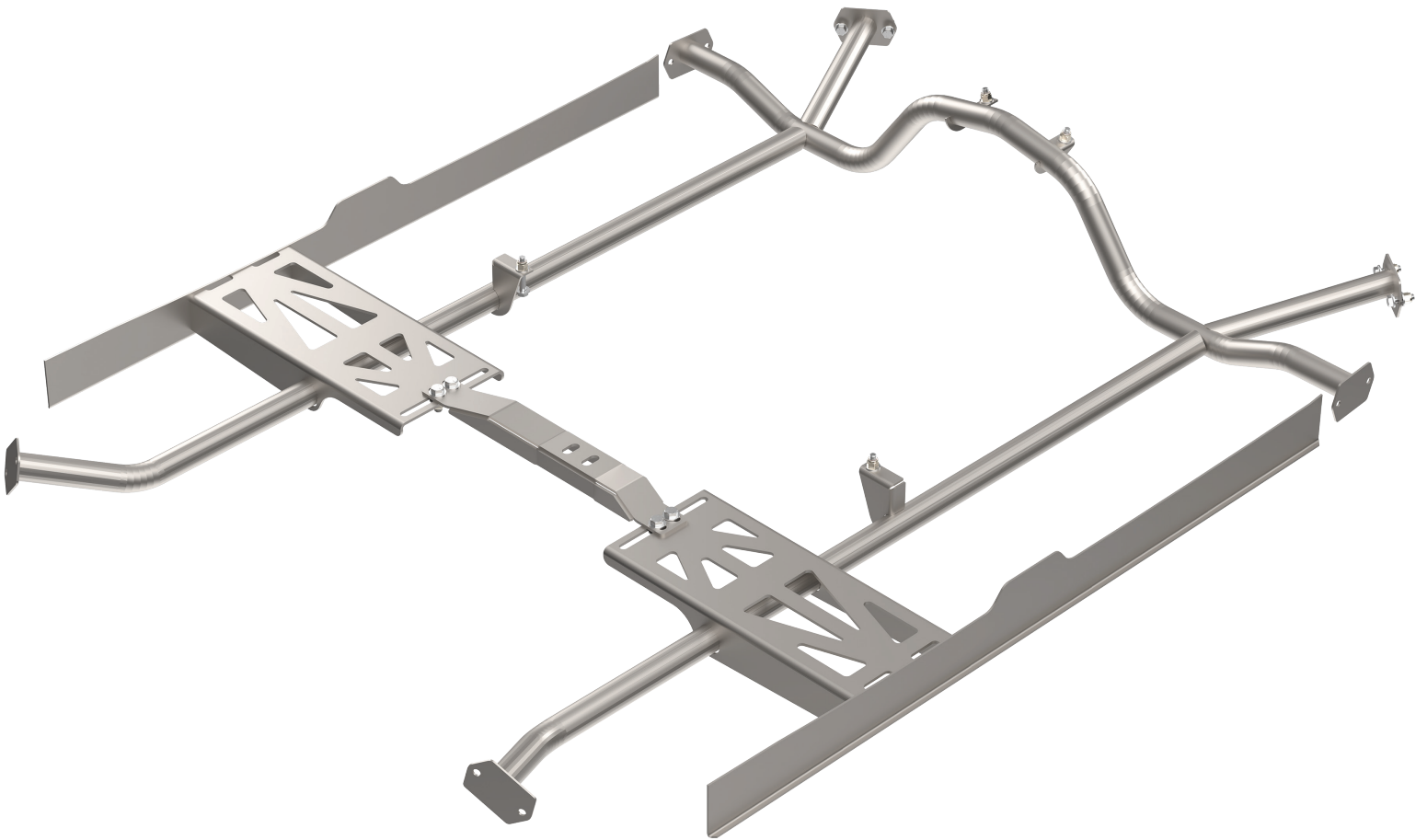


Speedtech PERFORMANCE



64-72 GM A-BODY FRAME BRACE KIT
INSTALLATION INSTRUCTIONS: 30709/30710

WELCOME TO SPEEDTECH PERFORMANCE!

OUR COMMITMENT

Congratulations on purchasing this high-quality Speedtech Performance Frame Brace Kit for your '64-'72 GM A-body vehicle! It is engineered to the highest standards, utilizes the finest materials, and is built with exceptional craftsmanship and attention to detail.

While we understand your eagerness to start your build, please remember that your safety is our utmost priority. Always use an approved and appropriately rated jack, jack stand, or automotive lift, and take all necessary safety precautions to ensure the job is completed safely and correctly.

The team at Speedtech Performance is genuinely excited to see your project come to life and the results of your hard work. We also enjoy seeing our customers' progress as they work through their builds, so join the [Team Speedtech](#) group on Facebook and share your pictures and story.

Remember, we're here to support you every step of the way and are committed to ensuring your installation process is successful and enjoyable. We wish you all the best!

OUR COMMITMENT

Before you begin, make sure to read and understand all instructions thoroughly.

You can assemble and set up your new frame brace kit in your home garage with standard hand tools and welding equipment.

To simplify installation, Speedtech recommends the removal of the body and transmission. Additionally, remove the engine from the frame if necessary. You will need to reunite the frame and body several times during the installation.

Though not required, a two-post style lift will make the job go smoothly and easily.

This kit requires fitting and welding. If you lack access to welding equipment, make arrangements to have it available during installation.

If you feel uncertain about your abilities during the build and need help or have any questions, please seek the assistance of a qualified fabricator or autobody workshop.

If you have any product questions or need guidance, please don't hesitate to call and speak with Speedtech Performance technical support at 435-628-4300.

As a final step, review each assembly step and make sure any fasteners are correctly secured and torqued to specification.

ABOUT THIS MANUAL

PURPOSE

These instructions outline the frame brace kit designed to work with your factory subframe or frame. The images shown in the instructions may vary slightly from your vehicle.

ITS CONTENTS

The information that follows is described in this instruction set:

- Required tools and supplies.
- Safety, hazard, and warning rules.
- Product overview and included parts.
- Installation and the setup procedures required for use.

Pages with images will have paragraphs and sentences with callout numbers that refer to their respective images, steps, and parts.

Procedures, once described in the text, are generally not repeated. When it is necessary to refer to another procedure, the page and step reference will be given.

REQUIRED TOOLS AND SUPPLIES

- SAE Wrench Set
- SAE Socket Set
- Torque Wrench (lb-ft)
- Floor Jack
- Jack Stands
- Welding Equipment
- Grinder
- Measuring Tape
- Weld Through Primer
- Welding Blanket
- Spark Deflection Paper

SAFETY FIRST

- Work on your frame in an appropriate location.
- Assemble your frame on a level surface.
- Always support your frame with jack stands.
- Wear personal protection like safety glasses and gloves.
- Never use compressed air to clean dust, oil, or ground metal from suspension components.
- Dispose of damaged or old parts in accordance with local laws. Do not throw any hazardous waste in the trash.

BEFORE INSTALLATION

Before beginning the sheet metal installation, it is crucial to read and understand these instructions carefully.

When welding around your vehicle, take the necessary precautions. Utilize welding blankets and spark deflection paper to prevent sparks from reaching the fuel tank, fuel and brake lines, and other exterior components while welding and grinding.

Make sure to ventilate combustible vapors and remove any nearby flammable materials.

It is equally important to wear the appropriate personal protective equipment (PPE). However, the responsibility does not end there. Follow the manufacturer's instructions for safe use when working with power tools, and be cautious and responsible in your work.

CONTENTS

A-BODY FRAME BRACE KIT4
 68-72 GM A-BODY FRAME BRACE KIT 30710 PARTS LIST 4
 64-67 GM A-BODY FRAME BRACE KIT 30709 PARTS LIST 6

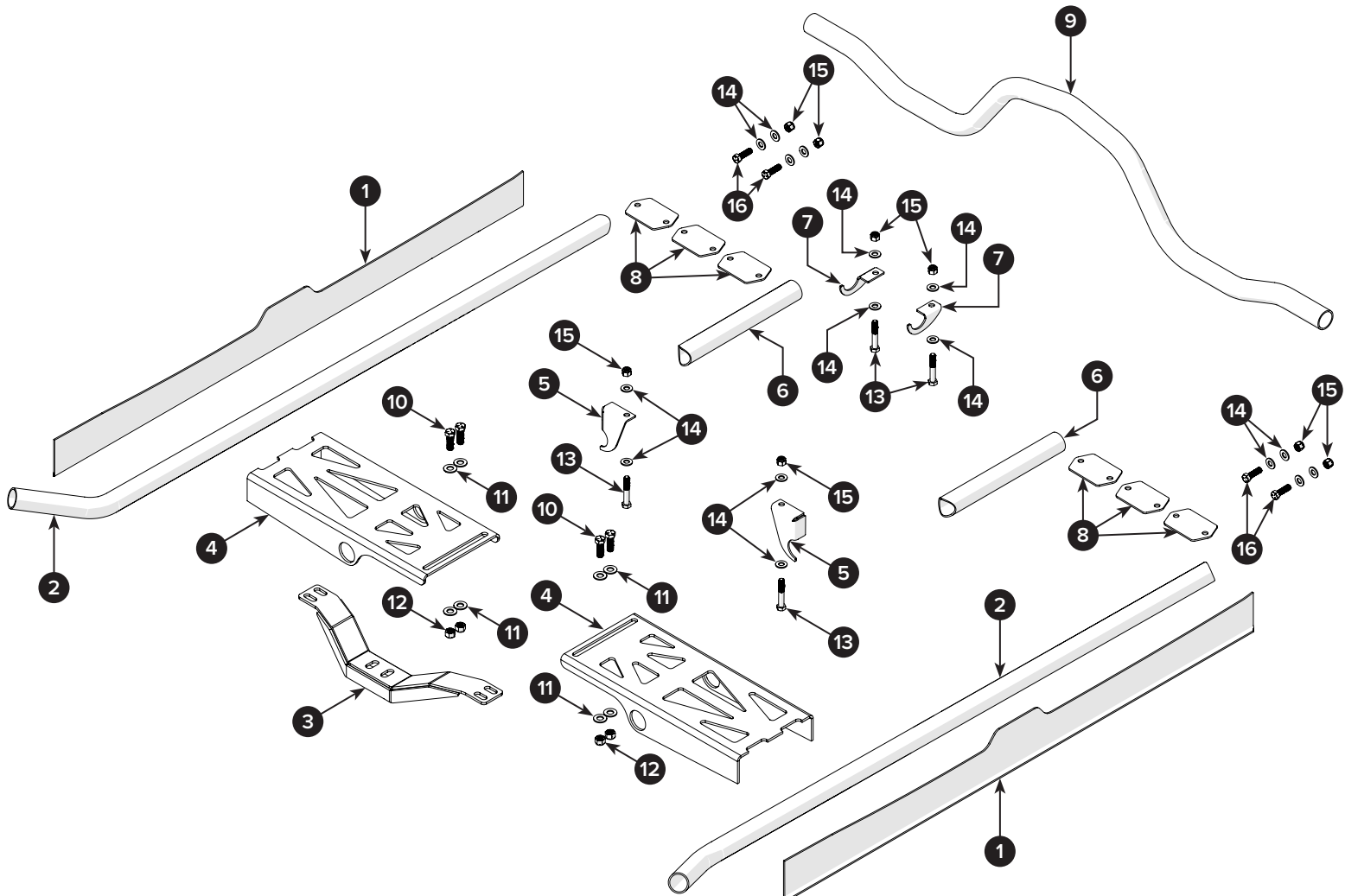
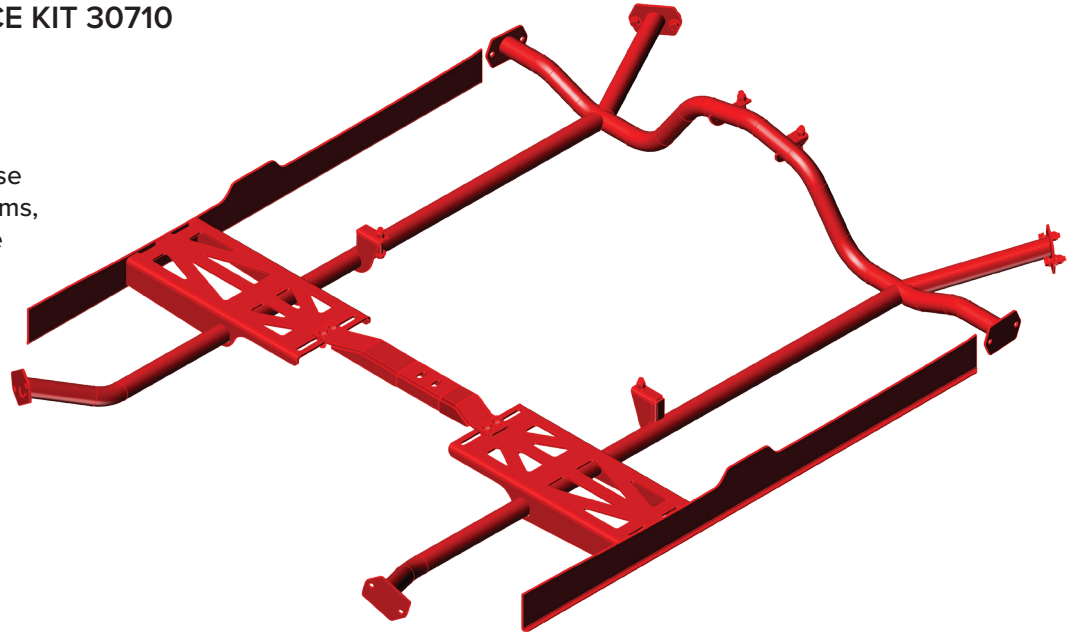
INSTALLATION 8
 VEHICLE PREPARATION 8
 FRAME RAIL BOXING PLATES 10
 FRAME BRACES.....13

FINAL INSTALLATION NOTES.....27

68-72 GM A-BODY FRAME BRACE KIT 30710

Note: The frame brace kit shown is for illustrative purposes and represent the parts included in this kit.

While your parts may look different, these instructions apply across various platforms, and the kit is assembled using the same procedures as outlined.



68-72 GM A-BODY FRAME BRACE KIT 30710

POSITION	PART #	DESCRIPTION	QTY	TORQUE SPECIFICATION
1	912210-08	Frame Rail Boxing Plates	2	—
2	820161	Main Brace Tubes	2	—
3	912210-03	Transmission Crossmember	1	—
4	912212-01	Transmission Crossmember Side Supports	2	—
5	912212-05	Front Brace-to-Floor Bracket	2	—
6	820168	Rear Brace Tubes	2	—
7	912212-04	Rear Brace-to-Floor Bracket	2	—
8	912212-09	Brace-to-Frame Plates	6	—
9	820160	Rear Crossmember	1	—
10	2000330	Bolt, 7/16" x 2", Transmission Mount	4	40 lb-ft
11	2000388	Flat Washer, 7/16", Transmission Mount	8	—
12	2000387	Nut, Nylock, 7/16" Transmission Mount	4	—
13	2000289	Bolt, 3/8" x 2.25", Brace-to-Floor Board	4	—
14	2000162	Flat Washer, 3/8", Floor Board*	16	—
15	2000371	Nut, Nylock, 3/8" Brace, Floor Board*	8	—
16	2000132	Bolt, 3/8" x 1.25", Brace Mock-up*	4	N/A

* Some of this hardware is used only during the mock-up procedure and is removed for welding.

Notice: The part positions listed above will be called out in this installation manual as a visual reference to their respective positions during the installation procedure. Refer to these pages during the installation.



