



# BMW E46 M3 Big Brake 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](#)
- **3/8" Drive Ratchet** ..... [ES#2765902](#)
- **3/8" Drive Torque Wrench** ..... [ES#2221245](#)
- **3/8" Drive Deep and Shallow Sockets** ..... [ES#2763772](#)
- 3/8" Drive Extensions ..... [ES#2804822](#)
- **Hydraulic Floor Jack** ..... [ES#240941](#)
- **Torx Drivers and Sockets** ..... [ES#11417/8](#)
- **1/2" Drive Deep and Shallow Sockets** ..... [ES#2839106](#)
- **1/2" Drive Ratchet**
- 1/2" Drive Extensions
- **1/2" Drive Torque Wrench** ..... [ES#2221244](#)
- **1/2" Drive Breaker Bar** ..... [ES#2776653](#)
- Bench Mounted Vice
- Crows Foot Wrenches
- Hook and Pick Tool Set ..... [ES#2778980](#)

### Required For This Install

- 1/4" Drive Ratchet ..... [ES#2823235](#)
- 1/4" Drive Deep and Shallow Sockets ..... [ES#2823235](#)
- 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
- **Flare Nut Wrench Set** ..... [ES#2840737](#)
- Hex Bit (Allen) Wrenches and Sockets ..... [ES#11420](#)
- Thread Repair Tools ..... [ES#1306824](#)
- **Open/Boxed End Wrench Set** ..... [ES#2765907](#)

### Available On Our Website

## 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 BRAKES

**Step 1:** 17mm Protecta-Socket & Breaker Bar

Safely raise and support the vehicle and remove the front wheels.



**Step 2:** Flat Head Screwdriver

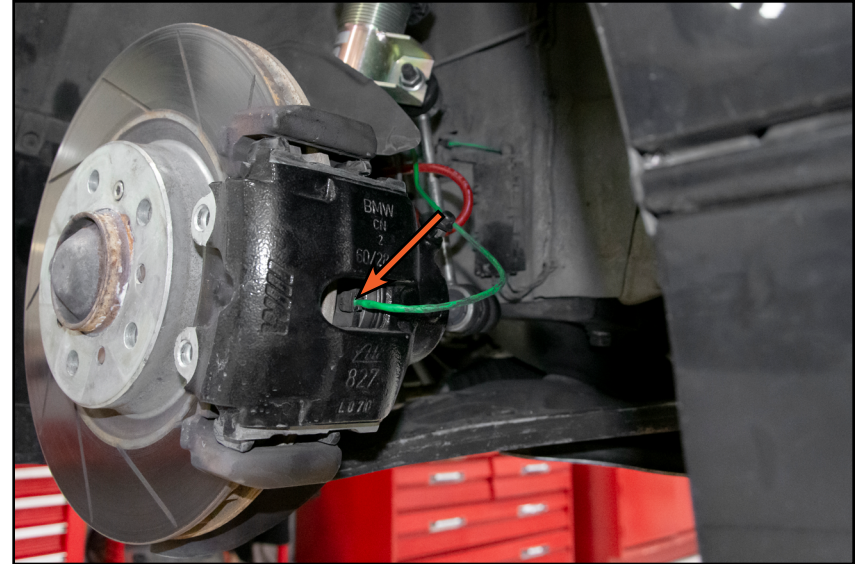
Pry the anti rattle spring (highlighted in **RED**) off of the brake caliper.



