



BMW E46 Front and Rear Sway Bar Installation Instructions



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

INTRODUCTION

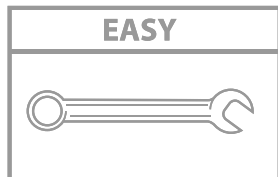
BMW E46 Front And Rear Sway Bars ES#2831192, ES#2769935, & ES#2769937

ECS Tuning BMW E46 Front and Rear Sway Bars offer the following features:

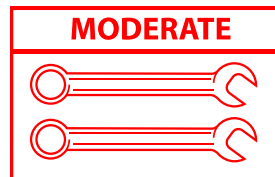
- Reduced body roll
- Increased lateral stiffness
- Improved handling and ride control
- Adjustable front sway bar
- Includes new bushings for both front and rear sway bars
- Easy installation



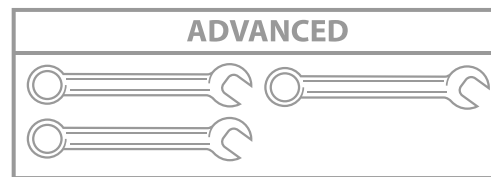
BMW recommends the replacement of some of the suspension fasteners when they are removed. Before you begin, please refer to page 19 "Torque Specifications" for identification and make sure you have all the required fasteners to complete this installation.



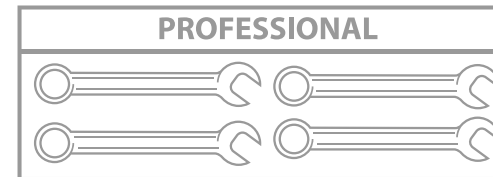
**BASIC SKILLS
REQUIRED**



**SOME EXPERIENCE
RECOMMENDED**



**ADVANCED SKILLS &
EXPERIENCE REQUIRED**



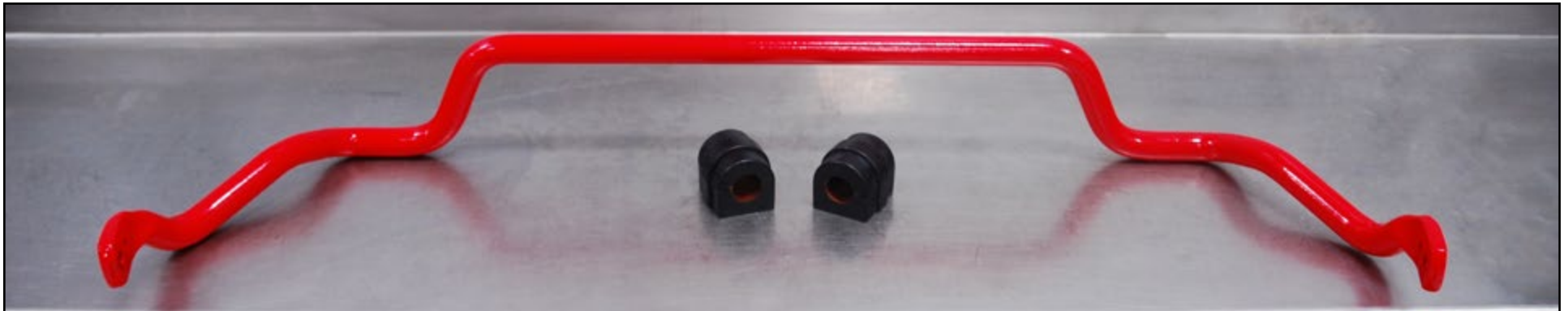
**PROFESSIONAL SKILLS &
SPECIALTY TOOLS REQUIRED**

Installing ECS Tuning front and rear sway bars on your E46 BMW is a rewarding project that you will be able to complete in an afternoon. Our step by step instructions will remove any guesswork and provide you with a smooth installation. Before you begin, read and familiarize yourself with these instructions and make sure you have all the required tools on hand. Even though you will not be altering any actual alignment adjustments, as with any type of suspension work, we recommend that you plan a four-wheel alignment to keep your suspension fine-tuned and to correct for any minor changes that may occur during installation. Thank you for purchasing our E46 BMW Sway Bars. We appreciate your business!

