

# Lab - Brake Bleeding

Students: 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_

Date: \_\_\_\_\_  
 Block: \_\_\_\_\_

Fill in each box with the appropriate information. Place checks (✓) where applicable. Be sure to have Instructor's initials before moving on to the next step. Each team member must answer questions in order to receive credit for this lab.

VEHICLE IDENTIFICATION			
Year:	Make:		
Model:	Color:		
VIN Number:			
Brake System: [ Front/Rear Split ] [ Diagonally Split ]			
SYSTEM INVESTIGATION			
1	<p>Brake fluid should be changed every two years, and more frequently under severe service.</p> <ul style="list-style-type: none"> <li>☞ Brake fluid is hygroscopic (absorbs moisture)</li> <li>☞ Moisture in the fluid will boil, creating air bubbles</li> <li>☞ Air bubbles in the fluid will reduce braking power and make the pedal feel "mushy" or sink to the floor</li> </ul>		
PREPARATION			
2	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check service manual for the correct procedure for your particular vehicle</li> <li><input type="checkbox"/> Raise car and support on jack stands (Note: It is often easier to bleed brakes with the wheels off)</li> <li><input type="checkbox"/> Ensure brakes are properly adjusted</li> <li><input type="checkbox"/> See if you can crack the bleeder screws loose - CAUTION!</li> <li><input type="checkbox"/> Top up master cylinder with fresh fluid from a NEW container</li> <li><input type="checkbox"/> Get a partner to help you. Remember - do not wear coveralls while sitting in the car!</li> </ul> </td> <td style="width: 50%; text-align: center; vertical-align: top;"> <div style="border: 3px double black; padding: 5px; font-weight: bold; font-size: 1.2em;">CAUTION</div> <p><b>Brake bleeder screws are fragile. If you shear one off, you might have to replace the entire wheel cylinder or caliper!!</b></p> <p>To loosen a stuck bleeder screw, try these methods:</p> <ol style="list-style-type: none"> <li>1. Soak with WD40 and let sit for a while</li> <li>2. Apply pressure with a wrench and tap the top of the bleeder with a hammer</li> <li>3. Apply pressure with a wrench and tap the base of the wheel cylinder with a blunted air-chisel</li> <li>4. Heat bleeder screw with a torch and allow to cool</li> </ol> </td> </tr> </table>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Check service manual for the correct procedure for your particular vehicle</li> <li><input type="checkbox"/> Raise car and support on jack stands (Note: It is often easier to bleed brakes with the wheels off)</li> <li><input type="checkbox"/> Ensure brakes are properly adjusted</li> <li><input type="checkbox"/> See if you can crack the bleeder screws loose - CAUTION!</li> <li><input type="checkbox"/> Top up master cylinder with fresh fluid from a NEW container</li> <li><input type="checkbox"/> Get a partner to help you. Remember - do not wear coveralls while sitting in the car!</li> </ul>	<div style="border: 3px double black; padding: 5px; font-weight: bold; font-size: 1.2em;">CAUTION</div> <p><b>Brake bleeder screws are fragile. If you shear one off, you might have to replace the entire wheel cylinder or caliper!!</b></p> <p>To loosen a stuck bleeder screw, try these methods:</p> <ol style="list-style-type: none"> <li>1. Soak with WD40 and let sit for a while</li> <li>2. Apply pressure with a wrench and tap the top of the bleeder with a hammer</li> <li>3. Apply pressure with a wrench and tap the base of the wheel cylinder with a blunted air-chisel</li> <li>4. Heat bleeder screw with a torch and allow to cool</li> </ol>
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**PROCEDURE**

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**NOTE: The person under the car is in charge!**

- Connect a clear plastic hose and clear container to the bleeder screw furthest away from the master cylinder (usually right rear, but CHECK YOUR SERVICE MANUAL!)
- Have the person in the car gently pump the brake pedal three times and hold pressure
- Crack the bleeder screw, and bleed the fluid into the container. Close bleeder screw when fluid stops (NOTE: Person inside MUST NOT release pedal until TOLD to do so!).
- Repeat until the fluid does not contain any bubbles and you can see the new fluid. It may take anywhere from three to twenty tries to remove all the air and fluid.
- Top up master cylinder (Keep an eye on the level - if you run out of fluid, the master cylinder will suck air - you will have to start all over again!)
- Move to the next closest wheel cylinder and repeat (usually left rear)
- Move to the next closest wheel cylinder and repeat (usually right front)
- Move to the next closest wheel cylinder and repeat (usually left front)

The brake pedal should be high (little travel before brakes are applied) and firm.

**STOP!!**

**INSTRUCTOR'S INITIALS:**

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- Lower car
- Return tools to tool room
- Clean up any spills on car and floor with water and paper towel

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Assume that the brakes NEVER feel solid (that is, they are always mushy). What are two things that might cause this problem?

- 1.
- 2.

Notes: