Audi TT MKI FWD
Volkswagen MKIV Jetta/Golf/New Beetle
Exact Fit Rear Brake Line Installation

INTRODUCTION

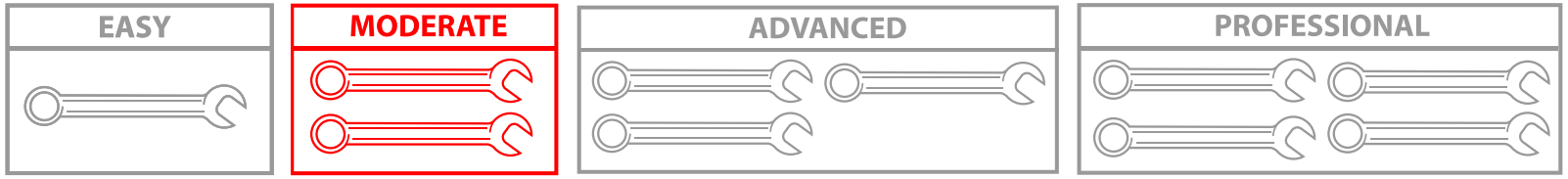
ECS Tuning Exact Fit Rear Brake Lines ES#418, ES#823, ES#2681193, ES#2817101

ECS Tuning Exact Fit Rear Brake Lines offer the following design features and benefits:

- Constructed of an extruded PTFE core, surrounded by stainless steel mesh and a seamless polymer coating
- Precision fit ends
- Complete with new banjo bolts, sealing washers, and support brackets
- Constructed to comply with DOT standards
- Superior expansion resistance

NOTE

These exact fit brake lines will not fit R32 models.



Replacing the original brake hoses on an aging brake system is quite often overlooked. Installing ECS Tuning Exact Fit brake lines as part of a routine service or a performance brake upgrade will not only return your braking system to it's original level of performance and safety, but improve on it as well. The precise fitment of these lines make this part of the job a breeze. 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 Exact Fit rear brake lines. We appreciate your business!

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REQUIRED TOOLS

NOTE

We recommend that you have a complete selection of tools and equipment necessary for automotive repair. Below is a list of the specific tools that will be required to install your ECS Tuning Exact Fit rear brake lines. 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 Screwdriver(s) ..... ES#2225921
- 1/2" Drive Impact
- Line Wrenches: 11mm
- Open/Boxed End Wrenches: 10mm, 13mm

SHOP SUPPLIES AND MATERIALS

- Hand Cleaner/Degreaser..... Available at ecstuning.com..... ES#2167336
- Absorbent Mats..... Available at ecstuning.com..... ES#2137110
- Drain Pan..... Available at ecstuning.com..... ES#2748892
- Shop Rags ..... Available at your local auto parts store
- Aerosol Spray Lubricant/Penetrating Oil..... 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.
- 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.

