

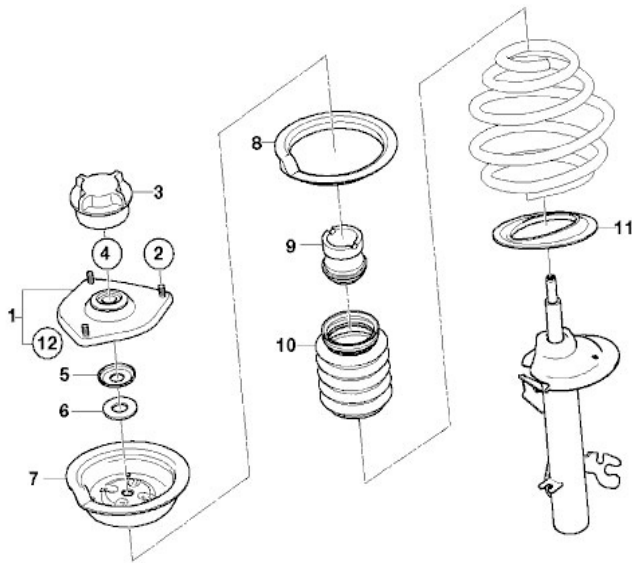
M7 Coilover System Installation Guide

NOTE: M7 suggests that you have the M7 Coilover System professionally installed. If you decide to install the Coilover System yourself, please refer to the provided diagrams of the stock suspension components in regards to factory pieces that will or will not be re-used for installation of the M7 Coilovers. Please read the entire manual before proceeding. Call M7 immediately with any questions.

FRONT Struts

For installation, re-use the following from the factory suspension:

- 1) Strut Top Mount
- 2) Strut Top Mounting Nuts (3, holds strut to body)
- 3) Protective Cap
- 5) Dust Protection Washer (should be curved to match with the bottom of the Strut Top Mount)
- 6) Flat Washer
- 7) Upper Spring Seat
- 8) Upper Spring Seat Pad



DO NOT reuse the factory rubber bump stop or the factory center strut retaining nut as they are replaced by new components or unused.

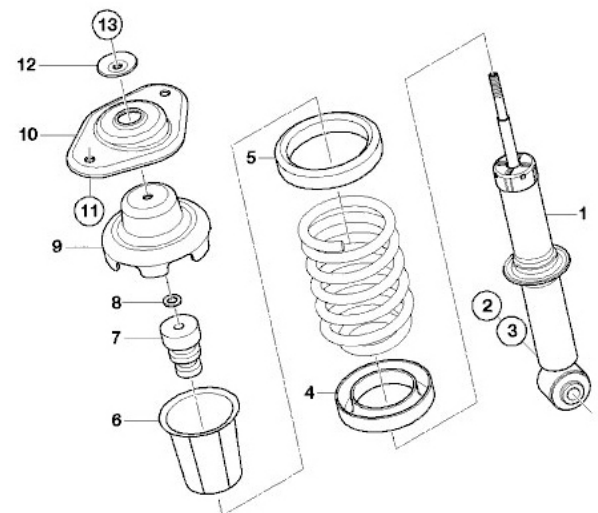
(diagram: www.RealOem.com)

REAR Struts

For installation, re-use the following from the factory suspension:

- 2) Lower Strut mounting bolt (holds strut to trailing arm)
- 3) Lower Strut mounting washer
- 10) Upper Mount Plate (including bushings: one above and one below. Discard metal spacing cylinder)
- 11) Upper Mount Bolts (2, holds strut to body)
- 12) Cupped washer (may require center hole to be opened up)

DO NOT re-use the factory rubber bump stop, center strut retaining nut, upper mount plate's spacing cylinder, or upper spring perch/upper spring pad as they are replaced by new components or unused.



(diagram: www.RealOem.com)

Adjusting Compression/ Rebound

Looking at the car from the ground up, turning the click wheels to the left (counter-clockwise) will bring you to the lower settings while turning the click wheels to the right (clockwise) will raise the Compression/ Rebound values.

Please Note: The installation pictures are from an R56 installation session, however procedures are similar with previous generations.

FRONT

Loosen the lug bolts, jack the MINI up, support with jack stands, and fully remove the wheels. Remove the brake lines and sensors that are clipped onto the strut (they just pull off).

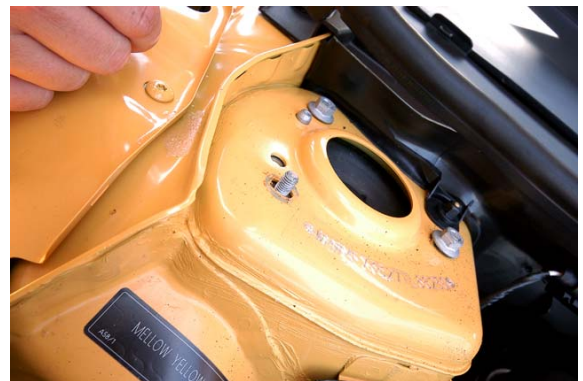


First, remove the 18mm bolt clamping the bottom of the strut. Work the strut out of the carrier by applying a downward force on the hub (a couple quick stomps on the bulge in the brake rotor usually does the trick).

