BRAKE INSTALLATION MANUAL

LEVEL 3

AUDI PERFORMANCE & RACING
1027-B Opelika Road **Auburn Alabama** 36830

AUDI PERFORMANCE & RACING, LLC does not endorse modification of vehicles for use in public highways where warranty or government regulations may be violated. As an express condition of sale of any performance part, the buyer acknowledges and agrees to use the performance parts for the modification of vehicles in a manner consistent with any and all local and federal regulations and laws, including sanctioned OFF-ROAD competitive events. Emission related aftermarket parts that modify the emission control system may not be legal for sale or use on pollution controlled vehicles. Parts sold by AUDI PERFORMANCE & RACING, LLC are legal only for racing vehicles which may never be used upon a public highway. Performance parts and equipment are sold AS IS without any warranty whatsoever, unless indicated otherwise. There is no warranty implied or stated due to the intended use and purpose of performance parts. While every effort is made to provide technical information and assistance, we have no control over owner installation, modification, and unusual stress that performance parts are subject to. The buyer assumes all responsibility for determining the suitability of the product. The entire risk as to quality and performance parts is assumed by the buyer. In the event such parts proves defective following their purchase and installation, the buyer, not AUDI PERFORMANCE & RACING, LLC, the manufacturer, the distributor, or retailer, assumes the entire cost of any necessary servicing, repair, or replacement. AUDI PERFORMANCE & RACING, LLC will not be responsible for any direct or indirect, actual or incidental expenses attributable to the use of any performance parts, or to delay and inconvenience caused by the necessity of repairing or replacing performance parts.

CONDITIONS OF SALE

Buyers of parts from AUDI PERFORMANCE & RACING or any authorized distributor are warned that they are sold for off-highway use only and special warranty provisions apply. Performance parts may exceed the design limits of the vehicle and its subsystems. Suitability and implementation of parts is at the sole discretion of the purchaser.

Customer agrees to operate the vehicle under the conditions set forth in this agreement and agrees to hold AUDI PERFORMANCE & RACING, LLC, its employees, corporate officers, and vendors, harmless by reason of any claim, damages, accident, or injuries resulting from the installation of the parts or the use of the vehicle with the installed parts.

OFF-HIGHWAY OR RACING USE

Because Country, state or provincial laws and regulations may prohibit removal or modification of components that were installed on vehicles by their manufacturer to meet motor vehicle safety regulations applicable to vehicles manufactured for use on public roads, AUDI PERFORMANCE & RACING recommends that vehicles which may fall under these regulations and are equipped with parts designated "for off-highway use" not be operated on the public roads, and offers such parts only for track or off-highway competitive or performance use only. Performance parts are intended to be used only under controlled conditions, with proper safety equipment and driver's training. Street racing/illegal racing is not encouraged by AUDI PERFORMANCE & RACING. Additionally, it is recommended that you take lessons from your local racing schools and/or performance driving school(s) to better your knowledge of the use of your automobile and its handling capabilities if you do decide to race. Always remember to be careful while on the road and be courteous to other drivers. ALWAYS WEAR YOUR SAFETY BELT!

WARRANTY

It is important that you read, understand and comply with the conditions set forth below.

AUDI PERFORMANCE & RACING, LLC products have been designed and are intended for off-highway applications only. Installation of these products may void the warranty coverage, if any, on your vehicle. Manufacturer vehicle and parts warranties may be voided if the vehicle or part is used for competition or if they fail as a result of modification. AUDI PERFORMANCE & RACING shall not be responsible should the manufacturer void its warranty by reason of installation of the part or any other modifications occasioned by the installation of said part. However, certain rights are guaranteed a new car owner regarding the manufacturer's warranty. SEMA (Specialty Equipment Manufacturer's Association) details your rights to modify your vehicle and retain warranty coverage: http://www.sema.org/warranty/

Understanding this, you hereby release and discharge AUDI PERFORMANCE & RACING, LLC, employees, officers, and all other persons and associations connected therewith from any and all claims arising out of, or relating to, the parts purchased.

You have read and understood the conditions of sale set forth above. You also understand the additional conditions of sale set forth in the product sales literature of the respective manufacturers and this order form. You understand that any performance products purchased from AUDI PERFORMANCE & RACING, LLC, and installed implies acceptance of this disclaimer. Any claims on items sold by, but not manufactured by AUDI PERFORMANCE & RACING, LLC should be made with the respective manufacturer.

AUDI PERFORMANCE & RACING, LLC parts are sold with a warranty against defects in materials or workmanship. Abuse or use for purposes other than designed will void the warranty. Implied warranties, including warranties of merchantability or fitness for a particular purpose, are excluded.

RETURNS AND SHIPPING

No cancellation, refunds, exchange, or credit on used parts, modified parts, painted parts, special order parts or custom order parts. No refund, exchange, or credit after seven days. Returns of merchandise, for any reason, are subject to a 20% restocking fee. A RMA must be obtained before any parts are returned to us. Any return without a return authorization number (RMA) will be refused, and NO refund will be issued.

All shipping charges are not refundable and must be prepaid. All returned items must be in as-new, resellable condition. Any item that has been installed on a vehicle will not be accepted for return under any condition. Please note that certain items such as turbo kits, spare ECUs, wheels, exhausts, or special order items are non-returnable or refundable. All merchandise is in good condition when leaves our shipping department. If a part is lost (box broken, opened, etc) or damage via transit, you should immediately notify AUDI PERFORMANCE & RACING, LLC and the carrier (UPS, FedEx, etc...). ALL merchandise is shipped and insured for full value and the responsibility for proper delivery is upon the carrier. DO NOT return the damage part(s) without prior notification. Back orders are kept to minimum. If there is going to be an unreasonable delay, we will notify you of the approximate shipping date. Some items may be dropped shipped from the manufacturer.

AUDI PERFORMANCE & RACING, LLC primary shipping carrier is United Parcel Service. UPS policy states that all packages require a signature in order for the package to be released. It is up to your individual UPS driver's discretion if he feels comfortable leaving the package. All shipments with a value over $1000/U.S. require a signature. Some shipments are drop shipped and may take up to 2 weeks to arrive. All orders except ECU upgrades will be sent via UPS ground service (domestic), unless otherwise specified. All ECU orders are shipped via UPS Next Business Day service (domestic) unless otherwise specified. No orders will be shipped to P.O., APO or FPO Boxes. Orders are normally processed the within two business days on receipt of order. After carrier attempts to deliver the merchandise three times, the order will be returned to Audi Performance and Racing and will only be reshipped at the buyers expense. All merchandise will be shipped FOB origin Auburn, Alabama, USA unless drop shipped.

