



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 10-039
Date Opened: 09/30/2010
Investigator: Nate Seymour
Approver: Richard Boyd
Subject: Python Lift - Inadvertent Operation

Date Closed: 12/16/2010
Reviewer: Bruce York-B

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: HEIL COMPANY
Products: 2004-2010 DURAPACK AND MULTIPACK REFUSE COLLECTION VEHICLES
Population: 2,201

Problem Description: The lift/grab arm may operate unintentionally without operator input.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	0	0	0
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	1	0	1

*Description of Other: Technical Service Bulletin

ACTION / SUMMARY INFORMATION

Action: This PE is closed. A safety defect report has been submitted (10V-590), copy attached.

Summary:

ODI sent Heil Environmental an Information Request letter on 6 October 2010. After reviewing the letter and subsequent discussions with ODI, Heil decided to issue a safety recall pertaining to 2,201 units built from calendar year 2004 through 2010. They submitted a 573 Defect Report to NHTSA on 22 November 2010. Heil is unaware of any accidents or injuries related to this problem.

Therefore this investigation is closed and Heil was excused from answering ODI's information request.



December 13, 2010

Ms. Jennifer T. Timian
Chief, Recall Management Division
Office of Defects Investigation
National Highway and Traffic Safety Administration

**Subject: Amended Form 573 submittal of 11/5/10
*Heil Environmental Service Bulletin 237***

Dear Ms. Timian:

I am respectfully resubmitting the Form 573 Defect and Noncompliance Report related to the above referenced internal Technical Service Bulletin ("TSB").

It has come to my attention that there was an apparent error in my original submittal related to the defect origin date. I have investigated the matter and find that my original submittal was indeed incorrect in the opening paragraph which stated "On January 29, 2010...".

The correct defect recognition date is November 1, 2010 and this is recorded in the Amended Form 573 submittal, which is attached hereto.

This Safety Recall is a result of NHTSA's review of TSB's which Heil submits as a part of our routine quarterly TREAD Act reporting. Heil had become aware of limited anecdotal information indicating the potential for inadvertent grip or raise functions of the lift mechanism. This led to an internal destructive disassembly inspection of one or more programmable logic computer units. Despite the limited field reports, Heil determined there was a potential for carbon build up leading to circuit arcing and decided to proactively address this by developing a retrofit kit involving a modified wiring harness and instituting a field service campaign via Service Bulletin 237.

When the TSB was reviewed by Mr. Nate Seymour of NHTSA, he became concerned about the potential for inadvertent activation and opened up a Preliminary Investigation ("PI"). Upon reviewing the PI, I had a discussion with Mr. Seymour on 11/1/10 and agreed to upgrade Heil's field campaign to a formal NHTSA Safety Recall and submitted the required paperwork on 11/5/10.

If you have any questions, just call me at 423-580-2672.

Cordially,

George Paturalski
Corporate Director of Risk Management
Heil Environmental

Attachment: Amended Form 573

Safety Defect and Noncompliance Report Guide for Vehicles
PART 573 Defect and Noncompliance Report⁽¹⁾

On **November 1, 2010**, Heil Environmental decided that a defect which relates to motor vehicle safety exists in the motor vehicles listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

Date this report was prepared: **November 5, 2010**

Furnish the manufacturer's identification code for this recall (if applicable):

Heil Environmental Service Bulletin 237

1. Identify the full corporate name of the fabricating manufacturer of the vehicle being recalled. If the recalled vehicle is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. ♦30164.

The Heil Co. d/b/a Heil Environmental

Identify the corporate official, by name and title, whom the agency should contact with respect to this recall.

George Paturalski, Corporate Director of Risk Management

Telephone Number: 866-367-4345 ext.5250 Fax No.: 423-855-3450

Name and Title of Person who prepared this report.

George Paturalski, Corporate Director of Risk Management

Signed:

I. Identify the Vehicle Models Involved in the Recall

2. Identify the Vehicles Involved in the Recall, *for each make and model or applicable vehicle line (provide illustrations or photographs as necessary to describe the vehicle), provide:*

Make(s): Heil

Model Years Involved: 2004 thru 2010

Model(s): DuraPack

Production Dates: Beginning: 01-16-04

Ending: 10-11-10

VIN Range: Beginning: 7D/7E/7S1264 **Ending:** 7D/7E/7S3725

Vehicle Type: Refuse **Bodystyle:** Automated Side Loader

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:

All DuraPack Automated Side Loaders with Python lifts utilizing a Programmable Logic Controller ("PLC") to activate grabber close and lift raise functions. The key identifier is the Python Lift assembly, which is easy to identify.

Make(s): Heil **Model Years Involved:** 2004 thru 2010 **Model(s):** MultiPack

Production Dates: Beginning: 07-27-04 **Ending:** 08-10-10

VIN Range: Beginning: MPF9101001 **Ending:** MPF9101089

Vehicle Type: Refuse **Bodystyle:** Automated Side Loader/Rear Loader

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:

All MultiPack Automated Side Loaders with Python lifts utilizing a Programmable Logic Controller (PLC) to activate grabber close and lift raise functions. The key identifier is the Python Lift assembly, which is easy to identify.

Make(s): **Model Years Involved:** **Model(s):**

Production Dates: Beginning: **Ending:**

VIN Range: Beginning: _____ **Ending:** _____

Vehicle Type: **Bodystyle:**

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:

Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided above, that the recalled model population represents. For example, if the recall involved Widgets equipped with certain items of equipment from January 1, 1996 through April 1, 1997, then what was the percentage of the recalled Widgets of all Widgets manufactured during that time period.

