

INFORMATION Redacted PURSUANT TO THE FREEDOM OF  
INFORMATION ACT (FOIA), 5 U.S.C. 552(B)(6)

EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function Historian 4-19-12-p

## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
10,222 SC & 5,147 reimbursement

{ \*\* }

ETQ N110323

{ \* }

{ \* }

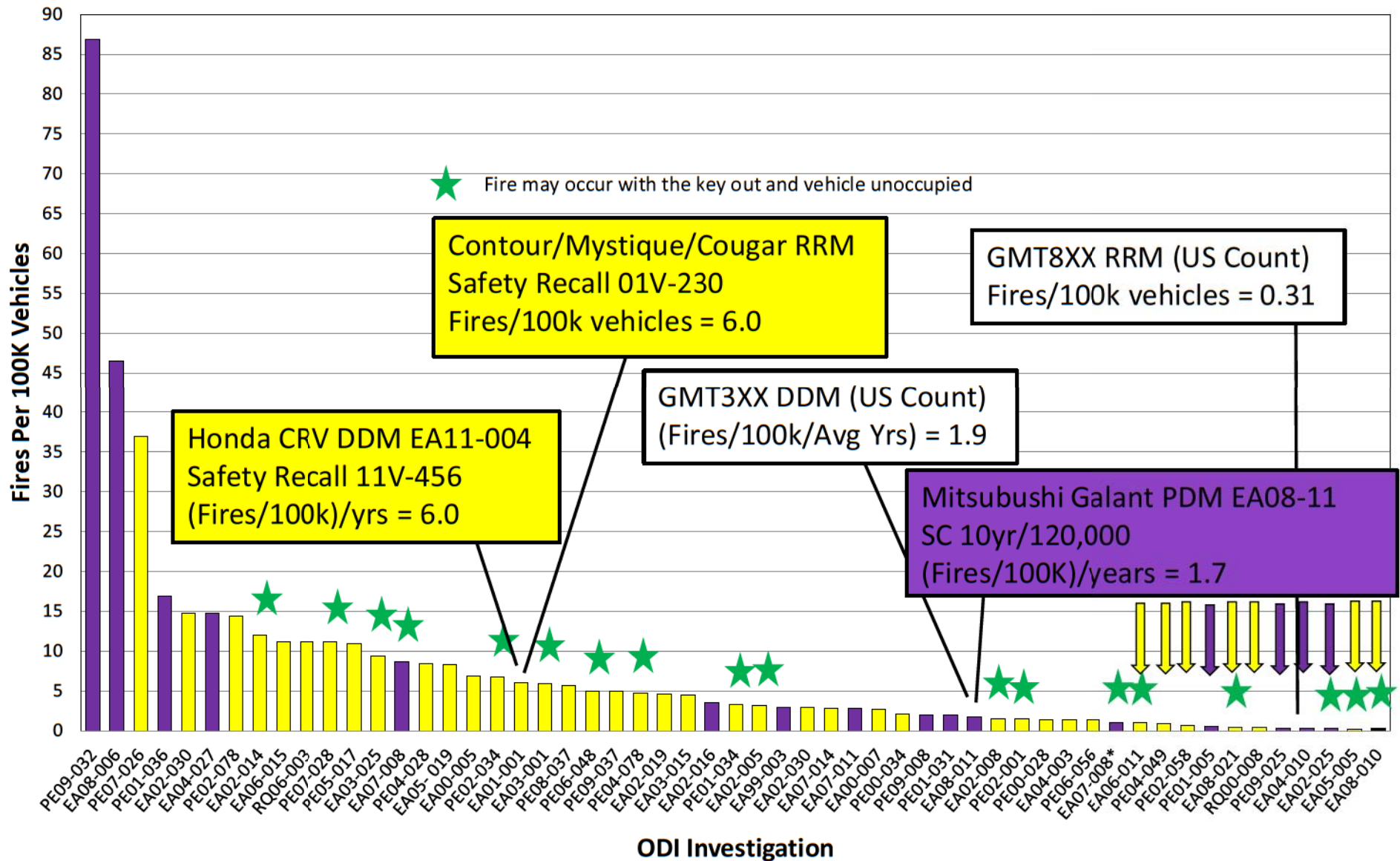
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**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
Subject:	Driver's Master Power Window Switch		

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	26	29**
Crashes/Fires:	5	26	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0
*Description of Other:			
** Count indicates duplicate reports received by ODI and manufacturer.			

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<b>Summary:</b> The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.  The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.

# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.



Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaxerj2>

	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
By: <i>Peter Ong</i>  Sp. Chief: <i>D. Scott Yen</i> Office Dir: <i>Kathleen C. DeMeter</i>	Date: <i>08/21/2009</i> Date: <i>08/21/2009</i> Date: <i>08/21/2009</i>		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

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# 2006-7 GMT360/370

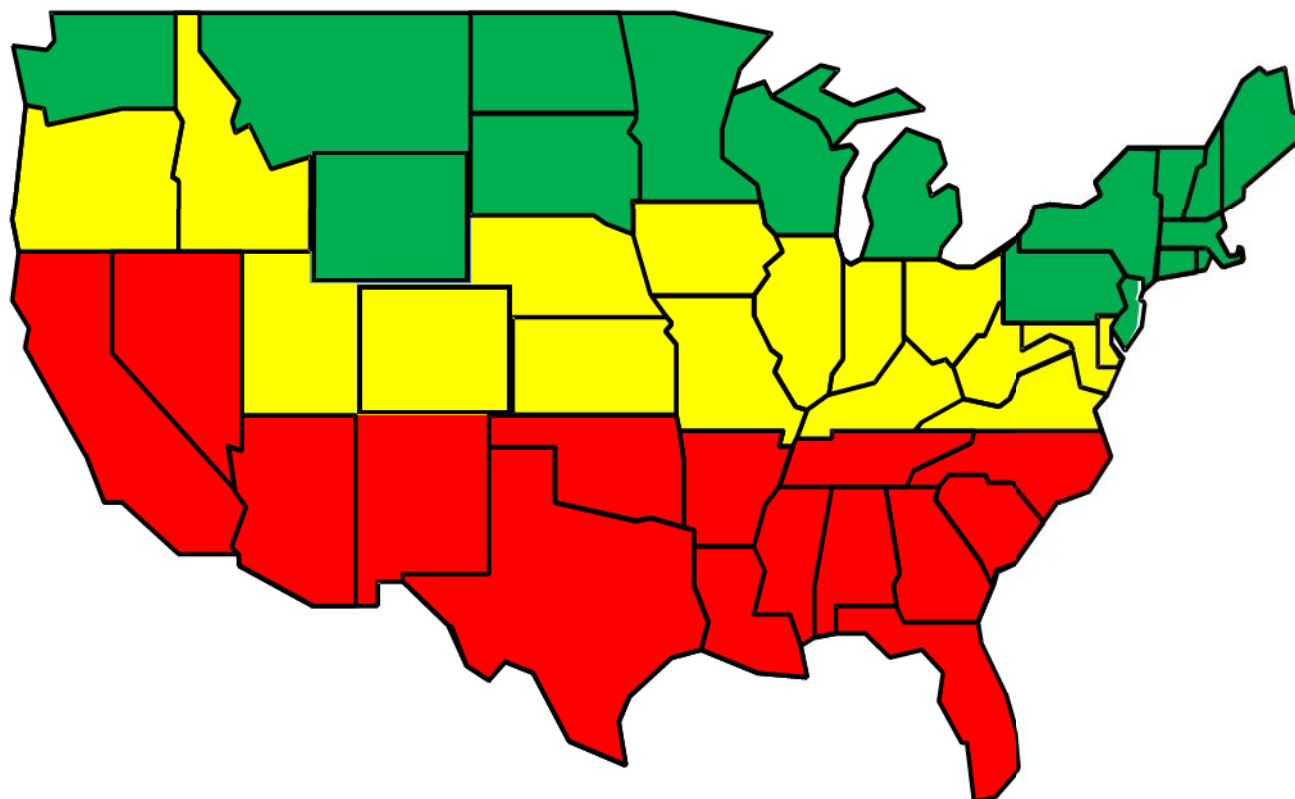
PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>



## Hot, Moderate, and Cool States

Hot States: AL, AZ, AR, CA, FL, GA, HI, LA, MS, NC, NM, NV, OK, SC, TN, TX  
Moderate States: CO, DC, DE, IA, ID, IL, IN, KS, KY, MD, MO, NE, OH, OR, UT, VA, WV, WY  
Cool States: AK, CT, MA, ME, MI, MN, MT, ND, NH, NJ, NY, PA, RI, SD, VT, WA, WI



# 2006 Honda CRV DDM

## **Honda Recalling Almost One Million Fit, CR-V and CR-Z Models**

09/06/2011 | By: Huw Evans (Autoguide.com)

As a result of identifying problems with power window switches, Honda Motor Co. has announced it is recalling some 960,000 vehicles worldwide.

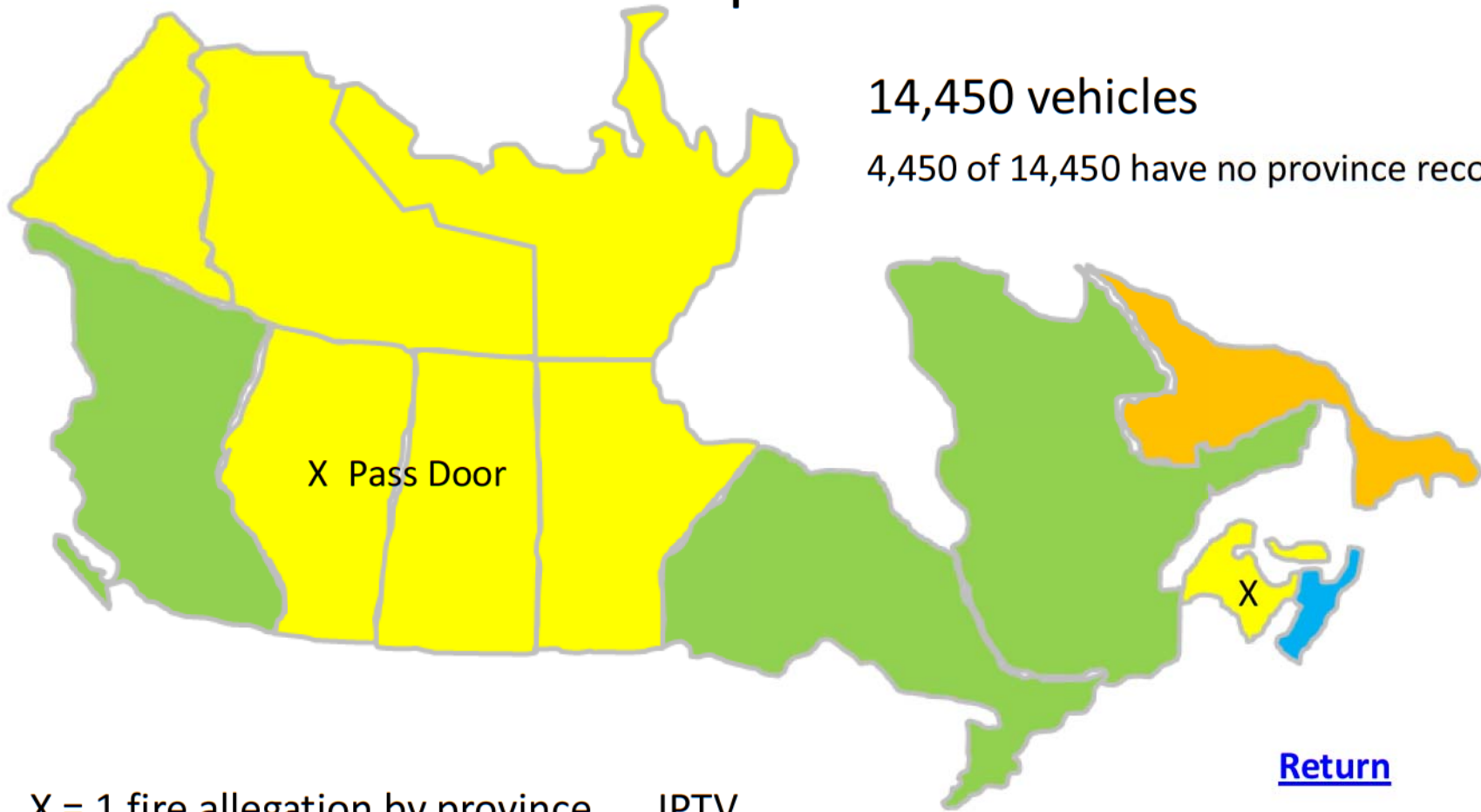
The recall is mostly related to 2006 to early 2010 Fit subcompacts (totaling almost 800,000). **In addition, in the U.S., the company is also recalling some 80,111 CR-Vs from the 2006 model year for similar problems.** The recall is a result of potential problems such as fire hazards that could result from faulty electrical contacts in the switches.



# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record



X = 1 fire allegation by province


IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Data as of 4-29-12

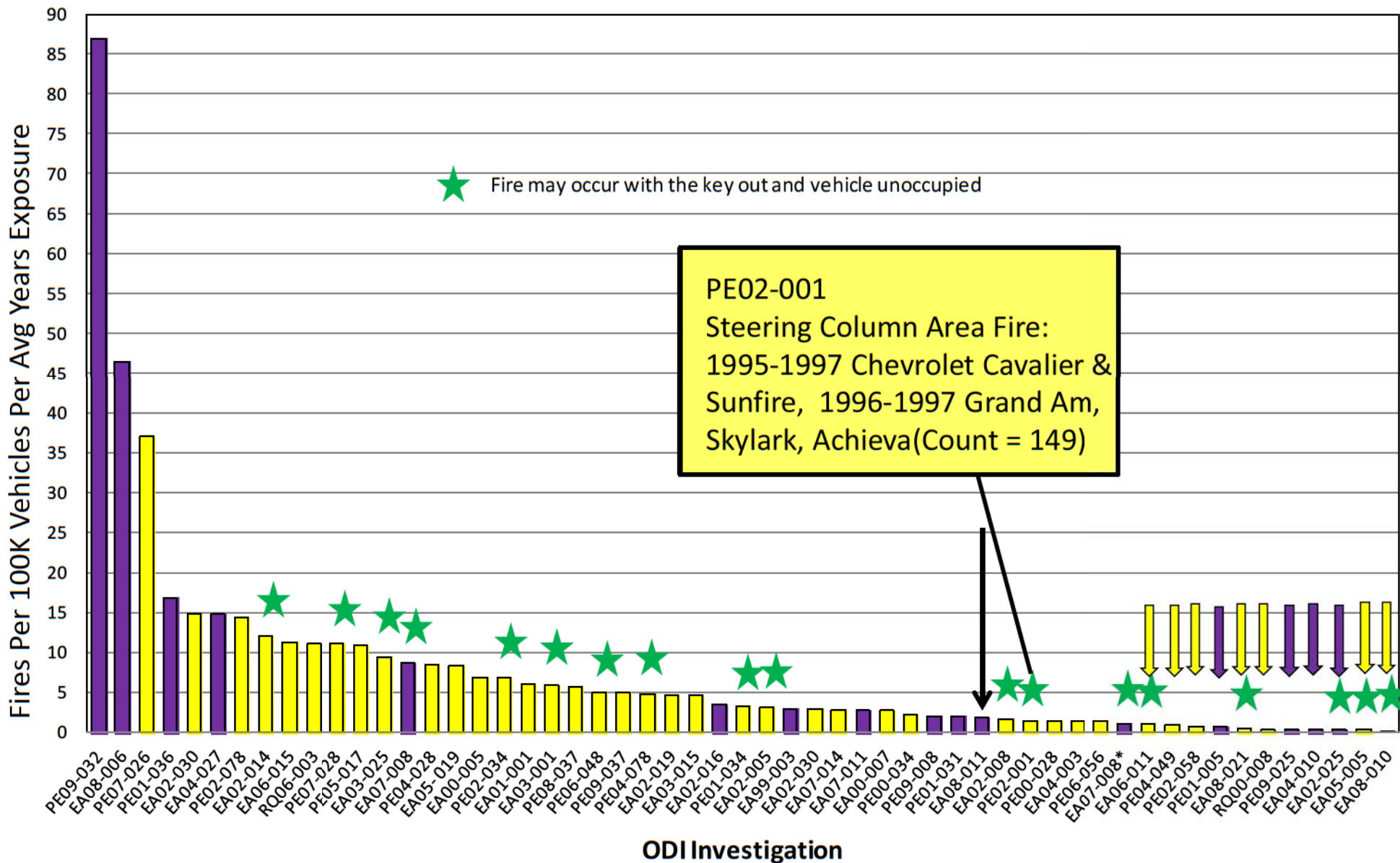
[Return](#)