## REMOVING THE ORIGINAL BRAKES

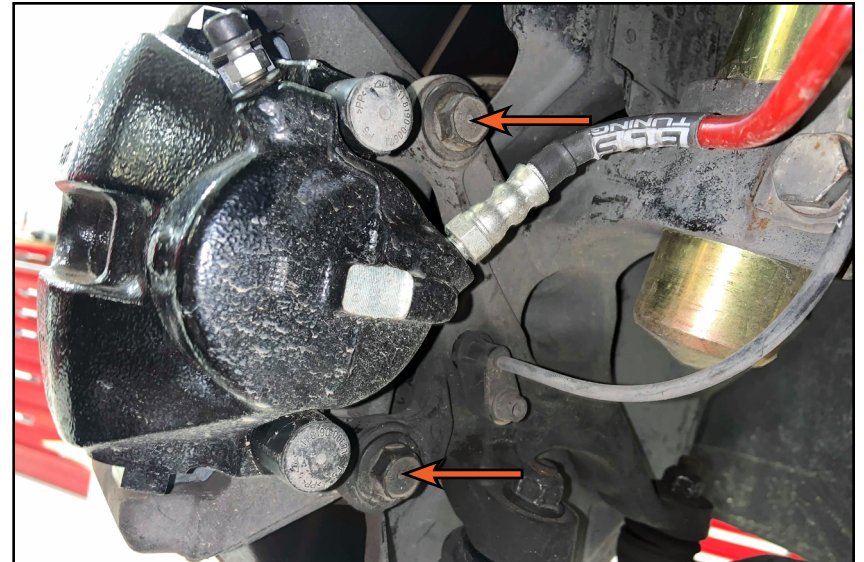
### Step 3: Needle Nose Pliers

Pull the brake pad wear sensor (arrow) out of the stock brake pad.



### Step 4: 16mm Socket and Ratchet

Remove the two caliper carrier bolts (arrows) and set them aside.



## REMOVING THE ORIGINAL BRAKES

### Step 5: Caliper Hanger

Slide the caliper assembly off the rotor and carefully hang it out of the way as shown.



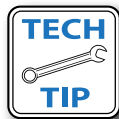
### Step 6: 5mm Hex (Allen)

Remove the rotor set screws (arrows).



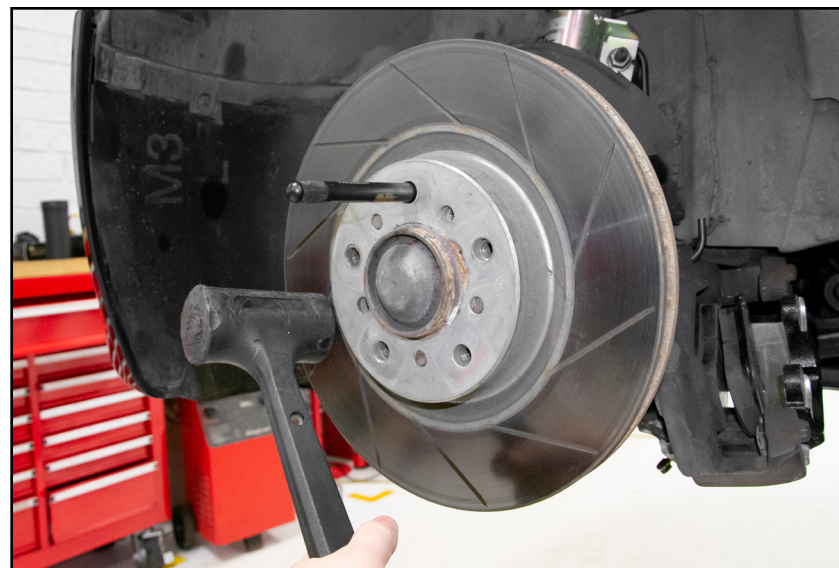
## REMOVING THE ORIGINAL BRAKES

### Step 7: Dead Blow Hammer



It is common for the rotor to be seized to the hub. In order to break the rotor free, install a wheel hanger or partially thread in one of the wheel bolts, then give the rotor a solid whack with a dead blow hammer.

Remove the old rotor and thoroughly clean the hub surface with emery cloth or a wire brush to create a smooth contact surface for the new rotor.



### Step 8: Brake Pedal Depressor

Apply a brake pedal depressor and depress brake pedal *slightly*, this will help to prevent air from entering the brake lines.





## REMOVING THE ORIGINAL BRAKES

### Step 9: 11mm, 13mm Brake Line Wrench

In order to remove the OE brake hose, you must first pull the rubber grommet free from the bracket on the back of the spindle, then loosen the fitting on the hard line to free up the brake hose. Remove the brake hose and caliper together. Install the provided stainless steel lines in reverse order of removal, tightening the new lines to 19 Nm (14 Ft-lbs).



