



VW MKIV Big Brake Kit Installation Instructions



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.

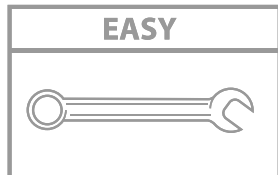
INTRODUCTION

ECS Tuning Volkswagen MKIV Big Brake Kit

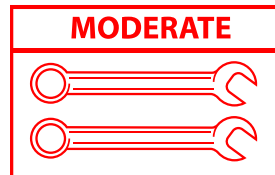
The ECS Tuning Big Brake Kit provides big improvements in braking power with a specially packaged kit containing quality brake components from the best names in the business.

The kit includes:

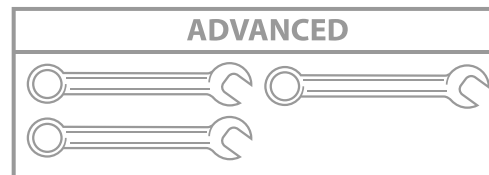
- ECS Tuning four piston calipers available in red, blue, or black
- All caliper hardware and mounting bolts
- ECS Tuning two-piece drilled and slotted floating rotor kits
- Hawk HPS brake pads
- Brake pad dampening plates
- ECS Tuning exact fit brake line kit
- ECS Tuning brake caliper mounting brackets
- High quality Pentosin DOT 4 brake fluid



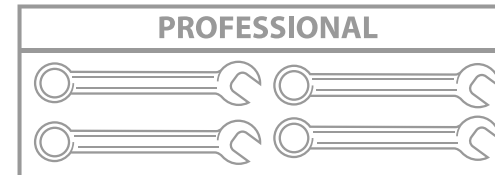
**BASIC SKILLS
REQUIRED**



**SOME EXPERIENCE
RECOMMENDED**



**ADVANCED SKILLS &
EXPERIENCE REQUIRED**



**PROFESSIONAL SKILLS &
SPECIALTY TOOLS REQUIRED**

Installing the ECS Tuning big brake kit on your MKIV Volkswagen is a great weekend project. Plan your time accordingly based on your experience level. These easy to follow instructions will help you with a smooth trouble free installation. Before you begin, read and familiarize yourself with these instructions and make sure you have all the required tools on hand. Thank you for purchasing our ECS Tuning big brake kit. We appreciate your business!

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STAGE 3 BIG BRAKE KIT CONTENTS



ECS Tuning Front Brake Calipers with Hardware



ECS Tuning Caliper Brackets



ECS Tuning Brake Hoses



DOT 4 Brake Fluid



Performance Brake Pad Set



ECS Tuning Two Piece Rotors



44mm Brake Pad Dampening Plates



36mm Brake Pad Dampening Plates



Caliper Mounting Bolts



Brake Hose Retaining Clips



Brake Line Clips



Banjo Bolts and Sealing Washers

REQUIRED TOOLS

NOTE We recommend that you have a complete selection of tools and the necessary equipment for automotive repair. Below is a list of the specific tools that will be required to install your Stage 3 Big Brake Kit. Additional tools may be required for any issues that arise during installation such as rust, corrosion, or broken and stripped fasteners.

These tools are available at ecstuning.com

- 17mm Protecta-Socket (for lug nuts).....[ES#2221243](#)
- 3/8" Drive Torque Wrench[ES#2221245](#)
- 1/2" Drive Torque Wrench[ES#2221244](#)
- 14 x 1.25 Wheel Hanger[ES#2678092](#)
- Flat Blade and Phillips Screwdriver(s)[ES#2225921](#)
- Brake Bleeding Jar[ES#4557](#)
- Torx Sockets T25 and T55
- 1/4" Drive Ratchet
- 1/4" Drive Sockets: 7mm
- 3/8" Drive Ratchet, Extensions
- 3/8" Drive Sockets: 12mm
- 1/2" Drive Ratchet
- 1/2" Drive Sockets: 18mm
- Line Wrenches: 11mm
- Allen Socket: 6mm
- Needle Nose Vise Grips or Pinch off Pliers
- 1/2" Impact

SHOP SUPPLIES AND MATERIALS

- Hand Cleaner/Degreaser..... Available at ecstuning.com.....[ES#2167336](#)
- Absorbent Mats..... Available at ecstuning.com.....[ES#2626365](#)
- Shop Rags Available at your local auto parts store
- Aerosol Spray Lubricant/Penetrating Oil..... Available at your local auto parts store
- Aerosol Brake Cleaner..... Available at your local auto parts store

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.
- 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.