**From N100240 2003-07 GMT800 HVAC Blower Motor Relay Resistor Module**

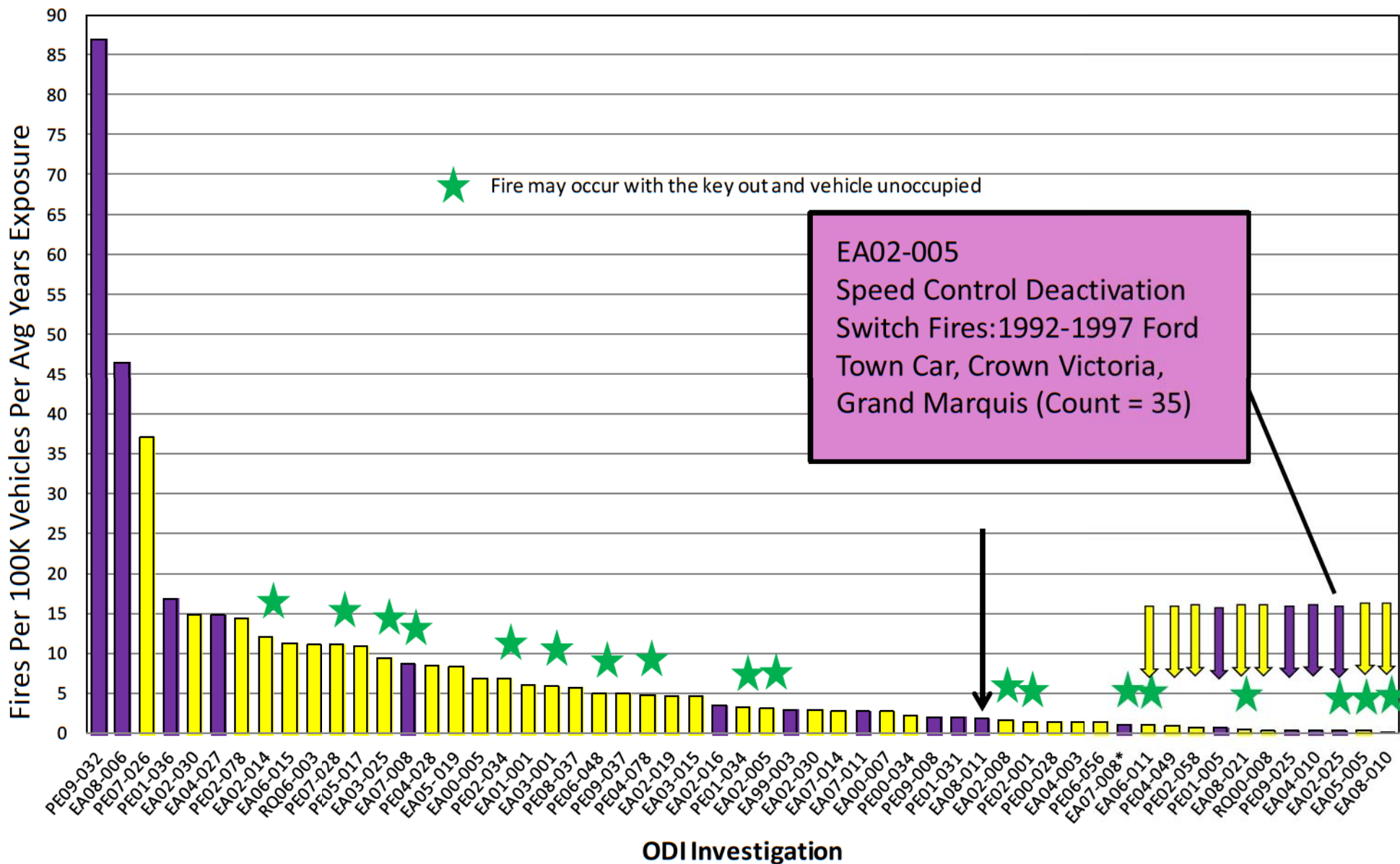
 <p>U.S. Department of Transportation National Highway Traffic Safety Administration</p>	<h1>ODI RESUME</h1>		
<p>INVESTIGATION: EA01-001                  SUBJECT: Interior Compartment Fires                  PROMPTED BY: Owner Complaints (PE00-023)                  PRINCIPAL INVESTIGATOR: <i>David Langjahr</i></p>		<p>DATE OPENED: 1-5-01                  DATE CLOSED: <u>31-JUL-01</u></p>	
<p>MANUFACTURER: Ford Motor Company                  MODELS: Ford Contours, Mercury Mystiques and Cougars                  MODEL YEARS: 1996-1999                  VEHICLE POPULATION: <u>Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430</u></p>			
<p>PROBLEM DESCRIPTION: The speed control <u>resistor assembly for the heater blower may overheat and start a fire.</u> Also, failure of the blower switch causes loss of one or more blower speeds.</p>			
<p>FAILURE REPORT SUMMARY</p>			
	ODI	MANUFACTURER	TOTAL
COMPLAINTS:	68**	approx. 2,600*	approx. 2,700*
FIRES:	4	89	93
INJ FIRES:	0	0	0
# INJURIES:	0	0	0
FAT FIRES:	0	0	0
#FATALS:	0	0	0
LAWSUITS:	0	9	9
OTHER:	0	approx. 13,000*	approx. 13,000*
<p>DESCRIPTION OF OTHER: WARRANTY CLAIMS</p>			
<p>ACTION: This Engineering Evaluation is closed. On July 9, 2001, Ford notified NHTSA of its intent to conduct a Safety Recall #01V-230 (Ford #01S22).</p>			

Return

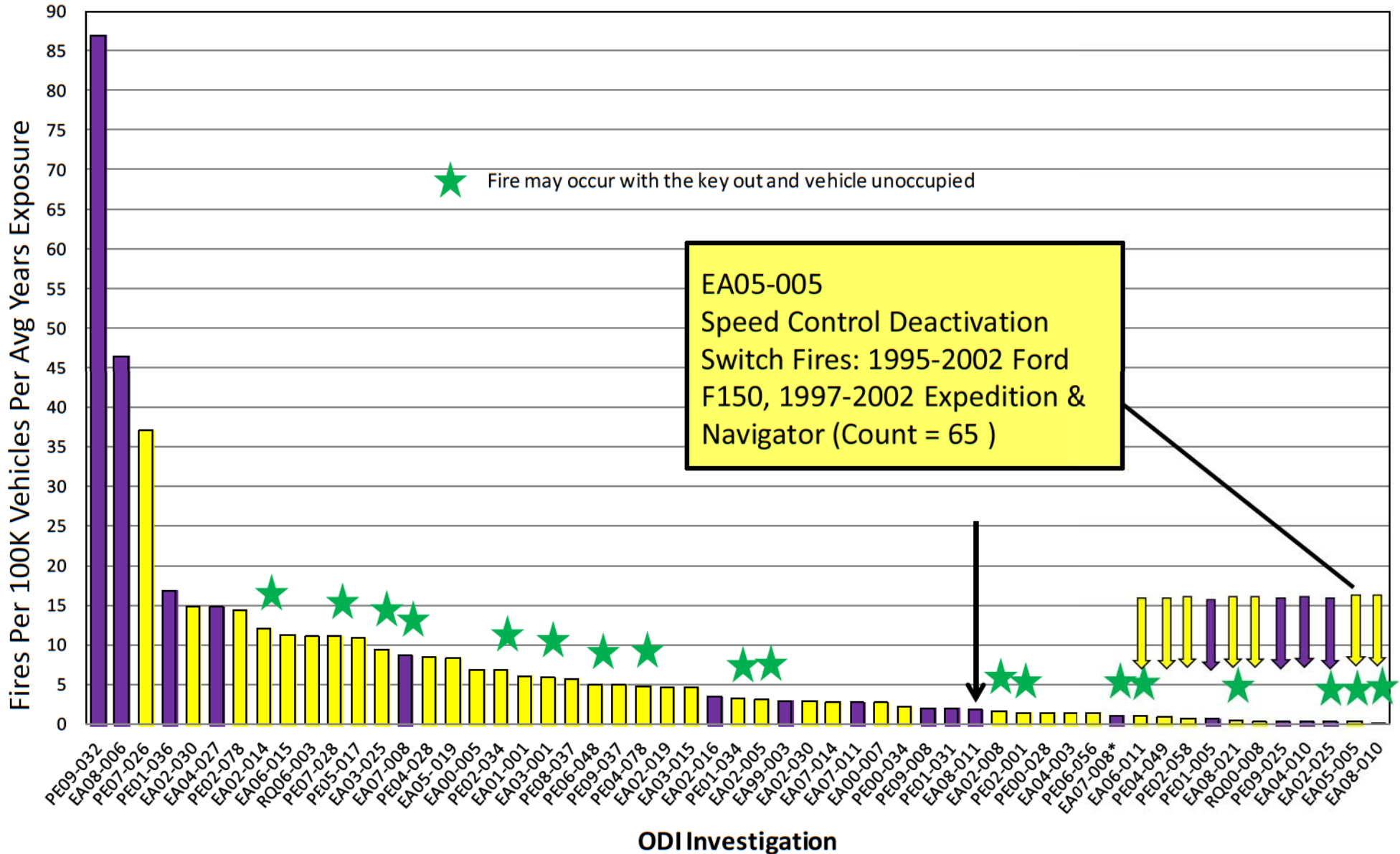
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



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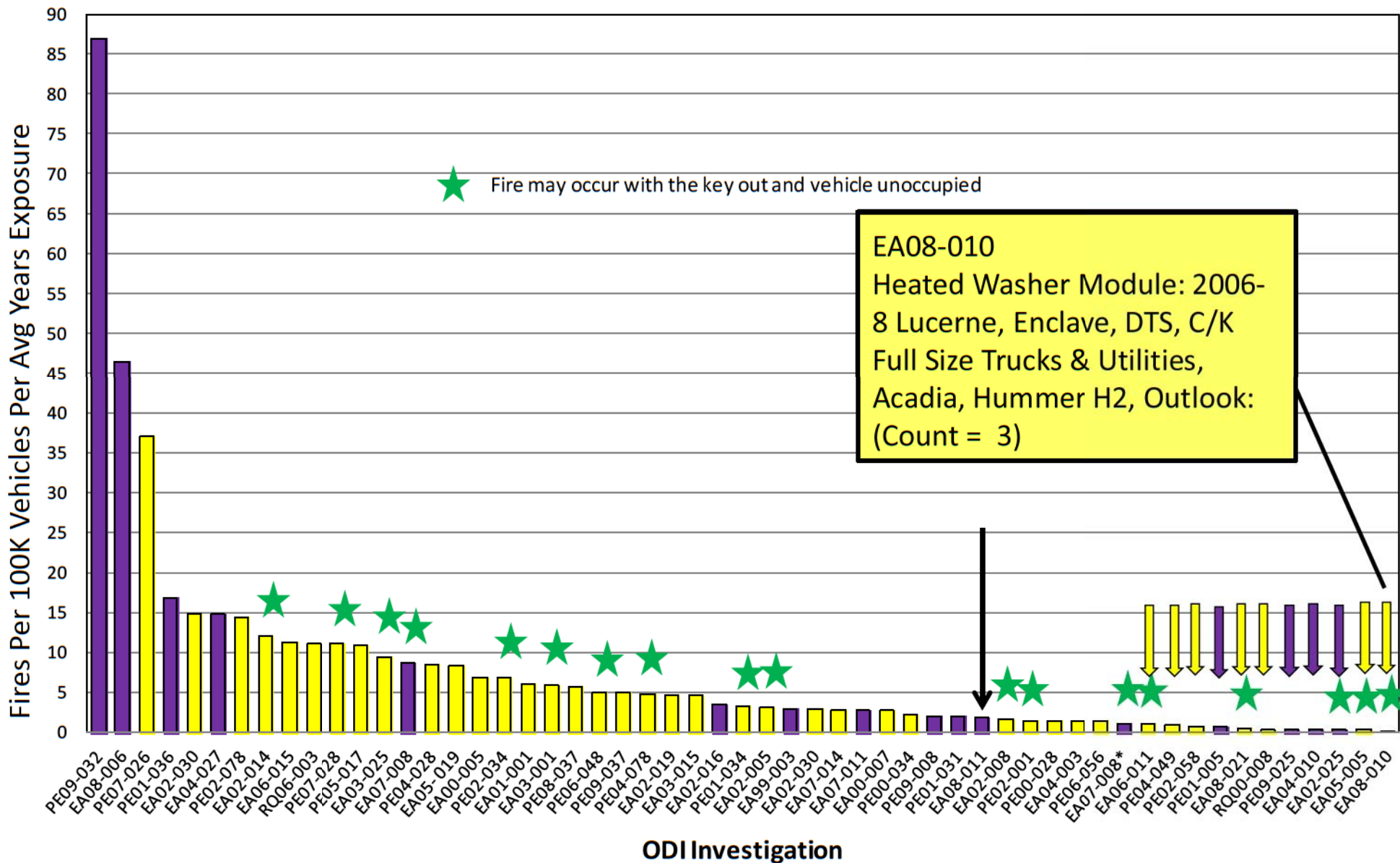


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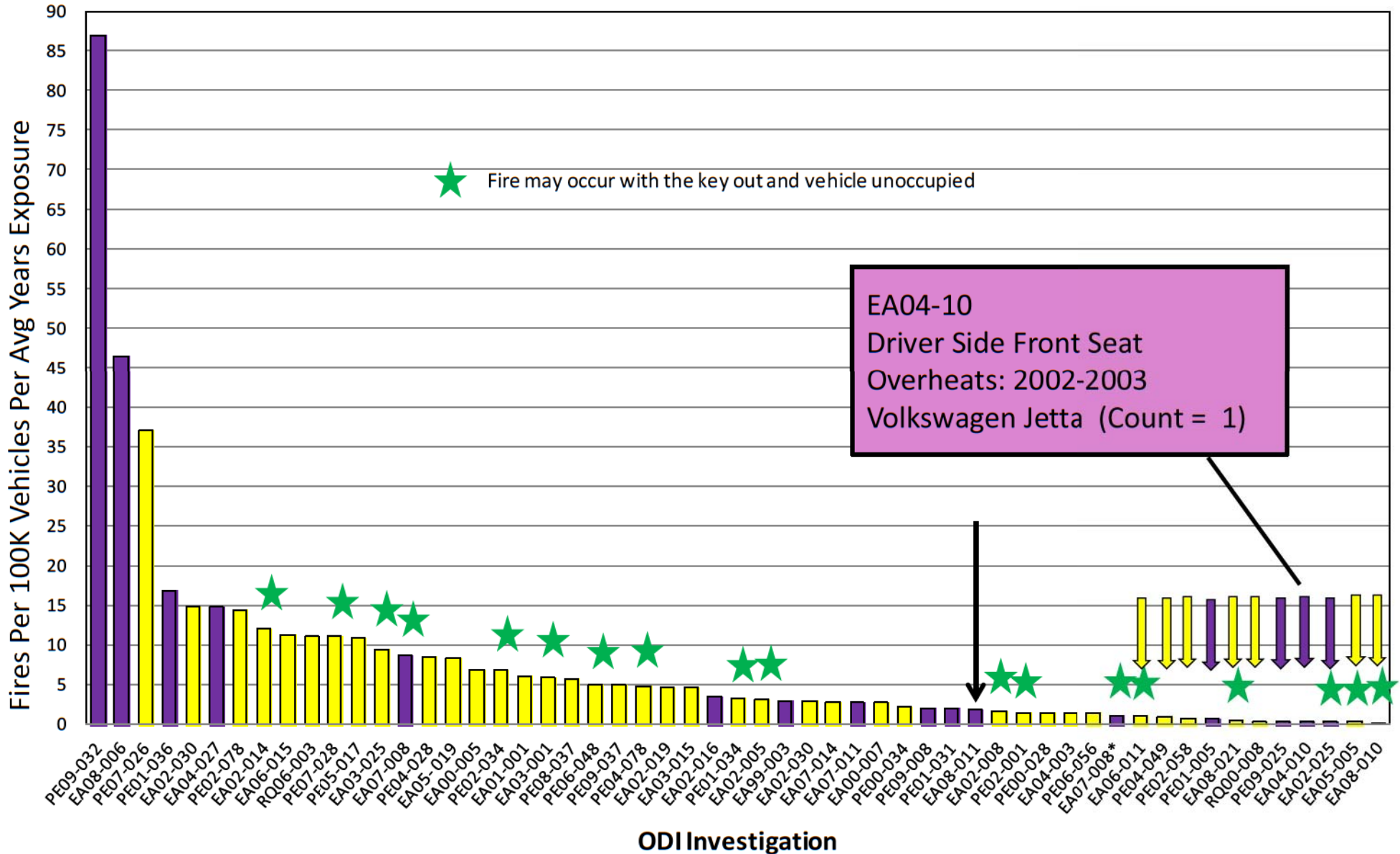




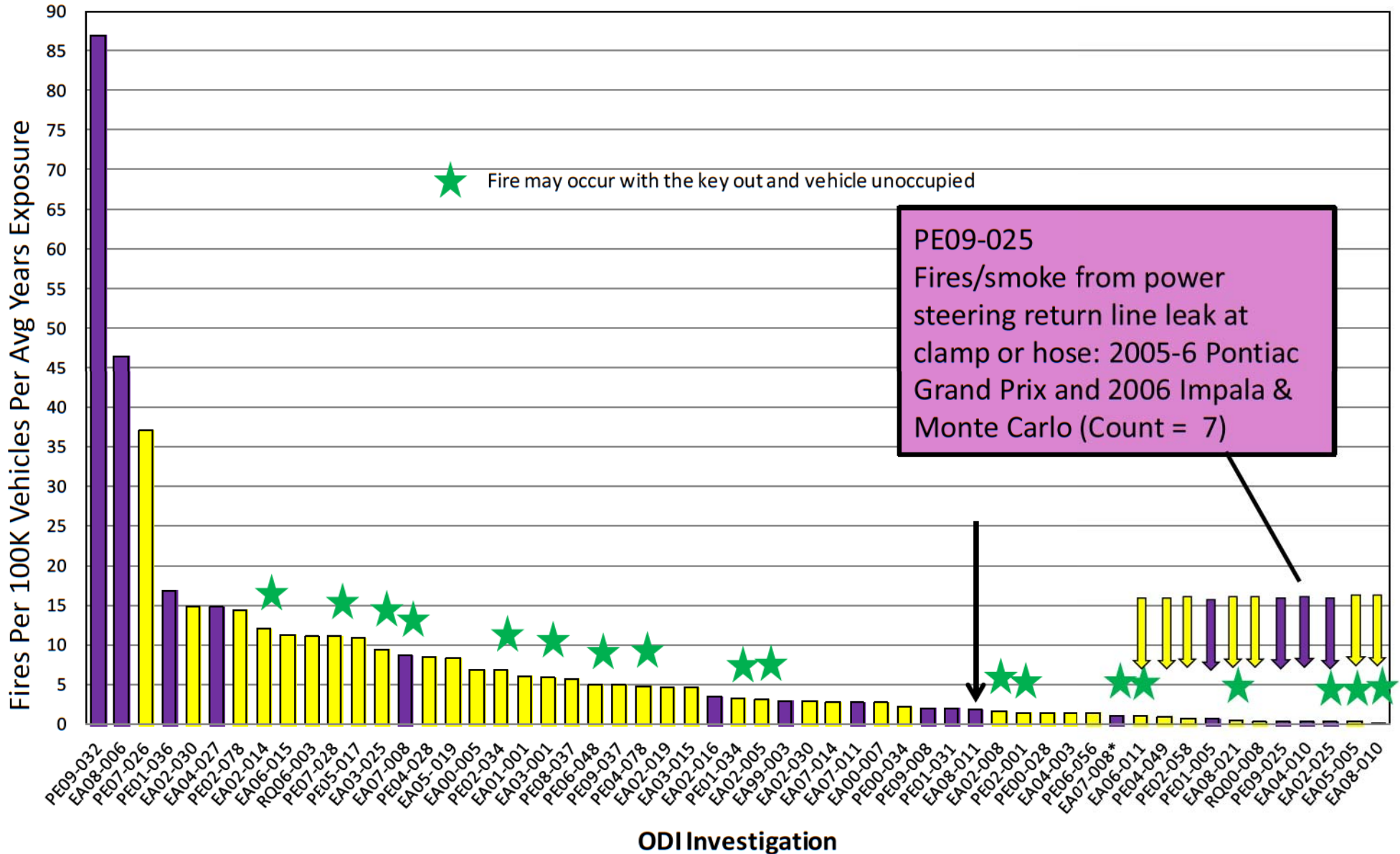
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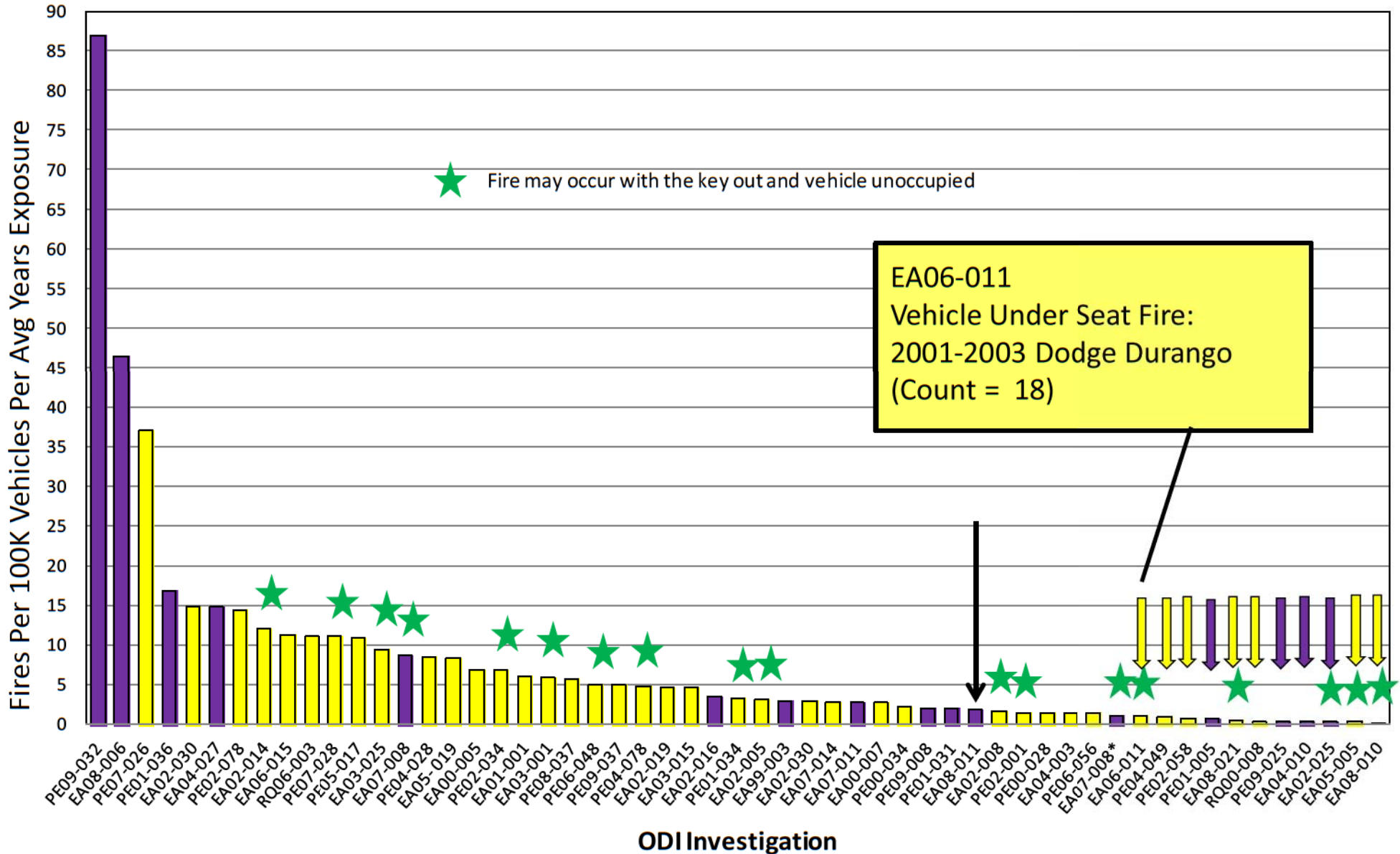
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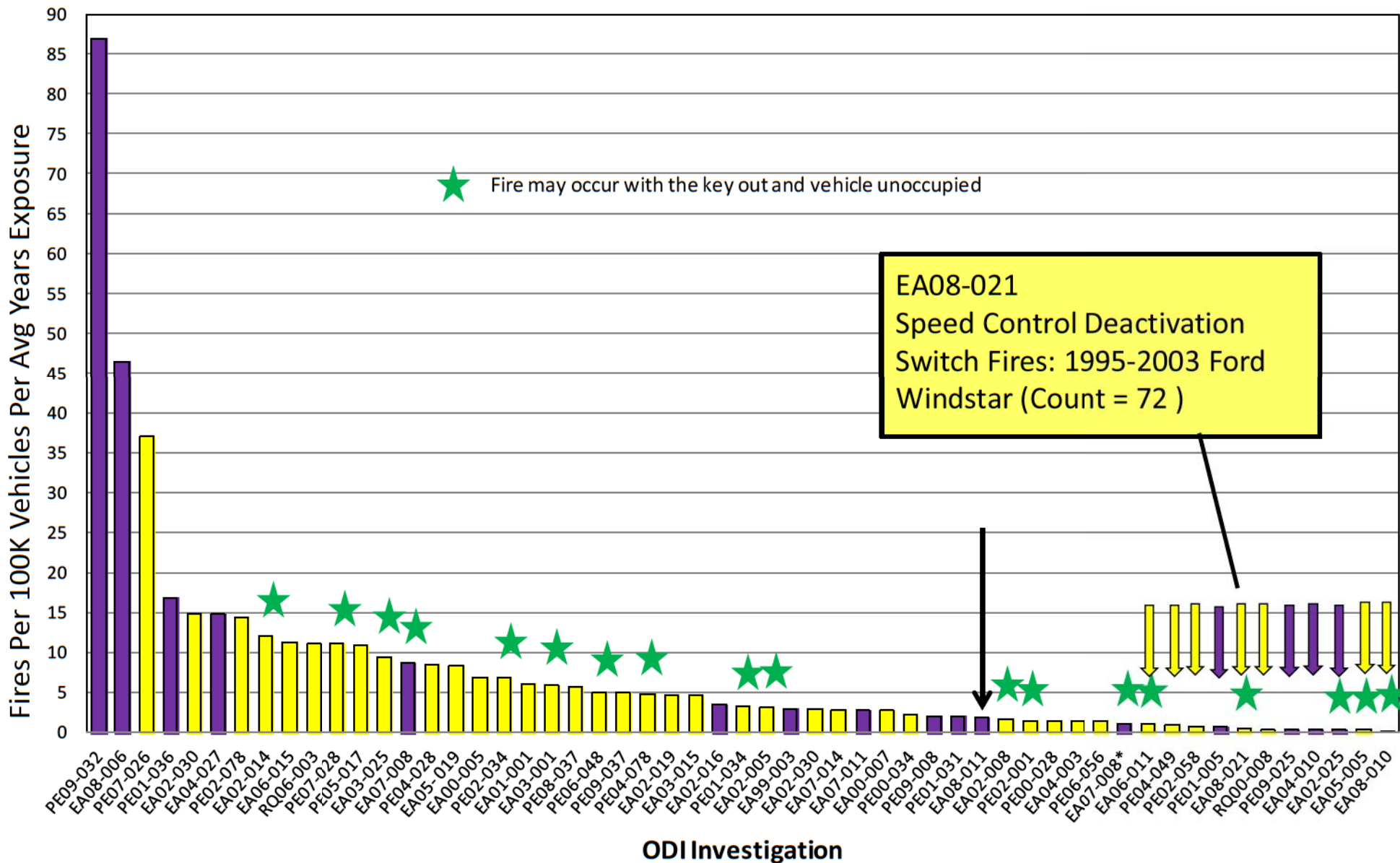
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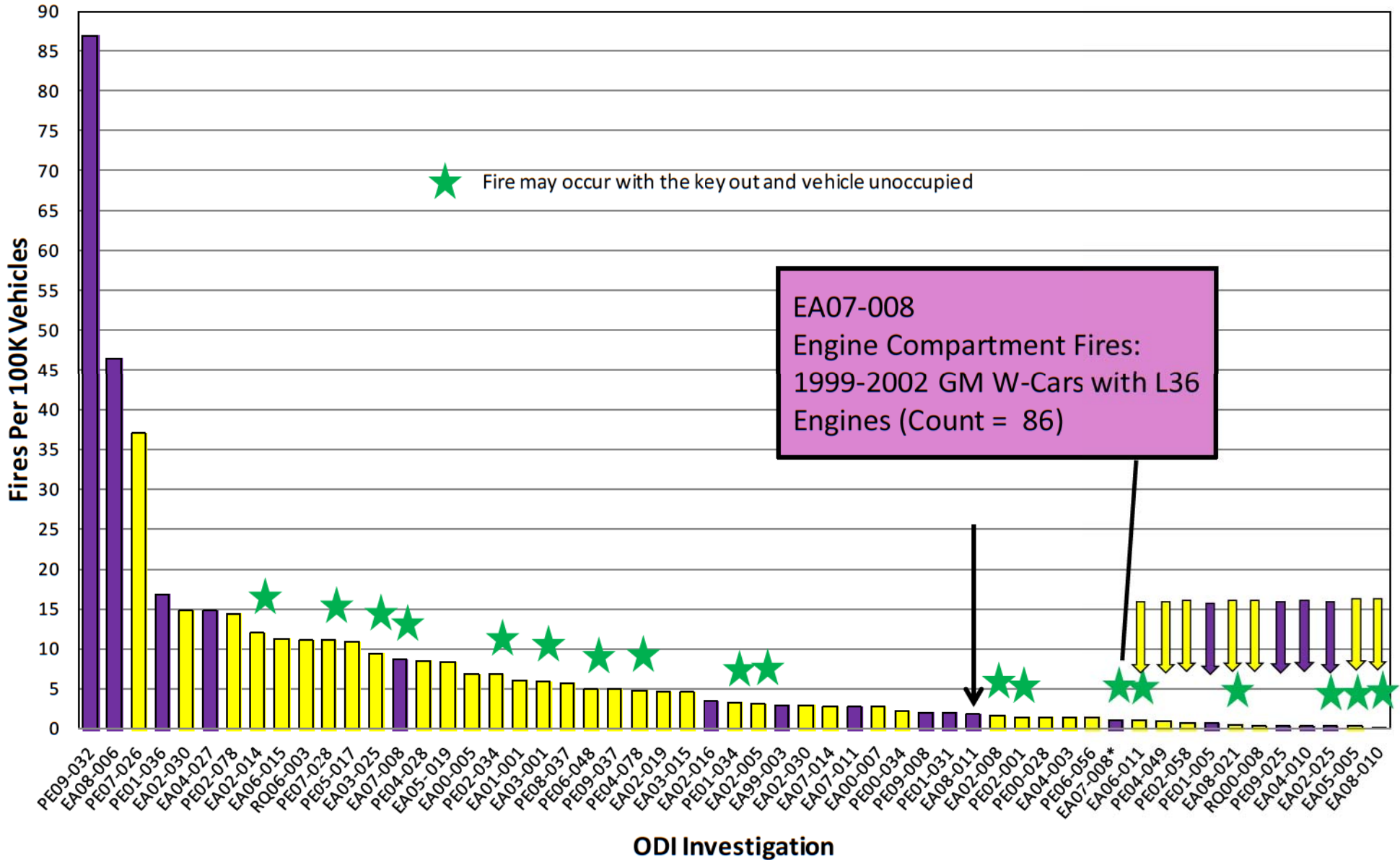
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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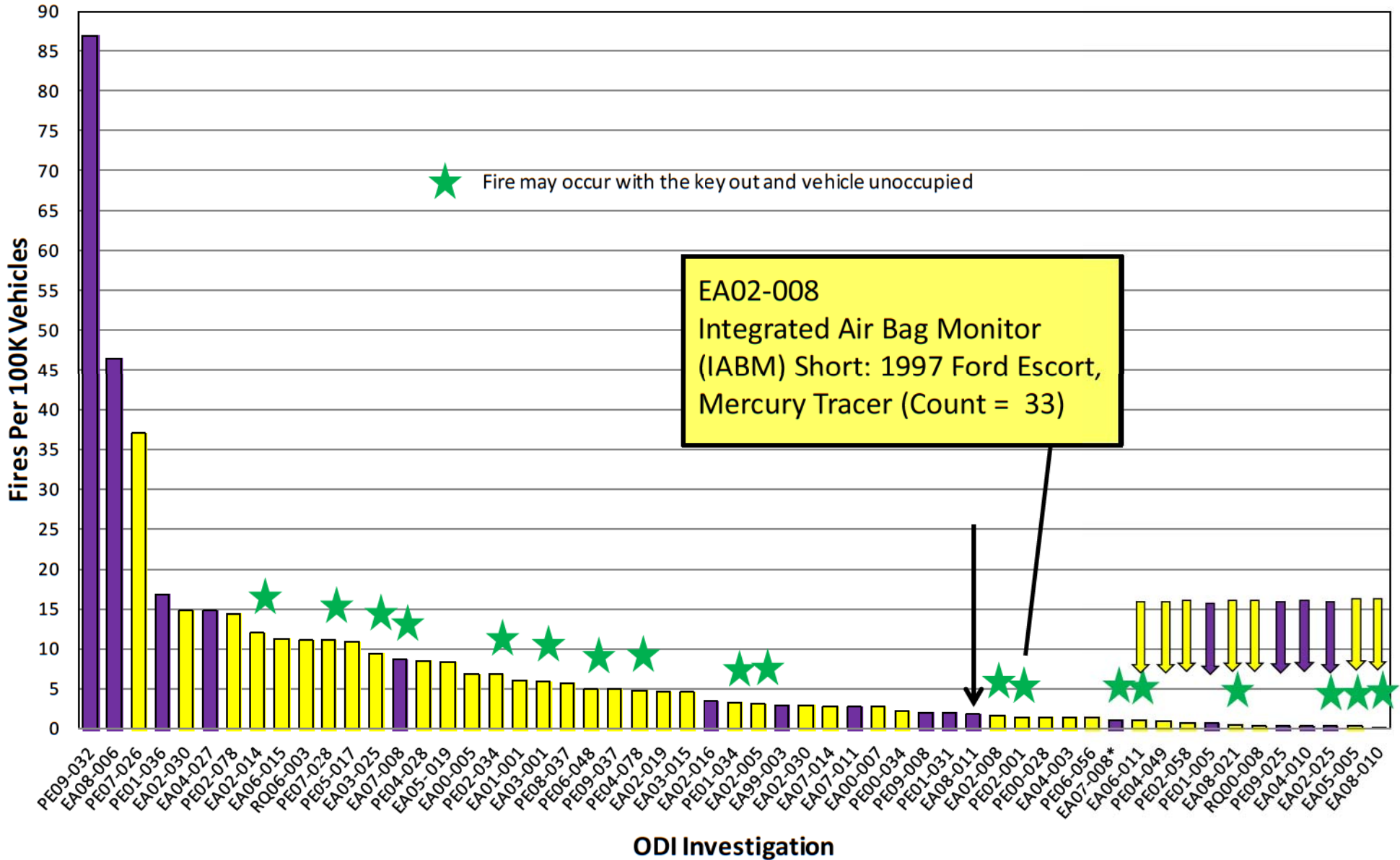
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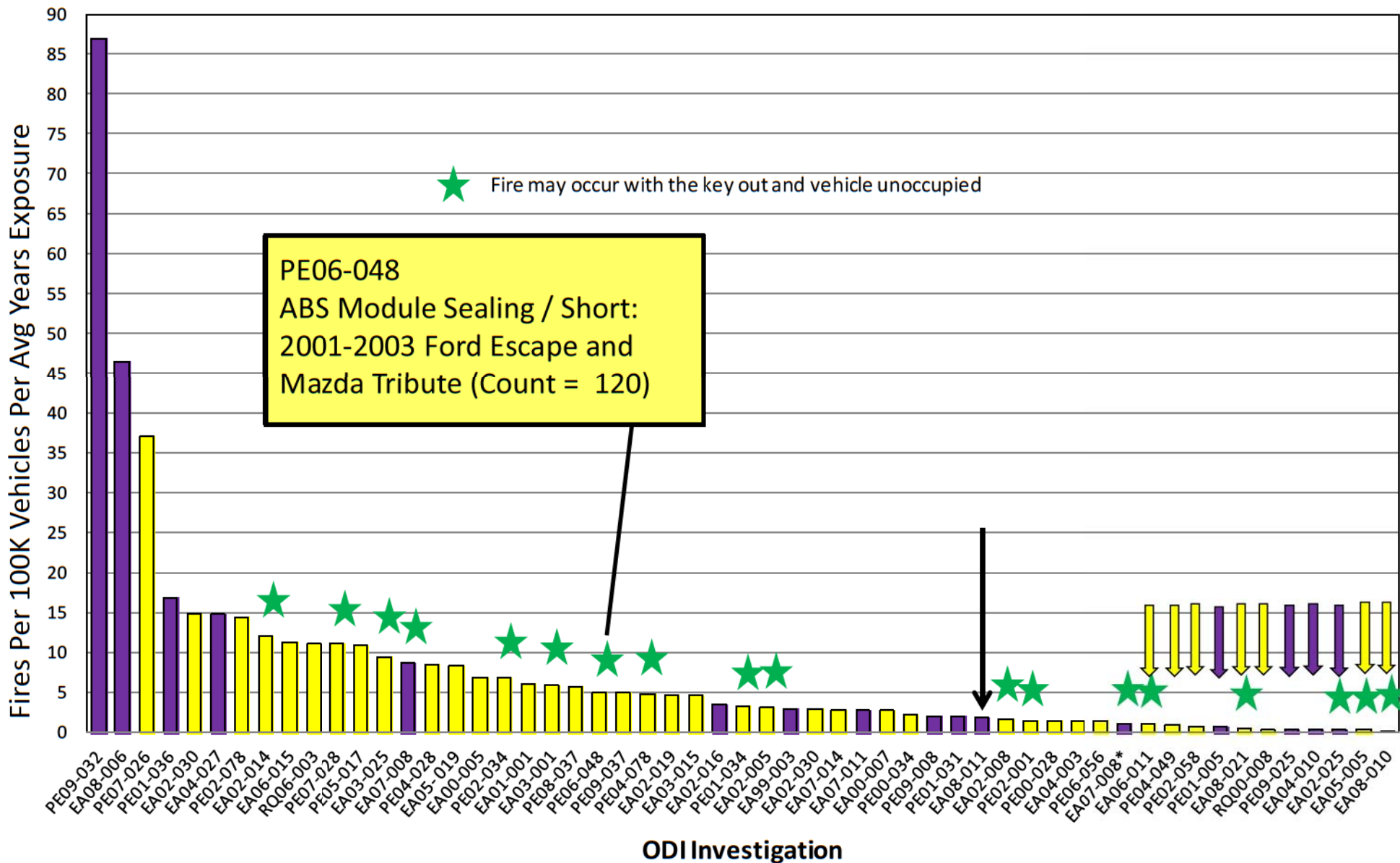
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EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function EFADC 6-27-12-p

