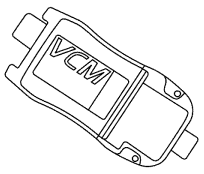
GENERAL PROCEDURES

Brake System Bleeding

Special Tool(s)

 ST2834-A	Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool

Material

Item	Specification
High Performance DOT 3 Motor Vehicle Brake Fluid PM-1 or PM-1-C (US); CPM-1 or CPM-1-C (Canada)	ESA-M6C25-A or WSS-M6C62-A

Manual

⚠ WARNING: Use of any other than approved DOT 3 motor vehicle brake fluid will cause permanent damage to brake components and will render the brakes inoperative. Failure to follow these instructions may result in personal injury.

⚠ WARNING: Carefully read cautionary information on product label. For additional information, see product Material Safety Data Sheet (MSDS). For 24-hour MEDICAL EMERGENCY INFORMATION on Ford/Motorcraft products call: 1-800-959-3673 (FORD). Failure to follow these instructions may result in personal injury.

⚠ CAUTION: Brake fluid is harmful to painted and plastic surfaces. If brake fluid is spilled onto a painted or plastic surface, immediately wash it with water.

⚠ CAUTION: Do not allow the brake master cylinder reservoir to run dry during the bleeding operation. Keep the brake master cylinder reservoir filled with clean, specified brake fluid. Never reuse the brake fluid that has been drained from the hydraulic system.

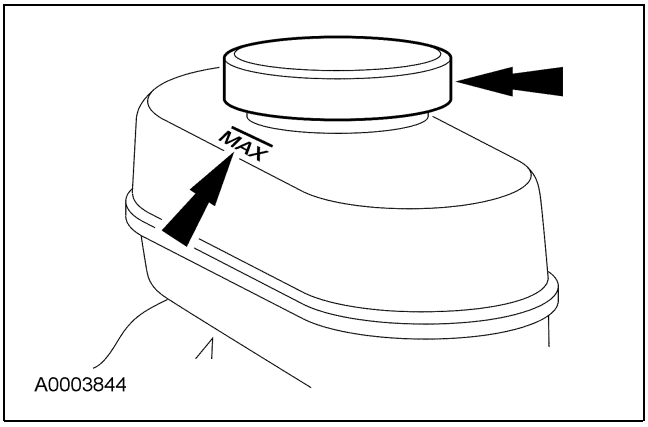
⚠ CAUTION: After the installation of a hydraulic control unit replacement, conduct the Brake System Pressure Bleeding procedure before the scan tool based bleed procedure. A scan tool based bleed procedure is then required to completely bleed the system. Follow the instructions from the scan tool.

NOTE: If the hydraulic control unit (HCU), or any component upstream of the HCU are installed new, carry out the Brake System Pressure Bleeding procedure first without the scan tool, followed by the Brake System Bleed procedure using the scan tool. The Component Bleeding — Rear Brake Caliper procedure is not required as new rear calipers were not installed.

NOTE: When any part of the hydraulic system is disconnected for repair or installation of new components, air can get into the system and cause spongy brake pedal action. This requires bleeding of the hydraulic system after it is correctly connected. The hydraulic system can be bled manually or with pressure bleeding equipment.

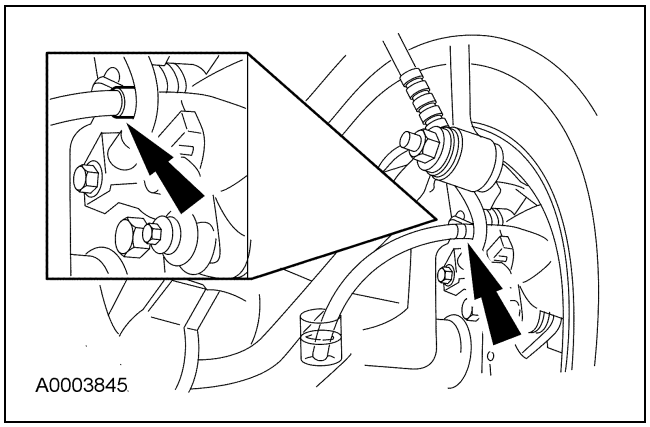
All vehicles

1. Connect the scan tool cable adapter into the vehicle data link connector (DLC) under the dash and follow the scan tool instructions.
2. Clean all the dirt from the area, remove the brake master cylinder reservoir cap and fill the brake master cylinder reservoir with clean, specified brake fluid.



GENERAL PROCEDURES (Continued)

3. Remove the RH rear bleeder cap and place a box-end wrench on the RH rear bleeder screw. Attach a rubber drain hose to the RH rear bleeder screw and submerge the free end of the hose in a container partially filled with clean, specified brake fluid.



