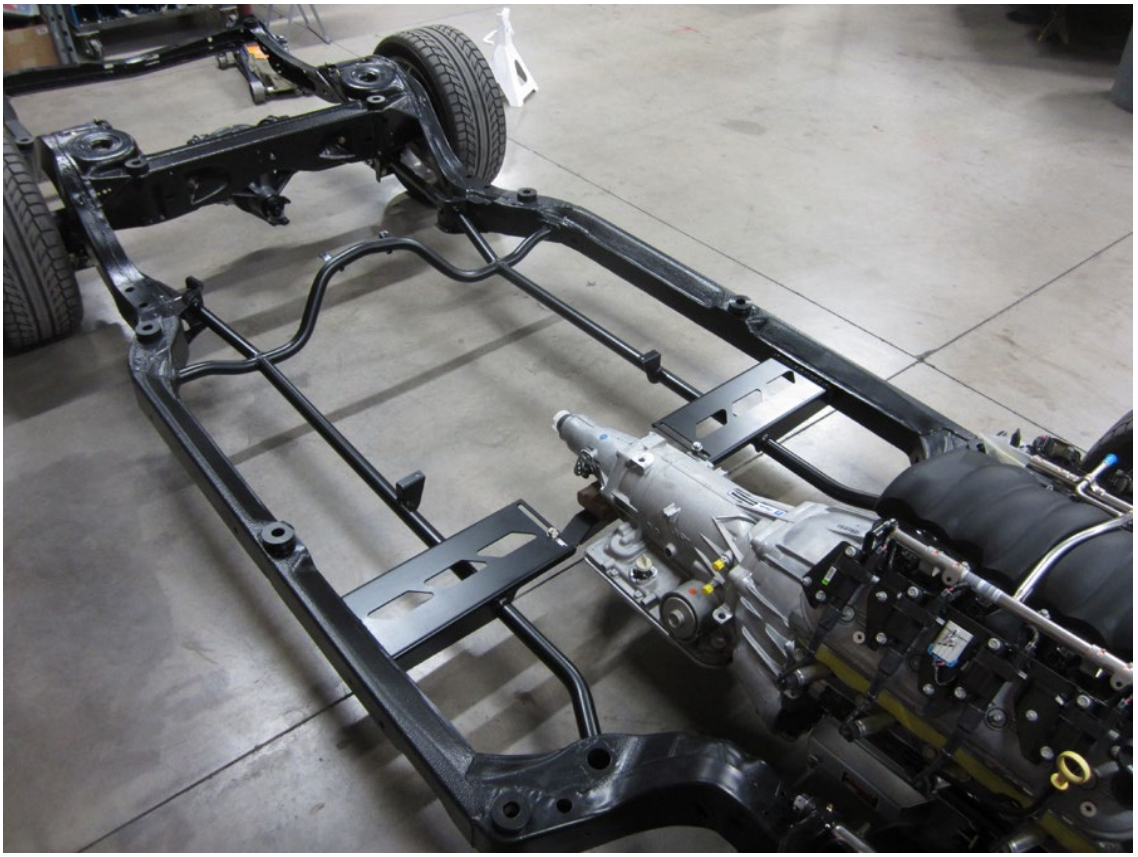
Instruction Guide

Frame Brace Kit
64-72 A-Body



Speedtech PERFORMANCE

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

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Figure 1: 1967 Chevelle features our track time suspension

Congratulations on the purchase of your new Speedtech Performance 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 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 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.

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 which has been designed to work with your factory subframe or chassis. Photos in the instruction process may vary slightly from your exact operation. 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.

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. Speedtech highly recommends 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 frame brace can be done on the floor with a basic welder, a cut off wheel, 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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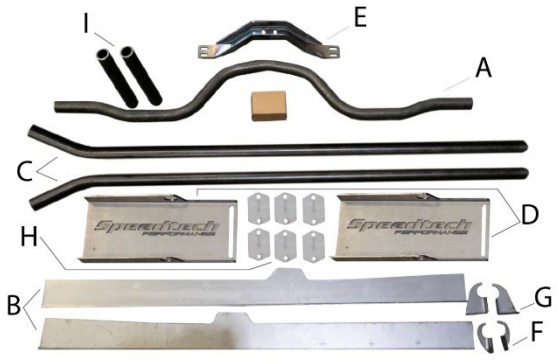
2.1 CHECKING IN THE ORDER

Check in your order as soon as possible. To check in the order, Speedtech has provided 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

BRACING

X	QTY	Description
	1	Rear Crossmember (A)
	2	Frame Rail Boxing Plates (B)
	2	Main Brace Tubes (C)
	2	Transmission Crossmember Side Supports (D)
	1	Transmission Crossmember (E)
	2	Rear Brace to Floor Bracket (F)
	2	Front Brace to Floor Bracket (G)
	6	Brace to Frame Plates (H)
	2	Rear Brace Tubes (I)

HARDWARE

X	#	Description	Size
	4	Transmission Mount Bolt	7/16 x 2
	8	Transmission Mount Flat Washer	7/16
	4	Transmission Mount Nylock Nut	7/16
	4	Brace Mock Up Bolt	3/8 x 1 ¼
	4	Brace Mock Up Flat Washer	3/8
	4	Brace Mock Up Nylock Nut	3/8
	4	Brace to Floor Board Bolt	3/8 x 2 ¼
	4	Brace to Floor Board Flat Washer	3/8
	4	Brace to Floor Board Nylock Nut	3/8

Figure 3: Check in tables with amounts, descriptions, and sizes; and a picture of the parts

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.

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 that you hold the frame with some tension in a triangulated form with come-along or ratcheting straps, see diagram below. Your frame design may vary slightly from the diagram.

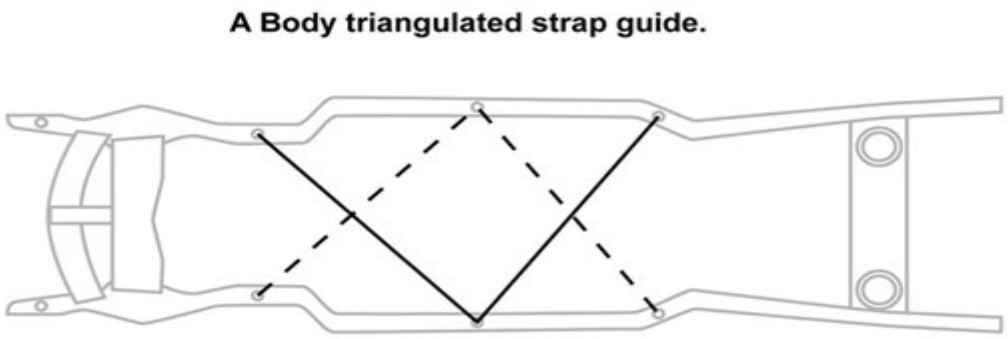

Figure 4: Strap guide

4.0 FRAME BOXING

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4.1 BODY BRACE REMOVAL

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

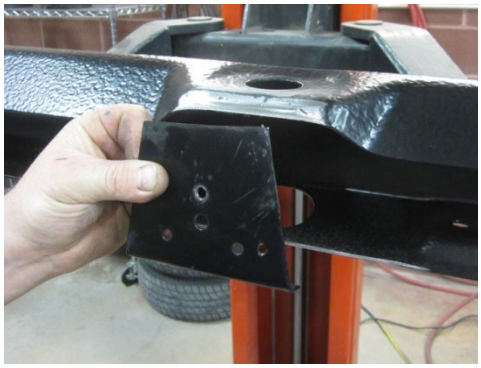

Figure 5: Two images of the body brace removal

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.

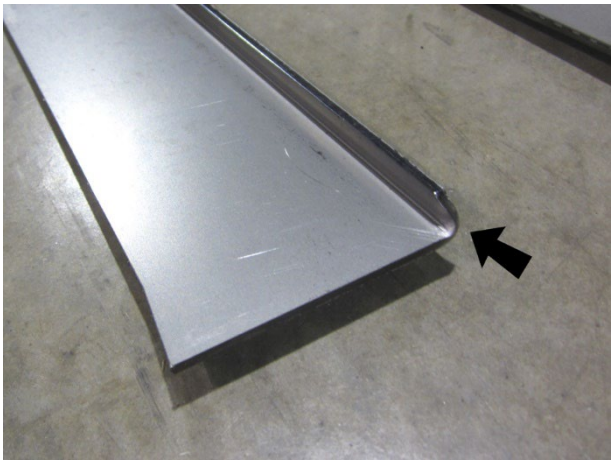

Figure 6: Side plate

4.3 CLAMPING AND TACKING

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 the bottom of the frame flat with a hammer as needed. Then proceed to tack weld. It is highly recommended to jump around to spread out the heat and avoid warping the metal.

