



BMW E70 X5 Lift Kit Installation Instructions - [Click HERE to Shop](#)



Skill Level
2 - Moderate
Some Experience
Recommended



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

Standard Automotive Tools

- **Protecta-Sockets (for lug nuts)** [ES#2221243](#)
- $\frac{3}{8}$ " Drive Ratchet..... [ES#2765902](#)
- $\frac{3}{8}$ " Drive Torque Wrench..... [ES#2221245](#)
- $\frac{3}{8}$ " Drive Deep and Shallow Sockets..... [ES#2763772](#)
- $\frac{3}{8}$ " Drive Extensions [ES#2804822](#)
- **Hydraulic Floor Jack** [ES#2834951](#)
- **Torx Drivers and Sockets** [ES#11417/8](#)
- **$\frac{1}{2}$ " Drive Deep and Shallow Sockets**..... [ES#2839106](#)
- **$\frac{1}{2}$ " Drive Ratchet**
- **$\frac{1}{2}$ " Drive Extensions**
- **$\frac{1}{2}$ " Drive Torque Wrench**..... [ES#2221244](#)
- **$\frac{1}{2}$ " Drive Breaker Bar** [ES#2776653](#)
- Bench Mounted Vice
- Crows Foot Wrenches
- Hook and Pick Tool Set [ES#2778980](#)

Required For This Install

- $\frac{1}{4}$ " Drive Ratchet..... [ES#2823235](#)
- $\frac{1}{4}$ " Drive Deep and Shallow Sockets [ES#2823235](#)
- $\frac{1}{4}$ " Drive Extensions [ES#2823235](#)
- Plier and Cutter Set..... [ES#2804496](#)
- **Flat and Phillips Screwdrivers** [ES#2225921](#)
- **Jack Stands** [ES#2763355](#)
- Ball Pein Hammers
- **Pry Bar Set**..... [ES#1899378](#)
- Electric/Cordless Drill
- Wire Strippers/Crimpers
- Drill Bits
- Punch and Chisel Set
- Hex Bit (Allen) Wrenches and Sockets [ES#11420](#)
- Thread Repair Tools [ES#1306824](#)
- **Open/Boxed End Wrench Set**..... [ES#2765907](#)

Available On Our Website

Specialty Tools

- **Spindle Housing Spreader** [ES#2918793](#)
- **Triple Square Socket Set** [ES#1910125](#)
- **BMW E53/E70 Rear Spring Compressor Tool**..... [ES#4338078](#)

INSTALLATION NOTES

- **RH** refers to the *passenger side* of the vehicle.
- **LH** refers to the *driver side* of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.



NEVER get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

REMOVING THE STOCK STRUT ASSEMBLY

Step 1: Floor Jack, Protecta-Sockets & Breaker Bar

Safely lift and support the vehicle, then remove all four wheels. Support the spindle housing from below using a floor jack.



Step 2: 18mm Socket & Ratchet

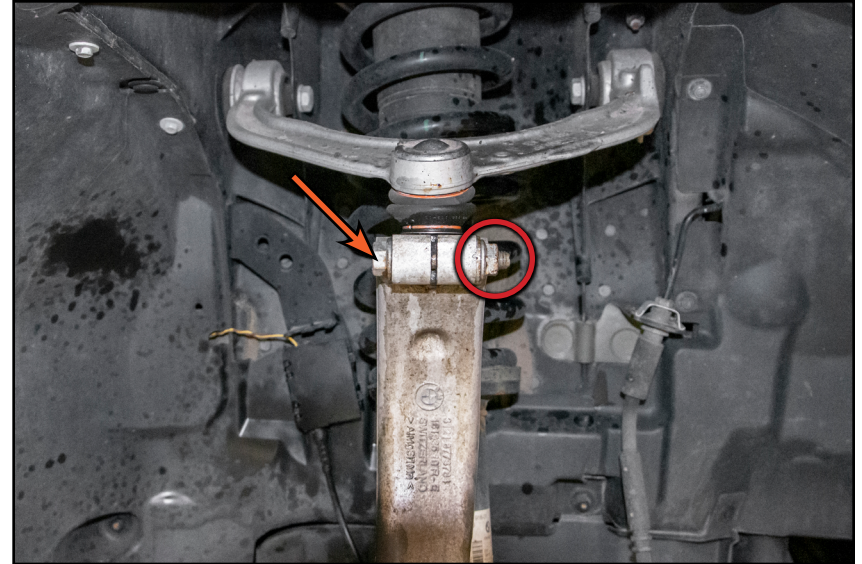
Remove the nut (arrow) and pull the sway bar end link free from the spindle housing.