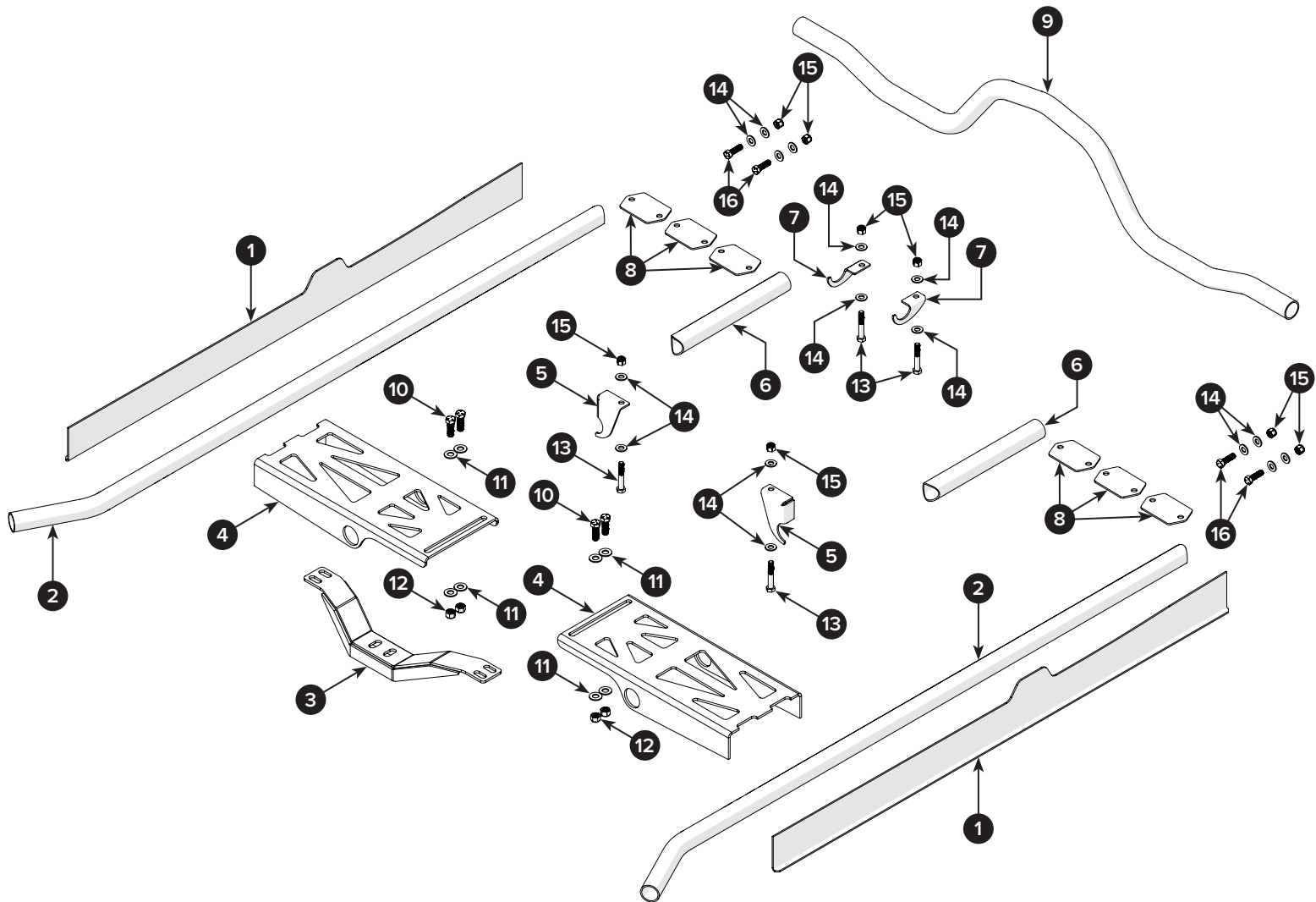
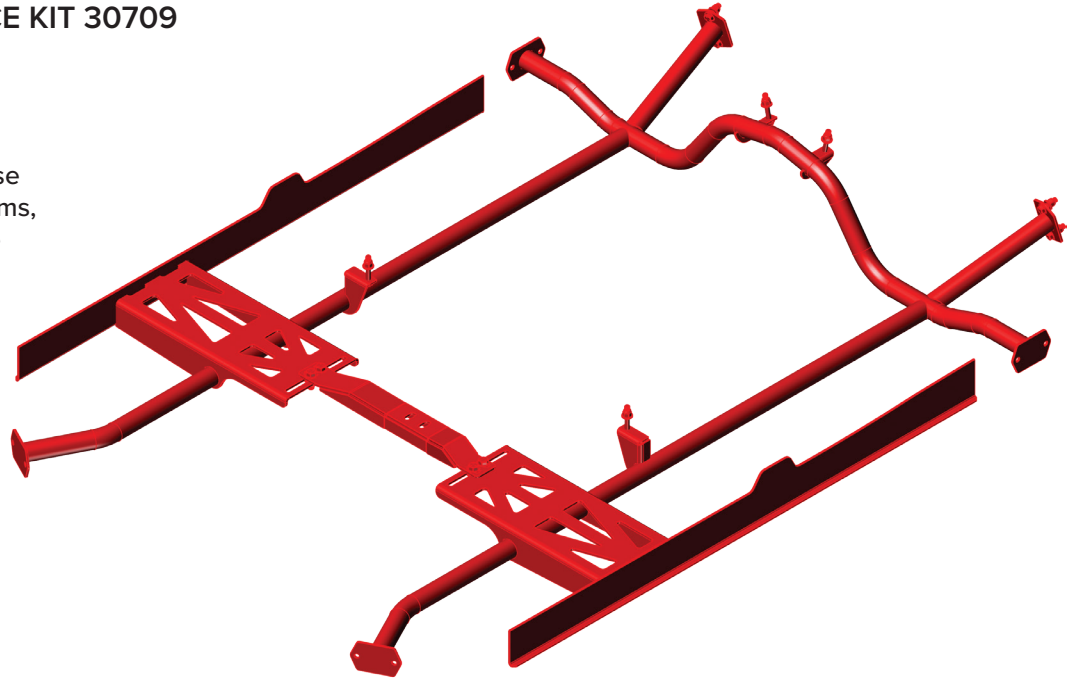
Print pages 4 and 5 for a quick parts reference guide.



64-67 GM A-BODY FRAME BRACE KIT 30709

Note: The frame brace kit shown is for illustrative purposes and represent the parts included in this kit.

While your parts may look different, these instructions apply across various platforms, and the kit is assembled using the same procedures as outlined.



64-67 GM A-BODY FRAME BRACE KIT 30709

POSITION	PART #	DESCRIPTION	QTY	TORQUE SPECIFICATION
1	912212-06	Frame Rail Boxing Plates	2	—
2	820163	Main Brace Tubes	2	—
3	912210-03	Transmission Crossmember	1	—
4	912212-01	Transmission Crossmember Side Supports	2	—
5	912212-05	Front Brace-to-Floor Bracket	2	—
6	820164	Rear Brace Tubes	2	—
7	912212-04	Rear Brace-to-Floor Bracket	2	—
8	912212-09	Brace-to-Frame Plates	6	—
9	820162	Rear Crossmember	1	—
10	2000330	Bolt, 7/16" x 2", Transmission Mount	4	40 lb-ft
11	2000388	Flat Washer, 7/16", Transmission Mount	8	—
12	2000387	Nut, Nylock, 7/16" Transmission Mount	4	—
13	2000289	Bolt, 3/8" x 2.25", Brace-to-Floor Board	4	—
14	2000162	Flat Washer, 3/8", Floor Board*	16	—
15	2000371	Nut, Nylock, 3/8" Brace, Floor Board*	8	—
16	2000132	Bolt, 3/8" x 1.25", Brace Mock-up*	4	N/A

* Some of this hardware is used only during the mock-up procedure and is removed for welding.

Notice: The part positions listed above will be called out in this installation manual as a visual reference to their respective positions during the installation procedure. Refer to these pages during the installation.



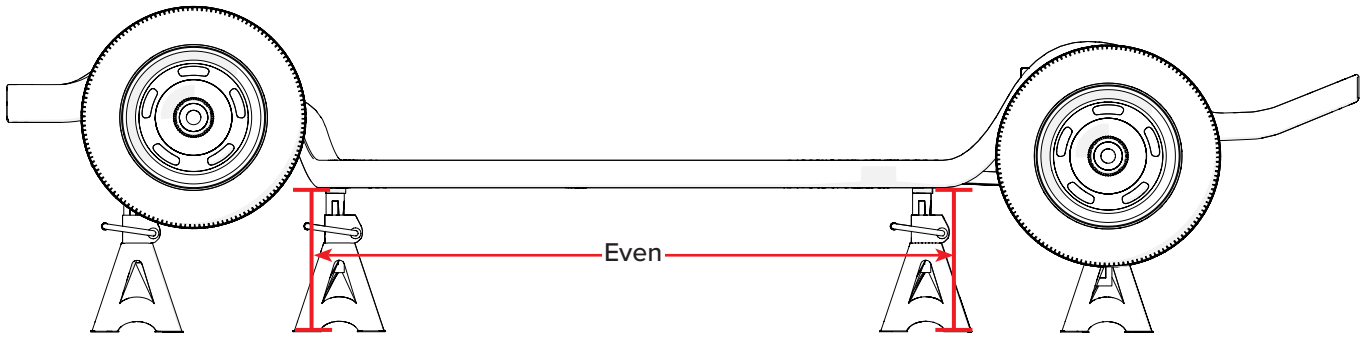
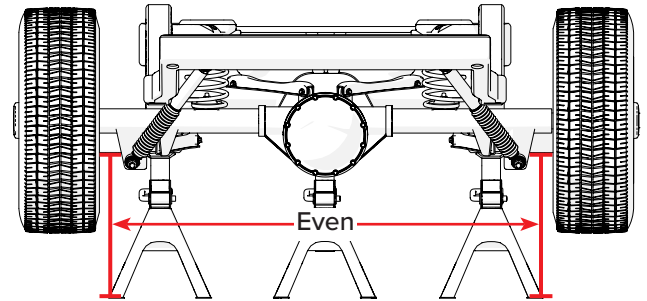
Print pages 6 and 7 for a quick parts reference guide.



Installer's Note: This guide uses images of the '68-'72 A-body frame brace kit. Your application may have a slightly different shape; the part is functionally the same and is installed in the same manner described.

- 1 Remove the body from the frame, then set the frame on jack stands (shown) or a chassis table on a flat and true surface. Support the front crossmember and rear axle to prevent frame distortion from the weight during mock-up.

Once the chassis is lifted and supported, the measurements must be the same from the left to right sides and from the front to rear sides.

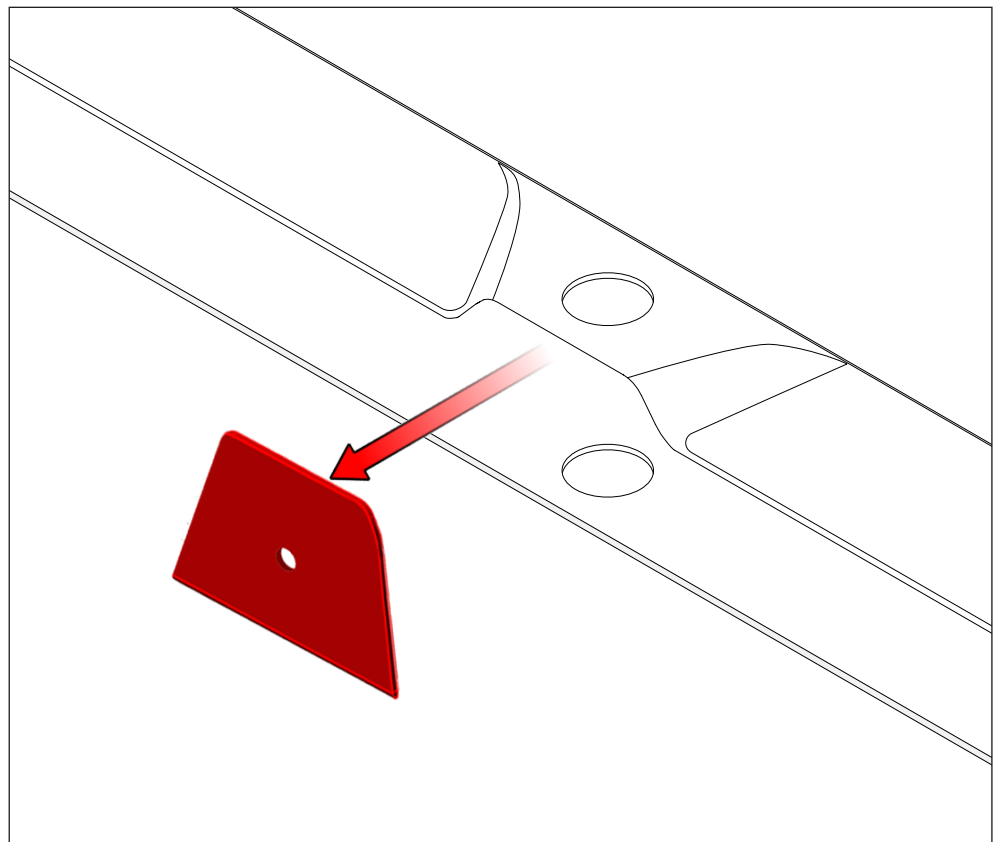


- 2 Remove the fuel and brake lines from the inner frame channels.

Then clean the frame's painted surfaces and remove rust and contaminants from areas where welding will occur.

The body brace section inside the frame and at the center body mount must be removed.

Use a cut-off tool to remove the body brace. Repeat the procedure from the other side of the frame.



3

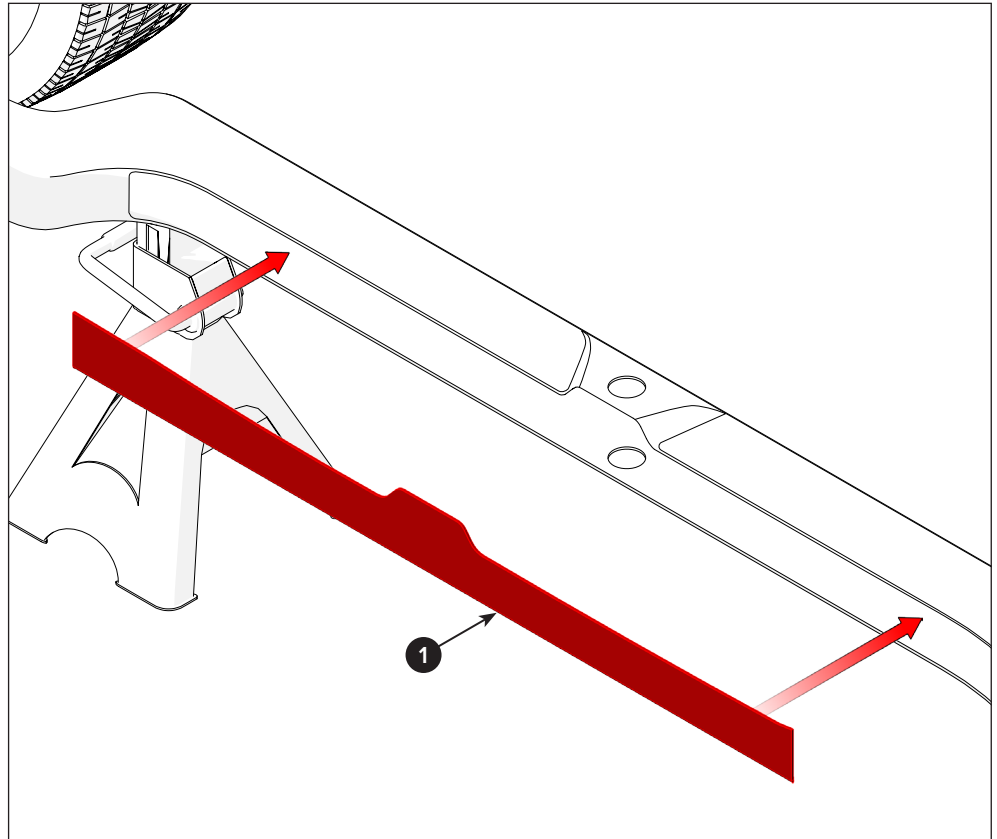
First, press the frame rail boxing plate (1) against the frame to compare the shapes. Straighten sloped, dipped, or bent frame surfaces to match the boxing plate as closely as possible.

Then, once the frame is as straight as possible, correctly position and tape the boxing plate to the frame.

Now, use the boxing plate as a guide and mark the frame around the boxing plate. Grind the shape of the boxing plate to match the frame.

Finally, remove the boxing plate and trim the frame to match the boxing plate. If needed, repeat the match and trim procedure until the best fit is achieved.

Reapply the boxing plate and verify that it lies flat against the frame.

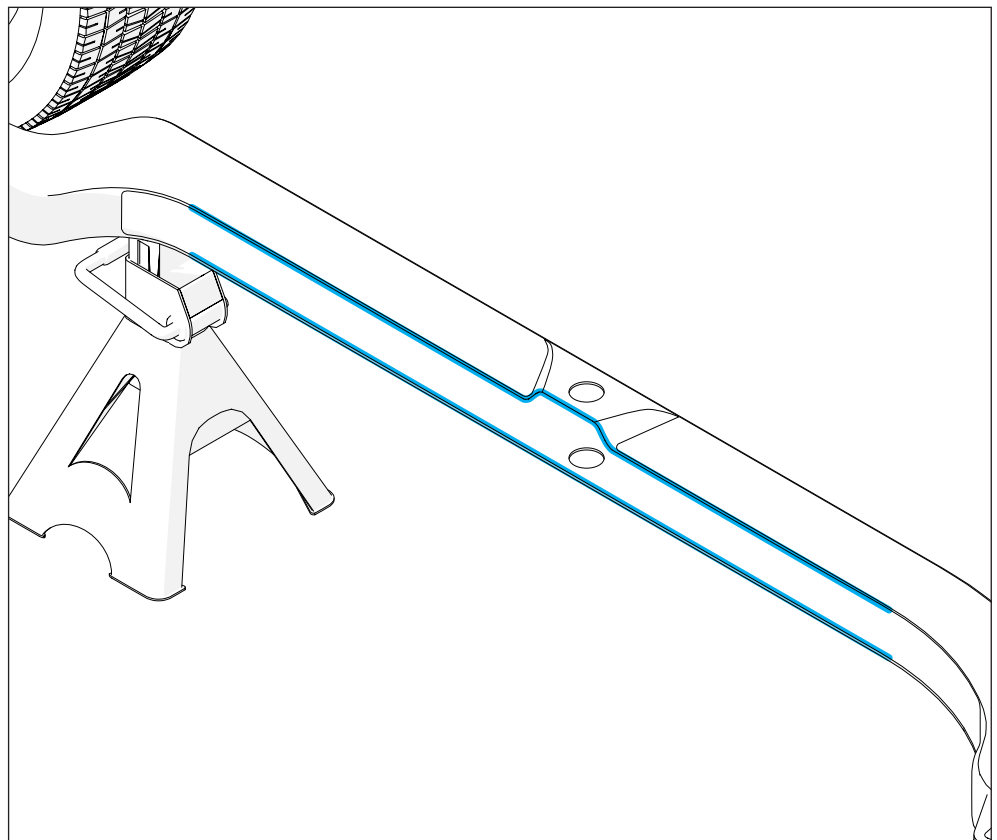
**4**

Once the boxing plate fitment is complete, prepare the metal panels for rust prevention. Proper metal preparation is crucial for quality, long-lasting welds.

