



**SUBARU.**

**Fuji Heavy Industries U.S.A., Inc.**  
c/o Subaru of America  
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09V-277  
(4 Pages)

July 16, 2009  
Ref. No.: GR09-041

Mr. Daniel C. Smith  
Associate Administrator for Enforcement, NVS-200  
National Highway Traffic Safety Administration  
W45-306  
1200 New Jersey Ave. SE  
Washington, DC 20590

**RE: Part 573 Defect Information Report – 2005-2006 Subaru Baja Fuel Pump Nipple Crack**

Dear Mr. Smith,

In accordance with 49 CFR Part 573 Defect and Noncompliance Reports, Fuji Heavy Industries USA, Inc. on behalf of Subaru of America, Inc. and Fuji Heavy Industries, Ltd., submits the enclosed notification and report concerning a fuel pump nipple crack on 2005 and 2006 model year Subaru Baja vehicles produced and sold in the United States. Our internal designation for this recall campaign will be: WVJ-20.

If you have any questions on the enclosed report, please contact me.

Sincerely,

Fuji Heavy Industries USA, Inc.

Gerald Plante, Director  
Government Relations

Enclosure

cc: Fuji Heavy Industries, Ltd. (Japan)  
Subaru of America, Inc. (Cherry Hill, NJ)

**Defect Information Report  
49 CFR Part 573.6**

**573.6(c)(1) – Manufacturer’s Name**

Vehicle Fabricating Manufacturer:

Subaru of Indiana Automotive, Inc. ["SIA"]  
5500 State Road 38 East  
Lafayette, Indiana 47903

Designated U.S. Agency:

Fuji Heavy Industries USA, Inc.  
Subaru Plaza, PO Box 6000  
2235 Rt. 70W  
Cherry Hill, NJ 08034-6000

**573.6(c)(2)(i) – Identification of Vehicles Containing the Defect**

Based on vehicle production records, we have determined from production dates that the recall affected passenger car population is as follows:

Make:	Subaru
Model Year(s):	2005 - 2006
Model(s):	Baja Turbo & Non-Turbo Vehicles
Production Dates:	March 16, 2004 through April 18, 2006
VIN Ranges:	2005 Baja: 4S4BT6*C*5*100002 - 4S4BT6*C*5*108382 2006 Baja: 4S4BT6*C*6*100001 - 4S4BT6*C*6*107749

Note 1: Although the involved vehicles are within the above VIN ranges, not all vehicles in these ranges were sold in the U.S.

Note 2: Various characters occupy the VIN positions identified by "\*\*".

**573.6(c)(3) – Total Number of Vehicles Potentially Containing the Defect**

<u>Model</u>	<u>Year</u>	<u>Number of Vehicles Potentially Involved</u>
Baja	2005	8,218
Baja	2006	<u>7,415</u>
		15,633

**573.6(c)(4) – Percentage of Vehicles Estimated to Actually Contain the Defect**

While it is not possible to determine how many of the affected vehicle population have fuel delivery lines that put stress on the fuel pump nipple, Subaru will be replacing 100% of the nipples with a stronger design.

### 573.6(c)(5) – Description of the Defect

(1) Problem initially reported because of fuel smell due to crack in fuel pump nipple. No fires, crashes, injuries or deaths have been reported.

(2) Investigation result

1) Random collection parts (fuel pumps and fuel delivery tubes)

- (a) 45 fuel pumps were randomly collected from '00 through '06MY Baja and Legacy vehicles to evaluate crack occurrence condition at the delivery nipple. As a result of the investigations, a crack was confirmed on fuel pump nipples of '05 & '06MY Baja vehicles only and no crack was observed on '04MY vehicles and before. Out of 16 fuel pumps of '05 & '06MY vehicles collected, a crack was confirmed on 11 vehicles.
- (b) 42 fuel delivery tubes were randomly collected to check the dimensions. As a result of the investigations, improper dimensions were observed in every tube regardless of production terms.
- (c) Creep life (\*please note below.) of the nipples was investigated using collected fuel pumps. As a result, the creep life of the nipples was greatly degraded on certain '05 & '06MY fuel pumps compared to that on '04MY vehicles and before.
- (d) As a result of investigations of '06MY fuel pump nipples, many of voids and fine cracks were observed near the crack starting point.

