**Replacing Your Front Control Arm Bushings**

BMW E46 front suspension main components are as follows:

* The front subframe provides a rigid platform for mounting the drive train (engine and transmission), steering rack and most front suspension components. The subframe design on rear-wheel drive and all-wheel drive models differs substantially.
* Lower control arms on left and right, each with three attachment points:
  + Bushing at rear anchoring control arm to car frame (rear-wheel drive) or subframe (all-wheel drive).
  + Ball joint at front attaching to subframe.
  + Ball joint at outer end attaching to steering knuckle.
* Coil springs and shock absorbers in MacPherson strut configuration.
* Stabilizer bar anchored at front subframe and attached via stabilizer links to struts.

The control arm bushing connects the control arm to the car frame (rear-wheel drive) or subframe (all-wheel drive). Bushing failure can cause a number of ride quality problems. You may have a shudder when braking or a clunk when you hit a bump. Each of these can be caused by a faulty control arm bushing. To inspect the bushing, jack up the front of your vehicle. With the wheel installed, wiggle the rear of the tire side to side. The bushing should resist and feel firm. If it moves freely and has little resistance, the bushing is failing. Replace these bushings in pairs.

In this tech article I will describe how to replace the front control arm bushing on a rear-wheel drive vehicle. If your car is all-wheel drive, there is a separate article for you.

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.

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.](http://www.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/01-BASICS-Jacking_Up_Your_BMW/01-BASICS-Jacking_Up_Your_BMW.htm)

Next, remove the lower splash shield and reinforcement plate. If you need help with this step, [please refer to our Pelican Parts technical article on Removing the Splash Shield and Reinforcement Plate.](http://www.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/04-BASICS-Engine_Splash_Shield_and_Plate_Replacement/04-BASICS-Engine_Splash_Shield_and_Plate_Replacement.htm" \t ")

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| [If your vehicle is equipped with Xenon headlights, remove the Xenon headlight height sensor from the control arm.](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_small/pic01.jpg)  **Figure 1** | If your vehicle is equipped with Xenon headlights, remove the Xenon headlight height sensor from the control arm. Remove the nuts (green arrows) and lay the sensor arm (purple arrow) aside.  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_med/pic01.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_large/pic01.jpg) |
| [Working at rear of front control arm, remove two 16mm control arm bushing fasteners (green arrows).](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_small/pic02.jpg)  **Figure 2** | Working at rear of front control arm, remove two 16mm control arm bushing fasteners (green arrows). Next, pull the bushing down and away from the vehicle body. Next you have to remove the bushing from the control arm. There are a few ways to do this, I will highlight my favorite. If you try to pull the bushing off with pliers or by hand, the center piece may stay on control arm - then you will have to cut that piece off with a hack saw. I suggest using a soft-faced hammer in conjunction with a pickle fork.  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_med/pic02.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_large/pic02.jpg) |
| [Slide the pickle fork over control arm and behind bushing.](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_small/pic03.jpg)  **Figure 3** | Slide the pickle fork over control arm and behind bushing. Then tap the bushing off the control arm using a soft-faced hammer. The pickle fork drives the bushing from the center, leaving no part of the bushing behind.  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_med/pic03.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_large/pic03.jpg) |
| [Apply a liberal amount of tire lube or dish soap to inside of bushing (green arrow).](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_small/pic04.jpg)  **Figure 4** | Apply a liberal amount of tire lube or dish soap to inside of bushing (green arrow).  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_med/pic04.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_large/pic04.jpg) |
| [Then tap the bushing onto the control arm using a soft-faced hammer.](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_small/pic05.jpg)  **Figure 5** | Then tap the bushing onto the control arm using a soft-faced hammer. Install the bushing fasteners and tighten. Be sure to properly align the bushing to the body using the alignment tabs.  Install the Xenon light height sensor. Install the splash shield and reinforcement plate and double check your work.  [Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_med/pic05.jpg) | [Extra-Large Image](https://cdn4.pelicanparts.com/BMW/techarticles/BMW-3-Series-E46/52-SUSPEN-Replacing_Your_Front_Control_Arm_Bushings/images_large/pic05.jpg) |