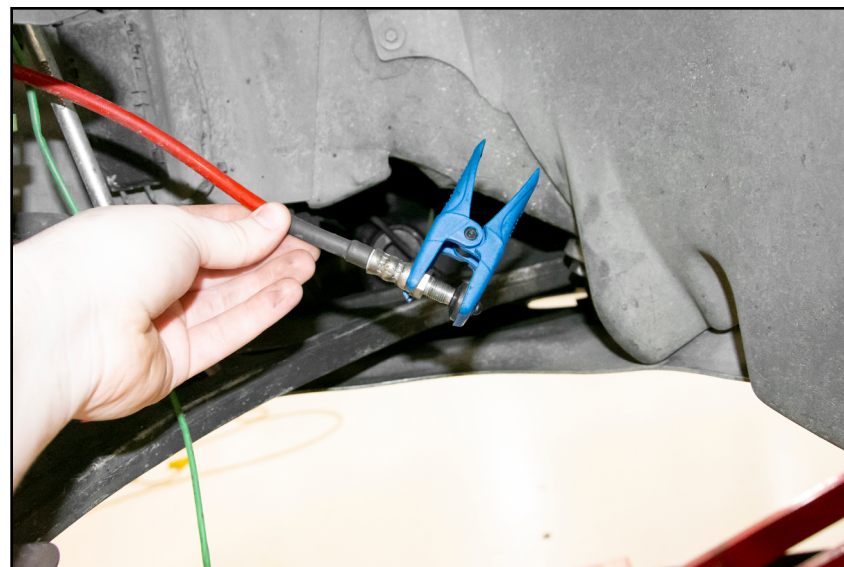
This install was performed on a vehicle which already had our new stainless steel big brake kit lines pre-installed.

### Step 10:

With the new brake lines installed, apply a brake fluid stopper as shown to stop fluid loss and prevent any air from entering the brake lines.



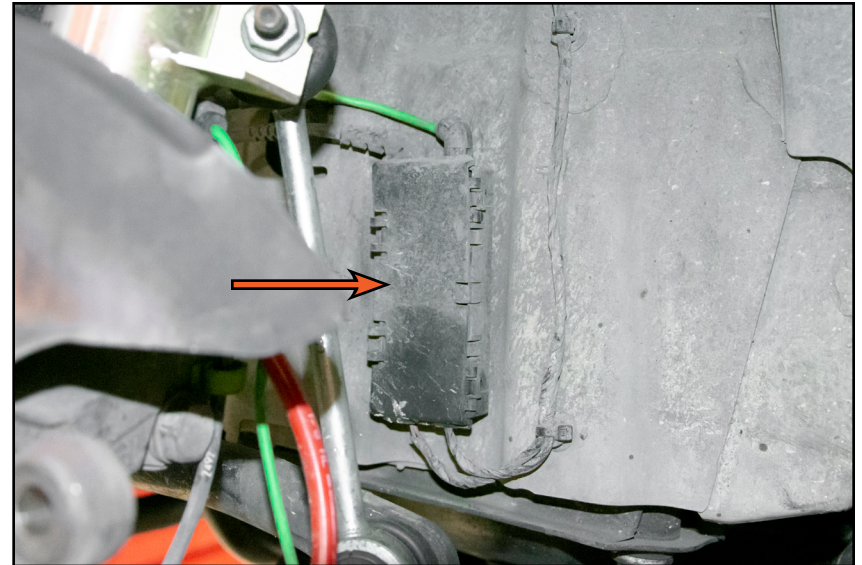
Our 8 piece fluid line stopper kit is available for purchase [HERE](#).



