



Recall Bulletin

File In Section: Product Recalls
Bulletin No.: 04004
Date: June 2004



F/CMVSS NONCOMPLIANCE RECALL

SUBJECT: BRAKE HYDRO-BOOST RELIEF VALVE SEAL FRACTURE

**MODELS: 2003-2004 CADILLAC ESCALADE, ESCALADE EXT, ESCALADE ESV
2003-2004 CHEVROLET SILVERADO, AVALANCHE, SUBURBAN,
EXPRESS
2004 CHEVROLET TAHOE
2003-2004 GMC SIERRA, YUKON, YUKON XL, SAVANA
2003-2004 HUMMER H2**

CONDITION

General Motors has decided that certain 2003 and 2004 model year Cadillac Escalade, Escalade EXT and Escalade ESV; Chevrolet Silverado, Avalanche, Suburban, and Express; GMC Sierra, Yukon, Yukon XL, and Savana; HUMMER H2; and 2004 model year Chevrolet Tahoe vehicles fail to conform to either Federal/Canada Motor Vehicle Safety Standard 105, "Hydraulic and Electric Brake System", or Standard 135, "Light Vehicle Brake Systems". These vehicles may have a relief valve bore within the brake hydro-boost module that is not to specification. An out-of-specification bore could result in fracture of the relief valve o-ring seal within the module. If this happens, during braking applications the driver may be able to hear an engine compartment noise similar to the sound that occurs when the steering wheel is turned to a full stop position. The driver could also experience a slight increase in steering efforts while braking and parking. Under certain driving conditions, a fractured seal may require a slight increase in the applied brake pedal effort to achieve the same vehicle deceleration rate as prior to the seal fracture. If this were to occur, it could result in a vehicle crash without prior warning.

CORRECTION

Dealers are to inspect the hydro-boost module, and replace the relief valve, if necessary.

VEHICLES INVOLVED

Involved are certain 2003 and 2004 model year Cadillac Escalade, Escalade EXT and Escalade ESV; Chevrolet Silverado, Avalanche, Suburban, and Express; GMC Sierra, Yukon, Yukon XL, and Savana; HUMMER H2 and 2004 model year Chevrolet Tahoe vehicles built within these VIN breakpoints:

YEAR	DIVISION	MODEL	FROM	THROUGH
2003	Cadillac	Escalade	3R302814	3R320163
2004	Cadillac	Escalade	4R100129	4R104745
2003	Cadillac	Escalade ESV	3G299104	3G324791
2004	Cadillac	Escalade ESV	4G100051	4G100053
2003	Cadillac	Escalade EXT	3G300225	3G324703
2004	Cadillac	Escalade EXT	4G100044	4G100048
2003	Chevrolet	Avalanche	3G301959	3G324088
2004	Chevrolet	Avalanche	4G100025	4G100065
2003	Chevrolet	Express	31216183	31238955
2004	Chevrolet	Express	41100063	41103650
2003	Chevrolet	Silverado	3E346100	3E376199
			3F192149	3F259060
			3M110513	3M112077
			3Z338002	3Z361763
2004	Chevrolet	Silverado	4E100021	4E100126
			4F100026	4F100566
			4M100006	4M100017
			4Z100115	4Z101176
2003	Chevrolet	Suburban	3G285873	3G324561
			3R302840	3R319989
2004	Chevrolet	Suburban	4G100033	4G100074
			4J100031	4J100106
2004	Chevrolet	Tahoe	4R100153	4R104727
			4J100021	4J100103
2003	GMC	Savana	4R100130	4R104749
			31217178	31905189
2004	GMC	Savana	41100065	41103637
2003	GMC	Sierra	3E346103	3E376203
			3F232315	3F259040
			3Z338024	3Z359268
2004	GMC	Sierra	4E100026	4E100127
			4F100025	4F100561
			4Z100032	4Z101101
2003	GMC	Yukon	3J308169	3J335135
2004	GMC	Yukon	4J100061	4J100105
			4R100128	4R104746
2003	GMC	Yukon XL	3G290353	3G324315
			3J309243	3J335111
			3R302820	3R319538

VEHICLES INVOLVED, Cont'd.

YEAR	DIVISION	MODEL	FROM	THROUGH
2004	GMC	Yukon XL	4G100026	4G100070
			4J100065	4J100104
			4R100133	4R104750
2003	HUMMER	H2	3H135425	3H146453
2004	HUMMER	H2	4H100001	4H100034

IMPORTANT: Dealers should confirm vehicle eligibility through **GMVIS** (GM Vehicle Inquiry System) prior to beginning recall repairs. [Not all vehicles within the above breakpoints may be involved.]

