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

1200 New Jersey Avenue SE.
Washington, DC 20590

NOV 19 2009

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Roger Lackore
Director of Research and Development
Pierce Manufacturing, Inc.
2600 American Drive
Appleton, Wisconsin 54912

NVS-215/jtt
09V-389

Dear Mr. Lackore:

On July 21, 2009, Cummins, Inc. (Cummins) notified NHTSA of its decision that certain of its model CM2150, ISC CM2150, ISL CM2150, ISM CM876, AND ISX CM871 diesel engines that some vehicle manufacturers installed as original equipment in various emergency vehicles, contain a safety defect. Due to a defect in the electronic control module (ECM) software, the diesel particulate filter's switch designed to inhibit aftertreatment regeneration may not function correctly, such that hot exhaust gases could emit from the vehicles' tailpipes and cause a fire, burn or melt items nearby, or burn bystanders in proximity to the tailpipe. Cummins indicated it would be notifying all the involved vehicles manufacturers, one of which was Pierce Manufacturing, Inc. (Pierce). Cummins thereafter filed correspondence indicating Pierce was notified of the safety defect on August 7, 2009. A copy of the relevant filings are enclosed.

We received Pierce's defect information report notifying us that its vehicles contain a safety defect due to this engine defect on November 2, 2009. This means that Pierce waited almost 90 days before it notified NHTSA of this risk of fire and burning of bystanders from its vehicles and included its vehicles in the recall campaign. This is not acceptable. It is a clear violation of Pierce's obligation to make a defect decision within a reasonable amount of time as to its vehicles, and communicating that fact to NHTSA within five business days, after having been notified by a supplier of the dangers and risks associated with this safety defect. See 49 U.S.C. §§ 30118(b) and 30119(c); 49 CFR 573.6(b). The fact that Cummins has indicated its interest in conducting the notification and free remedy aspects does not excuse the company from making a defect decision and filing a report in a timely manner. As you know, Cummins, as an equipment manufacturer, at the very least must rely on Pierce to obtain current state

motor vehicle registration information so it can notify current owners. Delays in making a defect decision and helping to facilitate a safety recall campaign, therefore, have a serious adverse impact on the successful and efficient completion of the campaign and removal of defective vehicles from roadways.

We are sharing our concerns with you so that Pierce is aware of them and has the opportunity to improve the company's recalls administration and compliance program. Please advise me of steps taken to ensure that delays do not occur again.

Very truly yours,

George Person, Chief
Recall Management Divison

09E-046
(4 pages)

July 20, 2009

Daniel C. Smith, Esq.
Associate Administrator for Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Ave., S.E.
Washington, DC 20590

Dear Mr. Smith:

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) has decided that a safety-related defect exists with respect to the Electronic Control Module (ECM) software used in certain Cummins engine models when installed in emergency vehicle applications. The affected models are ISB CM2150, ISC CM2150, ISL CM2150, ISM CM876 and ISX CM871 diesel engines manufactured by Cummins during the build dates set forth below. We have also determined that a number of engines built prior to the date ranges below have received this defective calibration as a result of a service procedure made during the periods below (when the new calibration software was made available to the field). Therefore, Cummins will recall these engines as well.

The defect only involves emergency vehicle applications. Accordingly, this recall does not involve other vehicles equipped with these engines.

1. Product identification and customer channels.

This defect involves Cummins diesel engines produced during the build periods in Table 1 and installed in emergency vehicle applications (*see* Table 1 for volumes), as well as previously-built engines that were recalibrated with the defective software (*see* Table 2 for volumes).

Engine Type	Number of Engines	Build Period
ISB CM2150	9	March 12 – June 30, 2009
ISC/ISL CM2150	581	March 12 – June 30, 2009

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500 Jackson Street
Columbus, IN 47201 USA
Phone: 1 812 377 5000
cummins.com

ISM CM876	40	March 9 – June 22, 2009
ISX CM871	4	March 9 – June 22, 2009

Table 1: Engine Models, Volumes and Build Periods

Engine Type	**Number of Engines**
ISB CM2150	1
ISC/ISL CM2150	256
ISM CM876	20
ISX CM871	1

Table 2: Engine Models and Volumes Recalibrated During the Relevant Period

A complete listing of the subject populations by vehicle manufacturer will be provided to the agency in the near future.

2. **Identification of the item**: ECM Software
Engine Make: Cummins
Model: ISB CM2150, ISC CM2150, ISLCM2150, ISM CM876, ISX CM871
Part Number: Multiple Calibrations
Function: Controls Aftertreatment Regeneration Operation

3. Estimated extent of defect population.

All of the engines identified above contain the defective ECM software. Accordingly, Cummins will pursue a 100% recall on all engines within the population listed above.

4. Description of defect.

The emergency vehicle applications that are the subject of this recall are designed with a dash-mounted switch that enables the vehicle operator to inhibit the aftertreatment diesel particulate filter regeneration in environments where the operator believes it may be unsafe for elevated exhaust temperatures. Due to an issue with the logic in the ECM software in these engines, the

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500 Jackson Street
Columbus IN 47201 USA
Phone 1 812 377 5000
Cummins.com

switch on these vehicles may not function correctly, leading the operator to believe that the switch is in "inhibit" mode when, in fact, it is not. As a consequence, the operator may unknowingly permit hot exhaust gases to exit the vehicle tailpipe, increasing the risk of melting or burning of nearby surfaces, or a fire.

