



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**

## ODI RESUME

Investigation: PE 04-045  
Prompted By: Consumer Complaints  
Date Opened: 06/02/2004 Date Closed: 09/28/2004  
Principal Investigator: Peter C. Ong  
Subject: Rear Liftgate Glass Assembly

Manufacturer: Ford Motor Company  
Products: 2002 Ford Explorer and Mercury Mountaineer Vehicles  
Population: 614,367

Problem Description: The rear liftgate glass assembly may fail while being opened or closed.

### Failure Report Summary

	ODI	Manufacturer	Total
Complaints:	96	1217	1313
Crashes/Fires:	0	0	0
Injury Incidents:	38	126	164
# Injuries:	41	126	167
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	4855	4855

\*Description of Other: Warranty claims of broken/fallen liftgate glass due to strut, hinge or unknown causes.

Action: This Preliminary Evaluation has been closed - manufacturer issued a recall campaign on Sep 9, 2004 (Recall No. 04V-442).

Engineer: Peter C. Ong<sup>PCO</sup>  
Div. Chief: Thomas Z. Cooper  
Office Dir.: Kathleen C. DeMeter

Date: 09/28/2004

Date: 09/28/2004

Date: 09/28/2004

Summary: Complaints report failure of the rear liftgate glass support while the operator is opening or closing the glass. The falling glass can strike the operator or bystander. The injuries reported are bruises to the head, neck or back, cuts to the face, arm or hand.

On September 9, 2004, Ford notified the agency that it will recall approximately 955,732 MY 2002 and 2003 Ford Explorer and Mercury Mountaineer vehicles to replace the liftgate glass strut brackets and/or hinges. See NHTSA Recall 04V442 for details.

This investigation is closed.

*PCO*  
9-28-04

*Ford Motor Company*

RECEIVED

2004 SEP 13 P 12:06

James P. Vondale, Director  
Automotive Safety Office  
Environmental & Safety Engineering

04V-442  
DEFECTS  
SECTION

September 9, 2004

Mr. Kenneth N. Weinstein  
Associate Administrator for Safety Assurance  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

Dear Mr. Weinstein:

Subject: Ford Recall No. 04S20 – Certain 2002 and 2003 Model Year Ford Explorer and Mercury Mountaineer Vehicles – Rear Liftgate Glass

Summary

- Ford Action – Ford Motor Company (Ford) is conducting a voluntary safety recall involving certain 2002 and 2003 model year Ford Explorer and Mercury Mountaineer vehicles. Ford will replace the liftgate glass strut brackets and glass hinges on certain 2002 vehicles and liftgate glass hinges on certain 2002 and 2003 vehicles due to the potential for a bracket or hinge to fail.
- Number of Vehicles Involved – Approximately 955,732 vehicles in the United States and Federalized Territories.
- Affect on Vehicle Operation – For certain 2002 and 2003 Explorer vehicles, the liftgate glass strut may become disengaged or the hinge may fracture allowing the glass to fall and possibly break.

For certain other vehicles, the hinge may fracture allowing the glass to fall, and possibly break.

- Service Procedure – Owners will be instructed to take their vehicles to a Ford or Lincoln-Mercury dealer to have the liftgate glass strut brackets and/or glass hinges replaced.

Attached is the detailed information required by the applicable portions of 49 CFR Part 573 – Defect and Non-Compliance Information Report.

Sincerely,

*R. A. Vondale*

James P. Vondale

Attachment



49 CFR Part 573 – DEFECT INFORMATION REPORT  
04X04 – CERTAIN 2002 AND 2003 MODEL YEAR FORD EXPLORER AND MERCURY  
MOUNTAINEER VEHICLES

Pursuant to Part 573 of Title 49 of the Code of Federal Regulations, Defect and Noncompliance Reports, Ford Motor Company (Ford) submits the following information concerning a safety recall action that it is voluntarily initiating.

573.6 (c) (2) - Potentially Affected Vehicles

Vehicles potentially affected are 2002 and 2003 model year Ford Explorer and Mercury Mountaineer-vehicles built at the St. Louis Assembly Plant and Louisville Assembly Plant from Job #1, 2002 through June 23, 2003, as identified by specific VIN numbers.

Because these vehicles are not produced in VIN order, information as to the applicability of this action to specific vehicles can best be obtained by either calling Ford's toll-free line (1-800-392-3873) or by contacting a local Ford or Lincoln-Mercury dealer who can obtain specific information regarding the vehicles from the Ford On-line Automotive Service Information System (OASIS) database.

573.6 (c) (3) - Estimated Population of Vehicles Potentially Affected

Approximately 955,732 vehicles in the United States and Federalized Territories.

