U.S. Department of Transportation

National Highway Traffic Safety Administration

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION

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Investigation:	PE 20-008		
Date Opened:	06/01/2020	**Date Closed:**	01/25/2022
Investigator:	Erin Johnson	**Reviewer:**	Scott Yon
Approver:	Stephen Ridella		
Subject:	Headlight Failure		

MANUFACTURER & PRODUCT INFORMATION

Manufacturer:	Kia Motors America
Products:	MY 2011-2013 Kia Sorento
Population:	375,216
Problem Description:	Allegations of headlight failure and thermal overheating of the headlight connectors

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	132	1,206	1,338
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	8	188	196

***Description of Other:** Simultaneous loss of both headlights with no or limited ability for the driver to reinstate the low beam headlights.

ACTION / SUMMARY INFORMATION

Action: Close Preliminary Evaluation 20-008.

Summary:

The Office of Defects Investigation (ODI) opened this Preliminary Evaluation (PE) based on seventy-four Vehicle Owner Questionnaires (VOQs) reporting headlight failures on model year (MY) 2011-2013 KIA Sorento vehicles.

In its response to ODI's June 25, 2020, information request letter (portions of which were submitted under request for confidentiality), Kia Motor America (Kia) provided design details of the headlight system showing that each headlight circuit is independently powered by the Smart Junction Box (SJB), a power control module. Kia claimed that the design minimizes the chance of both headlights failing simultaneously due to a headlight connector defect, a component located downstream of the SJB. Kia also advised that the SJB contains a safety feature designed to monitor power consumption for each headlight circuit; if excessive current is being demanded by either headlight the SJB will open the circuit (i.e., stop supplying current). Lastly Kia presented testing showing that the maximum headlight connector temperature achieved prior to the SJB opening the circuit was below the autoignition temperature of the plastic material the connector housing is made of, which Kia maintains eliminates the potential for a fire originating from an electrically overheated headlight connector.

In its review of all available data, ODI determined that the majority of both VOQ and Kia customer complaints (1,339 reports in total) involved the loss or dimming of a single low beam headlight assembly caused primarily by a poor or overheated connector terminal located at the headlight. In some cases the failures were momentary in nature (i.e., flickering) with the headlights coming back on without driver intervention. A minority of VOQs and Kia complaints (the 196 "Other" reports) alleged simultaneous (and persistent) loss of both low beam headlights, and in most cases the driver was able to take an action (e.g., toggle the headlight switch, or use the "ON" rather than the "AUTO" setting on the headlight switch) to reinstate the low beam headlights. The high beam headlights were not seen to be affected and were available for drivers to use as alternate lighting.

ODI did not identify any crashes or injuries, nor any fire incidents caused by a headlight related defect. While some VOQ and Kia reports alleged or indicated a fire occurrence, the incidents were found to involve melting or smells/ odors due to thermal overheating of the plastic headlight connector housing, rather than an open flame fire.

ODI notes that in April 2019, Kia initiated a 10 years/unlimited mileage warranty extension program to replace the headlight connector for MY 2011-2013 Sorento vehicles.

Based on this analysis, a safety-related defect has not been identified at this time, and ODI is closing the investigation. This does not constitute a finding by the Agency that a safety-related defect is not present; the Agency will take further action if warranted by additional information received.

The reference (ODI) numbers for the VOQs cited above are included in the downloadable version of this closing resume available at NHTSA.gov.

Below are the reference (ODI) numbers for the 140 VOQs cited in the Failure Report Summary table. The reports can be viewed at NHTSA.gov using these reference numbers:

10489239, 10556120, 10573054, 10575061, 10576555, 10630171, 10652890, 10655281, 10689756, 10702476, 10722839, 10744790, 10748707, 10749622, 10760921, 10766220, 10787877, 10807909, 10808108, 10809772, 10811503, 10811946, 10898420, 10908100, 10909762, 10910715, 10940241, 10945324, 10946598, 10947600, 10956309, 10968634, 10969904, 10971138, 10984715, 11010794, 11034221, 11040118, 11040915, 11044942, 11065542, 11074434, 11083536, 11083758, 11088569, 11089055, 11093638, 11098911, 11100660, 11103471, 11104031, 11104849, 11111480, 11112123, 11113415, 11119565, 11122259, 11122394, 11128852, 11129412, 11129456, 11132878, 11138970, 11140185, 11140725, 11141382, 11143553, 11144252, 11145097, 11153197, 11153975, 11154238, 11155270, 11161355, 11161372, 11161461, 11162343, 11163165, 11171010, 11181005, 11181044, 11182904, 11185635, 11190100, 11193573, 11196096, 11210780, 11222295, 11232949, 11234114, 11235088, 11242632, 11246672, 11255535, 11265575, 11270480, 11278287, 11280364, 11287945, 11290192, 11297313, 11299463, 11315381, 11329004, 11330690, 11338799, 11342802, 11343656, 11350661, 11352843, 11353139, 11354232, 11354949, 11360622, 11362057, 11362599, 11364012, 11364553, 11365338, 11365395, 11373652, 11373859, 11375120, 11376269, 11377211, 11378124, 11378133, 11378165, 11385052, 11387810, 11390853, 11395518, 11396551, 11402900, 11406559, 11423359, 11423756, 11427563, 11429922, 11431394.