REMOVING THE STOCK STRUT ASSEMBLY

Step 3: 16mm Wrench, 16mm Socket & Ratchet

Remove the nut (circled in **RED**), then remove the bolt (arrow) which secures the upper control arm to the top of the spindle housing.

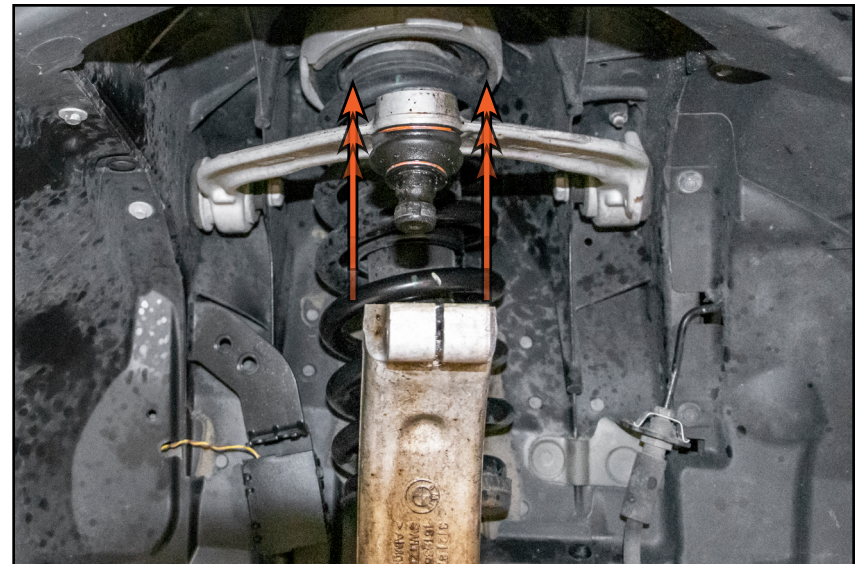


Step 4: Rubber Mallet

Free the upper control arm from the spindle housing as shown.



The upper control arm ball joint is often stuck inside the spindle housing. It may help to raise the jack slightly and use a rubber mallet to help pop the control arm free. A pry bar can be used to help open the spindle housing, but be careful not to damage the housing or ball joint.



REMOVING THE STOCK STRUT ASSEMBLY

Step 5: 21mm Wrench, 21mm Socket & Ratchet

Remove the nut, then remove the bolt (arrow) which secures the strut holder to the lower control arm.



Step 6: 18mm Wrench, 18mm Socket & Ratchet

Remove the nut, then remove the bolt (arrow) which secures the strut into the strut holder.



REMOVING THE STOCK STRUT ASSEMBLY

Step 7: Spindle Housing Spreader Tool & Ratchet

Insert a spindle housing spreader tool and rotate it to free the strut from the spindle housing.



Step 8:



The spindle housing is only being held in place by the lower control arms, axle, and the jack. It **MUST** be properly supported as you lower the jack, otherwise you risk damaging the brake lines or over-extending the axle.

Lower the jack and maneuver the strut holder downward until the strut slides free as shown.



REMOVING THE STOCK STRUT ASSEMBLY

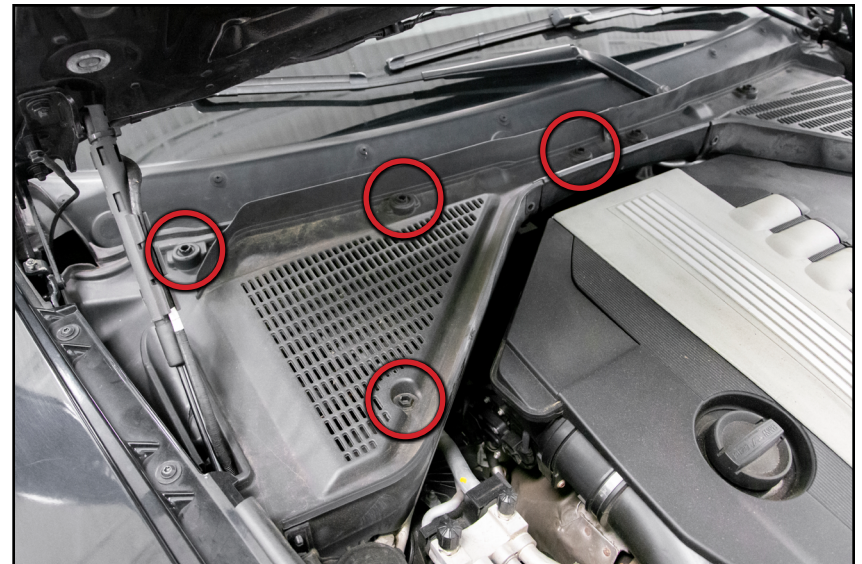
Step 9:

Pull the rubber weather strip (highlighted in **RED**) free from the rain tray.



