VW MK4 Jetta/Golf Rear Big Brake Kit Installation Instructions

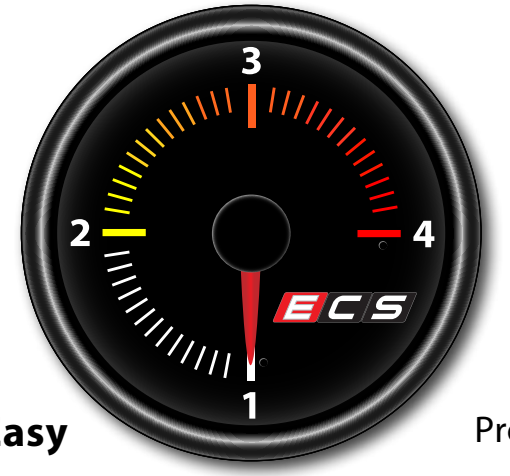
INTRODUCTION

The Project:

ECS Tuning Stage 1 Rear Big Brake Kit offer the following features:

- Allow for installation of 308mm rear rotors
- Superior braking performance
- Caliper bracket engineered in house to exacting specifications
- ECS Tuning lightweight two piece cross-drilled and slotted rotors
- ECS Tuning DOT approved stainless steel brake hoses
- Complete with all necessary installation hardware

ECS Difficulty Gauge



1 - Easy

2 - Moderate

Advanced - 3

Pro - 4

Installing an ECS Tuning Big Brake Kit is an afternoon project that you can complete with relative ease. The following pages, however, are intended as a general installation guide for someone with previous brake experience. They are not intended as a comprehensive step by step set of instructions. If you need additional reference, be sure to have the proper service manuals available before beginning.

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KIT CONTENTS


Caliper Carrier Bolts


Street Shield Skid Plate


Rotor Set Screws


Brake Line Mounting Brackets


Brake Line Mounting Brackets


Exact-Fit Brake Lines


Caliper Carrier Brackets


Drilled and Slotted Rotors

REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

Standard Automotive Tools

Required For This Install

Available On Our Website

- **Protecta-Sockets (for lug nuts)** ..... ES#2221243
- **⅜" Drive Ratchet** ..... ES#2765902
- **⅜" Drive Torque Wrench** ..... ES#2221245
- **⅜" Drive Deep and Shallow Sockets** ..... ES#2763772
- ⅜" Drive Extensions ..... ES#2804822
- **Hydraulic Floor Jack** ..... ES#240941
- **Torx Drivers and Sockets** ..... ES#11417/8
- **½" Drive Deep and Shallow Sockets** ..... ES#2839106
- **½" Drive Ratchet**
- ½" Drive Extensions
- **½" Drive Torque Wrench** ..... ES#2221244
- **½" Drive Breaker Bar** ..... ES#2776653
- Bench Mounted Vise
- Crows Foot Wrenches
- Hook and Pick Tool Set ..... ES#2778980
- ¼" Drive Ratchet ..... ES#2823235
- ¼" Drive Deep and Shallow Sockets ..... ES#2823235
- ¼" 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

SHOP SUPPLIES AND MATERIALS

Standard Shop Supply Recommendations: We recommend that you have a standard inventory of automotive shop supplies before beginning this or any automotive repair procedure. The following list outlines the basic shop supplies that we like to keep on hand. Shop supplies with a hyperlink are available on our website.

- Hand Cleaner/Degreaser - Click Here
- Pig Mats - for protecting your garage floor and work area from spills and stains - Click Here
- Spray detailer - for rapid cleaning of anything that comes into contact with your paint such as brake fluid - Click Here
- Micro Fiber Towels - for cleaning the paint on your car - Click Here
- Latex Gloves - for the extra oily and dirty jobs - Click Here
- Medium and High Strength Loctite Thread lock compound - to prevent bolts from backing out - Click Here
- Anti-Seize Compound - to prevent seizing, galling, and corrosion of fasteners - Click Here
- Aerosol Brake/Parts Cleaner - for cleaning and degreasing parts
- Shop Rags - used for wiping hands, tools, and parts
- Penetrating oil - for helping to free rusted or stuck bolts and nuts
- Mechanics wire - for securing components out of the way
- Silicone spray lube - for rubber components such as exhaust hangers
- Paint Marker - for marking installation positions or bolts during a torquing sequence
- Plastic Wire Ties/Zip Ties - for routing and securing wiring harnesses or vacuum hoses
- Electrical tape - for wrapping wiring harnesses or temporary securing of small components

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.

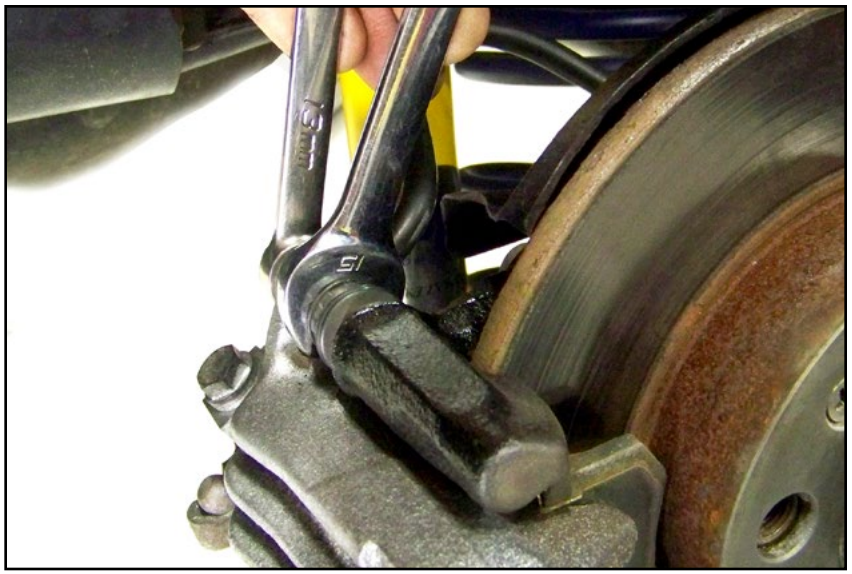
BIG BRAKE KIT INSTALLATION

Step 1:

Raise and safely support the vehicle, then remove the rear wheels.

Step 2: 15mm Open End Wrench & 13mm Wrench

Hold the hex on the caliper slide pin with a 15mm open end wrench as you loosen the caliper bolts with a 13mm wrench or socket.



TECH TIP

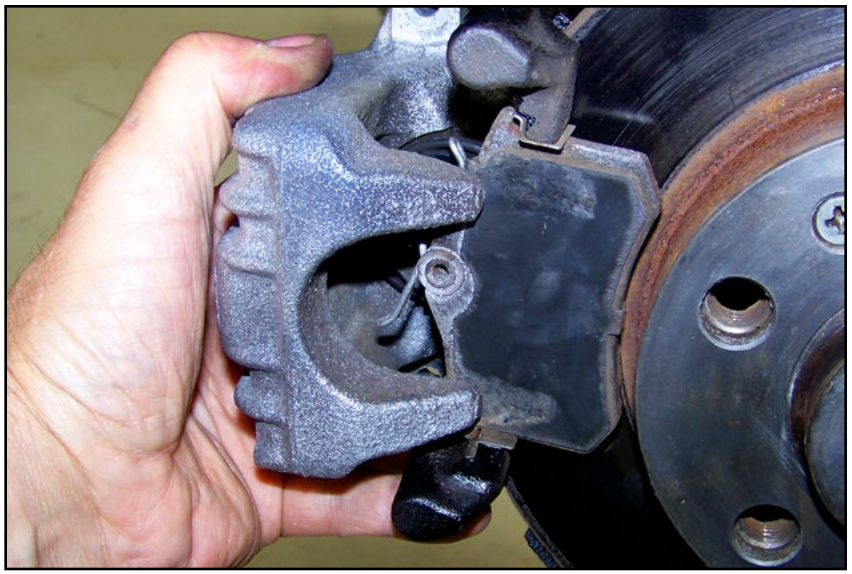
The hex head on the caliper pin is narrow and some standard thickness wrenches will not fit. Try using a thin wrench that will fit into the opening.

Remove both upper and lower caliper bolts.

BIG BRAKE KIT INSTALLATION

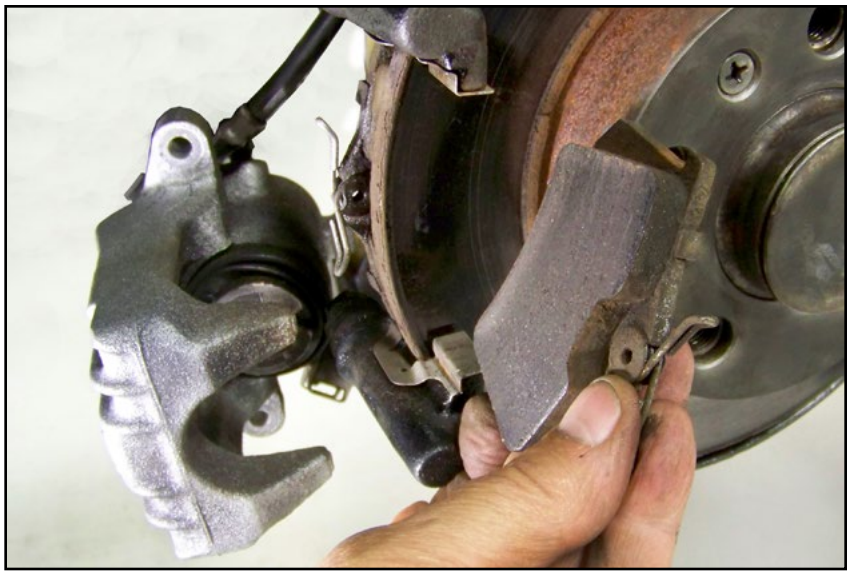
Step 3: Screwdriver or Pry Bar

Use a screwdriver or pry bar to gently pry the caliper off of the rotors.



Step 4:

Remove the brake pads from the caliper carrier. Inspect pads and replace if worn or damaged.



BIG BRAKE KIT INSTALLATION

Step 5: M8 Socket & Ratchet

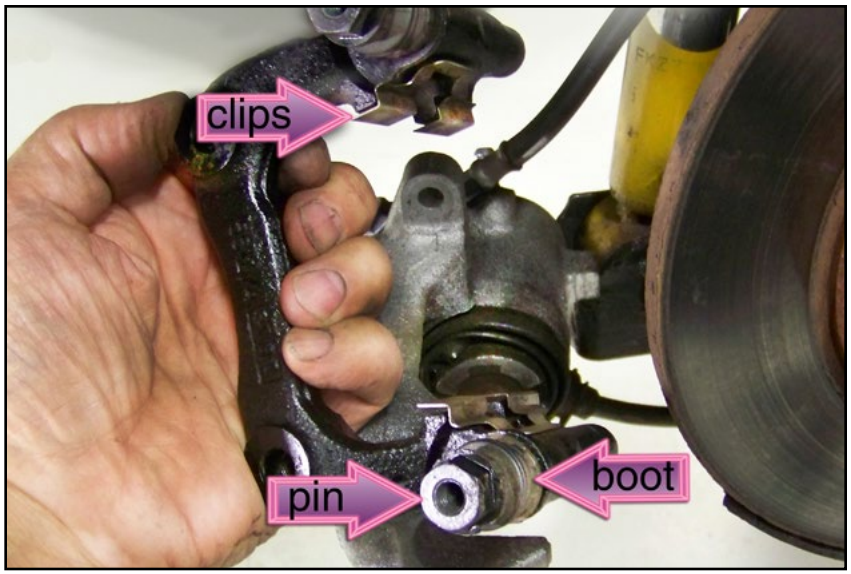
Loosen and remove the two M8 bolts holding the caliper carrier to the trailing arm.

Step 6: Wire Brush or Steel Wool

Pull both of the caliper pins and stainless steel brake damper clips out of the carrier. Clean carrier surfaces with wire brush or steel wool.

Check the pins, boots and clips for wear or rust. If needed, replace with new hardware available HERE

Replace damper clips and grease pins with fresh, high-temperature caliper grease. Replacement damper clips are available HERE



BIG BRAKE KIT INSTALLATION

Step 7: Phillips Head Screwdriver or Impact Driver

Remove the rotor set screw and pull the rotor off of the hub.

TECH TIP

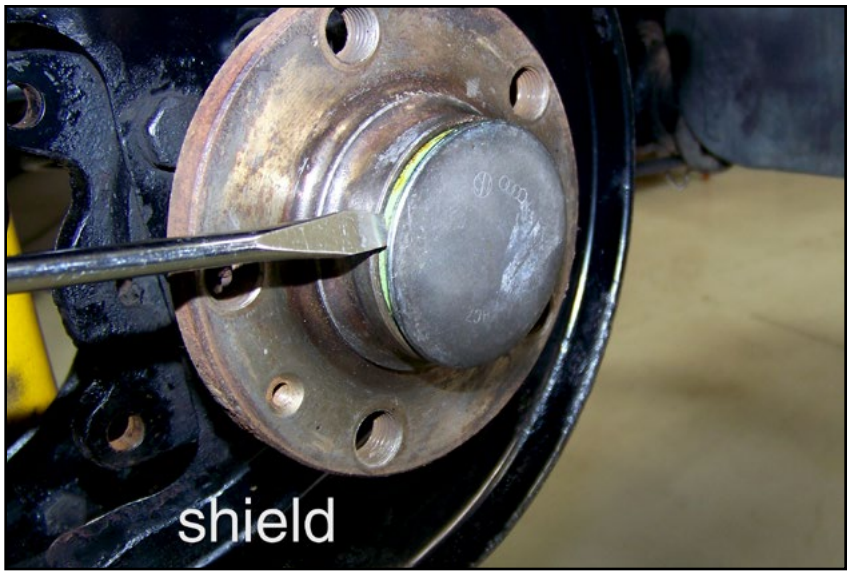
While a screwdriver will remove the set screw in most cases, an impact driver comes in handy for breaking loose especially stubborn, rusted screws. ECS offers an impact screwdriver and it is available on our website or by clicking HERE

Step 8: Flat-Head Screwdriver

The stamped steel brake rotor shield is too small for the new, larger diameter rotors and must be modified or removed before continuing to installation.

You can simply use tin snips to trim the shields on the car until they no longer interfere with the new rotor, but for this installation we ill be removing it altogether.

Start by removing the sealed cover cap from the hub using a screwdriver and set it aside. Be careful not to bend or kink the cap or it may not seal properly when reinstalled.



