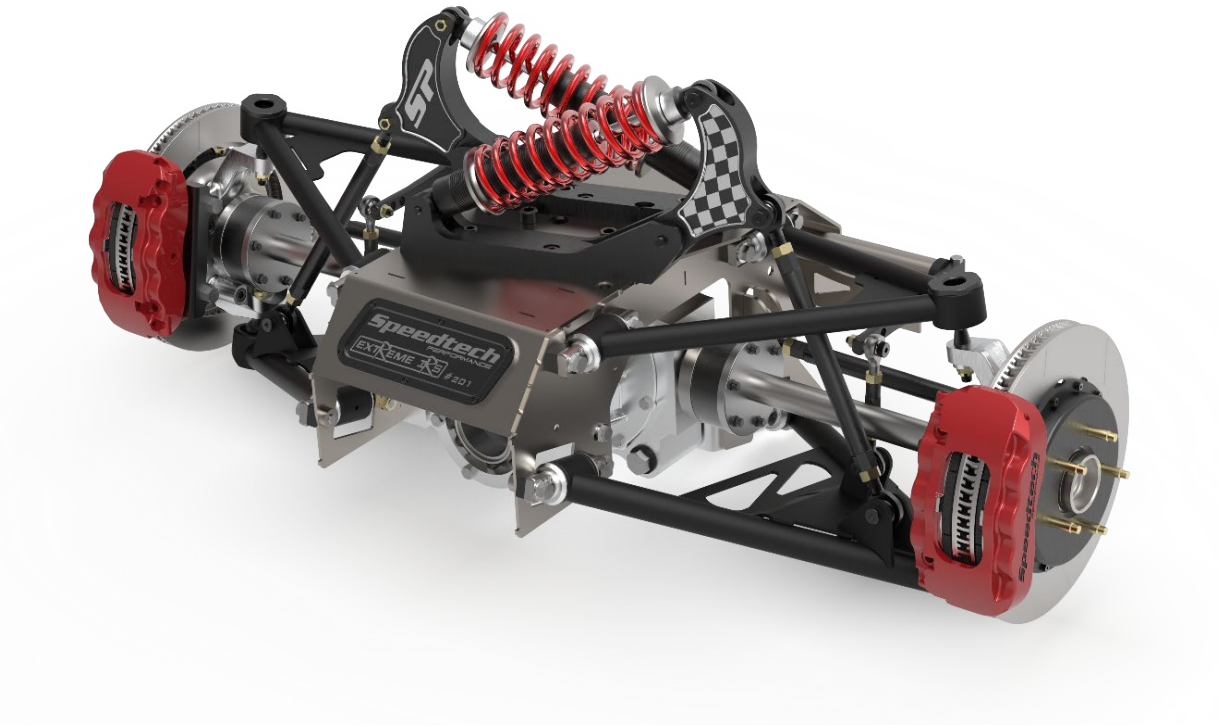
Instruction Guide

Independent Rear Suspension
67-69 F-Body



Speedtech PERFORMANCE

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

435.628.4300 SPEEDTECHPERFORMANCE.COM

4160 S. RIVER RD, ST. GEORGE, UT 84790

Figure 1: 1967 Camaro features our IRS [photo by Jeremy Davies]

Congratulations on the purchase of your new Speedtech Performance Independent Rear Suspension (IRS). 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 IRS 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!

TABLE OF CONTENTS

1.0 GENERAL INFORMATION

Back to Table of Contents

1.1 THIS GUIDE

Thank you for purchasing your new Speedtech Performance IRS. Read through all instructions thoroughly before beginning and take all safety precautions required to do the job carefully and correctly.

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. If you have uncertainty, seek the assistance of a highly qualified workshop.

WARNING: Once assembled you will need a professional wheel alignment performed. Driving a vehicle without a proper alignment can be dangerous. Towing is recommended to transport the car prior to the alignment being performed. For basic rough alignment settings refer to the ExtReme IFS instruction guide.

1.2 OVERVIEW

These instructions outline the IRS installation into the chassis. Photos in the instruction process may vary slightly from your exact operation.

Take necessary precautions when welding the inside of your vehicle and remove any close-by flammable materials including the seats, carpet, inner heater box, and insulation padding before performing this instruction. Be sure to wear proper protective gear when using power tools and keep sparks away from glass and other interior components when grinding and welding.

To help you finish the trunk area and back seat, Speedtech has provided a sheet metal kit, part #11515, that fits the IRS to the Camaro and seals off the suspension arms from the inside of the car.

1.3 TOOLS

Installation of the Speedtech Performance IRS can be done on the floor with simple hand tools and basic welder.