For U.S.: For dealers with involved vehicles, a Campaign Initiation Detail Report containing the complete Vehicle Identification Number, customer name and address data has been prepared and will be loaded to the GM DealerWorld, Recall Information website. The customer name and address data furnished will enable dealers to follow up with customers involved in this recall.

For Canada & IPC: Computer listings containing the complete Vehicle Identification Number, customer name and address data of involved vehicles have been prepared, and are being furnished to involved dealers. The customer name and address data will enable dealers to follow up with customers involved in this recall. Any dealer not receiving a computer listing with the recall bulletin has no involved vehicles currently assigned.

These dealer listings may contain customer names and addresses obtained from Motor Vehicle Registration Records. The use of such motor vehicle registration data for any other purpose is a violation of law in several states/provinces/countries. Accordingly, you are urged to limit the use of this listing to the follow-up necessary to complete this recall.

PARTS INFORMATION

Parts required to complete this recall are to be obtained from General Motors Service Parts Operations (GMSPO). Please refer to your "involved vehicles listing" before ordering parts. Normal orders should be placed on a DRO = Daily Replenishment Order. In an emergency situation, parts should be ordered on a CSO = Customer Special Order.

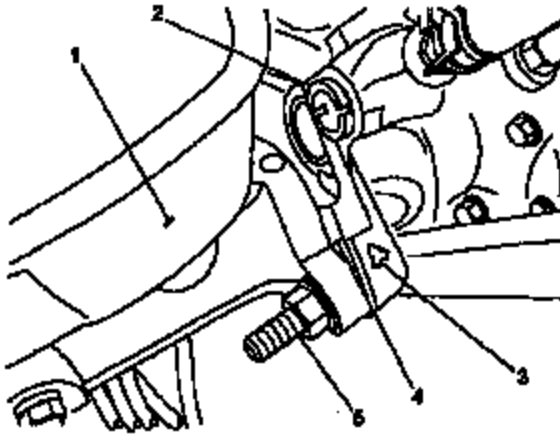
Part Number	Description	Quantity/Vehicle
10398682	VALVE KIT, P/B BOOS CONT	1 (If Req'd)

Important: It is estimated that only 20% of involved vehicles will require Valve Kit Repair. Please order parts accordingly.

SERVICE PROCEDURE

The following procedure provides instructions for inspecting, and if necessary, replacing the hydraulic brake booster relief valve.

1. Open the hood.



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Important

You may notice that there is a blue epoxy-type material in the center of the relief valve described in the next step. This material will be found in both the original and replacement relief valves.

2. Locate the relief valve (2) on the hydraulic brake booster. The valve is located in the front of the brake booster directly behind the master cylinder reservoir (1).
 - o If the color of the relief valve is metallic yellow or has a brass appearance, then no further action is required.
 - o If the color of the relief valve is silver or aluminum, continue to the next step.

Important

If present, the stamped number being described in the next step would be on the mounting surface for the master cylinder on the hydraulic brake booster. The number may be difficult to see if there is any corrosion on the unpainted surface. As a result, it may be necessary to clean the surface with a piece of emery or sandpaper.

3. Inspect the hydraulic brake booster at the location shown (4) for a stamped number. The location (4) is the same surface that the master cylinder mounts on, just above the outboard mounting bolt and nut (5). Also inspect for a paint mark (3) near the master cylinder outboard mounting bolt (5). If a stamped number is found it will be a 1, 2, 3, or 4. If a paint mark is found, it will be yellow, pink, or white.
 - o If a yellow, pink, or white paint mark IS visible, no further inspection or repairs are required. Disregard any stamped number found when a yellow, pink, or white paint mark is visible.
 - o If there are NO paint marks and there IS a stamped number 2, 3, or 4 visible, no further inspection or repairs are required.
 - o If there are NO paint marks and there IS a stamped number 1 visible, then proceed to the next step.
 - o If there are NO paint marks and there are NO stamped numbers visible, then proceed to the next step.

Caution

Care should be taken when working around the accumulator since it contains high-pressure compressed gas and hydraulic fluid.

4. With the ignition in the OFF position, pump the brake pedal a minimum of ten times.
5. On van models, remove the two bolts that attach the diagonal brace between the left front fender and radiator support. Remove the brace and the water deflector that is attached to it.
6. On all models, remove the two nuts that attach the master cylinder to the hydraulic brake booster. A 13 mm wrench installed on the bolt head may be required to prevent the bolt from spinning.

