

Instruction Guide

Street Fighter Suspension Kit
70-81 F-Body



Speedtech
PERFORMANCE

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

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Figure 1: 1970 ZL70 Camaro (First Build Version), features our Street Fighter front suspension [photo by Nick Relampagos]

Congratulations on the purchase of your new Speedtech Performance street fighter suspension kit. Use only approved, appropriately rated jack and jack stands, and take all required safety precautions to complete the job safely and correctly. If you have any uncertainties, seek the assistance of a highly qualified workshop.

Read and understand all instructions thoroughly before you begin. Your main assembly and setup of your new street fighter suspension 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 story.

Speedtech Performance wishes you the best with 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 Extreme suspension kit. Read all instructions thoroughly before beginning, and take all required safety precautions to do the job carefully and correctly. If you have uncertainty, seek the assistance of a highly qualified workshop. 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.

While Speedtech's Street Fighter Suspension works great as a replacement for your factory suspension, it is also designed to meet the needs of those intending to participate in off-highway road racing and autocross competition. To achieve maximum benefit from our system, you should anticipate adjusting and tuning the suspension to optimize performance for the vehicle, driver, and type of racing. Some of this, such as tuning sway bars and shock settings, can be done trackside by making adjustments and seeing/feeling how the car reacts to these changes. We recommend that a tire probe pyrometer and a good-quality air pressure gauge be in your trackside tuning kit.

NOTE: These instructions may be limited to installation processes not covered in the instructions for each part. See the instructions found with the individual parts for those not listed here.

WARNING: Once assembled, you will need a professional wheel alignment performed. Driving a vehicle without proper alignment can be dangerous; towing is recommended to transport the car before the alignment is performed.

1.2 OVERVIEW

These instructions outline the street fighter suspension. Photos in the instruction process may vary slightly from your exact operation. For example, in this guide, we have only used pictures of the control arms 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.

Take necessary precautions when welding inside your vehicle, and remove any nearby 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.

1.3 TOOLS

Installation of the Speedtech Performance Street Fighter Suspension can be done on the floor using simple hand tools, a cutoff wheel, and a basic welder.

Additional things to have before you start:

- Silicon-Based Grease
- Wrench Set
- Torque Wrench
- Floor Stands
- Floor Jack
- Cut Off Wheel
- Welder

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 the order, Speedtech has provided tables that can be used as checklists, 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 TABLE

Below is the check-in table.

X	#	Description	Size
	1	Driver's Side Control Arm with Ball Joint installed	
	1	Passenger Side Control Arm with Ball Joint installed	
	4	Upper Control Arm Bolt	1/2 x 2 1/4 NF
	4	Upper Control Arm Washer	1/2
	4	Upper Control Arm Nylock Nut	1/2
	4	Sway Bar Pivot Mount Bolt	3/8 x 1 1/4 NC
	4	Sway Bar Pivot Mount Washer	
	4	Idler Arm Mounting Bracket Bolt	3/8 x 1 1/4 NC
	4	Idler Arm Mounting Bracket Nylock Nut	3/8
	4	Idler Arm Mounting Bracket Washer	3/8

Figure 2: Check in table including amounts, descriptions, and sizes

3.0 GETTING STARTED

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3.1 INSPECT CURRENT SUSPENSION

In a few short hours, you can update your classic car with new Speedtech Performance street fighter suspension. Speedtech recommends inspecting all of your car's components before installing our parts, such as steering and suspension components, which may be worn and could cause adverse effects. Replace parts as necessary.

3.2 DISCONNECT THE BATTERY

Since you will be cutting and welding, disconnect the battery before any removal begins.

3.3 LEVELING AND PREP

WARNING: The vehicle should be on a level surface before you start.

First, jack up and properly support the vehicle's frame. Before removing the old subframe, disconnect and remove the battery.

NOTE: There will be some modifications to your subframe. This may be a convenient time to remove the entire frame. Doing so will allow easier access to make the modifications. Then you may clean/sandblast and choose a paint or powder coat. Speedtech solid-body mounts, part #220508, are a great complement to this package if you do not already have them.

4.0 SUBFRAME PREP

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4.1 MOUNTING HOLES

You will need to modify the mounting holes for the upper control arms to achieve better camber gain and lower the roll center.

First, remove the control arm mounting studs.

Next, use a die grinder and lengthen the holes downward, approximately $\frac{3}{4}$ ", as seen in figure 3.

NOTE: The stainless cross shaft on the upper control arms should not make contact with the angled part of the crossmember where it meets the vertical control arm mount. Because of differences in factory tolerances, be sure to have proper fitment grind a little less than $\frac{3}{4}$ " and test fit the control arms. Continue grinding as necessary to lower the arm mount up to $\frac{3}{4}$ " without contacting the crossmember. Both slots should be the same length.



Figure 3: Lengthening the holes

4.2 CHICANE COILOVER

Remove the existing upper shock mount by cutting along the factory weld indicated by the arrows in Figure 4. Pay close attention: the brackets may look different from the brackets you have; however, they function the same.