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FRONT SWAY BAR AND BUSHINGS



REAR SWAY BAR AND BUSHINGS



REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

We recommend that you have a complete selection of tools and equipment necessary for automotive repair. Below is a list of the tools we used to install the ECS Tuning Sway Bars. Additional tools may be required for any issues that arise during installation such as rust, corrosion, or broken and stripped fasteners.

- 3/8" Drive Torque Wrench Available at [ecstuning.com](#)..... [ES#2221245](#)
- Flat and Phillips Blade Screwdriver(s) Available at [ecstuning.com](#)..... [ES#2225921](#)
- 3/8" Sockets: 13mm, 16mm, 17mm..... Available at [ecstuning.com](#)..... [ES#2763772](#)
- 3/8" Drive Ratchets, Extensions, Universal Joints
- 1/4" Sockets: 10mm
- 1/4" Drive Ratchet, Extensions
- Metric Open/Box End Wrenches: 13mm, 16mm
- Safety Glasses

SHOP SUPPLIES AND MATERIALS

- Hand Cleaner/Degreaser..... Available at [ecstuning.com](#)..... [ES#2167336](#)
- Silicone Spray Lubricant..... Available at your local auto parts store
- Shop Rags Available at your local auto parts store
- Aerosol Spray Lubricant/Penetrating Oil..... Available at your local auto parts store

INSTALLATION NOTES

- RH refers to the passenger side of the vehicle.
- LH refers to the driver side of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process before you begin.

GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning cares about your health and safety. Please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- Always wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- If using an automotive lift, be sure and utilize the factory specified lift points. Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- When lifting a vehicle using a jack, always utilize the factory specified lift points. Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear. Always support the vehicle with jack stands.
- Always read and follow all safety information and warnings for the equipment you are using.



Never get underneath a vehicle that is supported only by a jack. Always make sure that the vehicle is securely supported on jack stands.

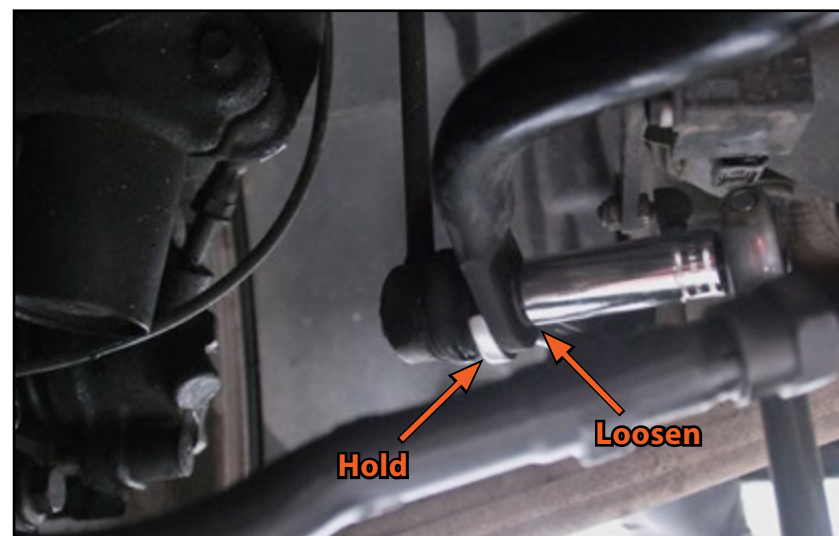
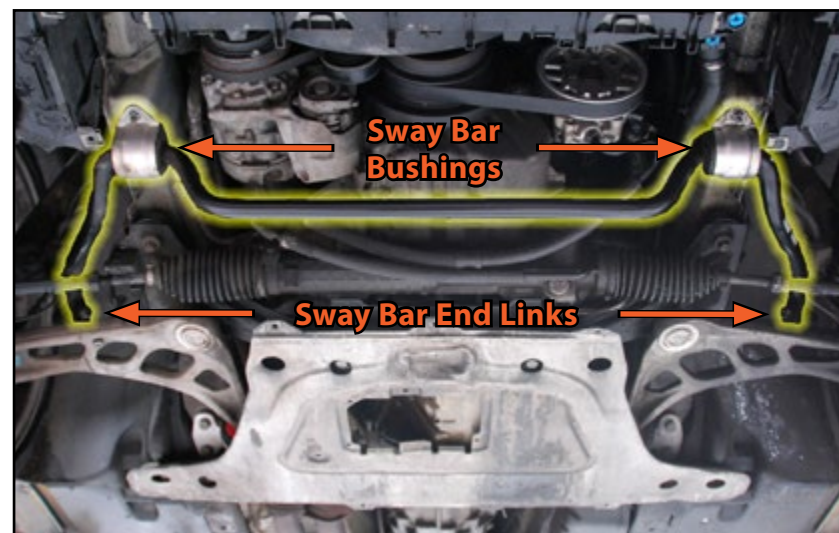
FRONT SWAY BAR INSTALLATION