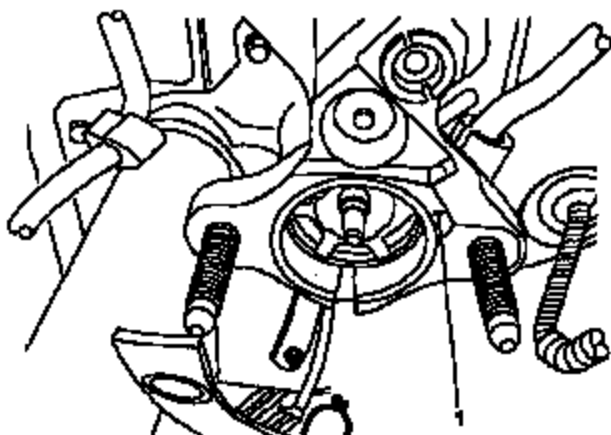
Important

On full size pickups and utilities, the bracket that attaches the brake combination valve will need to be removed from the mounting bolts at the same time that the master cylinder is removed and repositioned in the next step.

Notice

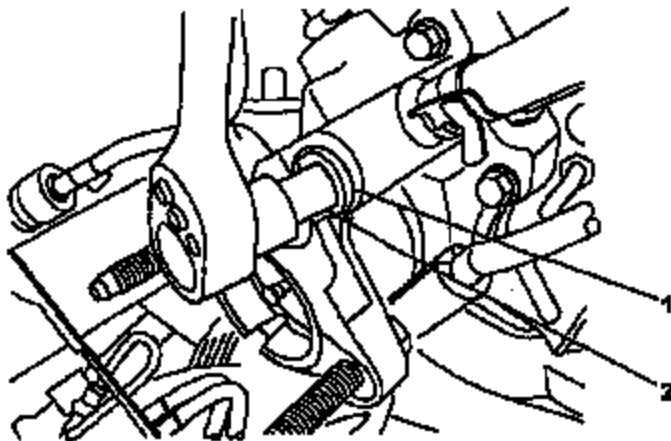
When repositioning the master cylinder in the next step, use care not to pinch, kink, or damage the brake hoses or pipes.

7. Remove and reposition the master cylinder away from the hydraulic brake booster so that the machined surface on the front of the booster where the master cylinder was mounted is visible.



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8. Inspect the machined surface that was covered by the master cylinder on the front of the hydraulic brake booster at the location (1) shown for a stamped number. The stamped number will be a number 1, 2, 3, or 4.
 - o If a stamped number 1 is visible, then the relief valve must be replaced. Proceed to the next step.
 - o If a stamped number 2, 3, or 4 is visible, then no further action is required. Proceed to Step 14 and reinstall the master cylinder.
 - o If no stamped number is visible, then no further action is required. Proceed to Step 14 and reinstall the master cylinder.
9. Cover the master cylinder with a clean shop towel in order to protect it from fluids or cleaners. Also, place a shop towel under the hydraulic brake booster to absorb any fluid that may leak out of the unit when the relief valve is removed in the next step.



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10. Using the tool (2) included with the new relief valve, unscrew the original relief valve (1) from the hydraulic brake booster.

Notice

DO NOT blow compressed air into the bore or use any commercially available cleaners to flush the valve bore in the next step. This could damage the booster or master cylinder.

11. Inspect the two O-rings on the original valve for signs of damage. If an O-ring is missing, broken, or damaged, inspect the bore in the hydraulic brake booster for any pieces or debris using a non-metallic type tool or a clean "lint-free" towel.

Important

A torque wrench must be used when tightening the valve in the next step. In addition, a 3/8 inch drive to 1/4 inch drive adapter will be needed if your torque wrench is a 3/8 inch drive.

Important

After tightening the NEW relief valve in the next step, a small gap may exist between the head on the valve and the hydraulic brake booster. This condition is normal.

12. Insert the NEW relief valve into the bore. **Tighten**

Tighten to 17 N·m (13 lb ft).

13. Using a clean shop towel, clean up any fluid that may have leaked out of the hydraulic brake booster when removing the original valve.
14. Position the master cylinder (and brake combination valve mounting bracket on full size pickups and utilities) on the mounting bolts on the hydraulic brake booster.
15. With the master cylinder mounted flush to the booster, install the nuts. **Tighten**

Tighten the nuts to 33 N·m (24 lb ft).

