



BMW E53 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](#)

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: Protecta-Sockets & Breaker Bar

Safely lift and support the vehicle, then remove all four wheels.



Step 2: Flat Head Screwdriver

Remove the clip (highlighted in **RED**) which secures the brake line to the bracket on the strut body.



REMOVING THE STOCK STRUT ASSEMBLY

Step 3:

Pull the brake line (highlighted in **RED**) free from the bracket on the strut body as shown.



Step 4: 19mm Socket & Ratchet

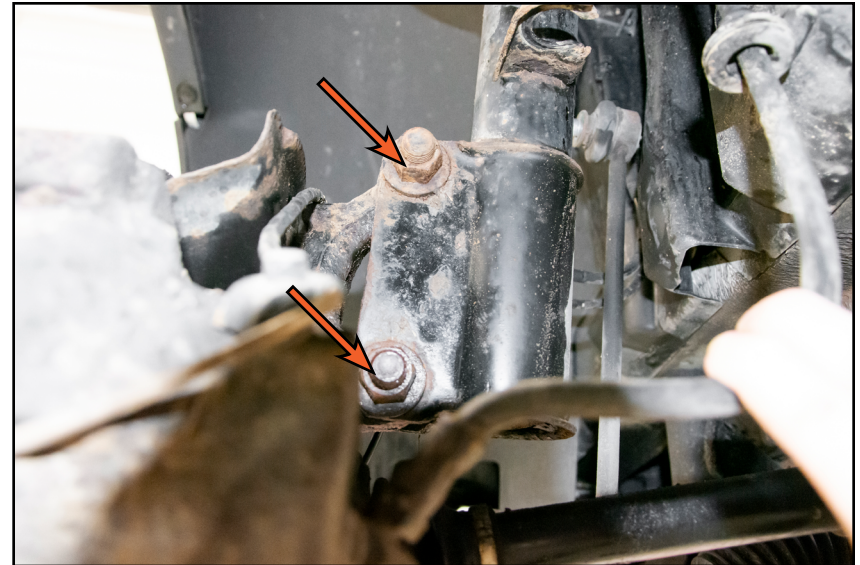
Remove the nut (arrow) and pull the sway bar end link free from the bracket on the strut body.



REMOVING THE STOCK STRUT ASSEMBLY

Step 5: Floor Jack, 22mm Wrench, 22mm Socket & Ratchet

Support the spindle housing from below with a jack, then remove the two nuts and bolts (arrows) securing the strut body to the spindle.



Step 6: Floor Jack



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

Slowly lower the jack until the strut slides free from the spindle housing as shown.



REMOVING THE STOCK STRUT ASSEMBLY

Step 7: 13mm Socket & Ratchet



This installation was performed on a vehicle with standard front suspension. If your vehicle has air suspension in the front, there will be an air line that must be disconnected and installation will 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 8: 21mm Strut Nut Socket & Ratchet, 7mm Allen

Install a spring compressor tool and compress the spring, then counterhold the strut shaft and remove the upper strut nut.



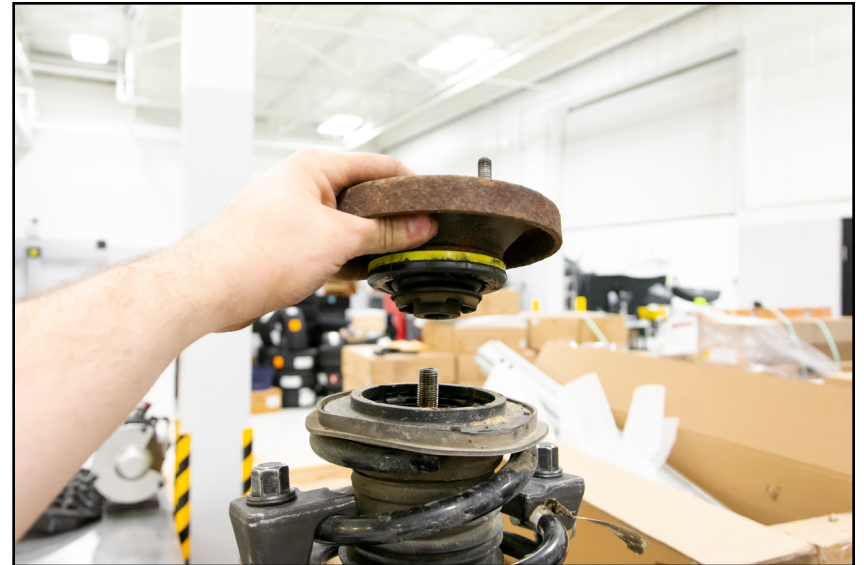
CAUTION: Do not over-compress the spring. Only compress the spring until there is a gap between the top of the spring and the bottom of the upper strut mount.



