



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

# ODI RESUME

**Investigation:** EA 17-002  
**Prompted by:** PE16-008, Consumer Reports  
**Date Opened:** 07/27/2017  
**Investigator:** Brian Smith **Reviewer:** Scott Yon  
**Approver:** Stephen Ridella  
**Subject:** Ford Explorer Exhaust Odor

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** Ford Motor Company  
**Products:** MY 2011 - 2017 Ford Explorer including Police Interceptor  
**Population:** 1,333,000 (Estimated)  
**Problem Description:** Complaints involving MY 2011 to 2017 Ford Explorers, including Police Interceptor models which report occupants smelling exhaust odors in the occupant compartment. Complainants expressed concerns about exposure to carbon monoxide.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	791	2,051	2719**
<b>Crashes/Fires:</b>	3	1	3**
<b>Injury Incidents:</b>	23	0	23
<b>Number of Injuries:</b>	39	0	39
<b>Fatality Incidents:</b>	0	0	0
<b>Other*:</b>	2	0	2

**\*Description of Other:** Two police involved incident identified during PE16-008 which were not reported on a VOQ report. The incidents involved one crash and two injury incidents (one non-crash), and two injuries in addition to those cited above.

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

## ACTION / SUMMARY INFORMATION

**Action:** Upgrade PE16-008 to an Engineering Analysis.

### Summary:

ODI opened Preliminary Evaluation (PE) 16-008 in July of 2016 after receiving 154 Vehicle Owner Questionnaire (VOQ) reports reporting exhaust odors in the vehicle occupant compartment of model year (MY) 2011 to 2015 Ford Explorers, which included one low speed crash event without injury. During the course of the PE, ODI identified additional VOQ reports concerning the exhaust odor issue, totaling 791 as of this writing. The complaints cover MY 2011 to 2017 Explorers. Eleven of the reports involve Police Interceptor vehicles, as do two other non-VOQ incidents ODI identified during PE16-008. Overall, ODI has identified three crash events and 25 injury incidents citing a total of 41 injuries. The alleged injuries, as affirmatively indicated on the VOQ reports, range from unspecified to loss of consciousness, with the majority indicating nausea, headaches, or light headedness. One police incident alleged a crash with related injuries, and a second police incident reported a physiological injury allegedly from carbon monoxide (CO) exposure. Another reported police incident resulted in a rollover crash event with injuries.

The Ford reports cited above were provided in the company's August 24, 2016 response to an ODI Information Request letter sent during PE16-008. Therein, ODI identified 2400 reports (485 owner complaints, 1254 warranty claims, 606 dealer field reports, 55 legal claims), involving 2,051 unique vehicles, that appear to relate to the exhaust odor issue, and include 123 reports that are duplicative of the VOQ reports. A number of the Ford reports also discussed health effects similar to the VOQs, specifically nausea and headaches.

During the PE, working in conjunction with NHTSA's Vehicle Test and Research Center (VRTC) in East Liberty, Ohio, ODI has tested multiple vehicles, including complaint vehicles. Additionally, ODI has conducted field inspections of complaint vehicles and crashes involving police units that occurred while the officers were on-duty. When possible, data has been collected to quantify carbon monoxide (CO) levels in the examined vehicles. During this Engineering Analysis (EA), the VRTC testing efforts and field inspections will continue.

To date, no substantive data or actual evidence (such as a carboxyhemoglobin measurement) has been obtained supporting a claim that any of the alleged injury or crash allegations were the result of carbon monoxide poisoning, the alleged hazard. ODI has obtained preliminary testing that suggests, however, that CO levels may be elevated in certain driving scenarios, although the significance and effect of those levels remains under evaluation as part of the EA.

Ford has issued multiple TSBs related to the exhaust odor issue, and in some cases revised those documents multiple times to provide dealership technicians with procedures to address complaints raised by consumers and police fleets. Concerns over the effectiveness of the procedures have been raised by vehicle owners in some cases. During the EA, ODI will continue to evaluate the effectiveness of the TSBs.

Through cooperation with police agencies, ODI recently learned that the Police Interceptor version of the Ford Explorer is experiencing exhaust manifold cracks, which appear to present a low level of detectability, and may explain the exhaust odor. During the EA, the root cause, frequency, and safety consequence of these manifold cracks will be evaluated, as will the extent to which non-police Ford Explorers are experiencing cracked exhaust manifolds.

The reports cited above can be viewed at [NHTSA.gov](http://NHTSA.gov) under the following reference (ODI) numbers:

10458341 10466807 10472937 10485394 10493493 10497684 10503135 10511749 10521718  
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