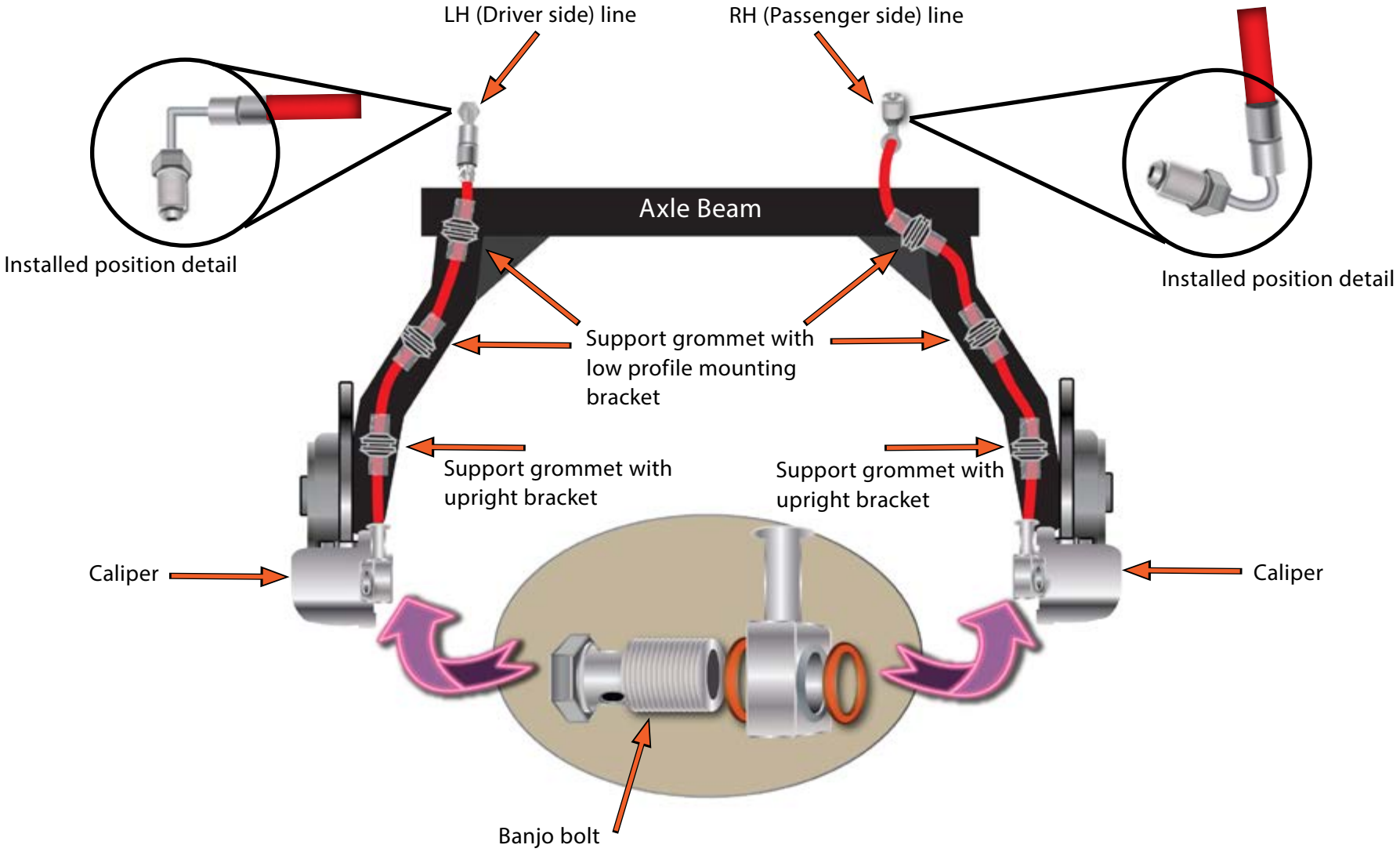
GENERAL PREPARATION AND SAFETY INFORMATION

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.