IMPORTANT: Do not cut off the upper mount.

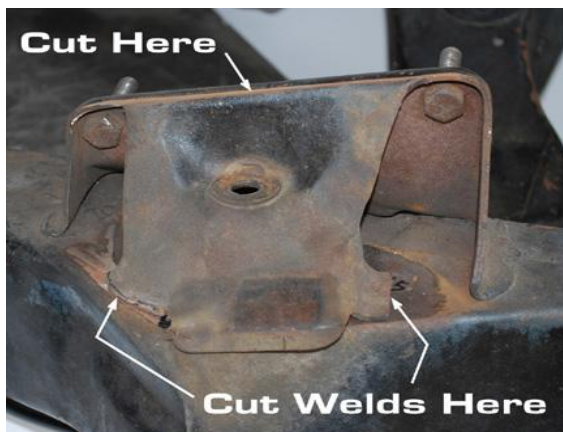


Figure 4: Two pictures of the location of where to cut and the final product

After the shock mount is removed, you will need to remove the inner spring cup and clearance the hole to about 4 1/2" in diameter. This is best done with a plasma cutter or oxyacetylene torch. Clean up the rough edges as needed.



Figure 5: Cut line for the inner spring cut and the final product

Continue the frame modifications according to the instructions for installing the [Chicane Coilover](#) brackets.

4.3 FINISHING

Clean and/or sandblast, and then coat the frame with your favorite products or powder coat to prevent rust from forming.

5.0 INSTALLATION

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5.1 SUSPENSION INSTALLATION

Install the coilovers, lower control arms, the steering arms on the spindles, tie rod sleeves, upper control arms, and brakes according to their individual instructions.

5.2 IDLER ARM BRACKET INSTALLATION

Install the idler arm relocation bracket in the stock location on the frame and the idler arm on the bracket.



Figure 6: Idler arm bracket

5.3 ASSEMBLY

Assemble the tie rod ends, center link, and idler arm. Install the assembly in the chassis.



Figure 7: Assembly

5.4 SWAY BAR END LINKS

Install new sway bar end links according to the diagram.

6.0 ALIGNMENT

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When finished, take the vehicle to a competent professional alignment shop for an alignment.

NOTE: Use alignment specifications in figure 9, not alignment shop pre-programmed factory specs.

These specs are only suggestions and may require additional changes to achieve optimal settings for your driving style or situation.

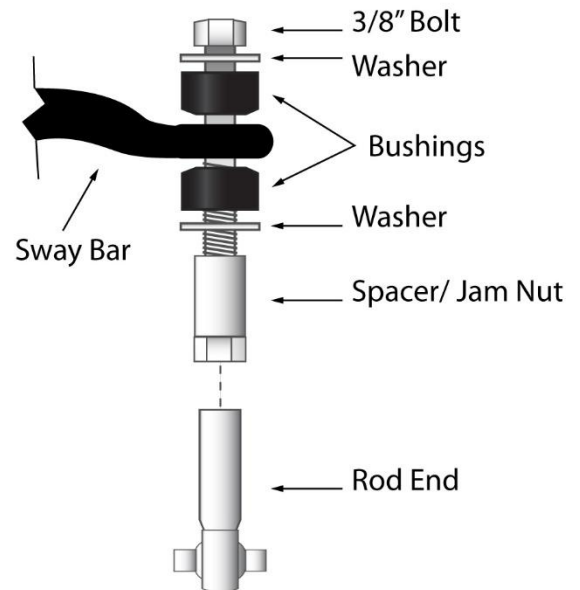


Figure 8: Sway bar end links diagram

Daily Driving, Street Performance Specifications

Driver Side	Passenger Side
4 Degrees positive Caster	4 ½ Degrees positive Caster
0 to ½ Degree negative Camber	0 to ½ Degree negative Camber
3/ 32 Total Toe-in	3/ 32 Total Toe-in

Aggressive Track Alignment Specifications

Driver Side	Passenger Side
5 ½ Degrees positive Caster	6 Degrees positive Caster
½ to 1 Degree negative Camber	½ to 1 Degree negative Camber
3/ 32 Total Toe-in	3/ 32 Total Toe-in

Original Alignment Specifications

**For reference purposes only. Do not use these specs.

Driver Side	Passenger Side
½ Degree positive Caster	½ Degree positive Caster
¼ to ½ Degree negative Camber	¼ to ½ Degree negative Camber
1/8 Total Toe-in	1/8 Total Toe-in

Figure 9: Three tables with alignment specifications

7.0 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 Team Speedtech group on Facebook. Team Speedtech is a community of customers, dealers, and factory employees who have a passion for pro-touring muscle cars and use Speedtech Performance products. You can ask questions, get advice from the group members, and share your experience. Everyone enjoys seeing the videos and pictures as your project progresses, and Speedtech encourages you to share them!

Thank you for choosing Speedtech Performance and entrusting us with your street fighter suspension for your custom muscle car.

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