All items held by deposits become AUDI PERFORMANCE & RACING LLC property if not claimed after 30 days.

PAYMENT

Payment may be made by VISA, MasterCard, American Express, and Discover. Payment is also accepted by Certified Cashiers Check or Money Order in US dollars only. For Cashiers Check or Money Order, please contact AUDI PERFORMANCE & RACING LLC in order to receive an exact payment amount for parts and shipping. Pre-payment will include charge for parts and freight. For spare ECU orders, the spare ECU itself must be paid in full at the time of order. There are no refunds or cancellations on spare ECU's that are ordered. If the spare ECU has not been shipped within 10 business days from the original date of order, the order may be cancelled, and a refund can be issued.

All prices are subject to change without prior notice. Please call for current prices and availability of products. AUDI PERFORMANCE & RACING LLC reserves the right to discontinue products as necessary because of quality, availability, price or other reasons.

PRIVACY

AUDI PERFORMANCE & RACING LLC does not sell, rent, trade, or loan our customer's names, VIN number, email address or any type of personal information we collect. You may receive information from us, detailing new products, tracking numbers for shipping, or new features on our web sites.

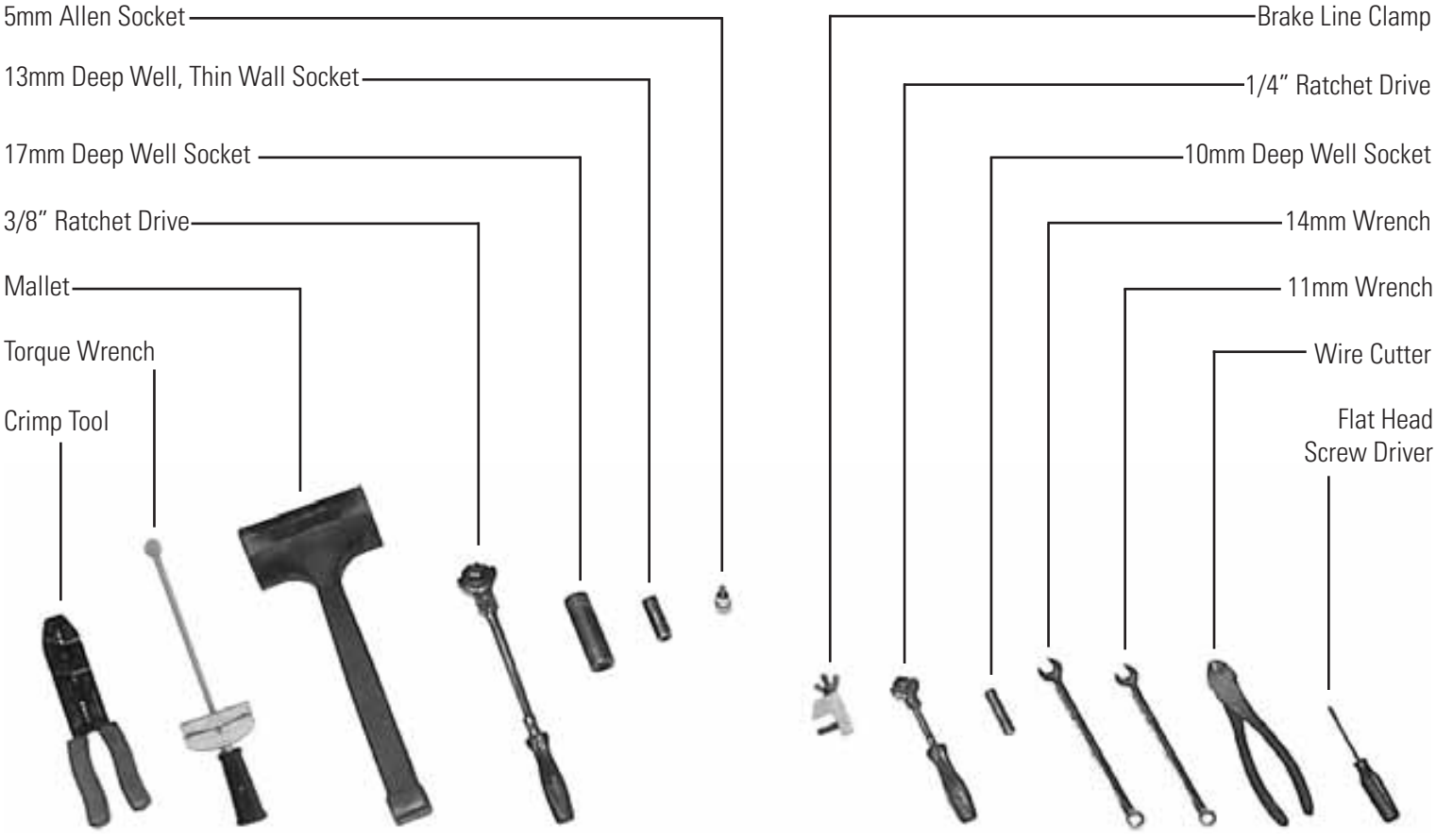
1 Hardware Bag

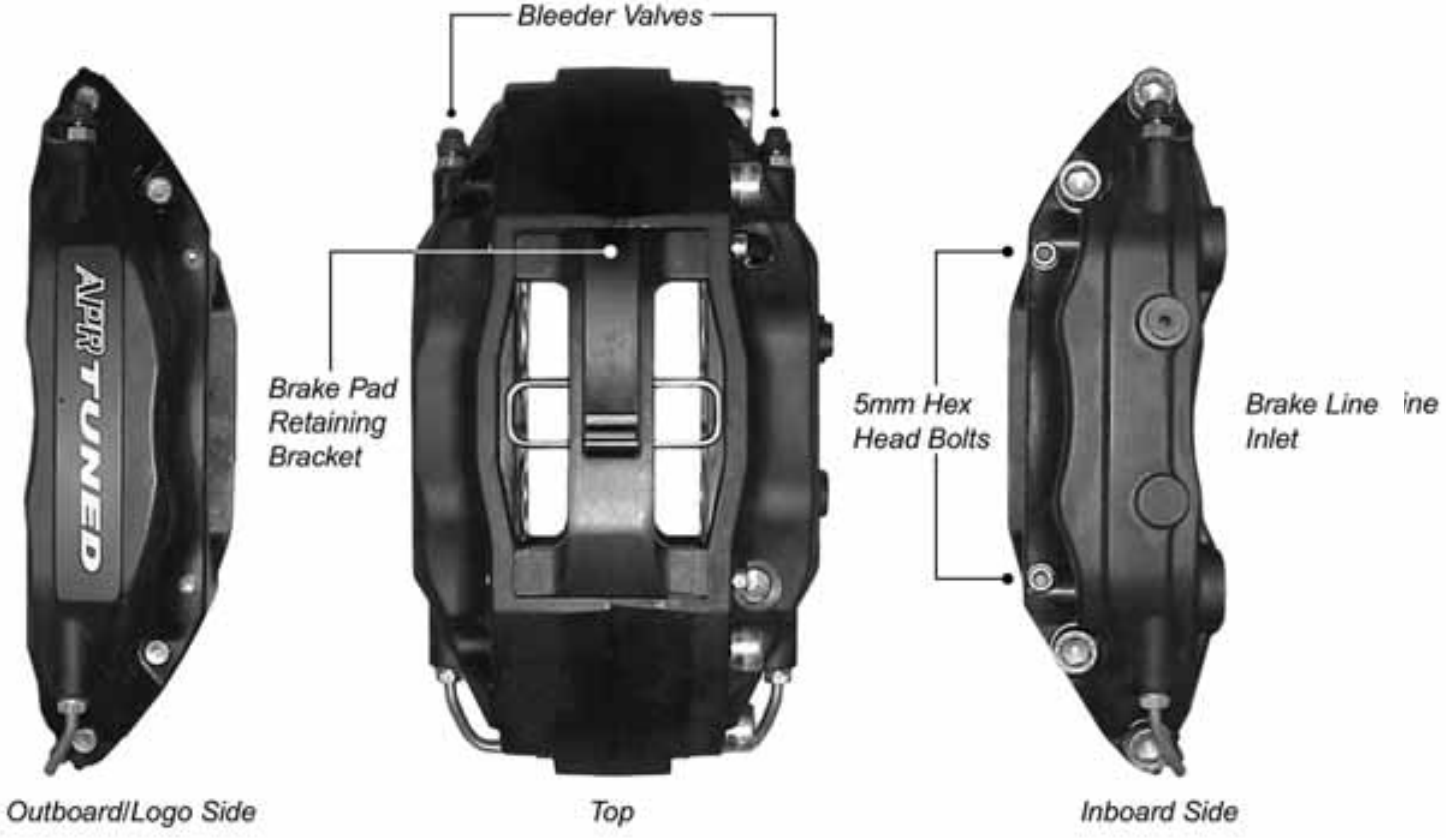
2 Caliper
Mounting Brackets

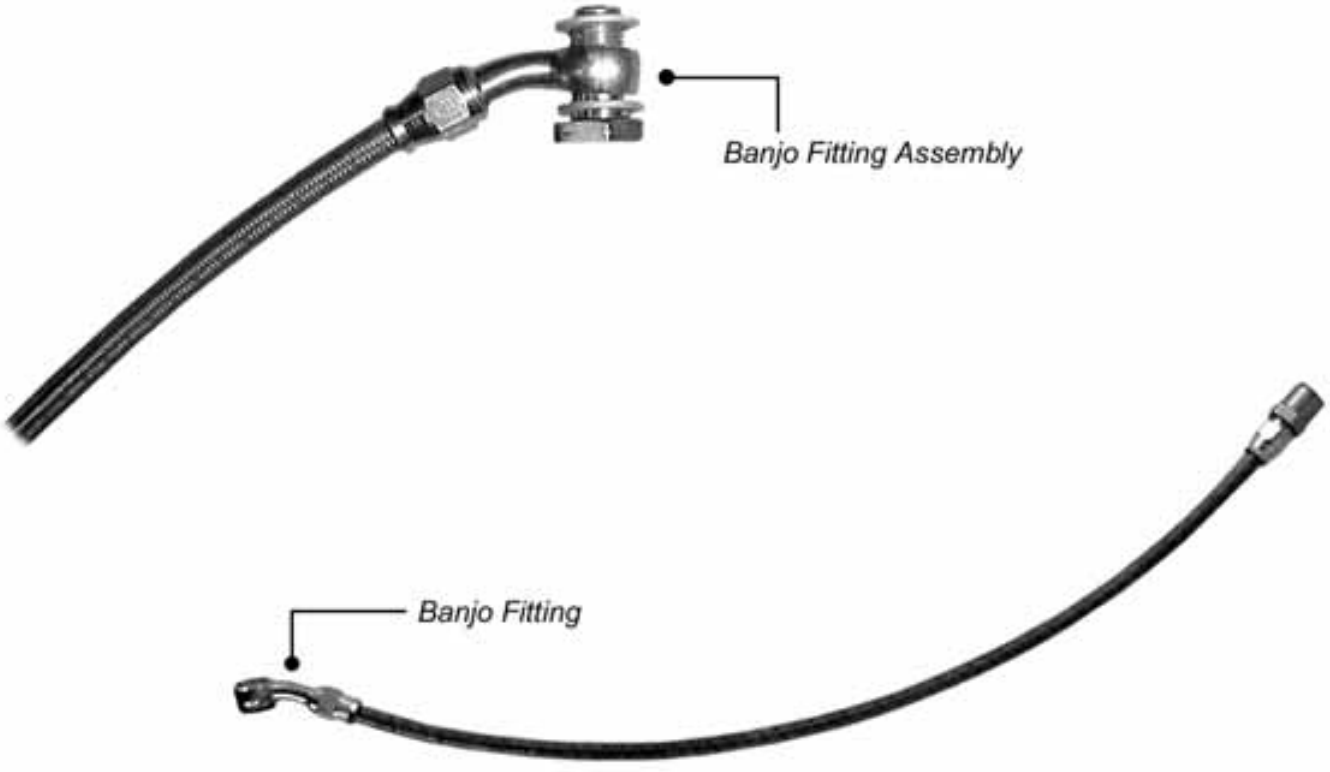
2 Rotors

2 Calipers

1000 ml of
Brake Fluid


5mm Allen Socket
13mm Deep Well, Thin Wall Socket
17mm Deep Well Socket
3/8" Ratchet Drive
Mallet
Torque Wrench
Crimp Tool
Brake Line Clamp
1/4" Ratchet Drive
10mm Deep Well Socket
14mm Wrench
11mm Wrench
Wire Cutter
Flat Head
Screw Driver


