



RECEIVED  
78-215  
2005 APR 27 A 9:00  
OFFICE OF  
DEFECTS INVESTIGATION

Timothy A. Blubaugh  
Director  
Government Technical Affairs

Freightliner LLC  
4747 N. Channel Avenue  
Portland, OR 97217-7699  
503.745.5219 Telephone  
503.745.6800 Facsimile  
TimothyBlubaugh@Freightliner.com

April 20, 2005

Kenneth N. Weinstein  
Associate Administrator for Safety Assurance (NSA-01)  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

**Re: Defect Information Report FL-447, Cummins ISB Lift Pump**

Mr. Weinstein:

In accordance with Part 573 of Title 49 of the Code of Federal Regulations, Freightliner LLC herewith reports a safety campaign to recall approximately 16,000 Freightliner, Freightliner Custom Chassis, and Thomas Built Bus vehicles manufactured December 1997 to January 2003 with certain Cummins ISB engines with a defect in the fuel lift pump.

Attached are Freightliner's Defect Information Report and the Part 573 Defect Report from Cummins.

Please contact me if you have any questions.

Sincerely yours,

Timothy Blubaugh

Cc: Michael Mason, CAL-OSHA  
DOSH, Legal Unit  
10th Floor  
455 Golden Gate Avenue  
San Francisco, CA 94102

Enclosure

**Certified Mail Article Number:**

7003 2260 0001 3403 5749



A DaimlerChrysler Company

## Defect Information Report (Section 573.6)

April 20, 2005

**(c)(1) Manufacturer:** Freightliner LLC  
P.O. BOX 3849  
Portland, Oregon 97208  
(503) 745-5219

**Brands:** Freightliner, Freightliner Custom Chassis, Thomas Built Bus

**(c)(2) Vehicles identification:**

**Model(s) affected:** Freightliner: Business Class, and Cargo  
FCCC: FS-65 School Bus Chassis,  
MB-45 Shuttle Bus Chassis,  
MB-55 Shuttle Bus Chassis,  
XB Shuttle Bus Chassis,

Thomas Built Bus: MVP-ER and MVP-EF School bus and non-school bus models

**Manufacture Dates:** December 1997 to January 2003

**Basis for determining population:** Engine serial numbers were provided by Cummins for vehicles with school bus, emergency, and transit bus applications. Freightliner matched the engines to VINs using Freightliner production records.

**Component manufacturer if other than the vehicle manufacturer:**

Cummins Inc.  
Box 3005  
Columbus, Indiana 47202-3005  
Phone: 812/377-3713

**(c)(3) Total number of vehicles potentially affected:** approximately 16,000

**(c)(4) Percentage of vehicles estimated to contain the defect:** See attached Defect Information Report from Cummins

**(c)(5) Description of the defect:** See attached Defect Information Report from Cummins

**(c)(6) Chronology of principal events:** See attached Defect Information Report from Cummins

**(c)(7) Noncompliance-test or other data:** not applicable

**(c)(8) Remedial program:** Customers will be notified by Cummins. See defect report from Cummins. Cummins has provided a list of subject engine serial numbers. Freightliner production records will be used to identify the vehicles.

**Estimated Owner Notification Date:** Customers will be notified by Cummins. See defect report from Cummins.

**Reimbursement Plan:** Customers will be notified by Cummins.

**(c) (9) Communications sent to dealers and owners:** Customers will be notified by Cummins. See defect report from Cummins.

**(c) (10) Copy of proposed owner notification letter:** Customers will be notified by Cummins. See defect report from Cummins.

**(c) (11) Manufacturer's campaign number:** FL-447



**Cummins Inc.**

Box 3005  
Columbus, Indiana 47202-3005  
U.S.A.

RECEIVED  
2005 FEB -7 P 4: 53  
DEFECT INVESTIGATION  
OSE-007 (495)

Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

Dear Sir or Madam:

The following information is submitted in accordance with the National Highway Traffic Safety Administration's reporting regulations, 49 CFR Part 573.6.

Cummins Inc. (Cummins, or, the Company) has decided that there is a potential safety-related defect with respect to a fuel system component on Cummins ISB diesel engines manufactured by Cummins and (a) installed as original equipment on those motor vehicles identified below; and (b) sold as replacement parts and engines for the above equipment marketed exclusively to the motor vehicle manufacturers for the specific motor vehicle application in this recall action.

**1. Product identification and customer channels.**

This campaign involves the entire production of the Cummins ISB diesel engine for the total population of covered vehicles, as follows:

Model	Year	Total Units
ISB (School Bus Applications)	1998-2002	41,051
ISB (Emergency Vehicle Applications)	1998-2002	245
ISB (Transit Bus Applications)	1998-2002	2,076
Total Recall Population		43,372

A listing of vehicle manufacturers, with a breakdown of units purchased by model years, will be supplied within the next several days.