First, grind the areas (highlighted in blue) to remove any paint, oxidation, and surface rust.

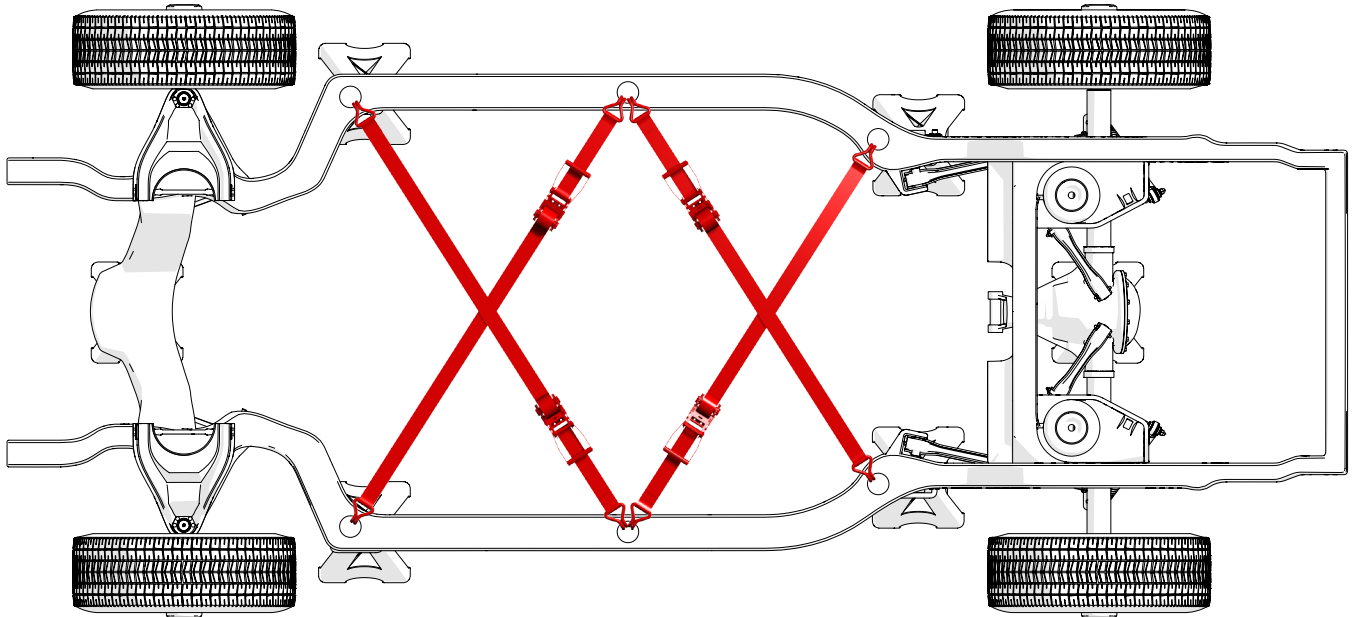
Next, use a prep solvent to wipe down all metal surfaces that will be welded.

Finally, allow the solvent to dry completely.



5 Welding can cause metal distortion and warping. When welding, the frame must remain square and true.

To remain square, triangulate the tension with ratchet cable winches or ratchet straps as shown below.



6 The bottom of the frame rail boxing plate has a 90° bend, which creates a strong, flat bottom edge. The slight bend is positioned inside of the frame's bottom face.

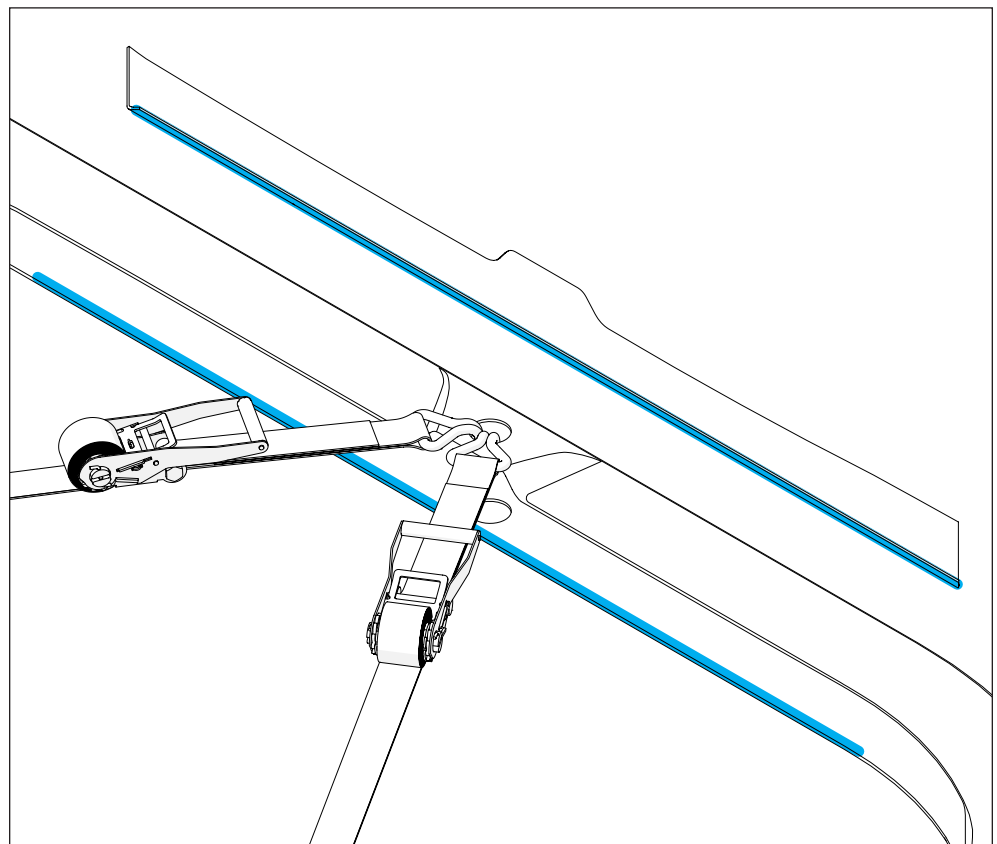
Grind the area to remove any surface rust or oxidation.

Now use a prep solvent and wipe down the surfaces where welding will occur.

Let the solvent thoroughly dry.

To prevent rust between the metal parts, it's recommended to apply weld-through primer in the areas that will touch as indicated in blue.

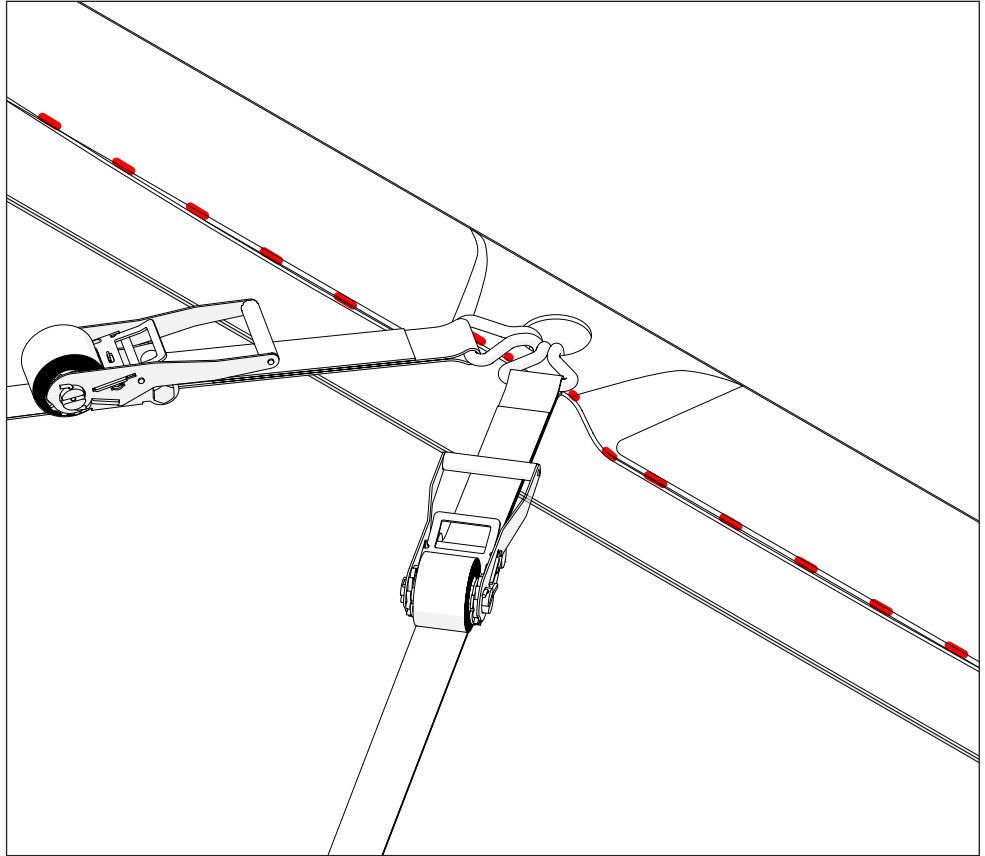
Notice: Follow the manufacturer's directions for the proper use of the weld-through primer.



7

Fit the top edge of the boxing plate against the top of the frame, then tack-weld the plate along the edge to hold it in place.

Note: Welding produces a lot of heat that can distort metal. Alternate the tack-weld locations to prevent panel distortion from heat. When an area is cool enough to touch, it is okay to weld again.

**8**

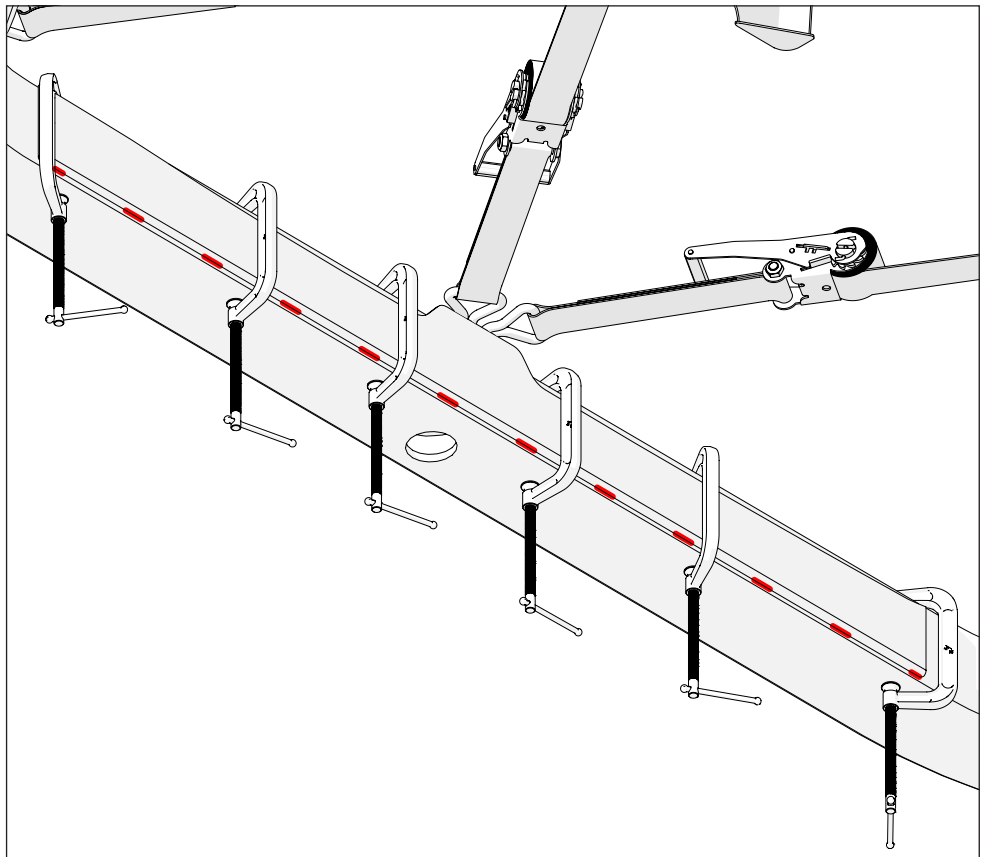
There will likely be gaps along the frame and boxing plate bottom edges. Work these areas so the bottoms of the frame and plate match. Large C-clamps and a hammer are recommended for this type of work.

Apply the clamps outside the areas that gap, then tap the bottom of the frame flat with a hammer where needed. Now tack-weld the boxing plate to the frame.

Repeat the clamp and tack-weld procedure toward each end of the boxing plate until it is fully attached to the frame. Once cool, remove the clamps.

Repeat the boxing plate installation for the other side.

Note: Welding produces a lot of heat that can distort metal. Alternate the tack-weld locations to prevent panel distortion from heat. When an area is cool enough to touch, it is okay to weld again.



In the majority of this installation, the body will need to be mounted to the frame for fitment and tack-welding. This ensures correct body-to-frame alignment after the final welding is completed.

- 9** Remove the ratchet straps once the tack-welding is complete and the frame is cool to the touch.

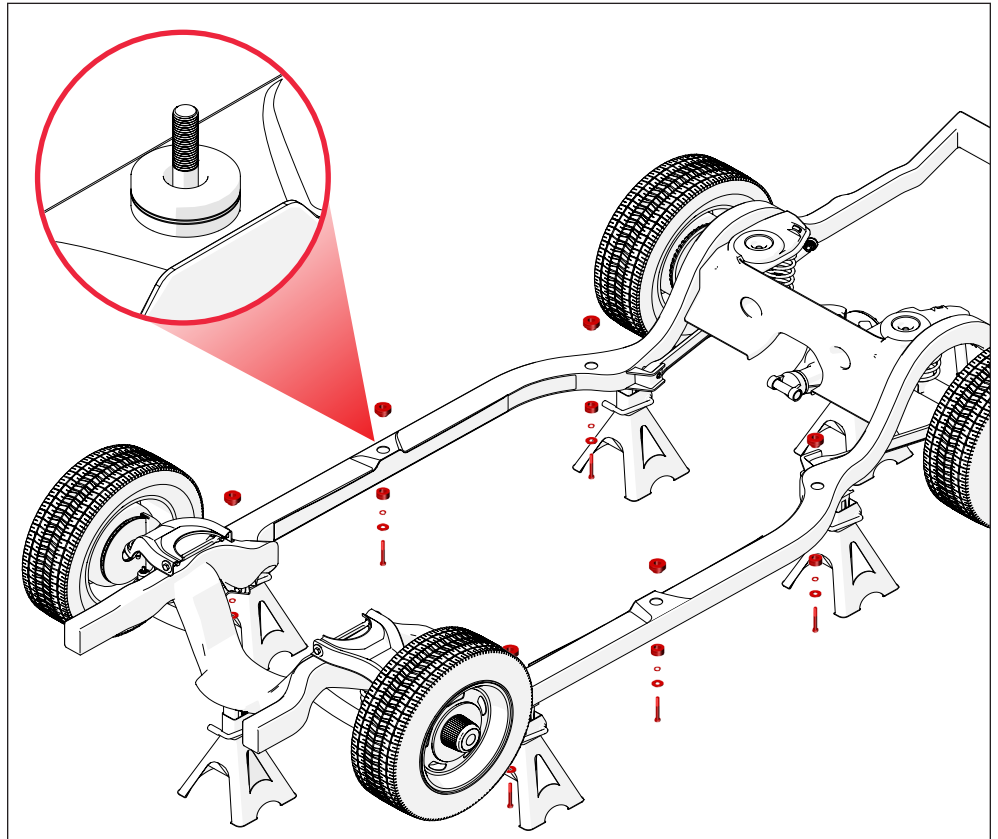
Position the body bushings then place the body on the frame. Attach the frame to the body with fasteners.