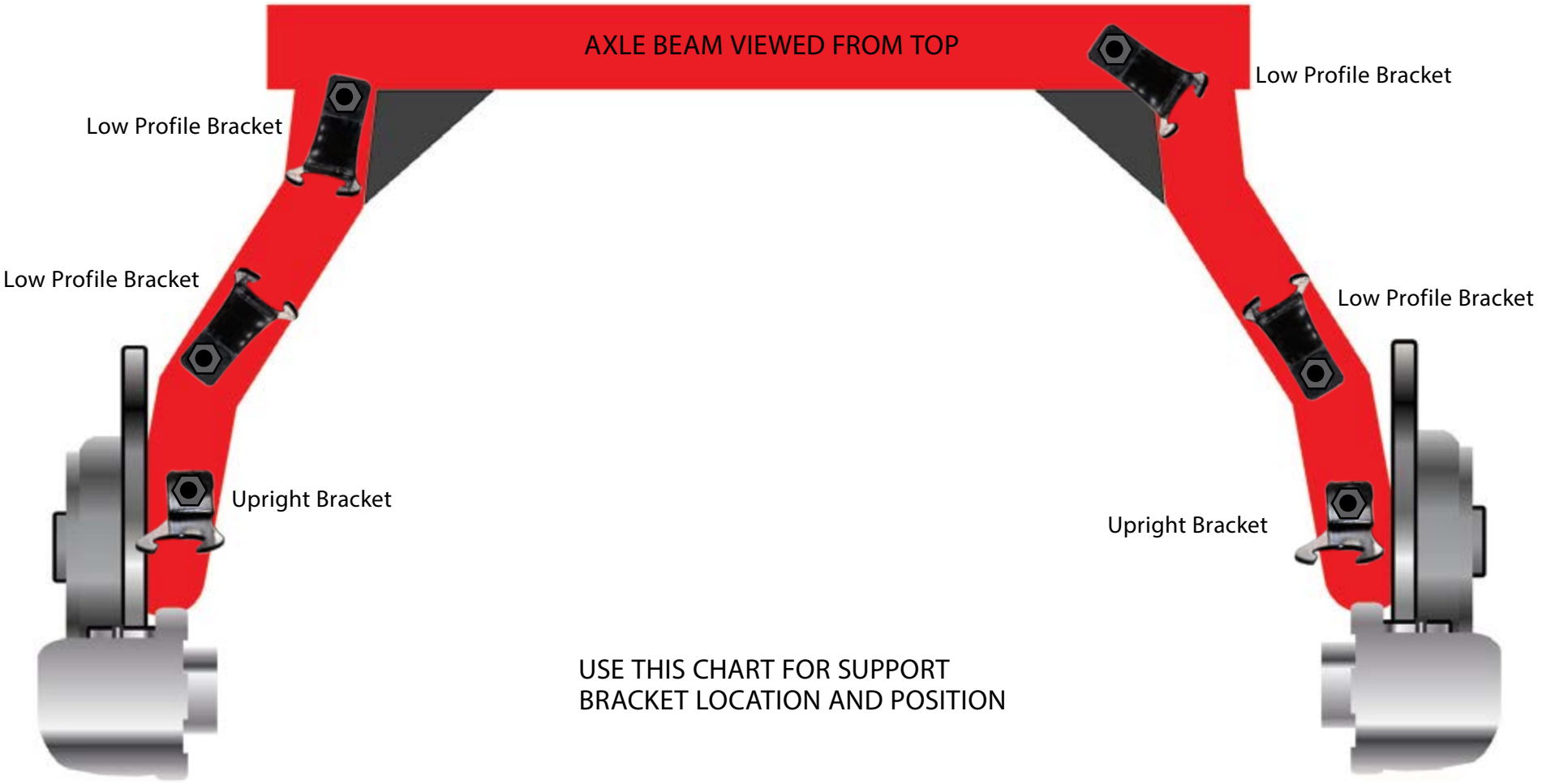
- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- Always wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- If 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.

MKIV EXACT FIT REAR BRAKE LINE ROUTING



MKIV SUPPORT BRACKET LOCATION AND POSITION



USE THIS CHART FOR SUPPORT
BRACKET LOCATION AND POSITION

EXACT FIT BRAKE LINE CLOSE UP DETAIL

LH (Driver side) line flared end fitting

RH (Passenger side) line flared end fitting

Rubber grommets mounted on transparent polymer sleeves slide back and forth for precise positioning

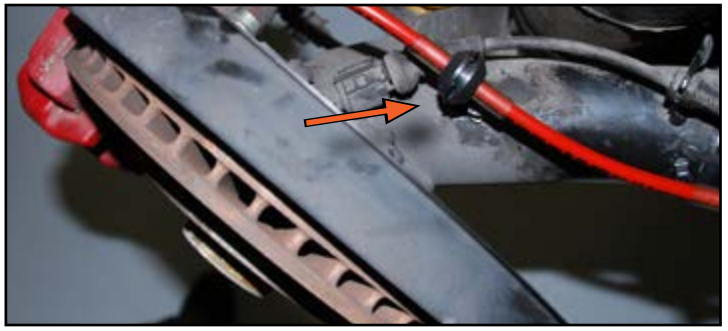
Banjo fitting (same for both LH and RH lines)