PREPARATION AND SAFETY

- 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.
- If using an automotive lift, be sure and utilize the factory specified lift points. Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- When lifting a vehicle using a jack, always 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. Always make sure that the vehicle is securely supported on jack stands.

REMOVING THE ORIGINAL BRAKES

Step 1:

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

TECH TIP

Removing one lug nut first, installing a wheel hanger, and then removing the remaining lug nuts makes wheel removal much easier, is less strain on your back, and prevents accidentally dropping the wheel.



Step 2:

Using an 11mm line wrench, disconnect the brake line from the front brake hose. Remove any retaining clips and remove the brake hose from the bracket on the body.



REMOVING THE ORIGINAL BRAKES

Step 3:

Push a piece of hose over the end of the brake line and use needle nose vise grips or pinch off pliers to crimp the hose. Sealing the end of the line will prevent harmful brake fluid from getting on unwanted surfaces and will keep the system from draining completely.

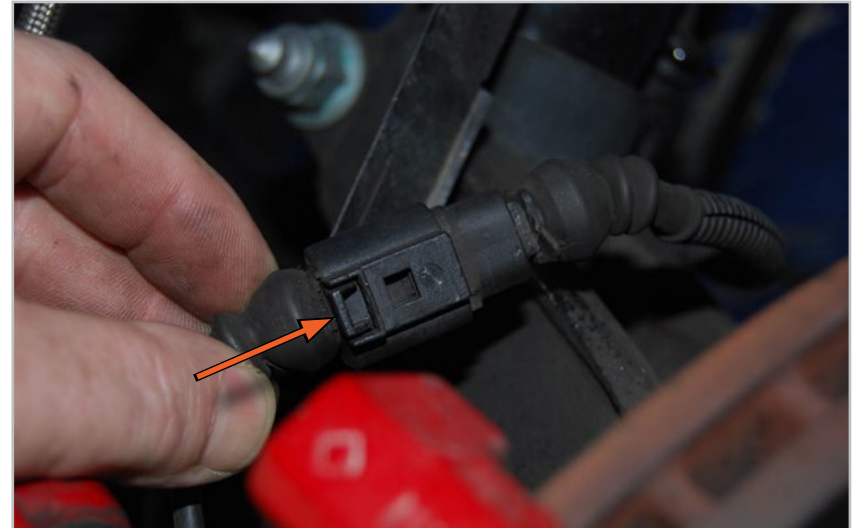
TECH TIP

Keeping the brake fluid from draining out completely will make the system much easier to bleed.



Step 4:

Disconnect the brake pad wear sensor connector by pushing in on the release tab (arrow) and pulling the connector apart.



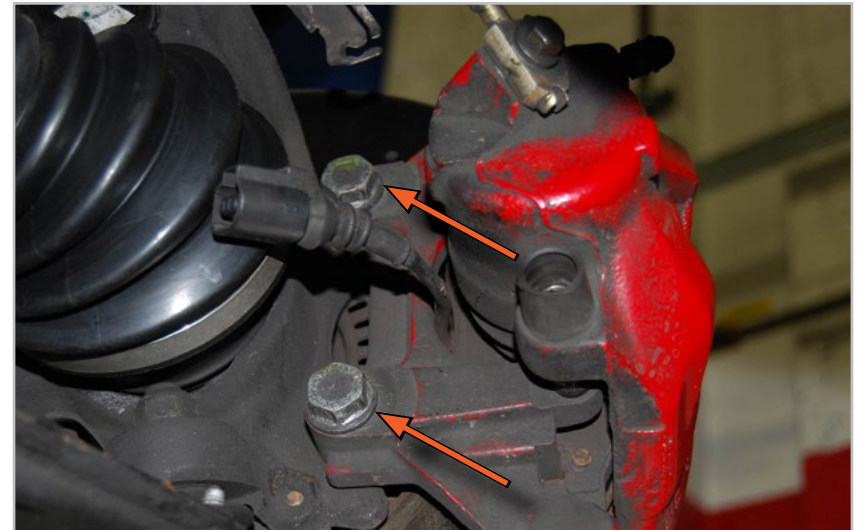
REMOVING THE ORIGINAL BRAKES

Step 5:

Using an 18mm socket, remove both caliper carrier bolts (arrows), then remove the caliper, caliper carrier, pads, and hose as a complete assembly.