Tools to have before you start:

- Floor Stands
- Floor Jack
- Welder
- Grinder
- Measuring Tape
- Plumb Bobs and String

2.0 CHECK IN PARTS AND HARDWARE

Back to Table of Contents

2.1 CHECKING IN THE ORDER

SEE IRS INSTALL ASSEMBLY GUIDE

3.0 PREPERATION

Back to Table of Contents

3.1 WHEEL CENTER

Measure and mark your existing wheel center by taping a plumb bob and string on the top of the wheel well.

With your car on the ground, adjust the plumb to hang directly over the axle centerline, or desired center if you want to change it from the current location.

Tape and mark the string's location on the top of the wheel well. Keep this measurement intact during the installment process as it will be used again.

Figure 2: Wheel centering

Do this to both sides, taking extra care to be as precise as possible.

3.2 LEVEL / BRACE

Lift the car high enough so you can work under it. Then level the car in by measuring the pinch weld height to the work surface and multiple other locations such as gauge holes. Ensure that all four corners (A and C pillars) are equal in height.

Measure gauge hole height from your work surface to the level car. Speedtech recommends bracing the car by either bolting it down to a frame table or adding temporary bracing in the rear of the car. This will prevent the body from shifting during the installment process.

3.3 DISASSEMBLE

Remove rear suspension, exhaust, fuel tank, rear seat, rear carpet and package tray supports.

NOTE: You will be reusing the package tray supports so remove them by drilling out the spot welds.

3.4 CUT PREPARATION

It is important that the surface is properly prepared for cutting and later welding.

Using figure 3, mark the cut lines on the car. Remove all paints, coatings, and surface treatments on the inside and outside of the car, including the frame rails. It is recommended to use a wire wheel, as it has proven to work well. Clean about a 3-inch-wide area on all the cut lines.

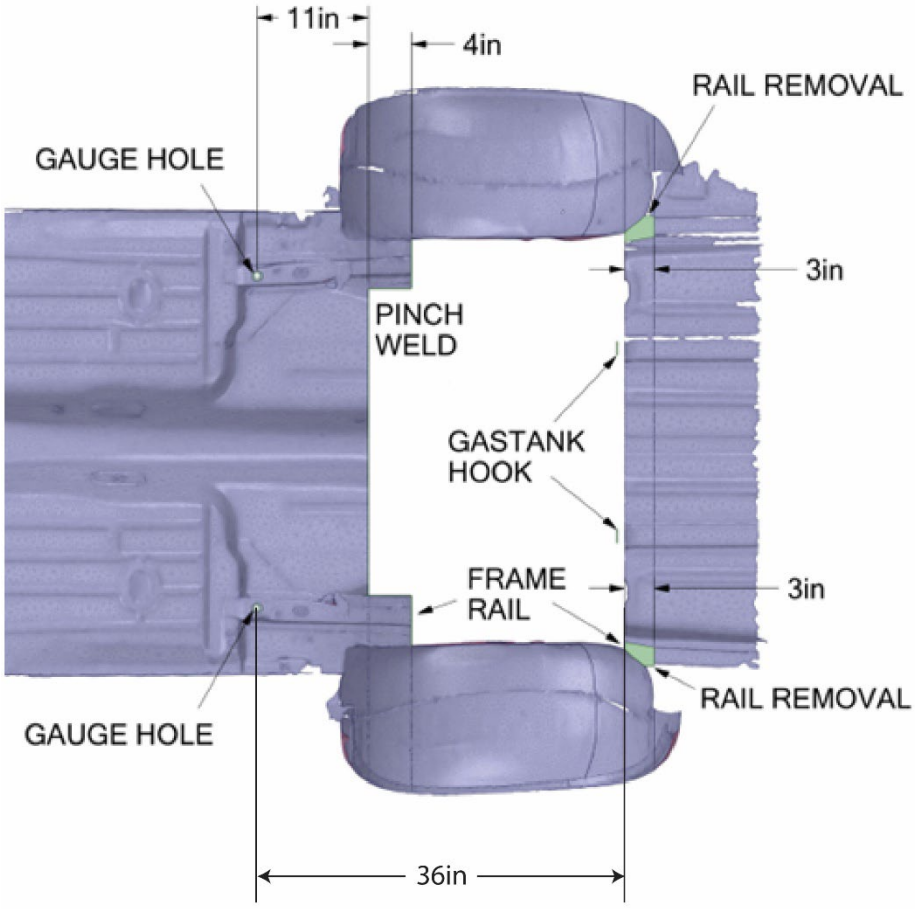


Figure 3: Preparation map

Figure 4: What the cut preparation should look like

3.5 MARK / CUT / REMOVE

After observing figure 3 and reading the section 3.4, clearly mark your cut lines with tape.

All measurements are made on the same plane as the work surface and all cuts are vertical to the work surface. This means you will be cutting through all surfaces and rails perpendicular to the work surface.

Figure 5: Marking the cut areas

3.5.1 MARK / CUT / REMOVE – FRONT

- Mark 11” back from the gauge hole, from the frame rail pinch weld to frame rail pinch weld.
- Mark just inside the pinch weld, back 4”.
- Mark around the rails at 4” out to the wheel tubs.
- Cut the marks all the way through the floor, rails, and into the inside of the car.

3.5.2 MARK / CUT / REMOVE – REAR

- Mark a line ¾” back from the gas tank, from wheel tub to wheel tub.
- Cut from wheel tub to wheel tub all the way through the floor and rails.
- Cut wheel tubs, close to the floor but inside the car, from front cut to rear cut.
- Drop out the center section.
- Mark the frame rail 3” back from rear cut line. Cut frame rail only at mark.
- Cut close to the floor to remove the 3” frame rail section off of the floor.

Figure 6: Marking the frame rail 3” back from rear cut line

3.5.3 MARK / CUT / REMOVE – GAS TANK

Trim back the gas tank hat channel about 2.5” from the edge of the rear section cutline.

3.6 SETTING IRS FRAME

Set the frame of the IRS in place by lifting the frame section into the new hole in your car.

The front arms of the frame will wrap around the front frame rail sections and the rear will hug around the trunk floor. The frame will go up until the little shelves of the frame and touch the floor and trunk pans.

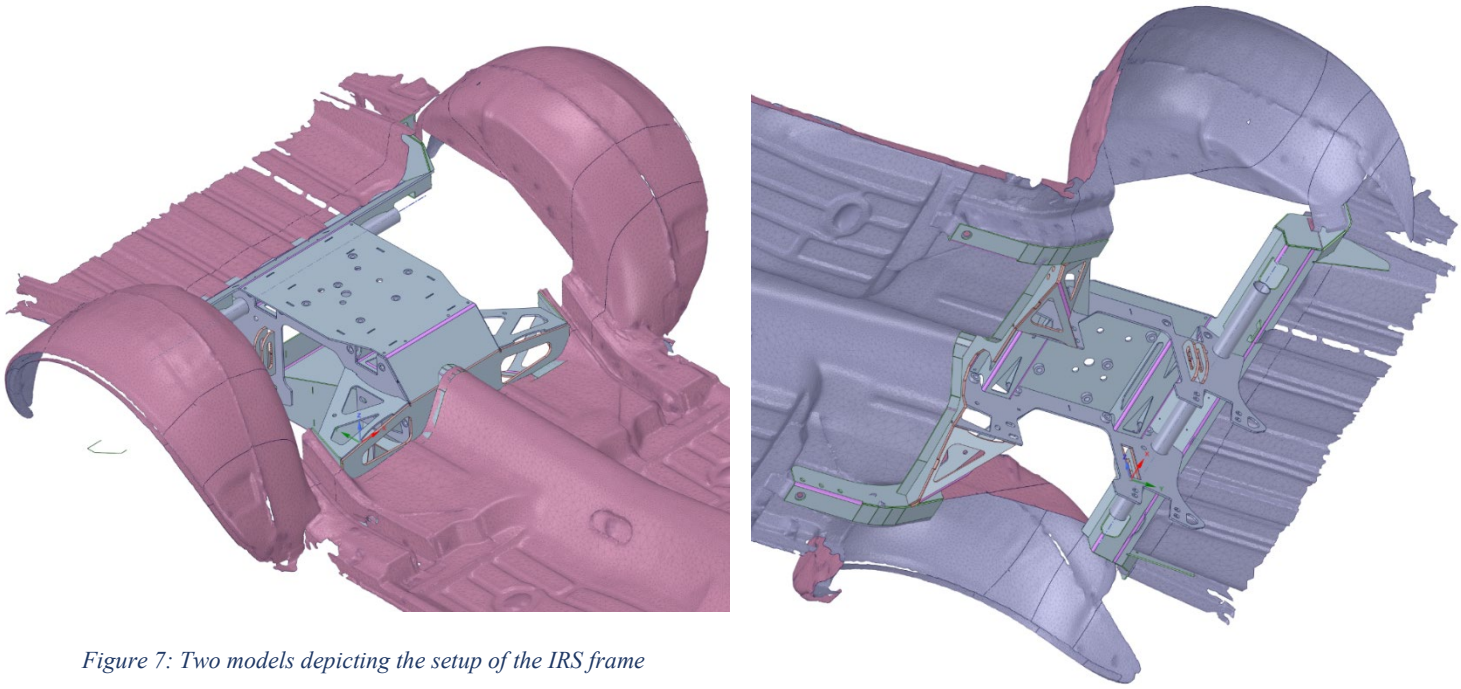


Figure 7: Two models depicting the setup of the IRS frame

You may have to do some additional trimming to get it to fit. Spend time leveling, centering, and squaring the frame in the car. More details about this process can be found in figure 8.

