

**PART 573 Defect Information Report**

August 21, 2012

1. Vehicle Manufacturer/Importer:

Fisker Automotive, Inc,  
5515 East La Palma Avenue  
Anaheim, CA 92807

Manufacturer of Affected Component:

Air International (US) Inc.  
1265 Harmon  
Auburn Hills, MI 48086

John Sinelli, Director North American Programs  
Telephone: 248-391-7970

2. Identification of Potentially Affected Vehicles

Model Year 2012 Fisker Karma vehicles manufactured from June 15, 2011 through July 9, 2012

3. Number of Vehicles Potentially Affected

1,377 vehicles that have left Fisker's control are potentially affected and will be recalled. 428 of these vehicles are in dealer inventory and 949 of these have been sold to end users.

4. Percentage of Vehicles Estimated to Actually Contain the Defect

Unknown, but Fisker will replace potentially affected components on all vehicles.

5. Description of Defect

A manufacturing defect in the low temperature cooling fan may result in the potential for the internal 3-phase wires to contact the motor housing metal case. This could potentially result in a direct resistive short which could cause a transistor to act as a heat generator. The heat generator affect can cause melting of the circuit board and wires within the fan motor housing. The melting of wire insulation can then lead to a direct short which may ignite the fan housing and shroud and subsequently the surrounding components.

6. Chronology of Principal Events

- November 21, 2011: Notified of first inoperable low temperature cooling fan. Engineering investigation opened. Parts collection started.
- January 19, 2012: Conducted teardown analysis of failed parts collected.
- February 10, 2012: Initial root cause analysis completed. The internal 3-phase wire was found to be in a raised position which allowed contact with the motor housing metal case causing a short circuit. The short circuit caused the motor to be burnt and fail, but no fires were attributable to this failure mode.
- February 23, 2012: Inoperable mode replicated. Performed additional teardown analysis of 100 motor assemblies and found 2 suspect parts with raised wire condition that could lead to intermittent short condition observed in testing.
- February 28, 2012: Vibration test was created by supplier to further verify root cause. Supplier proposed manufacturing change to the motor wires to prevent occurrence of condition.
- March 01, 2012: Supplier built 100 parts with modified wire assembly process then tested and conducted teardown of each motor as confirmation of effectiveness.
- March 07, 2012: Investigations opened for changing circuit from a 50 amp to a 20 amp circuit utilizing a 20 amp fuse for future production.
- March 13, 2012: Analysis completed for fan assemblies from vibration testing. Confirmed wear to motor wires that contacted the case on non-modified motors. The modified motors prevented wire contact with the case and performed as expected.
- March 16, 2012: Modified fan assemblies shipped to Valmet plant to replace non-modified parts.
- April 9, 2012: Engineering specifications (TPAA) updated with fan assembly changes.
- May 03, 2012: Engineering specifications submitted for release to change 50-amp circuit to 20-amp circuit using an in-line fuse. The purpose of this change is for improved circuit protection. Target date for implementation of this change was scheduled for March 2013 production vehicles.
- May 22, 2012: Valmet plant started using modified fan motor assemblies.
- August 10, 2012: Notified of thermal event in Woodside, California.
- August 11, 2012: Vehicle captured and engineering investigations started to confirm root cause.
- August 17, 2012: Root cause of Woodside, California vehicle thermal event determined to be low temperature cooling fan motor. Based upon the root cause investigation, Fisker made a safety-defect determination with respect to the subject vehicles.

7. Description of Remedy

Fisker will remove two potentially affected low temperature cooling fans and replace them with one improved low temperature cooling fan. A resistive cap will also be installed. In addition, a 20-amp fuse will be added in-line for improved circuit protection.

8. Reimbursement Program

All of the subject vehicles are within the Fisker Limited New Vehicle Warranty period. Accordingly, pursuant to 49 C.F.R. 577.11(e), Fisker requests that it be exempt from the pre-notification remedy reimbursement requirements.

9. Dealer and Owner Notification

Dealer notification commenced on August 18, 2012. Representative copies of dealer communications will be provided to the agency within five business days after they are issued.

A draft Part 577 Owner Letter is attached for the agency's review. Fisker is prepared to commence owner notification the week of August 27, 2012 upon agency approval.

10. Fisker's campaign number for this recall is: "520120016"