Step 1: 10mm Socket, 1/4" Ratchet, Phillips Blade Screwdriver

Safely raise and support vehicle. Remove the front belly pan in order to access the sway bar.

Step 2: 16mm Wrench, 16mm Socket and 3/8" Ratchet

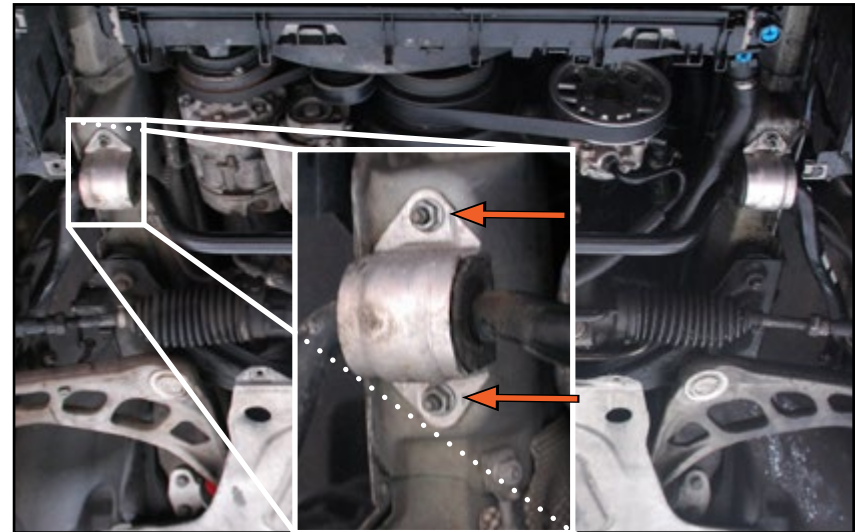
Hold the lower stud of each front sway bar link stationary with a wrench, then remove both lower nuts from each link and pull the ends out of the original sway bar.



FRONT SWAY BAR INSTALLATION

Step 3: 13mm Socket and 3/8" Ratchet

Remove three of the four nuts holding the front sway bar brackets in place (two on each side), and leave one of them loose enough to remove by hand. This will keep the sway bar from falling out unexpectedly.



Step 4:

Using one hand to support the sway bar, use your other hand to remove the last nut. Lower the front of the sway bar, lift the rear of the sway bar over the tie rod ends, and remove it from the vehicle.



FRONT SWAY BAR INSTALLATION

Step 5:

Remove the front sway bar brackets from the bushings by simply pulling them off.

TECH TIP

A screwdriver or other suitable tool may be required to pry the brackets off of the bushings if they are difficult to remove by hand. Insert the tool through the sway bar bracket mounting holes for leverage, then pry the sway bar brackets back and forth, alternating holes, to remove them from the bushings.



Step 6:

Install the new bushings onto the ECS Tuning sway bar by spreading each of them open by hand and pushing them onto the new front sway bar.

NOTE

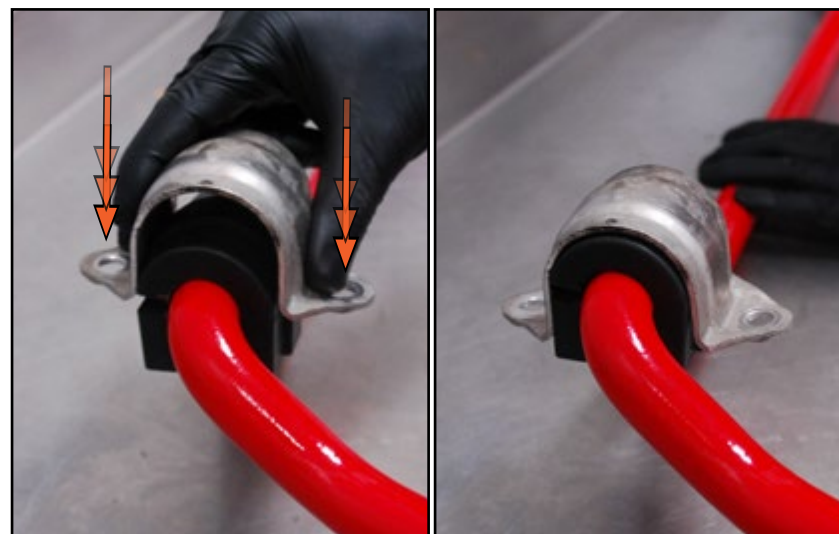
The bushings supplied with your ECS Tuning sway bars do not require any lubrication between the bushing and the sway bar. The bushing is split so it can be easily pushed onto the sway bar as shown, the bushing can be installed with the split on either side.



FRONT SWAY BAR INSTALLATION

Step 7:

Install the sway bar brackets onto the bushings by pressing down firmly until they are fully seated on each bushing.



Step 8:

13mm Socket, 3/8" Ratchet, and Torque Wrench

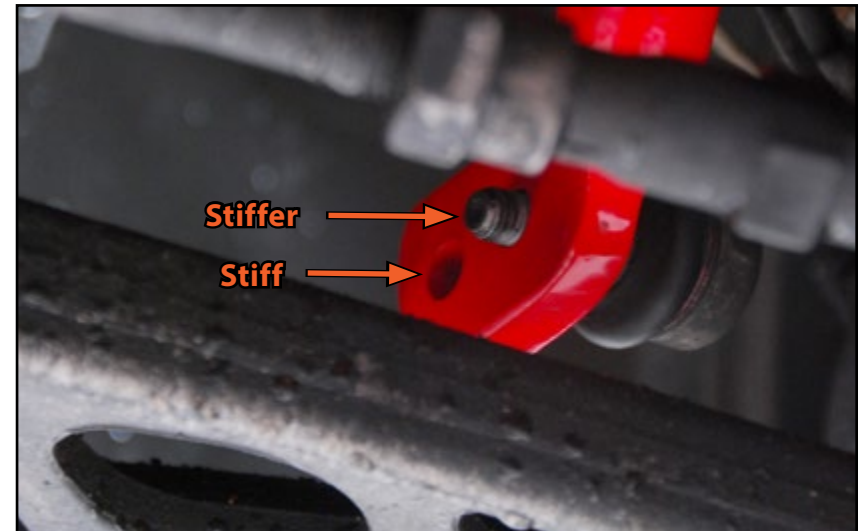
Install the new sway bar in place, rotating the bushings as necessary to push the brackets onto the bracket studs. Make sure the ends of the sway bar are located above the tie rods then install and tighten the four sway bar bracket nuts to 22 Nm (16 Ft-lbs).



FRONT SWAY BAR INSTALLATION

Step 9: 16mm Socket, Torque Wrench, and 16mm Wrench

Install the two lower end link studs into the sway bar, making sure to choose the appropriate hole in the sway bar to achieve your desired stiffness setting. Install the end link nuts and torque them to 65 Nm (48 Ft-lbs).



Step 10:

Reinstall the front belly pan.

Your ECS Tuning Front Sway Bar installation is now complete!



REAR SWAY BAR INSTALLATION

Step 1: 13mm and 17mm Sockets, 3/8" Ratchet

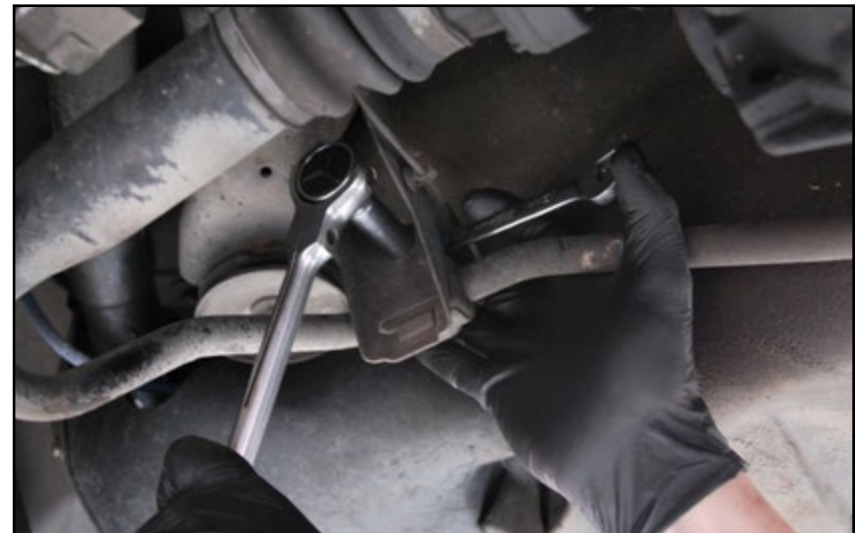
Hold both rear sway bar end link mounting bolts stationary from the top, then remove both end link nuts from the bottom and pull the end links out of the rear lower control arms.