NOTE

If there is a ridge on the brake rotor, you will need to push the piston just slightly back into the caliper so the pads will clear the ridge and allow for removal of the caliper.

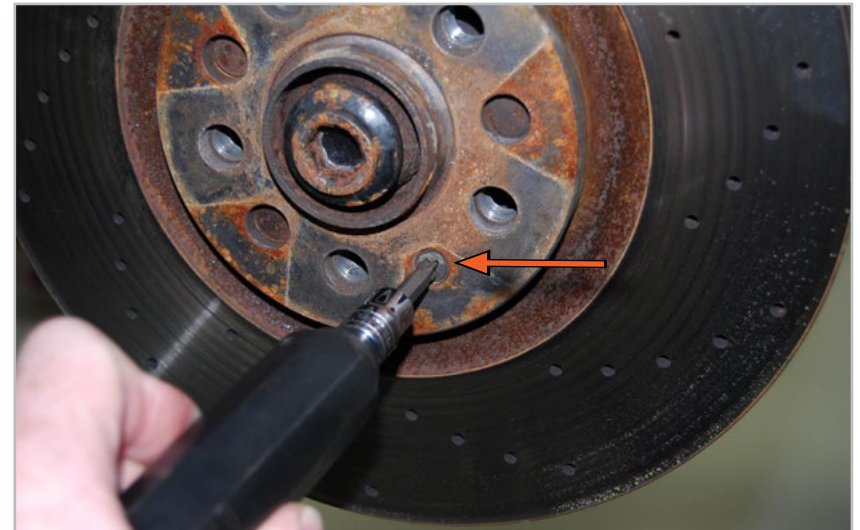


Step 6:

Using a phillips screwdriver, remove the brake rotor retaining screw (arrow), then remove the brake rotor from the drive hub.

TECH TIP

In some cases the rotor screw may be seized in the drive hub. Using an impact driver will help loosen and remove the screw.



REMOVING THE ORIGINAL BRAKES

Step 7:

Using emery cloth or a wire brush, thoroughly clean the surface of the drive hub.



Step 8:

Using a T25 Torx bit, remove the brake pad wear sensor connector bracket.

NOTE

The performance brake pads that come with this kit do not utilize a wear sensor. We are removing this bracket for a clean appearance. See Page 20 for information on our wear sensor bypass connector.



REMOVING THE ORIGINAL BRAKES

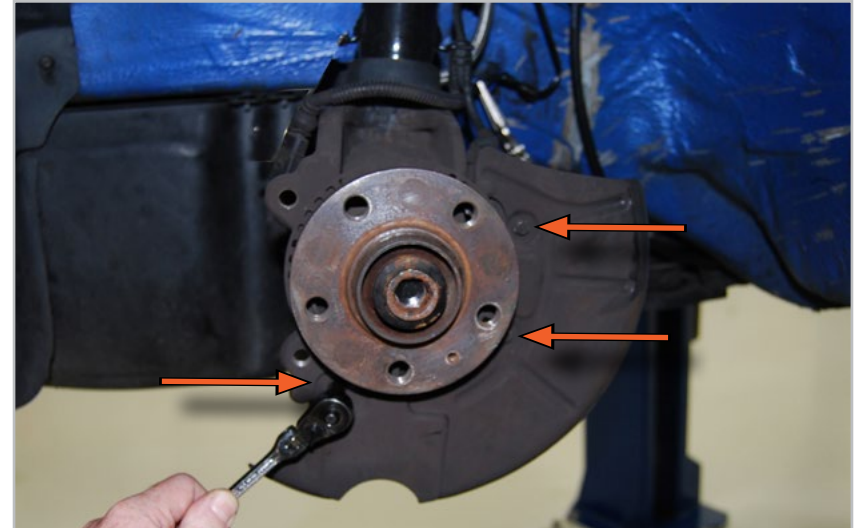
Step 9:

Using a 7mm socket, remove the three securing bolts (arrows) for the brake dust shield and remove the shield.

NOTE

The dust shield must be removed for clearance. If you prefer to leave this shield in place, you will need to trim it as required for clearance.