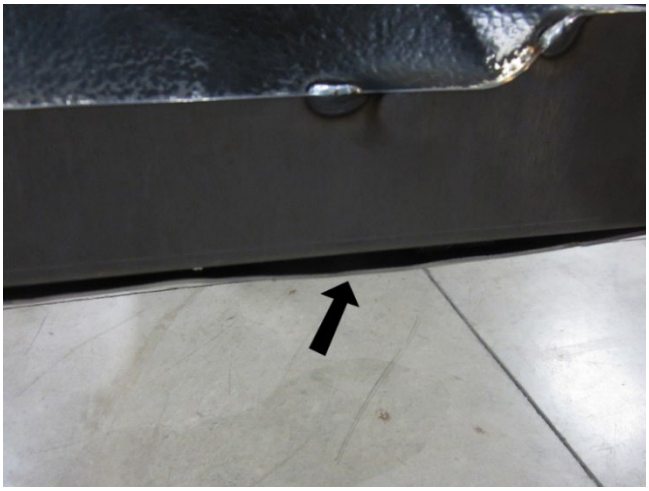

Figure 7: Two images depicting clamping and tacking

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.

Figure 8: Two images presenting welding and grinding

4.5 GRINDING

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

5.0 FRAME BRACING

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5.1 MOUNTING BODY

When you are done welding and the frame has cooled, bolt the frame to the body. For optimum performance, Speedtech recommends using their 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.

After this step is complete, you will be ready to install 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 figure 10 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.

Figure 9: Mount plate

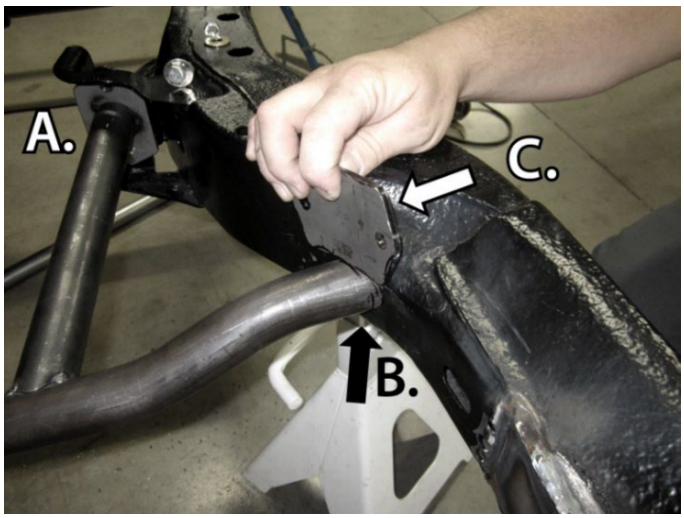
5.3 REAR BRACE TUBE

These pieces may need to be trimmed to fit your exact application. Once you have the size correct, tack into place. See the figure 10 below (**A.**).

Figure 10: This used to be tack welded to the rear crossmember

5.4 CROSSMEMBER

You will need to bolt the crossmember 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 crossmember tube to the plate. Repeat on the other side.

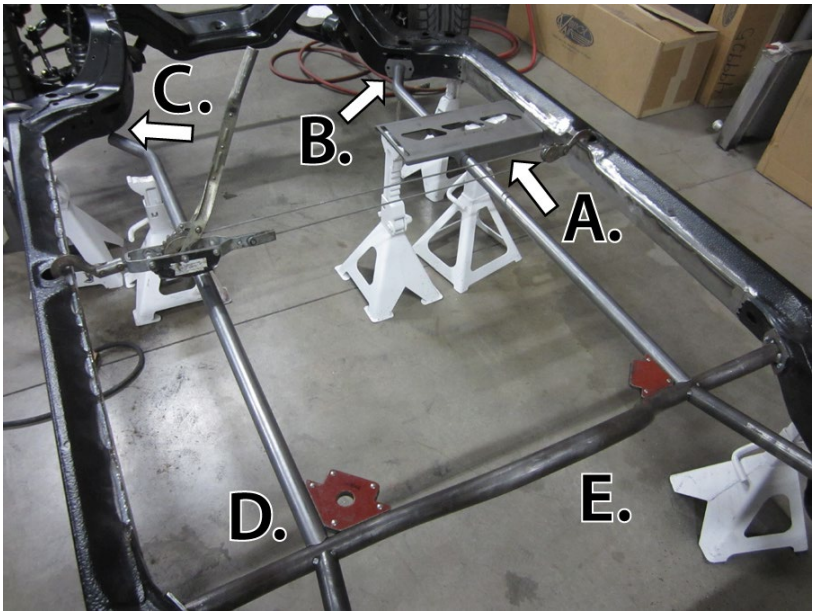


5.5 SIDE TUBES

Fit one side bar at a time.

