



BMW F30/F32 xDrive Lowering Springs 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 Vise**
- Crows Foot Wrenches
- Hook and Pick Tool Set [ES#2778980](#)

Required For This Install

Available On Our Website

- $\frac{1}{4}$ " 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](#)

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 ORIGINAL FRONT SPRINGS

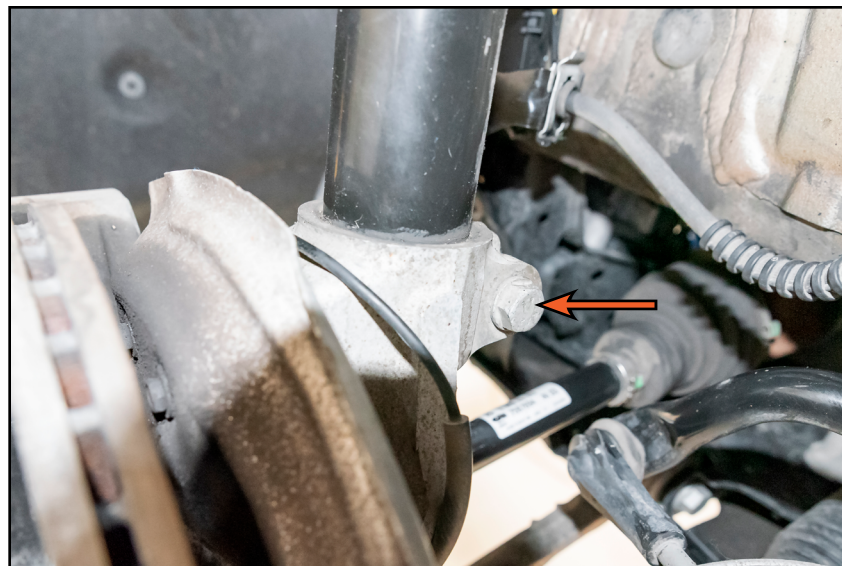
Step 1: 16mm Wrench, T30 Torx Socket & Ratchet

Safely lift and support the vehicle and remove all four wheels. Remove the nut (arrow) then pull the sway bar end link free from the strut.



Step 2: 18mm Wrench, 16mm Socket & Ratchet

Counterhold the nut while you remove the strut pinch bolt (arrow). Move the brake hose bracket out of the way.



REMOVING THE ORIGINAL FRONT SPRINGS

Step 3: Spindle Housing Spreader Tool, Ratchet

Insert the spindle housing spreader tool (available [HERE](#)) into the slot in the back of the steering knuckle and rotate the tool to spread it apart, freeing the strut body.



Step 4:

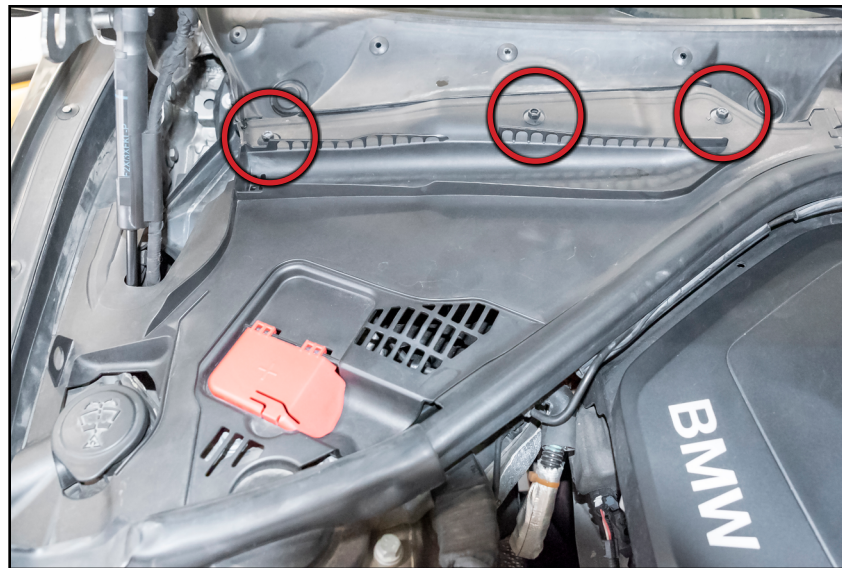
Support the knuckle from below and maneuver it downward until the strut slides free as shown. Carefully support the knuckle so that it does not hang and damage the brake lines.