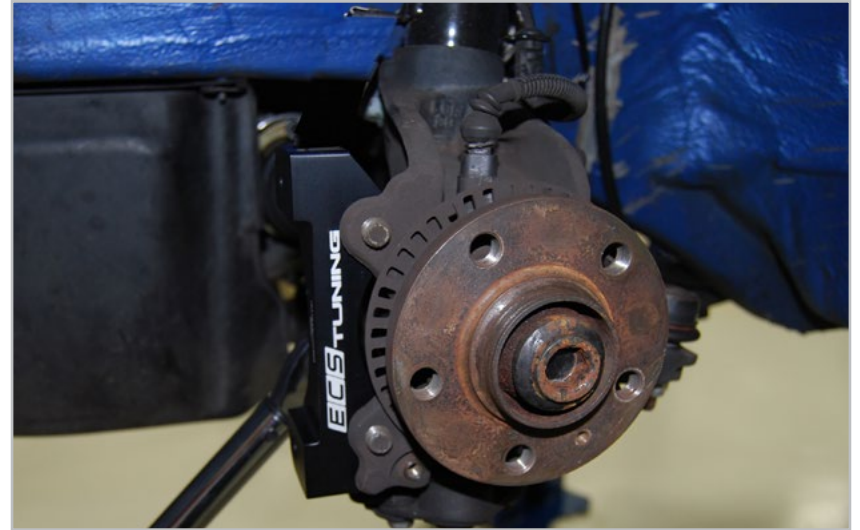
You are now ready to install the new big brake components. Proceed with the installation, beginning on the next page.



INSTALLING THE NEW BRAKE COMPONENTS

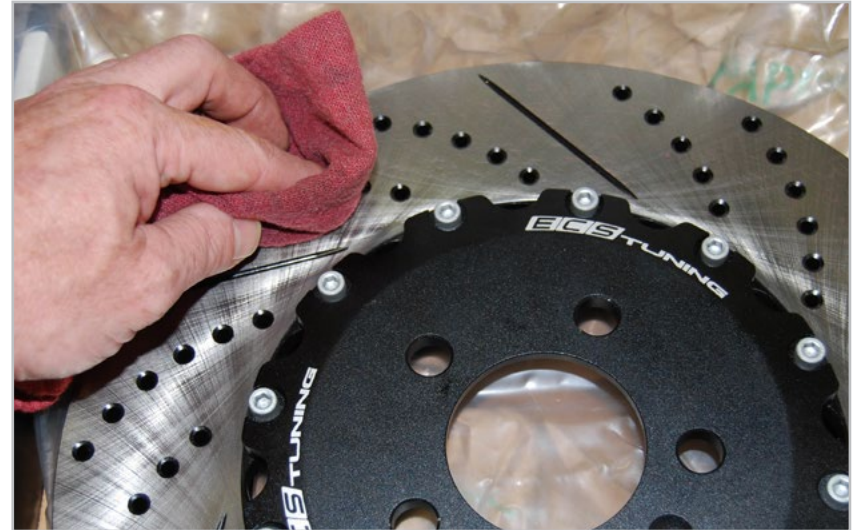
Step 1:

Install the new caliper bracket onto the steering knuckle using the original caliper carrier bolts. Torque the bolts to 125 Nm (92 ft-lbs).



Step 2:

Thoroughly clean the surface of the new rotor using brake cleaner and a clean, lint free cloth.



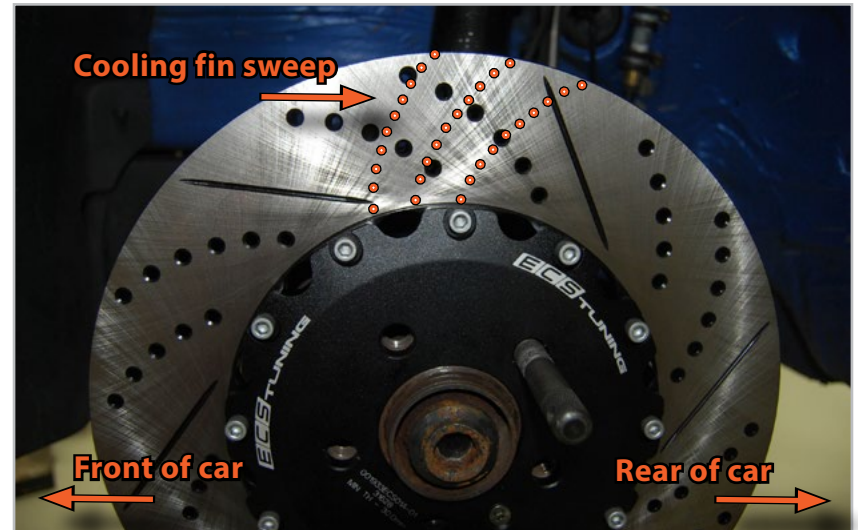
INSTALLING THE NEW BRAKE COMPONENTS

Step 3:

Position the new rotor in place on the drive hub, then install and tighten the rotor screw to 4 Nm (3 Ft-lbs). Here we have used a wheel hanger to make rotor installation easier.