## REMOVING THE ORIGINAL BRAKES

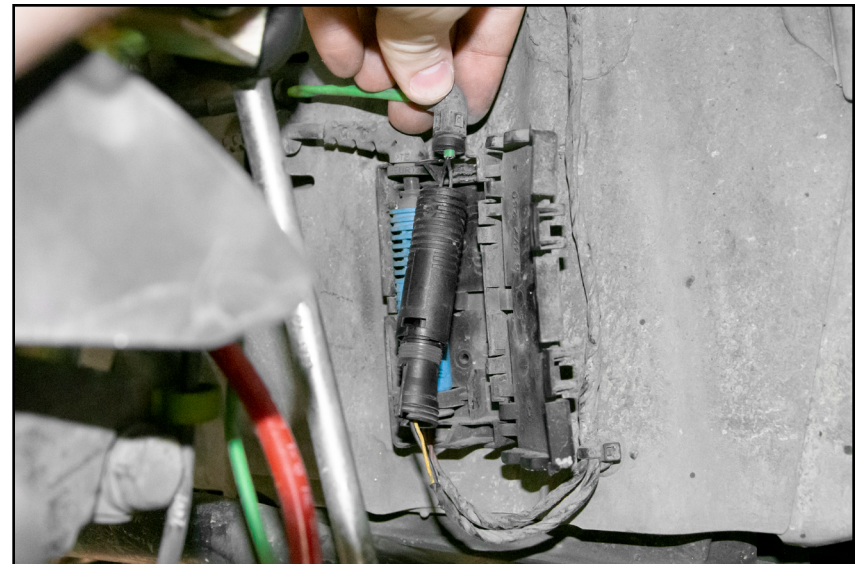
### Step 11:

Pull the OE brake pad wear sensor free from any mounting grommets then open the plastic box (arrow) behind the spindle housing.



### Step 12:

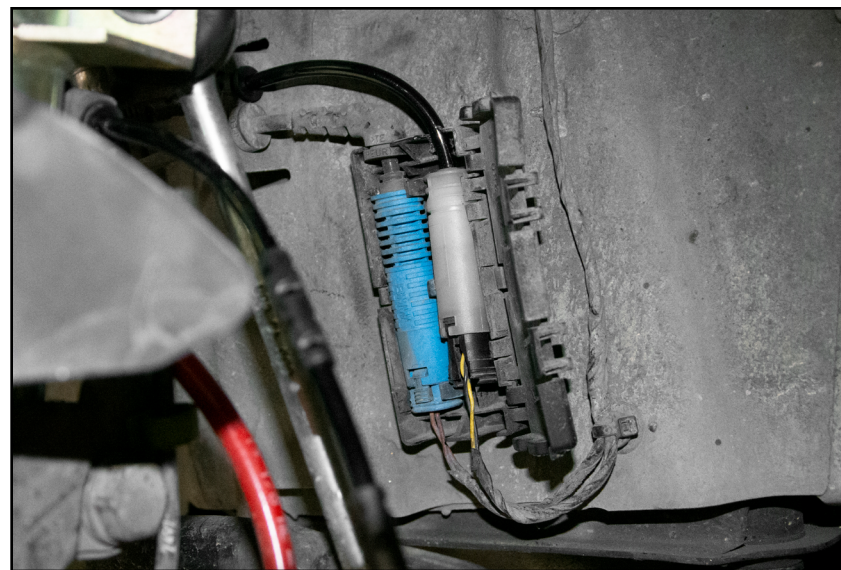
Pull the brake pad wear sensor connector free from the box, depress the locking tab, and disconnect it from the connector. Remove the brake pad wear sensor.



