

09E-048
(4 pages)



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July 24, 2009

Mr. Daniel C. Smith
Associate Administrator for Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Defect Information Report: Indiana Mills & Manufacturing, Inc.

Dear Mr. Smith:

Through the undersigned, Indiana Mills & Manufacturing, Inc. (IMMI), is submitting the enclosed Defect Information Report pursuant to 49 CFR Part 573.

IMMI has determined that certain of its side-roll protection systems manufactured and shipped between October 17, 2007 and January 23, 2008 contain a defect that relates to motor vehicle safety. The systems covered by this report were sold to four vehicle manufacturers for use as original equipment in fire trucks and concrete mixers. The systems contain a sensor that was manufactured improperly, which could lead to an inadvertent deployment of the system.

If you have any questions, please contact Matthew Byam, Manager of Quality Assurance. He can be reached at (317) 867-8197 or Matt.Byam@imminet.com. I can be reached at the contact information below.

Sincerely,

Steven R. Davis
General Counsel
(317) 867-8192
steve.davis@imminet.com

Enclosure

cc: George Person
Chief, Recall Management Division
Office of Defects Investigation

DEFECT INFORMATION REPORT

1. Manufacturer's name/address:

The manufacturer of the items of equipment covered by this report is:

Indiana Mills & Manufacturing, Inc. (IMMI)
18881 U.S. 31 North
Westfield, IN 46074

2. Items of Equipment Involved:

The items of equipment covered by this report are side-roll protection systems manufactured by IMMI that include seat belt pretensioners and side-roll airbags. They are designed to provide supplemental occupant protection and are used in fire trucks and concrete mixers. Each system contains a roll sensor that is produced by an independent supplier, identified below. IMMI has discovered that sensors produced by the supplier during the 31st week of 2007, and therefore labeled as Lot 0731, contain a manufacturing defect. IMMI manufactured and shipped protection systems equipped with those defective sensors between October 17, 2007 and January 23, 20th08.

IMMI has undertaken an evaluation of approximately 360 sensors in lots manufactured before and after Lot 0731, and to date, IMMI has not identified this issue in any other lot. If subsequent investigation reveals any such defects, this report will be amended.

The defective roll sensors were manufactured by:

Diversified Systems
3939 West 56th Street
Indianapolis, IN 46254
(317) 299-9547

All of the protection systems covered by this report were sold for installation in new motor vehicles. They were sold to the following four vehicle manufacturers:

1. Ferrara Fire Apparatus
27855 James Chapel Road
PO Box 249
Holden, LA 70744
Ph: 225-567-7100

- 2. Oshkosh Corp.
2307 Oregon Street
PO Box 2566
Oshkosh, WI 54903
Ph: 920-235-9150

- 3. Pierce Mfg
2600 American Drive
Appleton, WI 54914
Ph: 920-832-3000

- 4. Spartan Motors Inc.
1165 Reynolds Road
Charlotte, MI 48813
Ph: 517-543-6400

3. Total number of items of equipment that potentially containing the defect :

The total number of potentially defective side-roll protection systems covered by this report is 83. That number includes 34 systems that were previously returned by two of IMMI's customers for reasons independent of this defect (due to poor sales forecasting by those customers, not due to any quality issues).

4. Approximate percentage of equipment items estimated to actually contain the defect:

Based upon its analysis of sensors from Lot 0731 in its possession, IMMI estimates that approximately 30 percent of the systems covered by this report actually contain the defect.

5. Description of the defect:

The items of equipment covered by this report are side-roll protection systems for use in fire trucks and concrete mixers that include seat belt pretensioners and side-roll airbags to provide supplemental occupant protection. Each system contains a roll sensor manufactured by an independent supplier, which is designed to detect vehicle pitch and which controls the deployment of the pretensioners and the side-roll airbags. Certain of those sensors have a manufacturing defect that was created by the improper joining of two circuit boards – the daughterboard and the motherboard – during the manufacturing process. The daughterboard is designed to be mounted in a specific location and perpendicular to the motherboard through the use of a connecting grid. In the defective units, the locating pins on the connecting grid are not fully seated to the daughterboard, resulting in misalignment between the daughterboard and the connecting grid. This misalignment may result in the interruption of the electrical power that is transferred between the motherboard and the daughterboard through the connecting grid. Such an interruption can be interpreted by the microprocessor in the sensor as a vehicle roll, resulting in an inadvertent deployment of the protection system.

6. Chronological summary of events leading to this determination:

IMMI was notified that an inadvertent deployment of a side-roll protection system occurred in a Pierce fire truck in Montgomery County, Maryland on June 3, 2009. On June 4, 2009, an IMMI representative retrieved information from the unit through a diagnostic download of the sensor software and retrieved the subject sensor. Upon a visual inspection, IMMI discovered cracked solder joints on the connecting grid between the motherboard and daughterboard. Later inspection revealed a physical misalignment of the daughterboard relative to the motherboard.

On June 23, 2009, a Pierce representative informed IMMI of a deployment of a side-roll protection system at Pierce's manufacturing facility in Appleton, Wisconsin during the production of a vehicle. Upon investigation, IMMI noted similar broken solder joints and a physical misalignment of the daughterboard relative to the motherboard. That sensor was from the same Lot 0731 as the sensor involved in the Maryland incident.

IMMI then examined all roll sensors from Lot 0731 that remained in its inventory and in Pierce's inventory. In addition, IMMI personnel recreated the misalignment condition between the motherboard and daughterboard in order to observe the effects of the misalignment.

After analysis of the information collected throughout this process, IMMI management decided on July 17, 2009 that a defect related to motor vehicle safety was present in certain protection systems manufactured with sensors from Lot 0731.

7. Program for remedying the defect:

IMMI will expeditiously notify each of the four vehicle manufacturers that received the protection systems covered by this report of this defect. IMMI will work with those manufacturers (and their respective dealer networks) to replace all sensors from Lot 0731 that remain in the field.