NOTE

Be sure to install the correct rotor. The LH and RH are different. The rotor cooling fins should sweep back at the 12 o'clock position. The illustration at right indicates the sweep of the cooling fins.



Step 4:

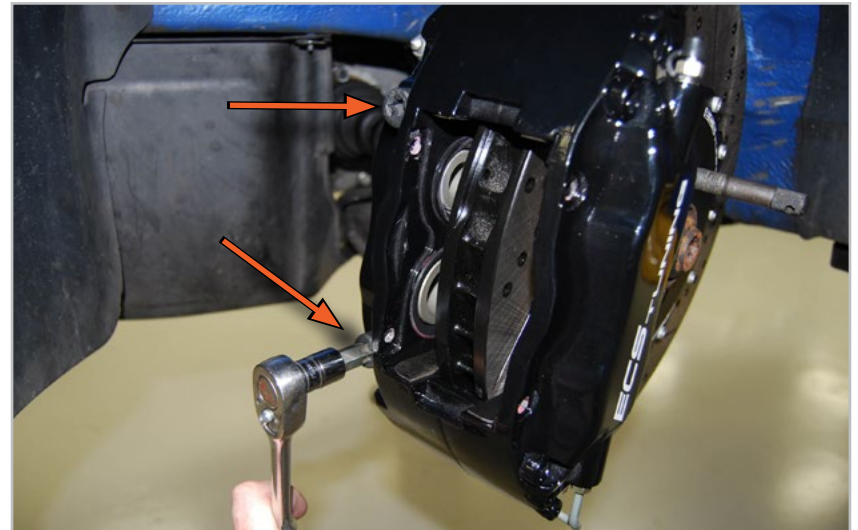
Place a new caliper on a soft rag or fender cover to protect the finish, then using a 6mm allen, remove the two brake pad tensioning plate bolts (arrows) and lift the plate and spacers out of the caliper.



INSTALLING THE NEW BRAKE COMPONENTS

Step 5:

Install the caliper in place on the car and hand tighten the bolts (arrows) using a T55 Torx socket. It is not necessary to torque the bolts at this time.

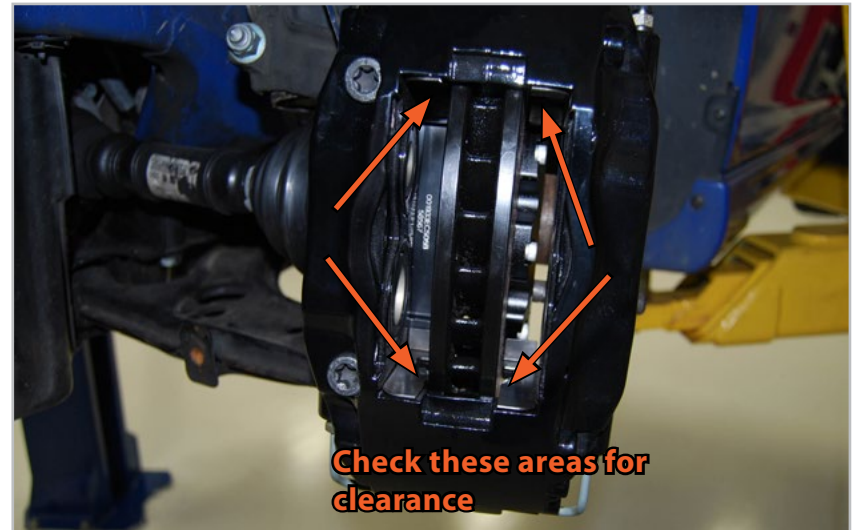


Step 6:

Closely inspect all areas of the caliper for proper clearance between the caliper and the rotor. Spin the brake rotor and make sure it spins freely.