## BIG BRAKE KIT INSTALLATION

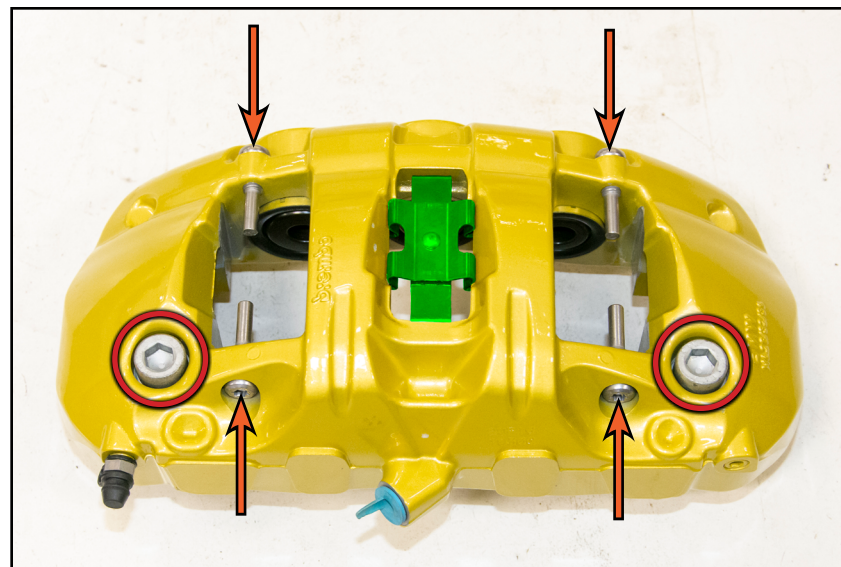
### Step 1:

Install the new brake pad wear sensor in reverse order of removal, then slide the connector back into the plastic box and close the lid.



### Step 2: T40 Torx, 10mm Hex (Allen)

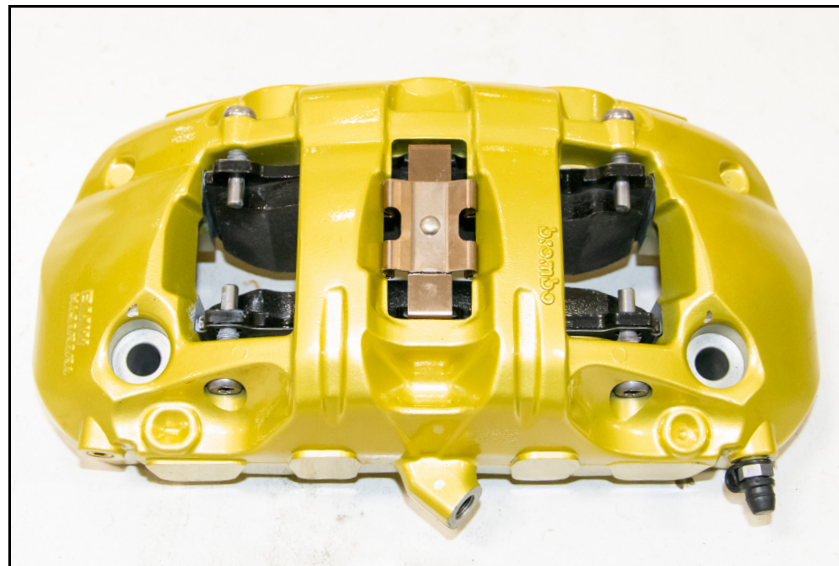
Open up each of the new calipers, then install the four guide pins (arrows) and the spring clip (highlighted in **GREEN**). Torque the four pins to 30 Nm (22 Ft-lbs). Loosen the two caliper carrier bolts (circled in **RED**) and set them aside, then remove the OE carrier and set it aside.



## BIG BRAKE KIT INSTALLATION

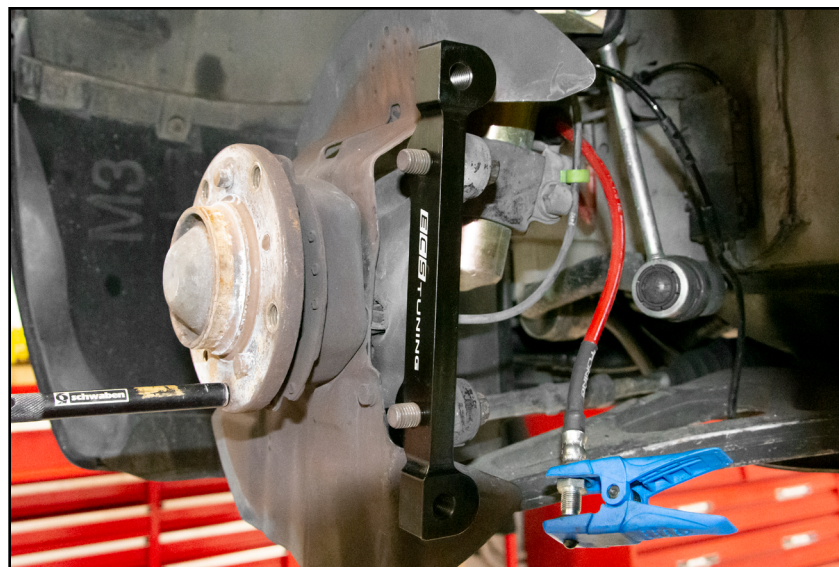
### Step 3:

Slide the new brake pads into the caliper as shown. It may take a little patience to get the brake pads installed as it can be a little tricky. You must depress the spring clip with the top of the brake pad first, then carefully slide the pins into the holes in the brake pad without releasing the spring clip.



### Step 4: 16mm Socket & Torque Wrench

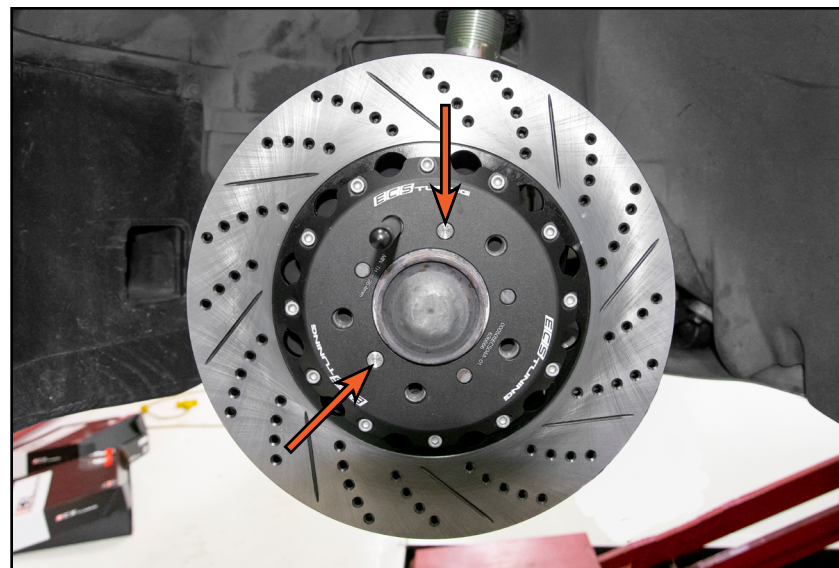
Install the new ECS caliper carrier on to the spindle using the carrier bolts we removed. Torque the bolts to 110 Nm (81 Ft-lbs).



## BIG BRAKE KIT INSTALLATION

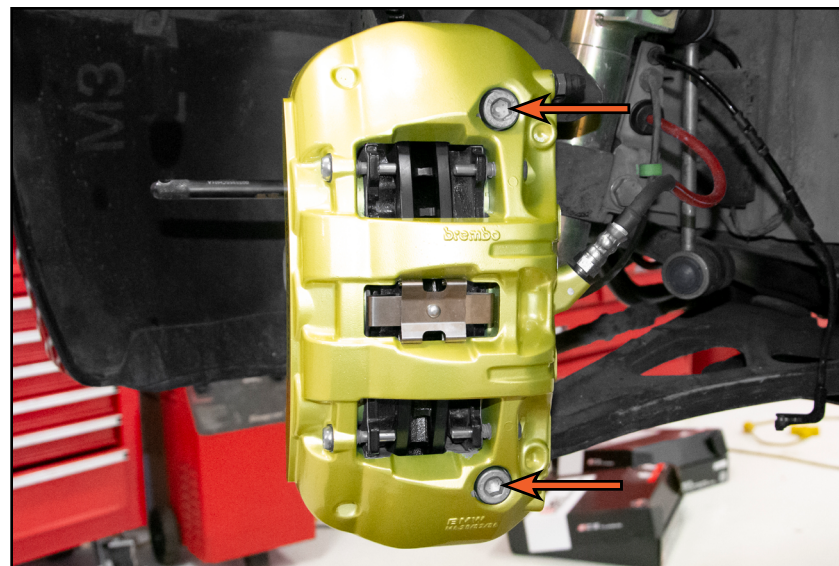
### Step 5: 6mm Hex (Allen)

Install the new rotor onto the hub and install the two provided rotor set screws (arrows). Torque the set screws to 16 Nm (12 Ft-lbs).



