Instructional Guide

ExtReme IRS Chassis
68-70 Ford Mustang

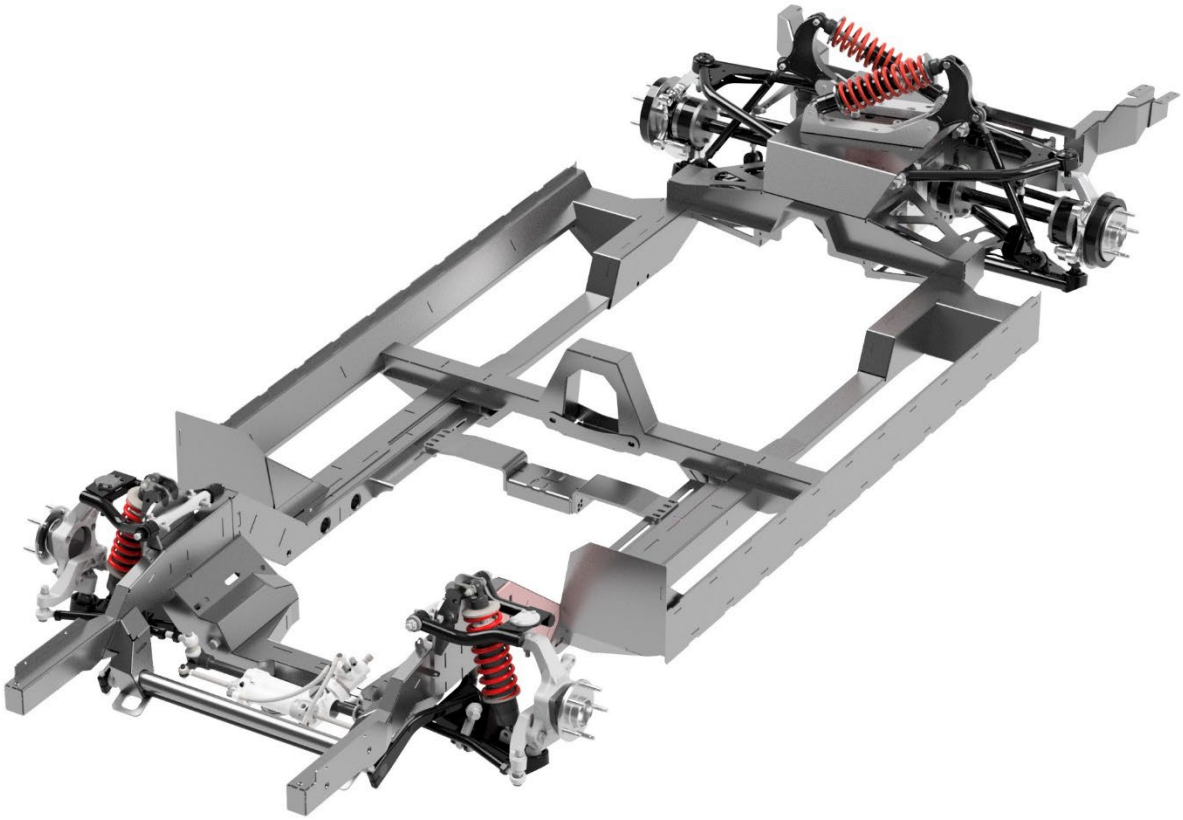

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Figure 1 Ford Mustang, features our ExtReme full chassis with IRS and Floor Kit

Congratulations on the purchase of your new Speedtech Performance ExtReme Chassis. 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 ExtReme Chassis 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

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1.1 GETTING STARTED

Read all instructions thoroughly before beginning.

Thank you for purchasing your new Speedtech Performance ExtReme IRS Chassis. Installing this product **will** require the removal of your factory floor, suspension, engine and transmission from the car. This guide will cover the removal of the factory floor as well as installation of the chassis. For front and rear suspension and floor assembly guides, see the corresponding documents

Use only approved and appropriately rated jack and jack stands, but a **frame table with weld in supports will be the best** to prevent any flex or twist in the body. If you are unsure seek the assistance of a highly qualified workshop to assist you.

IMPORTANT! **Installation of the Speedtech Performance ExtReme IRS Chassis needs to be done by a qualified fabricator as there is a large amount of cutting and welding.** Take extra care when making final cuts and welds on the vehicle that everything is level and true. There is some adjustment in our suspension for the final assembly, but it is limited. **IMPORTANT**! Once assembled, you will need a professional wheel alignment performed. Towing is recommended to transport the car prior to the alignment being performed. For basic alignment settings refer to the ExtReme IFS installation guide.