Step 10: 13mm Socket & Ratchet

Rotate the four nuts (circled in **RED**) a quarter turn to unlock them and free each rain tray.



REMOVING THE STOCK STRUT ASSEMBLY

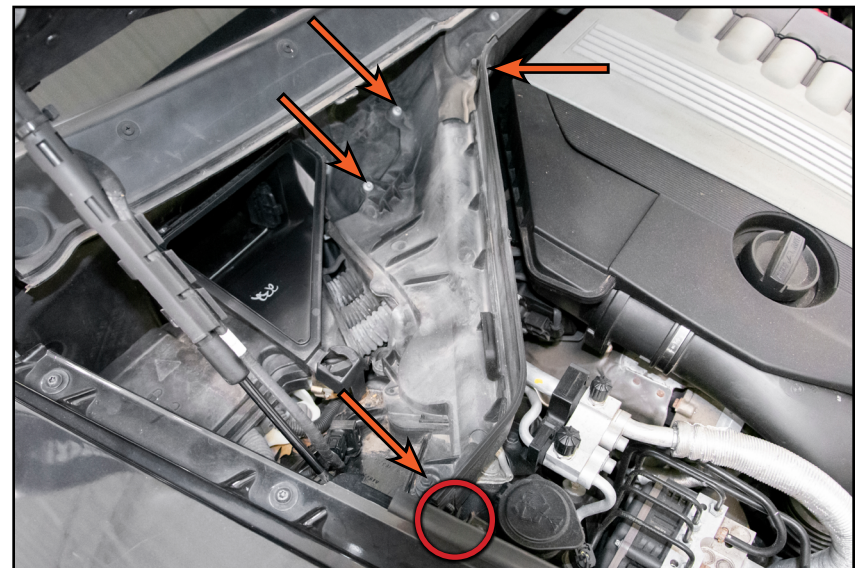
Step 11: 13mm Socket & Ratchet

Rotate the three nuts (circled in **RED**) a quarter turn and remove the cabin air filter holder.



Step 12: Trim Removal Tool, T30 Torx, 10mm Socket & Ratchet

Remove the four screw (arrows) and the push rivet (circled in **RED**), then remove each rain tray side panel.



REMOVING THE STOCK STRUT ASSEMBLY

Step 13: 13mm Socket & Ratchet



This installation was performed on a vehicle with standard front suspension. If your vehicle has adaptive suspension in the front, there will be several additional connectors that must be disconnected and installation may vary slightly.

Support the strut from below and remove the three bolts (circled in **RED**) to free it from the vehicle. Carefully guide the strut assembly out of the fender well.



Step 14:

Place the strut assembly in a bench vice, install a spring compressor tool and compress the spring.



CAUTION: Do not over-compress the spring. Only compress the spring until there is a gap between the top of the spring and the bottom of the upper strut mount.



REMOVING THE STOCK STRUT ASSEMBLY

Step 15: 19mm Strut Nut Socket & Ratchet, 7mm Allen

Counterhold the strut shaft and remove the upper strut nut (arrow).



Step 16:

Remove the entire upper strut mount assembly as shown.



REMOVING THE STOCK STRUT ASSEMBLY

Step 17:

Pry the upper spring isolator (highlighted in **RED**) free from the strut mount as shown.



Step 18: Hammer

Pound the three OE studs free from the shock mount, leaving three holes (circled in **RED**) exposed.