TECH TIP

Penetrating oil may be necessary during this step as these fasteners can become quite rusty over time.

Step 2: 13mm Socket, 3/8" Ratchet, and 13mm wrench

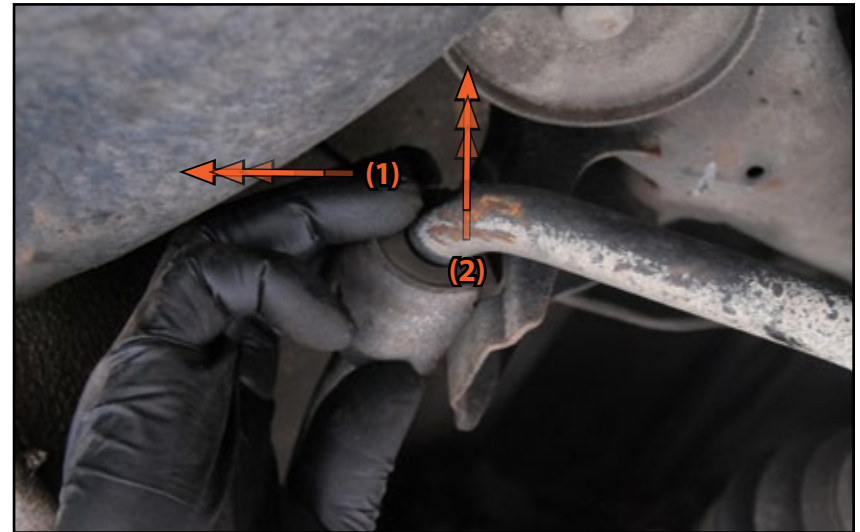
Hold the rear sway bar bushing clamp bolts stationary with a wrench and loosen and remove the nuts.



REAR SWAY BAR INSTALLATION

Step 3:

Remove the rear sway bar bushing clamps by rotating them back and lifting them up out of the slots in the vehicle chassis.

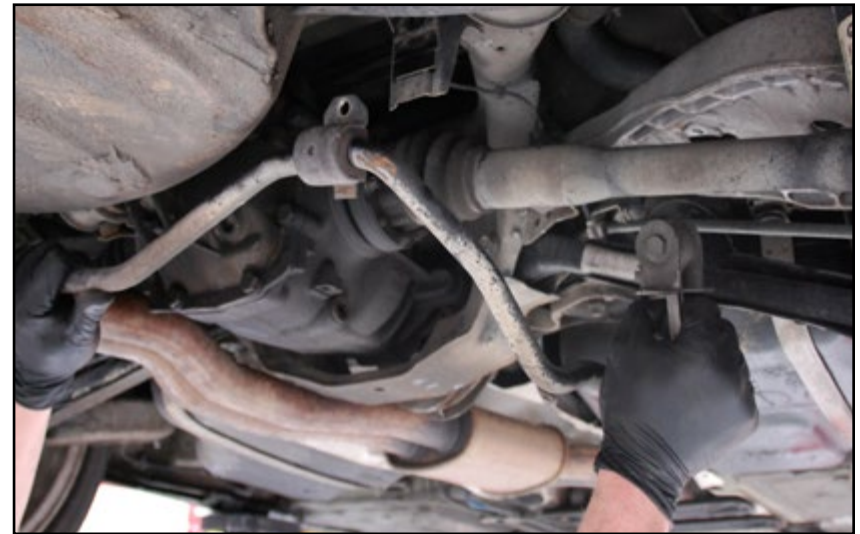


Step 4:

Pull the RH side of the sway bar down slightly and twist the sway bar to clear the RH suspension.