Next, remove the swaybar endlink from the shock body. This can be accomplished in a couple of ways. One is to use a 16mm wrench to remove the nut and a 5mm allen wrench to keep the endlink's head from moving. The other way requires an 18mm wrench (this may be different for other generations) and a 16mm wrench. Next to the endlink's pivot point, the bolt is not completely round. There should be two flat points that you can slide the 18mm wrench over. Using this to keep the bolt from spinning, you can now use the 16mm wrench to remove the bolt keeping the endlink connected to the shock body.

Open your hood and remove the three 13mm nuts that are holding the strut to the

strut tower. It is usually helpful to have someone catch the strut as these nuts are the only thing left holding the strut in place.



Once you have the strut removed, use a flathead screwdriver to remove the plastic retaining nut cover. **SAFETY TIP:** Compress the spring before attempting to remove the nut. Use a 18mm socket attached to an impact wrench to remove the center retaining nut on the strut. If you do not have an impact wrench, creative use of tools is required to remove this nut as an allen wrench has to be used to keep the shock from spinning. Your other choice is to hire a professional installation

shop to install the Coilover system for you.

Once the nut is free, refer to the first page of this installation guide to see what parts you need to keep and what parts you will not need for the rest of this installation. From the hub to the strut tower, the order of the front strut assembly is as follows (refer to picture as well):

- 1) Shock
- 2) Spring
- 3) Rubber Spring Pad
- 4) Spring Seat
- 5) Flat Washer
- 6) Curved washer (because of grease, this may be stuck to the bottom of the strut top)
- 7) Strut top



- 8) Retaining nut
Use your impact wrench to bring it all together.

PLEASE NOTE: *the adjustable shock collar is pre-adjusted so that the bottom of the actual shock is lined up with the bottom of the strut carrier (a little bit of the shock will be sticking out). This measures out to 2 1/8" from the bottom of the shock to the bottom of the adjustable shock collar. Also, the spring perch is pre-set to 3/8" from the top of the adjustable collar. Once installed, the adjustment knob on the bottom of the shock should stick out from the bottom of the strut carrier. These pre-adjustments are average starting points and final adjustments can be made by the owner.*

To install the new strut assembly, place the shock body inside of the carrier. Be sure to align the flange into the gap in the pinch clamp of the carrier. Place a jack under the brake rotor/ hub carrier. Slowly jack the entire assembly up to the top of the strut tower. Have another person line up the bolts coming from the strut top through the holes in the strut tower. As you jack up the assembly, you may have to wiggle the hub carrier to ensure a proper fit of the lower part of the strut. When done correctly, the 18mm bolt will slide through the hub carrier's pinch clamp easily.

Once this is done, tighten the 18mm pinch clamp bolt to 60ft-lb. Be sure the three bolts on the top of the strut tower are completely through their corresponding holes, screw the nuts onto the three bolts and tighten down to 25 ft-lb (hand-tight).

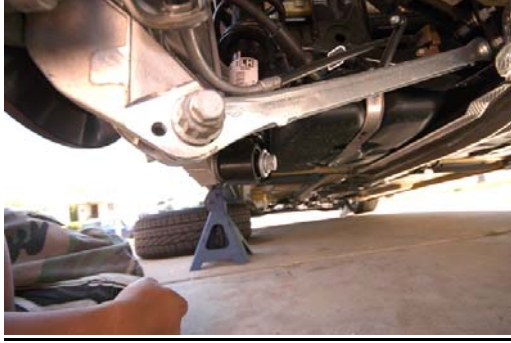
Adjust the height of the jack to line up the swaybar endlink and its attachment point on the shock body. It is possible that jacking up the assembly to compress it will help to align the two parts. Attach the endlink to the shock body and tighten to 41 ft-lb.

Reattach the brake lines and any sensors to their attachment points on the strut assembly. Replace the wheels, bring the car down off of the jacks, and torque your wheels down.

REAR

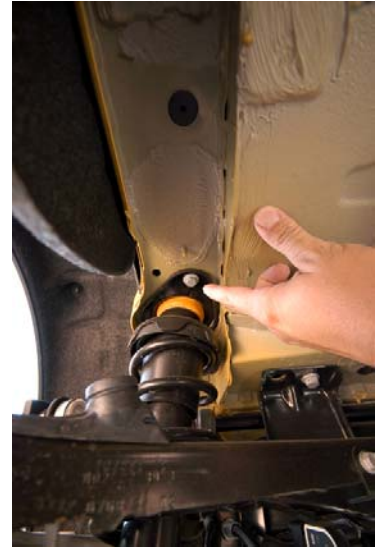
Loosen the lug bolts, jack the MINI up, support with jack stands, and fully remove the wheels. Remove the brake lines and sensors that are clipped onto the strut (they just pull off).

