

2000 Ford EXPEDITION

Submodel: | Engine Type: V8 | Liters: 4.6
Fuel Delivery: FI | Fuel: GAS

Subarticles

- Master Cylinder, In Vehicle
- Four Wheel Anti-Lock Brake System (4WABS)
- Gravity
- Manual
- Pressure
- Master Cylinder, Bench

SECTION 206-00: Brake System — General Information 2000 Expedition/Navigator Workshop Manual
GENERAL PROCEDURES [Procedure revision date: 06/17/1999](#)

Bleeding

Special Tool(s)



Worldwide Diagnostic Tool (WDS)
418-F224,

New Generation STAR (NGS) Tester
418-F052, or equivalent scan tool

ST2332-A



NGS Flash Cable
418-F120 (007-00531) or Equivalent

ST1270-A

Master Cylinder, In Vehicle

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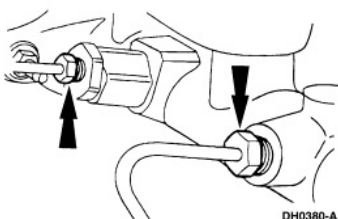
CAUTION: Do not allow the brake master cylinder reservoir to run dry during the bleeding operation. Keep the brake master cylinder reservoir filled with the specified brake fluid. Never reuse the brake fluid that has been drained from the hydraulic system.

CAUTION: 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.

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

1. **NOTE:** When a new brake master cylinder has been installed or the system has been emptied, or partially emptied, it should be primed to prevent air from getting into the system.

Disconnect the brake master cylinder outlet tubes.



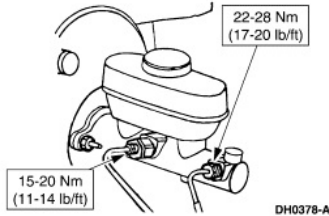
2. Install short brake tubes with ends submerged in the brake master cylinder reservoir and fill the brake master cylinder reservoir with High Performance DOT 3 Brake Fluid C6AZ-19542-AB or equivalent DOT 3 fluid meeting Ford specification ESA-M6C25-A.



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3. Have an assistant pump the brake pedal until clear fluid flows from both brake tubes without air bubbles.
4. Remove the short brake tubes and install the brake outlet tubes.

5. Bleed each brake tube at the brake master cylinder as follows:
 1. Have an assistant pump the brake pedal and then hold firm pressure on the brake pedal.
 2. Loosen the rearmost brake tube fittings until a stream of brake fluid comes out. Have an assistant maintain pressure on the brake pedal while tightening the brake tube fitting.
 3. Repeat this operation until clear, bubble-free fluid comes out.
 4. Refill the brake master cylinder reservoir as necessary. Repeat the bleeding operation at the front brake tube.
6. While the assistant maintains pressure on the brake pedal, tighten the brake tubes.



Four Wheel Anti-Lock Brake System (4WABS)

WARNING: Brake fluid contains polyglycol ethers and polyglycols. Avoid contact with eyes. Wash hands thoroughly after handling. If brake fluid contacts eyes, flush eyes with running water for 15 minutes. Get medical attention if irritation persists. If taken internally, drink water and induce vomiting. Get medical attention immediately.

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: 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.

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

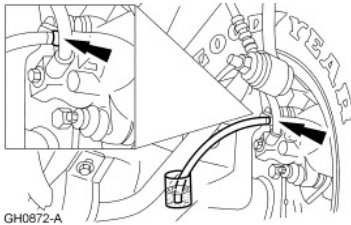
NOTE: This procedure must be performed if the 4 wheel anti-lock brake (4WABS) hydraulic control unit (HCU) has been installed new.

NOTE: One conventional pressure bleed cycle consists of advancing the brake pedal to its depressed position, opening the disc brake caliper bleeder screw, allowing fluid to be released into the waste container, closing the disc brake caliper bleeder screw and releasing the brake pedal.

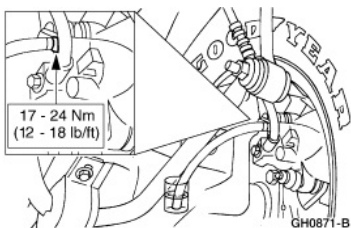
NOTE: Performing the NGS program routine drives entrapped air from the otherwise inaccessible lower section of the 4WABS valve into the upper sections (accessible by bleeding the brakes). Subsequent bleedings remove the air from the system.

NOTE: Add recommended brake fluid as necessary throughout the procedure.

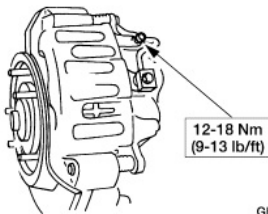
1. Connect a clear waste line to the RH rear disc brake caliper bleeder screw and the other end in a container partially filled with recommended brake fluid.



2. Have an assistant pump the brake pedal and then hold firm pressure on the brake pedal.
3. Loosen the RH rear disc brake caliper bleeder screw until a stream of brake fluid comes out. Have an assistant maintain pressure on the brake pedal while tightening the RH rear disc brake caliper bleeder screw.
 - Repeat until clear, bubble-free fluid comes out.
 - Refill the brake master cylinder reservoir as necessary.
4. Tighten the RH rear disc brake caliper bleeder screw.