NOTE

It may be necessary during this step to pull down on the exhaust slightly in order to gain enough room to remove the sway bar



REAR SWAY BAR INSTALLATION

Step 5:

Pull the sway bar towards the RH side of the vehicle and twist as necessary to clear the LH suspension and the exhaust.



Step 6:

Lower the RH of the sway bar down as much as possible and remove it from the vehicle.



REAR SWAY BAR INSTALLATION

Step 7:

Remove the rear sway bar brackets from the bushings by simply pulling them off.

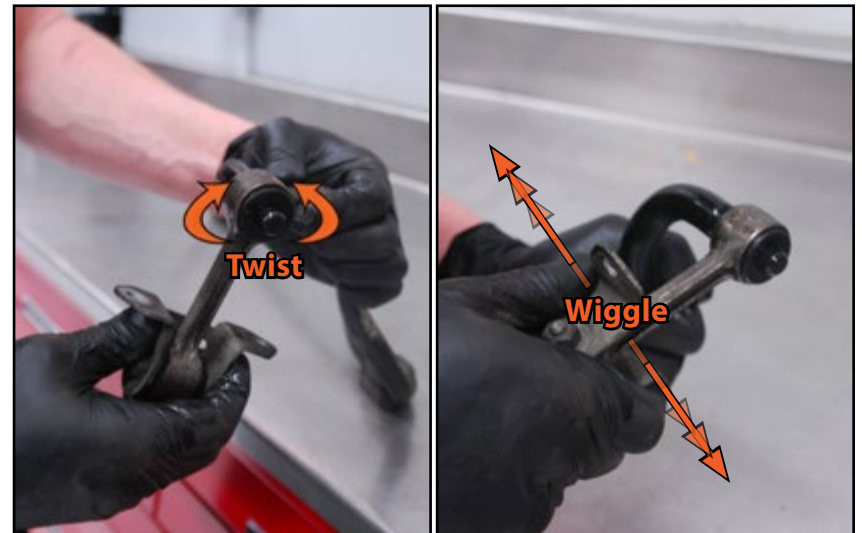
TECH TIP

A screwdriver or other suitable tool may be required to pry the brackets off of the bushings if they are difficult to remove by hand. Insert the tool through the sway bar bracket mounting holes for leverage, then pry the sway bar brackets back and forth, alternating holes, to remove them from the bushings.



Step 8:

Spray the end links with silicone spray lubricant where they mount onto the sway bar. Twist the end links back and forth, wiggle them side to side, spraying more silicone in if necessary. Once they are loosened they will slide off of the sway bar.



REAR SWAY BAR INSTALLATION

Step 9:

Install the new bushings onto the ECS Tuning sway bar by spreading each of them open by hand and pushing them onto the new rear sway bar.

NOTE

The bushings supplied with your ECS Tuning sway bars do not require any lubrication between the bushing and the sway bar. The bushing is split so it can be easily pushed onto the sway bar as shown, the bushing can be installed with the split on either side.

Step 10:

Install the sway bar brackets onto the bushings by pressing down firmly until they are fully seated on each bushing.



REAR SWAY BAR INSTALLATION

Step 11:

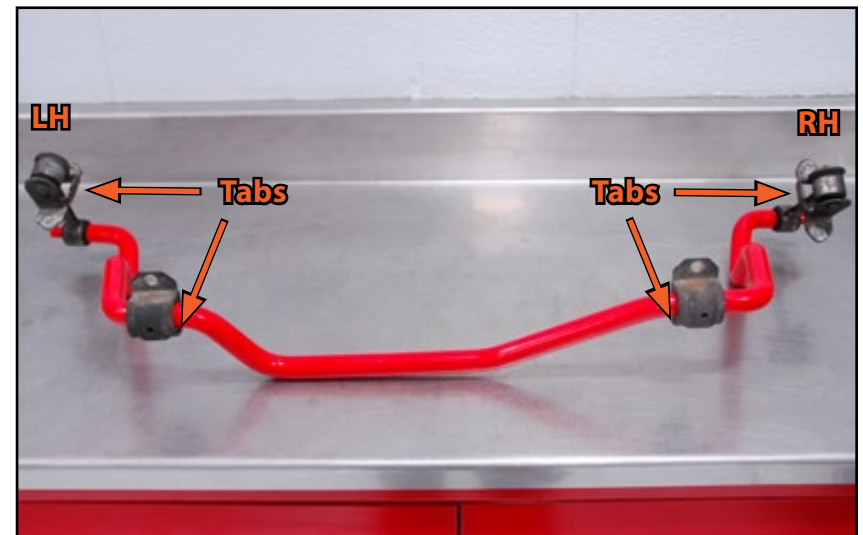
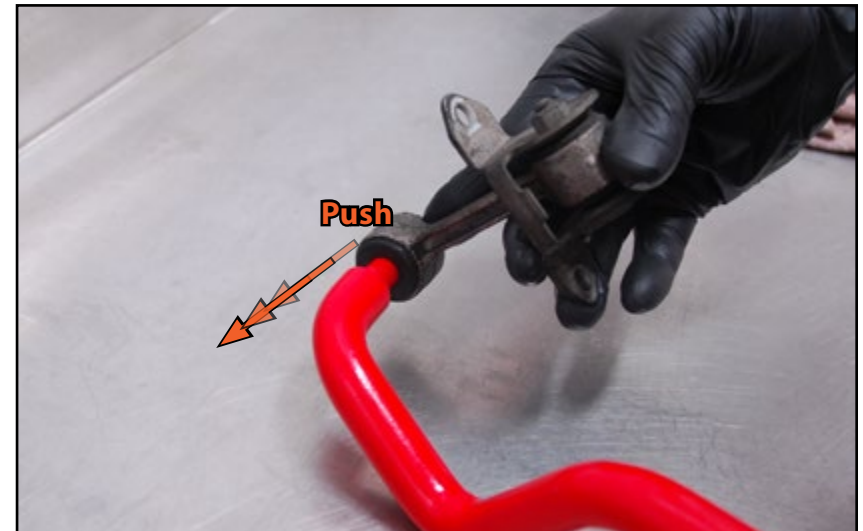
Install the rear sway bar end links onto the rear sway bar by twisting the end links back and forth and sliding them onto the new rear sway bar.

TECH TIP

Silicone spray lubricant can be used to help lubricate the sway bar end links on the sway bar. Spray the silicone in before you try to slide the end link on for best results.

Step 12:

This is a good time to double-check the orientation of the tabs on the end links and sway bar bushing brackets. The tabs on the end links should be located on the inside, and should be facing each other. The tabs on the sway bar brackets should be on the bottom, so they will slide into the chassis when installed on the vehicle.



REAR SWAY BAR INSTALLATION

Step 13: 13mm Wrench, 13mm Socket and Torque Wrench

Install the ECS Tuning rear sway bar on the vehicle following the same procedure as removal. Slide the bushing bracket tabs into their slots and tighten bolts to 22 Nm (16 Ft-lbs).



Step 14: 13mm and 17mm Sockets, 3/8" Ratchet and Torque Wrench

Install the rear sway bar end links into the rear lower control arms and tighten bolts to 34 Nm (25 Ft-lbs).



Your ECS Tuning Rear Sway Bar installation is now complete!

TORQUE SPECIFICATIONS

Front Sway Bar Bracket Nuts	22 Nm (16 Ft-lbs)	(Page 10)
Front Sway Bar End Link Nuts (Always Replace).....	65 Nm (48 Ft-lbs)	(Page 11)
Rear Sway Bar Bracket Nuts	22 Nm (16 Ft-lbs)	(Page 18)
Rear Sway Bar End Link Nuts	34 Nm (25 Ft-lbs)	(Page 18)

• A note about torque to yield or “stretch” bolts: Many bolts will have a torque specification listed in the format - xx Nm+xx degrees (xx Ft-lbs+xx degrees). These bolts are torque to yield bolts, commonly referred to as “stretch” bolts. The correct procedure for torquing these bolts is: **Stage One** - torque them to the Nm or Ft-lb specification. **Stage Two** - tighten each one the additional specified number of degrees. To prevent over torquing it is important to mark each fastener with paint **immediately** after performing the second stage or “stretching” of the bolts.

Your E46 Front and Rear Sway Bar installation is complete!



These instructions are provided as a courtesy by ECS Tuning.

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