100%

II. Identify the Recall Population

3. Furnish the total number of vehicles recalled potentially containing the defect or noncompliance.

Model	Model Year Potentially Involved	Number of Vehicles Potentially Involved
DuraPack Python	2004 thru 2010	2,137
MultiPack	2004 thru 2010	64

Number of Vehicles 2,201

Model Year Potentially Involved

2004 thru 2010

Total Number Potentially Affected by the Recall:

2,201

4. Furnish the approximate percentage of the total number of vehicles estimated to actually contain the defect or noncompliance:

100%

Identify and describe how the recall population was determined--in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled vehicles:

The recall population is determined to be all DuraPack and MultiPack side loading equipment manufactured with a Python and having grabber close and lift raise functions controlled through a PLC beginning with the first production units and ending with the date of production prior to the day the fix was implemented into the manufacturing process.

III. Describe the Defect or Noncompliance

5. Describe the defect or noncompliance. The description should address the nature and physical location of the defect or noncompliance. Illustrations should be provided as appropriate.

If the unit is subject to very high usage and corresponding high duty cycles, carbon can build up on the contacts of internal PLC output relays which control the grabber close and lift raise functions. In rare cases, it is possible for the carbon build-up to reach a point where the circuit can be completed unintentionally.

Describe the cause(s) of the defect or noncompliance condition.

Voltage arcing across PLC output relay contacts is a result of the back-feed of energy from electric solenoids wired directly into the affected output relay(s) of the PLC.

Describe the consequence(s) of the defect or noncompliance condition.

It is possible for [only] the grabber close or lift raise functions to operate inadvertently. *Note that the lift arm extension function is hydraulically actuated and is not subject to inadvertent activation.*

Identify any warning which can (a) precede or (b) occur.

Since the internal PLC relays are not user-serviceable or able to be inspected, there is not an early warning sign that has been identified.

If the defect or noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.

Southern Controls
3511 Wetumpka Hwy
Montgomery, AL 36110

Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:

Joe Davis, Owner

IV. Provide the Chronology in Determining the Defect/Noncompliance

If the recall is for a defect, complete item 6, otherwise item 7.

It is not believed that this recall is related to a defect, but rather it is due to an unanticipated design limitation. The build-up of carbon on the relay contact points to the point of possible "bridging" is a condition that was determined to result from high usage and not from a manufacturing defect.

Current production has been changed to include suppression to the circuit, thereby removing the potential of this "bridging" issue.

6. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.

7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.

Heil received no documented communication regarding this issue. The problem came to light during the course of an investigation related to a traffic accident where an operator hit a car with a Python arm. As

we interviewed the truck driver, he indicated that he had encountered inadvertent raising of the lift on a few occasions in the past – unrelated to the traffic accident. Based on the driver’s story, we also then interviewed 2 other drivers who had operated that specific truck. One of those drivers corroborated the story of having experienced sporadic inadvertent actuation, but claimed it was gripper closing instead of lift raising.

Heil became concerned as a result of these interviews and replaced the PLC unit. We took the PLC that was removed back to our factory and contacted the PLC supplier. The PLC was disassembled in the presence of a manufacturer’s representative and the potential for carbon bridging and grip closing and/or lift raising was identified. Heil then worked with our wiring harness supplier to develop a kit to prevent any such inadvertent control inputs.

These findings and subsequent remedy lead to the publication of Heil’s Service Bulletin #227.

V. Identify the Remedy

8. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.

A kit has been designed for field units to verify the operator has requested the grabber close or lift raise functions before power is distributed to either circuit for activation of the functions.

Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.

The kit designed for field units requires the operator to request the grab close or lift raise functions via a joystick controller and an output signal for each function be provided from the PLC before power is distributed to the solenoids for the grabber close or lift raise functions. This prevents the possibility of inadvertent operation of the grabber close or lift raise functions resulting from the unwanted distribution of power to these functions through associated PLC output relays.

Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.

Suppression has been added to the circuits for current production units to prevent arcing as a result of the back-feed of voltage across the relay contact set for the grabber close and lift raise functions.

VI. Identify the Recall Schedule

Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please, identify any foreseeable problems with implementing the recall.

Heil will distribute Dealer notification letters within 2 weeks of NHTSA approving the format of the notification letter. These letters will be issued via email and overnight delivery service with receipt documentation.

Heil has already notified the corporate headquarters of its National Account customers with respect to this Safety Recall. Individual line companies that have trucks in their collection fleets will be notified directly via Certified Mail with return receipt requested. This will begin immediately upon NHTSA approving the format of the end user/owner notification letter and will be completed within 3 weeks of said approval.

VII. Furnish Recall Communications

9. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and which are sent to more than one manufacturer, distributor, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the defect or noncompliance condition on, not just the initial notification. *A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) for review prior to mailing.*

Heil's Dealer Notification Letter and Owner Notification Letter are attached for your review. Upon receipt of NHTSA approval of these letters, Heil will proceed as outlined in Section V.8 above.

Note that these documents are to be submitted separately from those provided in accordance with Part 573.8 requirements.

1. ¹Each manufacturer must furnish a report, to the Associate Administrator for Safety Assurance, for each defect or noncompliance condition which relates to motor vehicle safety.

This guide was developed from 49 CFR Part 573, "Defect and Noncompliance Reports" and also outlines information currently requested. Any questions, please consult the complete Part 573 or contact Mr. Jon White at (202) 366-5227 or by FAX at (202) 366-7882.

The Privacy Act of 1974 - Public Law 93-579, As Amended: *This information is requested pursuant to the authority vested in the National Highway Traffic Safety Act and subsequent amendments. You are under no obligation to respond to this questionnaire. Your response maybe used to assist the NHTSA in determining whether a manufacturer should take appropriate action to correct a safety defect. If the NHTSA proceeds with administration enforcement or litigation against a manufacturer, your response, or statistical summary thereof, may be used in support of the agency's action.*