Low Profile support bracket

Upright support bracket

EXACT FIT BRAKE LINE INSTALLATION DETAIL PHOTOS

LH Upright bracket



RH Upright bracket

LH Low Profile brackets

RH Low Profile brackets

LH flare fitting at axle beam hose

RH flare fitting at axle beam hose

INSTALLING THE NEW EXACT FIT BRAKE LINES

Step 1:

Safely raise and support the vehicle and remove both rear wheels. Then, using a 13mm wrench, remove the banjo bolt securing the original brake hoses to each rear caliper.

CAUTION

Brake fluid is extremely harmful and corrosive. Familiarize yourself with first aid procedures in the event they are needed. Be sure to wear safety glasses and gloves, and be sure to catch any lost brake fluid in an adequate drain pan. Clean up any spills immediately, and avoid any contact with painted surfaces.

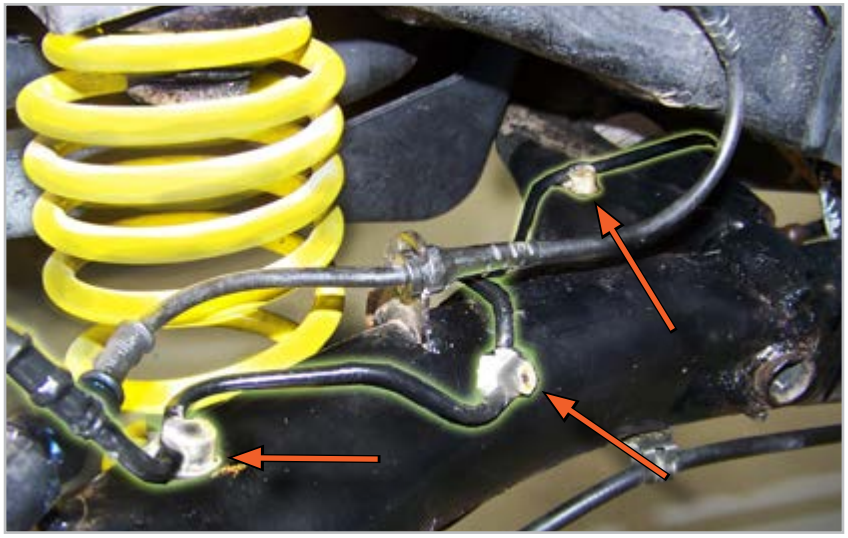
Step 2:

Follow the original hose/line assemblies along the axle beam to where they connect to the brake hose between the body and the axle beam. Using an 11mm line wrench, loosen and remove the brake line fittings.

INSTALLING THE NEW EXACT FIT BRAKE LINES

Step 3:

With both ends of the brake line disconnected, pry the old lines (RH highlighted in this picture) from their plastic attachment clips (arrows) and remove the original lines from the axle beam. Unscrew and remove the three plastic clips on each side.



Step 4:

Refer to page seven for proper location and position, then install the new brake line support brackets onto the studs where the plastic clips were previously located. Secure the brackets using the plastic nuts provided with the kit and a 10mm wrench or socket. Only lightly tighten these nuts by hand, once they are fully seated they are tight enough. They will strip easily if over tightened. (The actual torque specification for these nuts is only 2Nm (1.5 ft-lbs), a setting that most torque wrenches will not have).

INSTALLING THE NEW EXACT FIT BRAKE LINES

Grommet Installation

Before installing the new lines on the car, review this procedure for engaging the grommets into the support brackets. The most common thought is to simply push the grommets into the brackets. If you try this, you will find it to 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 in the bracket. Begin by sliding the rubber grommet off the polymer sleeve.

Grommet Installation

The grommet can now be easily inserted into the support bracket.

NOTE

To prevent incorrect installation, always double check the bracket orientation before inserting the grommet.