REMOVING THE STOCK STRUT ASSEMBLY

Step 9:

Pull the upper strut mount and strut bearing off of the strut shaft and set it aside.



Step 10:

Discard the factory spring perch (arrow).



INSTALLING THE FRONT LIFT KIT

Step 1:

Install the provided (thicker) spring perch (arrow).



Step 2: 21mm Socket & Torque Wrench

Reinstall the strut bearing and strut mount as shown, then replace the upper strut washer and nut (arrow). Torque the nut to 64 Nm (47 Ft-lbs).



INSTALLING THE FRONT LIFT KIT

Step 3: 13mm Socket & Torque Wrench

Install the lift spacer onto the studs on the strut mount, then install the provided nuts (circled in **YELLOW**) and torque them to 34 Nm (25 Ft-lbs).



Step 4: 13mm Socket & Torque Wrench

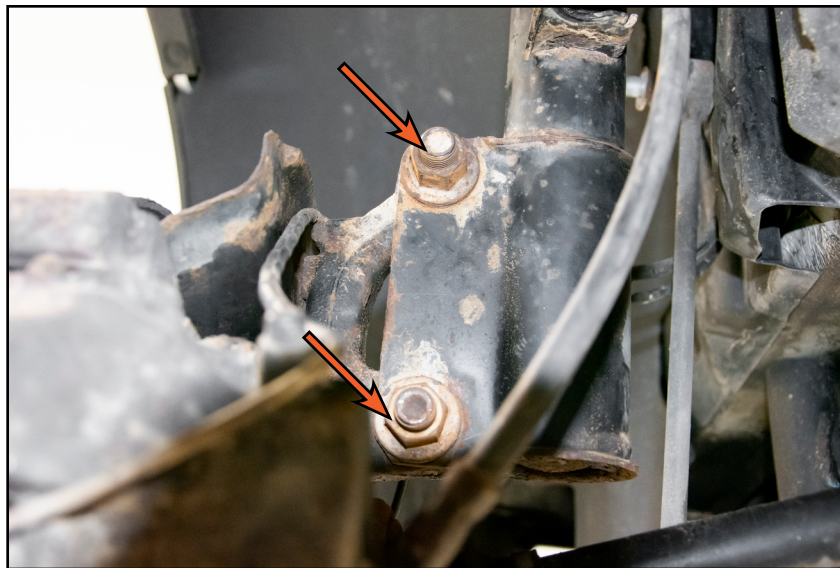
Lift the strut assembly into the vehicle, then replace the nuts (circled in **YELLOW**) and torque them to 34 Nm (25 Ft-lbs).



INSTALLING THE FRONT LIFT KIT

Step 5: 22mm Wrench, 22mm Socket

Slowly jack up the spindle housing while you guide the strut body onto the spindle, then slide the bolts back into place. Install the nuts (arrows) and torque them to 250 Nm (184 Ft-lbs).



Step 6: 19mm Socket & Torque Wrench

Reinstall the sway bar end link and torque the nut (arrow) to 100 Nm (74 Ft-lbs). Reinstall the brake hose and replace the clip (highlighted in **GREEN**) to secure it in place.