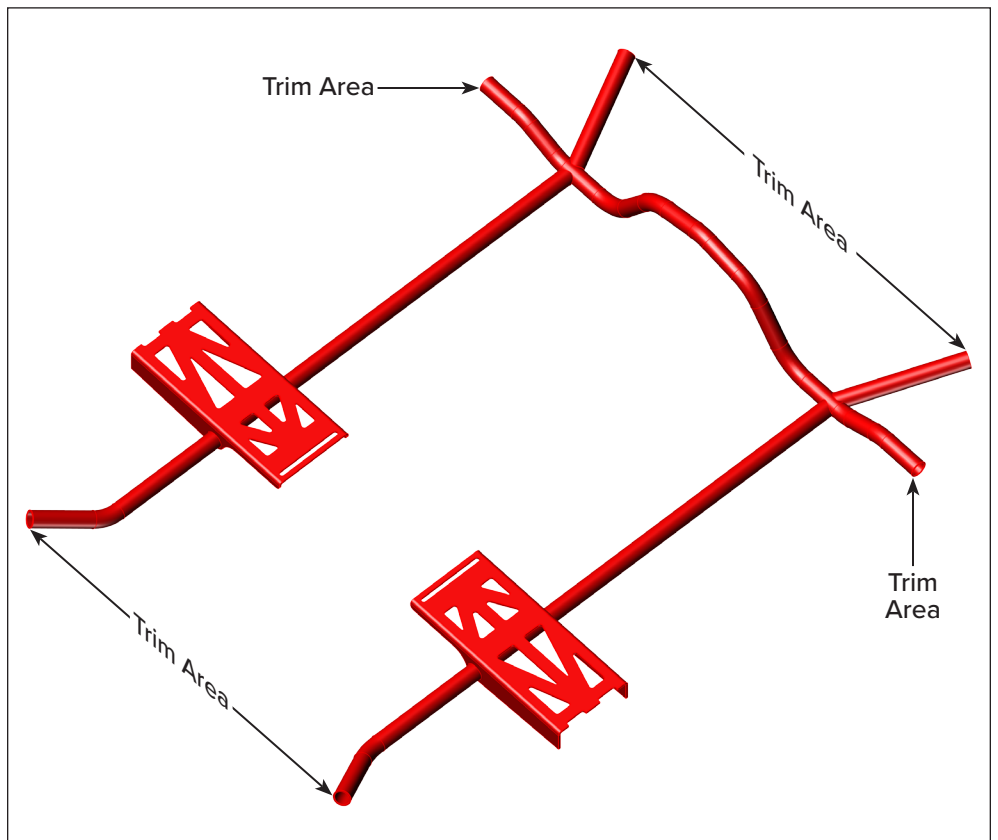
For optimum performance, Speedtech recommends the use of our solid body bushings.

This secure connection helps ensure proper body-to-frame alignment and additional frame brace placement with the correct clearance for the floor pan. The frame brace components are now ready for installation.

Installer's Note: This kit applies to multiple A-body vehicles, so this manual does not show the body to retain visual clarity.



- 10** Frame brace installation requires custom fitment of the main brace tubes to your particular frame. Each area where the brace tubes need customized fitment will have extra trim-to-fit material (Trim Area). Always measure twice and cut once!



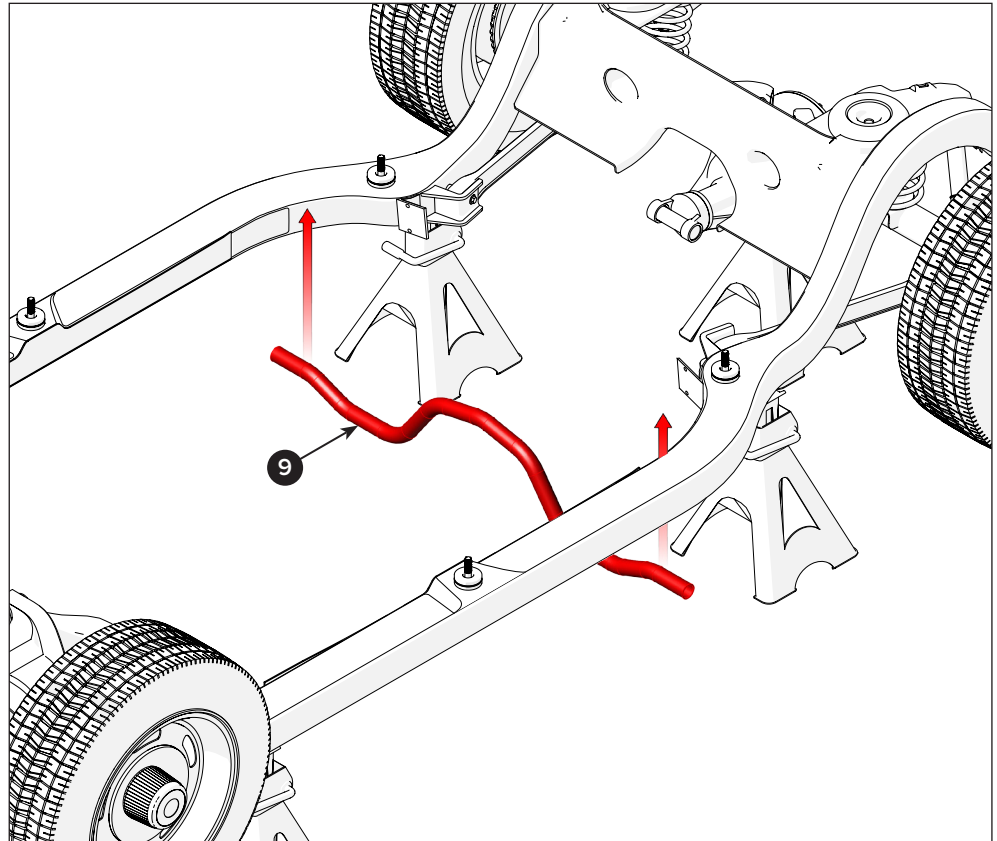
Installer's Note: Only tack-weld the pieces into place once the correct size and parts placement are determined.

Note: Because this kit is used for multiple applications, some pieces must be trimmed to fit your exact application.

11

Put the rear crossmember (9) in place between the frame channels.

Note: If the crossmember does not fit, the ends are long enough to be trimmed. If needed, equally rough trim the ends to fit between the frame channels.

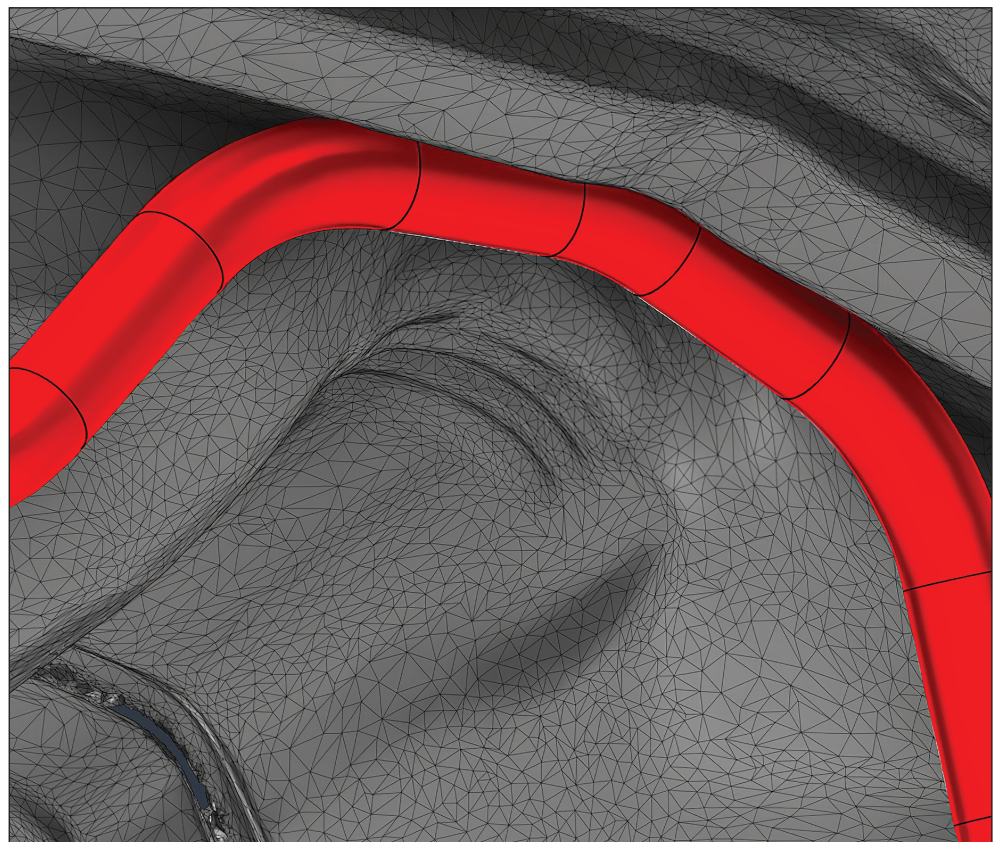


12

When correctly positioned, the rear crossmember will fit snugly against the floor, just in front of the brace that supports the floor hat channel directly under the rear seat area.

Note: Some vehicles will need some floor pan modification to tightly tuck the rear crossmember up and into its coordinating pocket in the floor pan.

This modification is most commonly needed on earlier model A-body vehicles.



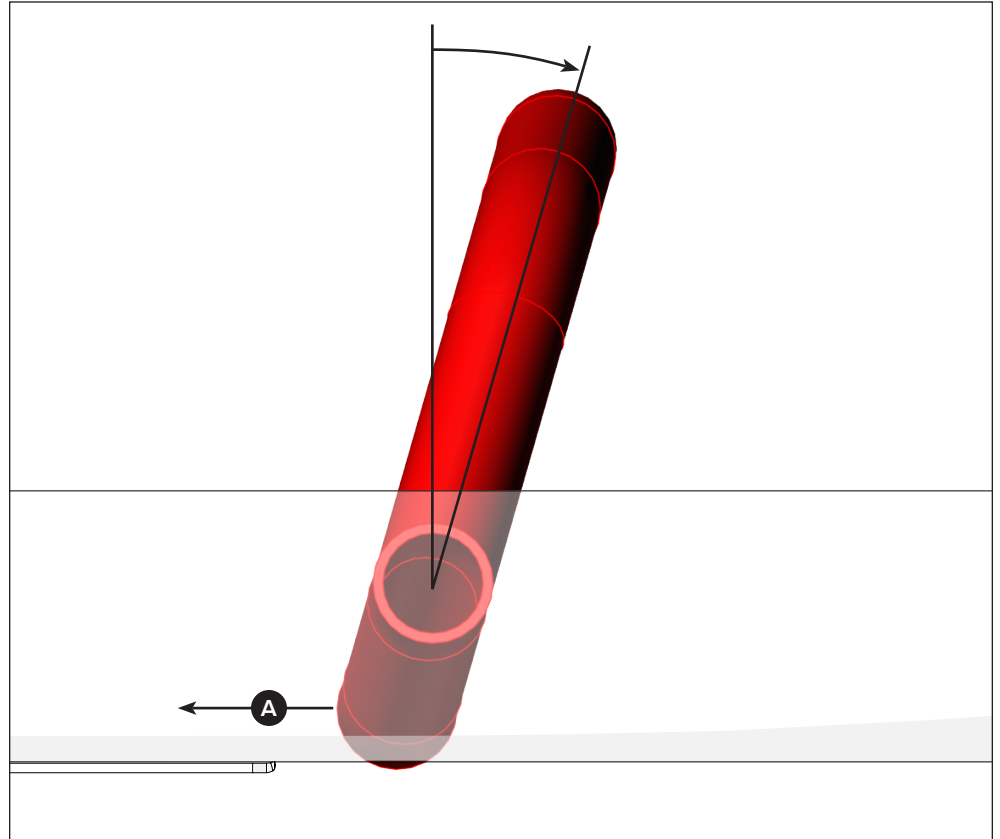
13

Now, center the crossmember hoop at the top of the tunnel.

Note: The crossmember is designed slightly offset from the center toward the vehicle's passenger (RH) side.

When correctly installed, the lower portion (A) of the crossmember angles forward and follows the contour of the rear floor to allow for optimum muffler clearance.

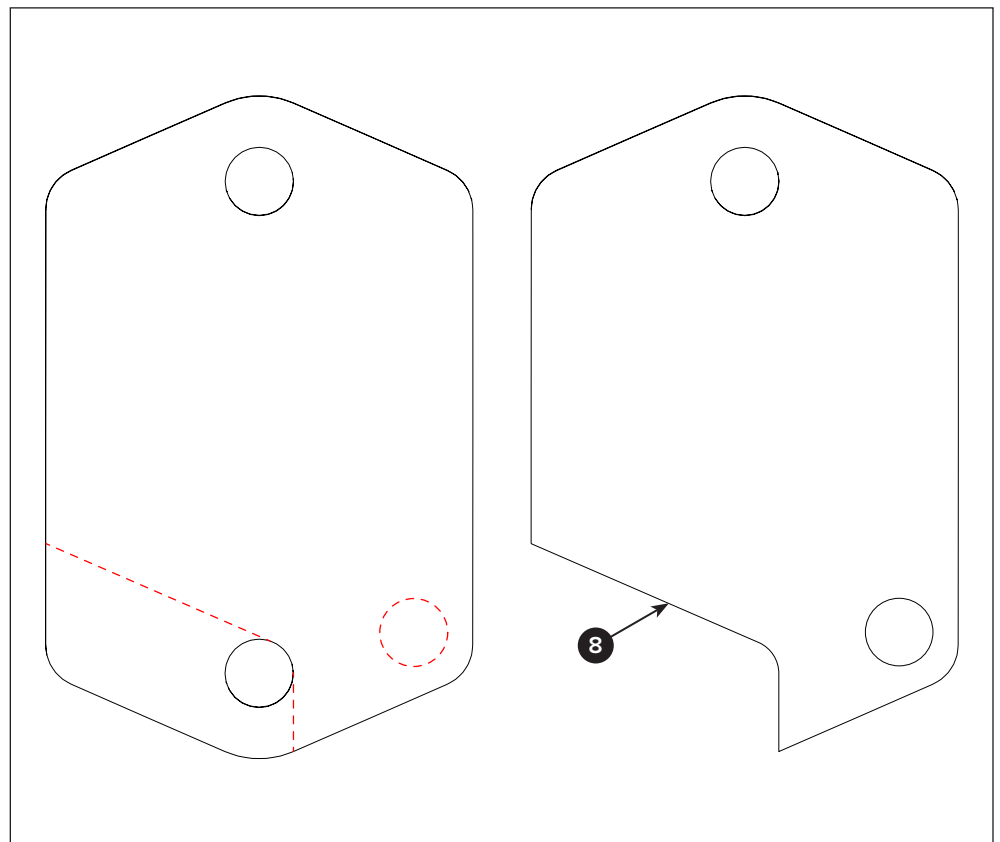
Note: Once the crossmember is correctly positioned, use jack stands, a floor jack, straps, or other supports to keep it in place. It will not be tack-welded until step 17.



14

The rear brace mount plates (8) are located at the factory cable mount used for the parking brake.

To reuse the factory brake cable system, notch the mount plate for the frame brace and drill a new hole as necessary (shown in red).



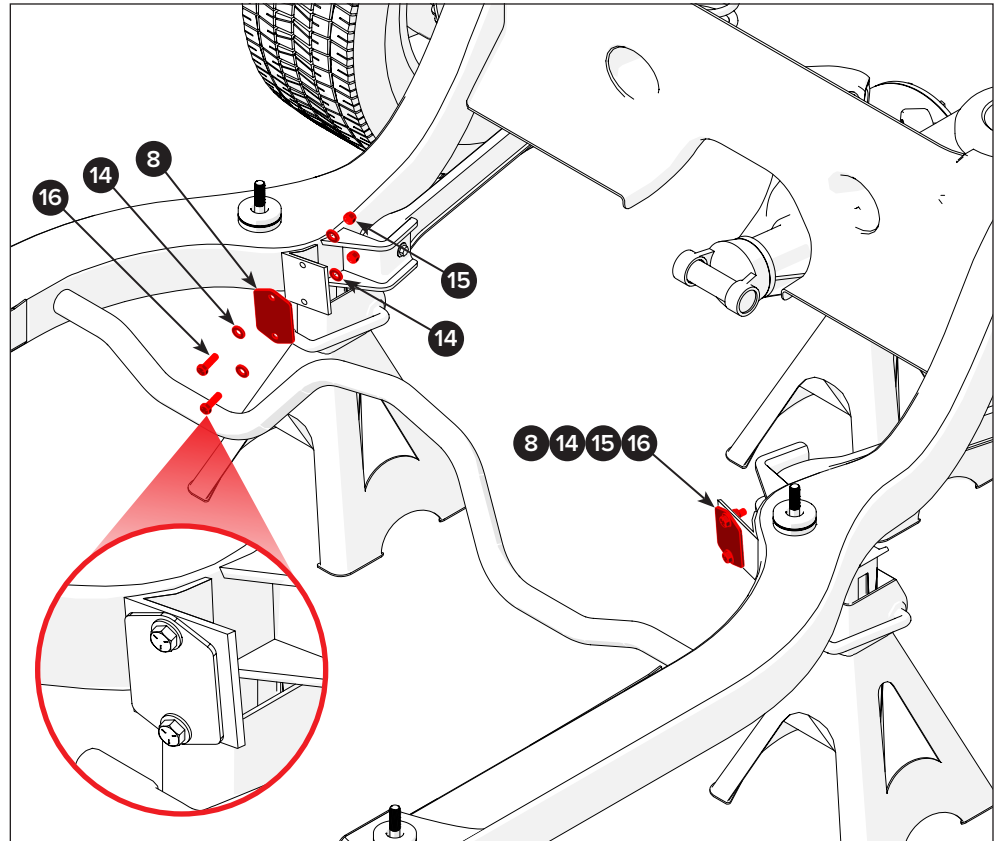
15

Temporarily fasten two brace-to-frame plates (8) at the rear of the lower trailing arm mounts.