\*Note: Plastic will deform gradually as it is loaded for a long period of time. The deformation is described as "creep" and the time until plastic is cracked or broken by creep is described as "creep life".

2) Investigation result of manufacturing breakpoint

The die of nipple injection mold was modified in August 2003 as a breakpoint in manufacturing process and the nipple external diameter was changed since then. Many of voids and fine cracks occurred near the crack starting point because the condition of nipple injection mold was not adjusted appropriately at the time of die modification.

3) Cause of crack occurrence in the market

Creep strength of fuel pump delivery nipples on certain '05 and '06MY Baja vehicles may have been degraded compared to '04MY and before. Since the delivery line tubes were produced with improper length and shape, this led to premature cracking of certain nipples due to a combination of factors.

### 573.6(c)(6) – Chronology of Principal Events

November 24, 2008: FHI received a PE questionnaire (PE08-064) from ODI dated November 14, 2008.

January 15, 2009: Subaru submitted a partial response to ODI's information requests 1 through 7 and 9 through 14.

February 5, 2009: Subaru submitted a response of ODI's requests 8 (investigation result) and 15 (Subaru's assessment) with a summary below.

-It is estimated that fatigue cracks developed from the periphery of pipe, which penetrated through to the inside.

-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.

May 6, 2009: FUSA had a verbal contact from ODI on May 1, 2009 with a summary below. The information was transferred to FHI after the Spring Holiday Season was over on May 6, 2009.  
-This situation is not unique and there were other recalls that were similar to our issue.  
-Subaru has a similar situation with a pressurized fuel line and there is a need for some field action.

May 20, 2009: Subaru (FHI and FUSA) had a meeting with ODI with a summarized conclusion below.

- ODI believes that this fuel leak problem is a safety defect.
- ODI will upgrade the PE to EA.
- ODI will allow Subaru to investigate further and to provide Subaru's final conclusion by July 31, 2009.

FHI proceeded with investigations and internal discussions, and reached a conclusion described below.

May 19, 2009: Collection of delivery tube on 24 vehicles was requested from FHI to SOA, from which the fuel pump had previously been collected.

May 21, 2009: FHI requested additional collections of fuel pump and delivery tube from other 20 Baja vehicles (i.e.; each 5 on '03 through '06MY vehicles).

June 30, 2009: FHI reported investigation result summary of 45 collected parts to ODI.

July 2, 2009: FHI had a section managers' meeting to summarize the investigation history.

July 9, 2009: FHI had a general managers' meeting to have agreed with reporting this problem to a recall committee.

July 14, 2009: FHI had a recall committee and reached a determination to conduct a safety recall for this condition in the U.S.A.

#### **573.6(c)(8) – Description of the Manufacturer's Remedy Program**

(i)

The remedy plan calls for dealers to replace the fuel pump bracket (BRKT PUMP) including all nipples with a modified one for which the strength has been increased.

Repairs will be done at no charge to the owner. Dealers will be reimbursed for the labor and parts by Subaru of America, Inc. upon submission of the usual recall claim. Subaru's reimbursement plan for reimbursing owners or purchasers who previously incurred costs is available at NHTSA for public inspection.

(ii)

Subaru will start preparing modified parts. It is expected that owner notification will begin within 60 days. Subaru will update NHTSA if the situation changes significantly.

#### **573.6(c)(10) – Submission of Recall Communications**

Fuji Heavy Industries USA, Inc. will provide copies of all notices, bulletins, and other recall related communications within 5 days after their distribution.

#### **573.6(c)(11) – Manufacturer's Campaign Number**

Our identification code for this recall campaign will be: WVJ-20

#### **577.5(a) – Submission of Owner Notification Letter**

A copy of the owner notification letter will be submitted at least 5 days prior to mailing.