Bleeder Valves
APR TUNED
Brake Pad
Retaining
Bracket
5mm Hex
Head Bolts
Brake Line
Inlet
Outboard/Logo Side
Top
Inboard Side



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PREPARATION FOR INSTALLATION

1. Be sure that the vehicle is parked on level concrete and the parking brake is on.

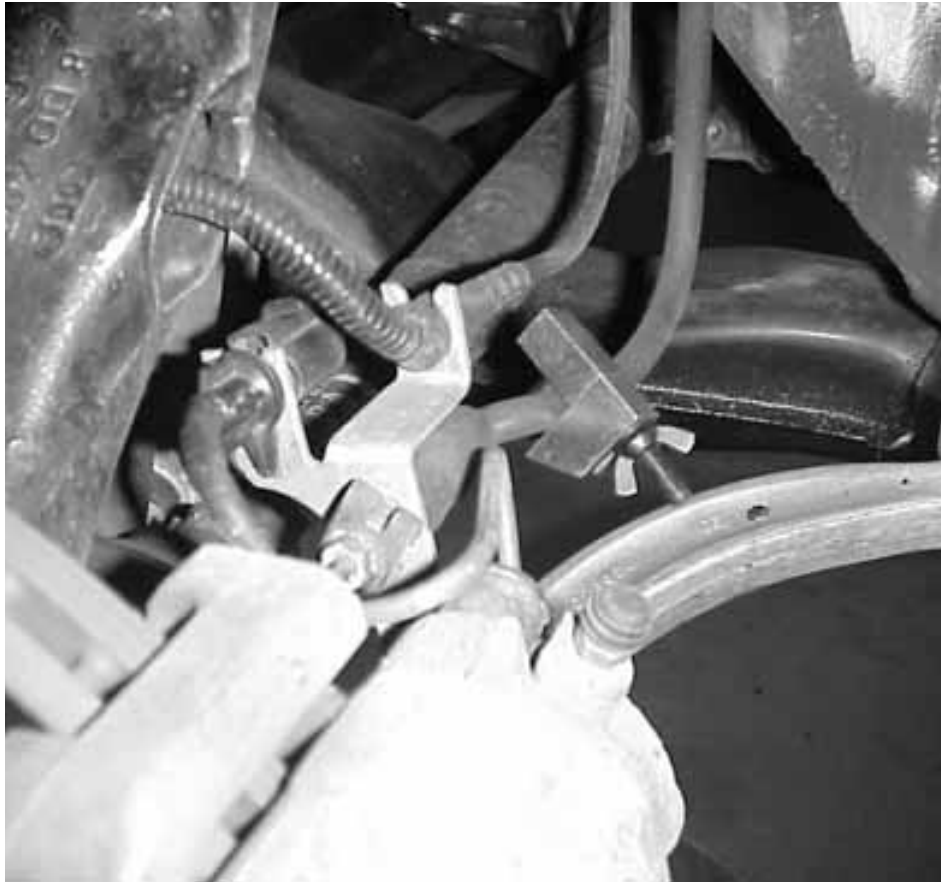
2. Place stops in front of and behind rear tires.

3. Consult owner's manual for proper lifting and wheel removal procedures before lifting front of vehicle.

4. Place jack stands under vehicle for added stability.

5. Remove wheel.

6.Place a brake line clamp on the brake line. This will minimize brake fluid loss.



TOOL NEEDED: Brake Line Clamp

7.Using an 11mm wrench, disconnect brake line from caliper. Be aware that brake fluid may leak from line once disconnected.

TOOL NEEDED: 11mm Wrench

8. Disconnect ABS sensor grommet from mounting bracket by pulling straight up.

9. Disconnect brake pad sensor from mounting bracket. Pry tab up gently with small flat head screwdriver, rotate counterclockwise 90 degrees, and lift up.

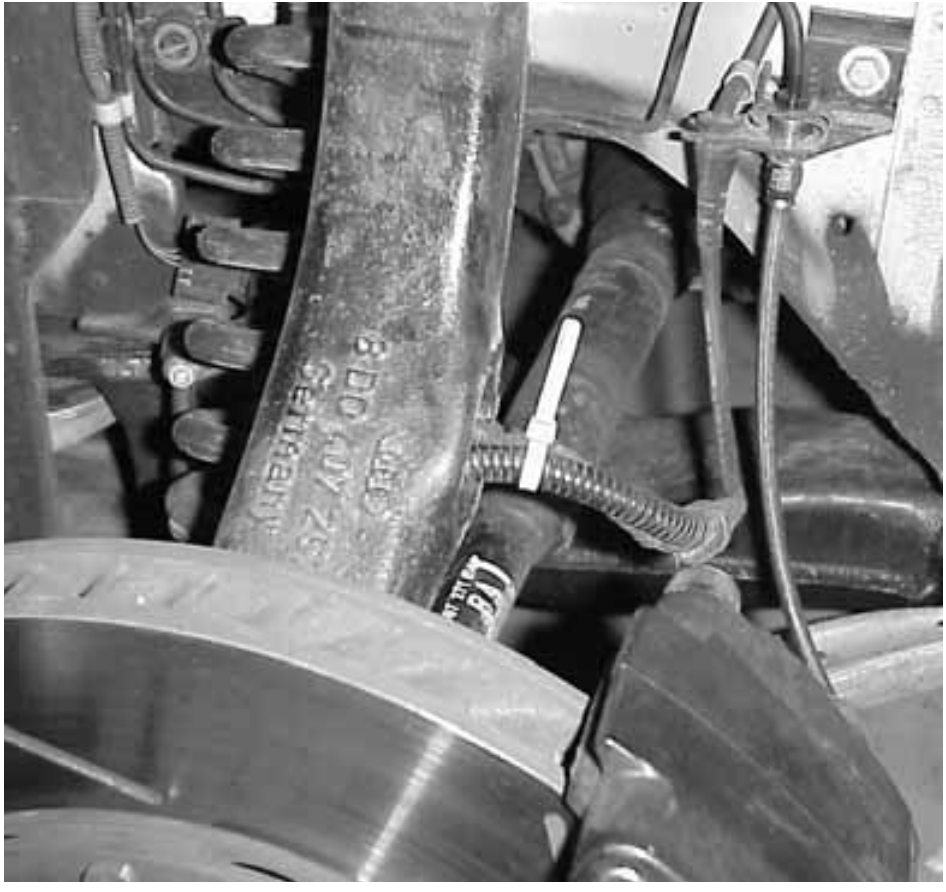
TOOL NEEDED: Small Flat Head Screw Driver

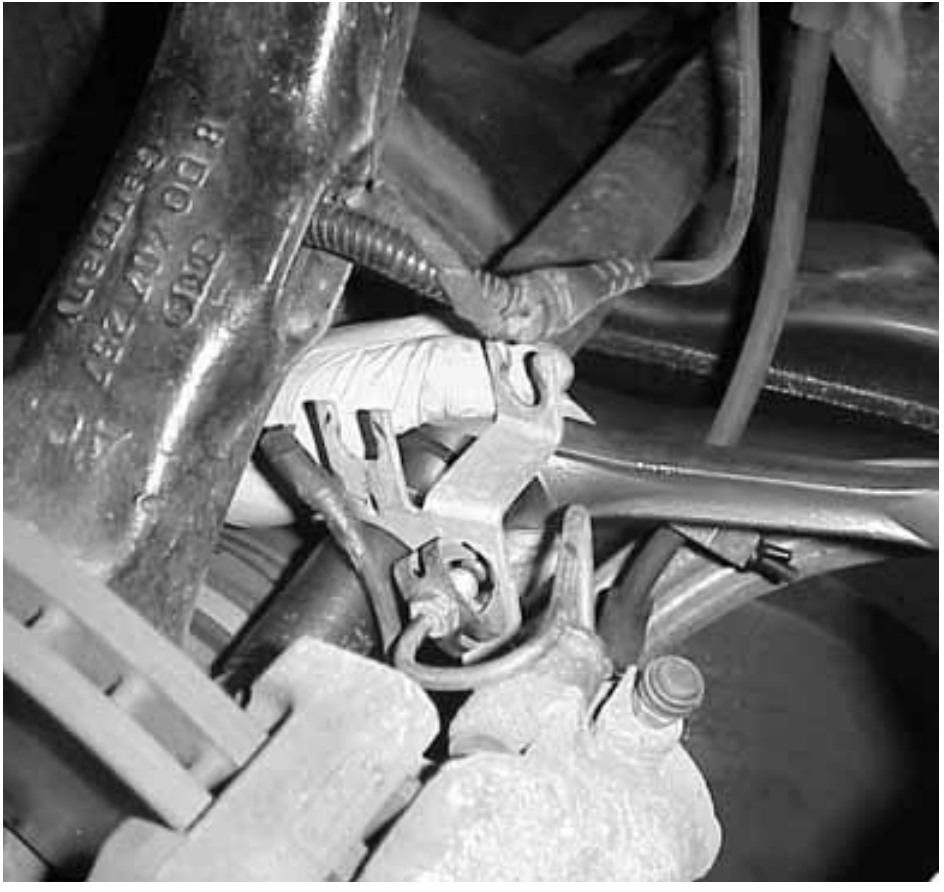
10.Clip the section of wire between the brake pad and the plug. Be sure to leave sufficient wire length coming from the plug in order to crimp the wires together. Strip 1/8" of the insulation on the wires and connect them together using a wire crimp as illustrated in picture bellow. It is recommended to protect the connection by applying shrink-wrap around the wire crimp.

TOOLS NEEDED: Wire Cutter, Wire Crimp Tool, and a Wire Crimp.

11.Place the pad sensor plug in the small opening on the upright.

12.With a zip tie included in the kit, secure the plugs placement by zip tying it tightly to the ABS wire that is also running through the upright.





13.Using a deep well socket, remove the 17mm bolts on the back side of the caliper and remove caliper.

TOOLS NEEDED: 3/8 Ratchet Drive and 17mm Socket

14.Remove the rotor. If the rotor seems to be stuck in place, lightly tap rotor with a rubber mallet.

TOOL NEEDED: Rubber Mallet

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15.Remove the backing plate. It is held on by three 10mm bolts.

TOOLS NEEDED: 1/4 Ratchet Drive and 10mm Socket

16.Install the APR caliper mounting bracket with the flat side facing the outside of the vehicle and tighten with a 17mm deep well socket.