16. On van models, install the diagonal brace with the water deflector attached to it between the left fender and the radiator. Install the two bolts. **Tighten**

Tighten bolts to 25 N·m (18 lb ft).

17. Start the engine and verify the hydraulic brake booster operation.
18. Turn the engine OFF and check the power steering fluid reservoir. Add fluid if necessary.
19. Close the hood.

COURTESY TRANSPORTATION

The General Motors Courtesy Transportation program is intended to minimize customer inconvenience when a vehicle requires a repair that is covered by the New Vehicle Limited Warranty. The availability of courtesy transportation to customers whose vehicles are within the warranty coverage period and involved in a product recall is very important in maintaining customer satisfaction. Dealers are to ensure that these customers understand that shuttle service or some other form of courtesy transportation is available and will be provided at no charge. Dealers should refer to the General Motors Service Policies and Procedures Manual for Courtesy Transportation guidelines.

CLAIM INFORMATION

REPAIR PERFORMED	PART COUNT	PART NO.	PARTS ALLOW	CC-FC	LABOR OP	LABOR HOURS	NET ITEM
Inspection Only - No Further Action Required	N/A	N/A	N/A	MA-96	V1109	0.2	N/A
Inspection #1: Inspect For Color & Stamped Number							
Add: Inspection #2 - Hyd. Brake Booster						0.1	
Inspect & Replace Hydro-Boost Relief Valve (inc. all inspections)	1	—	**	MA-96	V1110	0.4	***
Courtesy Transportation	N/A	N/A	N/A	MA-96	****	N/A	*****

- * For Program Administrative Allowance, add 0.1 hours to the "Labor Hours".
- ** The "Parts Allowance" should be the sum total of the current GMSPD Dealer net price plus applicable Mark-Up or Landed Cost Mark-Up (for IPC) for the power brake booster assembly needed to complete the repair.
- *** The amount identified in the "Net Item" column should represent the sum total of the current GMSPD Dealer net price plus applicable Mark-Up or Landed Cost Mark-Up (for IPC) for the actual amount of power steering fluid, if needed, to perform the required repairs.
- **** Submit courtesy transportation using normal labor operations for courtesy transportation as indicated in the GM Service Policies and Procedures Manual.
- ***** The amount identified in the "Net Item" column should represent the actual dollar amount for courtesy transportation.

Refer to the General Motors WINS Claims Processing Manual for details on Product Recall Claim Submission.

CUSTOMER NOTIFICATION – For US and CANADA

General Motors will notify customers of this recall on their vehicle (see copy of customer letter included with this bulletin).

CUSTOMER NOTIFICATION – For IPC

Letters will be sent to known owners of record located within areas covered by the US National Traffic and Motor Vehicle Safety Act. For owners outside these areas, dealers should notify customers using the attached sample letter.

DEALER RECALL RESPONSIBILITY – For US and IPC (US States, Territories, and Possessions)

The US National Traffic and Motor Vehicle Safety Act provides that each vehicle that is subject to a recall of this type must be adequately repaired within a reasonable time after the customer has tendered it for repair. A failure to repair within sixty days after tender of a vehicle is prima facie evidence of failure to repair within a reasonable time. If the condition is not adequately

repaired within a reasonable time, the customer may be entitled to an identical or reasonably equivalent vehicle at no charge or to a refund of the purchase price less a reasonable allowance for depreciation. To avoid having to provide these burdensome remedies, every effort must be made to promptly schedule an appointment with each customer and to repair their vehicle as soon as possible. In the recall notification letters, customers are told how to contact the US National Highway Traffic Safety Administration if the recall is not completed within a reasonable time.

This bulletin is notice to you that the new motor vehicles included in this recall may not comply with the standard identified above. Under Title 49, Section 30112 of the United States Code, it is illegal for a dealer to sell a new motor vehicle which the dealer knows does not comply with an applicable Federal Motor Vehicle Safety Standard. As a consequence, if you sell any of these motor vehicles without first performing the recall correction, your dealership may be subject to a civil penalty for each such sale.

DEALER RECALL RESPONSIBILITY - ALL

All unsold new vehicles in dealers' possession and subject to this recall must be held and inspected/repaired per the service procedure of this recall bulletin before customers take possession of these vehicles.

Dealers are to service all vehicles subject to this recall at no charge to customers, regardless of mileage, age of vehicle, or ownership, from this time forward.