Slide a transmission crossmember 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 crossmember. Tack weld or self-tap 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 crossmember. Some cars may need some slight rear floor pan massaging to tuck the rear crossmember up into its coordinating pocket in the floor pan (**E.**). This is most common on the earlier cars.



NOTE: Also, this crossmember is offset slightly to the passenger side.

Figure 11: Diagram of the placement of side tubes

WARNING: Do not tack weld the transmission crossmember stands at this time. Bolt the center transmission crossmember 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: 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.

5.6 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 figure 12.

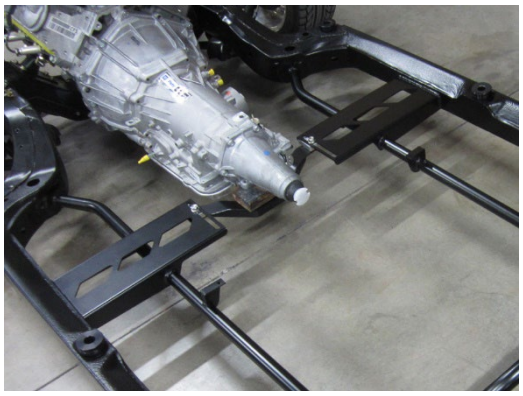


Figure 12: Two images presenting the centering and the transmission mount

5.7 FLOOR PAN MOUNTS

Locate each of the four braces to floor pan mounts into position on the floor pan support braces and tack weld to the brace tubes.

WARNING: Do not weld these brackets to the floor pan.

NOTE: The larger mount plates are located towards the front of the side brace tubes just behind the transmission crossmember, and the smaller mount plates are located at the peak of the rear crossmember. Refer to photos below for positioning suggestions.

Figure 13: Floor pan mounts

6.0 FINAL WELDING / FINISHING

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6.1 FINAL WELDING

With all components now tack welded into position you can begin final welding. You may find it easier to remove the frame from the body again. If the body is removed, Speedtech recommends 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.

Figure 14 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.

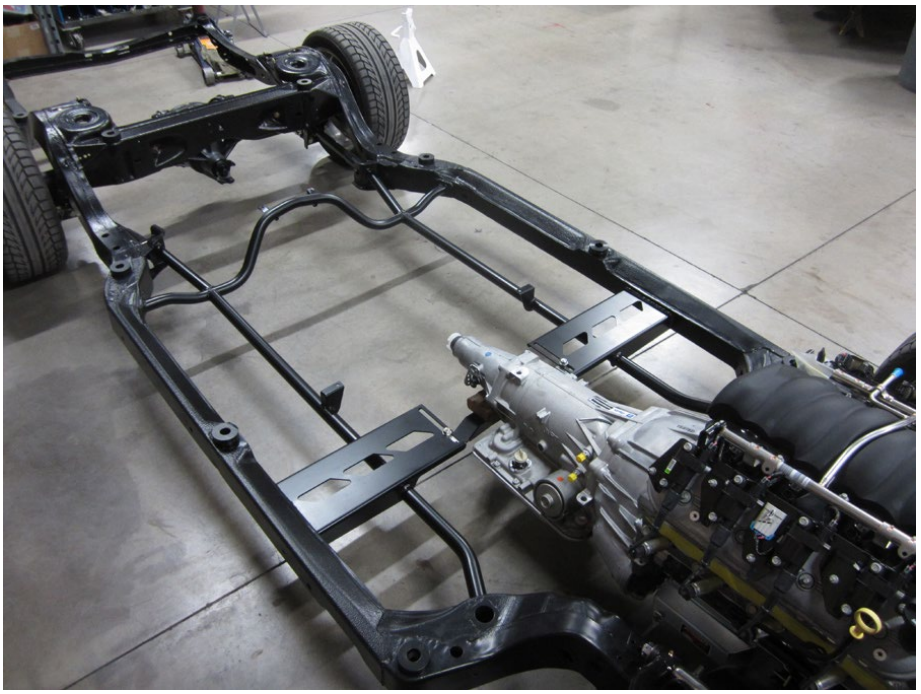

Figure 14: Final welding/finishing

6.2 FINSIHING

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

7.0 FLOOR PAN BOLTS

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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. Figure 15 represents the bolts in the rear crossmember.

Figure 15: Floor pan bolts

8.0 FINAL STEPS

8.1 FINISHING

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 torque 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 frame brace kit installation.

9.0 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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