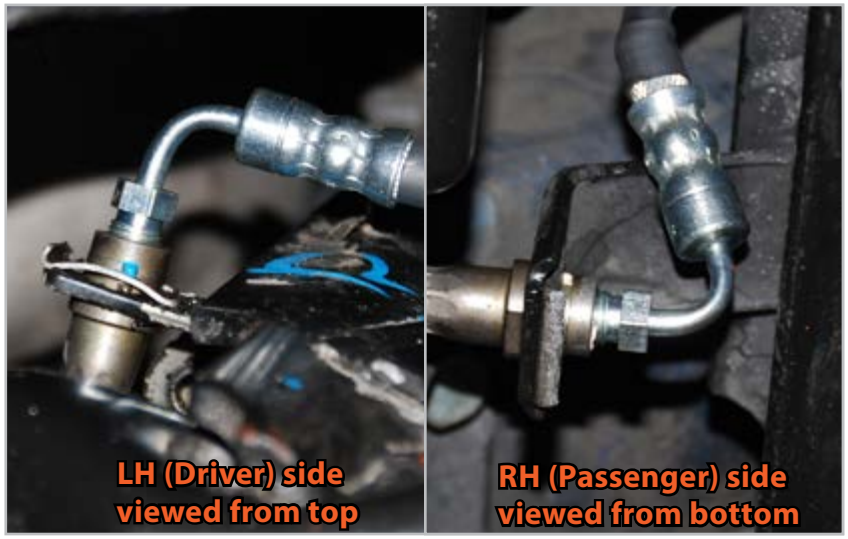
INSTALLING THE NEW EXACT FIT BRAKE LINES

Grommet Installation

Slide the grommet over the transparent polymer sleeve and the new line is now properly supported and securely engaged into the support bracket.

Step 5:

Lay each brake hose in it's approximate location, then thread the brake line flared end fittings into the brake hoses at the front of the axle beam. Be sure to use the correct line on each side. The bend on the end of each line is different. Refer to page eight for line close up details.



INSTALLING THE NEW EXACT FIT BRAKE LINES

Step 6:

Secure each line in place in each of the support brackets. We have found that you can do this one of two ways.

1: With the brackets installed on the axle beam, pull the grommets off the sleeves, install the grommets into each bracket and slide the grommets back over their sleeve.

-OR-

2: Remove the brackets from the axle beam, pull the grommets off the sleeves, install the grommets into each bracket, slide the grommets back over their sleeves, and reinstall the brackets into place.

Feel free to use whichever method you prefer.

Step 7:

Once the brake lines are mounted into the support brackets, connect them to the calipers using the supplied banjo bolts with new sealing washers. Torque the banjo bolts to 38 Nm (28 Ft-lbs), then tighten the flare fittings at each axle beam hose.

NOTE

There is generally no specified torque specification for brake flare fittings. As a standard rule of thumb, tighten the flare nut until it is fully seated, then an additional 1/6 turn. These brake lines have ISO flares. When the flare nut becomes tight, it is bottomed out, applying a predetermined amount of pressure on the ISO flare to create the seal. Additional tightening of the flare nut does not increase the sealing ability of an ISO flare, it can only weaken the threads on the nut or component.

INSTALLING THE NEW EXACT FIT BRAKE LINES

Step 8:

Bleed the air from the brake system, RH rear caliper first, then LH rear.

Step 9:

Make sure the brake pedal is firm and check for leaks. Be sure to top off the brake fluid to the correct level. Install both rear wheels and torque them to 120 Nm (89 Ft-lbs).

TECH TIP

Always hold firm pressure on the brake pedal for 10-15 seconds, then closely check each fitting for leaks. Since the banjo bolt sealing washers rely on a certain amount of "crush" to properly seal, it is not uncommon to have to tighten them slightly over the initial torque spec. If necessary, tighten them an additional 4-7 Nm (3-5 Ft-lbs) and recheck for leaks.

TORQUE SPECIFICATIONS

• 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 Exact Fit Brake Line 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.