

## 2009 Escape

## Subarticles


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SECTION 206-00: Brake System — General Information	2009 Escape/Mariner/Escape Hybrid/Mariner Hybrid Workshop Manual
GENERAL PROCEDURES	Procedure revision date: 12/19/2008

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**Brake System Bleeding**
**Special Tool(s)**

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

Item	Specification
High Performance DOT 3 Motor Vehicle Brake Fluid PM-1-C (US); CPM-1-C (Canada)	WSS-M6C62-A or WSS-M6C65-A1

**Manual Bleeding — Non-Hybrid Vehicles Only**

**WARNING:** Do not use any fluid other than clean brake fluid meeting manufacturer's specification. Additionally, do not use brake fluid that has been previously drained. Following these instructions will help prevent system contamination, brake component damage and the risk of serious 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 serious personal injury.

**WARNING:** Do not allow the brake master cylinder to run dry during the bleeding operation. Master cylinder may be damaged if operated without fluid, resulting in degraded braking performance. Failure to follow this instruction may result in serious personal injury.

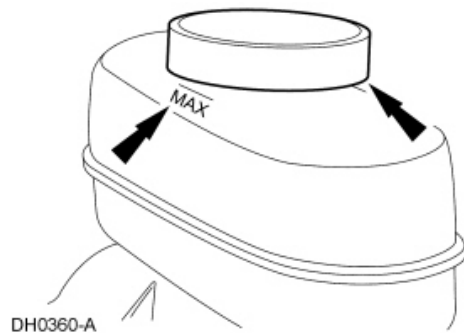
**NOTICE:** Do not spill brake fluid on painted or plastic surfaces or damage to the surface may occur. If brake fluid is spilled onto a painted or plastic surface, immediately wash the surface with water.

**NOTE:** The Hydraulic Control Unit (HCU) bleeding procedure must be carried out if the HCU or any components upstream of the HCU are installed new.

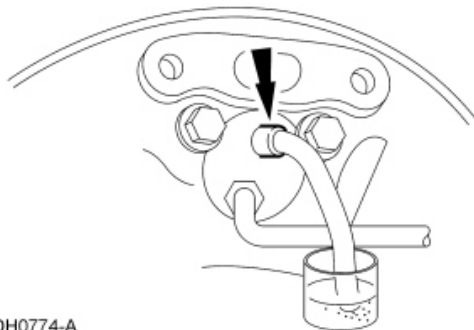
**NOTE:** Pressure bleeding the brake system is preferred to manual bleeding.

**NOTE:** Due to the complexity of the fluid path within the hybrid brake system, it is necessary to pressure bleed this system.

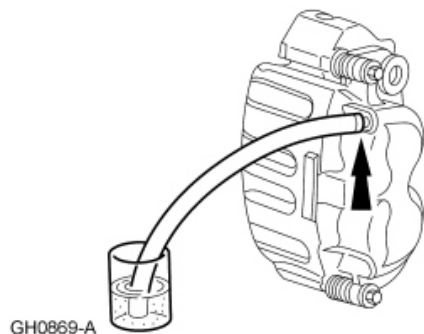
1. Clean all the dirt from the brake master cylinder filler cap and remove the filler cap.
  - Fill the brake master cylinder reservoir with clean, specified brake fluid.



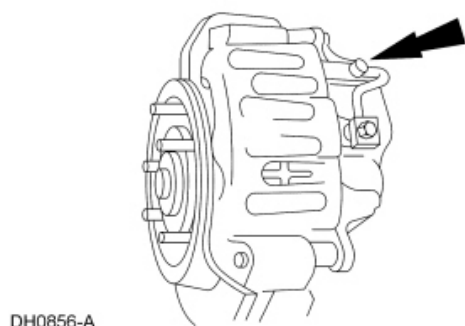
2. Remove the RR bleeder screw cap and place a box-end wrench on the bleeder screw. Attach a rubber drain hose to the RR bleeder screw and submerge the free end of the hose in a container partially filled with clean, specified brake fluid.



3. Have an assistant pump and then hold firm pressure on the brake pedal.
4. Loosen the RR bleeder screw until a stream of brake fluid comes out. While an assistant maintains pressure on the brake pedal, tighten the RR bleeder screw.
  - Repeat until clear, bubble-free fluid comes out.
  - Refill the brake master cylinder reservoir as necessary.
5. Tighten the RR bleeder screw to specifications. Refer to Specifications in this section. Remove the rubber hose and install the bleeder screw cap.
6. Repeat Steps 2 through 5 for the LR bleeder screw.
7. Remove the RF bleeder cap and place a box-end wrench on the bleeder screw. Attach a rubber drain hose to the RF bleeder screw and submerge the free end of the hose in a container partially filled with clean, specified brake fluid.



8. Have an assistant pump and then hold firm pressure on the brake pedal.
9. Loosen the RF bleeder screw until a stream of brake fluid comes out. While the assistant maintains pressure on the brake pedal, tighten the RF bleeder screw.
  - Repeat until clear, bubble-free fluid comes out.
  - Refill the brake master cylinder reservoir as necessary.
10. Tighten the RF bleeder screw to specifications. Refer to Specifications in this section. Remove the rubber hose and install the bleeder screw cap.