REMOVING THE ORIGINAL FRONT SPRINGS

Step 5: 10mm Socket & Ratchet

Rotate the release clips (circled in **RED**) 1/4 turn to the “unlocked” position and pull each rain tray free from the engine bay.



Step 6: Trim Removal Tool

Pull the cover (highlighted in **RED**) free from the top of the strut mount.



REMOVING THE ORIGINAL FRONT SPRINGS

Step 7: E18 Torx Socket & Ratchet

Remove the bolt (arrow) which secures the strut brace to the top of the strut mount.



Step 8: 13mm Socket & Ratchet

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



REMOVING THE ORIGINAL FRONT SPRINGS

Step 9: 6mm Hex (Allen), 18mm Strut Nut Socket & Ratchet

Install a spring compressor tool and compress the spring, then remove the upper strut nut (arrow) and pull the mount free.



Step 10:

Remove the OE spring isolators (highlighted in **RED**) from the stock spring and set them aside.



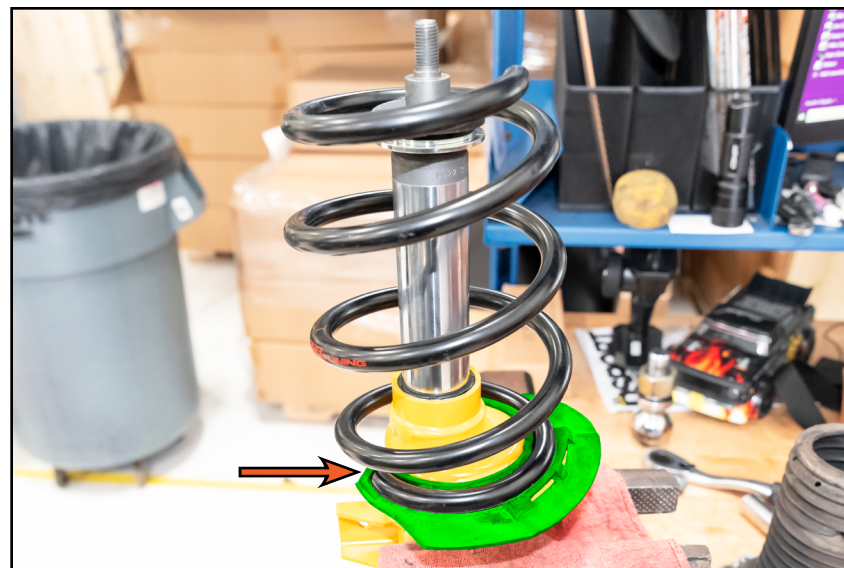
INSTALLING THE NEW FRONT SPRINGS

Step 1:

Install the lower spring isolator (highlighted in **GREEN**) and the new spring onto the strut as shown.



Ensure the end of the spring aligns with the rubber stop (arrow) on the isolator.



Step 2: 6mm Hex (Allen), 18mm Strut Nut Socket & Torque Wrench

Install the upper spring isolator (highlighted in **GREEN**) and the strut mount as shown. Replace the upper strut nut and torque it to 64 Nm (47 Ft-lbs).



Ensure the end of the spring aligns with the rubber stop (arrow) on the isolator.