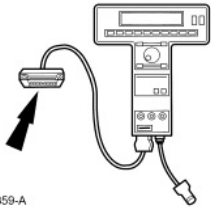


5. Repeat Steps 1, 2, 3, and 4 for the LH rear disc brake caliper bleeder screw, RH front disc brake caliper bleeder screw, and the LH front disc brake caliper bleeder screw.



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6. **NOTE:** Go to the help menu in the scan tool.
Connect the scan tool DCL cable adapter into the vehicle data link connector (DLC) under the dash and follow the scan tool instructions.



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7. Repeat the conventional bleed procedure as outlined in Steps 1 through 5.
8. If the brake pedal feels spongy, repeat the scan tool service bleed procedure.

Gravity

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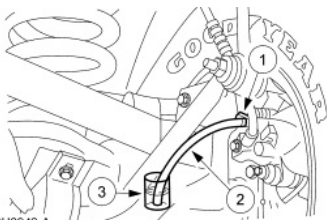
CAUTION: Do not allow the brake master cylinder reservoir to run dry during the bleeding operation. Keep the brake master cylinder reservoir filled with the specified brake fluid. Never reuse the brake fluid that has been drained from the hydraulic system.

CAUTION: 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.

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

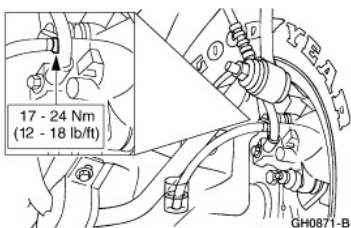
NOTE: When a new brake master cylinder has been installed or the system has been emptied, or partially emptied, it should be primed to prevent air from getting into the system.

1. Fill the brake master cylinder reservoir with High Performance DOT 3 Brake Fluid C6AZ-19542-AB or equivalent DOT 3 fluid meeting Ford specification ESA-M6C25-A.
2. Bleed the rear disc brake calipers.
 1. Place a box end wrench on the RH rear disc brake caliper bleeder screw.
 2. Attach a rubber drain tube to the RH rear disc brake caliper bleeder screw and submerge the free end of the tube in a container partially filled with clean brake fluid.
 3. Open the bleeder screw and leave open until clear bubble-free brake fluid flows.
 - Repeat for LH rear disc brake caliper.



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3. Tighten the rear disc brake caliper bleeder screws.

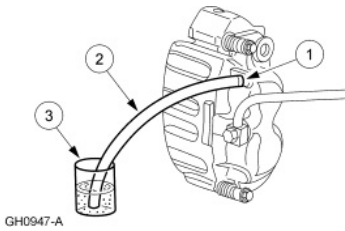


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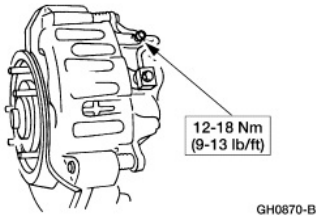
4. Bleed the front disc brake calipers.
 1. Place a box end wrench on the RH front disc brake caliper bleeder screw.
 2. Attach a rubber drain tube to the RH front disc brake caliper bleeder screw and submerge the free end of the tube in a container partially filled with clean brake fluid.

3. Open the bleeder screw and leave open until clear bubble-free brake fluid flows.

- Repeat for LH front disc brake caliper.



5. Tighten the front disc brake caliper bleeder screws.



Manual

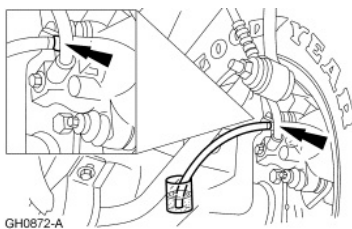
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CAUTION: Do not allow the brake master cylinder reservoir to run dry during the bleeding operation. Keep the brake master cylinder reservoir filled with the specified brake fluid. Never reuse the brake fluid that has been drained from the hydraulic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

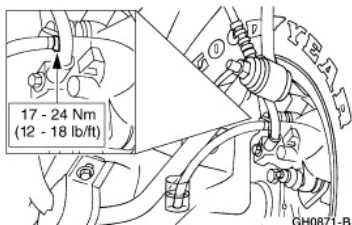
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NOTE: When any part of the hydraulic system has been disconnected for repair or new installation, air may get into the system and cause spongy brake pedal action. This requires bleeding of the hydraulic system after it has been correctly connected.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

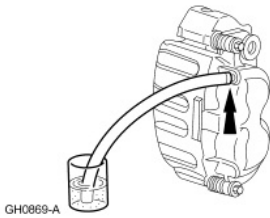
1. Place a box end wrench on the RH rear disc brake caliper bleeder screw. Attach a rubber drain tube to the RH rear disc brake caliper bleeder screw and submerge the free end of the tube in a container partially filled with clean brake fluid.