BIG BRAKE KIT INSTALLATION

Step 9: 30mm Socket & Impact Gun

Remove the spindle nut using an impact gun and 30mm socket.

Step 10: Bearing Puller

Remove the wheel hub bearing assembly. Expect to need a puller for this task, most auto parts stores will have this tool available for rental.

BIG BRAKE KIT INSTALLATION

Step 11: Socket Set & Ratchet

Remove the four bolts holding the spindle to the trailing arm then remove and discard the splash shield.

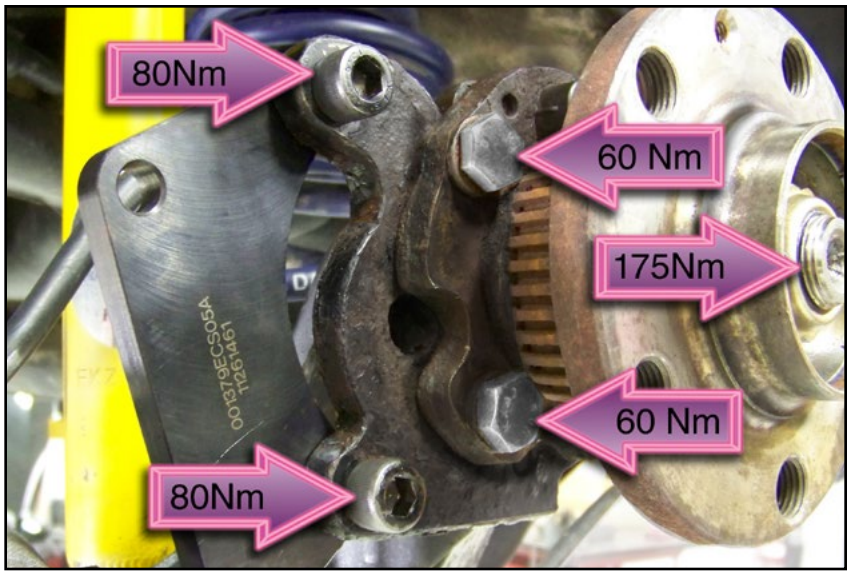
CAUTION: Be careful not to damage the wheel speed sensor located at the top of the splash shield, it is made of plastic and can be easily damaged.

Step 12: Socket Set & Torque Wrench

Reinstall the spindle on the trailing arm, use new bolts and torque them to 60Nm.

Slide the bearing assembly back onto the spindle. Secure with a self-locking nut and torque it to 175Nm.

Install the caliper carrier bracket using the provided bolts (as seen in the photo on the right), then torque them to 80Nm.

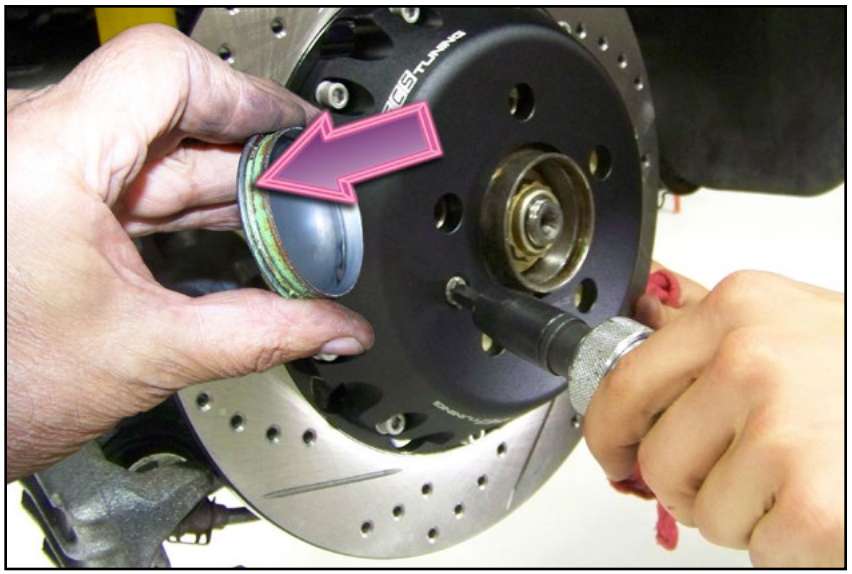


BIG BRAKE KIT INSTALLATION

Step 13: Phillips Screwdriver

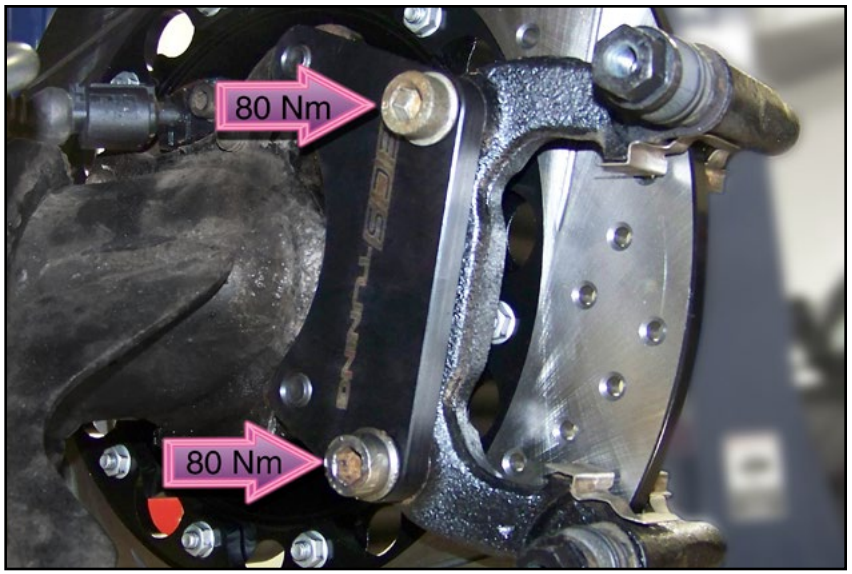
Install the new brake rotor onto the hub and install the stainless steel set screw.

Apply a small amount of sealer around the lip of the cap and install on the end of the hub, tapping it in place with a mallet if necessary.



Step 14: Socket Set & Torque Wrench

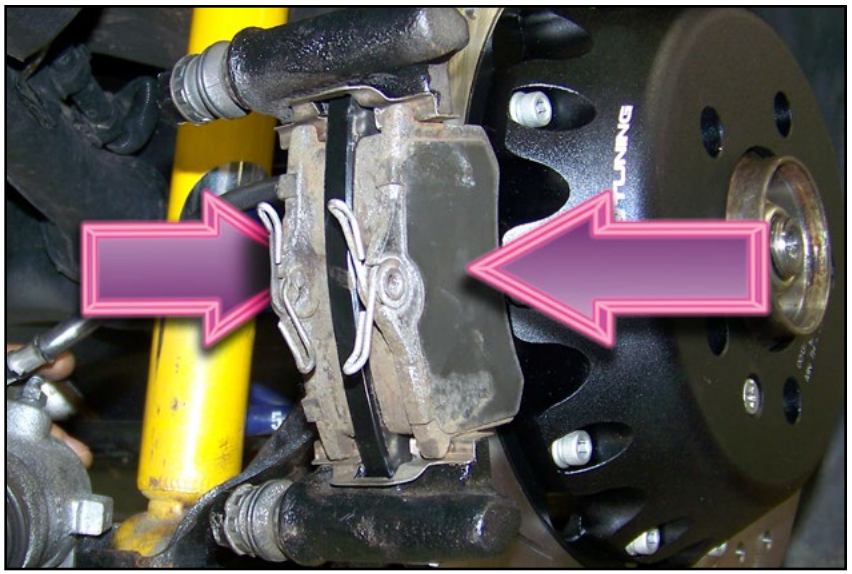
Slide the caliper carrier over the edge of the rotor, then install the bolts and torque them to 80Nm.