Other adjustments, such as tuning 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.

Note: This kit requires a large amount of welding time to install. A quality weld through primer will be a necessary step to ensure rust prevention.

Be sure to take necessary precautions when welding inside a vehicle and remove from the car any close-by flammable materials. Be sure to wear the proper protective gear when using power tools, and be sure to keep sparks away from glass and other interior components when grinding and welding.

These instructions outline the ExtReme IRS Chassis. Some photos in the install process may vary slightly from your exact application.

1.2 TOOLS

- Grinder
- Floor Stands
- Floor Jack
- Welder
- Drill / Bits
- C-Clamps

1.3 ADDITIONAL PARTS / ENGINE COMPATIBILITIES

This ExtReme subframe has been designed to accept the following engines: **Coyote, Small Block and Big Block** engines. Some details related to installing the Godzilla crate supercharged engine may differ. Your sales rep will need to be informed of the engine the car is planned to receive. There may be other possible combinations not yet verified by our technical team. Speedtech Team Members are available for any compatibility questions pertaining to your unique build.

Additional parts you will need include:

- Frame Compatible Oil Pan
- Engine Starter Motor
- Headers and Exhaust
- Transmission Mount
- Engine Adapter Plates
- Engine to Frame Stands
- Fuel Tank
- Steering Shaft Kit
- Steering Column
- Custom Brake Lines
- Lug Nuts
- Drive Shaft

Oil Pan- Most factory oil pans are not compatible with the Speedtech ExtReme frame. Your sales rep. can provide details about compatibility for your build.

Engine Starter- Starter clearance has to be considered for durability and header clearance. For the Hemi Hellcat applications, a new bellhousing that moves the starter to the driver's side is needed.

Headers and Exhaust- In order to fit extremely wide wheels and tires to the vehicle that our ExtReme subframes allow for while maintaining full steering radius they have tight-fitting frame rails. Speedtech has designed some compatible headers for purchase, they are designed to optimize engine to frame clearance, steering shaft clearance and ground clearance for lowered vehicles. Otherwise, custom headers will have to be made during the build process.

Transmission Mount- A compatible Energy Suspension polyurethane transmission mount can be purchased from Speedtech.

Engine Adapter Plates- When installing your engine, you must use a motor mount adapter plate kit and stands. Speedtech manufactures these components for all the engines listed above and are available for purchase.

Engine to Frame Stands- Different Engines require different frame stands to set the height correctly. Let your sales rep. know which engine and transmission package you plan to run when you place your order.

Fuel Tank- ExtReme Chassis are designed to be low to the ground. Custom Speedtech specific, tanks are available for purchase from your Speedtech Rep.

Steering Shaft- You will need to order a steering shaft connection according to your specific vehicle and steering column type. Speedtech offers several different configurations that are compatible and your sales rep can help you select the appropriate one for your specific build.

Steering Column- ***ExtReme*** chassis use a high performance Sweet MFG steering rack. Stock and stock aftermarket replacement columns are not compatible. Speedtech compatible aftermarket columns are available from your rep.

Brake Lines- Factory brake lines will not work with an ExtReme chassis. Custom brake lines must be made up by a qualified workshop.

Lug Nuts- ***ExtReme*** chassis use a C7 Corvette hub on the forged aluminum ATS spindle. Stud spacing at 5 x 4.75. Lug Nut: 12mm x 1.5"

2.0 CHECK IN PARTS AND HARDWARE

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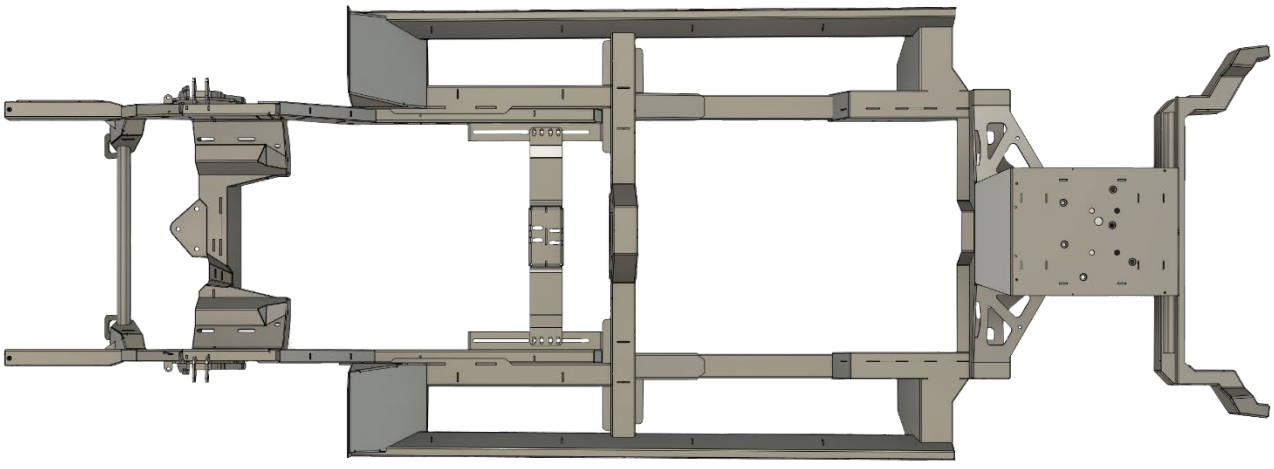
2.1 CHECKING IN THE ORDER