Use four bolts (16), eight flat washers (14), and four Nylock nuts (15) to mount the brace plates through the e-brake cable hole at the top.

Note: For clarity of illustration, the remaining images in this manual show the rear brace plates unnotched, unlike the notched version described in step 16.

Use the notched brace plate to use the factory parking brake cable.

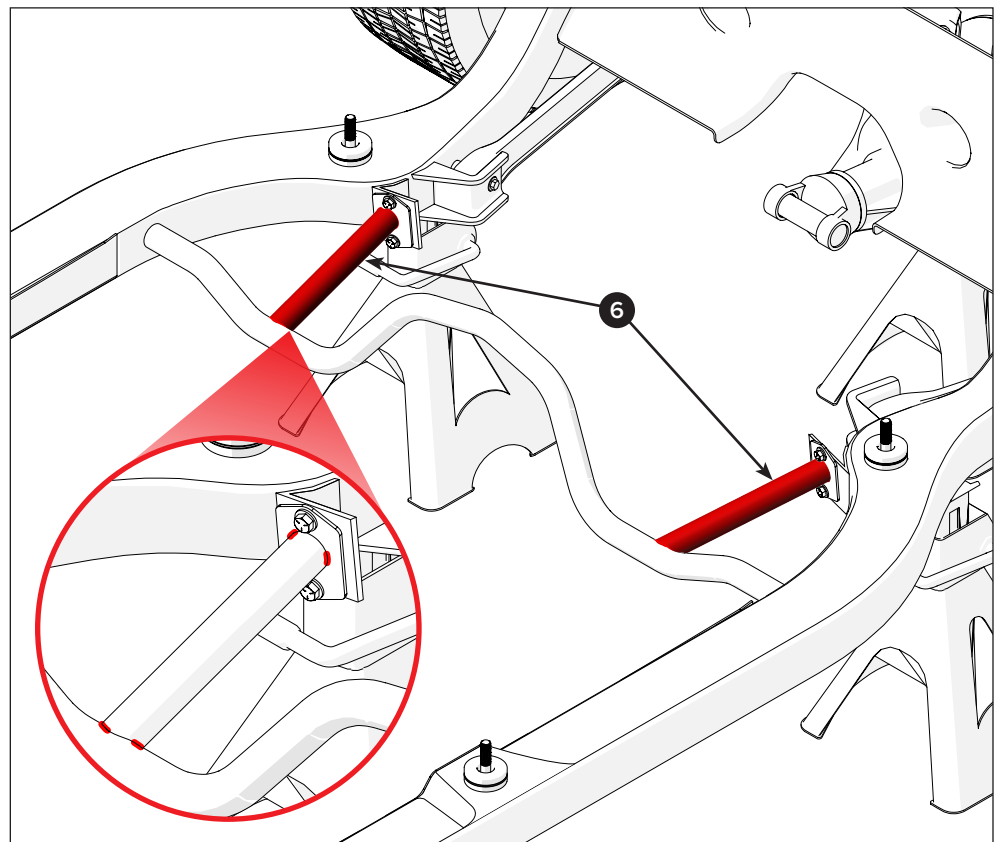


16

Position the rear brace tubes (6) and tack-weld them to the plates at the rear of the tubes and the crossmember.

The front of the brace tubes are notched to fit the rear crossmember snugly.

Note: The brace ends are long enough to trim if the rear brace tubes do not fit.

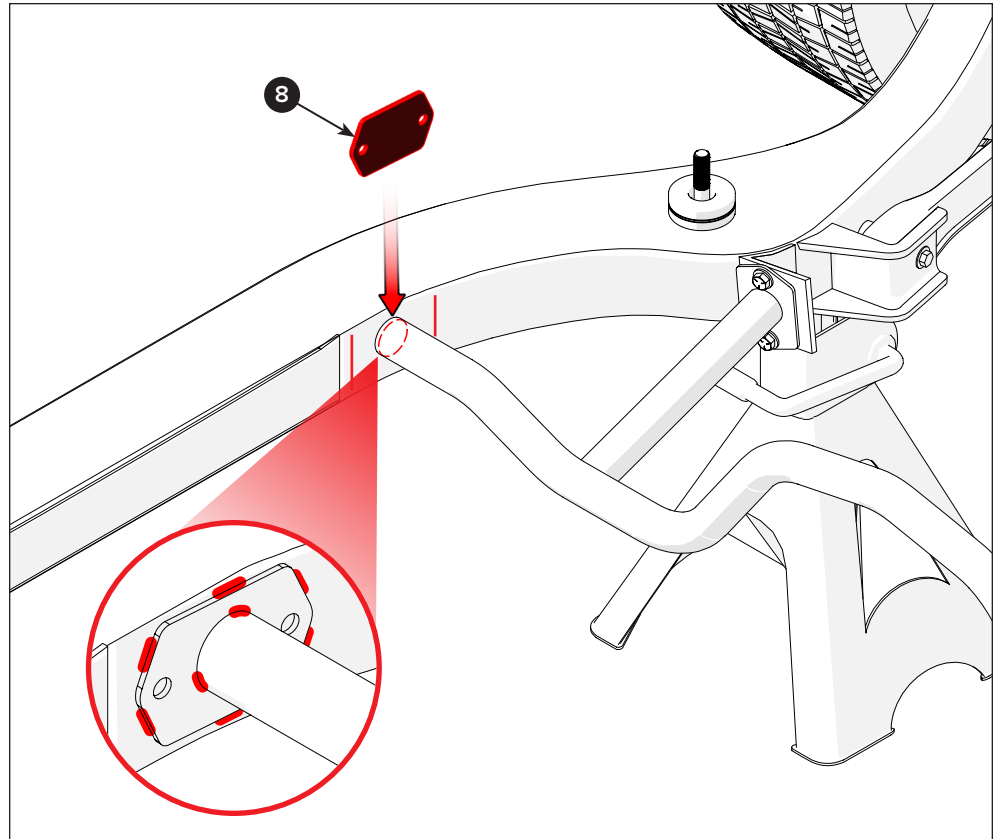


17 Mark the frame where the left and right crossmember brace-to-frame plates (8) must be positioned.

Note: If needed, slightly bend the plates to match the contour of the frame.

Now mark and trim the ends of the crossmember to fit tightly to the brace plates.

Once fitted, tack-weld the plates to the frame and crossmember.



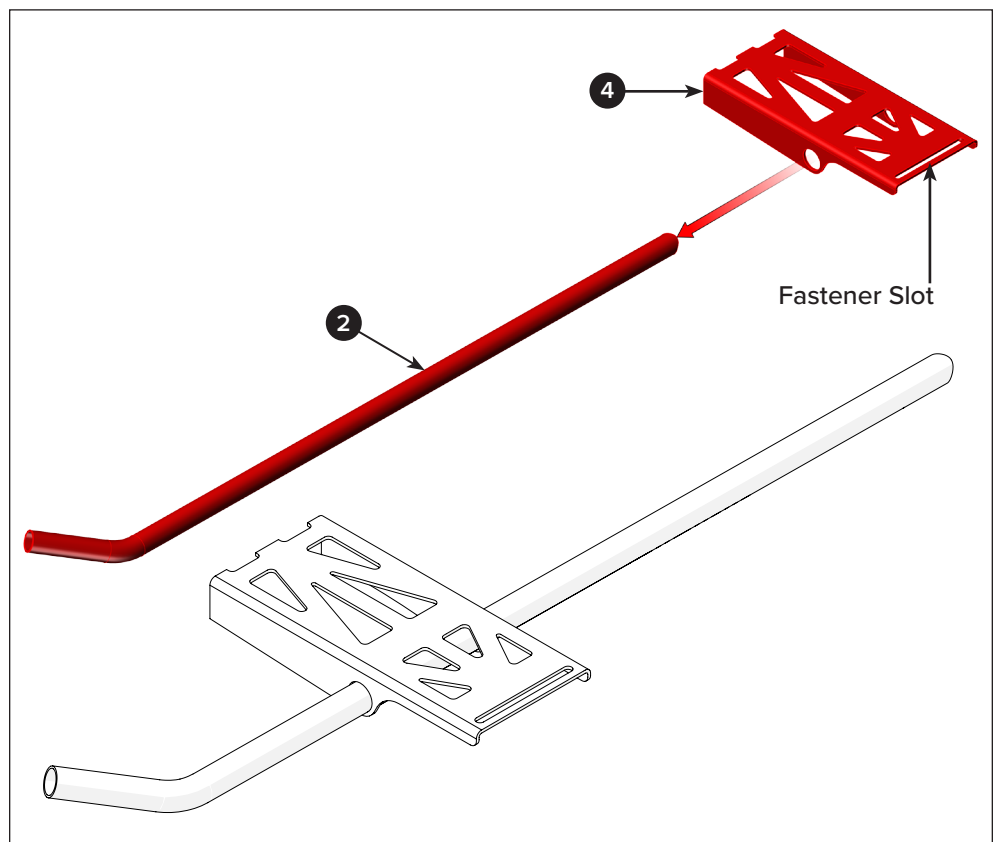
Installer's Note: The main brace tubes must be parallel to the frame and to each other for maximum strength and structural rigidity.

18 Due to the complexity of this brace fitment, install only one main brace tube (2) at a time (RH side shown).

Slide a transmission crossmember side support (4) onto the side tube before fitting the tube into place. The fastener slot on the support must face inward.

Repeat the installation for the other LH (driver) side, then put the main brace tubes into place.

Note: The side support must be added before welding the main brace tube to the front brace mount or rear crossmember!



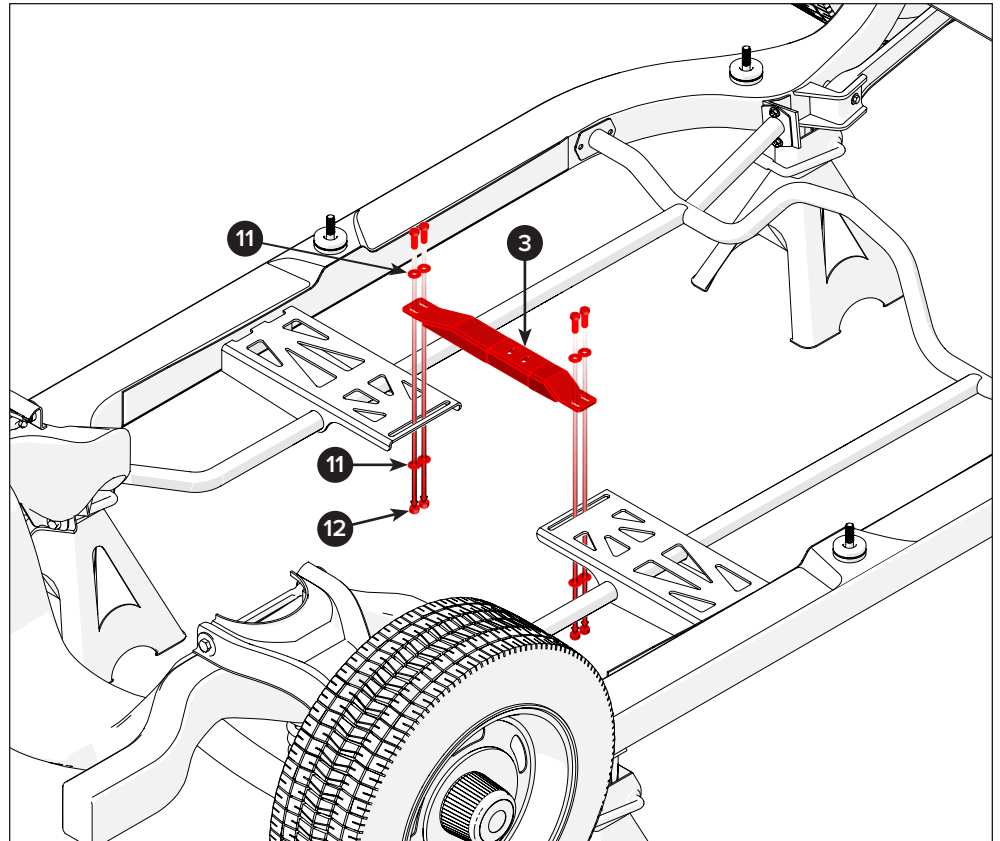
19

First, position both side supports in place and verify that the main brace tubes are parallel to the frame.

Next, position and fasten the center transmission crossmember (3) to the middle of the slots in the crossmember support. Use four bolts (10), eight flat washers (11), and four Nylock nuts (12).

To keep the crossmember supports level for future welding, snug the hardware, but do not tighten it at this time.

Note: Some adjustments may be required in the rear footwell area to ensure the side tubes fit correctly to the rear crossmember.

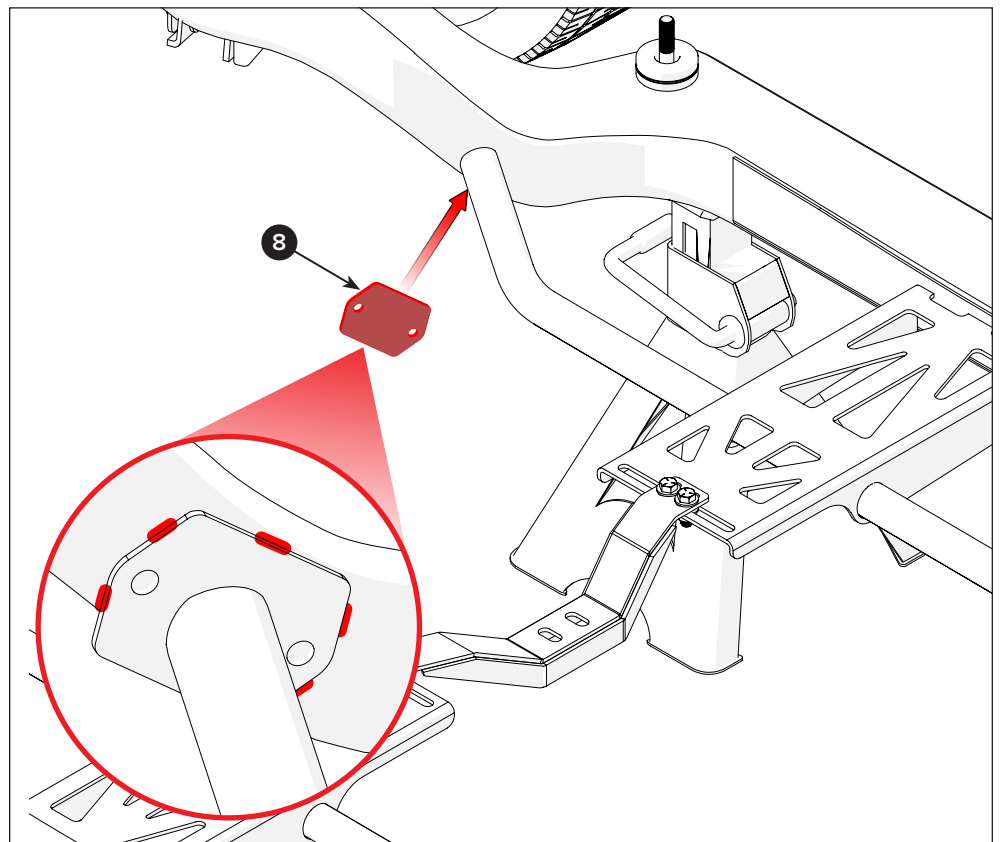
**20**

The front horn of the main brace tubes must be welded to the frame-to-brace plates (8).

Trim the front end of the brace tubes for a custom fit, and allow room for the brace plates between the frame and the brace tubes.

Tack-weld or use a self-tap screw to keep the plates in position.