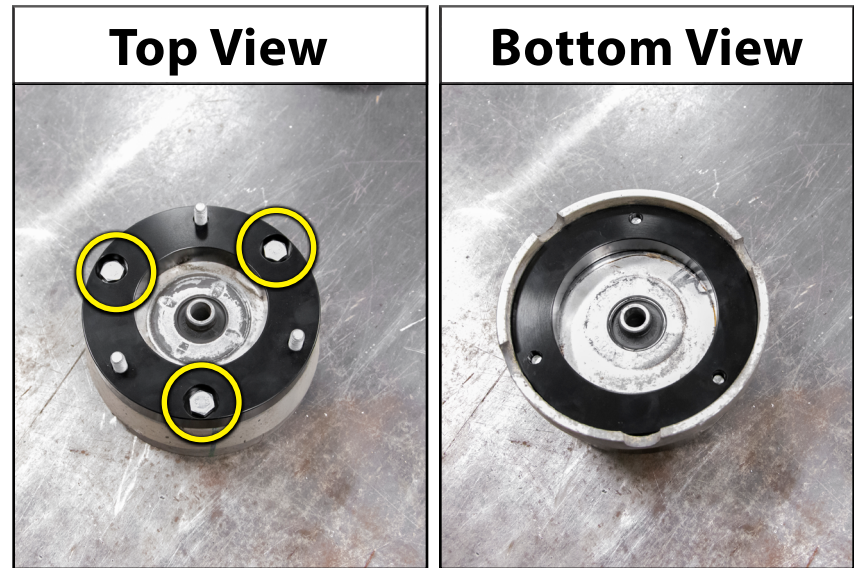
INSTALLING THE FRONT LIFT KIT

Step 1: 17mm Socket & Torque Wrench

Install the upper and lower lift spacers onto the strut mount and install the three bolts (circled in **YELLOW**), sandwiching the strut mount between them. Torque the bolts to 28 Nm (21 Ft-lbs).



The upper and lower foam bushings are not shown in these photos, however they **MUST** be reinstalled prior to reinstalling the strut mount.



Step 2:

Reinstall the spring isolator (highlighted in **GREEN**) into the strut mount as shown.



INSTALLING THE FRONT LIFT KIT

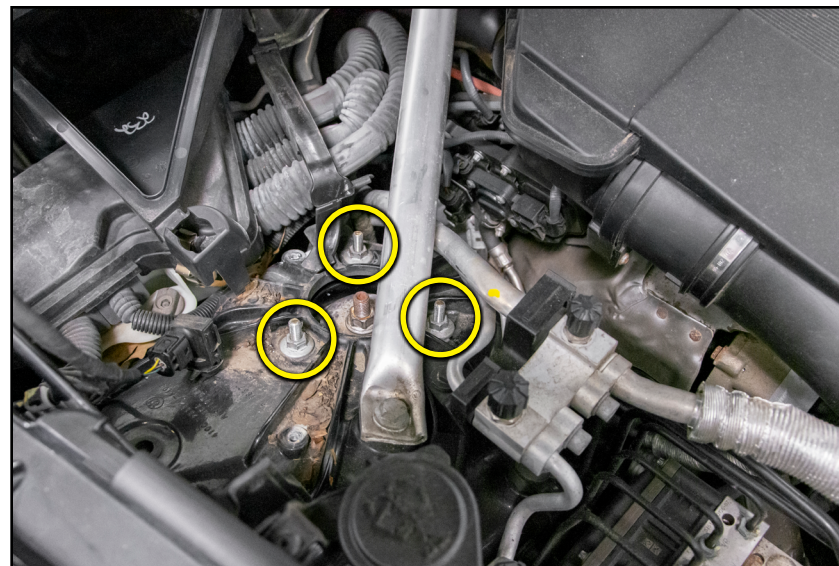
Step 3: 7mm Hex (Allen), 19mm Socket & Torque Wrench

Reinstall the upper strut mount as shown, then replace the washer and nut (arrow). Torque the nut to 48 Nm (35 Ft-lbs).



Step 4: 13mm Socket & Torque Wrench

Lift the strut assembly into the vehicle then replace the nuts (circled in **YELLOW**) and torque them to 28 Nm (21 Ft-lbs).



INSTALLING THE FRONT LIFT KIT

Step 5:

Guide the strut back into the strut holder as shown, then remove the spindle housing spreader tool.



Step 6: 21mm Wrench, 21mm Socket & Torque Wrench

Reinstall the lower strut holder bolt (arrow), then replace the nut and torque it to 165 Nm (122 Ft-lbs) at ride height.



INSTALLING THE FRONT LIFT KIT

Step 7: 18mm Wrench, 18mm Socket & Torque Wrench

Reinstall the upper strut holder bolt (arrow), then replace the nut and torque it to 81 Nm (60 Ft-lbs).



Step 8: 16mm Wrench, 16mm Socket & Torque Wrench

Guide the upper control arm ball joint back into the spindle housing, then reinstall the bolt (arrow) and torque the nut (circled in **YELLOW**) to 56 Nm (41 Ft-lbs).



INSTALLING THE FRONT LIFT KIT

Step 9: 18mm Socket & Torque Wrench

Reinstall the end link through the spindle housing, then torque the nut to 100 Nm (74 Ft-lbs).



Step 10: T30 Torx, 10mm, 13mm Socket & Ratchet

Reinstall the cabin air filters, rain trays, and rubber weather seal as shown.