BIG BRAKE KIT INSTALLATION

Step 15:

Slide the brake pads over the damper clips on either side of the caliper carrier.



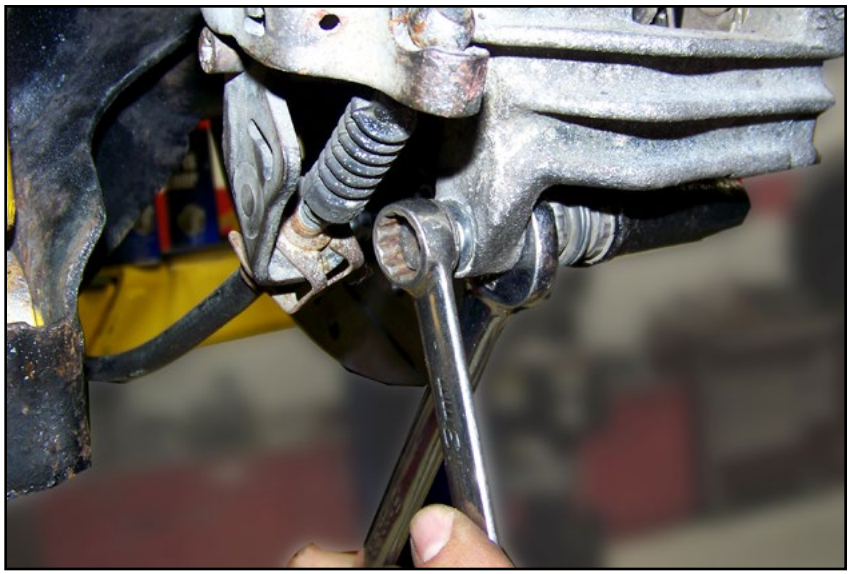
Step 16: 15mm Open End Wrench & 13mm Wrench

Slide the caliper over the brake pads. Press the caliper inwards to compress the pad springs allowing the caliper pins to be threaded into place.

NOTE

VW recommends always replacing the caliper bolts with new ones that have the factory thread locking compound applied to the threads.

Repeat steps 2-16 on the other rear wheel.

