the frame. Fit the plate against the frame and tack weld in a few small areas to hold it in place.
4.3 CLAMPING AND TACK

It is likely there will be gaps and you will need to work the bottom of the frame to match the plate. This can be done easily with large C clamps and a hammer. Clamp the surrounding area and tap bottom of the frame flat with a hammer as needed. Then proceed to tack weld. Be sure to jump around to spread out the heat and avoid warping the metal.

4.4 WELDING

Once boxing plates are tacked in, put the body back onto the frame and check for correct body to frame alignment. Confirm that all connection points line up, drop frame back out of the car and begin to weld.

**NOTE:** To avoid overheating and warping any portion of the frame it is imperative that you do not weld a large area all at once. Constantly move around front to back and side to side as you weld in 2-3” increments and take breaks as needed to allow the metal to cool.

4.5 GRINDING

When all frame box welding is done, grind and smooth the welds if desired.
5.0 FRAME BRACING

5.1 MOUNTING BODY

When you are done welding/ finishing and the frame has cooled, bolt the frame to the body. For optimum performance we recommend using new Speedtech solid body bushings.

Having the frame bolted to the body will ensure proper body to frame alignment and help position the additional frame bracing with the proper floor pan clearance. You are now ready to start installing the frame bracing components.

5.2 MOUNT PLATE

Installing the frame bracing requires custom fitting the bars to your particular chassis. Each of the areas where the brace tubes need fitment have extra material to allow for trimming. Remember, measure twice, cut once. Plate A in the diagram on page 9 is located using the factory parking brake cable mount. If you would like to reuse the factory cable system you will have to notch the frame brace mount plate and drill a new hole as necessary.

5.3 CROSSMEMBER

You will need to bolt the cross member in place at the lower control arm location ("A."). To do this, hold the bar up to the frame and mark location ("B.") for rough trimming which will allow you to position the bar between the frame rails. One of the four mounting plates ("C.") will be installed between the tube and the frame. This plate may need to be bent slightly to match the contour of the frame. With the frame bolted in place mark the bar for final trimming, allowing enough room to slip the plate ("C.") between the bar and the frame. You can use self-tapping screws in the predrilled holes or a couple of tack welds to hold plate ("C.") in position. Tack weld the cross member tube to the plate. Repeat for other side.
5.4 SIDE TUBES

Fit one side bar at a time. Slide a transmission cross member stand (A.) onto the bar before fitting the bar into place. DO NOT FORGET TO DO THIS PRIOR TO WELDING. Note at the front end of the bar will be another frame mounting plate, (B.) which may need slight bending to fit the contour of the frame. The front end of the bar will need to be trimmed for a custom fit, see location (C.). Remember to allow room for the plate between the frame and the bar. The rear of the bar (D.) is notched to aid in fitment against the rear cross member. Tack weld or self-tapping screw each plate in position. Tack weld the front of the bar in place at the plate and the rear of the bar on the rear cross member. Some cars may need some slight rear floor pan massaging to tuck the rear cross member up into its coordinating pocket in the floor pan. (E.) This is most common on the earlier cars. Note also this cross member is offset slightly to the passenger side.

DO NOT tack weld the transmission cross member stands at this time. Bolt the center transmission cross member to the middle of the slots in the two side stands. This will help keep the stands level as you position them when you later weld them in.

NOTE: that for illustration purposes the frame is not bolted to the body here. Having it bolted to the body while fitting and tack welding will ensure everything will line up properly with the body after all final welding is done.

5.5 TRANSMISSION CROSSMEMBER

Replace the (engine and) transmission. Line up the center crossmember to the transmission mount pad. Check to see that the side stands and the crossmember are all centered in line with the transmission mount pad. This will ensure enough adjustment flexibility should you change transmissions later on. Bolt the center crossmember to the transmission and support with a proper stand/ transmission jack. If done properly the transmission stands should sit near flush to the side frame rails as seen in the image.
Tack weld the two side transmission mount stands to the frame and support tubes. The final assembly should look similar to the photo.

5.6 FLOOR PAN MOUNTS

Locate each of the four brace to floor pan mounts into position on the floor pan support braces and tack weld to the brace tubes. **DO NOT WELD THESE BRACKETS TO THE FLOOR PAN.**

**Note:** that the larger mount plates are located towards the front of the side brace tubes just behind the transmission cross member, and the smaller mount plates are located at the peak of the rear cross member. Refer to photos below for positioning suggestions.
6.0 FINAL WELDING / FINISHING

6.1 FINAL WELDING

With all components now tack welded into position you can begin final welding. You may find it easier to again remove the frame from the body to do some of this. If the body is removed, we recommend reattaching the straps to triangulate the frame as a precaution to avoid any frame movement/ warpage. Remember to weld in smaller increments and move around front to back and side to side to allow cooling time for each area welded. Shown is a '68-72 kit, the '64-67 cross bar will install in a similar fashion. Some earlier cars may require some slight floor pan massaging in this area to fit the brace kit rear crossmember up between the rear floor pan and the floor pan crossmember.

6.2 FINISHING

With all the welding completed, protect your newly installed box and brace kit by cleaning, prepping and painting, or now would be a good time to have the entire frame blasted and powder coated.

7.0 FLOOR PAN BOLTS

The final step is to remove the carpet and insulation. Using the predrilled holes in the brace to floor pan brackets as a guide, drill holes for the mounting bolts up through the floor pan with a 3/8” drill bit. Photo represents the bolts in the rear crossmember.
8.0 Congratulations

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 like-minded individuals using Speedtech Performance products. The Group’s members include customers, our dealers and factory employees - each with a passion for Pro Touring muscle cars. You can ask questions and get advice from the group members as well as share your experience. Within the group we enjoy seeing the videos and pictures during the progress of your projects so post up. We also encourage you to share pictures and videos of your finished projects out on the road, at the show & shine, on track or however you get enjoyment from your ride, we want to see it!

Thank you for choosing Speedtech Performance! We know you have a choice, and we appreciate that you entrust us with your chassis and suspension needs for you custom muscle cars.

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