

Not shown:

- New lock nuts for (E) shock mounts. 4 in total – M8 metric size locking nuts available from Home Depot.
- Floor jack and two jack stands (having a second floor jack is often very helpful)
- Wheel chocks
- Socket set (metric, ½") with at least 13mm, 16mm, 18mm, 21mm and 22mm sockets
- Wrench set (metric) with at least a 17mm wrench
- 6mm hex socket
- Torque wrenches (½" size, small and large size to span 24 to 110 Nm)
- Vise grip
- Spring compressors
- Dead blow or rubber mallet
- Impact wrench (highly recommended) or long breaker bar (at least 24")
- Brake cleaner + clean rags

### Section 1: Rear Shock Installation

The rear shocks in a E46 coupe are installed with one bolt at the bottom underneath the car and with two bolts at the top. The upper shock mounts are located inside the trunk so the carpeting and some of the trim pieces will need to be removed to be able to access the shock mounts. I have found that the lower shock bolts can be easily removed without needing to jack up the car but one the lower bolt is removed and the shock extends it may not be possible to remove it from under the car unless you jack up that side a few inches.

1. Place wheel chocks on the front tires to prevent it from rolling.
2. Release the hand brake.
3. Remove the carpet and trip pieces in the trunk enough to expose the left and right upper shock mounts.



4. Using a 13mm socket, remove the two nuts on each side of the shock mount.

5. Using an 18mm socket, remove the lower shock mounting bolt. Depending on the age of your car, removing this lower mounting bolt may require a breaker bar or (preferably) an impact wrench if you have one. When you remove the lower mounting bolt, the shock will drop to the ground.



6. Try and maneuver the shock out from under the car. Due to the length of the shock, this may not be possible until that side of the car is raised a few inches which may provide the clearance needed to remove the shock.

7. Ensure that the original paper gasket is intact on the top of the old shock mount. If it's not, part or all of it may be stuck to the bottom of the shock mount opening into your trunk. Ensure that all of the original shock mount gasket has been removed before proceeding.

8. Repeat on the other side to remove the old shock.

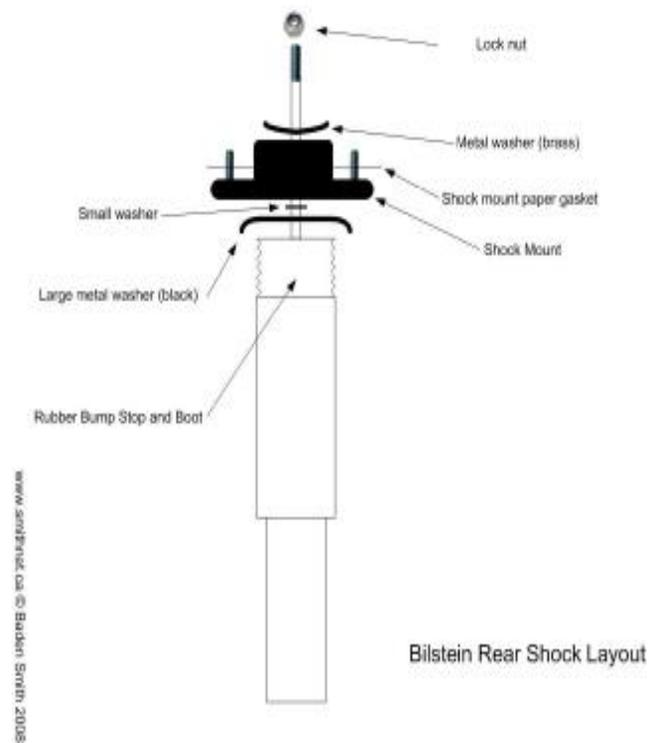
9. The new Bilstein HD shocks will need to have some parts scavenged from the existing shocks so you will need to remove the 16mm top nut on the old shocks to remove these parts.



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10. You will need to remove four pieces from the old shocks: the bump stop and 3 metal washers.

11. Using one of the new upper shock mounts and a new gasket, assemble the parts onto the metal shaft of the new Bilstein shock as follows:



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Bilstein Rear Shock Layout

12. Tighten the nut on the top of the Bilstein shock to 27 Nm.

13. Place the strut mount reinforcement plate over the shock mounts.

14. Working from the bottom of the car but looking at the exposed shock mount opening at the top of the rear tire, guide the assembled Bilstein shock into place. Hand tighten the two 13mm nuts. Remember to only use new lock nuts.



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15. Lower the car to the ground before proceeding.
16. Add the supplied washer to the lower shock mount bolt.



17. As necessary, raise the bottom of the shock by hand or with a jack to align the lower shock mount bolt to the mounting bracket then hand thread the bolt as far as it will go.



18. Tighten the lower shock mount bolts to 100 Nm.
19. Tighten the two 13mm upper strut mount nuts to 27 Nm.
20. Repeat on the other side of the car.