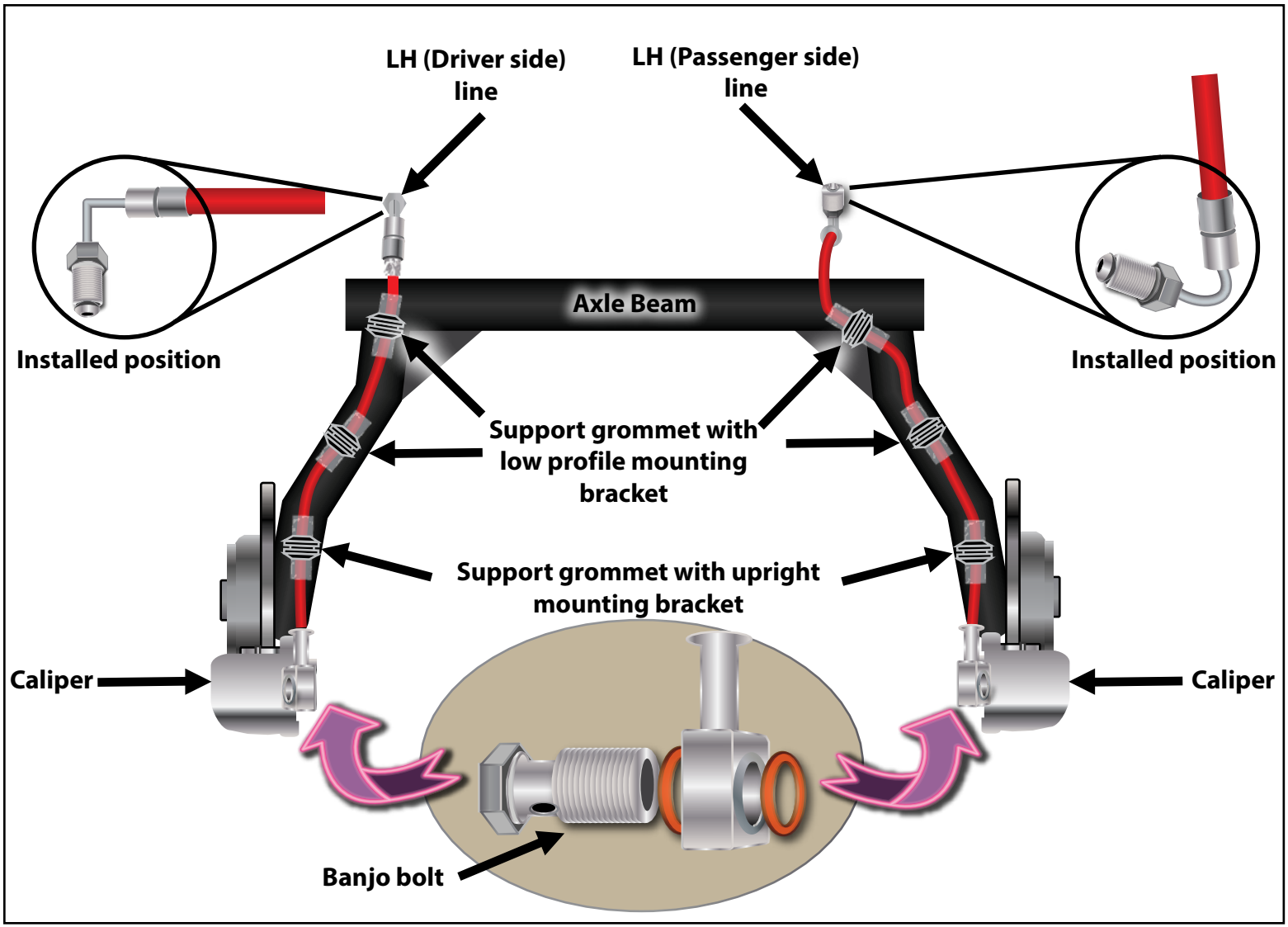


BIG BRAKE KIT INSTALLATION

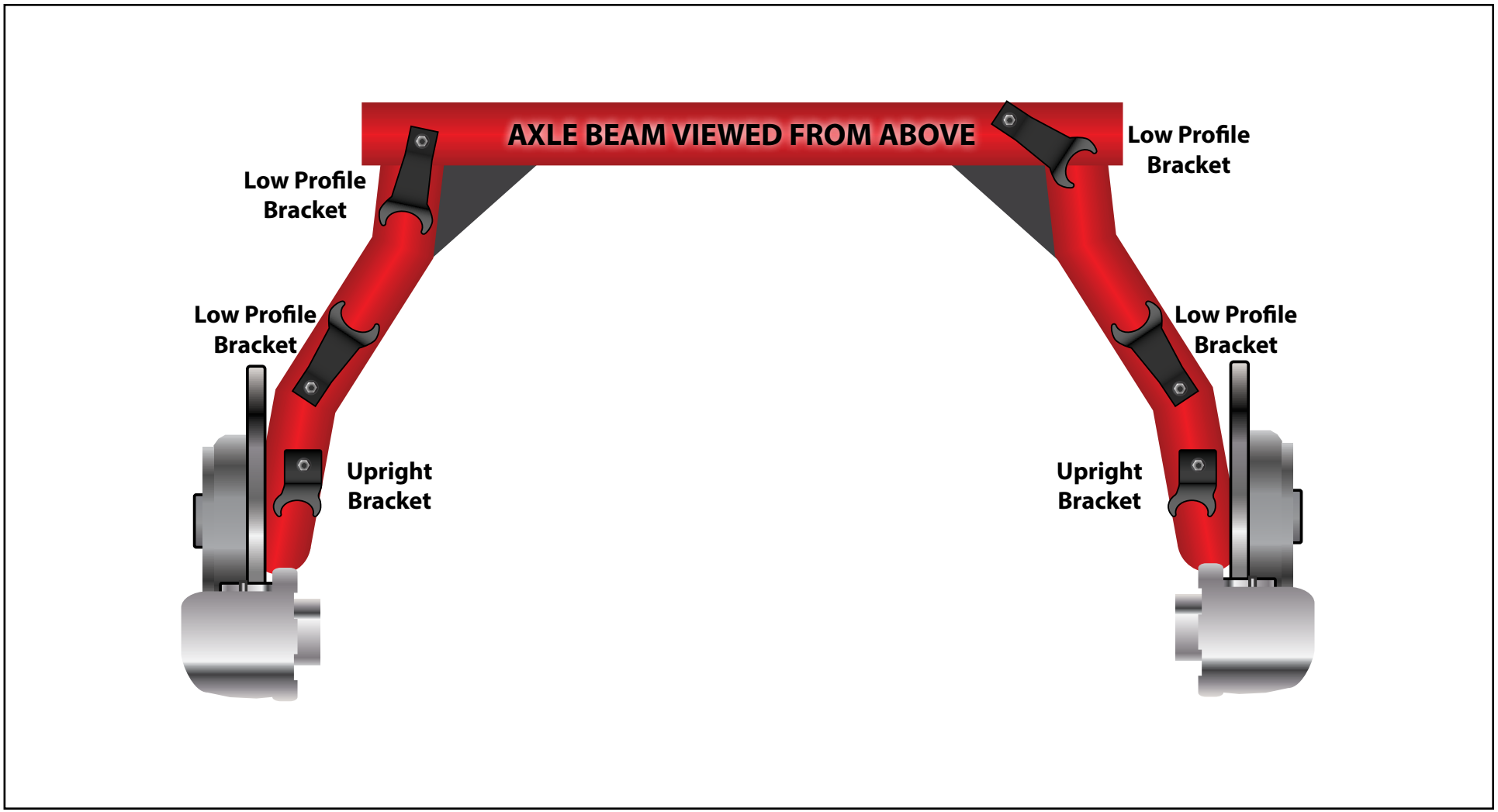
Now that the Big Brake Kit is bolted into place, it's time to install the new Exact-Fit Brake Lines.

This diagram shows the mounting locations of the included support brackets as well as where to route the new brake lines from the vehicle brake lines to the calipers.

Refer to the chart on the following page for brake line support bracket locations and positions.



BIG BRAKE KIT INSTALLATION



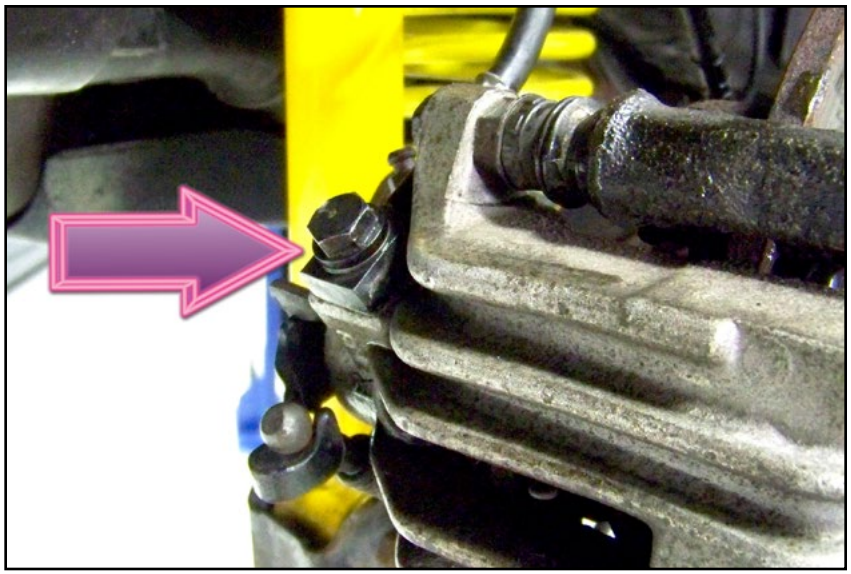
BIG BRAKE KIT INSTALLATION

Step 17: 13mm Wrench

STOP

Brake fluid is extremely corrosive and can damage surrounding parts as well as skin and eyes. Before removing the stock brake line, put on gloves and goggles and shield surrounding parts from the fluid.

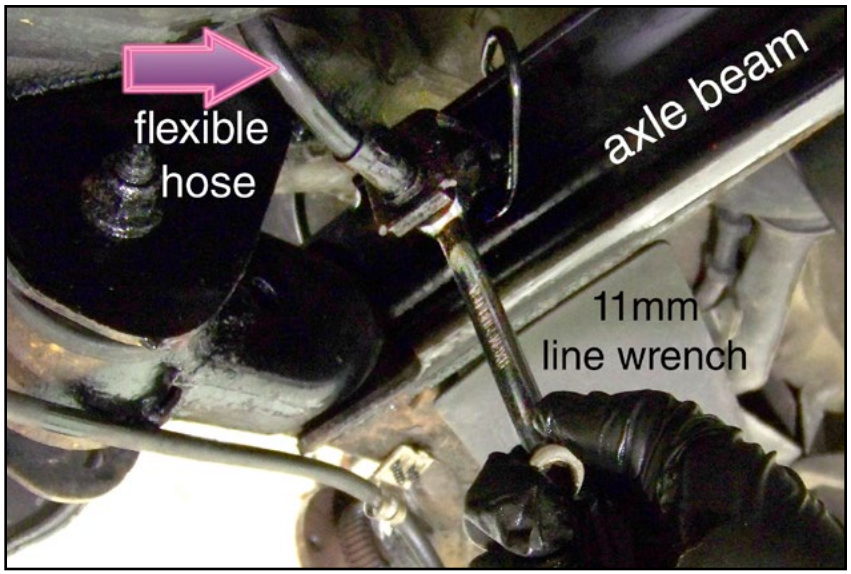
Loosen the 13mm banjo bolt at the rear of the brake caliper and remove it.



Step 18: 13mm Line Wrench

Follow the line to its connection at the flexible brake hose on the rear axle beam.

Use an 11mm line wrench to loosen and disconnect the fitting.