11. Repeat Steps 7 through 10 for the LF bleeder screw.

## Pressure Bleeding

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**WARNING:** Do not allow the brake master cylinder to run dry during the bleeding operation. Master cylinder may be damaged if operated without fluid, resulting in degraded braking performance. Failure to follow this instruction may result in serious personal injury.

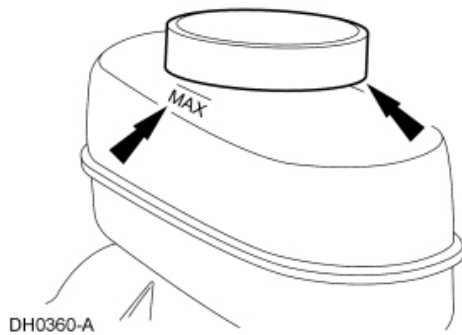
**NOTICE:** Do not spill brake fluid on painted or plastic surfaces or damage to the surface may occur. If brake fluid is spilled onto a painted or plastic surface, immediately wash the surface with water.

**NOTE:** The Hydraulic Control Unit (HCU) bleeding procedure must be carried out if the HCU or any components upstream of the HCU are installed new.

**NOTE:** Pressure bleeding the brake system is preferred to manual bleeding.

**NOTE:** Due to the complexity of the fluid path within the hybrid brake system, it is necessary to pressure bleed this system.

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

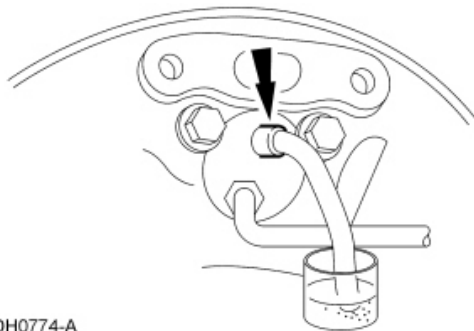


2. **NOTE:** Master cylinder pressure bleeder adapter tools are available from various manufacturers of pressure bleeding equipment. Follow the instructions of the manufacturer when installing the adapter. Install the bleeder adapter to the brake master cylinder reservoir, and attach the bleeder tank hose to the fitting on the adapter.
3. **NOTE:** Make sure the bleeder tank contains enough clean, specified brake fluid to complete the bleeding operation.

Open the valve on the bleeder tank.

- Apply 207-345 kPa (30-50 psi) to the brake system.

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



5. Loosen the RR bleeder screw. Leave open until clear, bubble-free brake fluid flows, then tighten the RR bleeder screw to specifications. Refer to Specifications in this section. Remove the rubber hose.
6. Continue bleeding the rest of the system, going in order from the LR bleeder screw to the RF bleeder screw, ending with the LF bleeder screw.
  - Tighten the brake caliper and wheel cylinder bleeder screws to specifications. Refer to Specifications in this section.
7. Close the bleeder tank valve and release the pressure. Remove the tank hose from the adapter and remove the adapter. Fill the reservoir with clean, specified brake fluid and install the reservoir cap.
8. **NOTE:** On hybrid vehicles, the brake booster push rod has an elongated slot that attaches to the brake pedal with a clevis pin. The elongated slot allows for a small amount of pedal travel (free play) to occur without the brake pedal applying pressure on the booster push rod. When performing a bleed procedure, it is important to push the pedal through the air gap, so that the clevis pin is contacting the brake booster push rod. Except when required by the scan tool, the ignition key must remain off during the bleed procedure to allow minimal force required to push through the gap.

With the ignition off, press the brake pedal through the gap to seat the clevis pin against the brake booster push rod and then confirm the pedal is firm.

- If the brake pedal feels spongy (soft), repeat the Pressure Bleeding procedure to remove any remaining air from the system.

### Hydraulic Control Unit (HCU) Bleeding

**WARNING:** Do not use any fluid other than clean brake fluid meeting manufacturer's specification. Additionally, do not use brake fluid that has been previously drained. Following these instructions will help prevent system contamination, brake component damage and the risk of serious 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 serious personal injury.

**WARNING:** Do not allow the brake master cylinder to run dry during the bleeding operation. Master cylinder may be damaged if operated without fluid, resulting in degraded braking performance. Failure to follow this instruction may result in serious personal injury.

**NOTICE:** Do not spill brake fluid on painted or plastic surfaces or damage to the surface may occur. If brake fluid is spilled onto a painted or plastic surface, immediately wash the surface with water.

**NOTE:** Pressure bleeding the brake system is preferred to manual bleeding.

### All vehicles

1. Follow the Pressure Bleeding or Manual Bleeding procedure to bleed the system. For additional information, refer to [Brake System Bleeding](#) in this section.

2. Connect the scan tool and follow the ABS Hydraulic Control Unit (HCU) bleeding instructions.
3. Repeat the Pressure Bleeding or Manual Bleeding procedure to bleed the system.

**Hybrid vehicles**

4. Following the scan tool instructions, carry out the Multi-Calibration Routine.
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