Best practice will be to check in your order as soon as possible after receiving the order. Front and rear hardware will be checked in with the applicable assembly guide.

2.2 CHECK IN TABLES

Chassis

X	#	Description	Size
	1	ExtReme Subframe	Welded Frame
	2	Rocker Attachment L-Plate	L/R
	1	Transmission Crossmember – 3 Individual Pieces	2 side / 1 center
	1	Chassis / IRS Housing	Welded chassis
	2	Front Frame Horn	Welded piece
	2	Rear Frame Transition Bracket	L/R Welded piece
	20	Bolt - GR8 Hex Head	NF 3/8 x 3/4
	4	Bolt - GR8 Hex Head	NF ½ x 1 ½
	4	Bolt - GR8 Hex Head	NF ½ x 1
	2	Bolt - GR8 Hex Head	NF 5/8 x 1 ½
	4	Nylock Nut	NF 1/2
	2	Nylock Nut	NF 5/8
	20	Washer	3/8
	4	Washer	5/8
	4	Washer	1/2
	4	Lock Washer	1/2
	20	Lock Washer	3/8



3.0 GETTING STARTED

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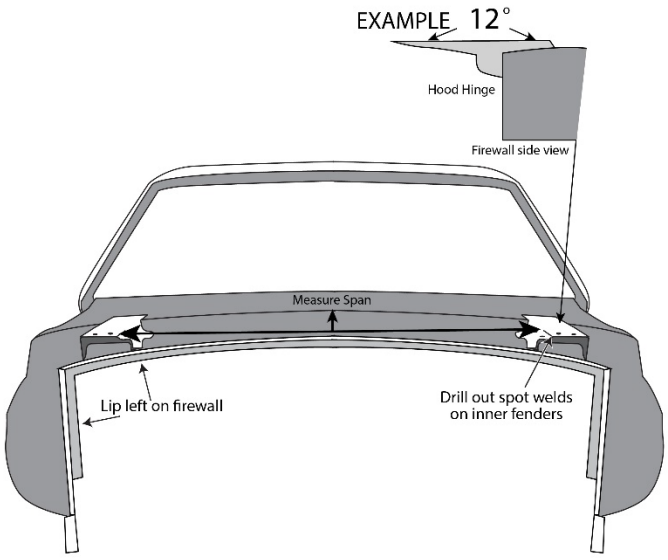
3.1 LEVELING AND SUPPORT