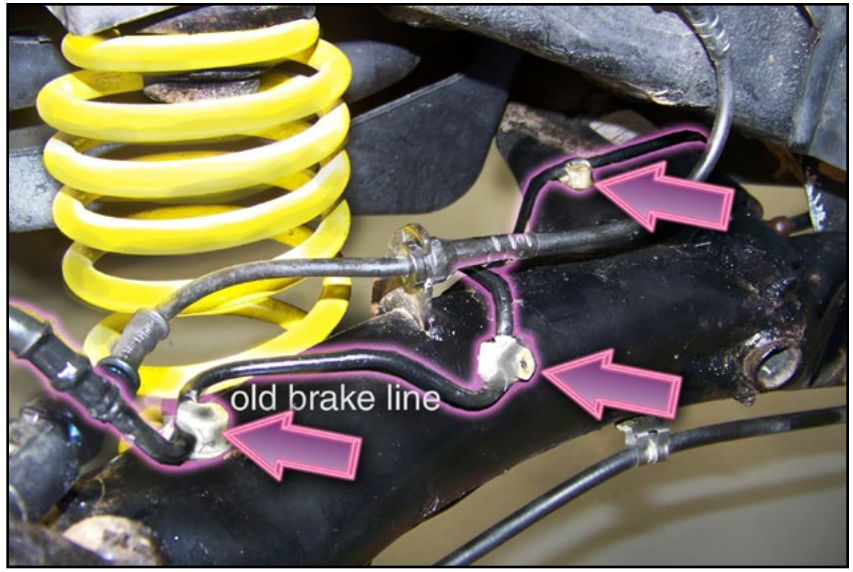


BIG BRAKE KIT INSTALLATION

Step 19:

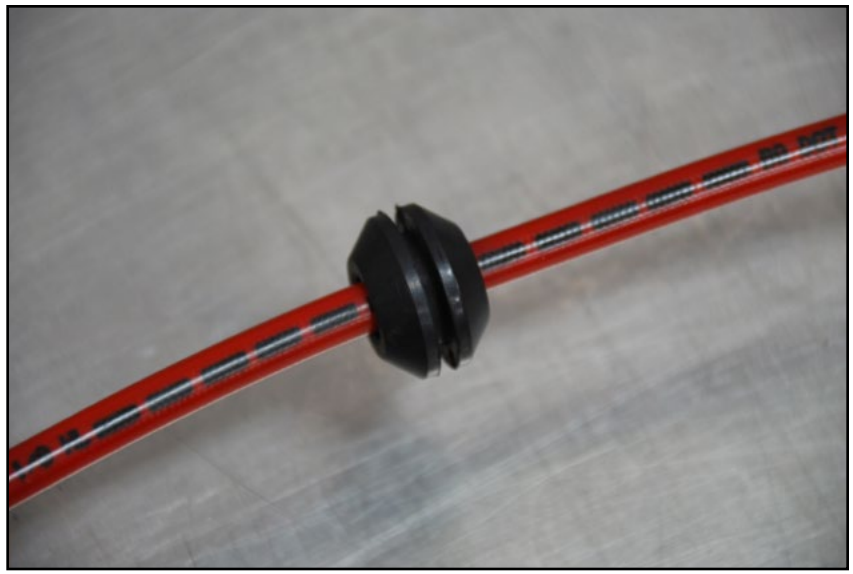
With both ends of the old brake line disconnected, pry the old line (highlighted in the photo in purple) from its plastic attachment clips on the rear axle trailing arm.

Unscrew the plastic clips from the threaded studs on the arms.



Step 20:

Before installing the new lines on the car, review this procedure for engaging the grommets into the support brackets. You will find that simply pushing the grommets into the brackets will be very difficult. The rubber grommets are designed with a tight tolerance for a precise fit. The transparent polymer sleeves not only provide additional protection against wear, but also keep the grommet expanded and locked into the bracket. Begin by sliding the rubber grommet off of the polymer sleeve.



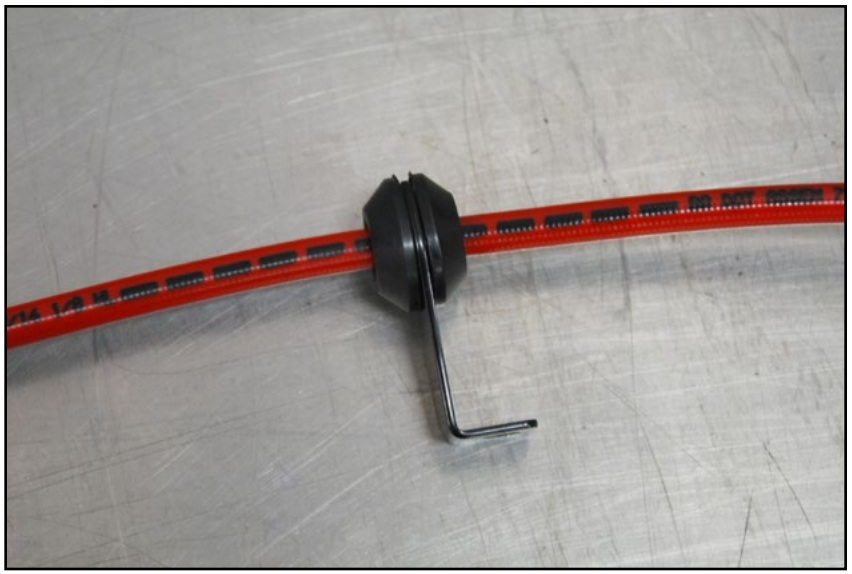
BIG BRAKE KIT INSTALLATION

Step 21:

Insert the grommet into the support bracket.

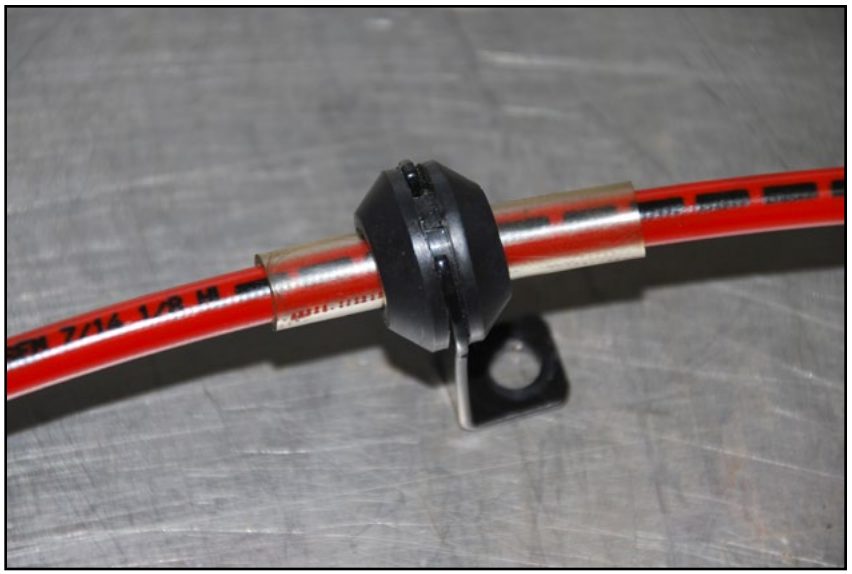
NOTE

To prevent incorrect installation, be sure to double check the orientation of the bracket before inserting it into the grommet.