REMOVING THE REAR SHOCK AND SPRING

Step 1:

Working in the trunk, remove the trunk panel as shown, then remove the side panel from each side (arrow).



Step 2: Trim Removal Tool, 10mm Socket & Ratchet

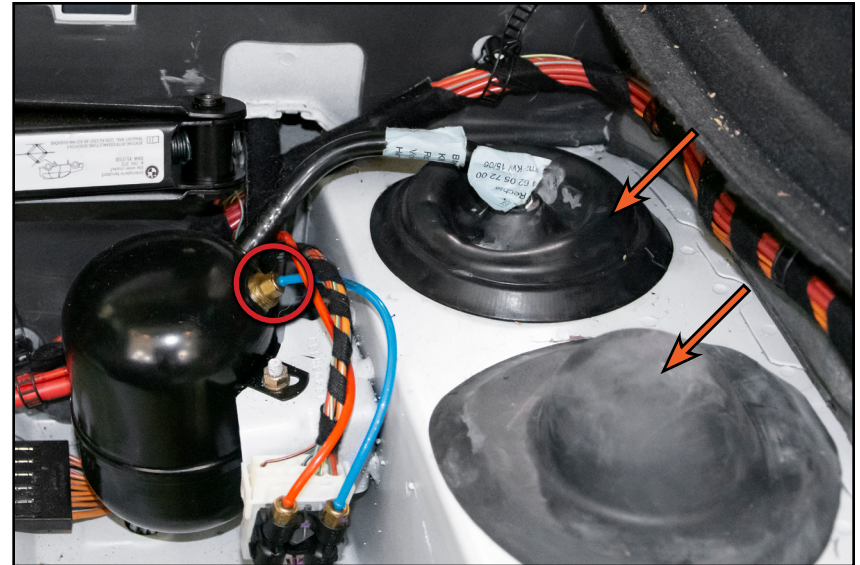
Remove the plastic trim panels from each side by removing the two push clips (arrows) and the two nuts (circled in **RED**).



REMOVING THE REAR SHOCK AND SPRING

Step 3: 10mm Wrench

Slightly loosen the air line (circled in **RED**) from each tank to release the pressure, then pull off the two rubber covers (arrows).

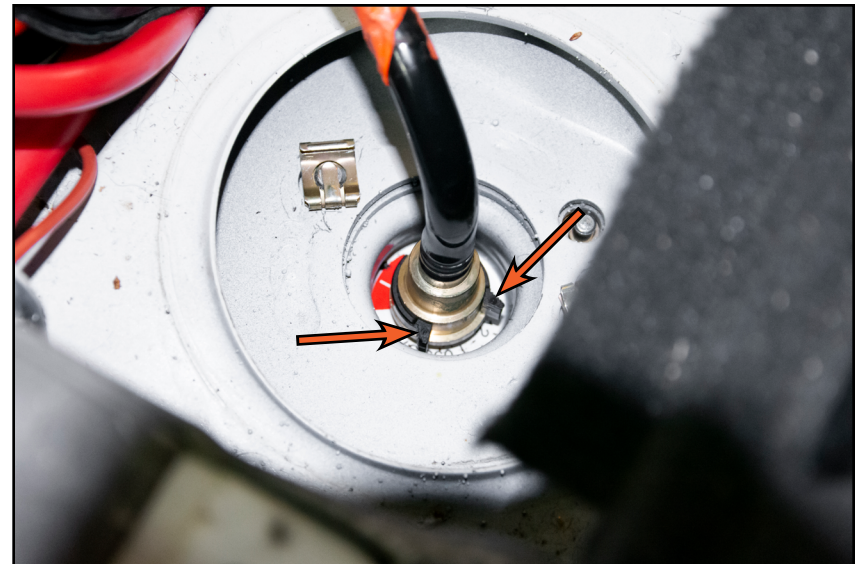


Step 4: Needle Nose Pliers



This installation was performed on a vehicle with air springs in the rear. If your vehicle has standard springs, you will have to compress the spring before proceeding with installation. Our Schwaben on-car spring compressor tool (available [HERE](#)) helps make safely compressing the spring a breeze.