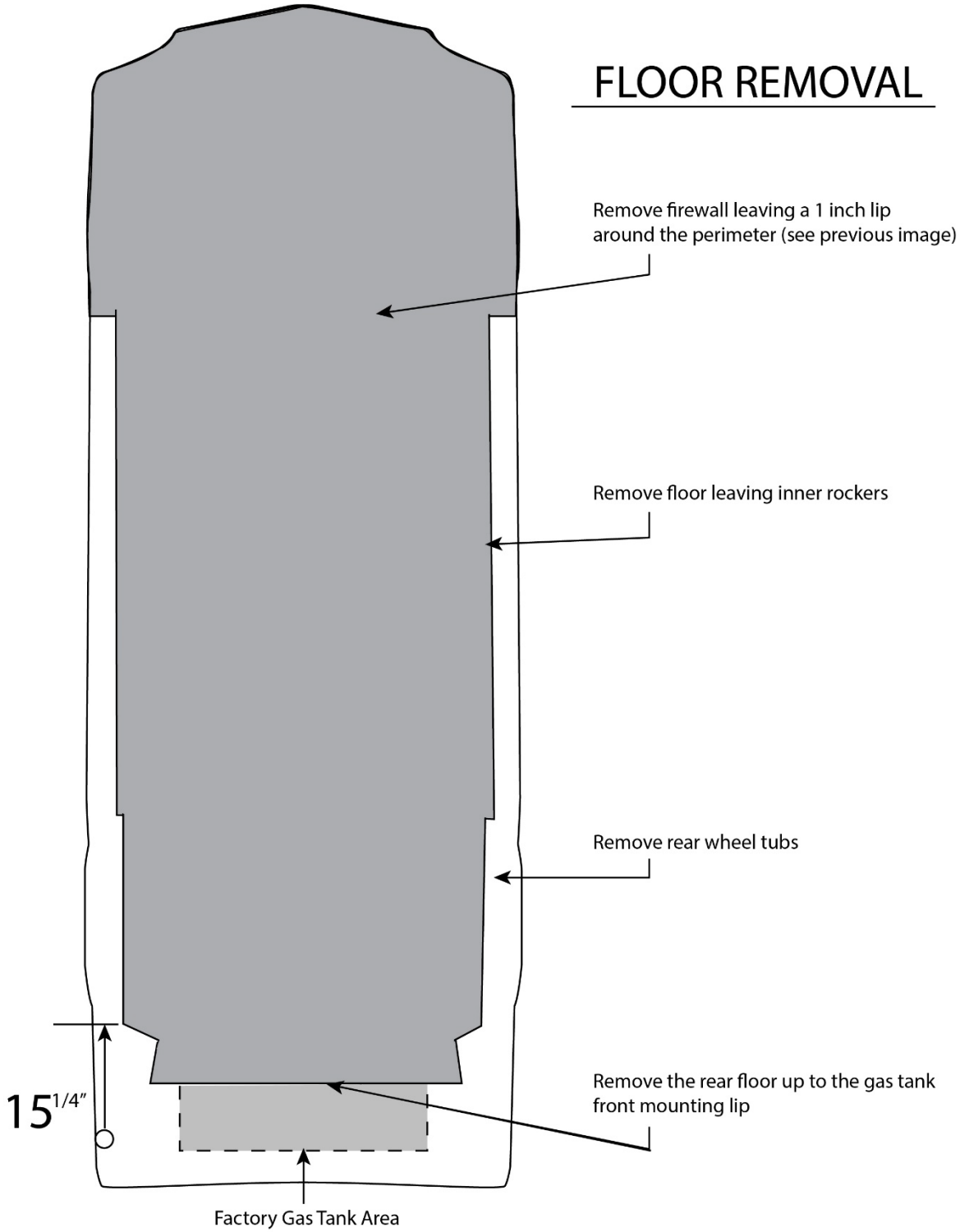
The vehicle should be on a level surface before you start. The best practice is to fully secure the body before removing the factory suspension, framing and floor.

NOTE: Use only approved and appropriately rated jack and jack stands, but a **frame table with weld in supports will be the best** to prevent any flex or twist in the body. If you are unsure, seek the assistance of a highly qualified workshop to assist you.

3.2 BODY PREP / CUTTING

- **NOTE:** Before you start disassembling, measure the span between hood hinge surface and angle of top surface where the fender mounts. This will ensure proper placement of hinges during reassembly. (When measuring the span, also find a mid-point to measure for a second reference)
- Disassemble the entire front half of the car. Removing the engine, transmission, radiators, pedal assemblies, electrics, front and rear suspension, steering assembly, column, front seats, and flooring.
- When cutting the rear frame rails, measure forward 15 ¼" from the center of the rear shackle mount and remove the section towards the front of the car – ONLY remove the frame/hat channel, leave the floor intact.
- **NOTE:** Leave the bracket on top of the firewall/cowl. Drill out the spot welds to remove fender apron from bracket.
- Refer the next two diagrams.




FLOOR REMOVAL
Remove firewall leaving a 1 inch lip around the perimeter (see previous image)
Remove floor leaving inner rockers
Remove rear wheel tubs
Remove the rear floor up to the gas tank front mounting lip
15 1/4"
Factory Gas Tank Area

Remove the floor and bracing, leaving the inner rocker. Ensure the surface is smooth and clean. Use a weld through primer to coat the rocker.