573.6 (c) (4) - Estimated Percentage of Affected Vehicles with the Defect Condition

Any of the subject vehicles may experience the condition when operated under normal circumstances.

573.6 (c) (5) - Description of the Defect

For vehicles built between August 1, 2000 through March 3, 2002 at the Louisville Assembly Plant, or March 10, 2002 at the St. Louis Assembly Plant, the liftgate glass strut has the potential to detach from the cylinder ball stud bracket due to either a) inadequate bonding of the bracket to the glass as a result of improper application of primer and/or urethane adhesive; b) inadequate joint clamp load as a result of the torque specified being too low; or c) loss of clamp load due to an improperly or inconsistently cured EPDM washer on the bracket. If the lift cylinder should become detached, there is the potential for the glass to fall from the open position and break during the closing motion.

For vehicles built between March 4, 2002 at the Louisville Assembly Plant or March 11, 2002 at the St. Louis Assembly Plant and June 23, 2003, the liftgate glass hinge has the potential to fracture at the hinge glass boss/bolt attachment to the glass. This is due to increased loading from the reorientation of the lift cylinder. If the hinge should fracture, there is the potential for the glass to fall and ultimately break.

There have been 126 allegations of minor injuries due to the liftgate glass contacts and no alleged accidents.

573.6 (c) (6) - Chronology of Events

In mid-2001, Ford began to receive a limited number of reports of loose liftgate strut brackets, some of which resulted in the strut detaching. These appeared to be due to inadequate torque on the bracket-attaching bolt. In some cases, these reports included alleged glass breakage, which was

attributed to the glass striking a detached strut during closing. Ford service action (FSA) 01T02 was initiated to re-torque a limited early production of vehicles that appeared to have been assembled with inadequate torque. In addition, robustness changes to the hinge joint were implemented in vehicle production.

In June 2003, Ford became aware of reports of liftgate glass breakage primarily in two production periods; February/March 2001 and February/March 2003. In August 2003, the supplier incorrectly identified the reports as related to an inadequate bracket/urethane bond due to the glass processing, leading Ford to conclude that there would not be a continuing pattern of strut detachment and glass breakage. Subsequently in November 2003, field returned parts analysis by both the supplier and Ford determined the detachments were not due to glass processing, but likely due to an adhesive failure with the bracket and the glass.

Ford formed a core engineering team to conduct its own investigation in March 2004, because the supplier that designed the system was unable to determine the failure mechanism or a pattern related to the reported incidents. By June 2004, the Ford team had developed a test to replicate the known field conditions and concluded that there could be a pattern of strut detachment occurring.

Accordingly, Ford was prepared to review this issue at the June Field Review Committee meeting when NHTSA opened a preliminary evaluation (PE04-045) into alleged detachment or rotating of the liftgate strut bracket and /or hinge failure that would allow the glass assembly to fall and possibly break. Analysis of the data in preparation for the response to the PE identified the strut bracket issue as the primary failure mode until a March 2002 change to the liftgate strut orientation, and then hinge fracture (due to increased loading as a result of the strut reorientation) as the primary failure mode from March 2002 until June 2003.

#### 573.6 (c) (8) - Service Program

Owners of the affected vehicles built between August 1, 2000 through March 3, 2002 at the Louisville Assembly Plant, or March 10, 2002 at the St. Louis Assembly Plant, will be instructed to take their vehicles to a Ford or Lincoln-Mercury dealer for the installation of new liftgate glass strut brackets and rear glass hinges. Owners of the affected vehicles built between March 4, 2002 at the Louisville Assembly Plant, or March 11, 2002 at the St. Louis Assembly Plant and June 23, 2003, will be instructed to take their vehicles to a Ford or Lincoln-Mercury dealer for the installation of new rear glass hinges.

There will be no charge to owners for this service. Mailing of owner notification letters will begin on September 13, 2004 and be completed on or before September 16, 2004. Ford's general reimbursement plan for the cost of remedies paid for by vehicle owners prior to notification of a safety recall was provided to the agency on February 28, 2003.

#### 573.6 (c) (9) - Press statement and Dealer/Owner Letters

Ford does not at this time plan to make a statement to the media concerning the subject matter of this action. A copy of the notification letters to dealers and owners from Ford will be forwarded to the agency when available.

#### 573.6(c) (11) - Recall Number

Ford has assigned recall number 04S20 to this action.

#### 573.13 (c) (2) - Ending Date for Reimbursement Eligibility

The ending date for reimbursement eligibility for cost of remedies paid for by vehicle owners per Ford's general reimbursement plan is September 26, 2004.