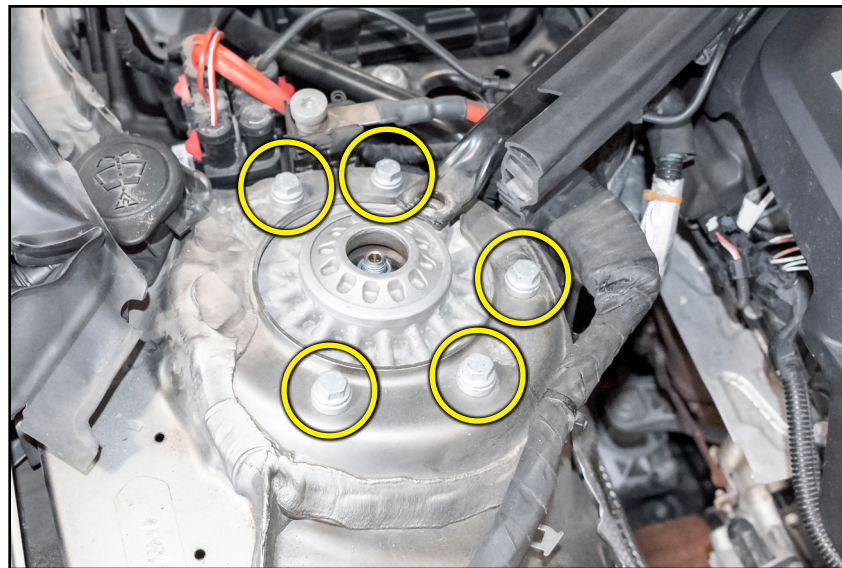
INSTALLING THE NEW FRONT SPRINGS

Step 3: 13mm Socket & Torque Wrench

Lift the coilover assembly up into the strut tower and install the bolts (circled in **YELLOW**), torquing them to:

M8 Bolts: 30 Nm (22 Ft-lbs) + 90 degrees.

M10 Bolts: 56 Nm (41 Ft-lbs) + 90 degrees.



Step 4: E18 Torx Socket & Torque Wrench

Install the bolt which secures the strut brace to the strut mount, torquing it to 56 Nm (41 Ft-lbs) + 90 degrees.



INSTALLING THE NEW FRONT SPRINGS

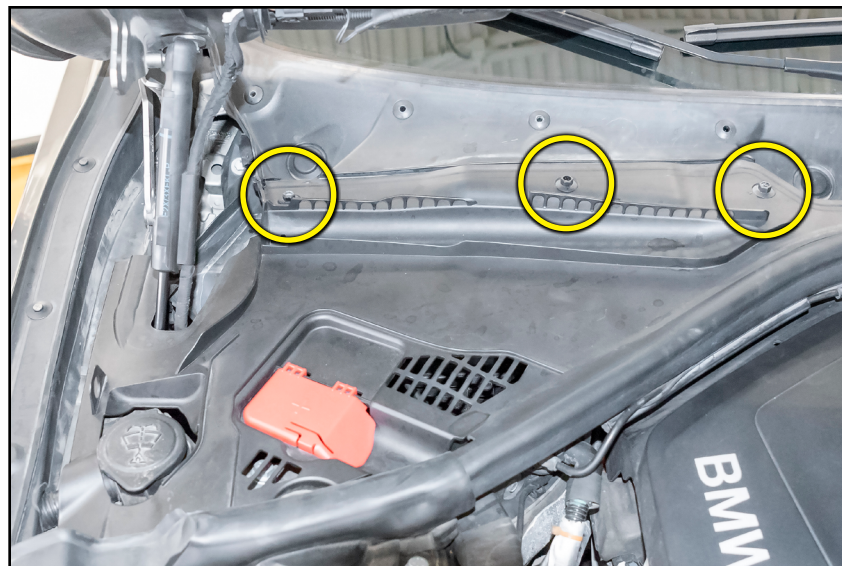
Step 5:

Reinstall the strut mount cover (highlighted in **GREEN**).



Step 6: 10mm Socket & Ratchet

Reinstall the rain trays and rotate the release clips (circled in **YELLOW**) 1/4 turn to the "locked" position.



