**Replacing Your Stabilizer Links**

As you drive your car, the heading of the front wheels is controlled by the steering mechanism of the car. When you change direction the steering mechanism changes the heading of the wheels. Inertia, acting on the body of the car, wants the body to continue in the straight ahead direction. Because the body is resting on the suspension, the body of the car is forced towards the wheels that are outside on the turn. This causes the outside suspension to compress under the additional load and the inside suspension to lift as a result of the load being removed from the inside suspension during the turn. This action is known as a "body roll." Drivers tend not to like excessive body roll since it does not provide a taut ride. The driver would say it feels like the vehicle is "floating" around the turn.

In an effort to reduce body roll, sway bars (also known as stabilizer bars) connect one side of the suspension to the other. This way when the outside suspension compresses in a turn the torque on the sway bar transfers some of the force to the inside suspension causing it to compress slightly also. This reduces body roll. Typically, the thinner the sway bar the less torque is applied to the inside suspension and you will feel slightly more body roll. A thicker sway bar will allow more torque to be applied to the inner suspension creating less body roll. Sway bars twist as the suspension moves up and down. They are held in place with rubber bushings and rotate inside the bushings.

Stabilizer bar links connects the stabilizer bar to the struts (front) or suspension arms (rear). The connecting links wear out over time. When they begin to fail, you may have a knocking noise in the suspension when driving over bumps or when steering the vehicle. To inspect the front stabilizer links, jack the front of the vehicle and wiggle the wheel back and forth. While wiggling the wheel, listen for a noise from the link. If no noise is heard, place your hand around the ends of the link and monitor for looseness as you wiggle the wheel. The rear link has a rubber bushing the stabilizer bar inserts into. These wear out and cause a clunking sound. If you have a noise in the rear, this is a good place to start looking. In this article I describe how to repair sway bar link problems on the front suspension of the E46.

Keep in mind that when your car was serviced before, parts may have been replaced with different size fasteners used in the replacement. The sizes of the nuts and bolts we give may be different from what you have, so be prepared with different size sockets and wrenches.

Protect your eyes, hands and body from fluids, dust and debris while working on your vehicle. If you are working with the electrical system, disconnect the battery before beginning. Always catch fluids in appropriate containers and properly dispose of any fluid waste. Recycle parts, packaging and fluids when possible. Do not work on your vehicle if you feel the task is beyond your ability.

Vehicle models change and evolve as they grow older, so the vehicle shown in our illustrations may vary slightly from yours. If something seems different, let us know and share your info to help other users. Do you have questions or want to add to the article? Leave a comment below. When leaving a comment, please leave your vehicle information.

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| [ThisPicture shows the stabilizer link (green arrow) connecting o the vehicle stabilizer bar to the front strut.](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_small/pic01.jpg)  **Figure 1** | This picture shows the stabilizer link (green arrow) connecting o the vehicle stabilizer bar to the front strut.  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_med/pic01.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_large/pic01.jpg) |
| To begin, raise and support the front of the vehicle on jack stands. If you need help with this step, please refer to our[Pelican Parts Technical Article on Jacking Up Your BMW.](https://www.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/01-BASICS-Jacking_Up_Your_BMW/01-BASICS-Jacking_Up_Your_BMW.htm" \t ") Now remove the front wheel from the side of the vehicle you are replacing control arm on. Next, remove the front wheel from the side of vehicle you are replacing the link on. | |
| [Working at the front strut, remove the stabilizer link nut by counter-holding the link with a 15 or 16mm wrench and loosening the 16mm nut.](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_small/pic02.jpg)  **Figure 2** | Working at the front strut, remove the stabilizer link nut by counter-holding the link with a 15 or 16mm wrench and loosening the 16mm nut. The stabilizer link has a flat spot for holding while tightening. This flat spot size can vary between 15mm and 16mm.  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_med/pic02.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_large/pic02.jpg) |
| [Working at the front stabilizer bar, remove the stabilizer link nut (green arrow) by counter-holding the link (purple arrow) with a 15mm or 16mm wrench and loosening the 16mm nut.](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_small/pic03.jpg)  **Figure 3** | Working at the front stabilizer bar, remove the stabilizer link nut (green arrow) by counter-holding the link (purple arrow) with a 15mm or 16mm wrench and loosening the 16mm nut. Next, remove the stabilizer link from the vehicle.  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_med/pic03.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/50-SUSPEN-How_to_Replace_Your_Stabilizer_Bar_Links/images_large/pic03.jpg) |
| Reverse removal instructions for installation. Install the new stabilizer link with the new self-locking nuts. | |