Instruction Guide

Lower Control Arms

Speedtech PERFORMANCE

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

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Figure 1: 1968 D8nite Camaro features our GT front suspension and torque arm rear suspension

Congratulations on the purchase of your new Speedtech Performance ExtReme lower control arms. 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 ExtReme lower control arms 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

1.1 THIS GUIDE

Thank you for purchasing your new Speedtech Performance upper control arms. 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.

While Speedtech's ExtReme suspension systems are safer and more comfortable compared to factory suspension on the street, it is also designed to meet the needs of those intending to participate in off highway road races and autocross competitions. To achieve maximum benefit from our system, you should anticipate adjusting and tuning of the suspension to achieve optimum performance specific to the vehicle, driver, and type of racing. Some of this, such as tuning sway bars and shock settings, can be done track side through making adjustments and seeing or feeling how the car reacts to these changes. Speedtech recommends that a tire probe pyrometer and an air pressure gauge be in your track side kit.

Other adjustments, such as tuning a 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 does not come with bolt and hardware as a stock GM vehicle comes with studs instead of bolts. If your studs have been removed, Speedtech recommends using a bolt with the same specifications as your factory application.

70-73 Camaro models you may need to enlarge the mounting holes to 9/16” for the supplied bolts. Some of the early models came with ½ bolts.

These control arms will not work with drum brakes.

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.

1.2 OVERVIEW

These instructions outline the lower control arm assembly. The system can be installed independently on a stock subframe with a factory spindle; however, some photos in the install process may have the Speedtech Performance spindle. Photos in the instruction process may vary slightly from your exact operation. For example, in this guide Speedtech has 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.

1.3 TOOLS

Installation of the Speedtech Performance lower control arms can be done on the floor with simple hand tools and no special tools are required.

Additional things to have before you start:

- Silicon Based Grease
- Anti-Seize
- Wrench Set
- Torque Wrench
- Floor Stands
- Floor Jack

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 a table which can be used as a check list, 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

Upper Control Arms

X	#	Description	Size
	1	Drivers Side Control Arm with Ball Joint installed	Factory Replacement
	1	Passenger Side Control Arm with Ball Joint installed	Factory Replacement
	2	Sway Bar End Links	Factory Replacement
	4	Bolts	Depends on Vehicle
	4	Nylock Nuts	Depends on Vehicle

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

3.0 GETTING STARTED

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3.1 INSPECT CURRENT SUSPENSION

Speedtech recommends you inspect all of your car's suspension prior to installation of our parts, such as tie rods, ball joints, and other suspension parts which may be worn and could cause adverse effects. Replace parts as necessary.

3.2 LEVELING AND SUPPORT

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

Jack up and properly support the vehicle's frame, and remove the front wheels. For cars with drop off style rotors, reinstall one lug nut if needed to prevent the rotor from falling off.

4.0 FACTORY DISASSEMBLY

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4.1 SPRING COMPRESSION

Place the jack under the outer end of one of the lower control arms. Gently raise the jack to compress the spring slightly and relieve the pressure on the ball joint.

4.2 SPINDLE REMOVAL

Remove the spindle from the upper control arm by removing the cotter pin and loosening the castle nut on the upper ball joint until it has approximately five threads of contact. Use a pickle fork if necessary to separate the spindle from the ball joint. Next, remove the castle nut and watch carefully for any tension on the spring that may pop the assembly apart as the nut is removed.

4.3 LOWER REMOVAL

Repeat this process for the lower ball joint. Watch carefully for any tension on the spring that may pop the assembly apart as the nut is removed. Remove the coil spring and place aside.

4.4 ARM REMOVAL

Remove the stover nuts and bolts from the mounts that hold the control arm in the frame and remove the control arm from the frame. Clean and remove, rust and repaint the frame as needed.

5.0 CONTROL ARM INSTALLATION

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5.1 LOWER CONTROL ARM INSTALLATION

Install the new lower control arm in the reverse order because of bushing variations and over tightening. As bushings have been replaced in the past, you may encounter an overly tight fit. If so, you will need to spread the tabs on the control arm mounts. The best way to do this is to assemble a ½ X 4" length of all thread with two nuts and washers inside the mount. Gently tighten the nuts so that they spread the mount tabs apart. Test fit the arm periodically, as the mounts may spring back slightly during this process.