All ISB engines in each of the respective original and replacement equipment populations are covered by this recall. There have been no "aftermarket" ISB engines and associated fuel systems sold for intended use with any school buses, emergency vehicles, or transit buses that are not included in the above referenced Total Recall Population. This product was discontinued from production in automotive applications October 1, 2002.

- 2. Generic name of the item:** Fuel Lift Pump  
**Engine Make:** Cummins  
**Model:** ISB  
**Part Number:** 3990105 and 3990106  
**Function:** Transfer diesel fuel from the fuel tank to the fuel injection pump.

**Other information which characterizes/distinguishes the items of equipment to be recalled:**  
 Part number 3990105 is for use on a 12 volt system and part number 3990106 is for use on a 24 volt system (both parts will not be used on the same engine). The table below describes the part number history for the 12 volt and 24 volt lift pumps.

Part suppression trail (newest to oldest)	
12 volt	24 volt
3990105	3990106
3938367	3938368
3946151	3948070
3948431	3949432
3945812	3945813
3944508	3942802
3944818	
3943467	

**3. Component supplier:**

The subject fuel lift pump was supplied to Cummins by:

Federal-Mogul Corporation  
 2655 Northwestern Highway  
 Southfield, Michigan 48034

Contact: Lance Lia  
 Associate General Counsel  
 FederalMogul Corporation

**4. Estimated extent of defect population.**

Cummins estimates that approximately 1% of the total population of engines could result in an engine stall condition. Cummins will pursue a 100% recall on all subject school bus, transit bus and emergency vehicle applications.

Cummins notes that the Company has voluntarily decided to conduct this recall, despite the low failure rate of the subject vehicles. This is attributable to their unique, safety-sensitive applications, especially school buses, which comprise most of the population to be campaigned. This special concern does not apply to other types of vehicles, given a similarly low failure rate and related considerations.

**5. Description of defect.**

The subject fuel lift pump is mounted to the side of the engine. Its purpose is to draw fuel from the vehicle's fuel tank and supply the engine fuel injection system. The fuel lift pump could fail in a manner which results in engine fuel starvation, which could result in a stall condition. Below is a picture of the Federal-Mogul fuel lift pump.



Potential lift pump failure modes include: brush wear out, bushing failure, rotor tab insert failure, or any other failure mode that would cause the fuel pumping element to stop spinning. If the fuel lift pump pumping element stops spinning and the fuel pumping vanes stop in a location which blocks fuel flow through the lift pump, the engine will be starved of fuel. Fuel starvation could cause low engine power, engine misfire, or engine stall.

Prior to the engine stalling, the operator could experience low engine power, engine misfire, and/or dash-mounted fault lamp illumination.

#### **6. Chronology of events.**

PE04-034 was transmitted by NHTSA to Cummins on April 12, 2004, requesting warranty and related data. For the period of May-2004 to July-2004, Cummins was reviewing, compiling, and submitting responsive information to NHTSA's request. For the period of August-2004 to January-2005, Cummins engaged in an extensive review of the fuel system performance, as well as the nature and extent of incidents of fuel starvation in the ISB engine. During the review time period, vehicle testing was conducted to validate the assumptions drawn from the data. On January 31, 2005, after completing its review, and after consultation with counsel, Cummins management determined to conduct a voluntary recall of all subject school bus, transit bus, and emergency vehicles.

To date, Cummins is not aware of any incidents (injuries, fatalities, or accidents) which were a result of a lift pump failure. Based on the warranty claim data for the subject population, it is estimated that approximately 1% of the engines could experience a stall due to fuel starvation.

#### **7. Remedy program.**

The remedy, without charge to owners, will include the replacement of the fuel lift pump with an internal bypass and the installation of a low fuel pressure warning system. The fuel lift pump by-pass valve will allow fuel to flow around the pumping element in the event of a failure since the main fuel injection pump has the ability to draw the fuel from the fuel tank. The low fuel pressure warning system will notify the operator that a malfunction exists in the fuel low pressure system by a dashboard warning light.

#### **8. Part 577 notice letter.**

The customer notice letter is in the process of being prepared and will be submitted in draft to the agency as soon as possible.

**9. Conduct of recall campaign.**

Subject to concurrence of its OEM customers, Cummins will be conducting the respective recalls with the customers of each OEM. The recall will include both original and replacement lift pumps installed in the above Total Recall Population of vehicles.


**10. Customer/owner notifications.**

Notifications are expected to begin in June, 2005, once (a) Cummins is in receipt of the OEM recall authorizations and customer lists and (b) the design validation and parts procurement process have been completed. Cummins assures NHTSA that it will make a good faith effort to shorten the period within which the remedy component will be available to Cummins by its supplier.

\* \* \*

Please advise the undersigned of the respective OEM numbers assigned by the Office of Defects Investigation to this recall. Cummins campaign code for this aggregated recall will be C0504.

Sincerely yours,



Steven R. Butler  
Engine Certification Director  
(tel. no. 812/377-3713;  
fax no. 812/377-8739)