Carefully compress the release tabs (arrows) and pull the air line off the top of each air spring.



REMOVING THE REAR SHOCK AND SPRING

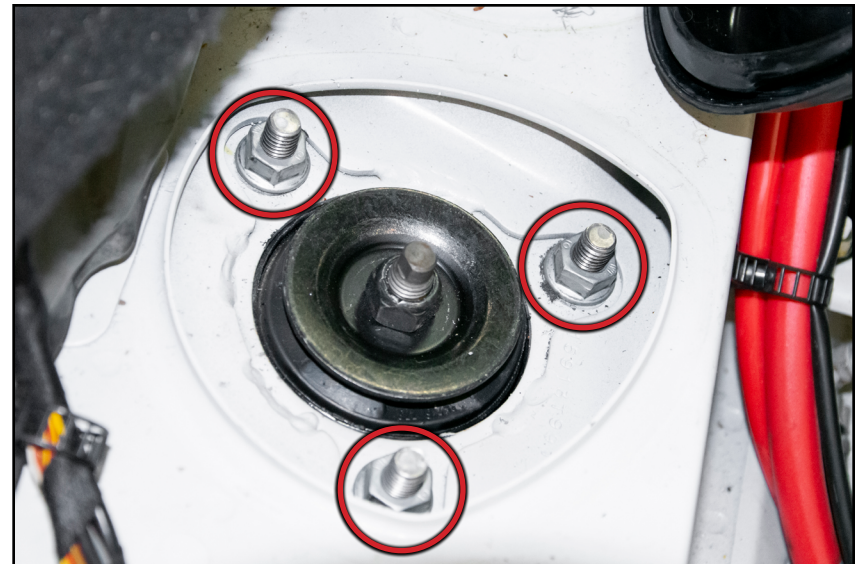
Step 5: 16mm Socket & Ratchet

Carefully pry off the two clips (highlighted in **RED**) which secure the rear air spring to the vehicle.



Step 6: 16mm Socket & Ratchet

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



REMOVING THE REAR SHOCK AND SPRING

Step 7: Flat Head Screwdriver

Carefully pry off the clip (highlighted in **RED**) which secures the bottom of the air spring to the spindle housing. Carefully guide the air spring out from the vehicle.



Step 8: 22mm Wrench, 21mm Socket & Ratchet

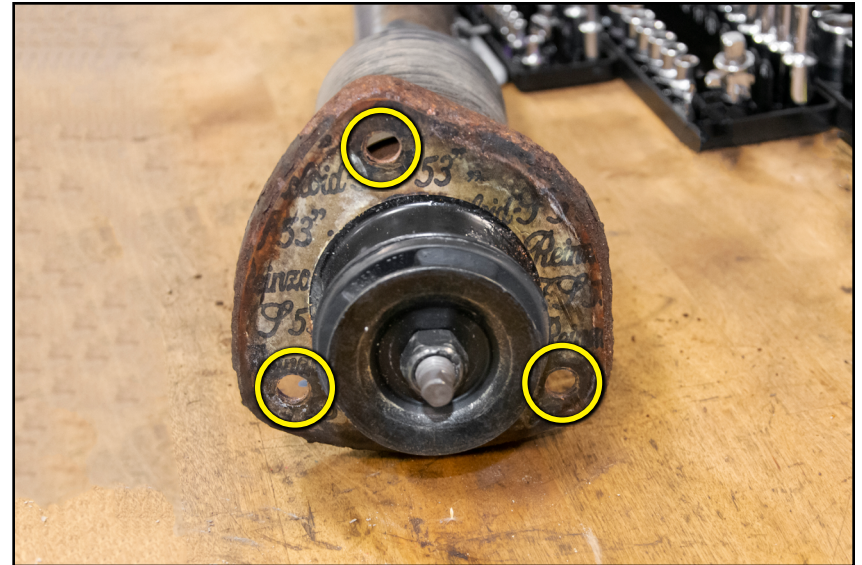
Remove the nut (circled in **RED**), then remove the bolt (arrow) which secures the shock to the lower control arm. Carefully guide the shock out from the vehicle.