INSTALLING THE REAR LIFT KIT

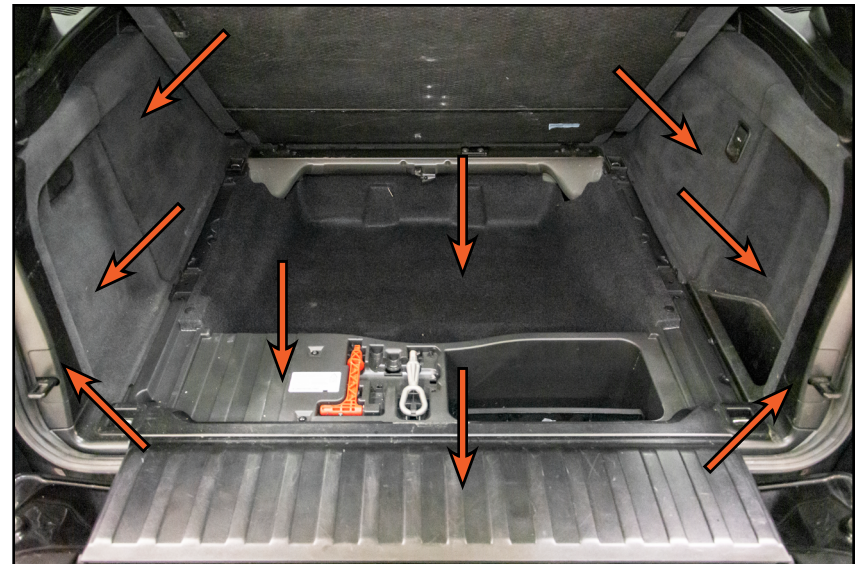
Step 1:

Remove the trunk panel and cargo cover (arrows).



Step 2: Non-Marring Trim Removal Tool

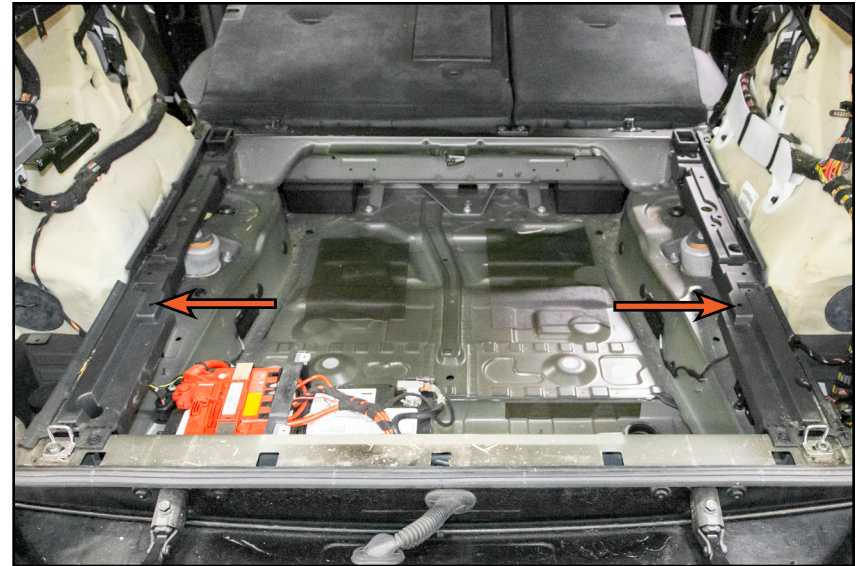
Remove the side panels, storage tray, trunk liner, and plastic trim (arrows).



INSTALLING THE REAR LIFT KIT

Step 3: 10mm Socket & Ratchet

Remove the two plastic side panels (arrows) to access the rear shocks.



Step 4:

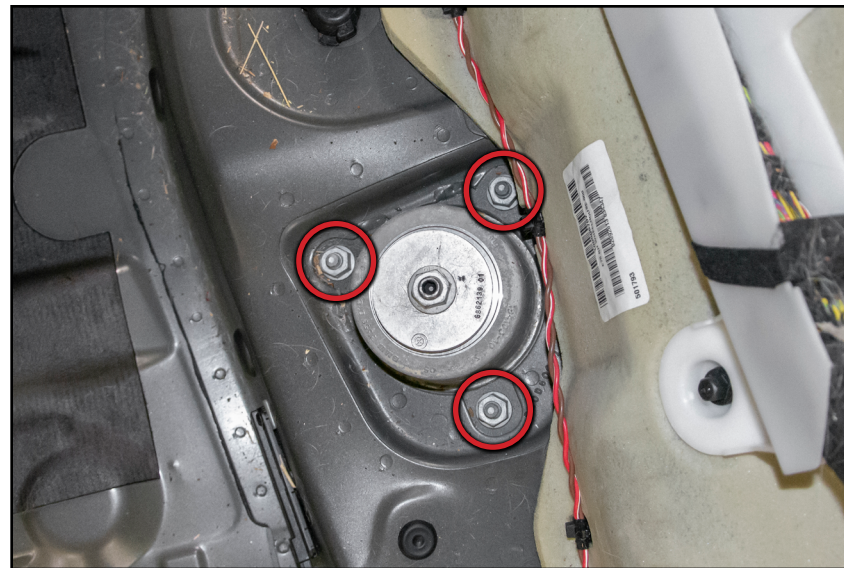
Once everything is removed you should have plenty of room to access both of the rear shocks (arrows).



INSTALLING THE REAR LIFT KIT

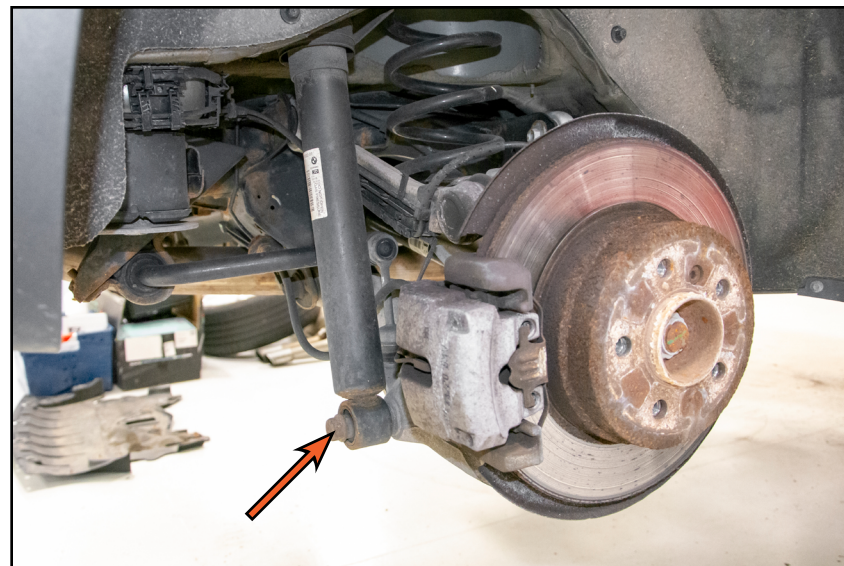
Step 5: 13mm Wrench, 13mm Socket & Ratchet

Loosen and remove the three nuts (circled in **RED**) which secure the rear shock to the vehicle.



Step 6: 18mm Socket & Ratchet

Remove the bolt (arrow) which secures the shock to the lower control arm. Carefully guide the shock out from the vehicle.



INSTALLING THE REAR LIFT KIT

Step 7: Drill



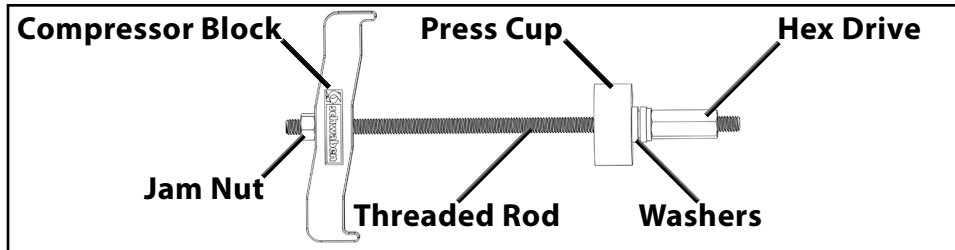
This installation was performed on a vehicle with standard rear springs. If your vehicle has air springs, there will be an air line that must be disconnected and installation will vary slightly.

Locate the plastic access hole cover for each spring and drill a hole in the top large enough to allow the rod of the spring compressor tool to pass through.



Step 8:

To use the tool, unthread the jam nut and compressor block, lubricate the threads of the tool and the washers, then drop the threaded end of the tool down through the hole we just made in the trunk. Slide the compressor block into the spring and thread the tool back into the block and reinstall the jam nut. Rotate the hex drive of tool to draw the block upwards, compressing the spring.



INSTALLING THE REAR LIFT KIT

Step 9: Pry Bar

Continue compressing the spring until there is a large enough gap between the bottom of the spring and the rubber isolator as shown. Pry the plastic cap off of the rubber isolator.