## Driver Door Module Short Circuit



**2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender**  
**21,500 SC & 4,500 reimbursement (Total Pop 525,377 )**  
{ \*\* }

ETQ N110323

{ \* }

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# 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit

{ \* }



Base Switch Package



Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.

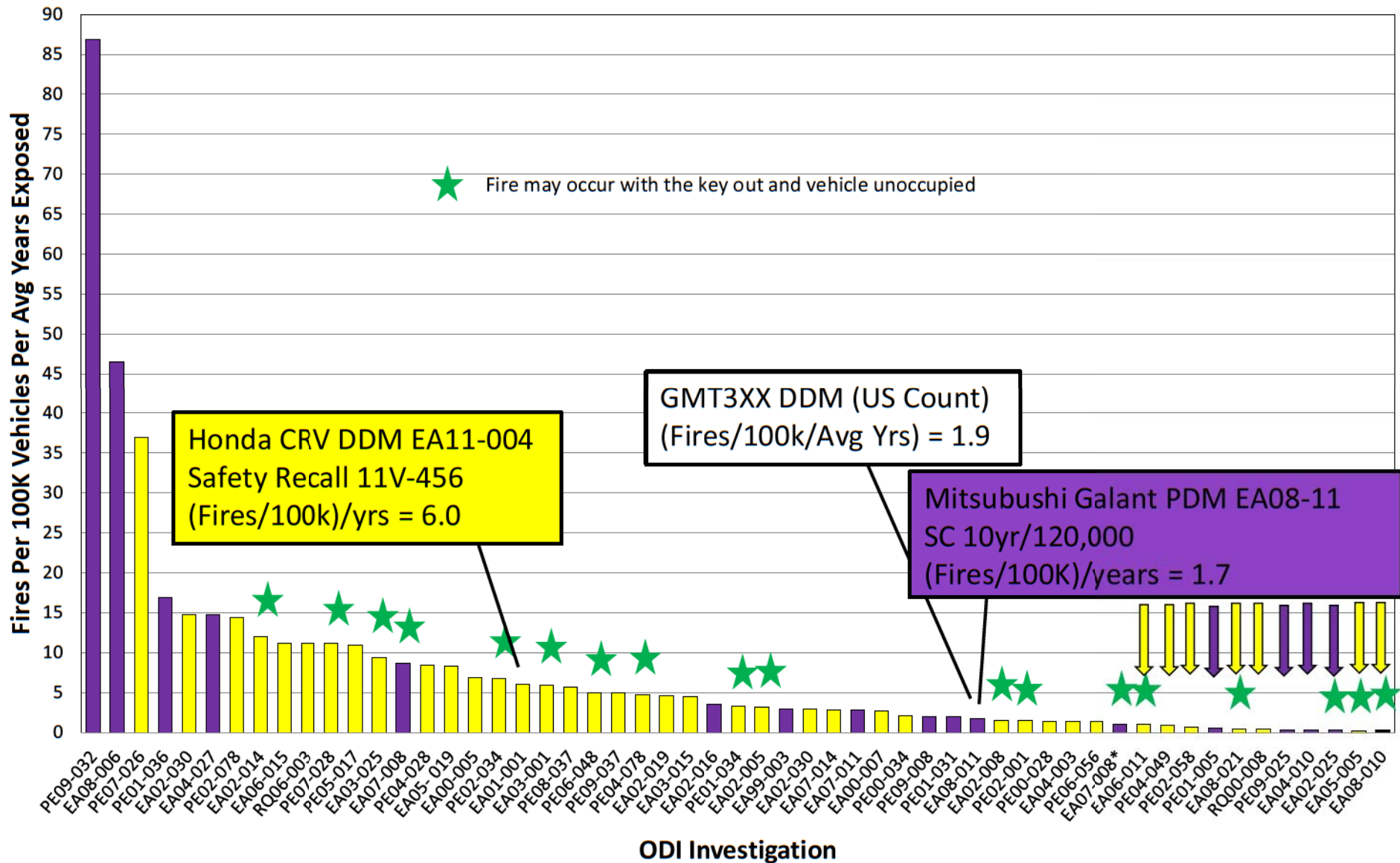


# Inspections/Investigations

1GNDT13S362 [REDACTED]-[REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
 (Yellow - Closed with Recall; Purple - Closed w/out Recall)



Data as of 4-19-12







# Back-Up



# Mitsubishi Galant (2001 Detroit Auto Show)



**VEHICLES POTENTIALLY AFFECTED BY SELLING DIVISION,  
MODEL, AND MODEL YEAR**

Selling Division	Model	Model Year	Number Involved
BUICK	Rainier	2006-7	18,905
CHEVROLET	Trailblazer & EXT	2006-7	313,611
GMC	Envoy & XL	2006-7	123,925
	Total		456,441
<b>GM CANADA</b>			
Buick	Rainier	2006-7	414
Chevrolet	Trailblazer & EXT	2006-7	6,141
GMC	Envoy & XL	2006-7	6,596
SAAB	9-7x	2006	537
	Total		13,688
<b>GM MEXICO</b>			
Chevrolet	Trailblazer & EXT	2006	4,937
<b>I.P.C.</b>			
Chevrolet	Trailblazer & EXT	2006-7	21,733
GMC	Envoy & XL	2006-7	10,131
SAAB	9-7x	2006-7	818
	Total		32,682
Isuzu	Ascender	2006-7	7,031
SAAB	9-7x	2006-7	10,039
<b>TOYOTA</b>			
SAAB	9-7x	2006	1
<b>Unknown</b>			
Buick	Rainier	2007	40
Chevrolet	Trailblazer	2006-7	349
GMC	Envoy	2006	147
Isuzu	Ascender	2007	22
	Total		558
	Total GM		525,377