### Step 6: 10mm Hex (Allen) 13mm Brake Line Wrench

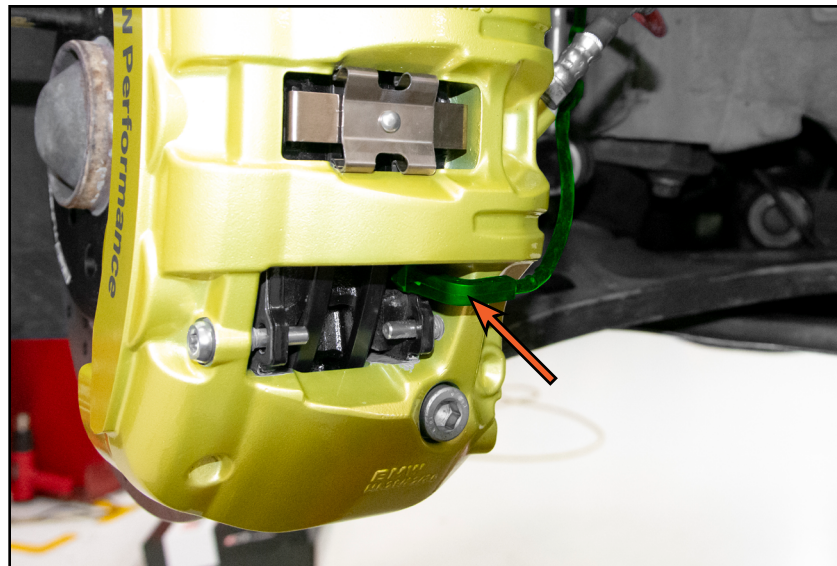
Thread the brake line into the new caliper being careful not to twist or kink the line, then slide the caliper over the rotor and reinstall the two caliper mounting bolts (arrows). Torque the two caliper bolts to 110 Nm (81 Ft-lbs). Torque the brake line to 26 Nm (19 Ft-lbs).



## BIG BRAKE KIT INSTALLATION

### Step 7:

Slide the new brake pad wear sensor (highlighted in **GREEN**) into the slot in the new brake pad as shown.



### Step 8: 11mm Brake Line Wrench, 11mm Socket & Ratchet

Once both calipers are fully installed, remove the brake pedal depressor and bleed the air from the brake system starting with the RH (passenger) side. Once all air is bled from the brake system torque the bleeder screws to 18 Nm (13 Ft-lbs).



Proceed to the next page for more information on bleeding the brake system.