Step 10: Pry Bar

Carefully pry the rubber isolator (highlighted in **RED**) free from the spindle housing as shown.



INSTALLING THE REAR LIFT KIT

Step 11:

Transfer the rubber isolator (highlighted in **GREEN**) onto the lift spacer as shown.



If your vehicle has air springs in the rear, install the lift spacer (highlighted in **GREEN**) onto the bottom of the air spring and push upward until it snaps into place.



Step 12:

Thoroughly clean the mounting surface on the spindle housing to ensure it is clean and free of debris.



INSTALLING THE REAR LIFT KIT

Step 13:

Guide the lift spacer and new rubber isolator down onto the spindle housing as shown, ensuring the keyed notch properly locates into the hole on the housing.



Step 14: 17mm Socket & Torque Wrench

Install the provided M10 x 25mm bolt and washer (circled in **YELLOW**) to secure the spacer to the spindle. Torque the bolt to 30 Nm (22 Ft-lbs).



INSTALLING THE REAR LIFT KIT

Step 15:

Slowly release the tension from the spring, ensuring it seats properly on the rubber isolator as shown. Remove the spring compressor tool.

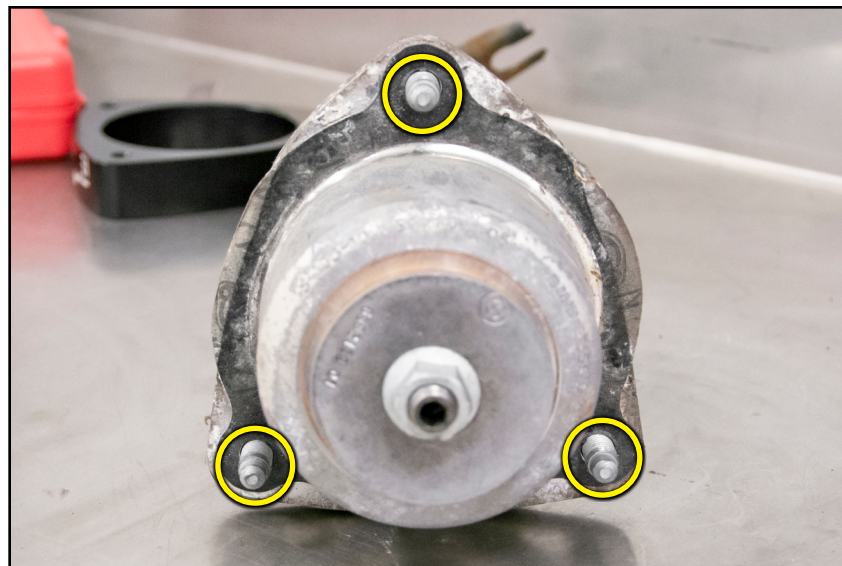


If your vehicle has air springs, carefully pry off the old ride height sensor arm and replace it with the new provided (longer) one.



Step 16: Hammer

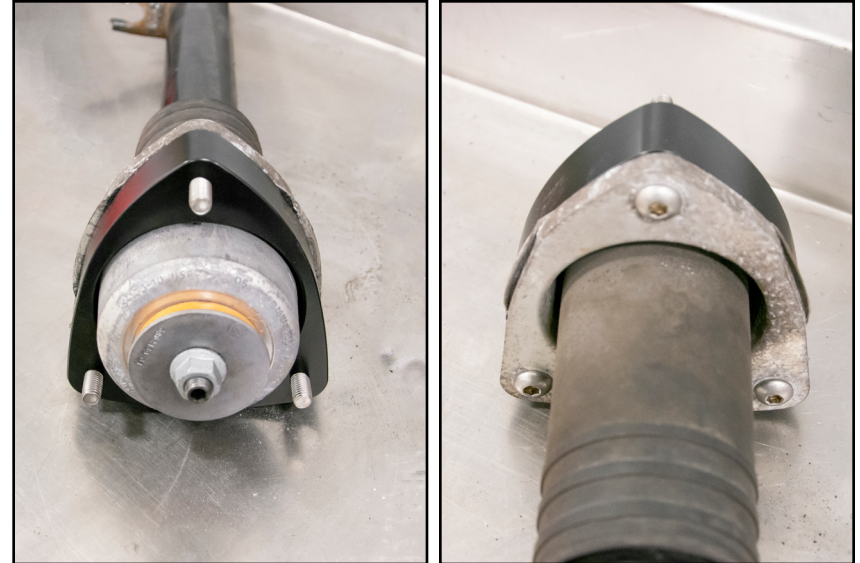
Pound the three OE studs (circled in **YELLOW**) free from the shock mount, leaving three holes exposed.