TORQUE SPECIFICATIONS: (1) *140ft/lbs*

TOOLS NEEDED: 3/8" Ratchet Drive, 17mm Socket and a Torque Wrench

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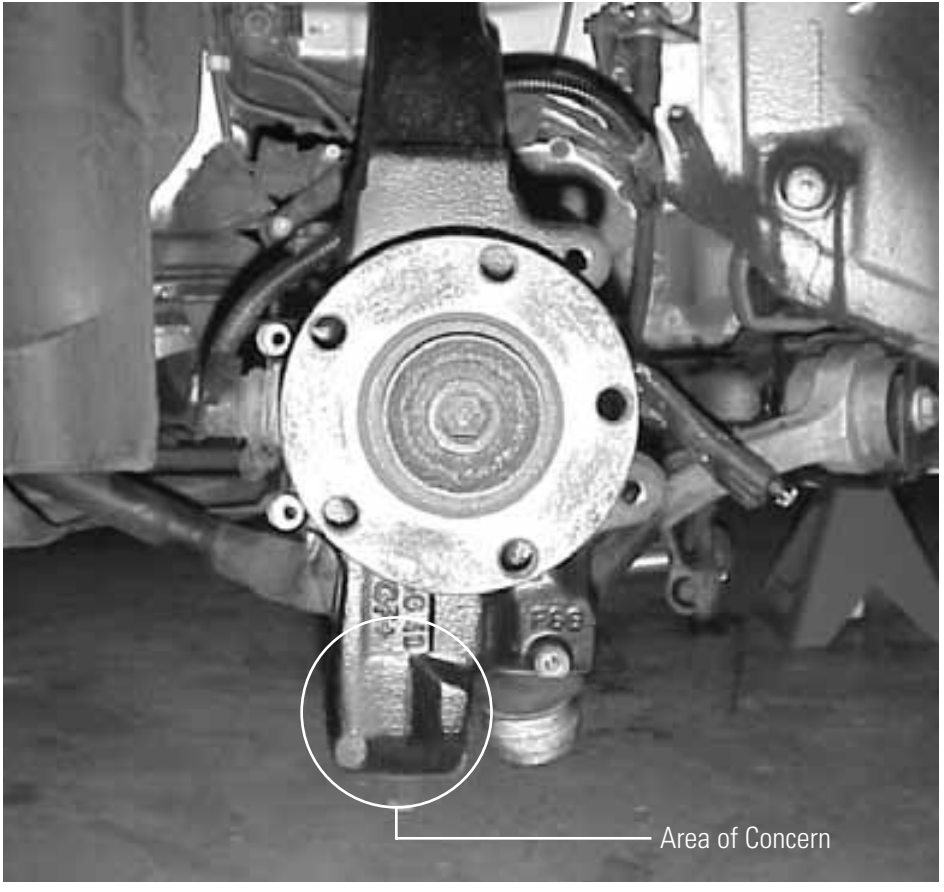
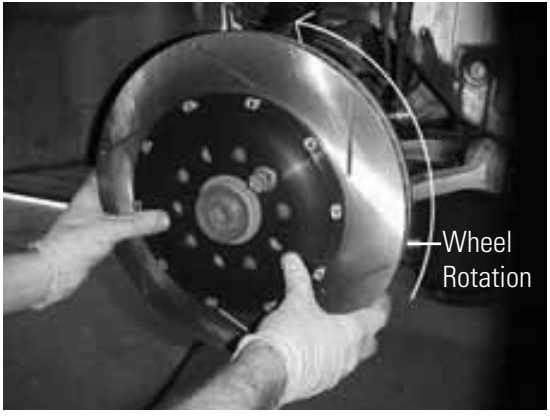
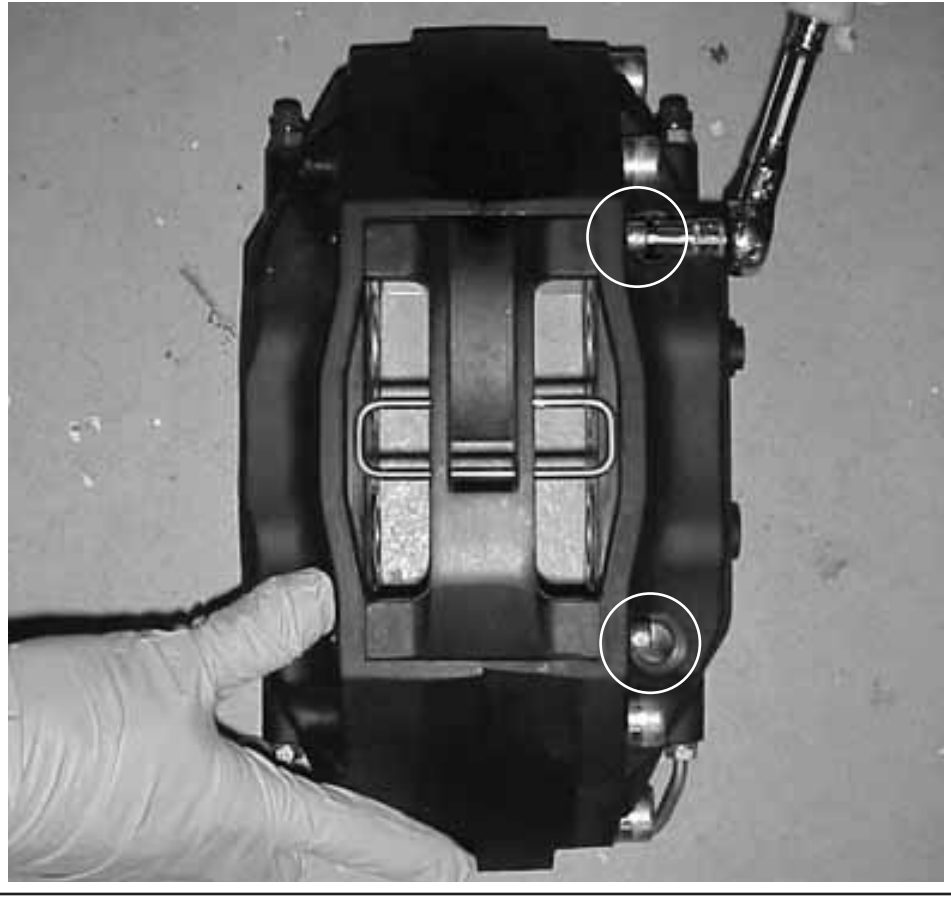


17.Install the APR rotor for the corresponding side (see picture below) and test for clearance on the backside at the bottom. When checking for clearance, be sure to secure and firmly seat the rotor with a bolt. Occasionally there is flash material from the casting in the area circled in the picture to the left. If it is necessary to remove material, a hand file will be sufficient. Note: There is a left and right side rotor. In order to achieve maximum performance it is recommended that the rotors be installed with the outside end of slots pointed in the wheels direction of rotation.



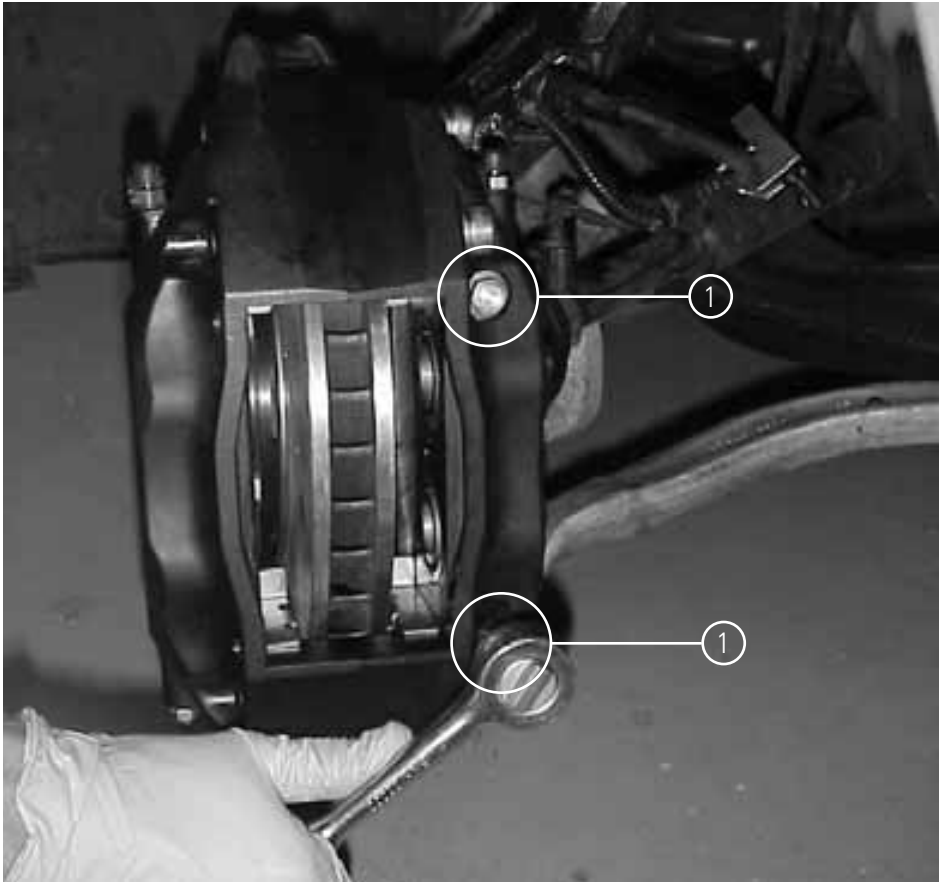
18.Remove the two 5mm hex head bolts on the inboard side of the APR caliper. These are securing the brake pad retaining bracket.