Step 22:

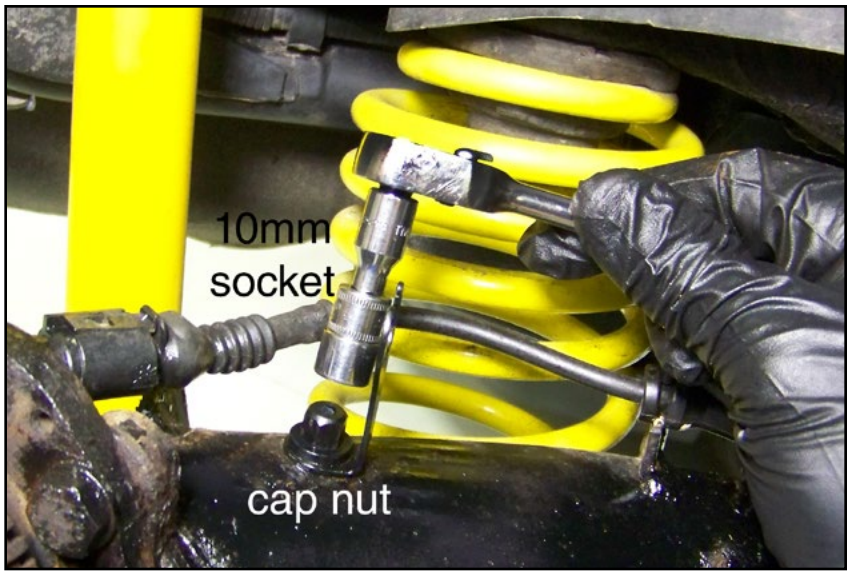
Slide the grommet over the transparent polymer sleeve to ensure the new line is properly supported and secured by the support bracket.



BIG BRAKE KIT INSTALLATION

Step 23: 10mm Socket & Ratchet

Install all three support brackets, referring to page 17 as needed. Secure brackets with the three provided 10mm cap nuts and hand tighten.



Step 24: 10mm Line Wrench

Screw the 10mm threaded fitting of the new brake line into the flexible brake hose mounted on the axle beam and hand tighten.

Please note that the photo shows the RH side, the LH side will not look the same.

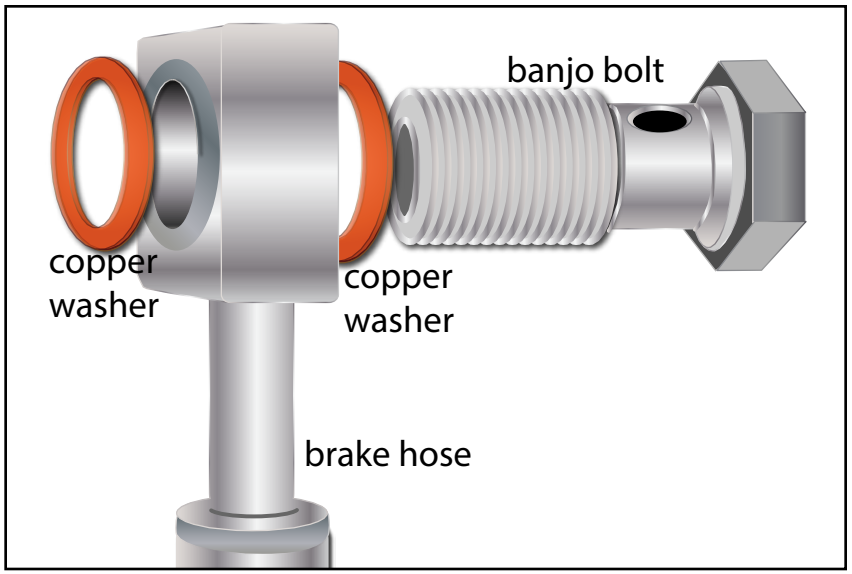
NOTE

This is a good time to inspect the stock flexible brake hoses and replace if worn or damaged.

BIG BRAKE KIT INSTALLATION

Step 25:

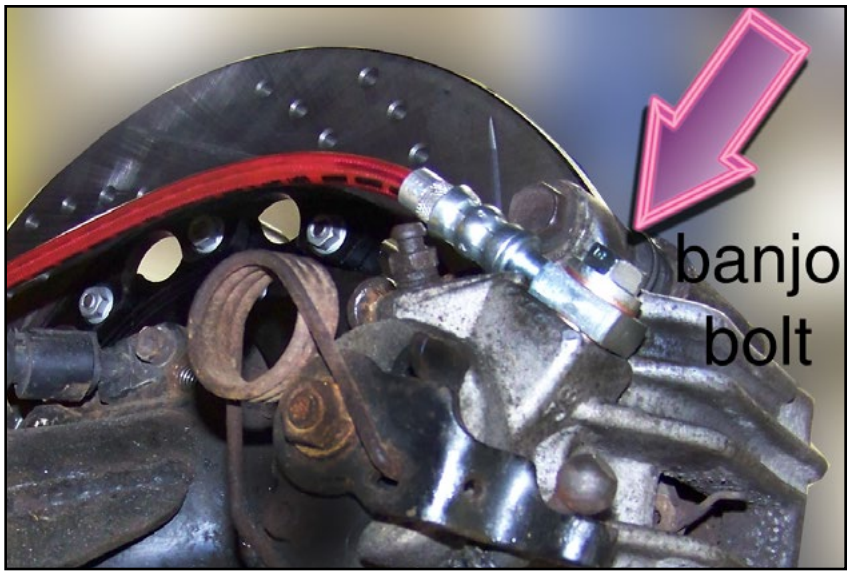
Assemble the banjo bolt and brake line as shown here, with one sealing washer as the head of the banjo bolt and the other between the brake like block connector and caliper.



Step 26: 13mm Wrench

Clean the threaded hole in the caliper, then install the 13mm banjo bolt and hand tighten.

Repeat this process for the other rear wheel, then proceed to the next page for brake bleeding procedure.