INSTALLING THE REAR LIFT KIT

Step 17: 6mm Hex (Allen) Socket & Torque Wrench

Install the shock spacer onto the shock mount as shown, then thread the provided M10 x 55mm bolts up through the bottom and torque them to 56 Nm (41 Ft-lbs).



Step 18: 16mm Socket & Torque Wrench

Lift the shock back into the vehicle and replace the nuts (circled in **YELLOW**). Torque the nuts to 56 Nm (41 Ft-lbs).



INSTALLING THE REAR LIFT KIT

Step 19: 18mm Socket & Torque Wrench

Reinstall the lower shock bolt (arrow) and torque it to 165 Nm (122 Ft-lbs) at ride height.



Step 20:

Reassemble the trunk as shown.

Immediately have a four-wheel alignment performed on your vehicle.

Congratulations, your installation is complete!



TORQUING TIPS

Torque to Yield or “Stretch” Bolts

Many bolts will have a torque specification listed in the format - xx Nm (xx Ft-lbs) + xx degrees. These bolts are torque to yield bolts, commonly referred to as “stretch” bolts. The correct procedure for torquing these bolts is:

Stage One - Torque the bolt(s) to the initial Nm or Ft-lb specification. If there is more than one, be sure to torque them in the correct sequence.

Stage Two - Tighten or “stretch” the bolt(s) the additional specified number of degrees. If there is more than one, be sure to follow the correct sequence.

Note - Some bolts may have two or more stages of torquing before the final stage of “stretching” the bolts.

When tightening more than one bolt in a specified sequence, be sure to mark each fastener with paint *immediately* after performing the final stage or “stretching” of the bolts. This will ensure that you keep track of which bolts have already been “stretched”.

All Torque to Yield bolts should only be used once and should be replaced each time they are removed. If they are reused, they will not be able to achieve the proper clamping force with the specified torque.

Lubrication

Torque specifications are always listed for a dry fastener (*no* lubrication) unless specified otherwise.

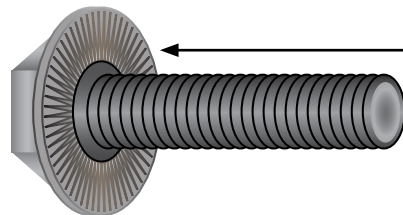
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

Lubricating a fastener that is intended to be installed dry and then torquing it to factory specifications will increase the clamping force and stress on the fastener and components, which can result in damage or failure.

Do not lubricate the threads of any fastener unless it is specifically recommended by the manufacturer.

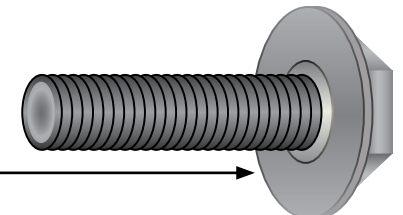
Ribbed vs. Non-Ribbed Bolts

Ribbed and Non-Ribbed bolts in the same location generally require a different torque specification.



A ribbed bolt is identified by the ribs on the contact surface

A non-ribbed bolt is identified by the smooth contact surface



TORQUE SPECIFICATIONS

Front Strut Spacer Nuts.....	28 Nm (21 Ft-lbs)	(Page 14)
Front Upper Strut Nuts.....	48 Nm (35 Ft-lbs)	(Page 15)
Front Upper Strut Mount Nuts.....	28 Nm (21 Ft-lbs)	(Page 15)
Front Lower Strut Holder Nuts.....	165 Nm (122 Ft-lbs)	(Page 16)
Front Upper Strut Holder Nuts.....	81 Nm (60 Ft-lbs)	(Page 17)
Front Upper Control Arm Pinch Bolt Nuts.....	56 Nm (41 Ft-lbs)	(Page 17)
Front Sway Bar End Link Nuts.....	100 Nm (74 Ft-lbs)	(Page 18)
Rear Spring Spacer Bolts.....	30 Nm (22 Ft-lbs)	(Page 25)
Rear Shock Spacer Bolts.....	56 Nm (41 Ft-lbs)	(Page 27)
Rear Upper Shock Mount Bolts.....	56 Nm (41 Ft-lbs)	(Page 27)
Rear Lower Shock Bolts.....	165 Nm (122 Ft-lbs)	(Page 28)

Your Lift Kit installation is complete!



These instructions are provided as a courtesy by ECS Tuning

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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