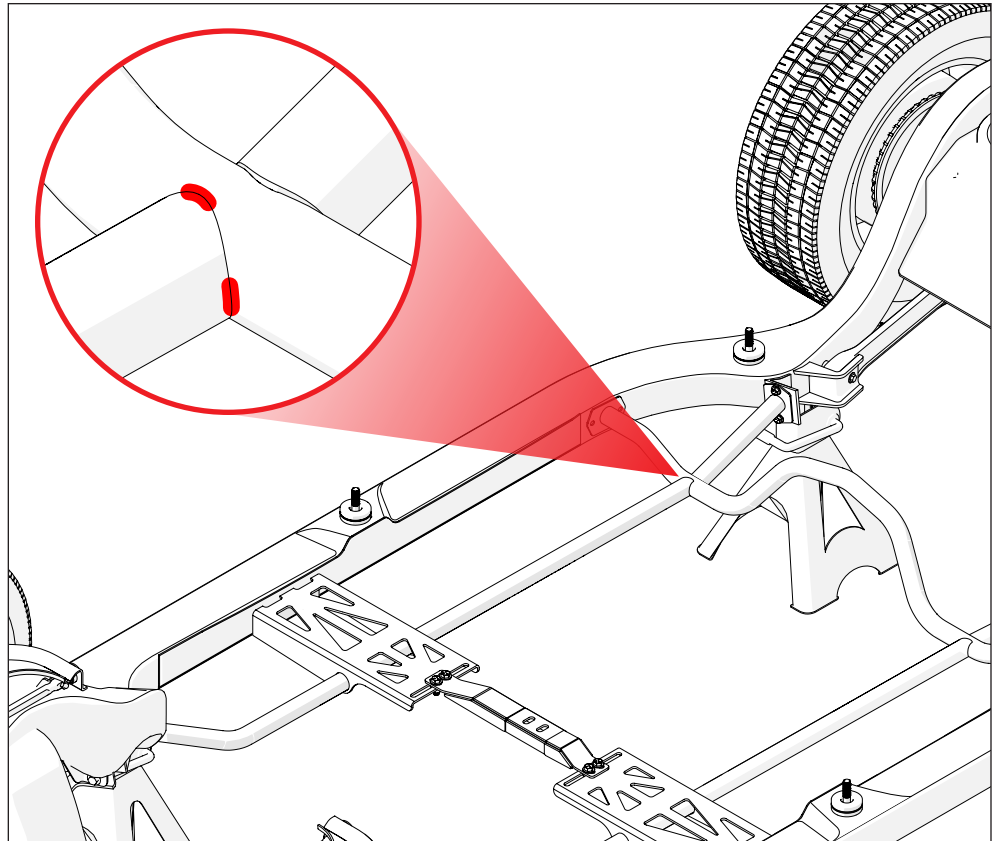
Note: If needed, slightly bend the plates to match the contour of the frame.



21

The rear of the main brace tubes are notched for a tight fit to the rear crossmember.

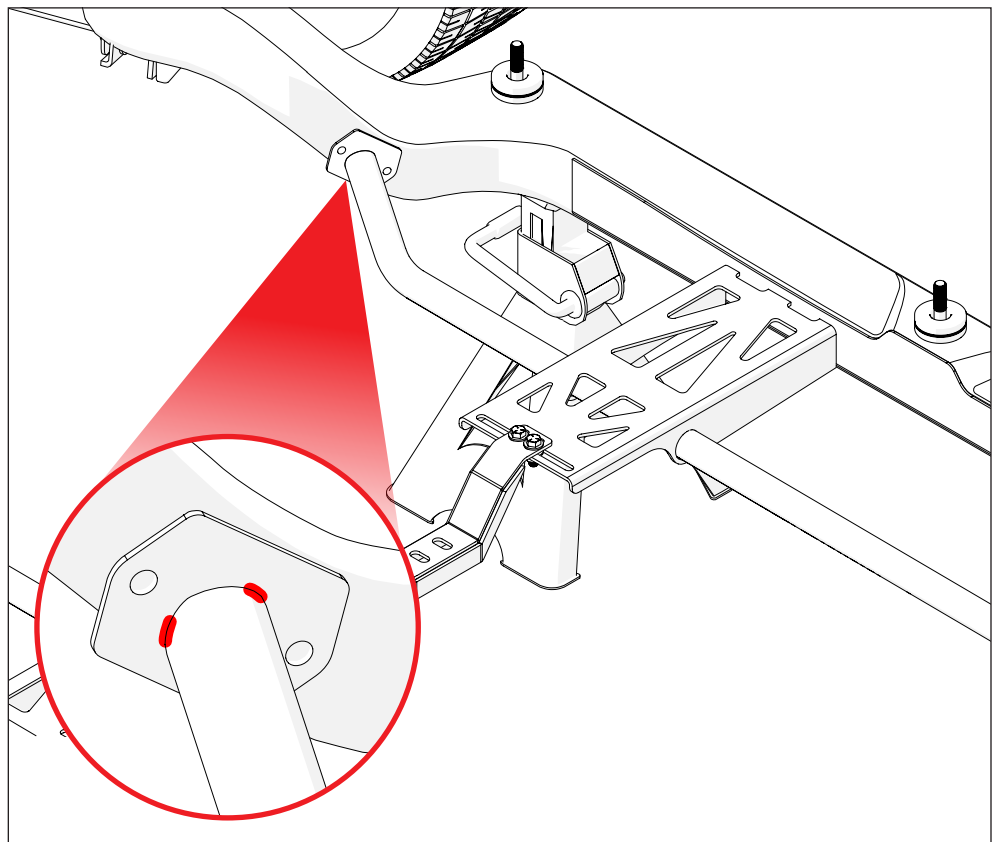
Once aligned, tack-weld the notched rear of the main brace tubes to the rear crossmember.



22

Tack-weld the front of the main brace tubes to the mount plates.

Note: Do not tack-weld either of the transmission crossmember supports at this time!



23

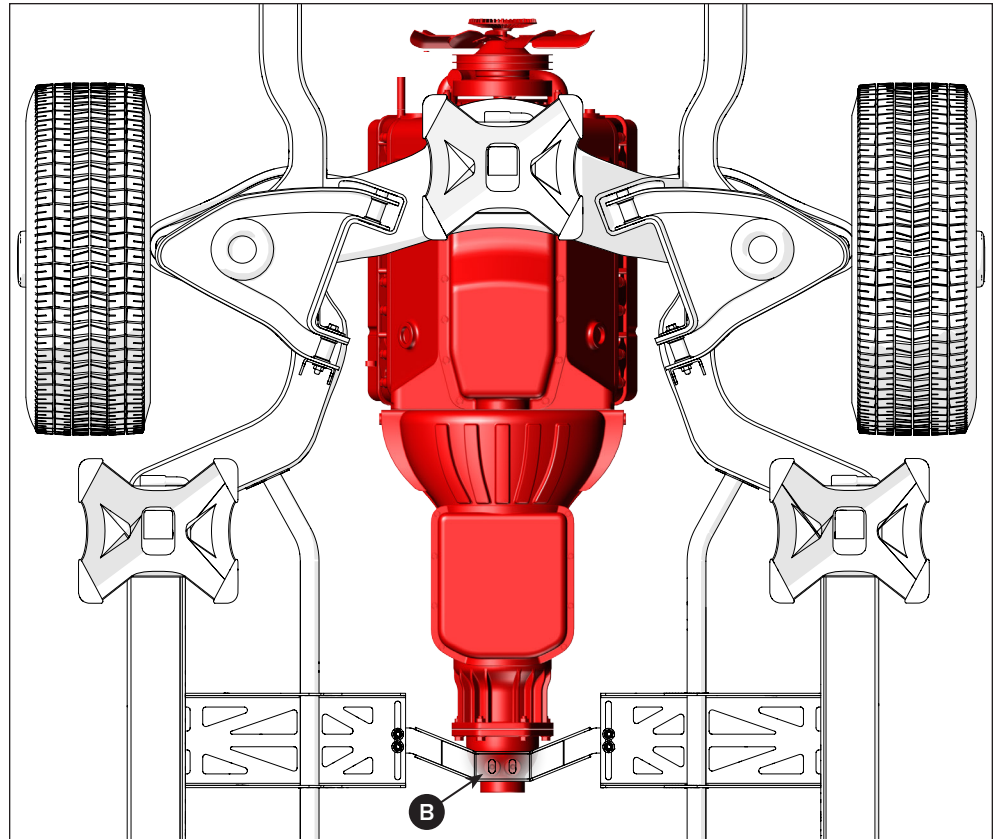
Reinstall the engine and transmission assembly into the frame, or measure the distance to where the transmission mount will be placed.

Align the center crossmember with the transmission mount pad.

Make sure the transmission crossmember side supports and crossmember is centered in line with the transmission mount pad (B).

When positioned correctly, the bolt slots on the crossmember will align with the bolt holes in the transmission mount pad. This alignment allows for adjustment flexibility for any future transmission changes.

Note: If the engine and transmission are already installed, they must be supported from underneath the crossmember to prevent any frame distortion from the weight.

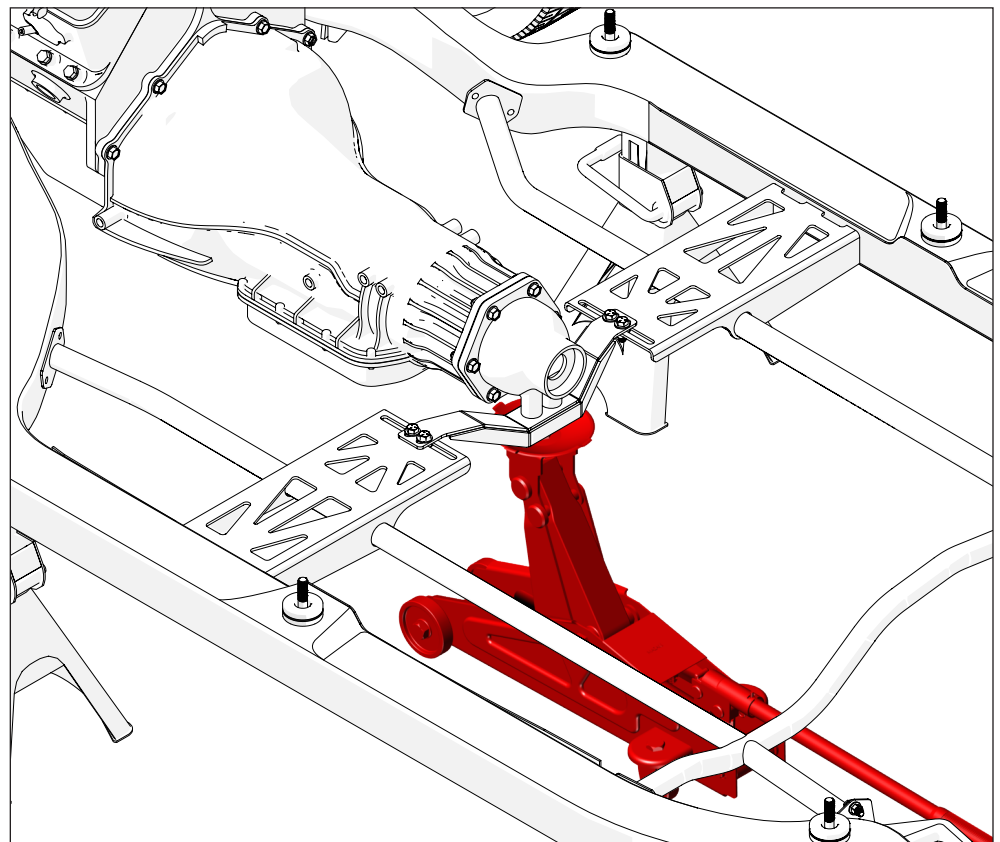


24

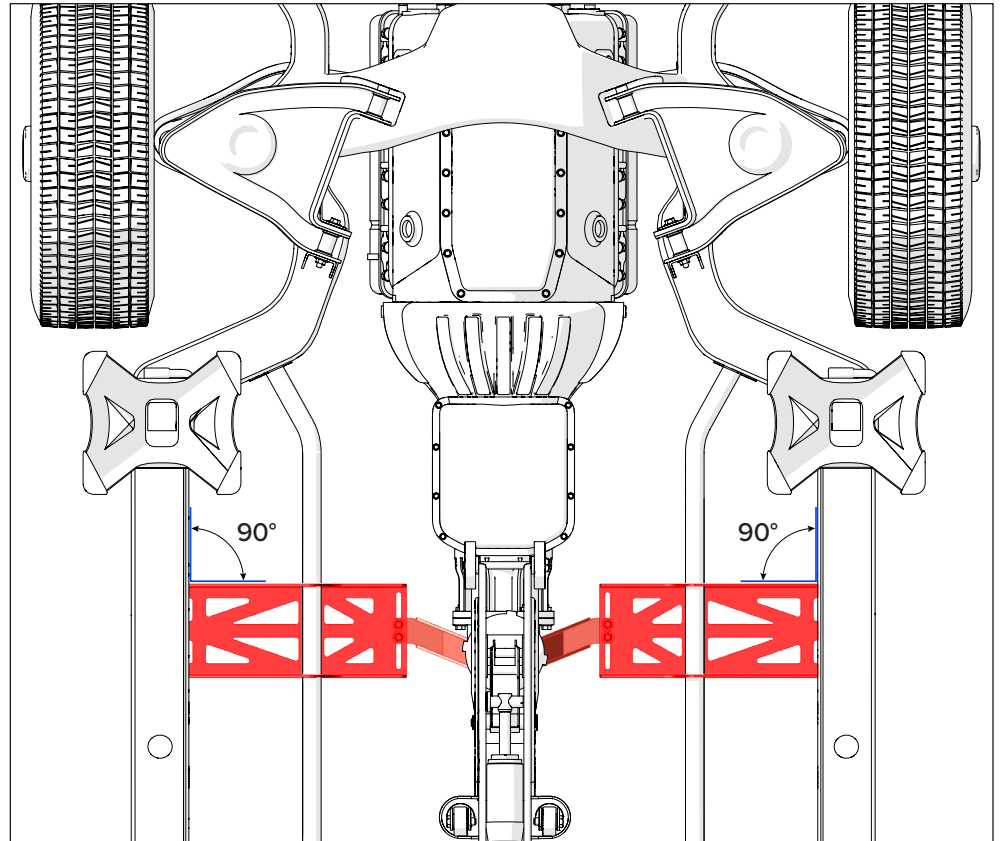
Bolt the center crossmember to the transmission and support it with a proper stand or transmission jack.

When correctly aligned, the transmission side supports will be nearly flush and level to the side frame channels.

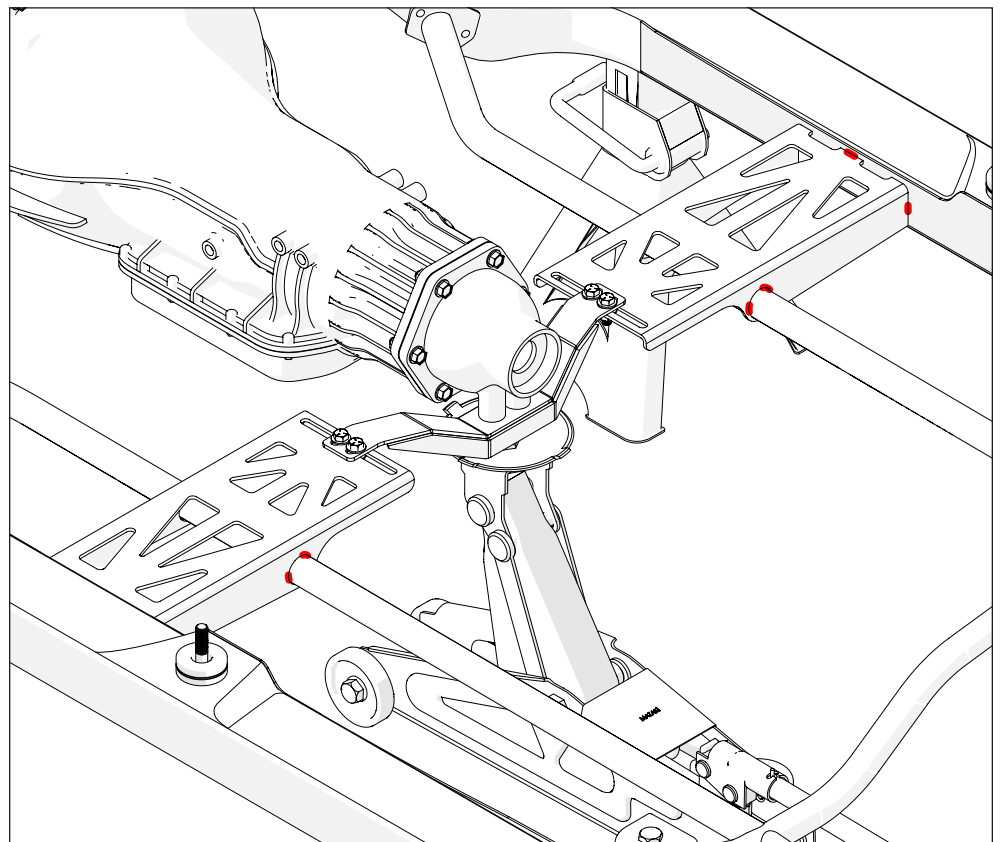
Now, tack-weld the transmission crossmember supports to the frame and main brace tubes.