INSTALLING THE NEW FRONT SPRINGS

Step 7:

Guide the strut back into the knuckle, ensuring the locating pin slides into the slot in the back of the knuckle, then remove the spindle housing spreader tool (arrow).



Step 8: 18mm Wrench, 16mm Socket & Torque Wrench

Reinstall the strut pinch bolt (arrow), then replace the nut and torque it to 44 Nm (32 Ft-lbs) + 90 degrees.

Slide the sway bar end link into the mounting bracket on the strut then replace the nut and torque it to 56 Nm (41 Ft-lbs).



REMOVING THE ORIGINAL REAR SPRINGS

Step 1: 10mm Socket & Ratchet

Remove the four nuts (circled in **RED**) then remove the plastic lower control arm cover.



Step 2: 21mm Socket & Ratchet

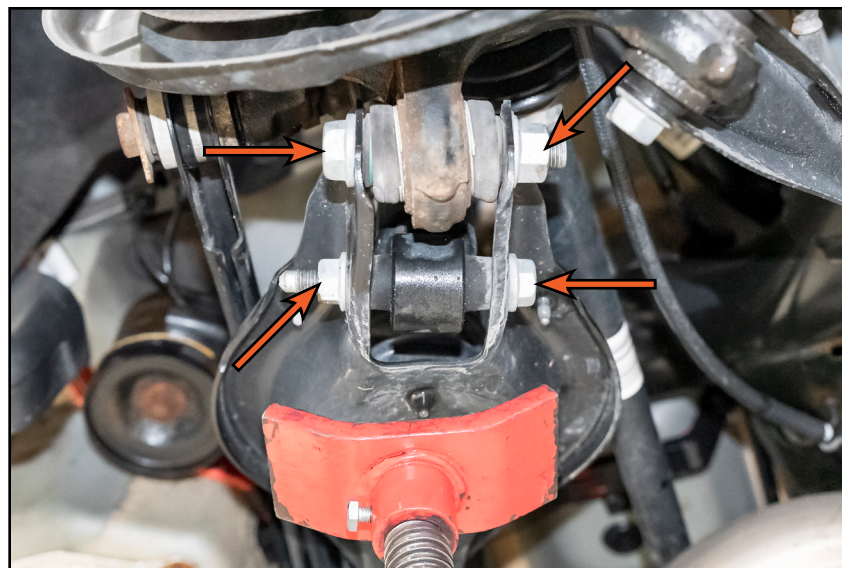
Loosen the inner lower control arm nut (arrow) slightly. If equipped, disconnect the level sensor.



REMOVING THE ORIGINAL REAR SPRINGS

Step 3: 18mm, 21mm Wrench, 18mm, 21mm Socket & Ratchet

Support the lower control arm from below using a pole jack, then remove the bolts and nuts (arrows) which secure it to the shock and spindle.



Step 4:

Carefully lower the control arm until the rear spring is no longer under tension, then remove it. Be sure to remove the OE rubber isolators as well.



INSTALLING THE NEW REAR SPRINGS

Step 1:

Transfer the OE spring isolators (highlighted in **GREEN**) to the new spring as shown.



Step 2: 18mm, 21mm Wrench, 18mm, 21mm Socket & Ratchet

Slide the spring assembly into the lower control arm, then jack up the control arm until the top of the spring slides into the upper mounting perch in the chassis. Replace the bolts and nuts (arrows) which secure the lower control arm to the shock and spindle.