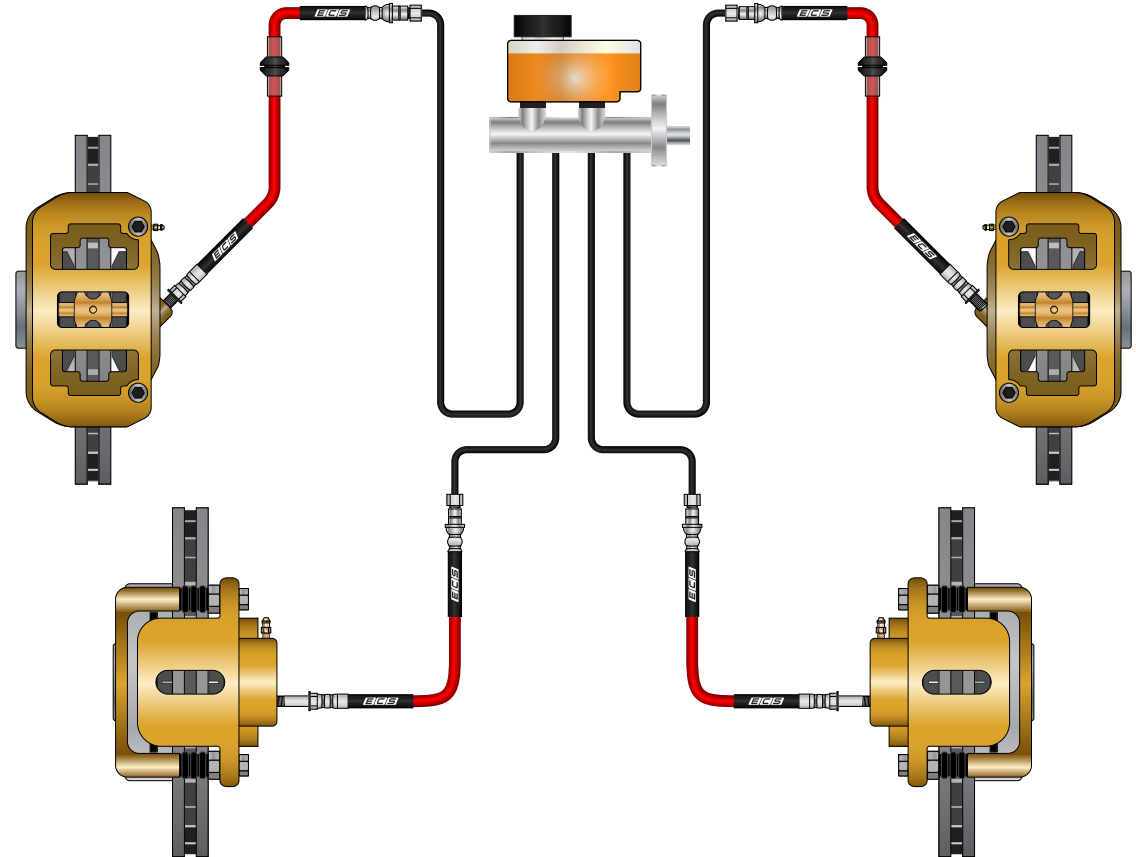
## BRAKE LINE BLEEDING PROCEDURE

### Step 9: Brake Bleeder

Whenever the brake lines are serviced you will need to bleed the air from the system.

We **HIGHLY** suggest the use of our 3-Liter Premium European Brake Bleeder ([ES3125779](#)) for this job because it pressurizes the entire brake system using a professional grade aluminum master cylinder cap, forcing out any air from the brake system with ease.

If you do not have a power bleeder you can use the standard two man method where one person actuates the brake pedal while the other opens and closes the bleeder screws until all the air is evacuated from the system.



## FINAL ASSEMBLY

*Perform the following steps for final assembly:*

- Install the wheels on the car and torque the wheel bolts to 130 Nm (96 Ft-lbs).
- Lower the car to the ground
- Check hose/line connections and clearance then top off brake fluid in the reservoir.
- Perform the brake pad break in procedure as specified in the instructions included with the pads in the kit.

***Congratulations, your installation is complete!***

## TORQUE SPECIFICATIONS

Brake Line to Hard Line.....	19 Nm (14 Ft-lbs).....	(Page 9)
Caliper Guide Pins .....	30 Nm (22 Ft-lbs) .....	(Page 11)
Caliper Carrier Bolts .....	110 Nm (81 Ft-lbs) .....	(Page 12)
Rotor Set Screws .....	16 Nm (12 Ft-lbs).....	(Page 13)
Caliper Mounting Bolts .....	110 Nm (81 Ft-lbs) .....	(Page 13)
Brake Line to Caliper.....	26 Nm (19 Ft-lbs) .....	(Page 13)
Caliper Bleeder Screws.....	18 Nm (13 Ft-lbs).....	(Page 14)
Wheels.....	130 Nm (96 Ft-lbs) .....	(Page 15)



Your BMW E46 M3 Big Brake 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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