



Installation Procedures

E36 E46 Big Brake Kit Installation Instructions

This tutorial is 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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Safety first:.

Always exercise caution when working with vehicles. Never rely on a jack alone to support the weight of the car. When using a lift, always ensure that the proper lift points are being hit and the proper precautions are being taken before lifting the vehicle. When working with brake fluid, due to its extreme corrosive properties keep off skin and make sure no residue remains on the paint. Brake fluid is extremely dangerous; avoid contact with eyes at all times. When handling, wear eye protect and gloves. Think of your own safety and the safety of others when working on or operating the vehicle.

NOTE Before beginning installation, ensure the the brakes fit using the ECS Brake template.

Estimated Installation Time:

Tools Required:

- Impact gun (recommended)
- 17mm socket
- Wheel Hanger
- 11mm Box Wrench
- 14mm Box Wrench
- 16mm Box wrench
- 6mm Allen Wrench
- 10mm Allen Wrench
- 3/8 Ratchet
- Locktite
- Torque wrench

Parts Required:

ECS Tuning Big Brake Kit es2215444 :
6 Piston caliper (Left, Right)
Semi Floating rotor (Left, Right)
ECS Tuning Caliper Bracket
ECS Tuning Rotor Screw (2)
Brake Pad Wear sensor (1)
ECS Tuning Stainless Steel Brake Lines (2)
ECS Tuning Brake Caliper Bracket Bolts (4)
ATE Super Blue Racing DOT 4 Brake Fluid

ECS Tuning 1000 Seville Road. Wadsworth, Ohio 44281
Phone: 1-800-924-5172 **Fax:** 330-331-2022 **Web:** www.ecstuning.com

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1) Removing OEM Rotors and Calipers

After jacking up the vehicle and securing it on jack stands, remove the wheel.



Using your Impact Gun and a 17mm socket, remove the wheel you currently want to work on.



**Recommended*-* Use a wheel hanger when taking the wheel off, as a precaution to avoid dropping it.
**ES5965- or equivalent*

After pulling off the wheel, you are ready to remove the caliper and rotor.



To begin removing the caliper, undo the connection that holds the soft brake line to the hard line coming from the master cylinder with a 11mm box wrench.



Be careful when undoing lines, or bleeding brakes, as brake fluid might squirt out and is highly corrosive. Protect your skin and eyes at all times.

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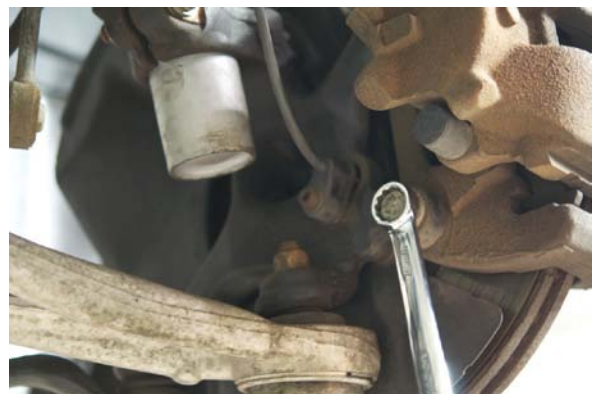
After undoing the connection and pulling the brake line off, use a small vacuum cap to block the hard brake line to help minimize the loss of brake fluid.



Now, remove the rubber grommet holding the brake line to the strut.



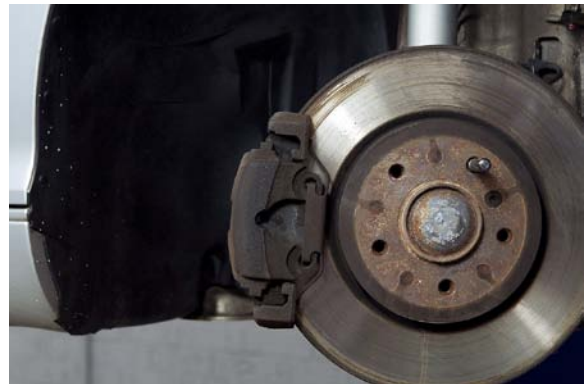
The next step is undoing the caliper bolts that hold it to the spindle. To remove the bolts you need a 16mm box wrench.



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After removing the bolts, remove the stock caliper.



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After removing your stock caliper, the next step is removing the rotor. To do this, remove the rotor hold down screw and take the rotor off. Use a 6mm Allen wrench with a 3/8 ratchet.



It is recommended that you thoroughly clean the mounting surface where the new rotor will sit to ensure there is no corrosion where you mount the rotor.