Figure 8: Formula

- Leveling: The upper control arm mounting holes are designed to be level with the car. To set the height of the frame, use the formula to calculate the target measured height of these upper control arm holes to the work surface. Set all four corners to the same calculated height.

- Centering: The axle centerline of the IRS crossmember is marked with little slit windows. Use these windows, in connection with your plumb lines that were previously set, to center the cross member. You can eyeball the location by lining up all plumb lines and window slits. Use a tape measure to mark and center the frame left to right

- Squaring: Use a tape measure to cross square the frame into place using known points on the car. Examples of known points are the gauge holes and front lower ball joints.

IMPORTANT: Take your time with this because the wheel placement is not adjustable.

Next, stabilize the set frame in place using blocks and C-clamps. It must be secure before mocking up the suspension. Then, mock up the control arms and spindle.

Follow the IRS instructions to do this.

Mount a wheel on the suspension and check fitment for clearance, movement, and location. Additional trimming might be needed on the wheel tubs at this point. If location is not satisfactory, readjust where the frame sets.

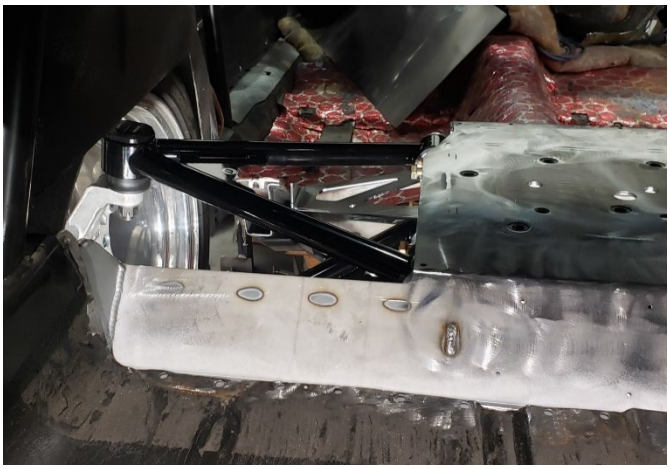


Figure 9: Trunk inside of the tunnel pan shelf

4.0 WELDING

Back to Table of Contents

Tunnel pan shelf: The first gen Camaro had two distinctive tunnels between the years. To make the IRS fit the whole generation, we did not pre-weld the tunnel shelf to the IRS. Fit the provided shelf and weld it to the IRS.

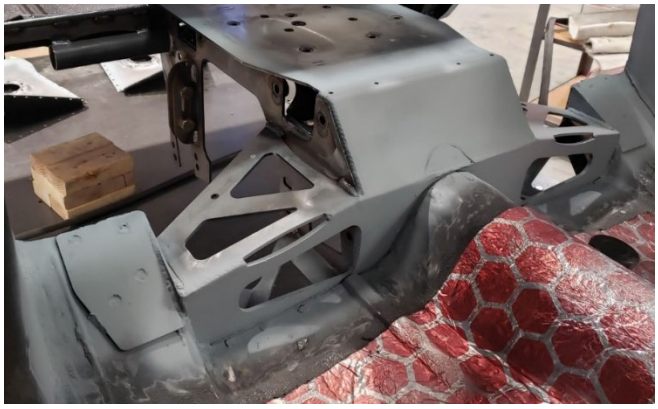


Figure 10: Tunnel pan shelf

Floor pan spot welds: Weld the floor pan to the IRS member by drilling holes every 3” on top of the pan shelf of the IRS. Clamp and weld drilled spots connecting the floor to the IRS. Complete this same step in the pan.

