

# BNR Coilover install guide

Tools needed:

14-21mm sockets

Spring compressors

24mm deep socket

Jack and 2 jack stands

24mm wrench

Vice grips

19mm wrench

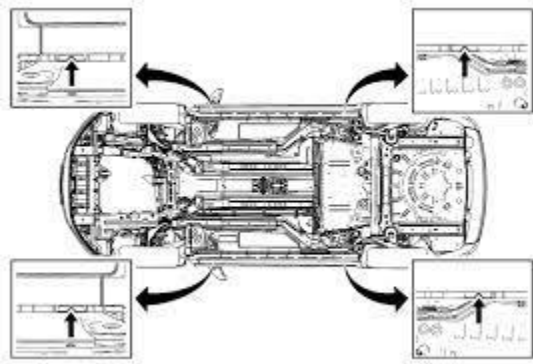
Torque wrench up to 110ft-lbs minimum

T40 Torx bit



1. Confirm you have all pieces before starting installation. Kit should include:
  - a. 2x Front strut assembly w/ top hat adapter
  - b. 2x adjustable sway bar endlinks w/ 19mm nuts
  - c. 2x rear shocks w/ new 17mm mounting nuts
  - d. 2x rear springs
  - e. 2x adjustable rear spring perches
  - f. 4x strut dampening adjusters
  - g. 2x spanner wrenches

## Rear spring and shock replacement



1. Jack rear of vehicle and place jack stand under vehicle to keep rear wheel off the ground. Your vehicle has recommended jacking points as shown in the diagram above.
2. Remove rear tire using 19mm socket and set aside



3. Place jack under rear hub assembly as shown in picture. Raise jack until it makes firm contact with assembly. This will allow you to remove the shock without the assembly falling.



4. Using a 21mm socket, remove lower shock bolt. It will decompress slightly when the bolt is removed. Your jack is now the primary support for the assembly's weight.



5. For upper shock removal, there are 2 18mm bolts that need to be removed. You may have to bend your fender liner back to reach the aft bolt properly.



6. Once removed, you will want to remove the upper mounting bracket from the old shock so it can be reused. At the top of the shock is a 15mm nut. Remove this nut and the bracket will come off. If the nut spins the shock, use a pair of vice grips to hold shock in place while loosening nut. Install bracket to new shock with supplied 17mm nut.



7. At this point you can lower the jack slowly with the rear assembly until you can remove old rear spring. Remove both rear spring caps as they will be reused with the new spring. Place new spring with perch and caps into vehicle.
8. To install the new shock, start with upper mounting bracket. Replace both 18mm bolts and torque to 74ft-lbs.
9. Slowly raise jack/rear assembly until lower shock mounting hole aligns with hole in assembly. Install 21mm bolt and torque to 110ft-lbs + 60 degrees. You can now remove your jack from assembly.
10. Before installing wheel, you will need to set dampening on shock. This is done by turning the silver knob at the top of the shock just below mounting bracket. Your kit has 32 position adjustable dampening. Rotate the knob counterclockwise to soften and clockwise to stiffen. It is recommended to start at full soft for daily driving and adjust in small increments to desired stiffness.
11. Replace wheel using 19mm socket.
12. Remove jack stand and lower car to the ground.
13. Torque rear wheel to 100ft-lbs.
14. Repeat for other side.



# Front strut replacement

1. Raise front wheel off the ground and place jack stand using recommended jack points.
2. Remove wheel using 19mm socket.



3. Just forward of strut, you will see a rubber brake line mount. Gently pull up to remove the brake line from strut assembly.
4. Place jack under front hub assembly and raise until jack supports assembly.
5. Open hood of vehicle to access top of front strut assembly.



6. Once under hood, you will see the upper strut mount. This is held in place by a 24mm nut. Remove the nut with 24mm socket. If assembly turns freely, it may be necessary to hold strut in place with T40 while turning 24mm nut with wrench. Once removed, your jack will now support the weight of the hub assembly.



7. To remove the strut from lower assembly, start by removing the sway bar end links. This is done using a 19mm socket or wrench on both the upper and lower end link bolts. The end links have the same design as the upper strut mount and may need to be held in place with the T40 while turning with a wrench. Once the nuts are removed raise or lower your jack as required to align end link hole with mounting point. This makes it easier to remove end link. We will not be re-using the old end links.
8. With end links detached, slowly lower your jack until strut assembly has freedom of movement. This will prevent any decompression when lower bolts are removed.



9. The bottom of your strut is held on by 2 19mm bolts and 2 19mm nuts. Use your socket and wrench to remove these bolts. When removing bolts, be sure to keep control of your strut assembly as it will fall freely from vehicle.

**If you are unfamiliar with spring compressors, research proper usage or find someone that can help you prior to attempting.**

10. Once your strut assembly is removed from the vehicle, you will need to remove the oem tophat from the strut to be used on the new struts. Using spring compressors, gently compress old strut. Remove top hat nut with 24mm socket and set aside to be used with new strut assembly.
11. Your new strut has a metal top hat adapter. Place oem top hat on this adapter and gently secure using oem 24mm nut. You do not want to compress the spring using top hat. The spring should still rotate with some resistance.
12. It is best to preset strut height prior to installing on vehicle. A good starting point is 3" of thread between upper and lower locking rings.
13. Bolt new strut assembly into vehicle starting with lower mounting points. Replace both 19mm bolts and nuts. Torque bolts to 66ft-lbs+60 degrees



14. Using jack raise strut assembly back into top mount area. Once in place, secure upper strut plate in place using 24mm nut and socket. Do not torque this item until car is back on ground.
15. Install new swaybar end link with supplied 19mm nuts. Torque to 46ft-lbs.
16. Replace rubber brake line mount in new strut assembly.
17. Slowly Remove jack from under assembly. The upper mount will be supporting the weight of the assembly.
18. Install wheel using 19mm.
19. Lower car to the ground slowly. Upper strut mount will be loose when car compresses new strut.
20. With car on ground, remove strut top mount nut and plate exposing top hat nut. Torque top hat nut to 48ft-lbs.

21. Replace top plate and nut. Torque top nut to 52ft-lbs.
22. Torque wheel lug nuts to 100ft-lbs.
23. At the top of your new strut is a hex hole. Use the supplied adjustment keys to set dampening on strut. It is recommended to start at softest setting and work in increments to desired stiffness.
24. Repeat for other side of vehicle.

You now have a lowered vehicle. Use the supplied spanner wrenches to adjust ride height as required.