INSTALLING THE REAR LIFT KIT

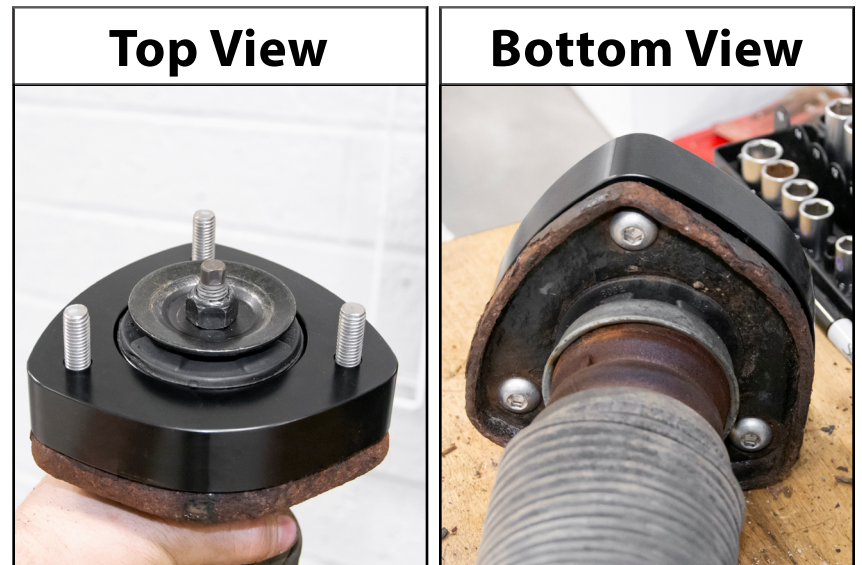
Step 1: Hammer

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



Step 2: 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).



INSTALLING THE REAR LIFT KIT

Step 3: Needle Nose Pliers

Install the lift spacer onto the bottom of the air spring, then reinstall the clip (highlighted in **GREEN**) to retain it in place.



If your vehicle has standard rear springs, transfer the rubber isolator (highlighted in **GREEN**) onto the lift spacer as shown.



Step 4: 17mm Socket & Torque Wrench

Carefully guide the air spring back into place, then install the provided M10 x 25mm bolt and washer (inset photo) to secure the spacer to the spindle housing. Torque the bolt to 30 Nm (22 Ft-lbs).



INSTALLING THE REAR LIFT KIT

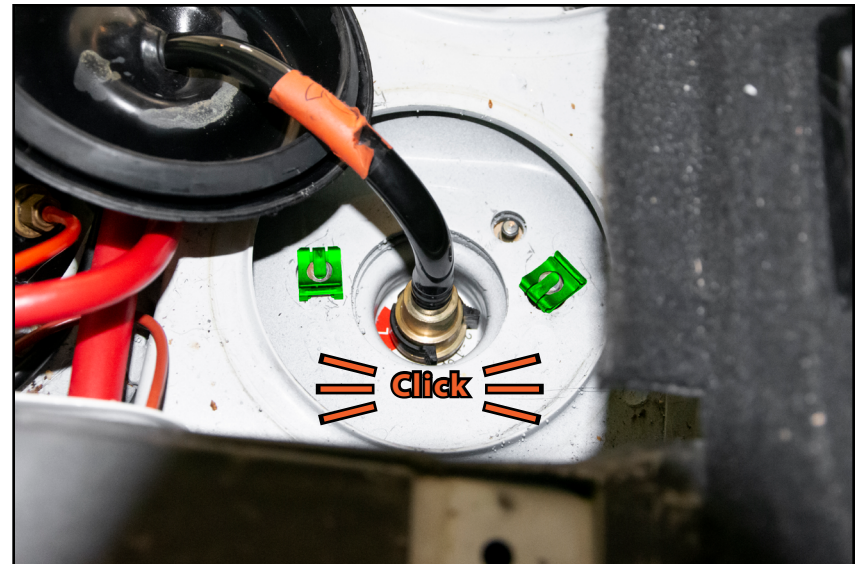
Step 5:

If equipped, carefully pry off the old ride height sensor arm and replace it with the new provided (longer) one.