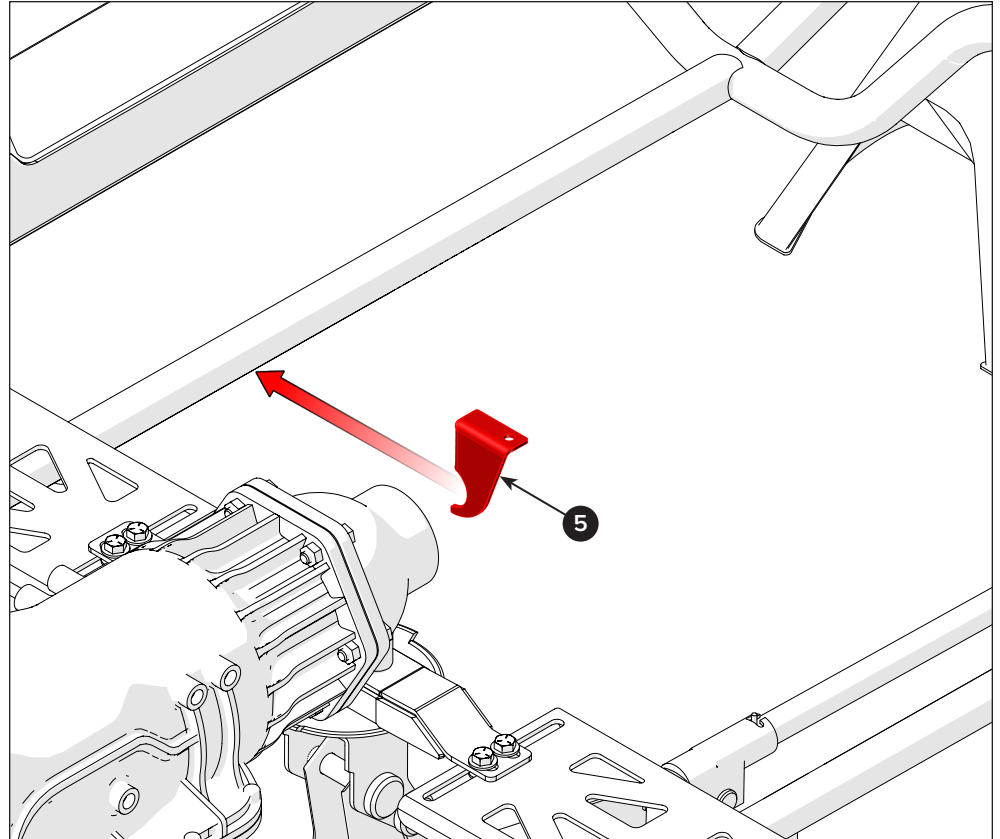
- 25** When correctly aligned, the transmission side supports are square to the side frame channels. If the sides are not perpendicular to the frame, tab and adjust them with a rubber mallet until they achieve parity.



- 26** With the transmission side supports aligned and flush to the frame and main brace tubes, tack-weld the transmission side supports to the frame and main brace tubes.



- 27** Put the front brace-to-floor brackets (5) onto the main brace tubes and against the factory's floor pan support.



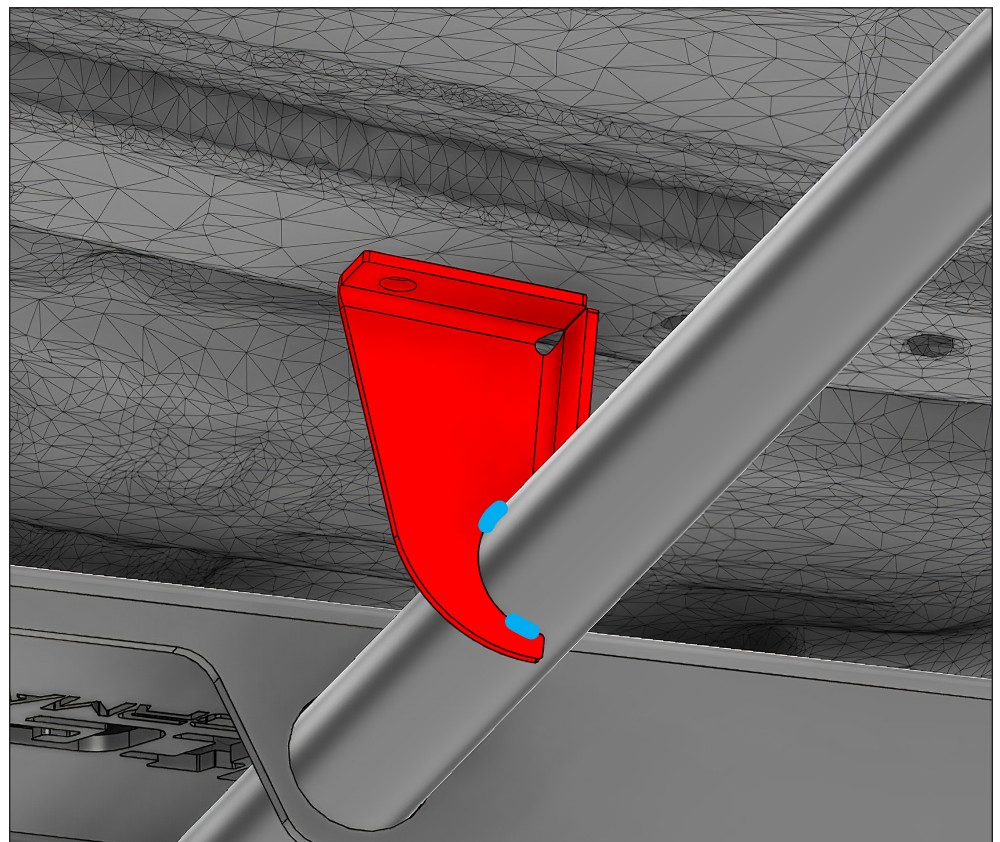
- 28** Make sure the brackets are square to the floor pan and perpendicular to the main frame brace tubes.

Tack-weld the braces to the main brace tubes (shown in blue).

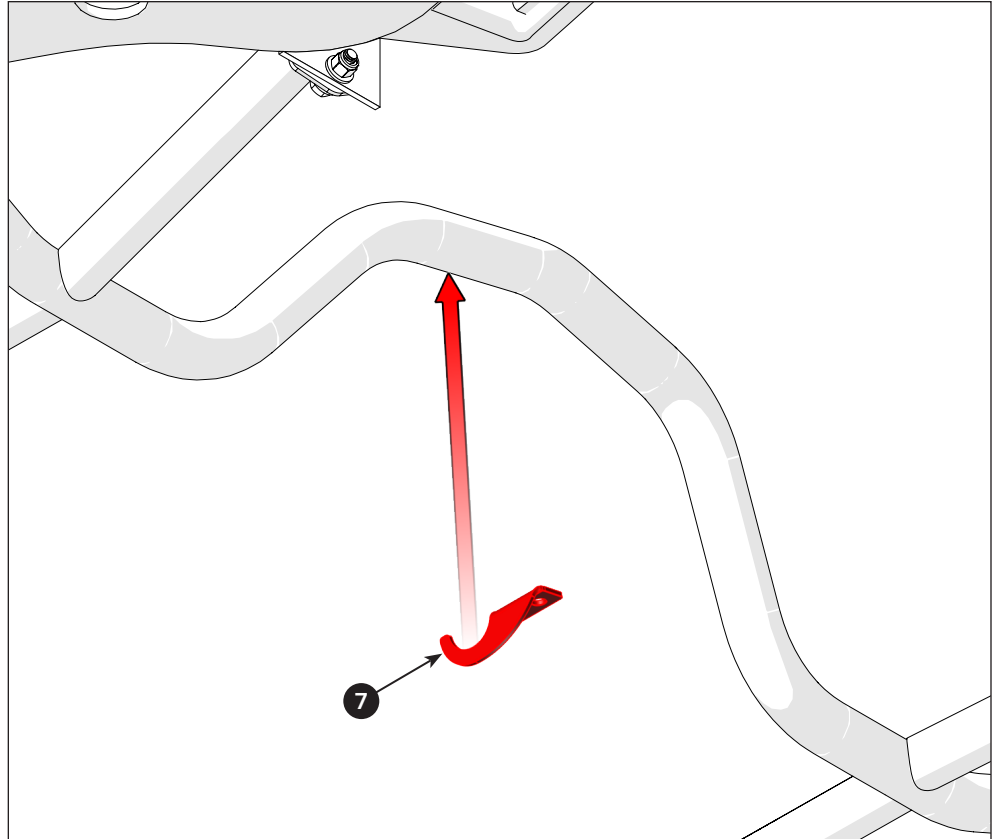
Do not weld the brackets to the floor pan as they bolt into the floor pan with the provided hardware.

Note: The larger mount plates are located on the front of the main brace tubes and just behind the transmission crossmember.

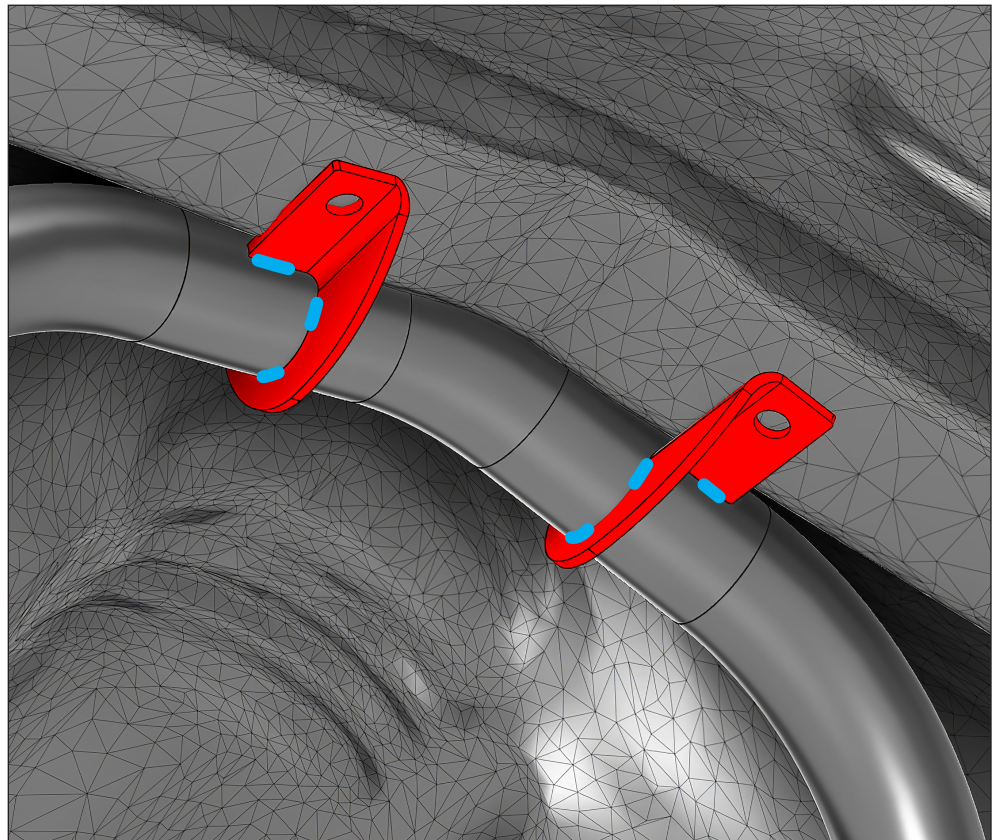
The smaller mount plates are located at the peak of the rear crossmember.



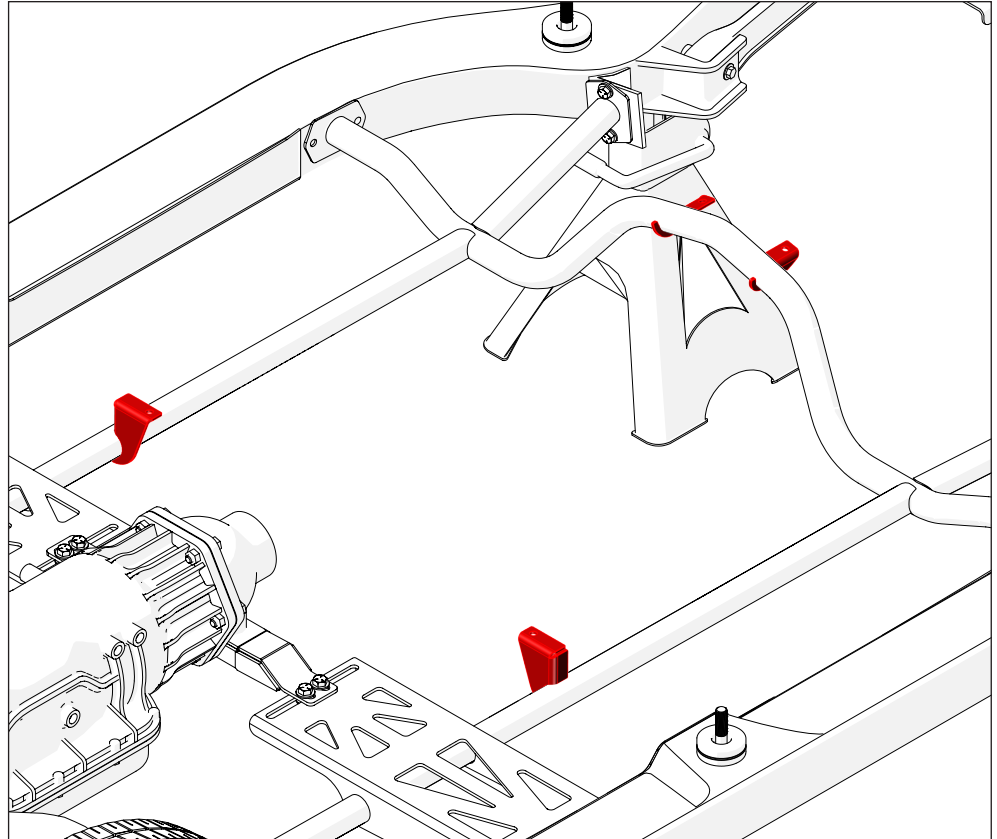
- 29** Put the rear brace-to-floor brackets (7) onto the rear crossmember peak and against the factory floor pan support.



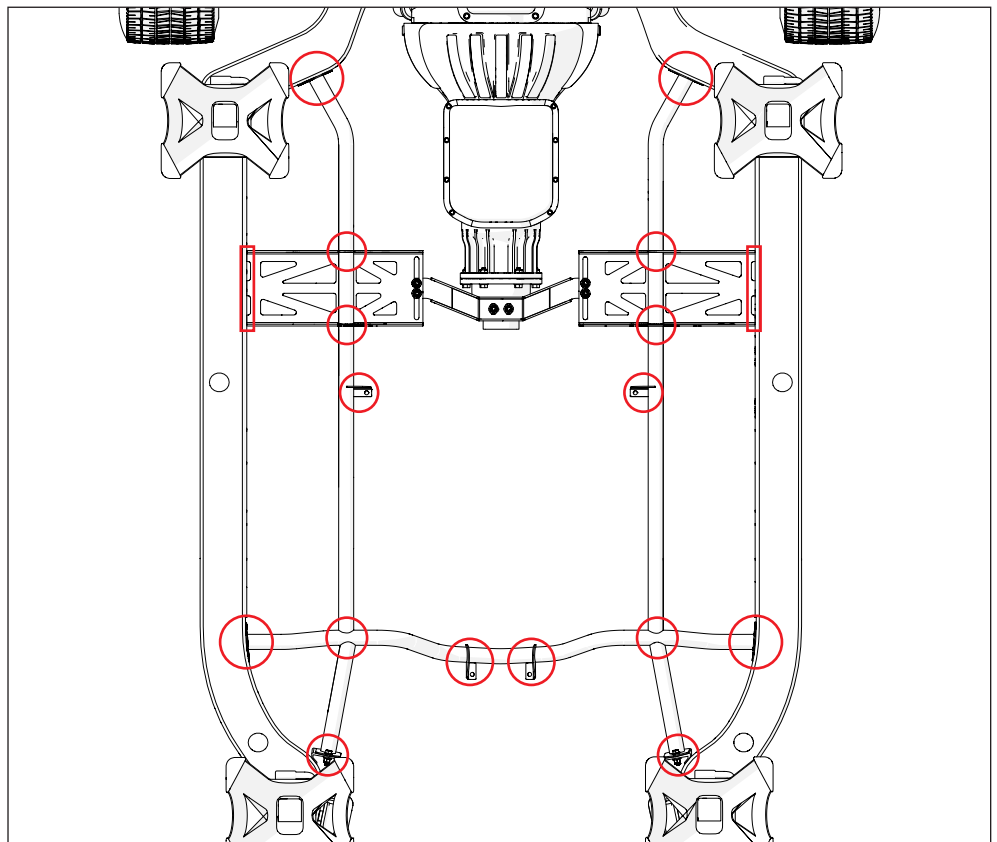
- 30** Make sure the brackets are square to the floor pan and perpendicular to the main frame brace tubes.
- Tack-weld the braces to the rear crossmember.
- Do not weld the brackets to the floor pan as they are bolted into the floor pan with the provided hardware.



- 31** Examine and verify that all brace-to-floor brackets are correctly in position and snug to the floor's factory pan supports.



- 32** Examine all joint locations circled in red to make sure they are securely tack-welded together before the body is removed for final welding. Once all tack-welds are confirmed, remove the body for final welding.



33

It is advisable to reattach the straps to triangulate the frame.

