



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# ODI RESUME

**Investigation:** PE 13-020  
**Date Opened:** 06/06/2013  
**Investigator:** Peter Ong  
**Approver:** Frank Borris  
**Subject:** Inadvertent Air Bag Deployment

**Date Closed:** 01/06/2014  
**Reviewer:** Scott Yon

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** Honda (American Honda Motor Co.)  
**Products:** MY 2003-04 Honda Odyssey and MY 2003 Acura MDX  
**Population:** 374,700

**Problem Description:** The driver and/or passenger frontal air bags can inadvertently deploy (without a crash) while the vehicle is in operation (either at startup or while driving on the road).

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	5	27	28**
<b>Crashes/Fires:</b>	0	0	0
<b>Injury Incidents:</b>	2	10	9**
<b>Number of Injuries:</b>	2	10	9**
<b>Fatality Incidents:</b>	0	0	0

\*\* Total eliminates duplicates received by ODI and manufacturer.

## ACTION / SUMMARY INFORMATION

**Action:** Closed this Preliminary Evaluation, see NHTSA Recall 13V-412.

### Summary:

The investigation was opened based on reports of frontal air bag inadvertent deployments (ABIDs) on model year (MY) 2003-2004 Honda Odyssey vehicles. In its response dated September 20, 2013, Honda indicated that the MY 2003 Acura MDX vehicles use a SRS Electronic Control Unit (ECU) which contains the same electrical component (an ASIC chip) as the Odyssey, and has a similar vehicle electrical system architecture. Through inspection and analysis of field returned vehicles and components, Honda determined that the SRS ECUs used in the Odyssey and MDX can degrade over time and result in the deployment of either the driver and/or the passenger frontal air bags. The deployment occurs without a crash or impact, and may occur while the vehicle is being operated on the roadway. Honda's analysis determined that, when actuated, the electric power door lock circuitry on both the Odyssey and MDX produces high levels of electrical noise. The electrical noise, which is transmitted to the SRS ECU via harnessing, may cause damage to the ASIC chip. Cumulative damage to the ASIC chip results in an inadvertent deployment event. A similar defect issue was investigated under Engineering Analysis (EA) 12-001, which led to recalls 12V-527 and 13V-040, and to recall 13V-029.

In total, ODI is aware of 25 frontal ABIDs on the Odyssey vehicle and another three ABIDs on the MDX vehicles (data as of August 01, 2013). Consistent with findings in EA12-001, the failure data indicated an increasing incident trend with several of the incidents occurring in recent years. The incidents resulted in 9 alleged injuries consisting of burns, cuts and bruises to the upper body region; there were no reports of control loss or vehicle crashes. Some owners noted an air bag warning light and/or chime activated just seconds prior to the air bag deployment while others stated that they did not observe either. ODI notes that Honda also reported ABIDs of non-frontal, side torso and curtain air bags in its submissions. These incidents, which were generally associated with door closures and underbody object strikes, are not related to (or caused by) the noise induced failure of the ASIC chip. Accordingly they were not considered relevant to the investigation.

In its September 18, 2013 letter to ODI, Honda announced it will recall 318.7k MY2003-2004 Honda Odyssey and an additional 56k MY2003 Acura MDX, totaling 374.7k vehicles. Under recall 13V-412, Honda will install an electrical noise suppressor unit (a filter) between the ECU and the vehicle electrical harness on each affected vehicle. The remedy filter blocks harmful electrical noise from entering the SRS ECU and is a similar approach as that used in other recall actions.

In its supplemental response of December 03, 2013, Honda reported that it also reviewed field data from other peer Honda vehicles, including the MY 2003 Honda Accord, MY 2003-2004 Honda FCX, and the MY 2004 Acura TSX, that use the same suspect ASIC chip. While Honda identified evidence of ABID on these (non-recalled) vehicles, the rate of incidence was lower and the failure trend, which was declining or random, differed from that seen on all other recalled vehicles, including those of other manufacturers. Honda documents identified differences in electrical system architecture and electrical noise emission levels between the non-recalled and recalled products. Honda's analysis concluded these differences would reduce failure occurrence for the suspect ASIC chip in the non-recalled products.

ODI's review of Honda's information, and the analysis it undertook, indicates that the 13V-412 recall action addresses the safety concerns currently presented. Accordingly, the investigation is closed.

The ODI reports cited for the recalled vehicles can be reviewed at <http://www-odi.nhtsa.dot.gov/owners/SearchNHTSAID> under the following identification (ODI) numbers: 10376403, 10458552, 10471555, 10474448, 10505430.