TOOLS NEEDED: 1/4" Ratchet Drive and 10mm Socket

19.Remove the brake pad retaining bracket. Be sure to note orientation for reinstallation.

20.Install the APR caliper marked for the corresponding side. Be sure the APR logo is facing towards the outside of the vehicle and the bleeder valves are oriented upwards. Note: There is a left and right side caliper and they **CANNOT** be interchanged.



21.Tighten the caliper to the bracket using two 13mm nuts (supplied in brake line package) with a 13mm thin wall socket.

TORQUE SPECIFICATIONS:① ***45ft/lbs***

TOOLS NEEDED: 3/8" ratchet, 13mm Socket and a torque wrench

22.Slide a brake pad between caliper and rotor on the inboard side. Be sure that the friction surface is facing the rotor. It is recommended to apply anti squeal spray to the back of the brake pad before installation. Note: **Do NOT** get any anti squeal spray on the friction surface.

23.Slide a brake pad between the caliper and rotor on the outboard side. Be sure that the friction surface is facing the rotor. It is recommended to apply anti squeal spray to the back of the brake pad before installation. Note: **Do NOT** get any anti-squeal spray on the friction surface.

24.As illustrated in picture below, reinstall the brake pad retaining bracket in the orientation shown.

TOOLS NEEDED: 3/8" ratchet and 13mm Socket

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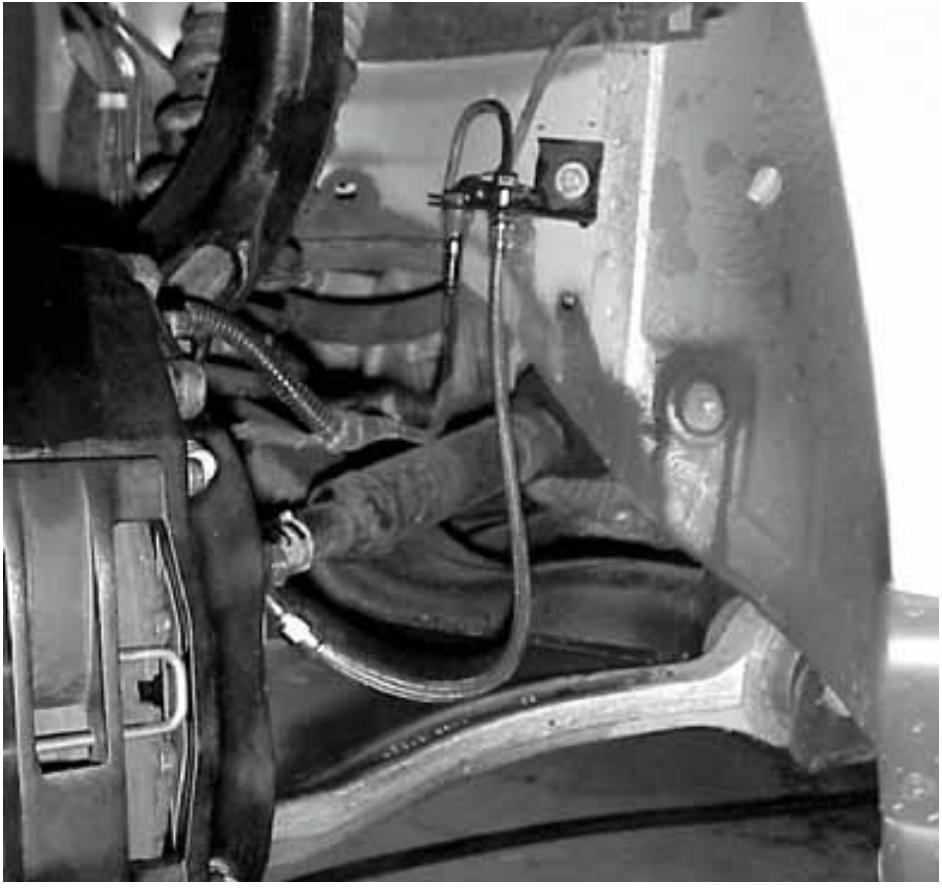
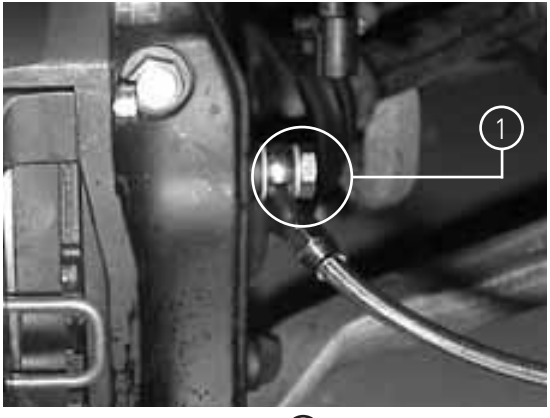


25.Install the banjo end of the APR brake line onto the caliper. Keep in mind the final orientation of the brake line as shown in the picture to the left. Note: See Brake Line Diagram for banjo fitting assembly.



TORQUE SPECIFICATIONS: (1) *11ft/lbs*

TOOL NEEDED: 14mm Wrench

26.Using an 11mm wrench, remove the existing brake line.

TOOL NEEDED: 11mm Wrench

27.Using an 11mm and a 14 mm wrench, install the remaining end of the APR brake line. Check brake line clearance by installing the wheel and turning the steering wheel completely in both directions. Some adjustment may need to be made at the banjo end of the brake line if it interferes with turning. Note: Remove the wheel before bleeding sequence.