TECH TIP

If the rotor contacts the caliper at any points, remove the caliper and rotor and check for any rust or debris between the rotor and drive hub or on the caliper mounting bracket.



INSTALLING THE NEW BRAKE COMPONENTS

Step 7:

Remove the caliper from the car and place it back onto your work surface. Next, remove the waxed paper on the back side of each brake pad dampening plate (arrow).



Step 8:

Install four brake pad dampening plates into the caliper pistons. (Shown here with the waxed paper installed for clarity).

NOTE

There are two different size pistons in each of these calipers. The retaining clips on the dampening plates are two different sizes as well. Make sure you install the correct plate in each piston.



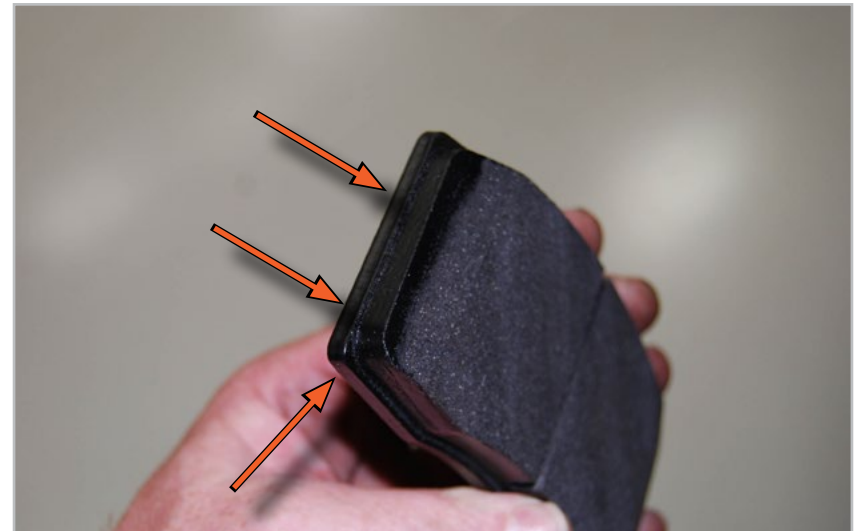
INSTALLING THE NEW BRAKE COMPONENTS

Step 9:

Sparingly apply high temperature brake parts lubricant (included with the kit) to the brake pads on the areas shown with arrows. Make sure to apply the lubricant to both ends of each brake pad. The lubricant is intended for the areas where the pad edge contacts the caliper. Install a pad into the caliper and note the contact areas if you are uncertain of where to apply the lubricant.

NOTE

Be careful not to get any lubricant on the brake pad dampening plates or the friction surface of the brake pads.



Step 10:

Slide both brake pads into the caliper until they rest on the lower pad seat, then push them back against the pistons. The pads should slide in with relative ease.

TECH TIP

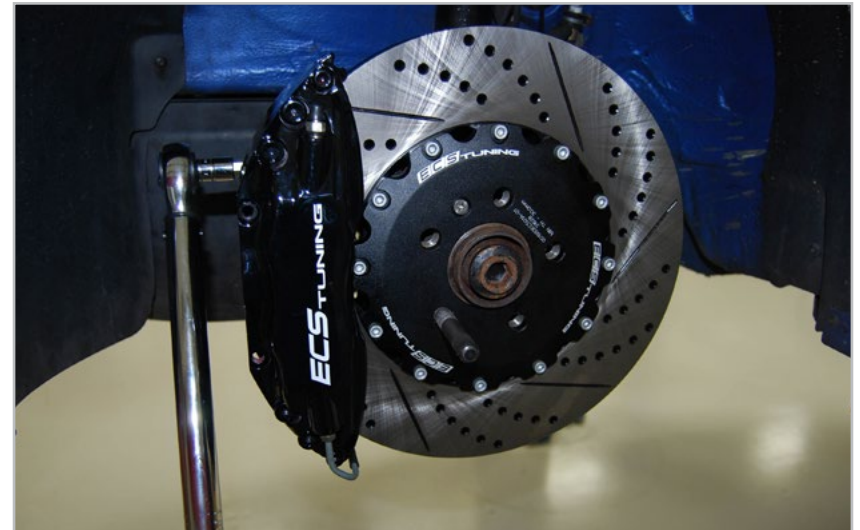
If any of the brake pads do not slide easily into the caliper, remove them and check the ends for any burrs or runs in the coating. You can lightly file away these imperfections to allow for a proper fit of the brake pad.