Remove the 21mm lower bolt connecting the bottom of the strut to the trailing arm.



Remove the two 13mm bolts that are holding the upper mount of the strut tower to the body of the car. Once you remove this, the shock will be free to fall so be ready to catch it.

For safety, compress the spring before removing the retaining nut. Use a 13mm socket connected to an impact wrench to remove the retaining nut.



Once the nut is free, refer to the first page of this installation guide to see what parts you need to keep and what parts you will not need for the rest of this installation. From the trailing arm up to the car body, the order of the rear strut assembly is as follows:

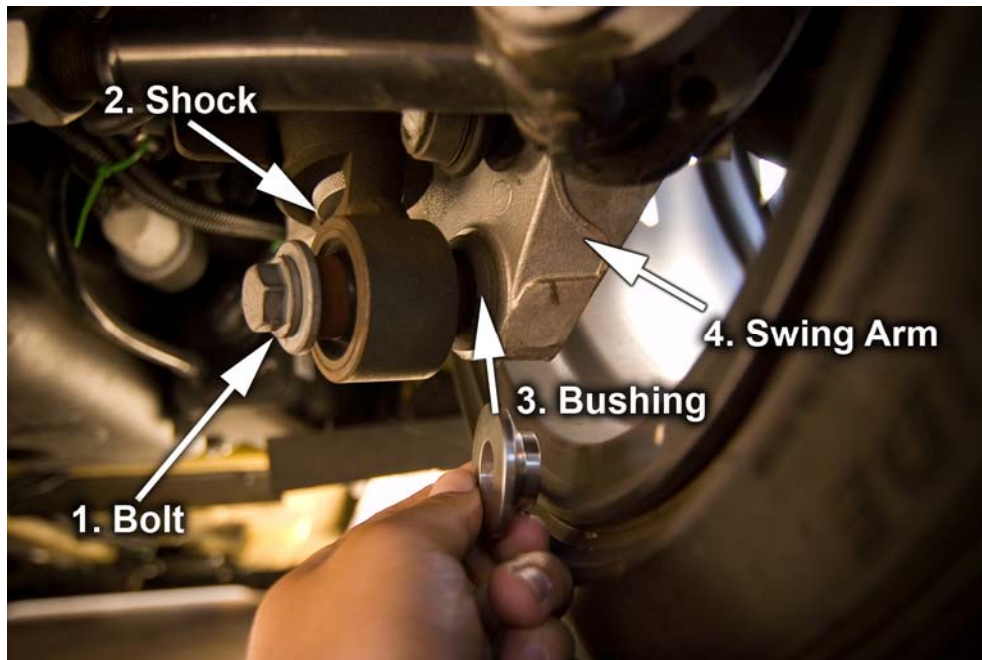


- 1) Shock
- 2) Spring
- 3) Spring hat
- 4) Large bushing
- 5) Upper mount plate
- 6) Small bushing
- 7) Curved washer
- 8) Retaining nut

Use your impact wrench to bring it all together.

Install the new strut assembly by placing it in the correct position and attaching it to the body via the top two 13mm bolts. Tighten these down to 41 ft-lb each. Align the bottom of the shock with the trailing arm.

For the R56, a pair of metal bushings should have been included with your coilovers. These bushings install into the lower mount of the rear shocks (see image below and your OEM rear shocks for reference).



Slide the lower mounting bolt through and tighten down to 103 ft-lb.

Reattach the brake lines and any sensors to their attachment points on the strut assembly. Replace the wheels, bring the car down off of the jacks, and torque your wheels down.

Drive the car around and allow the springs and other suspensions components to settle. All of the adjustment knobs are pre-set to zero (turned completely counterclockwise). Drive the first 200 miles at 0-setting to allow the shocks to break-in (depending on your driving style, the break-in period may take more/ less mileage until everything softens up). Final adjustments for stiffness and height are left to customer preference.

Raising/ Lowering Ride Height

Turning the lower spring perches so that they move toward the top of the car will raise the car. Turning the lower spring perches so they move toward the bottom of the car will lower the car.

Final Notes

Since you've changed the suspension geometry of the car, it is important to get an alignment so that handling and tire-wear are not jeopardized. For highest optimization of the coilover system, consider a corner balance of your MINI (recommended for those partaking in performance driving).

If you have any questions or concerns, don't hesitate to call our office Monday – Friday, 9am—6pm PST or e-mail us techsupport@m7tuning.com.