2/9/12 NHTSA issues PE12-003  
Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

Problem Description:


Melting and/or burning of the driver's master power window switch and related electrical components

2/6/12 NHTSA issues PE12-02  
Product: 2007 Toyota Rav4 and Camry


Problem Description:

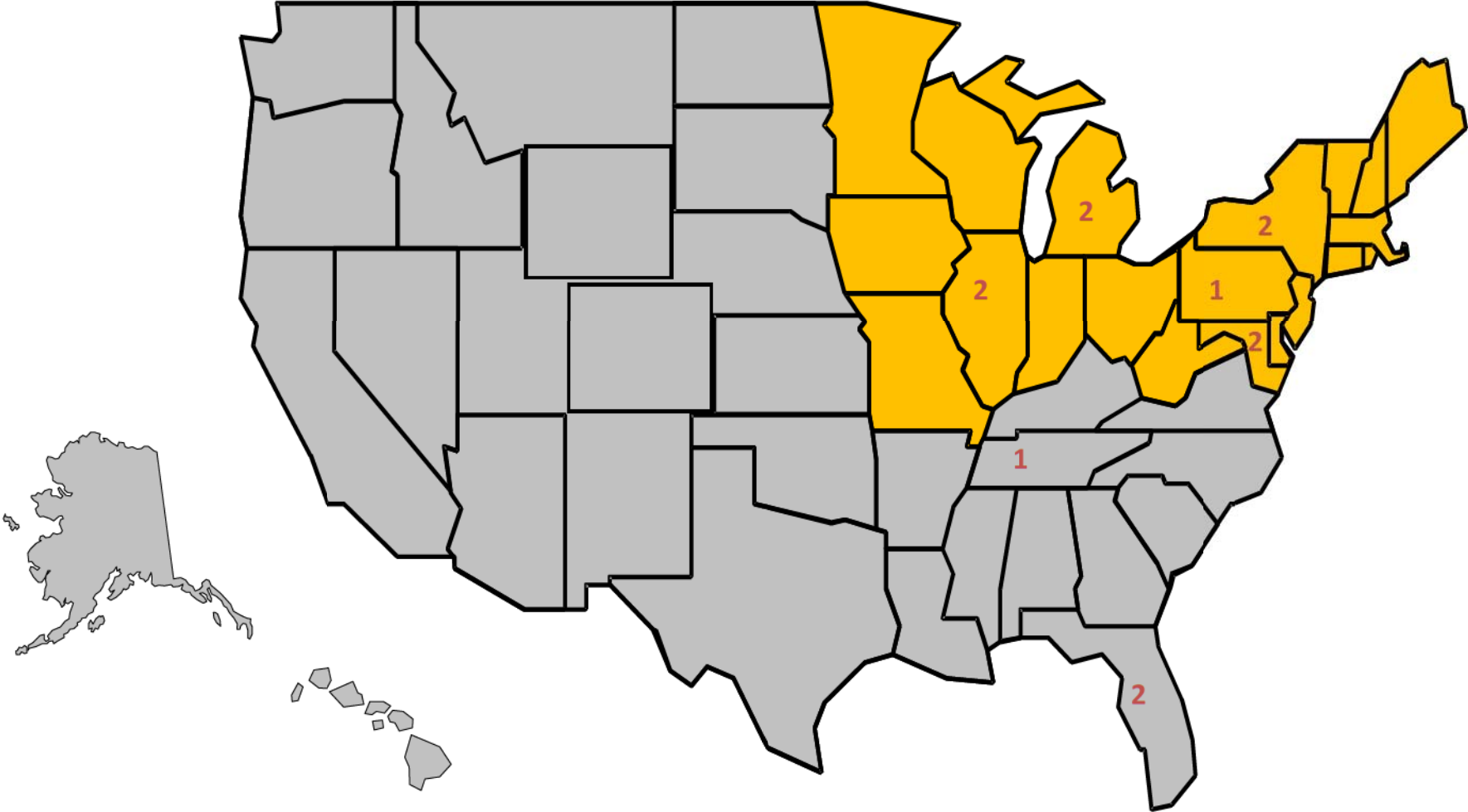
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles


	<b>ODI RESUME</b>			
	Investigation:	PE 12-003		
U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Date Opened:	02/09/2012	Reviewer:	Scott Yon
	Investigator:	Emily Reichard	Approver:	Frank Boris
	Subject:	Driver's Master Power Window Switch		
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>				
Manufacturer:	GENERAL MOTORS LLC			
Products:	2006-2007 Chevrolet Trailblazers			
Population:	309,423 (Estimated)			
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.			
<b>FAILURE REPORT SUMMARY</b>				
	ODI	Manufacturer	Total	
Complaints:	12	TBD	TBD	
Crashes/Fires:	10	TBD	TBD	
Injury Incidents:	0	TBD	TBD	
Fatality Incidents:	0	TBD	TBD	
Other*:	0	TBD	TBD	
*Description of Other:				
<b>ACTION / SUMMARY INFORMATION</b>				
Action: A Preliminary Evaluation (PE) has been opened.				
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657				

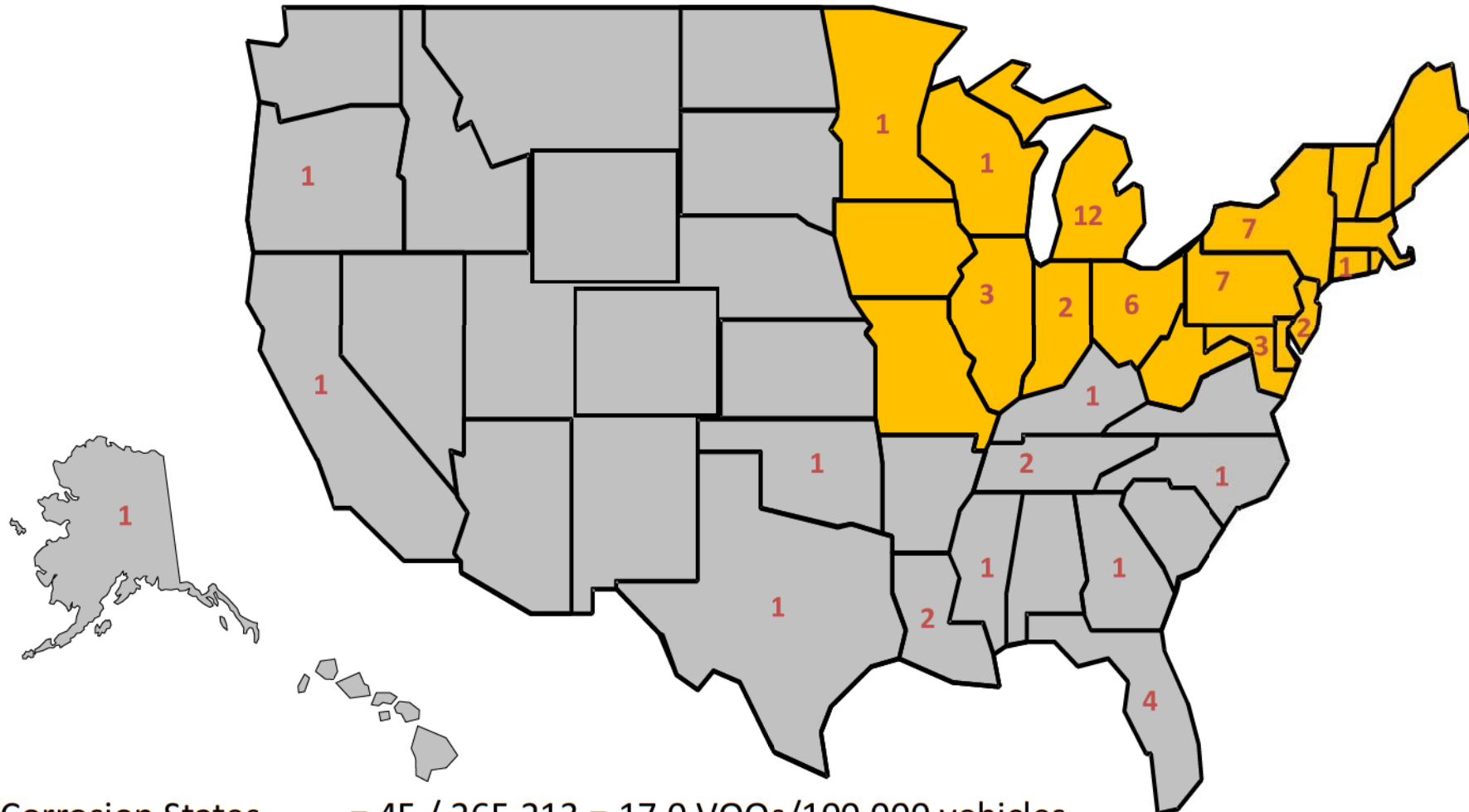
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States



2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
62 VOQs as of 3/19/12

 NHTSA defined Corrosion States



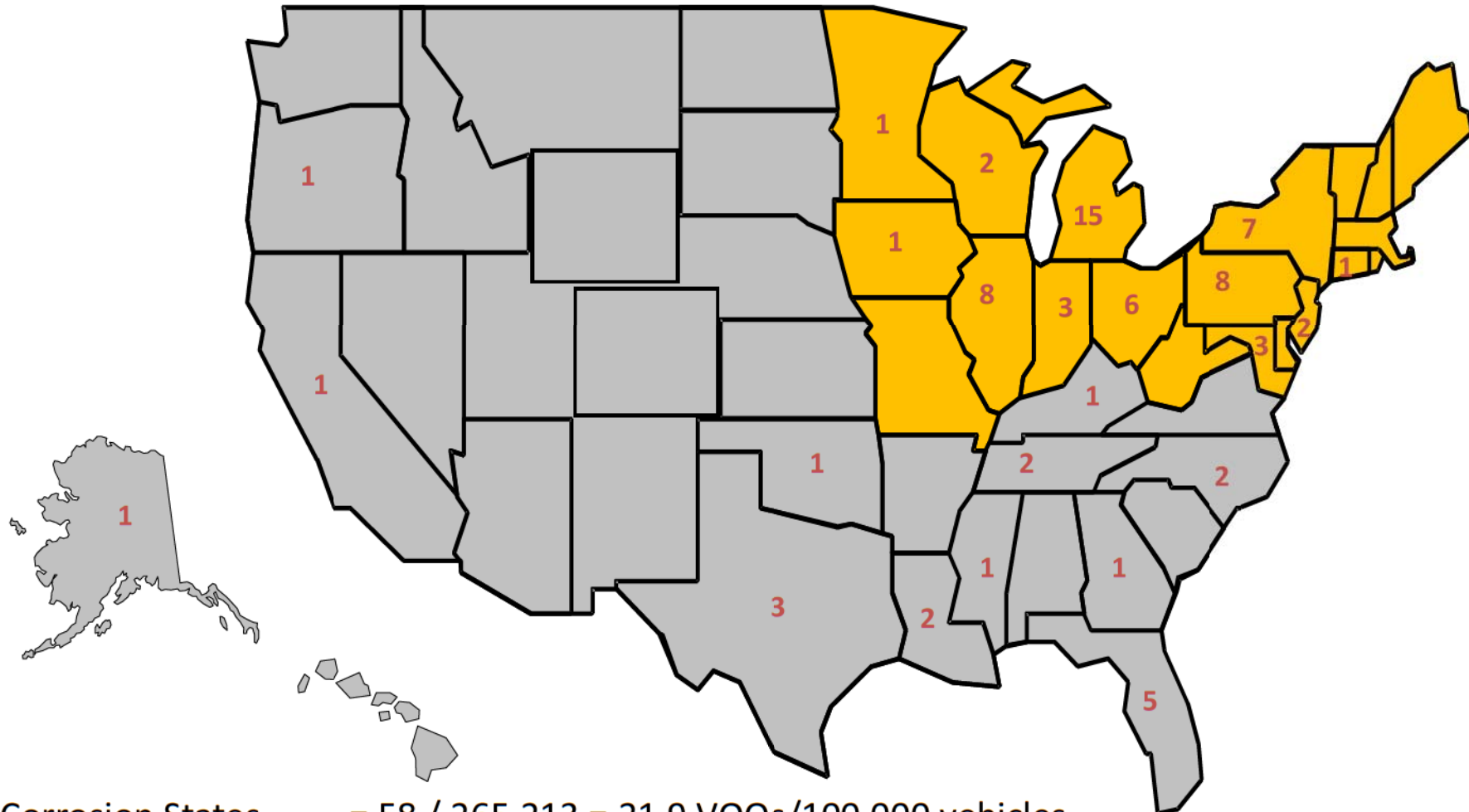
Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles

Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles



2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
79 VOQs as of 4/16/12

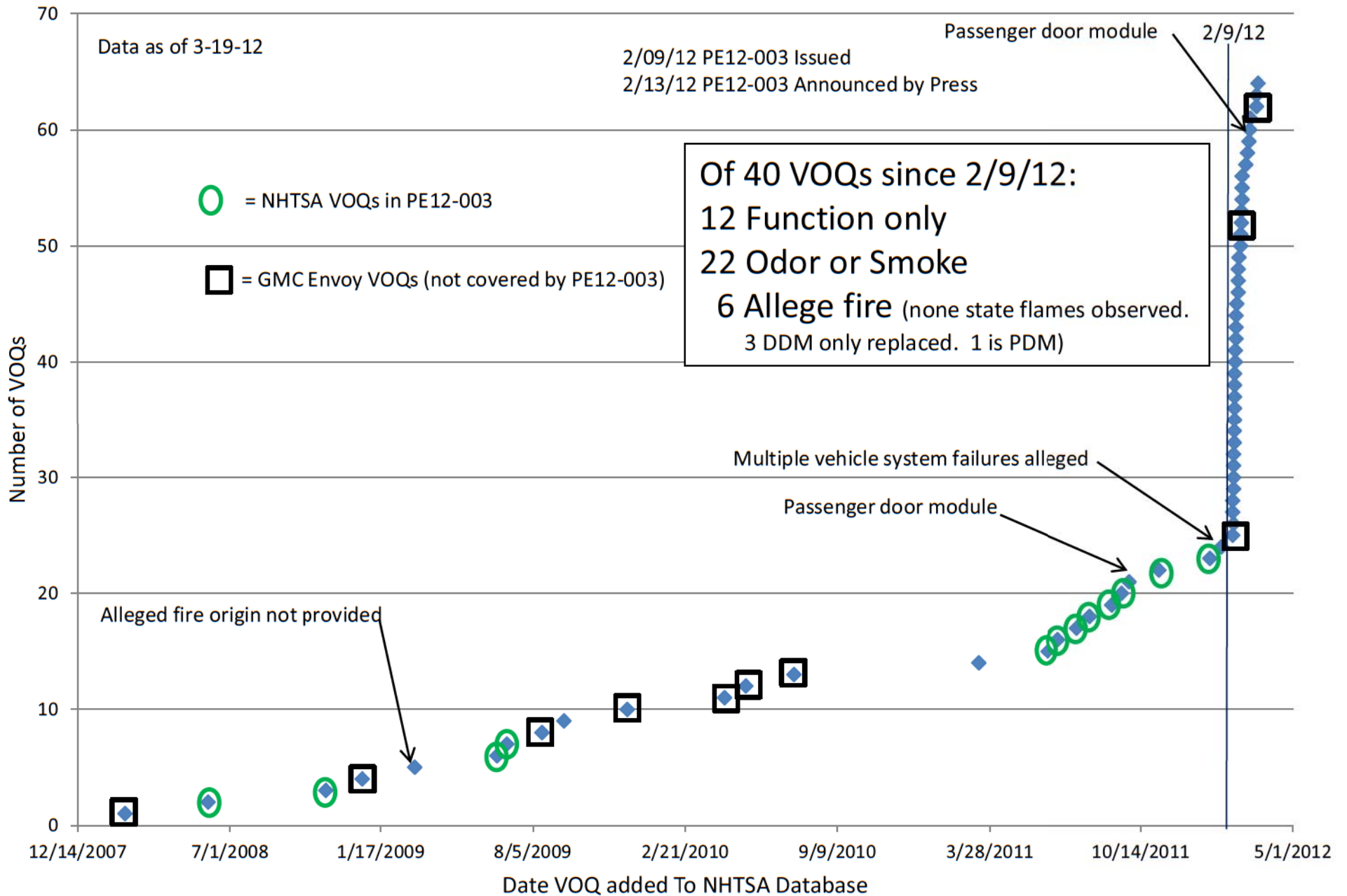
 NHTSA defined Corrosion States



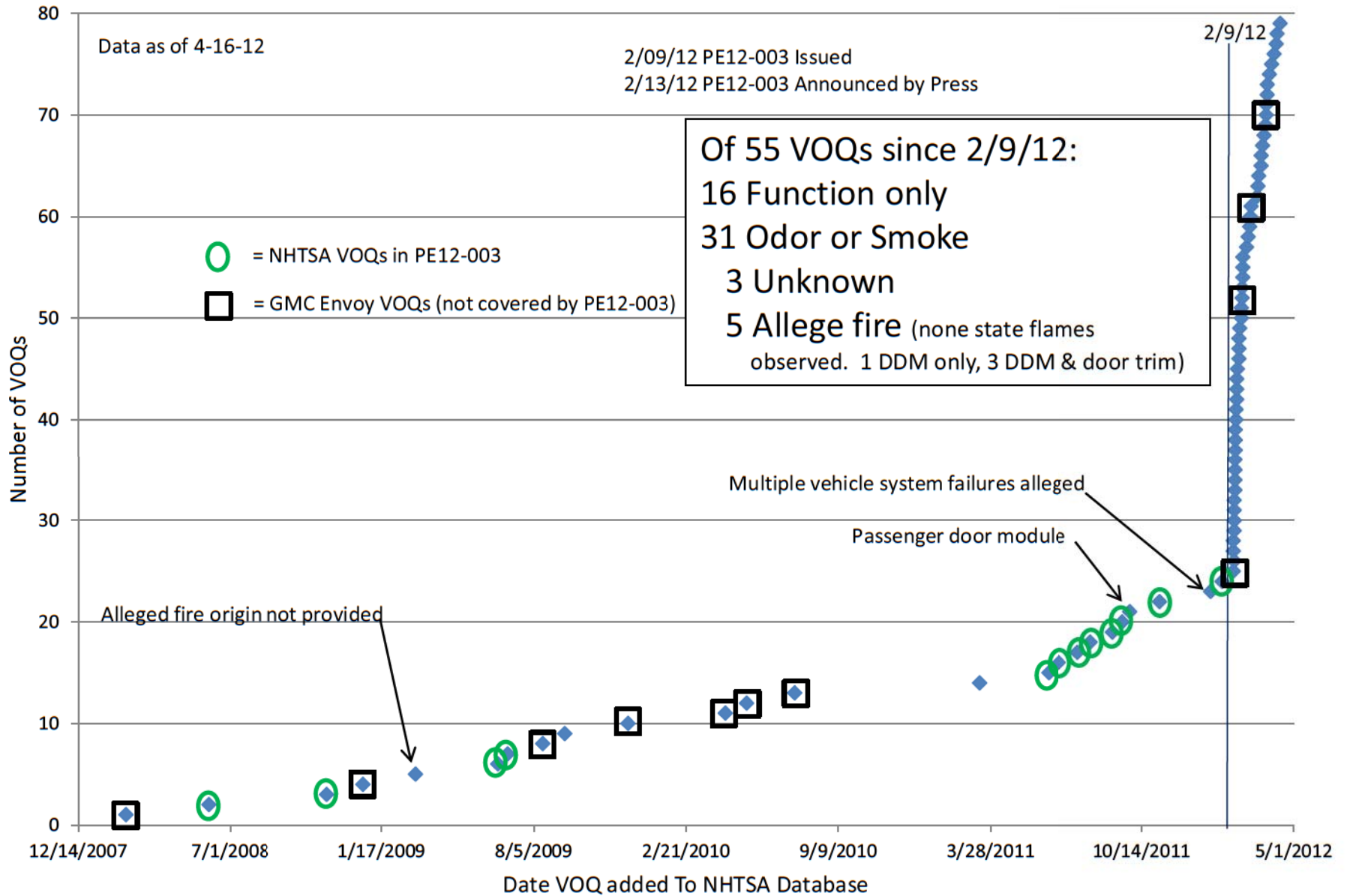
Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles

Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles

# 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded

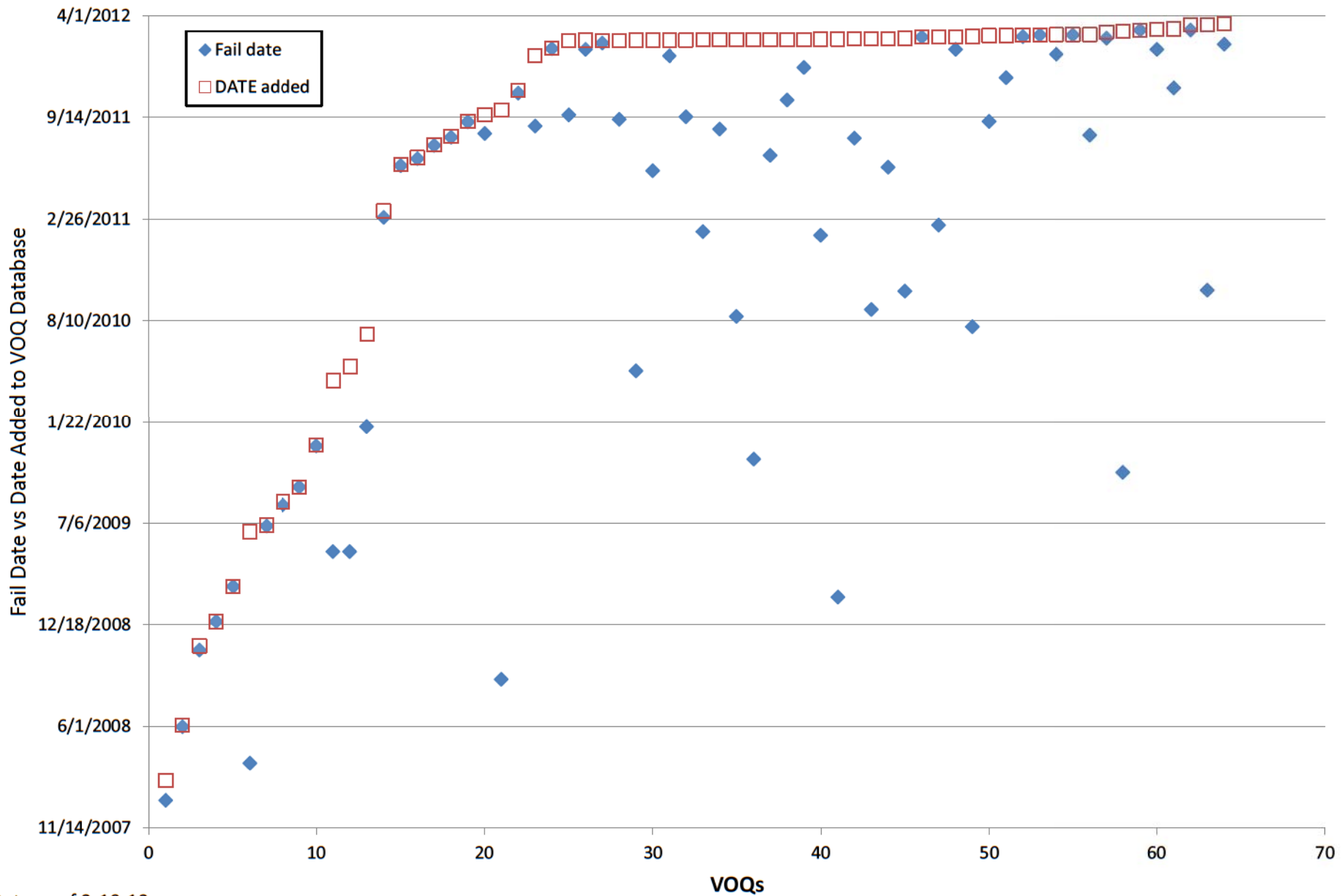


## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



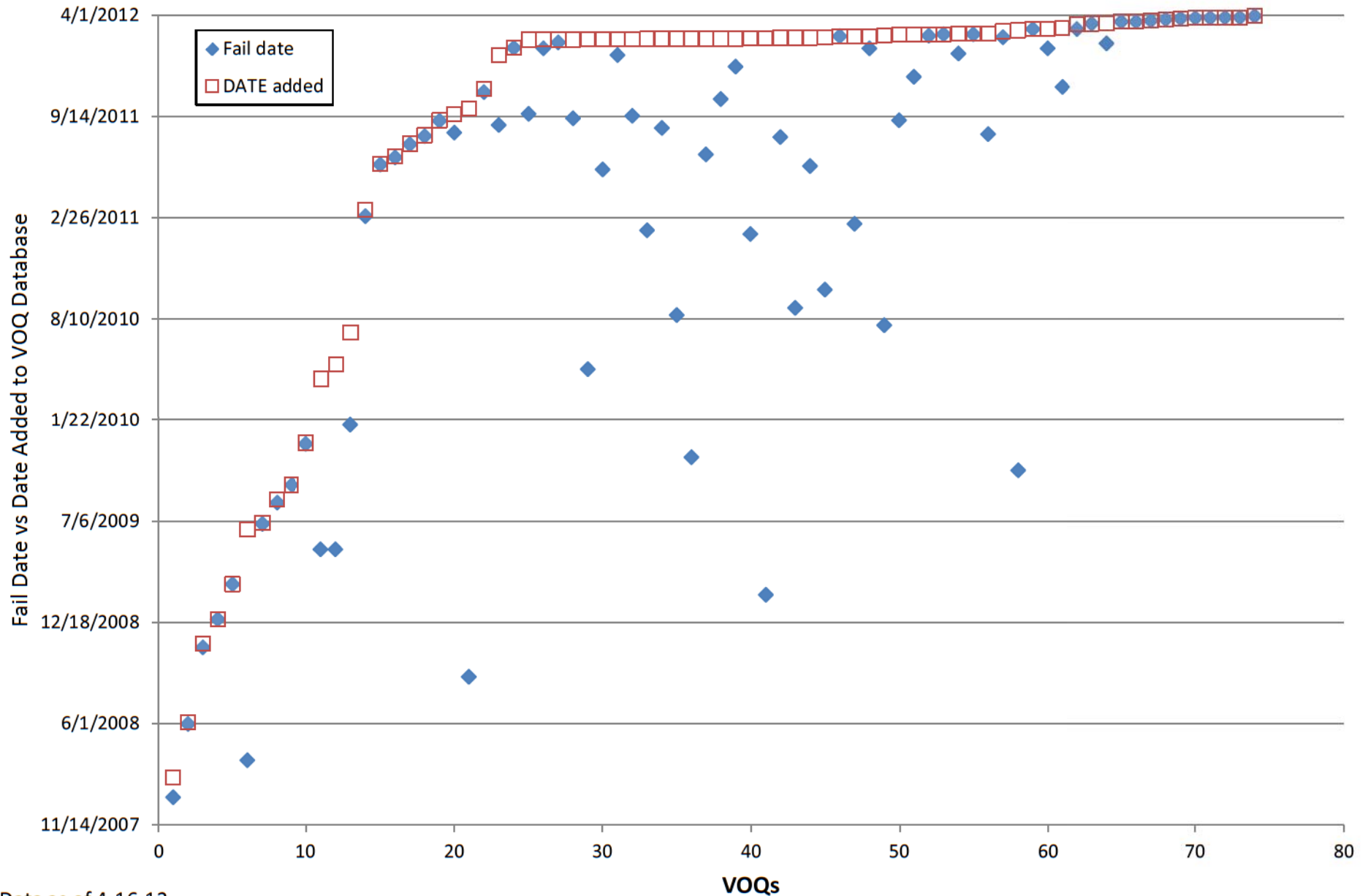
Data as of 4/16/12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 3-19-12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 4-16-12



# Inspections/Investigations

1GKET63M462[REDACTED] - [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit VOQs

**Data 4/16/12**

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege “fire”

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

4 confirmed fires

2 Unknown

13 fire/flame not likely (minor damage)

21 state smoke

17 state odor

21 state function

1 TBD



# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6) & 2007 (81.1)

[TREAD search for 2005](#)

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

## TREAD Data summary (fire)

### Data 4/19/12

#### 37\* Claims overall

2006 – 16

2007 – 21

- Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:
  - Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
  - Fire did not occur in 22 cases (11 2006 & 11 2007)

\*No cases known where "fire" extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

7.6/100K

2006 (5.4) & 2007 (11.2)

\*No cases known where “fire” extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

VOQs + TREAD (Data 4/19/12)

**51\* Total** (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

Very few incidents were actual “fires”. Most were odor, melting, or smoke.