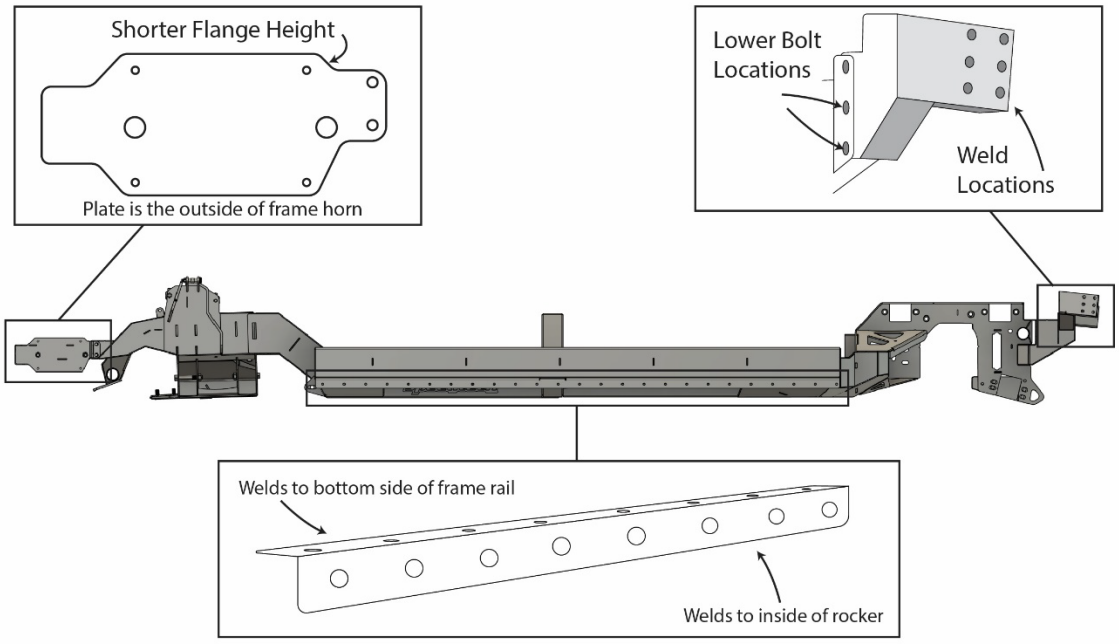
BODY HEIGHT DETERMINATION

The Speedtech Performance ExtReme IRS chassis for the 64-70 Mustang gives you the option to personalize the body height on the chassis, and this needs to be done before any welding or installation is done. There will be 1 ½" difference between the options.

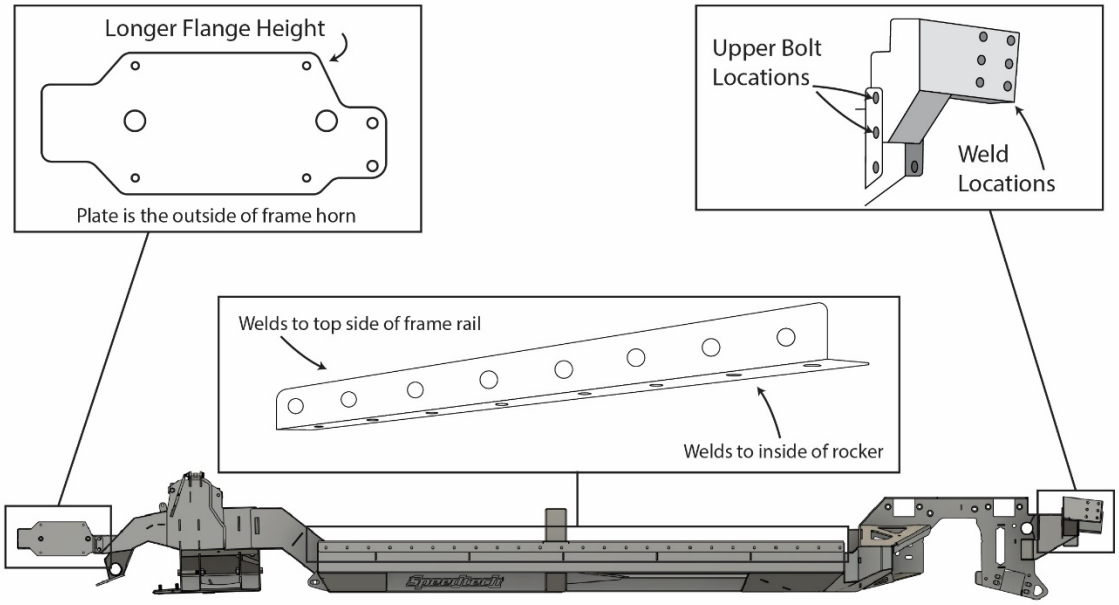
KEY POINTS:

- The chassis will be in the same position relative to the ground/ride height – only the body height on the chassis is what is being determined
- 1964.5-1966
  - If you do NOT want to have fender flares, you will need to use the higher mount
  - If you plan on using fender flares and want a lower body look, you can use the lower height
- 1967-1970
  - The lower height option will give you a low and aggressive Pro Touring look while allowing a 315mm wide font tire with full steering
  - Some may choose to use the taller option for hood clearance or a more RestoMod aesthetic.
- Three pieces will need to be determined (See diagram on following page)
  - Front frame horns
  - L Side Brackets
  - Rear Frame transition pieces
- For the lower height, the "L-Plate" will be flush with the bottom of the pinch weld at the door frame and the chassis will sit on it
- Drill holes in the factory pinch weld for spot weld locations, opposite of the L Brackets
- For the taller height, the "L-Plate" will be flush with the top of the inner pinch weld and the chassis will be raised to sit inside this bracket.

LOWER BODY HEIGHT INSTALLATION



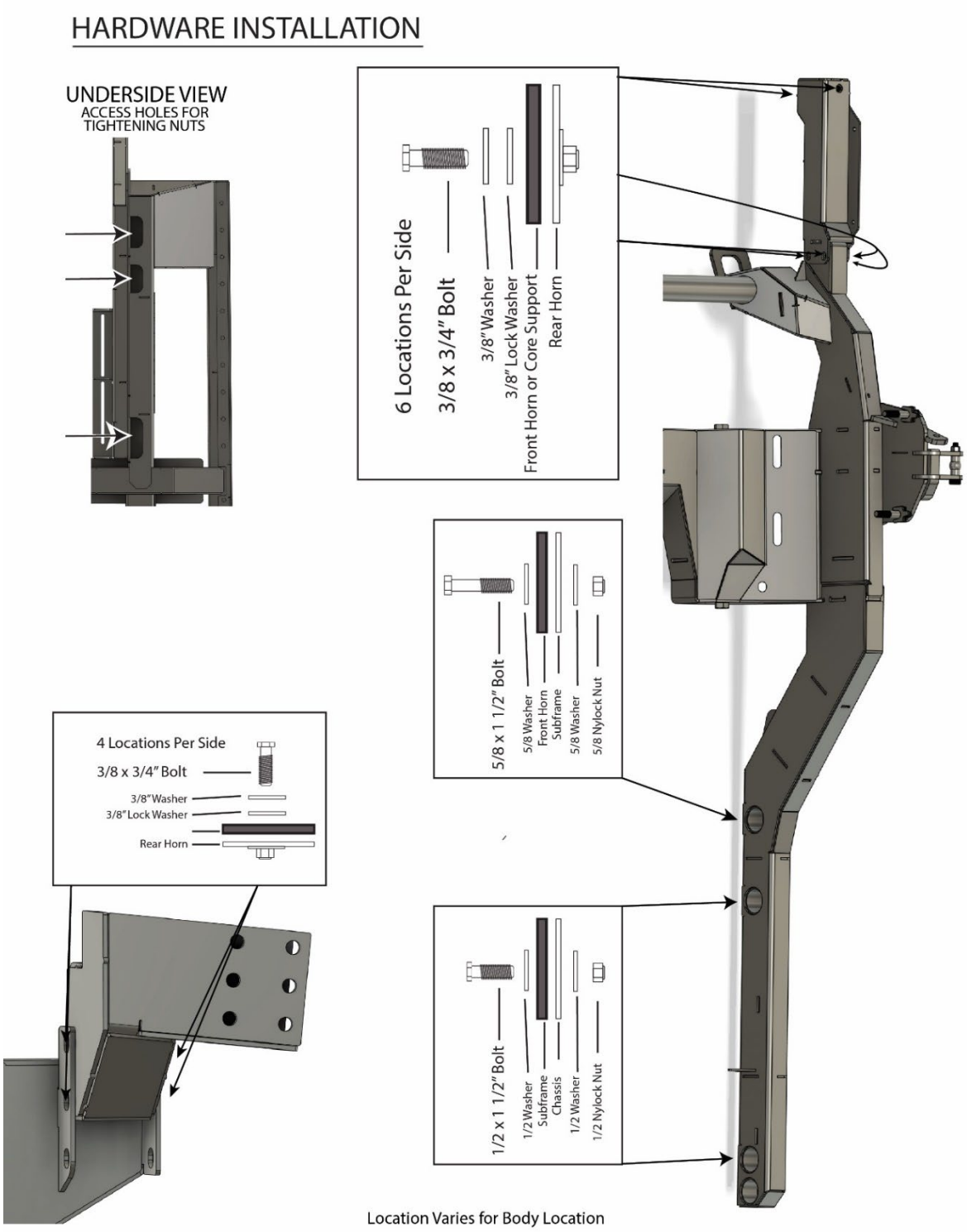
TALLER BODY HEIGHT INSTALLATION



3.3 SUBFRAME INSTALL

Bolt the front subframe to the chassis for mockup in the body. See final steps for torque specs.