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2) Installation of ECS Big Brake Kit

Now it's time to install the ECS Tuning Big Brake Kit. First start off by putting the rotor on the hub. Make sure the offset hole lines up with the hold down screw hole. Now, install the hold down screw using a 6mm Allen wrench and a 3/8 ratchet.



Now move to the assembly of the caliper. Your caliper will come with a stock E82/8 mounting bracket affixed. This must be removed, and the new ECS Tuning bracket must be applied.



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First remove the two mounting bolts that hold the bracket to the caliper. Use a 10mm Allen wrench and a 3/8 ratchet.



Remove the bolts.



Remove the old bracket.



After the bolts have been removed, apply a small amount of Locktite to the bolts to ensure that they will be securely fastened.

You must tighten these bolts to 62 ft/lbs of torque.



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The next step is to install the brake line. Remove the rubber cap from the caliper and start threading in the new line.



Tighten the brake line using a 14 mm box wrench. Exercise caution and be attentive not to over tighten the brake line.



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You are now done with the caliper assembly. In order for your new caliper to fit on the designated mounting bracket, slight bending of the dust shield from around the rotor is required.

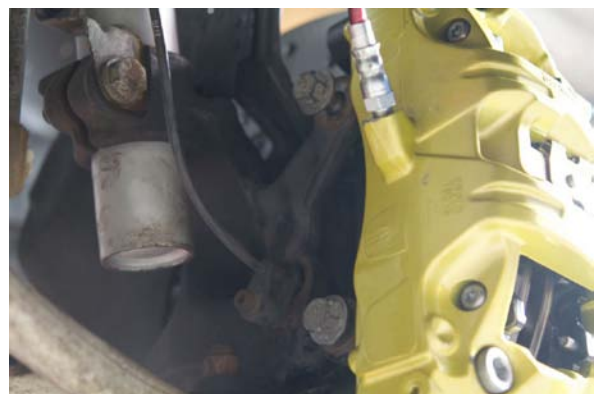


Now, put the caliper with the bracket up to the rotor and start mounting it.



Insert your new bolts through the mounting holes and start threading them into the caliper bracket.

It's a good idea to put some grease on the bolts to avoid corrosion.



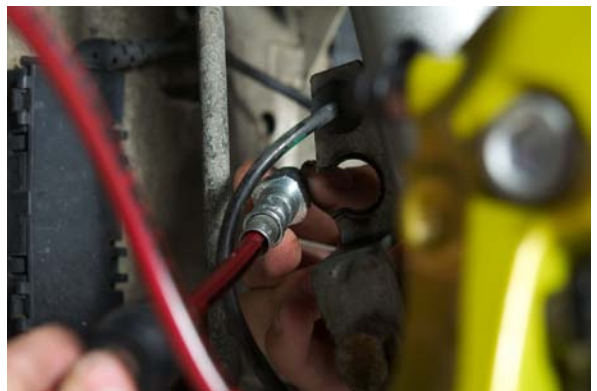
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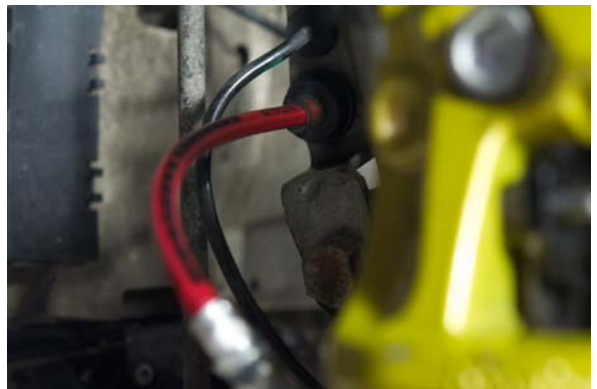
The recommended torque for these bolts is 80 ft/lbs of torque. Using your torque wrench, ensure the bolts are tightened to the recommended torque specifications.



Next, you must thread the new ECS stainless steel brake line through the same location where the old line went.

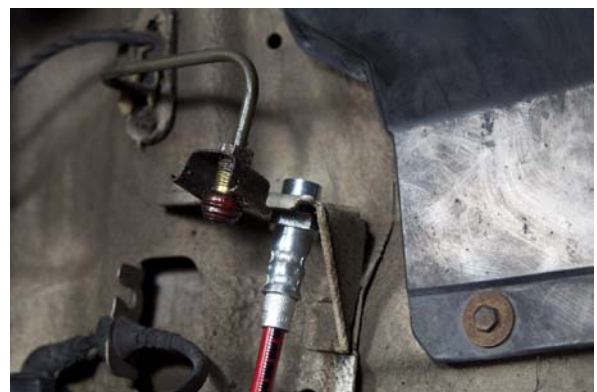


Make sure you insert the rubber grommet back in its place where the stock one was once used.