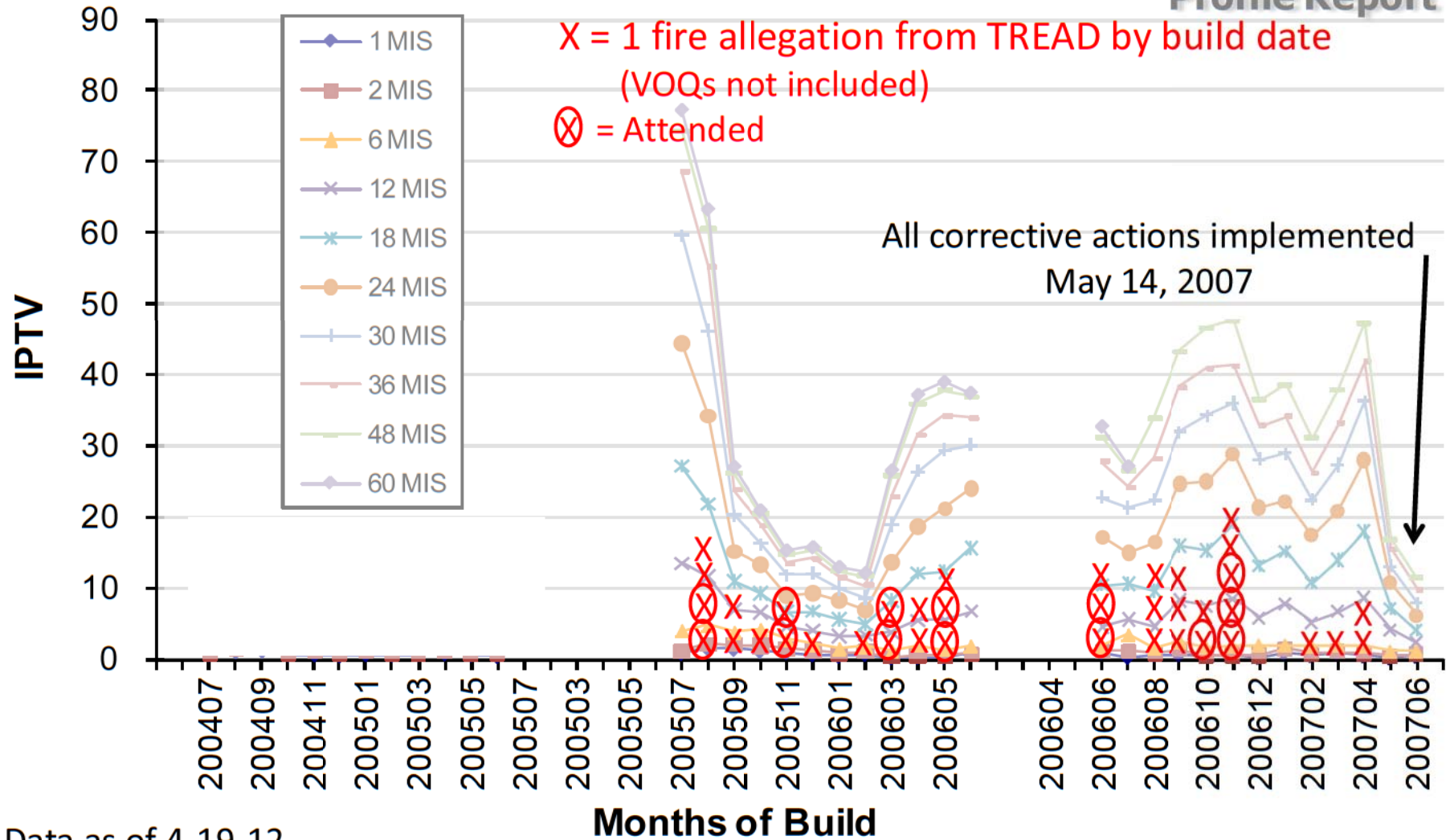


# U.S. Fire Allegations by Build Date

## 2006-2007 GMT360/370 DDM Global Warranty

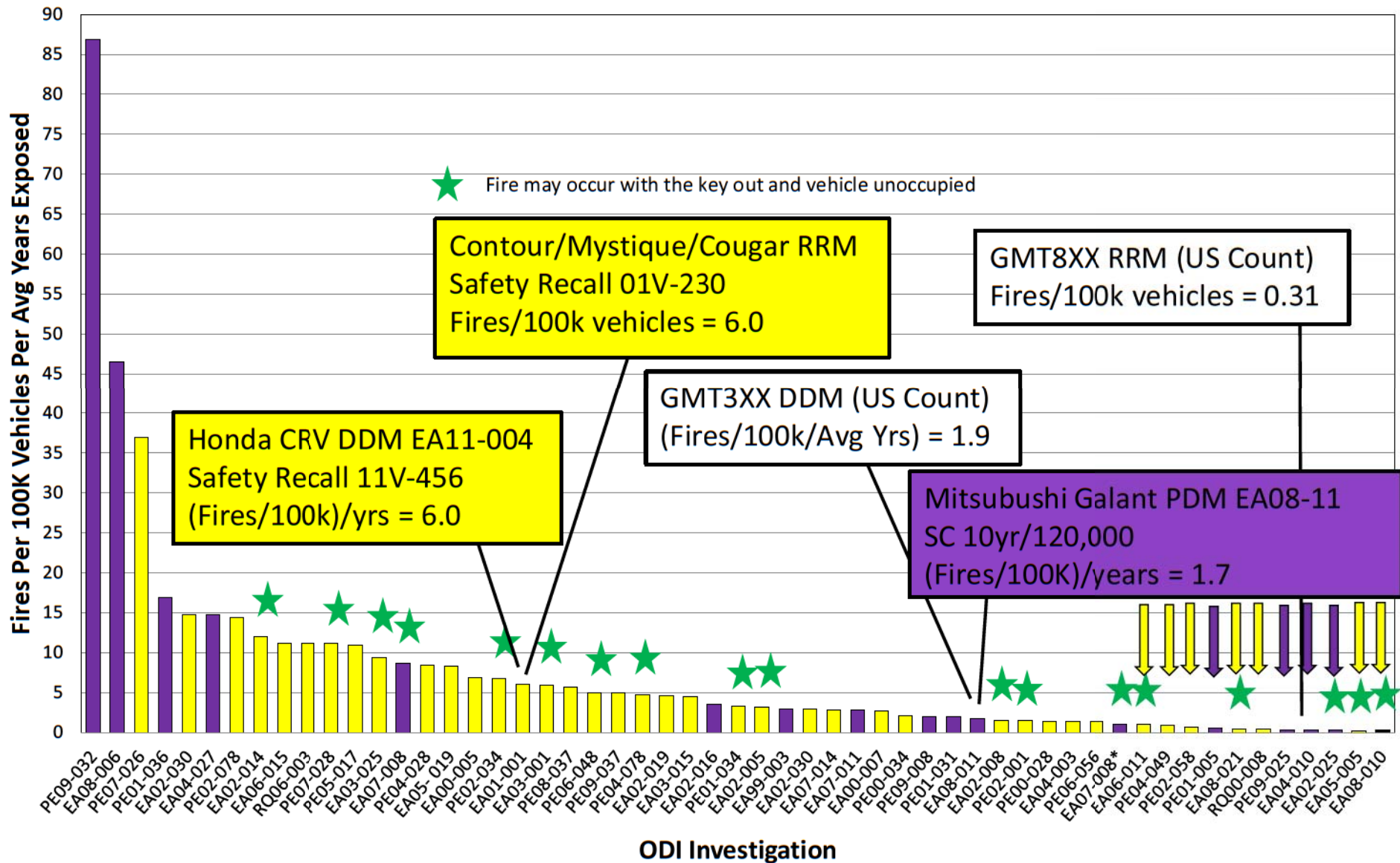
### Labor Ops N2117

**Profile Report**



Data as of 4-19-12

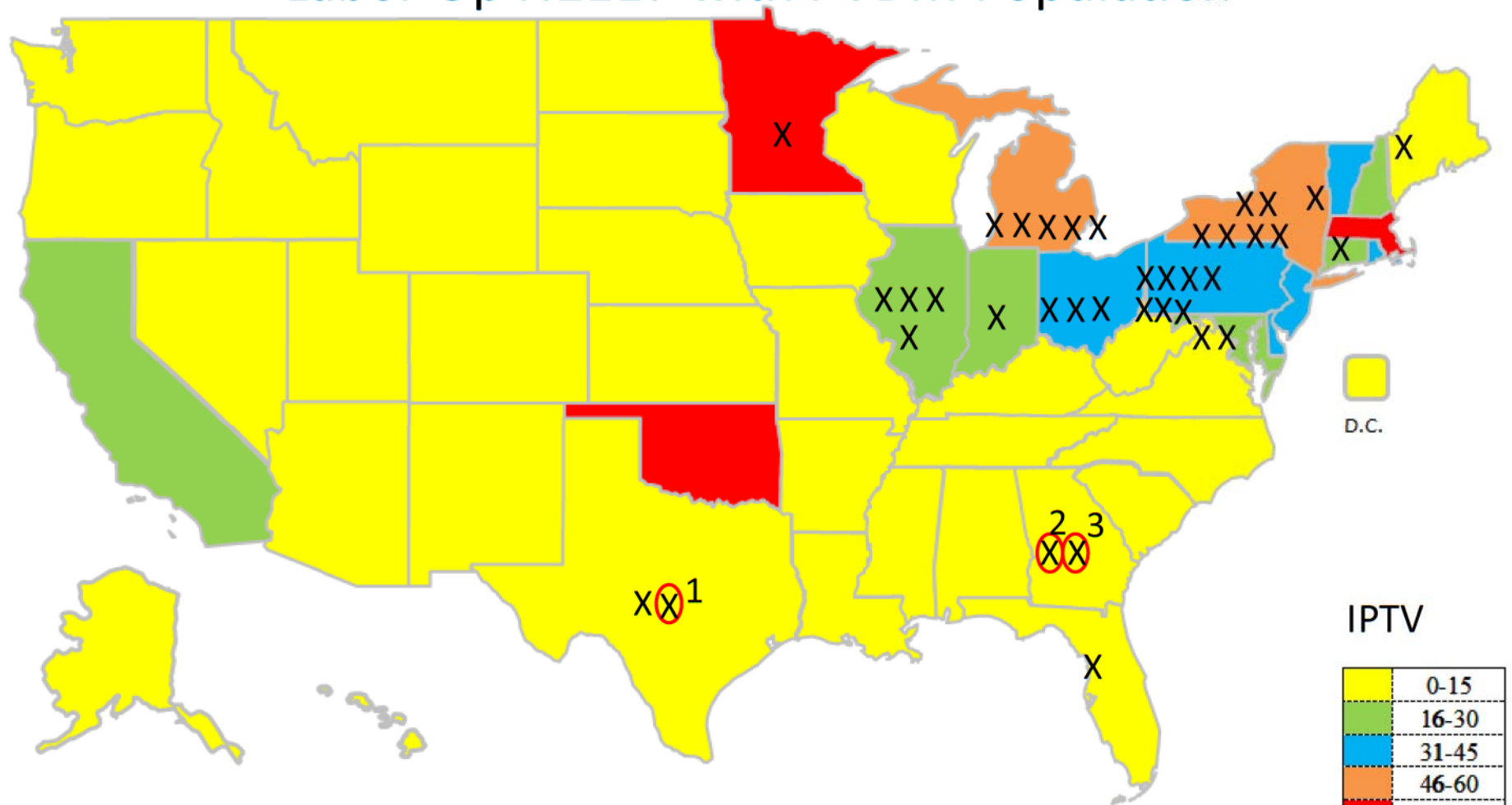
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12



# 2006-2007 GMT360/370 DDM US Warranty Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 4-19-12

122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
Subject:	Driver's Master Power Window Switch		

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	26	29**
Crashes/Fires:	5	26	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0
*Description of Other:			
** Count indicates duplicate reports received by ODI and manufacturer.			

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<b>Summary:</b> The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.  The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.

# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.



Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaxerj2>

	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
By: <i>Peter Ong</i>  Sp. Chief: <i>D. Scott Yen</i> Office Dir: <i>Kathleen C. DeMeter</i>	Date: <i>08/21/2009</i> Date: <i>08/21/2009</i> Date: <i>08/21/2009</i>		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

**Summary:**

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.

# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>





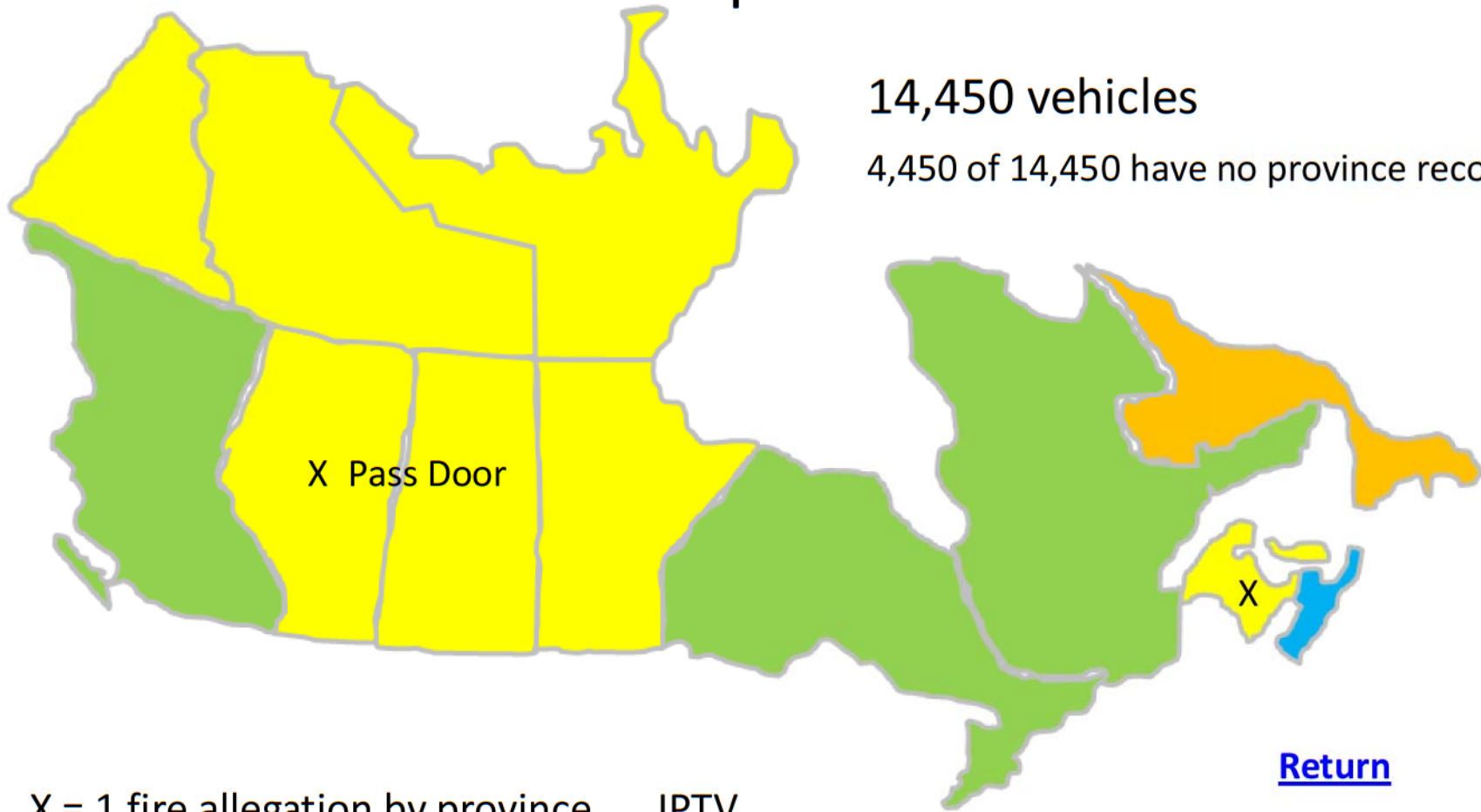




# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record



X = 1 fire allegation by province

IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Warranty data as of 4-19-12

[Return](#)

EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function EFADC 8-6-12

mailout-p

## Driver Door Module Short Circuit



**2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender**  
**Potential change from SC to SR 525,377 vehicles (global)**  
 { \*\* } (depending upon action)

ETQ N110323

### Condition:

There are reports of short circuits on driver door modules that control window and lock function, and if equipped, heated seat operation. On 2/9/12 NHTSA PE12-003 was issued with 12 VOQs (Trailblazer only). Response submitted 4/20/12. NHTSA upgraded to EA12-004 6/11/12.