NOTE: Holes are slotted in the chassis. This allows for wheel base adjustments. Start with the subframe in the center of the holes and ensure both sides get adjusted the same to keep the frame square.



3.4 MEASUREMENTS/MOCK UP

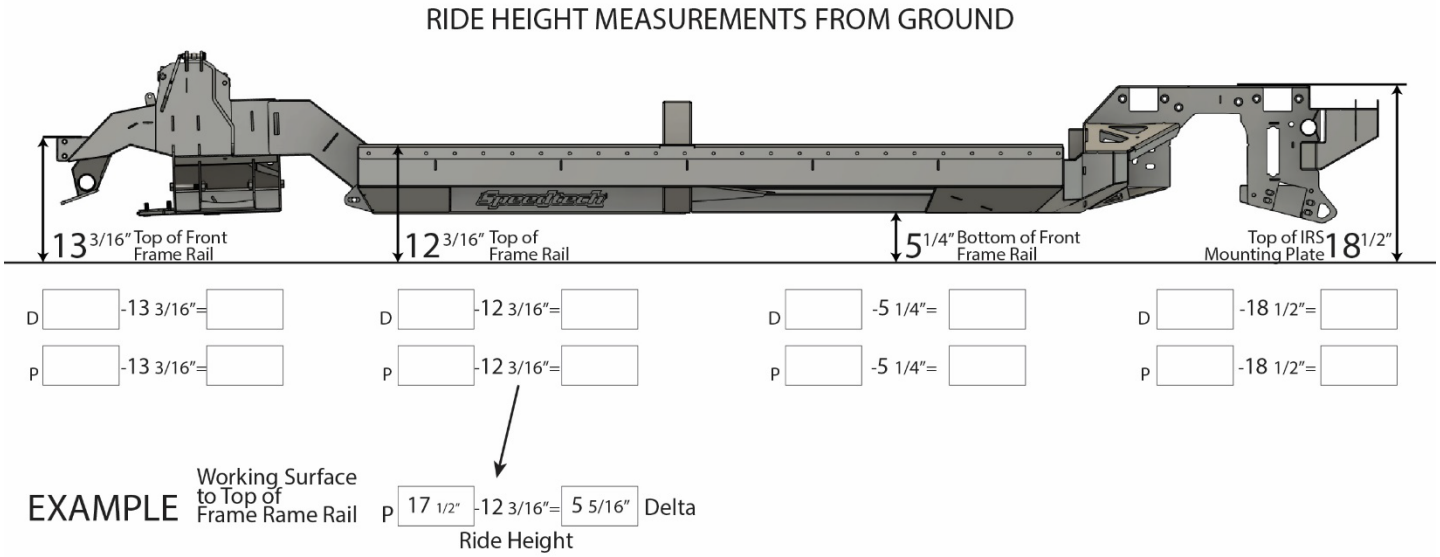
IMPORTANT: This next step involves a lot of measuring, adjusting, and assessing that the frame structure is in the right position in the car. Take extra care that as things are being fitted to the car and permanently attached, that the parts are plum and level in the body in all directions.
IMPORTANT: This worksheet is important to ensure the chassis is square and true during installation. When we installed the chassis, we raised everything by 3" to allow more working room. Therefore, our Delta was 3". Below you will see our recommended ride height.

IMPORTANT: Ensure the body is level and square as well

IMPORTANT: Take the measurements from both the Drive and Passenger side.

See example and use below:

- **Box 1 –** Working surface to measuring point
- **Installed Ride Height Measurement**
- **Box 2 –** Delta Number
    - **IMPORTANT:** This number must be the same on all equations



- Ensure the pieces being welded to the rocker or to each other are coated with weld through primer.
- Lift the chassis up into position.
    - Ensure the frame is sitting square in the body. (see sheet at 3.4)
    - Once you have verified the chassis is in the correct location, using C-Clamps hold the Rocker Attachment L-Plates in place under the chassis rails.
    - Mock-up the suspension to check wheel fitment within the center of the wheel wells – It is important to check all four corners
    - Mock-up the sheet metal kit as well to ensure wheel/tire fitment. This may need to be trimmed before installation.
    - At this time, check the fitment into the trunk floor, trim as needed.

4.0 INSTALLATION

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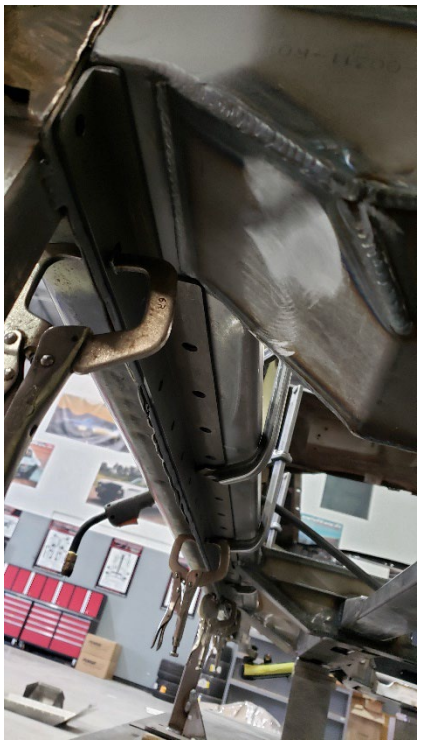


4.1 ROCKER ATTACHMENT L-PLATE / CHASSIS WELDING

Note: These next steps will be able to be done after everything is in place from mocking it up. With the C-Clamps tight, be sure to remove any suspension components before welding.

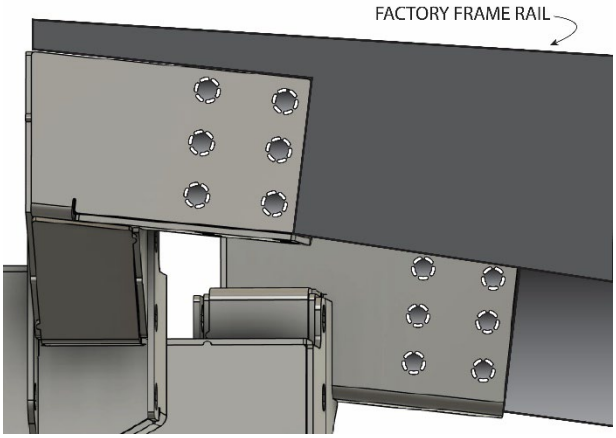
PRO TIP: Space out your welding area, and move from one section of the car to another to avoid any warpage

- Weld the Rocker Attachment L-Plate in position to the rocker and the bottom of the chassis, using the provided holes in the plate
- Stitch weld the chassis to the upper rocker. Weld a 3” weld – spaced out 3” between each weld

4.2 REAR FRAME RAILS

Note: Ensure the factory frame rails and inside of the rear chassis has been coated with weld through primer. You may need to clamp these down as well to ensure a tight fitment.

- Use the pre-cut holes in the chassis rails to weld the chassis to the factory rear frame rails
- You may choose to stitch weld the edges of the brackets and frame rails together as well as weld the brackets to the Speedtech chassis to reinforce the bolt locations.



5.0 FINAL STEPS

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5.1 FINAL TORQUE

This needs to be performed before you hit the road. It also needs to be check after the first 500 miles to ensure safety. It will also be a quick reference for routine maintenance schedule.

Bolt	Location	Torque	1st Check	500mi Check
1/2”	Subframe Mount Back	120 ft.lb.		
1/2”	Subframe Mount Front	120 ft.lb.		
5/8”	K Member Front Mount	180 ft.lb.		
3/8”	Transmission X Member	35 ft.lb.		

6.0 CONGRATULATIONS

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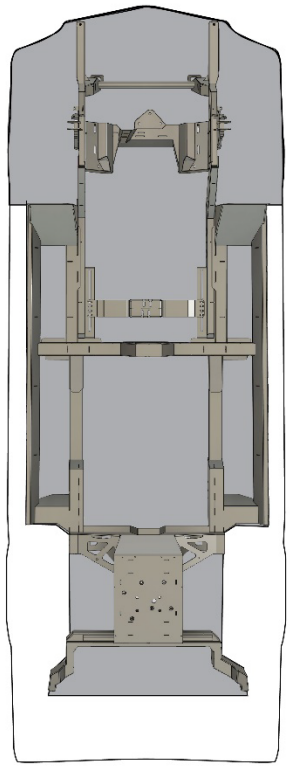

Congratulations on completing your chassis installation project, we know you will get many years of enjoyment from your project. For additional steps on accessory products, see the applicable Installation Guides.

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 them 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 your custom muscle cars.

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