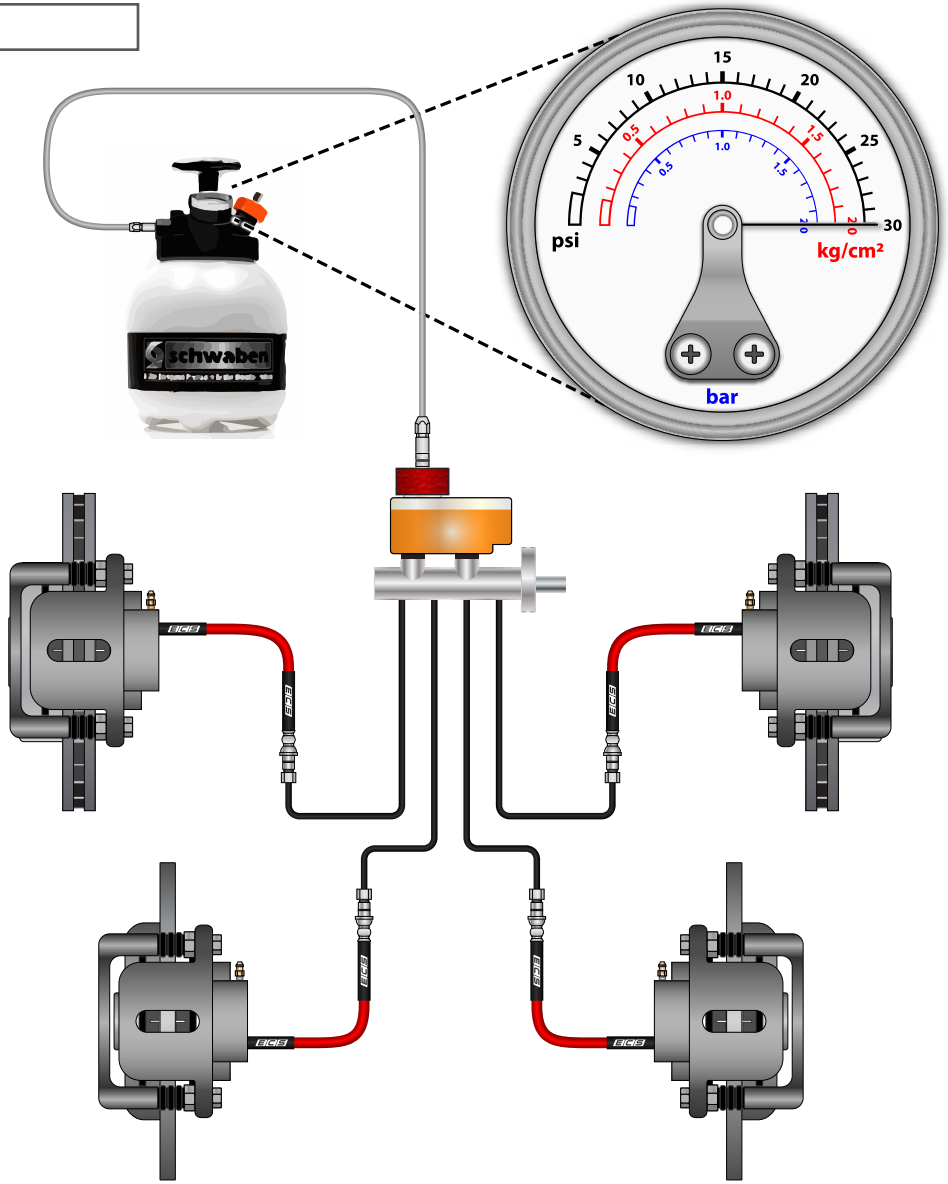


BRAKE LINE BLEEDING PROCEDURE

Step 27: Brake Bleeder

Whenever the brake lines are serviced you will need to bleed the air from the system, consult your service for model specific instructions.

We suggest the use of our 3-Liter Premium European Brake Bleeder (ES3125779) for this job because it features a professional grade aluminum master cylinder cap adapter which can handle the higher pressure.

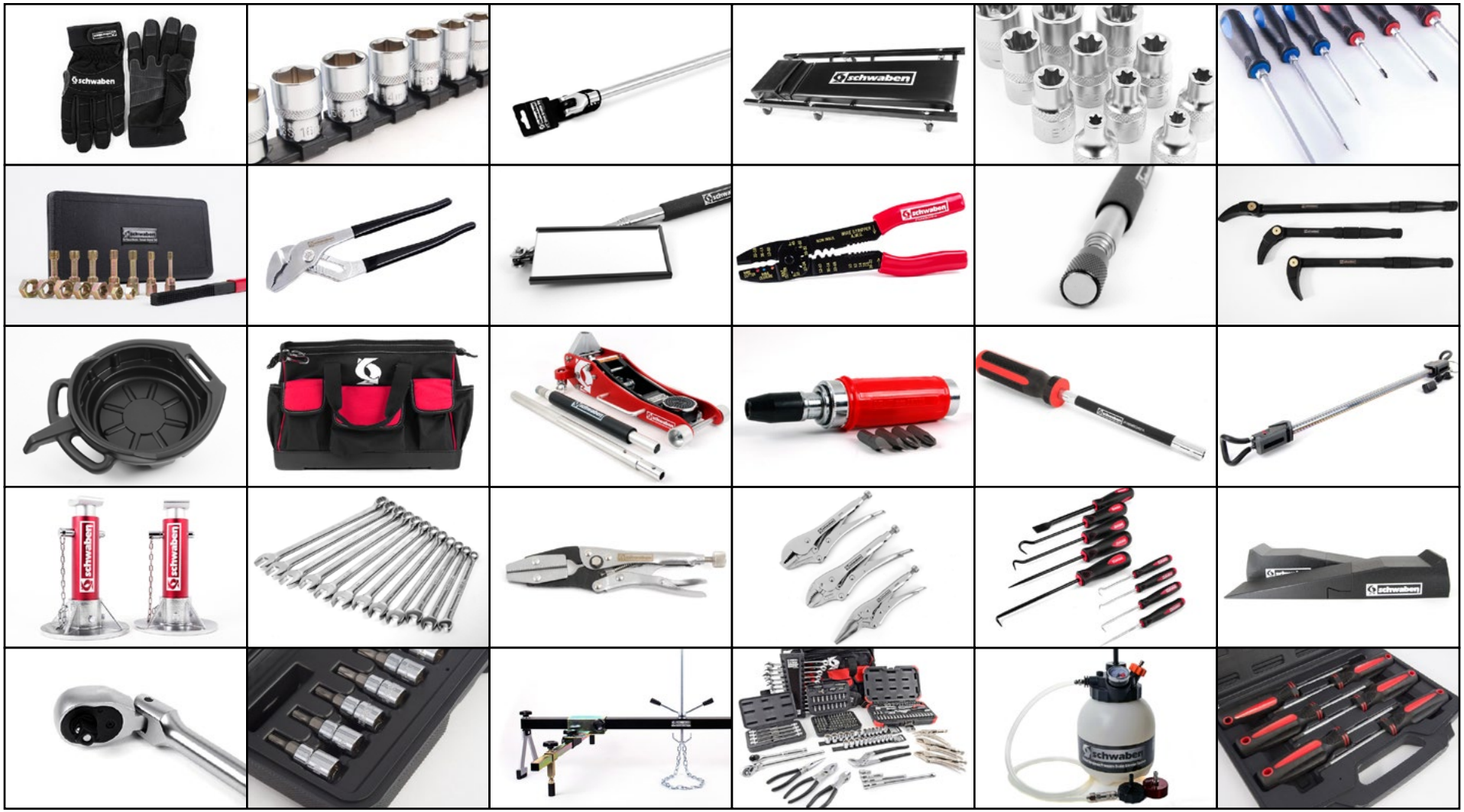


TORQUE SPECIFICATIONS

Brake Caliper to Bracket	80 Nm (65 Ft-lbs)	(Page 11)
Caliper Carrier Bracket	80 Nm (65 Ft-lbs)	(Page 11)
Spindle Nut	175 Nm (130 Ft-lbs)	(Page 13)
Brake Rotor Screw	5 Nm (3.7 Ft-lbs)	(Page 8)
Wheels	120 Nm (89 Ft-lbs)	(Page 11)

- 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.

At ECS Tuning, we carry a line of high quality Schwaben Tools and Equipment to help you build your ultimate tool collection. Never before has affordability and quality been so closely related. Our entire Schwaben line is subjected to strict in house testing for strength and durability. See what we have to offer and equip your garage without breaking the bank.



Your VW MKIV Jetta/Golf Stage 1 Rear 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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