Now, remove the small vacuum cap (if you installed one) and connect to the new brake line. Start the threads with your fingers and when it gets too tight, use the 11mm box wrench.

You will feel a slight stopping point when the line has been fully threaded.



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When tightened, the brake line will look like the picture to the right.



The last step before putting the wheel back on is bleeding the brakes. For this part you will need the assistance of another person.



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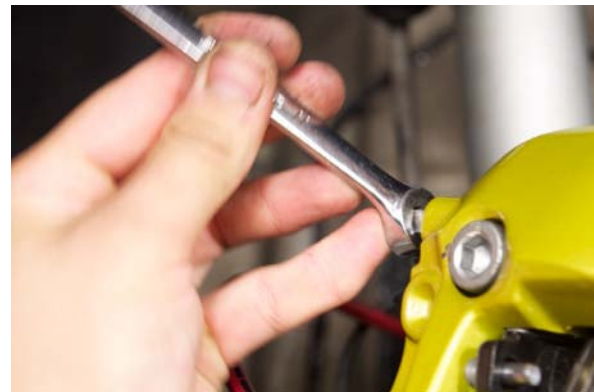
Start by removing the bleeder cap from the caliper you just installed. Make sure all connections are tight with the brake line. Now, take off the brake fluid reservoir cap.

Start bleeding by having the other person in the car pumping the brake pedal. This will create pressure on the line to the caliper.

After seven pumps, have the person push the pedal as far down as they can and hold it.

While the person is holding the pedal down, use the 11mm box wrench to slowly loosen the bleeder. At first, the bleeder will spew out air and then start to spew out brake fluid. When it starts spewing brake fluid, re-tighten the bleeder. Repeat this four times.

When the bleeder finally starts eliminating brake fluid from the second you pull it without expelling any air, the bleeding is complete.



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Ensure the bleeder is tight. Wipe excess fluid with a rag, and make sure there is no brake fluid on the pads, or the rotors themselves. After making sure there are no leaks, reinstall your bleeder cap.



After proper installation, the final product will look like the pictures on the right.



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For the final step, reinstall your wheel.
Use the 17mm socket with a torque
wrench to secure your wheels to the
proper torque spec.



Proper Brake Pad Bedding Procedures

Often overlooked, proper brake pad bedding (break-in) is essential to the performance and longevity of your new brakes. Taking the time to properly bed in your brake pads will allow them to perform at their full potential. We recommend replacing your brake rotors when you replace pads, but resurfacing your used rotors is an option as long as they meet minimum thickness recommendations. The complete bedding in of brake pads is a process that usually takes between 300-500 miles depending on the type of driving you do, but following the recommended procedure directly after installation is of utmost importance.

In simple terms, bedding your brake pads allows the pads to mate with the rotors uneven surfaces. Even brand new brake rotors are covered with microscopic scratches, grooves, and imperfections that must be worn down to create as much surface area as possible for the pads to come in contact with. As your brake pads bed in, they contour to fit every imperfection in the rotors. Below are basic instructions to help bed in your brake pads and rotors correctly.

Immediately after installation, you will notice that the first few stops on your new brakes will result in very little braking power. Be careful not to apply the brakes hard enough to overheat the pads or rotors and be very careful not to drive in traffic right away.

Bring the vehicle up to 60 mph and lightly apply the brakes a few seconds at a time to bring them up to temperature. Do not try to stop the vehicle at this time, only start to bed them in and get them to operating temperature.

After getting them warmed up, make a series of 8-10 near-stops. Do this by firmly pressing the brake pedal from about 60 mph down to about 10 mph not allowing the vehicle to come to a complete stop. If you allow the vehicle to come to rest, you run the risk of allowing hot brake pad material to imprint to the rotors and inhibit the bed in procedure. Allow a minute or two between near-stops to help regulate brake temperatures. After you have completed these near-stops drive the vehicle at road speed long enough to allow the brakes to cool down, and repeat the series of 8-10 near-stops again. For the next few hundred miles drive normally, trying not to overheat them. Repeated high speed stops will increase the risk of damaging brake pads and rotors

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permanently, so extra care during break in is recommended.

It is easy to see how your bedding progress is going by looking through your wheel spokes at the brake rotors. In the beginning stages of break in, you will notice uneven and even rough areas on the brake rotors. As break in is completed the rotors will become increasingly smooth and shiny, until they are completely smooth in appearance.

Enjoy your new Brake Kit!