TORQUE SPECIFICATIONS: (1) *11ft/lbs*

TOOLS NEEDED: 11mm and 14mm Wrench

BLEEDING SEQUENCE

1.It is recommended to use a vacuum bleeder when bleeding the braking system. If one is not available, this will be a two-person job.

2.In order to bleed the system properly it must be bled in a specific sequence, listed as follows: Passenger rear, Driver rear, Driver front, Passenger front.

3.During the bleeding sequence you will be replacing your existing brake fluid with new better performing brake fluid. To do so you will need a vacuum pump to remove the existing brake fluid from the reservoir. With the vacuum pump, remove the brake fluid from the reservoir. DO NOT press the brake pedal at this time! It is very important that no air be allowed to enter the hydraulic clutch port. Refill the reservoir to a level between the maximum and minimum mark with the new brake fluid.

TOOL NEEDED: Vacuum Pump

BLEEDING WITHOUT A VACUUM BLEEDER

1. Be sure that the brake reservoir if full. Check this level throughout the sequence. If fluid is needed, replenish the reservoir with the new brake fluid supplied with the kit.

2. One person will operate the brake pedal throughout the sequence.

3. Press brake pedal slowly three times, not allowing pedal to travel completely to the floor. (Hint: Use something under the pedal to keep the pedal two inches from the floor.) On the third pump, hold pressure to the pedal.

4. Starting with passenger rear, open bleeder screw and release fluid until stream dies.

5. With pressure still applied to the pedal, tighten bleeder screw and repeat steps 1-4 until fluid flows smoothly with no air.

6. Continue bleeding each brake in the suggested sequence always checking the level in the brake reservoir. Note: On the front brakes, start with the inboard side bleeder screw followed by the outboard.

7. Once the sequence is completed, check the pedal for firmness. If the pedal feels spongy, repeat the bleeding sequence.

BLEEDING WITH A VACUUM BLEEDER

1. Be sure that the brake reservoir if full. Check this level throughout the sequence. If fluid is needed, replenish the reservoir with the new brake fluid supplied with the kit.

2. Starting with Passenger rear, attach vacuum bleeder to the bleeder valve and bleed fluid until there is no air in the line.

3. Continue bleeding each brake in the suggested sequence always checking the level in the brake reservoir. Note: On the front brakes, start with the inboard side bleeder screw followed by the outboard.

4. Once sequence is completed, check the pedal for firmness. If the pedal feels spongy, repeat bleeding sequence.

Note: Once brakes have been successfully installed, allow 250 miles for brake pads to fully seat.

Caution: Under heavy breaking conditions, when the rotors and pads have become extremely hot, it is recommended not to come to a complete stop. If the rotor is not allowed to cool, brake pad material can transfer to the rotor and cause the rotor to feel warped. If you must stop, keep the vehicle slightly in motion so that the brake pad doesn't have time to heat up and stick to the rotor.

CLEANING THE ROTOR

The majority of brake system problems are due to improper installation and/or break-in of the rotors and pads. By reading and understanding the following, you will avoid the most common causes of poor brake performance and vibration. FAILURE TO READ AND UNDERSTAND THIS MAY CAUSE SERIOUS PERMENANT DAMAGE TO YOUR NEW ROTORS.

Your new APR rotors are coated with a water soluble, environmentally friendly rust inhibitor that MUST be cleaned before use. Even though you may not see a change in the rotor color, if the rotor is not rusty, the rust inhibitor is there. Use soap and water, NOT BRAKE CLEANER to wash the rotors. A small piece of Scothbrite works well to scrub with. When cleaned and rinsed properly, the surface of the rotor will immediately show a light rust color, which is normal. Breaking in rotors and pads is critical to the optimum performance of your new brakes. When breaking in new parts, you are not only heat cycling the pads, but depositing a layer of pad material onto the rotor face as well. If not broken in properly, an uneven layer of pad material will be deposited onto the rotor causing vibration. Virtually every instance of a "warped" rotor is attributed to uneven pad deposition.

BEDDING THE BRAKES

Typically, a heavy braking street driver will experience approximately 1 to 1.1G's of deceleration. At this rate, ABS will be activated on such equipped vehicles. A moderate braking effort is needed to properly break in rotors and pads. A stopping force of approximately 0.8G's, just short of ABS intervention is a general estimate of pedal effort you are trying to achieve.

After completing installation, make a series of 10 stops from 60 to 5-10 MPH. At the end of each stop, immediately accelerate to 60 again for the next stop. The exact speed is not critical. Accelerate to approximately 60 and begin the braking cycle. As you approach 5-10 MPH, it is not necessary to watch the speedometer, keep your eyes on the road and approximate your speed at the end of each cycle. DO NOT COME TO A COMPLETE STOP, AS YOU WILL IMPRINT PAD MATERIAL ONTO THE ROTOR, CAUSING A VIBRATION.

There are several indicators to look for while breaking in the system. On the 8th or 9th stop, there should be a distinct smell from the brakes. Smoke may be evident after several stops as well. Also on the 8th or 9th stop, some friction materials will experience "green fade". This is a slight fading of the brakes. The fade will stabilize, but not completely go away until the brakes have cooled.

After the break-in cycle is finished, there will be a blue tint color on the rotor with a light gray film on the rotor face. The blue tint indicates the rotor has reached the proper break in temperature and the gray film is pad material starting to transfer onto the rotor face. If racing or higher performance pads are being used, add four stops from 80 to 5-10mph and if a full race pad, four stops from 100 to 5-10 mph. APR does not endorse speeding on public roads. If going above the legal speed limit, do so in a safe area, away from traffic at your own

risk. After the final stop, drive as much as possible without using the brakes to cool off the system. Ideally, the brakes should be allowed to cool to ambient temperature before using again. DO NOT COME TO A COMPLETE STOP WHEN THE SYSTEM IS HOT AND LEAVE YOUR FOOT ON THE PEDAL. PAD MATERIAL WILL IMMEDIATELY TRANSFER TO THE ROTOR CAUSING A VIBRATION.

After the first break in cycle shown above, the brakes will still not be operating at their best capacity. A second or third heat cycle is typically necessary before the brakes really start to “come in”. If you have any questions about rotor and pad break in, or any aspect of your APR brake kit, please contact APR.

Congratulations, the installation is now complete! We hope you enjoy many miles of service from your new APR brakes. If you ever have any questions, don't hesitate to contact your APR representative.