2. Have an assistant pump the brake pedal and then hold firm pressure on the brake pedal.
3. Loosen the RH rear disc brake caliper bleeder screw until a stream of brake fluid comes out. Have an assistant maintain pressure on the brake pedal while tightening the RH rear disc brake caliper bleeder screw.
 - Repeat until clear, bubble-free fluid comes out.
 - Refill the brake master cylinder reservoir as necessary.
4. Tighten the RH rear disc brake caliper bleeder screw.

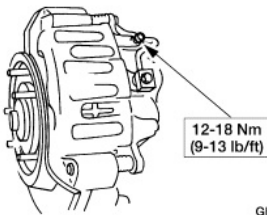


5. Repeat Steps 1, 2, 3, and 4 for the LH rear disc brake caliper.
6. Place a box end wrench on the RH front disc brake caliper bleeder screw. Attach a rubber drain tube to the RH front disc brake caliper bleeder screw and submerge the free end of the tube in a container partially filled with clean brake fluid.



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7. Have an assistant pump the brake pedal and then hold firm pressure on the brake pedal.
8. Loosen the RH front disc brake caliper bleeder screw until a stream of brake fluid comes out. Have an assistant maintain pressure on the brake pedal while tightening the RH front disc brake caliper bleeder screw.
 - Repeat until clear, bubble-free fluid comes out.
 - Refill the brake master cylinder reservoir as necessary.
9. Tighten the RH front disc brake caliper bleeder screw.



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10. Repeat Steps 6, 7, 8, and 9 for the LH front disc brake caliper bleeder screw.
11. If necessary, bleed the brake master cylinder. For additional information, refer to Bleeding in this section.

Pressure

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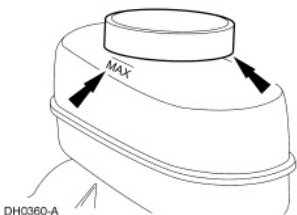
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NOTE: When any part of the hydraulic system has been disconnected for repair or new installation, air may get into the system and cause spongy brake pedal action. This requires bleeding of the hydraulic system after it has been correctly connected.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

NOTE: Bleed the longest line first. Be sure the bleeder tank contains enough specified brake fluid to complete the bleeding operation.

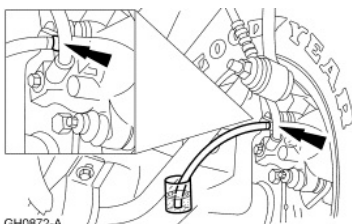
1. Clean all dirt from and remove the brake master cylinder filler cap and fill the brake master cylinder reservoir with the specified brake fluid.



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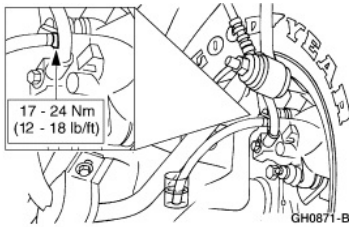
2. **NOTE:** Master cylinder pressure bleeder adapter tools are available from various manufacturers of pressure bleeding equipment. Follow the instructions of the manufacturer when installing the adapter.
Install the bleeder adapter to the brake master cylinder reservoir and attach the bleeder tank hose to the fitting on the adapter.

3. Place a box end wrench on the RH rear disc brake caliper bleeder screw. Attach a rubber drain tube to the RH rear disc brake caliper bleeder screw and submerge the free end of the tube in a container partially filled with clean brake fluid.

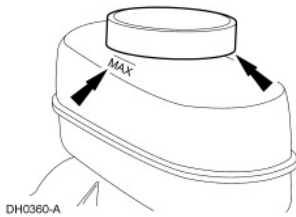


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4. Open the valve on the bleeder tank.
5. Loosen the rear disc brake caliper bleeder screw. Leave open until clear, bubble-free brake fluid flows, then tighten rear disc brake caliper bleeder screw and remove the rubber hose.



6. Continue bleeding the rest of the system, going in order from the LH rear disc brake caliper (2552) to the RH front disc brake caliper (2B121) ending with the LH front disc brake caliper.
7. Close the bleeder tank valve and remove the tank hose from the adapter and remove the adapter.
8. Fill the brake master cylinder reservoir and install the brake master cylinder filler cap.



Master Cylinder, Bench

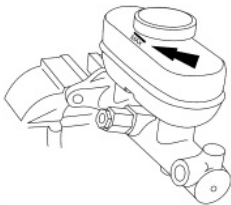
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NOTE: When any part of the hydraulic system has been disconnected for repair or new installation, air may get into the system and cause spongy brake pedal action. This requires bleeding of the hydraulic system after it has been correctly connected.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

1. Support the brake master cylinder body in a vise and fill the brake master cylinder reservoir with specified brake fluid.
 - Use High Performance DOT 3 Brake Fluid C6AZ-19542-AB or equivalent DOT 3 fluid meeting Ford specification ESA-M6C25-A.



2. Install short brake tubes with the ends submerged in the brake master cylinder reservoir.



3. Slowly depress the primary piston until clear fluid flows from both brake tubes, without air bubbles.
4. Remove the short brake tubes.