INSTALLING THE NEW BRAKE COMPONENTS

Step 11:

Install the brake caliper back onto the car and torque the bolts to 85 Nm (62 Ft lbs).



Step 12:

Install the brake pad tensioning plate and spacers into place, then install the two retaining bolts and torque them to 15 Nm (11 Ft-lbs).

TECH TIP

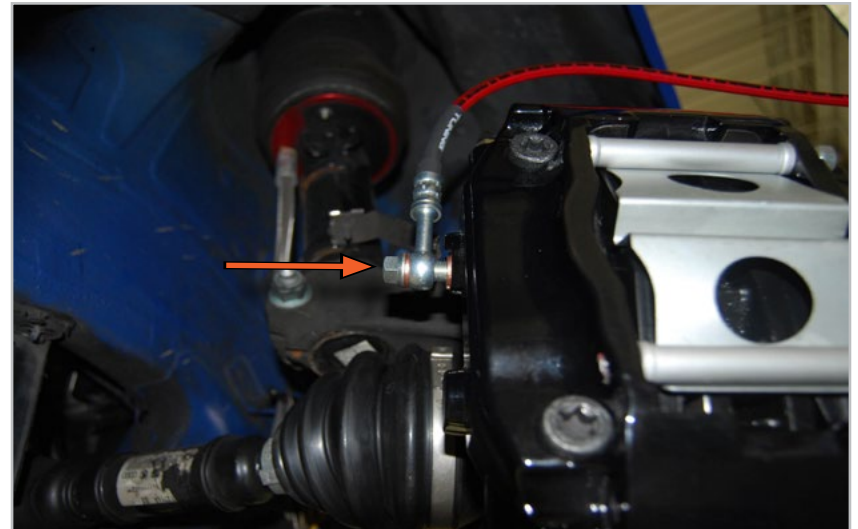
You will have to press down and hold the spacers while installing the bolts to overcome the spring tension on the tensioning plate.



INSTALLING THE NEW BRAKE COMPONENTS

Step 13:

Remove the sealing plug from the back of the brake caliper and install the new brake hose using a new banjo bolt and two sealing washers. Using a 12mm socket and making sure the hose is pointing straight upward, torque the banjo bolt to 17 Nm (13 Ft-lbs).

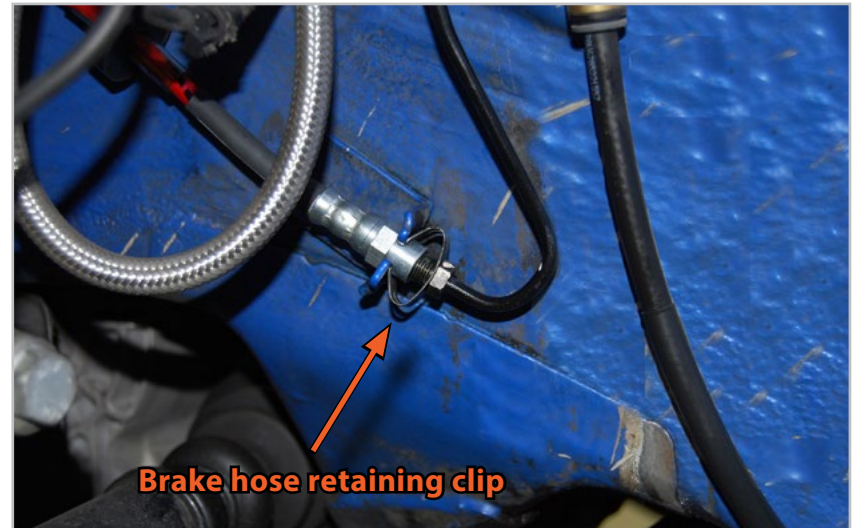


Step 14:

Install the brake hose into the body mount bracket. Remove the “plug” from the brake line, place a new retaining clip over the end of the brake line and thread the brake line fitting into the hose. Tighten the brake line.

NOTE

In order to fit a number of different applications, this brake kit contains two different styles of brake hose retaining clips. Be sure to use the clips that match the originals on your car.