The software algorithms are such that this condition is not present in vehicles that use multiplex switches to inhibit regeneration.

5. Chronology of events.

In March, 2009, software Phase 8.1.0.54 and 6.4.0.15 were released to production. These software revisions included a change to the Aftertreatment Diesel Particulate Filter Regeneration Permit/Inhibit software algorithm.

In June, 2009, a potential flaw in the ECM software was discovered by a Cummins field service engineer during field test development activity. Cummins investigated this issue further and conducted bench testing. Based upon this investigation, Cummins concluded that the software contained an algorithm flaw as described above.

Production engines were corrected on June 22, 2009 for Heavy Duty engine models and on June 30, 2009 for Midrange engine models, as Cummins continued to evaluate the safety consequences of this issue.

On July 13, 2009, Cummins management made a safety-defect determination.

To date, Cummins is not aware of any injuries, fatalities, accidents/crashes or fires that were the result of this defect.

6. Remedy program.

Cummins will perform a voluntary recall campaign to install new ECM software on the engine production range noted above. Cummins will also contact owners of previously-manufactured engines who have had the defective software installed through recalibration. The new ECM software will recognize dash switch input to inhibit aftertreatment regenerations. The campaign will be completed without charge to engine owners.

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500 Jackson Street
Columbus, IN 47201 USA
Phone 1 812 377 5000
cummins.com

7. Part 577 notice letter.

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

8. Conduct of recall campaign.

Subject to concurrence of its OEM customers, Cummins will be conducting the respective recalls with the customers of each OEM.

9. Customer/owner notifications.

Notifications are expected to begin by August 1, 2009, once Cummins is in receipt of the OEM recall authorizations and customer lists.

* * *

Please advise the undersigned of the recall campaign number assigned by the Office of Defects Investigation to this recall. Cummins campaign codes for these recalls will be:

Engine Family	Cummins Campaign Number
ISB CM2150	C0940
ISC/ISL CM2150	C0941
ISM CM876	C0939
ISX CM871	C0939

Sincerely yours,

Steven R. Butler
Director – Product Safety

Phone: 812-377-3713
Fax: 812-377-3265
Email: steven.r.butler@cummins.com

Cummins Inc
500 Jackson Street
Columbus, IN 47201 USA
Phone: 1 812 377 5000
cummins.com

October 6, 2009

Mr. George Person, Chief
Recall Management Division
Office of Defects Investigation
U.S. Department of Transportation
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Subject: Revised Addendum to Cummins Inc. Safety Defect Report dated July 20, 2009
Concerning ECM Software for Aftertreatment Regeneration
NHTSA Campaign Number 09E-046

Dear Mr. Person,

Cummins has revised the list of Vehicle Manufacturers and their associated volumes that was supplied to you in our original Addendum dated July 24, 2009 (see attached). The number of units covered by this recall has changed due in part to the fact that several OEMs purchased engines that (1) did not require the installation of a Diesel Particulate Filter, and thus did not have a regeneration switch installed, or (2) did not offer the dash-mounted inhibit switch to their customers, and therefore are not affected by this condition. The revised Addendum also includes the contact name and dates on which Cummins notified affected OEM customers.

We have also enclosed representative copies of (1) the final Part 577 Customer Letter and (2) service bulletins sent to distributors/service locations in connection with this campaign.

If you have further questions, please do not hesitate to contact me.

Sincerely,

Steve Butler
Director – Product Safety

Phone: 812-377-3713
Fax: 812-377-3265
Email: steven.r.butler@cummins.com

Cummins Inc.
500 Jackson Street
Columbus, IN 47201 USA
Phone: 1-812-377-5000
FAX: 1-812-377-3333

Attachment 1

Cummins Inc. ECM Software Recall (09E-046)

Vehicle Manufacturers and Volumes by Engine Model

OEM NAME	ISB Production	ISB Recal	ISC/ISL Production	ISC/ISL Recal	ISM Production	ISM Recal	ISX Production	ISX Recal	Communicated to OEM
Daimler Truck NA	9	7	89	60					Dave Stanley 7/23/09
Emergency One			32	54		0			Bill McCombs 8/19/09
Ferrara			6	7					Charlie Grimes 9/3/09
FWD/Seagrave Fire Apparatus			2	1	13	1			Bob Billings 8/7/09
HME, Inc.			31	7					Greg Brock 8/7/09
Kenworth			4	5	2		4		Shawn Miller 8/10/09
International Truck and Engine Corp.					17	4			Rick VanLaar 8/21/09
KME			23	7		0			Tony Cornetto/Jack Terefinko 7/29/09
PACCAR of Canada			97	70					Shawn Miller 8/10/09
Peterbilt Motors								1	Shawn Miller 8/10/09
Pierce Manufacturing			141	8	8	0			Roger Lacore 8/7/09
Spartan Motors			113	4		0			Troy Bechtel 9/11/09
Sutphen			26	3		0			Allen Shaw 8/7/09
Total	9	7	564	226	40	5	4	1	

Updated 10-2-2009