4. Have an assistant hold firm pressure on the brake pedal.

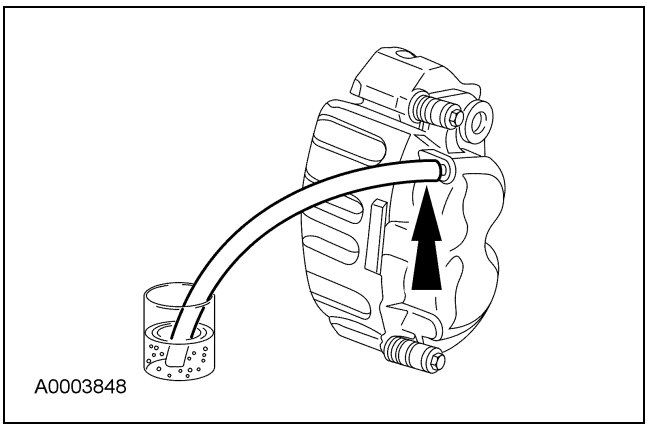
5. Loosen the RH rear bleeder screw until a stream of brake fluid comes out. While the assistant maintains pressure on the brake pedal, tighten the RH rear bleeder screw.
   - Repeat until clear, bubble-free fluid comes out.
   - Refill the brake master cylinder reservoir as necessary.

6. Tighten the RH rear brake caliper bleeder screw and install the bleeder cap.
   - Tighten to 10 Nm (89 lb-in).

7. Repeat Steps 3 through 6 for the LH rear brake caliper bleeder screw.

Vehicles equipped with a 4.0L SOHC or 4.6L (3V) engine

8. Remove the RH front bleeder cap and place a box-end wrench on the RH front brake caliper bleeder screw. Attach a rubber drain hose to the RH front brake caliper bleeder screw and submerge the free end of the hose in a container partially filled with clean, specified brake fluid.



9. Have an assistant hold firm pressure on the brake pedal.

10. Loosen the RH front brake caliper bleeder screw until a stream of brake fluid comes out. While the assistant maintains pressure on the brake pedal, tighten the RH front brake caliper bleeder screw.
    - Repeat until clear, bubble-free fluid comes out.
    - Refill the brake master cylinder reservoir as necessary.

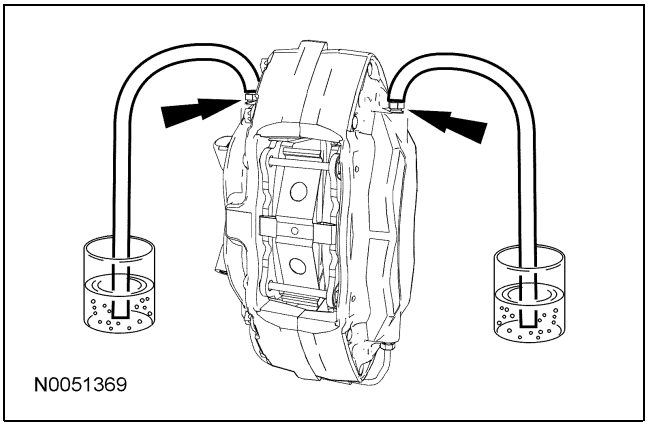
11. Tighten the RH front brake caliper bleeder screw and install the bleeder cap.
    - Tighten to 10 Nm (89 lb-in).

12. Repeat Steps 8 through 11 for the LH front brake caliper bleeder screw.

GENERAL PROCEDURES (Continued)

Vehicles equipped with a 5.4L engine

13. Remove the RH front inner bleeder cap and place a box-end wrench on the RH front inner brake caliper bleeder screw. Attach a rubber drain hose to the RH front inner bleeder screw and submerge the free end of the hose in a container partially filled with clean, specified brake fluid.



14. Have an assistant hold firm pressure on the brake pedal.

15. Loosen the RH front inner brake caliper bleeder screw until a stream of brake fluid comes out. While the assistant maintains pressure on the brake pedal, tighten the RH front brake caliper bleeder screw.
    - Repeat until clear, bubble-free fluid comes out.
    - Refill the brake master cylinder reservoir as necessary.

16. Tighten the RH front inner brake caliper bleeder screw and install the bleeder cap.
    - Tighten to 18 Nm (13 lb-ft).