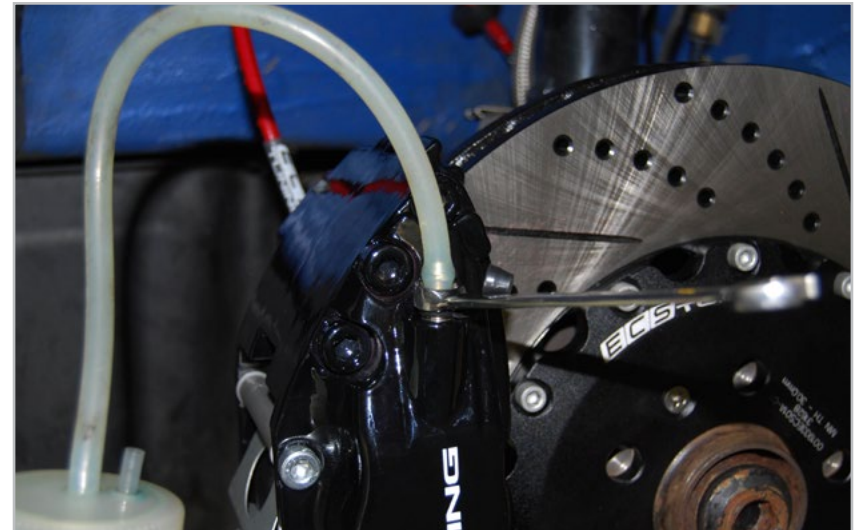
INSTALLING THE NEW BRAKE COMPONENTS

Step 15:

Bleed the air from the brake system. These calipers have two bleeders each. Bleed the calipers in this order: RF outer bleeder, RF inner bleeder, LF outer bleeder, LF inner bleeder.

NOTE

It is not uncommon for air to get trapped in these calipers. We recommend performing the bleed procedure a second time after the initial test drive.



Final Assembly:

Perform the following steps for final assembly:

Install the wheels on the car and torque the lug nuts to 120 Nm (89 Ft-lbs).

Lower the car to the ground

Turn the wheel lock to lock and bounce the suspension and check for any brake hose rubbing or interference.

Check the hose/line connections closely to make sure there are not any brake fluid leaks and be sure to top off the brake fluid in the reservoir.

MKIV STAGE 3 BIG BRAKE KIT

Pad Break In and Maintenance

- Be sure to read the pad break in procedure included with the pads in the kit. Performing this procedure as specified will guarantee the correct performance and wear from your brake pads.
- To ensure even wear, consistent performance, and long life of your brake pads, it is a good idea to remove the pads once a year and clean any rust, dirt, or debris from the brake pad and caliper. Relubricate the contact points as shown on page 16, step 9.

Brake Pad Wear Sensor Bypass

- To prevent the brake pad warning indicator from illuminating, you may install one of our ECS Tuning Brake Pad Wear Sensor Bypass connectors ([ES#2785559](#)).
- We have chosen to remove the wear sensor connector bracket for a clean appearance. In addition, we installed our wear sensor bypass and secured the harness with wire ties along side of the ABS sensor harness.

REPLACEMENT PARTS AND HARDWARE

- Stainless Steel Brake Rotor Screw ([ES#257461](#))
- Brake Pad Dampening Plate for 44mm piston ([ES#1466558](#))
- Brake Pad Dampening Plate for 36mm piston ([ES#1458693](#))

TORQUE SPECIFICATIONS

Brake Hose Banjo Bolt	17 Nm (13 Ft-lbs)	(Page 18)
Caliper Bracket Bolts	125 Nm (92 Ft-lbs)	(Page 12)
Caliper Mounting Bolts	85 Nm (62 Ft-lbs)	(Page 17)
Caliper Tension Plate Bolts	15 Nm (11 Ft-lbs)	(Page 17)
Rotor Screw	4 Nm (3 Ft-lbs)	(Page 13)
Wheels	120 Nm (89 Ft-lbs)	(Page 19)
Axial Bolt (Through spindle to caliper bracket).....	190 Nm (140 Ft-lbs)	
Radial Nut (Attaches to stud that protrudes from the caliper bracket through the caliper).....	120 Nm (89 Ft-lbs)	

• A note about torque to yield or “stretch” bolts: Many bolts will have a torque specification listed in the format - xx Nm+xx degrees (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 them to the Nm or Ft-lb specification. **Stage Two** - tighten each one the additional specified number of degrees. To prevent over torquing it is important to mark each fastener with paint **immediately** after performing the second stage or “stretching” of the bolts.

Your Volkswagen MKIV Big Brake installation is complete!



These instructions are provided as a courtesy by ECS Tuning.

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