



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

# ODI RESUME

OFFICE OF DEFECTS INVESTIGATION



Authentic US Government Information  
 National Highway Traffic Safety Administration  
 uses a digital certificate to ensure  
 the content has remained unchanged

**Investigation:** PE 18-003  
**Date Opened:** 03/16/2018  
**Investigator:** Nathan Ong **Reviewer:** Paul Simmons  
**Approver:** Stephen Ridella  
**Subject:** Air bags may be disabled during crash

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** Kia Motors America, Hyundai Motor America  
**Products:** 2012-2013 Kia Forte and 2011 Hyundai Sonata  
**Population:** 425,000 (Estimated)  
**Problem Description:** Failure of the air bag control unit may prevent the frontal air bags from deploying in the event of a crash.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	2	TBD	TBD
<b>Crashes/Fires:</b>	6	TBD	TBD
<b>Injury Incidents:</b>	5	TBD	TBD
<b>Number of Injuries:</b>	6	TBD	TBD
<b>Fatality Incidents:</b>	4	TBD	TBD
<b>Number of Fatalities:</b>	4	TBD	TBD
<b>Other*:</b>	1	TBD	TBD

\*Description of Other: Early Warning Reporting (EWR) data as described below

## ACTION / SUMMARY INFORMATION

**Action:** Open Preliminary Evaluation (PE)

### Summary:

The Office of Defects Investigation (ODI) is currently aware of six crashes with significant collision related damage events involving Hyundai and Kia models where air bags failed to deploy in frontal crashes. Four such crashes involved model year (MY) 2011 Hyundai Sonatas and two others involved MY 2012 and MY 2013 Kia Fortes. The MY 2013 Forte crash occurred in Canada and the Forte was a Canadian market vehicle. ODI learned of two crashes via Vehicle Owner Questionnaires (VOQ) filed in 2015 and 2016, and all six crashes were reported via Early Warning Reporting submitted between 2012 and 2017. In total, the crashes resulted in four fatalities and six injuries.

On February 27, 2018, Hyundai filed a defect information report leading to NHTSA Recall No. 18V-137. Hyundai indicates that the DIR stemmed from post-collision inspections of the air bag control units (ACUs) showing that an electrical overstress condition (EOS) of an ACU electronic component occurred in three of the crashes, and that the fourth ACU is under evaluation for the same concern. Hyundai has not identified a remedy for this recall, and states that the cause of the EOS is being investigated with the ACU supplier, ZF-TRW. ODI's current understanding is that the above Kia products also use similar ACUs supplied by ZF-TRW. Additionally, ODI is aware of a prior recall, 16V-668 where EOS appeared to be a root cause of air bag non-deployment in significant frontal crashes in certain Fiat Chrysler vehicles.

Under the investigation, ODI will evaluate the scope of Hyundai's recall, confirm Kia's use of the same or similar ZF-TRW ACU, review the root cause analysis of all involved parties, and review and evaluate pertinent vehicle and/or ACU factors that may be contributing to, or causing EOS failures. Additionally, ODI will determine if any other vehicle

manufacturers used the same or similar ACUs, as supplied by ZF-TRW, and if so, evaluate whether the field experience of these vehicles indicates potentially related crash events.

The above VOQs can be reviewed at [NHTSA.gov](https://www.nhtsa.gov) under identification numbers 10781050 and 10849839.