17. Repeat Steps 13-16 for the RH front outer brake caliper bleeder screw.

18. Repeat Steps 13-16 for the RH front inner brake caliper bleeder screw.

19. Repeat Steps 13-16 for the LH front inner brake caliper bleeder screw.

20. Repeat Steps 13-16 for the LH front outer brake caliper bleeder screw.

21. Repeat Steps 13-16 for the LH front inner brake caliper bleeder screw.

Pressure

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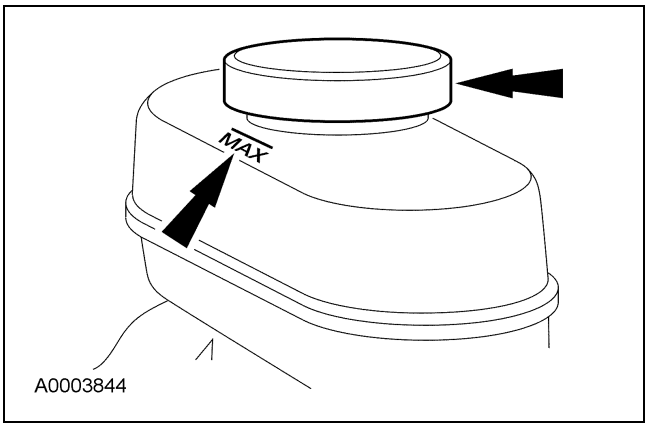
GENERAL PROCEDURES (Continued)

NOTE: When any part of the hydraulic system is disconnected for repair or installation of new components, air can get into the system and cause spongy brake pedal action. This requires bleeding of the hydraulic system after it is correctly connected. The hydraulic system can be bled manually or with pressure bleeding equipment.

All vehicles

1. Clean all the dirt from the area and remove the brake master cylinder filler cap. Fill the brake master cylinder reservoir with clean, specified brake fluid.

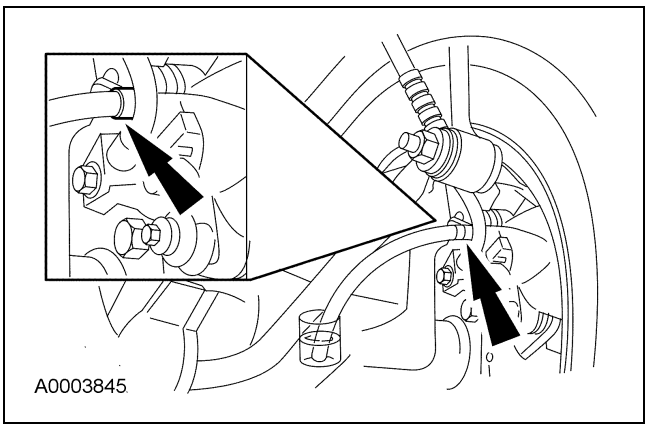


2. **NOTE:** Master cylinder pressure bleeder adapter tools are available from various manufacturers of pressure bleeding equipment. Follow the instructions of the manufacturer when installing the adapter.

   Install the bleeder adapter to the brake master cylinder reservoir and attach the bleeder tank hose to the fitting on the adapter.

3. **NOTE:** Bleed the longest line first. Make sure the bleeder tank contains enough clean, specified brake fluid to complete the bleeding operation.

   Remove the RH rear bleeder cap and place a box-end wrench on the RH rear bleeder screw. Attach a rubber drain hose to the RH rear bleeder screw and submerge the free end of the hose in a container partially filled with clean, specified brake fluid.



4. Open the valve on the bleeder tank.

Vehicles equipped with a 4.0L SOHC or 4.6L (3V) engine

5. Loosen the RH rear brake caliper bleeder screw. Leave open until clear, bubble-free brake fluid flows, then tighten the RH rear brake caliper bleeder screw and remove the rubber hose and install the RH rear bleeder cap.
   - To install, tighten to 10 Nm (89 lb-in).

6. Continue bleeding the system, going in order from the LH rear brake caliper bleeder screw to the RH front brake caliper bleeder screw ending with the LH front brake caliper bleeder screw.

7. Close the bleeder tank valve. Remove the tank hose from the adapter, and remove the adapter.

Vehicles equipped with a 5.4L engine

8. Loosen the RH rear brake caliper bleeder screw. Leave open until clear, bubble-free brake fluid flows, then tighten the RH rear brake caliper bleeder screw and remove the rubber hose and install the RH rear bleeder cap.
   - To install, tighten to 18 Nm (13 lb-ft).

GENERAL PROCEDURES (Continued)

9. Continue bleeding the system in the following order:
   1 LH rear brake caliper bleeder screw
   2 RH front inner brake caliper bleeder screw
   3 RH front outer brake caliper bleeder screw
   4 RH front inner brake caliper bleeder screw
   5 LH front inner brake caliper bleeder screw
   6 LH front outer brake caliper bleeder screw
   7 LH front inner brake caliper bleeder screw
10. Close the bleeder tank valve. Remove the tank hose from the adapter, and remove the adapter.