Step 6:

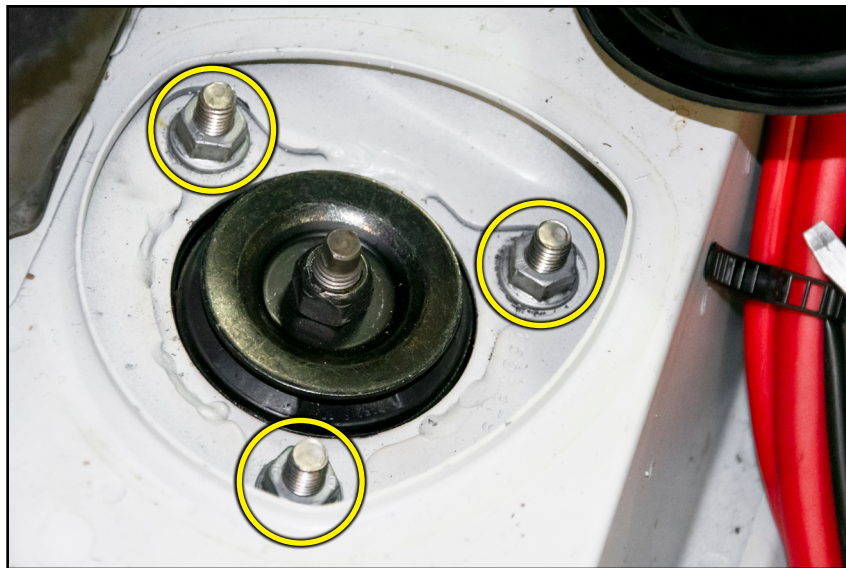
Reinstall the two clips (highlighted in **GREEN**) to secure the air spring to the vehicle, then push the air line back onto the fitting on the top of the air spring until it clicks into place.



INSTALLING THE REAR LIFT KIT

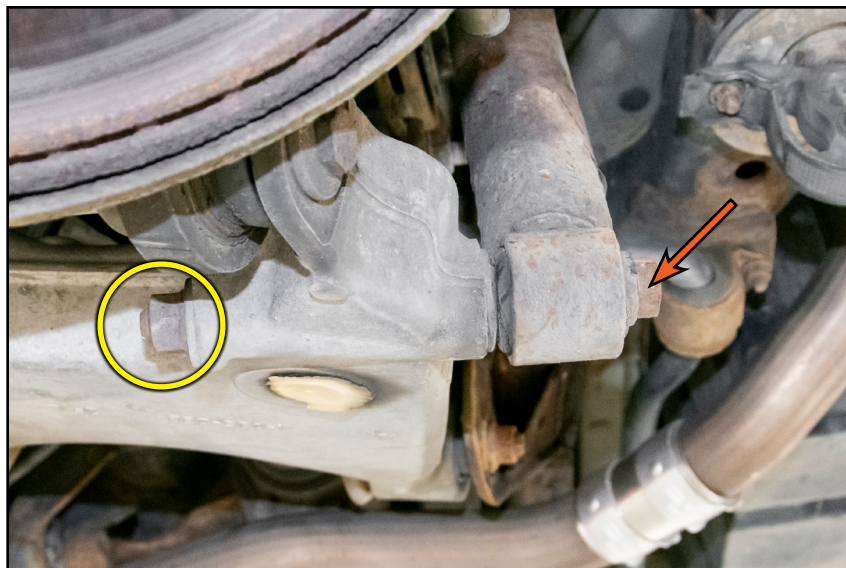
Step 7: 16mm Socket & Torque Wrench

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



Step 8: 22mm Wrench, 21mm Socket & Torque Wrench

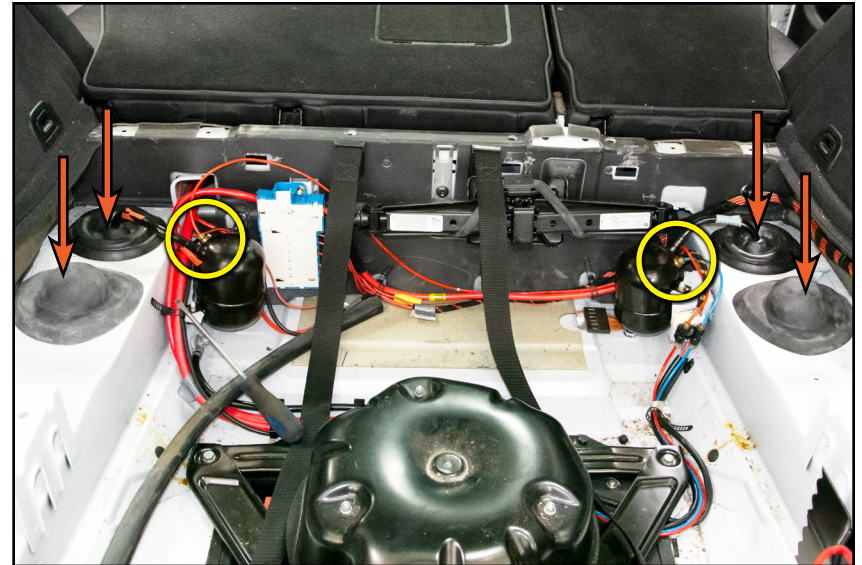
Reinstall the lower shock bolt (arrow), then reinstall the nut (circled in **YELLOW**) and torque it to 127 Nm (94 Ft-lbs) at ride height.



INSTALLING THE REAR LIFT KIT

Step 9: 10mm Wrench

Tighten the air lines (circled in **YELLOW**) back down until snug, then reinstall the rubber covers (arrows).



Step 10: 10mm Socket & Ratchet

Reinstall plastic trim panels (arrows), side panels, and trunk panel.

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.

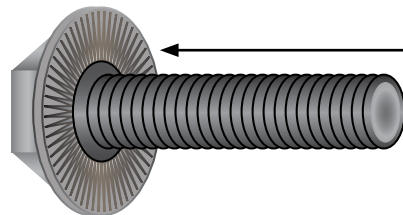
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

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.

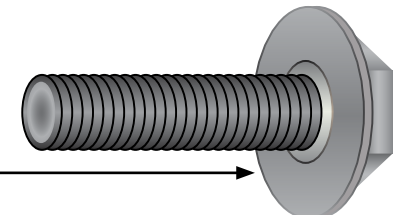
Ribbed vs. Non-Ribbed Bolts

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 Upper Strut Nuts.....	64 Nm (47 Ft-lbs)	(Page 10)
Front Strut Spacer Nuts.....	34 Nm (25 Ft-lbs)	(Page 11)
Front Upper Strut Mount Nuts	34 nm (25 Ft-lbs)	(Page 11)
Strut Pinch Bolt Nuts	250 nm (184 Ft-lbs)	(Page 12)
Front Sway Bar End Link Nuts.....	100 Nm (74 Ft-lbs)	(Page 12)
Rear Shock Spacer Bolts.....	56 Nm (41 Ft-lbs)	(Page 17)
Rear Spring Spacer Bolts.....	30 Nm (22 Ft-lbs)	(Page 18)
Rear Upper Shock Mount Nuts	56 Nm (41 Ft-lbs)	(Page 20)
Rear Lower Shock Bolt Nuts.....	127 Nm (94 Ft-lbs)	(Page 20)

Your Lift Kit installation is complete!



These instructions are provided as a courtesy by ECS Tuning

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