



**SUBARU**

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February 5, 2009  
Ref. No.: GR09-004

Mr. Thomas Cooper  
Chief, Vehicle Integrity Division,  
Office of Defects Investigation  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue SE, Room W48-314  
Washington, DC 20590

**Re: NVS-212cag/PE08-64 Subaru Baja Turbo (Second Submission)**

Dear Mr. Cooper,

This letter responds to Requests 8 and 15 of the Agency's Preliminary Evaluation (PE08-064) of allegations of fuel pump leakage on 2004-2006 Subaru Baja Turbo vehicles.

As requested in your letter, our response is provided after repeating, verbatim, the applicable request which is in bold text.

**8. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, Subaru. For each such action, provide the following information:**

- a. Action title or identifier;**
- b. The actual or planned start date;**
- c. The actual or expected end date;**
- d. Brief summary of the subject and objective of the action;**
- e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and**
- f. A brief summary of the findings and/or conclusions resulting from the action.**

**For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.**

See Table 1 and Attachment A (43 pages)

**15. Furnish Subaru's assessment of the alleged defect in the subject vehicle, including:**

- a. The causal or contributory factor(s);**
  - b. The failure mechanism(s);**
  - c. The failure mode(s);**
  - d. The risk to motor vehicle safety that it poses;**
  - e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning; and**
  - f. The reports included with this inquiry.**
- a. Nipples used for late production Baja vehicles were stored for a long period of time. Subaru suspects that while in storage, the nipples absorbed moisture and this degraded the rigidity of the nipple. Additionally, various conditions during vehicle usage could have an influence.
- b. Due to the contributing factors mentioned in "a." above, it is suspected that degradation of nipple material strength led to cracking of the nipple from operational vibration and fatigue.
- c. Fatigue cracking from the outer to interior nipple surface eventually can result in a fuel leak.
- d. The worst scenario is that the nipple breaks and fuel delivery to the engine stops, causing the engine to stall. Given the location of the nipple/pump assembly in the rear of the vehicle, there is no reasonable likelihood of ignition of the fuel and a fire. Since the problem is an unlikely occurrence and noticeable at an early stage due to the fuel odor if it does occur, there is no risk to vehicle safety.
- e. In the small number of cases analyzed, it appears that it would take about the same amount of time (over 2-3 years and 50,000 miles) to go from a normal state to a nipple crack as from a nipple crack to a nipple breakage. As in the customer reports, the driver and/or passenger(s) noticed a fuel odor while getting in and out of the vehicle and/or driving with the windows open. Since the nipple crack is progressive and takes a long time to crack, the problem is considered noticeable long before a risk of engine stalling or fire.
- f. Please see reports included in response to 8.

If there are any questions, please contact me at (856)488-3115.

Sincerely,



Maurice Arcangeli  
Government Relations  
Fuji Heavy Industries USA, Inc.

Cc: Jerry Plante

Enclosures



**Confidential**

**ZK3-09-0009**

**CBI –Information Deleted (2 pages)**

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**Broken Section Analysis Report**

**CBI –Information Deleted (4 pages)**

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**PD1-08F-099**

**CBI –Information Deleted (32 pages)**

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**ZK3-09-0010**

**CBI –Information Deleted (3 pages)**

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**PD1-09F-012**

**CBI –Information Deleted (2 pages)**