



ODI RESUME

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

Investigation: EA03-015
Prompted By: PE03-016
Date Opened: 08/28/2003
Principal Investigator: Kyle Bowker
Subject: Fuel Rail Leakage

Date Closed: 04/30/2004

Manufacturer: Kia Motors America, Inc.

Products: 2001 Kia Rio

Population: 57,340

Problem Description: Engine compartment fire due to a fuel system leak at the fuel rail.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	4	9	9
Crashes/Fires:	4	9	9
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	4	10	14

*Description Of Other: Non-crash engine compartment fires of unknown or unspecified cause in subject vehicles.

Action: This Engineering Analysis has been closed. Safety Recalls 03V-352 and 04V-179.

Engineer: Kyle M. Bowker KMB

Date: 04/30/2004

Div. Chief: Jeffrey L. Quandt

Date: 04/30/2004

Office Dir.: Kathleen C. DeMeter

Date: 04/30/2004

Summary: On April 15, 2003, the Office of Defects Investigation (ODI) opened a Preliminary Evaluation (PE03-016) to investigate engine compartment fires due to alleged fuel system leaks in Model Year (MY) 2001 Kia Rio vehicles. The investigation was upgraded to an Engineering Analysis on August 28, 2003. On September 22, 2003, the manufacturer notified the agency that it would conduct a safety recall (03V-352) to inspect the subject vehicles for fuel leaks. An Information Request (IR) letter was submitted to the manufacturer on November 17, 2003 to obtain additional information so that the office could evaluate the defect as reported by Kia. The IR letter also addressed other Kia vehicles not subject to this investigation that use fuel delivery system components identical to the subject vehicles but were not included in recall 03V-352.

Kia's September 22, 2003 defect notification letter identified quality deviations in the subject components that could result in fuel leakage. During MY 2001 production, the supplier of the fuel rail (Fuel Distributor Assembly) identified quality issues that affected the integrity of plastic welds at the service port and/or fuel intake nipple. Fuel leakage could also occur if the brass service port (Schrader) valve was not properly installed into the valve receptacle. The supplier adopted changes to remedy the problem and instituted a 100% inspection procedure. Subsequent to this investigation, Kia also conducted performance testing and analysis of warranty and complaint data. Kia determined that the fuel rail is subject to fracture at the intake nipple during the assembly process or vehicle servicing. Damage may occur when the flexible fuel line (Main Fuel Tube Assembly) quick connect coupling is improperly attached or removed from the fuel rail, or when excessive force is otherwise applied. ODI is aware of 9 non-duplicate, non-crash engine compartment fires caused by fuel system leaks and an additional 14 fires of unknown cause that may be related to the defect in the subject vehicles. ODI is also aware of 6 fires in MY 2002 and 3 fires in MY 2003 Rio/Rio Cinco vehicles that may be related to the defect.

To reduce the possibility of fuel rail damage, Kia has redesigned the fuel rail to include a steel intake nipple, and the attaching fuel line quick connect coupling has been changed to facilitate easier servicing. On April 7, 2004 Kia notified the agency that it would conduct a safety recall (04V-179) to replace these two components free of charge for owners of all MY 2001-2004 Kia Rio and Rio Cinco vehicles produced from May 4, 2000 through March 31, 2004. Accordingly, this investigation is closed.

KMB
4/30/04

EA03-015
Kia Rio Engine Compartment Fires

Non-crash engine compartment fires due to a fuel system leak at the fuel rail in subject vehicles.

	VIN	ODI ID	Kia Case #	MY	INC DATE	CAUSE
1	KNADC1232	742172		2001	2/3/2001	Fuel System Leak
2	KNADC1234	882130		2001	3/5/2001	Fuel System Leak
3	KNADC1231	—		2001	2/23/2002	Fuel System Leak
4	KNADC1237	8007854		2001	3/14/2002	Fuel System Leak
5	KNADC1236	—		2001	3/16/2002	Fuel System Leak
6	KNADC1238	—		2001	5/20/2002	Fuel System Leak
7	KNADC1232	—		2001	6/30/2002	Fuel System Leak
8	KNADC1239	10022529 10011120		2001	9/27/2002	Fuel System Leak
9	KNADC1237	—		2001	10/5/2002	Fuel System Leak

Non-crash engine compartment fires of unspecified cause in subject vehicles.

	VIN	ODI ID	MY	INC DATE	CAUSE
1	KNADC1231	—	2001	4/6/2002	Unknown
2	KNADC1236	—	2001	8/21/2002	Unknown
3	KNADC1232	—	2001	10/3/2002	Unknown
4	KNADC1237	STATE FARM	2001	10/26/2002	Unknown
5	KNADC1231	—	2001	2/14/2003	Unknown
6	KNADC1236	—	2001	3/2/2003	Unknown
7	KNADC1239	—	2001	4/20/2003	Unknown
8	KNADC1239	—	2001	5/20/2003	Unknown
9	KNADC1230	—	2001	8/20/2003	Unknown
10	KNADC1239	10054765	2001	9/18/2003	Unknown
11	KNADC1237	—	2001	10/12/2003	Unknown
12	KNADC1230	10051361	2001	12/25/2003	Unknown
13	KNADC1238	10052737	2001	1/5/2004	Unknown
14	KNADC1238	10063028	2001	3/10/2004	Unknown

Non-crash engine compartment fires of unknown cause in MY2002-03 Rio/Rio Cinco vehicles.

	VIN	ODI ID	MY	INC DATE	CAUSE
1	KNADC1235	—	2002	1/24/2003	Unknown
2	KNADC1237	—	2002	2/23/2003	Unknown
3	KNADC1233	—	2002	3/30/2003	Unknown
4	KNADC1232	—	2002	6/23/2003	Unknown
5	KNADC1236	—	2002	7/25/2003	Unknown
6	—	10051689	2002	12/17/2003	Unknown
7	KNADC1255	—	2003	3/23/2003	Unknown
8	KNADC1250	—	2003	4/23/2003	Unknown
9	KNADC1652	—	2003	7/23/2003	Unknown