To properly spread the control arm mount tabs, create a simple tool as shown below. Spread the mount apart as needed by tightening the nuts against the frame.

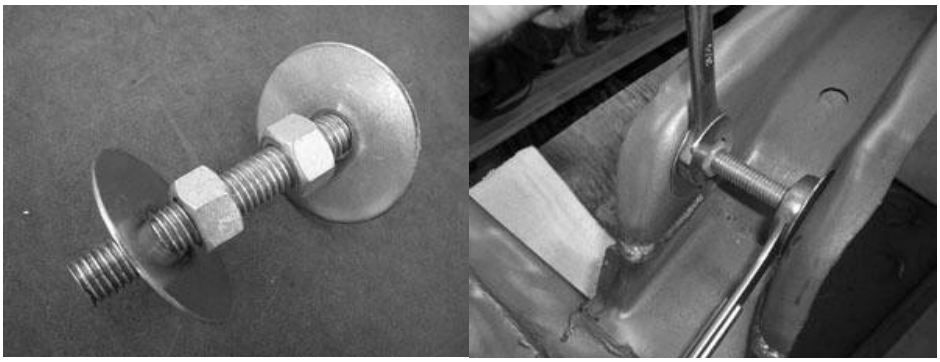

Figure 3: Lower control arm installation

5.2 BOLT INSTALLATION

Once the desired fit is achieved, lube the bolts provided in the kit on both the threads and shank with anti-seize. Insert bolts and tighten the nuts enough so that all is secure. Do not fully torque them to specifications at this point.

5.3 RE-INSTALLATION

Support the assembly by placing the floor jack under the outer portion of the lower control arm. Reinstall the spring, spindle, and shock. Torque the lower ball joint castle nut to 80 ft/lbs. Torque the upper ball joint castle nut to 40 ft/lbs. Reinstall any steering linkage that was removed.

Install new sway bar end links according to figure 4.

5.4 BRAKE DUST SHIELD

If using factory disc brakes, you may need to clearance the dust shield slightly. With the assembly supported by the floor jack, turn the steering wheel lock to lock and have a partner check for any interference. Trim dust shield as necessary.

5.5 LUBRICATION

Grease control arm bushings and new ball joint. Grease other suspension components as needed. Speedtech recommends silicon-based grease; however, any high-quality grease will do.

Finally, reinstall wheel and torque to recommended specs.

5.6 REPEAT

Repeat the process for other side of car.

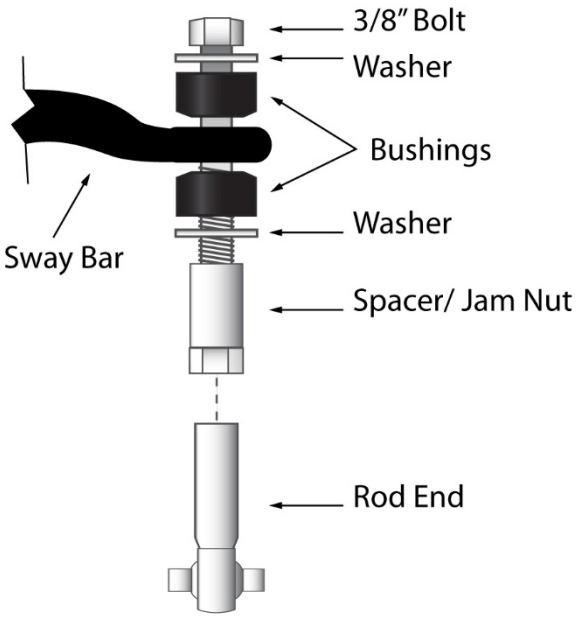

Figure 4: Installing new sway bars

6.0 ALIGNMENT / TORQUING

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6.1 TORQUE

Once all parts are reinstalled, push down on the bumper a few times to settle the suspension to normal ride height. With the car supported on the tires, torque the lower control arm bolts to 50 ft/lbs.

NOTE: This may be less than factory torque specs and this is due to difference in materials and design, such as factory bushings upgraded from rubber to Delrin.

6.2 ALIGNMENT

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

NOTE: Use alignment specifications below, in figure 5, not alignment shop pre-programmed factory specifications!

These are only suggestions and may need additional changes to achieve the optimum settings for your driving style or situation.

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 5: 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 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 lower control arms for your custom muscle car.

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