GENERAL PROCEDURES

Brake System Bleeding

Special Tool(s)

	Worldwide Diagnostic System (WDS) Vehicle Communication Module (VCM) with appropriate adapters, or equivalent diagnostic tool
ST2332-A	

Material

Item	Specification
High Performance DOT 3 Motor Vehicle Brake Fluid PM-1 (Canada CPM-1)	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 EMERGENCY MEDICAL INFORMATION seek medical advice. In the USA or Canada on Ford/Motorcraft products call: 1-800-959-3673. For additional information, consult the product Material Safety Data Sheet (MSDS) if available. 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 the 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 diagnostic tool based bleed procedure. A diagnostic tool based bleed procedure is then required to completely bleed the system. Follow the instructions from the diagnostic 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 diagnostic tool, followed by the Brake System Bleed procedure using the diagnostic 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.

- 1. Connect the diagnostic tool cable adapter into the vehicle data link connector (DLC) under the dash and follow the diagnostic 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 the 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 tube to the RH rear bleeder screw and submerge the free end of the tube in a container partially filled with clean 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, 4, 5 and 6 for the LH rear brake caliper bleeder screw.
- 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 tube to the RH front brake caliper bleeder screw and submerge the free end of the tube in a container partially filled with clean 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, 9, 10 and 11 for the LH front brake caliper bleeder screw.

GENERAL PROCEDURES (Continued)

Pressure

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.

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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 the 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 diagnostic tool based bleed procedure. A diagnostic tool based bleed procedure is then required to completely bleed the system. Follow the instructions from the diagnostic 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 diagnostic tool, followed by the Brake System Bleed procedure using the diagnostic 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.

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

GENERAL PROCEDURES (Continued)

3. **NOTE:** Bleed the longest line first. Make sure the bleeder tank contains enough 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 tube to the RH rear bleeder screw and submerge the free end of the tube in a container partially filled with clean brake fluid.



- 4. Open the valve on the bleeder tank.
- 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 disc 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.