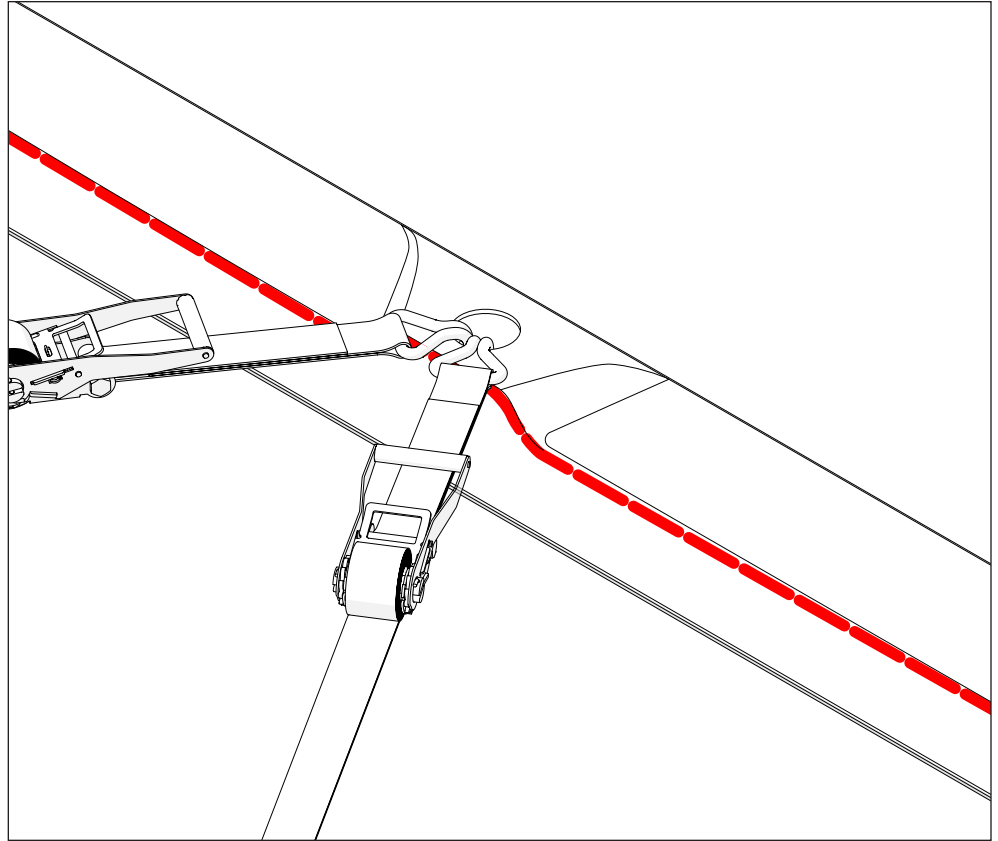
This frame triangulation prevents frame movement or warpage of the frame when the body is removed.

With the body removed and the straps reattached, proceed to the final welding (marked in red).

Weld along the top edge of the boxing plate to the frame.

Move from front to back and side to side as you weld in 2-3" increments. Take breaks as necessary and let the metal cool to the touch during this final welding procedure.

Note: Do not weld large areas all at once, as this will cause the frame metal to distort or warp and cause frame-to-body misalignment.

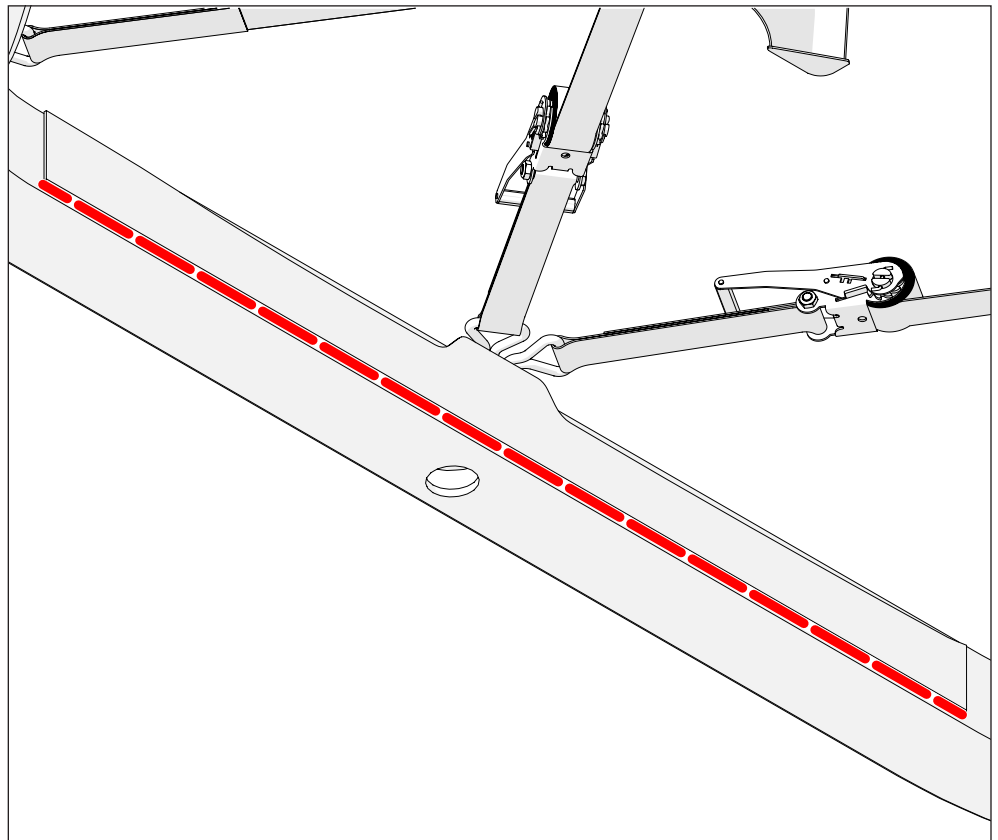


34

Weld along the bottom edge of the boxing plate to the frame.

Move from front to back and side to side as you weld in 2-3" increments. Take breaks as necessary and let the metal cool to the touch during this final welding procedure.

When the frame box welding is done, use the grinder to smooth the welds if desired.

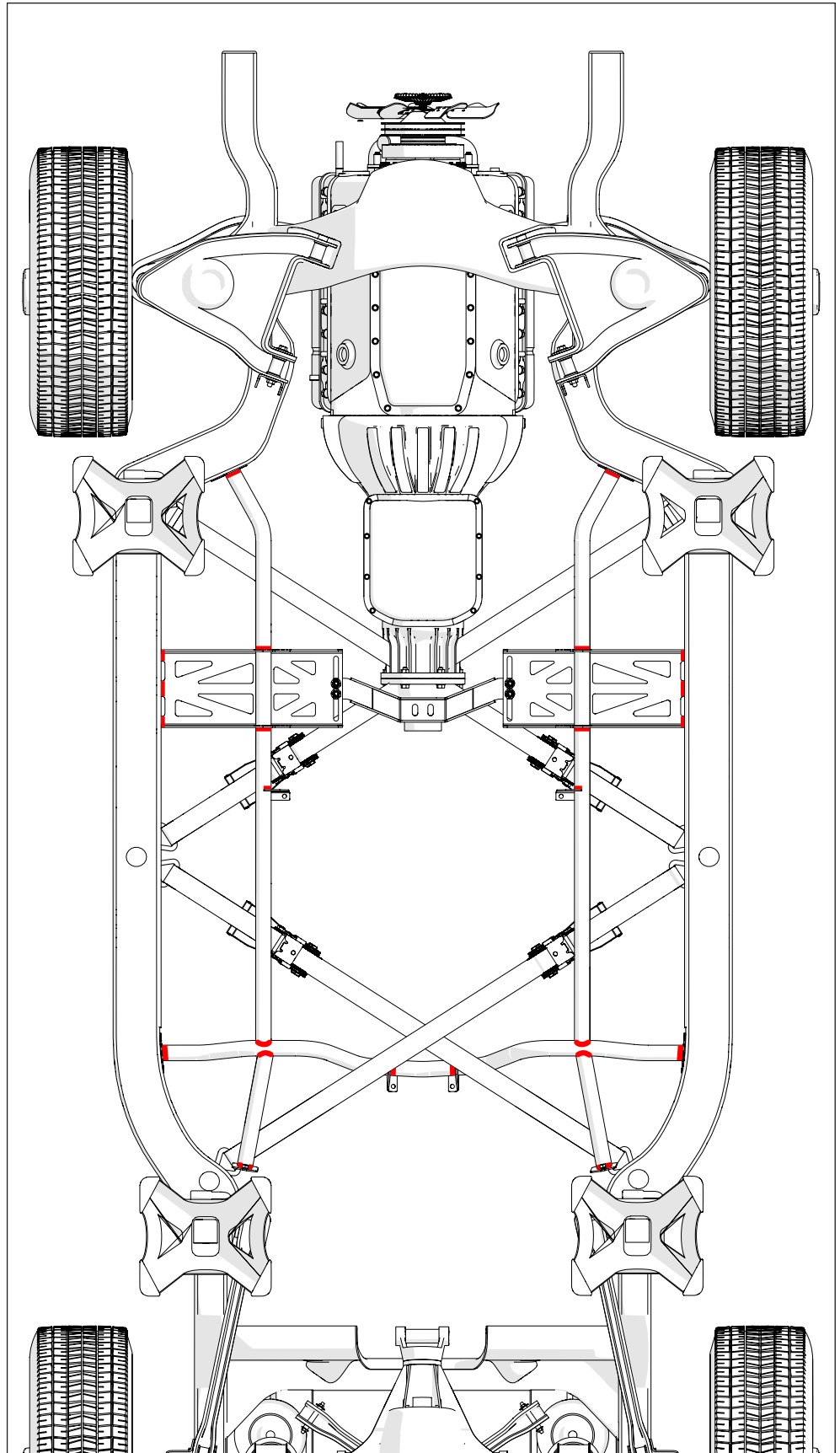


35

After welding is completed, protect your newly installed frame brace kit: Clean, prep, and paint it!

Alternatively, this would be a good time to have the entire frame blasted and powder-coated.

Note: Remember to weld in smaller increments and move around from front to back and side to side. This welding technique lets the welded areas cool to prevent distortion.



36 The final steps are done from inside and outside the vehicle, so reinstall the body to proceed.

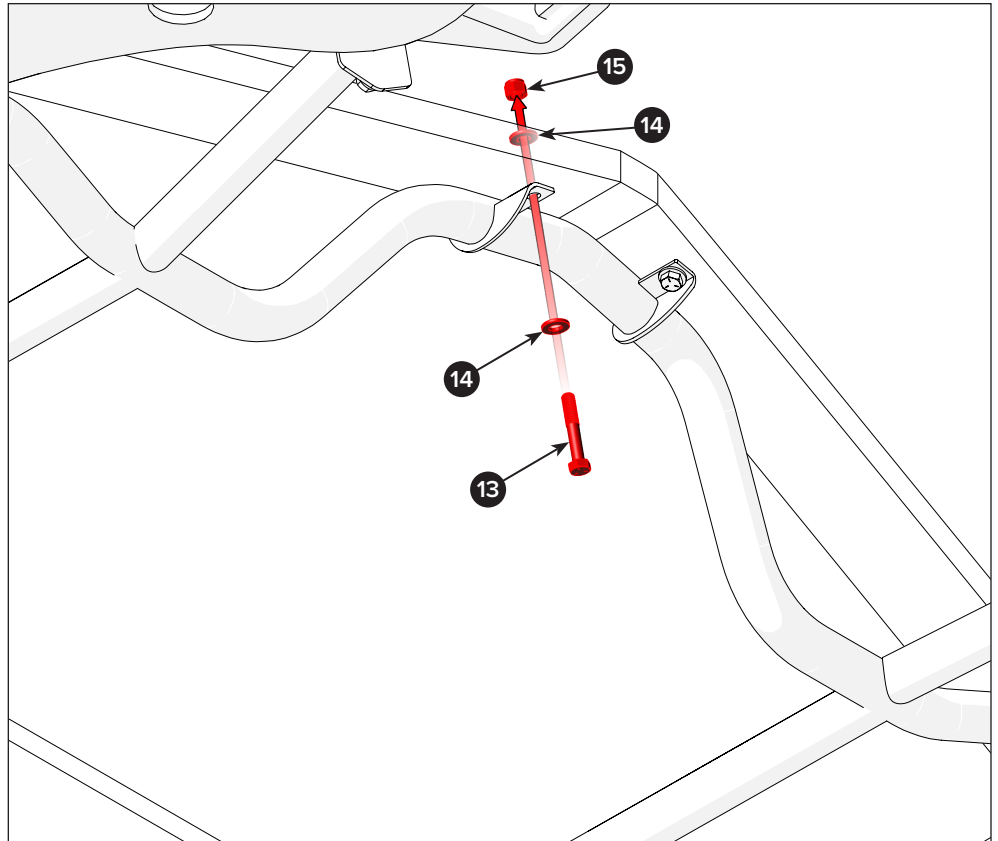
Remove the seats, then the carpet and insulation as needed, with the body mounted to the frame.

While under the vehicle, use the predrilled holes in the angled rear brace-to-floor brackets as a guide.

With a drill and 3/8" bit, drill holes for the mounting bolts through the floor pan.

Note: Drill the holes perpendicular to the brackets.

Install two bolts (13), four washers (14), and two Nylock nuts (15).

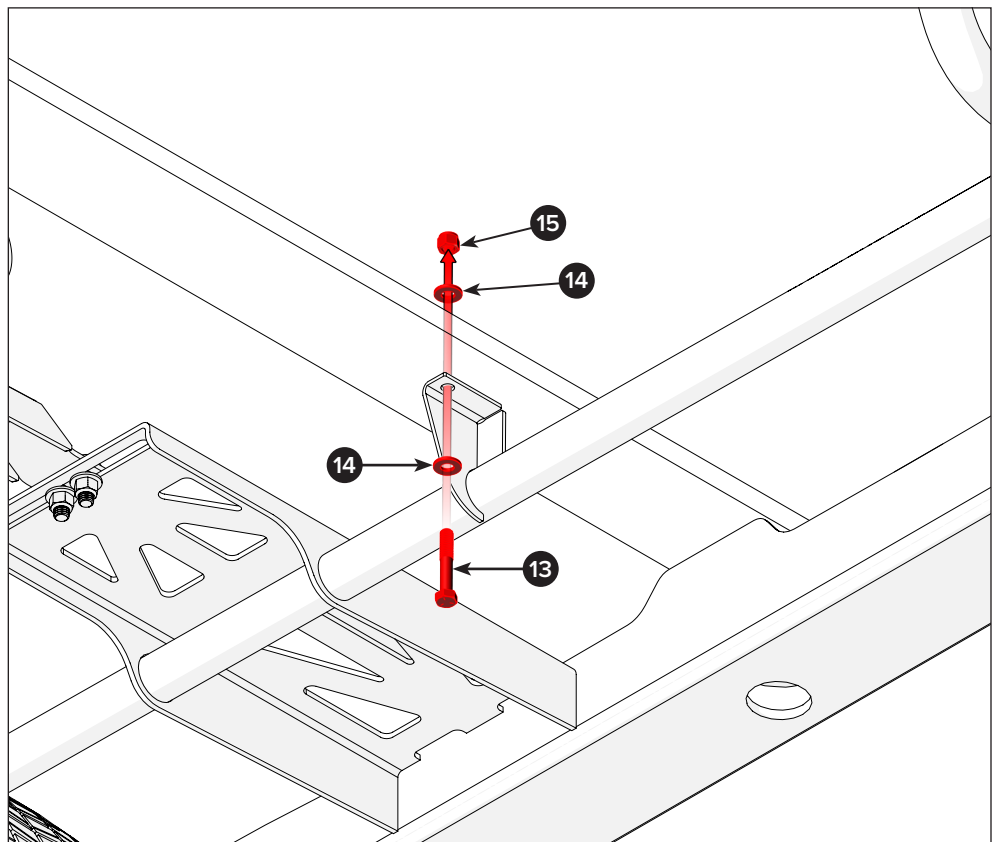


37 Repeat step 36 for the front brace-to-floor brackets.

Note: Drill the holes perpendicular to the brackets.

Install two bolts (13), four washers (14), and two Nylock nuts (15).

Once the brace bolts are installed, seal the nuts and washers from inside the vehicle floor to create a watertight seal from external elements.



FINAL NOTES

It is important to complete the items listed below before the body is set on the frame or the vehicle is driven:

First, verify that all measurements are accurate and that all components have sufficient clearance throughout the suspension's travel range.

Now is the time to check for any loose suspension bolts and ensure they are tightened properly.

We advise that you fill all grease fittings at this time. Though we recommend using Permatex Ultra Slick Synthetic Grease, any high-quality frame grease will be suitable.

Complete these items listed below after the body is set on the frame:

Install the vehicle body onto the frame, then torque the body bolts to specification.

Now verify and torque the transmission center mount fasteners installed during step 19 to 40 lb-ft.

Recommended steering gear maintenance after the body is set on the frame:

If your frame is equipped with a Sweet power rack and pinion, we recommend using Sweet or Jones brand full synthetic power steering fluid to avoid overheating standard use fluids during performance driving. These brands will provide the best performance and protection to your equipment.