Customers who have recently purchased vehicles sold from your vehicle inventory, and for which there is no customer information indicated on the dealer listing, are to be contacted by the dealer. Arrangements are to be made to make the required correction according to the instructions contained in this bulletin. A copy of the customer letter is provided in this bulletin for your use in contacting customers. Recall follow-up cards should not be used for this purpose, since the customer may not as yet have received the notification letter.

In summary, whenever a vehicle subject to this recall enters your vehicle inventory, or is in your dealership for service in the future, you must take the steps necessary to be sure the recall correction has been made before selling or releasing the vehicle.

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the tools, equipment, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your dealer/retailer for information on whether your vehicle may benefit from the information.



**We Support
Voluntary
Technician
Certification**

June 2004

Dear General Motors Customer:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act. Federal regulation requires that any vehicle lessor receiving this recall notice must forward a copy of this notice to the lessee within ten days.

Reason For This Recall: General Motors has decided that certain 2003 and 2004 model year Cadillac Escalade, Escalade EXT and Escalade ESV; Chevrolet Silverado, Avalanche, Suburban, and Express; GMC Sierra, Yukon, Yukon XL, and Savana; HUMMER H2; and 2004 model year Chevrolet Tahoe vehicles fail to conform to either Federal/Canada Motor Vehicle Safety Standard 105, "Hydraulic and Electric Brake System", or Standard 135, "Light Vehicle Brake Systems". These vehicles may have a relief valve bore within the brake hydro-boost module that is not to specification. An out-of-specification bore could result in fracture of the relief valve o-ring seal within the module. If this happens, during braking applications the driver may be able to hear an engine compartment noise similar to the sound that occurs when the steering wheel is turned to a full stop position. The driver could also experience a slight increase in steering efforts while braking and parking. Under certain driving conditions, a fractured seal may require a slight increase in the applied brake pedal effort to achieve the same vehicle deceleration rate as prior to the seal fracture. If this were to occur, it could result in a vehicle crash without prior warning.

What Will Be Done: Your GM dealer will inspect the hydro-boost module, and replace the relief valve if necessary. This service will be performed for you at no charge.

How Long Will The Repair Take? This inspection and correction, if necessary, will take approximately 20 to 25 minutes. However, due to service scheduling requirements, your dealer may need your vehicle for a longer period of time.

Contacting Your Dealer: To limit any possible inconvenience, we recommend that you contact your GM dealer as soon as possible to schedule an appointment for this repair. By scheduling an appointment, your dealer can ensure that the necessary parts will be available on your scheduled appointment date. Should your dealer be unable to schedule a service date within a reasonable time, you should contact the appropriate Customer Assistance Center at the listed number below. The Customer Assistance Centers hours of operation are from 8:00 AM – 11:00 PM Eastern Standard Time, Monday through Friday.

Division	Number	Text Telephones (TTY)
Cadillac	1-866-982-2339	1-800-833-2622
Chevrolet	1-800-630-2438	1-800-833-2438
GMC	1-866-996-9463	1-800-462-8583
Hummer	1-866-964-8663	
Puerto Rico – English	1-800-496-9992	
Puerto Rico – Español	1-800-496-9993	
Virgin Islands	1-800-496-9994	

If, after contacting the appropriate Customer Assistance Center, you are still not satisfied that we have done our best to remedy this condition without charge and within a reasonable time, you may wish to write the Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, DC 20590 or call 1-888-327-4236.

Customer Reply Form: The enclosed customer reply form identifies your vehicle. Presentation of this form to your dealer will assist in making the necessary correction in the shortest possible time. If you no longer own this vehicle, please let us know by completing the form and mailing it back to us.

Courtesy Transportation: If your vehicle is within the New Vehicle Limited Warranty your dealer may provide you with shuttle service or some other form of courtesy transportation while your vehicle is at the dealership for this repair. Please refer to your Owner's Manual and your dealer for details on Courtesy Transportation.

Recall Information Online: More information about this recall (including answers to frequently asked questions) is available online at the Owner Center at My GMLink. This free online service offers vehicle and ownership-related information and tools tailored to your specific vehicle. To join, visit www.mygmlink.com, and enter your vehicle's 17-digit vehicle identification number shown on the enclosed customer reply form to get the most personalized information for your vehicle.

We are sorry to cause you this inconvenience; however, we have taken this action in the interest of your safety and continued satisfaction with our products.

General Motors Corporation

Enclosure
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