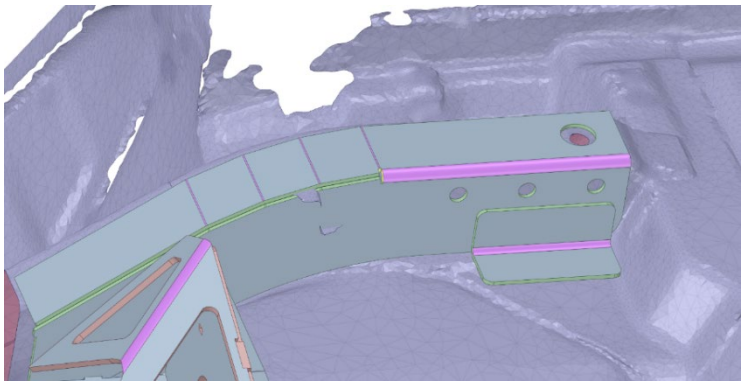


Figure 11: Floor pan spot welds

Front rails: Clamp and weld the front inside rail arm by filling in the provided holes. Weld the additional angle bracket to the inside of the rail to the floor pan around the gauge hole where the floor is extra thick.

Figure 12: Front rails

Outside rails: Clamp and weld the outside rale piece and the frame rail cap. The cap should fit neatly on the back end of the frame rail, trim the original frame rail if necessary. The cap fold will wrap to the outside of the outside rail piece. Weld open corners on IRS metal and fill holes.

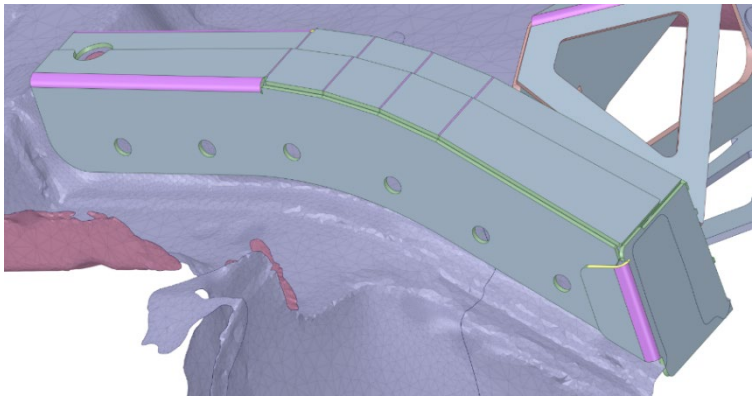


Figure 13: Outside rails

Front rail cap: Cap the rail on the inside of the car using the provided metal. Weld all seems and fill all holes.

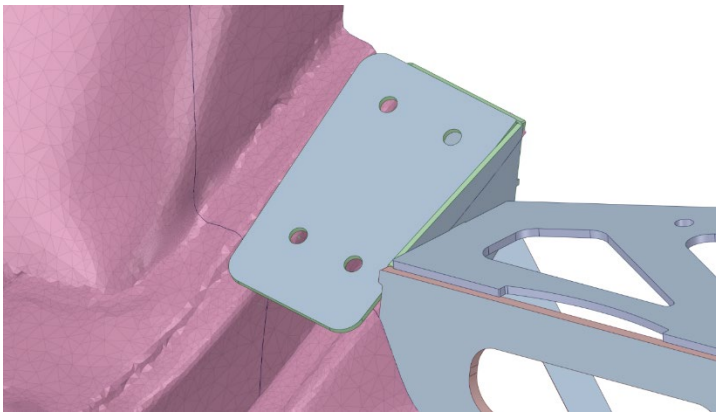


Figure 14: Front rail cap

Rear rail captive: Trim to fit the provided angle piece. Fit it tight to the existing frame, rear wing, and rail cap of the IRS. Weld all seems and corners, and fill all holes.

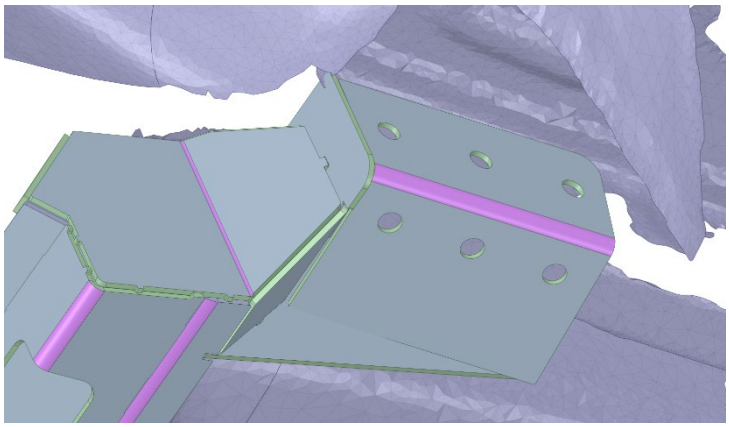


Figure 15: An image and model depicting the rear rail captive

5.0 CONGRATULATIONS

Back to Table of Contents

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 IRS for your custom muscle car.

Speedtech Performance, LLC
4160 S. River Rd.
St George UT, 84770
(435) 628-4300