INSTALLING THE NEW REAR SPRINGS

Step 3: 18mm, 21mm Wrench, E20 Torx Socket & Torque Wrench

With the suspension at final ride height, counterhold the shock and lower control arm bolts while you torque the nuts to:

Outer lower control arm nut: 165 Nm (122 Ft-lbs)

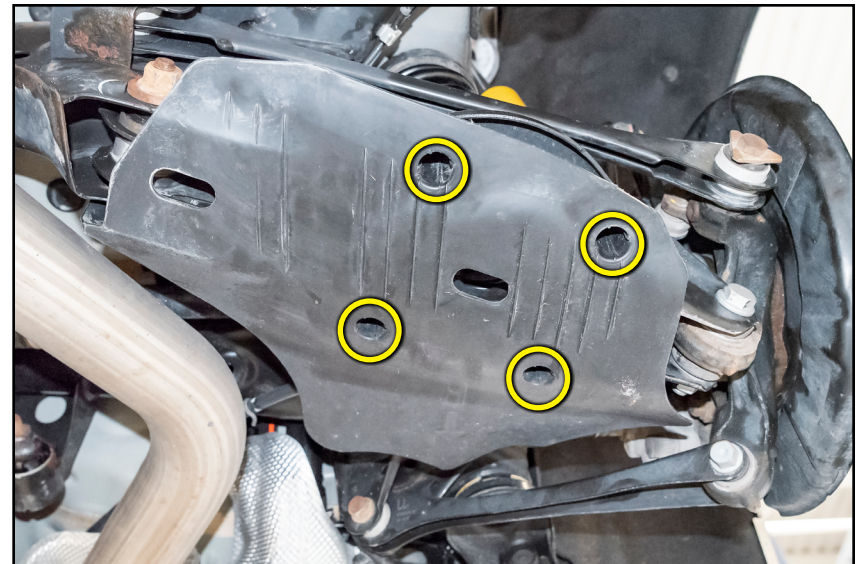
Lower shock nut: 100 Nm (74 Ft-lbs) + 90 degrees

Inner lower control arm nut: 165 Nm (122 Ft-lbs)



Step 4: 10mm Socket & Ratchet, Protecta-Sockets & Torque Wrench

Reinstall the lower control arm cover and tighten the nuts (circled in **YELLOW**) until snug. Reinstall the wheels and torque the bolts to 140 Nm (103 Ft-lbs).



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.

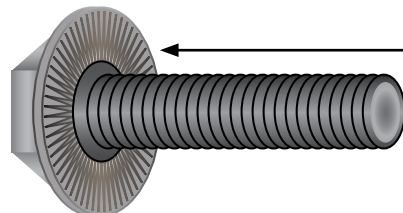
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

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.

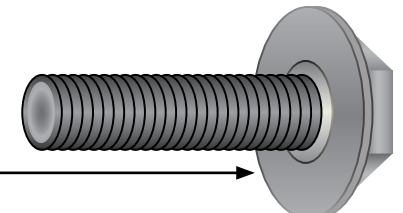
Ribbed vs. Non-Ribbed Bolts

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 Nut	64 Nm (47 Ft-lbs)	(Page 10)
Front Upper Strut Mount Bolts	M8 Bolts: 30 Nm (22 Ft-lbs) + 90 degrees	
	M10 Bolts: 56 Nm (41 Ft-lbs) + 90 degrees	(Page 11)
Front Strut Brace Bolt	56 Nm (41 Ft-lbs) + 90 degrees.....	(Page 11)
Front Strut Pinch Bolt	44 Nm (32 Ft-lbs) + 90 degrees.	(Page 13)
Front Sway Bar End Link Nut	56 Nm (41 Ft-lbs)	(Page 13)
Rear Outer Lower Control Arm Bolt.....	165 Nm (122 Ft-lbs)	(Page 17)
Rear Lower Shock Bolt.....	100 Nm (74 Ft-lbs) + 90 degrees	(Page 17)
Rear Inner Lower Control Arm Bolt.....	165 Nm (122 Ft-lbs)	(Page 17)
Wheel Bolts	140 Nm (103 Ft-lbs).....	(Page 17)

Your Lowering Springs Kit installation is complete!

REV:	Description:	Drafted By:	Checked By:	Date:
1	Initial Draft	CEN	DPO	03/31/2023



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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