### Effect of the Condition:

In nearly all cases, the short circuit will result in an open fuse and a loss of function to one or more of the following: remote keyless entry, door lock, power windows, and/or heated seats. In rare instances the short could be such that the fuse does not open, or takes some time to open. If this occurs, heating of plastic and surrounding parts could result in smoke, or in very rare circumstances a fire. GM Engineering is unaware of any cases where a fire extended beyond the vehicle interior.

### Discovery/Technical Root Cause:

Internal investigation opened 5/26/11 after review of TREAD data and VOQs. Root cause is fluid contacting DDM printed circuit board and shorting between power and ground.

**Responsibility:** Engineering (The design failure mode was not comprehended, and the design met all GM validation requirements)

**Potential Field Action Category:** Revise from Special Coverage 10 yrs/120,000 miles to Safety Recall

**Potential Field Remedy:** Treat DDM to prevent short circuits (not currently validated) or replace DDM.

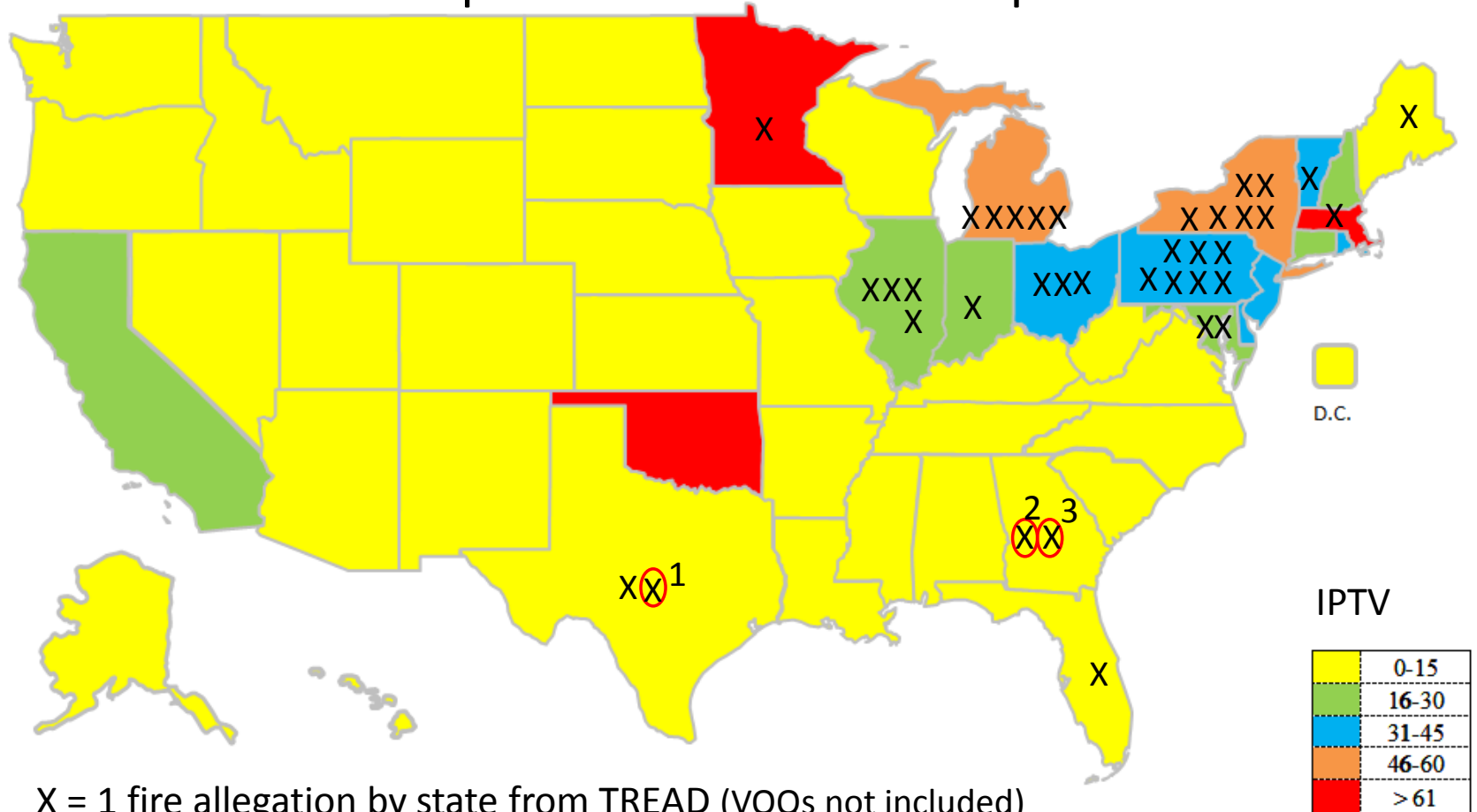


# Potential Field Action Alternatives

- Safety Recall and replace DDM for entire population
  - { \*\* } (includes { \*\* } capital equip)
  - Timing TBD (assembly line updates req'd to build parts)
- Safety Recall and replace DDM for corrosion states\* & Canada with Special Coverage for non corrosion vehicles
  - { \*\* }
- Safety Recall and rework DDM to coat PCB for entire population
  - { \*\* }
    - Timing TBD
      - Validate coating approximately mid-late August 2012
      - Coating material availability TBD
      - Mylar skirt availability TBD
- Safety Recall and rework DDM to coat PCB in corrosion states\*, Canada, and offer Special Coverage elsewhere
  - { \*\* }
    - 95% of alleged fires in TREAD were vehicles from Corrosion states.

\*Safety Recall Population would include vehicles currently registered in, or ever registered in a corrosion state

# 2006-2007 GMT360/370 DDM US Warranty Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)

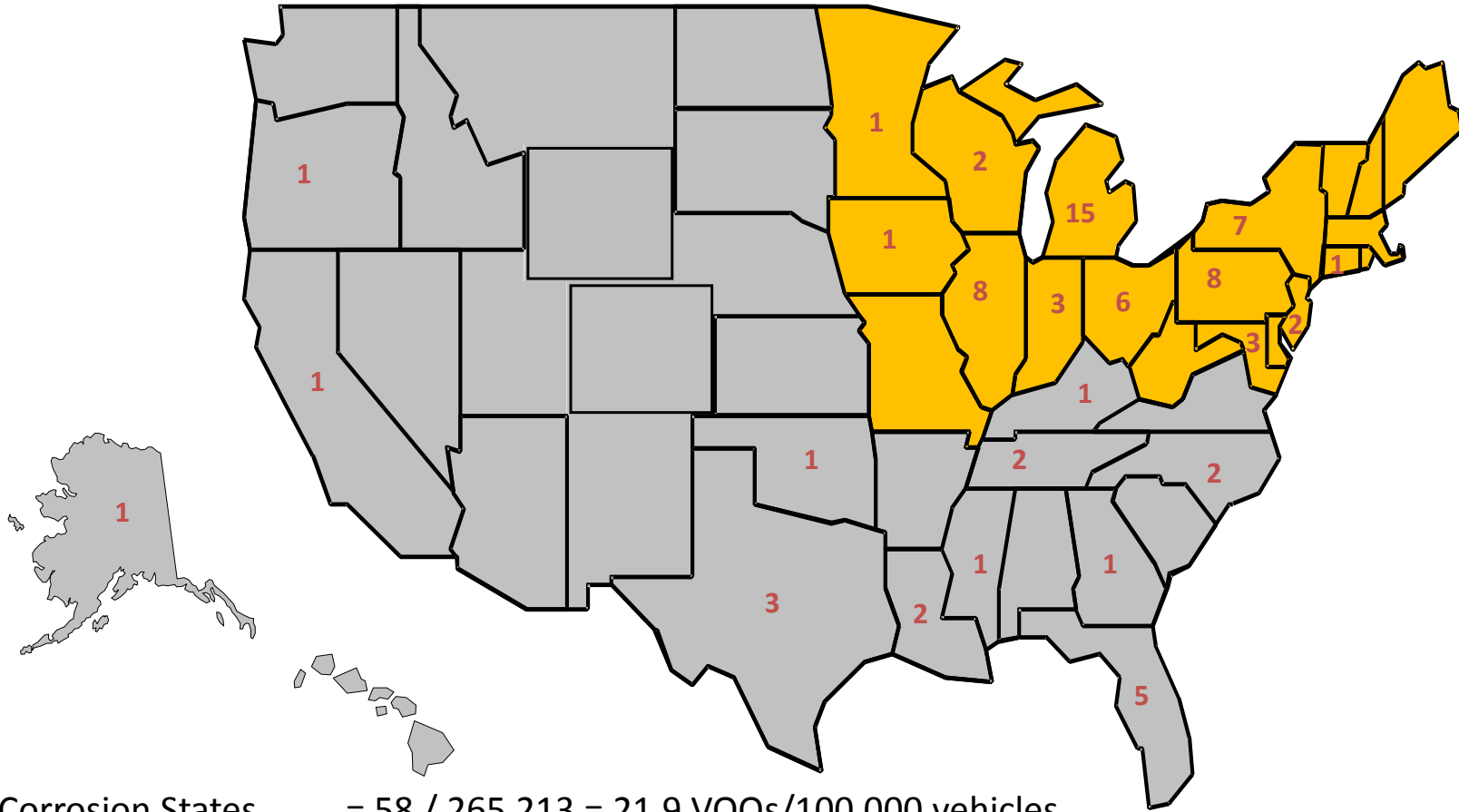
⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 4-19-12

122 of 483,664 have no state record

2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
79 VOQs as of 4/16/12

 NHTSA defined Corrosion States



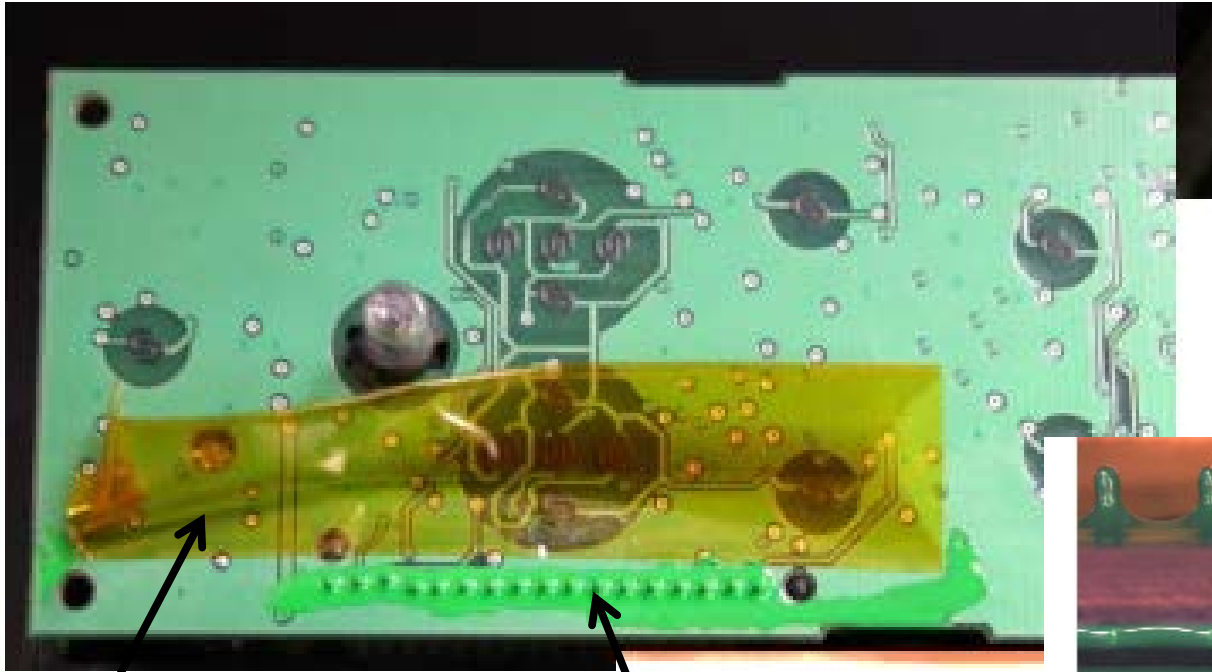
Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles

Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles



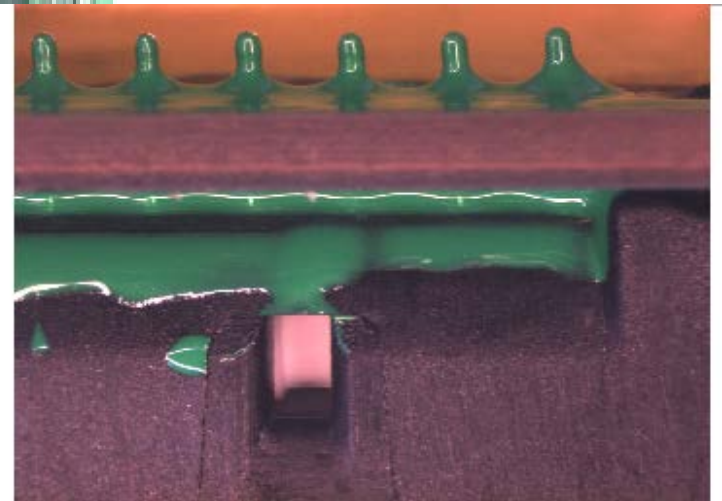


# GMT3XX DDM Proposed PCB Treatment



Mask to protect switch contacts

Coating applied



Close-up of PCB edge coating

# 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit

## Technical Root Cause:

Moisture will tend to collect at the forward left corner of the module, and depending upon the amount and type of liquid intrusion into the DDM, corrosion of the printed circuit board traces may occur and current flow may be compromised.



Base Switch Package



Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] - [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

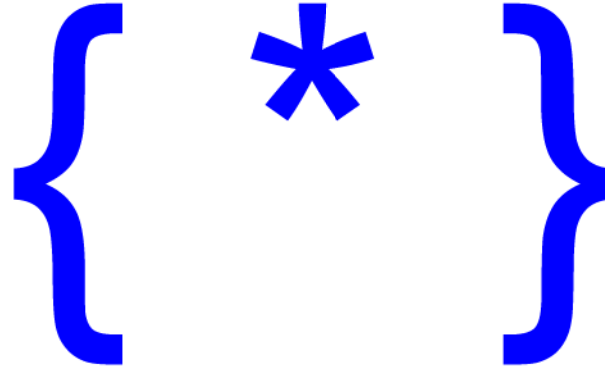
Function EFADC 8-6-12-p

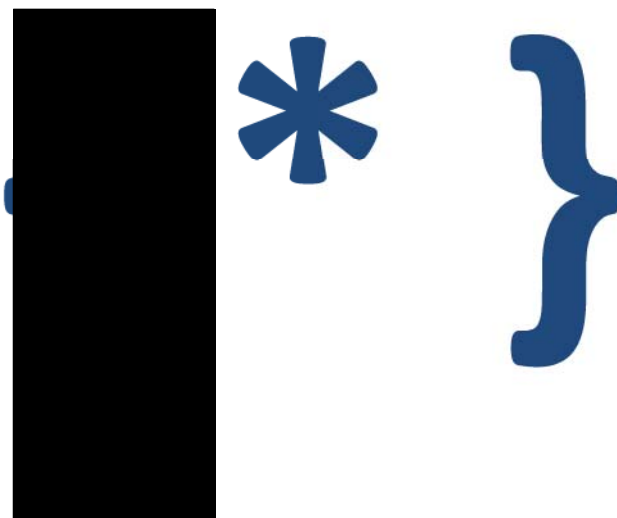
## Driver Door Module Short Circuit



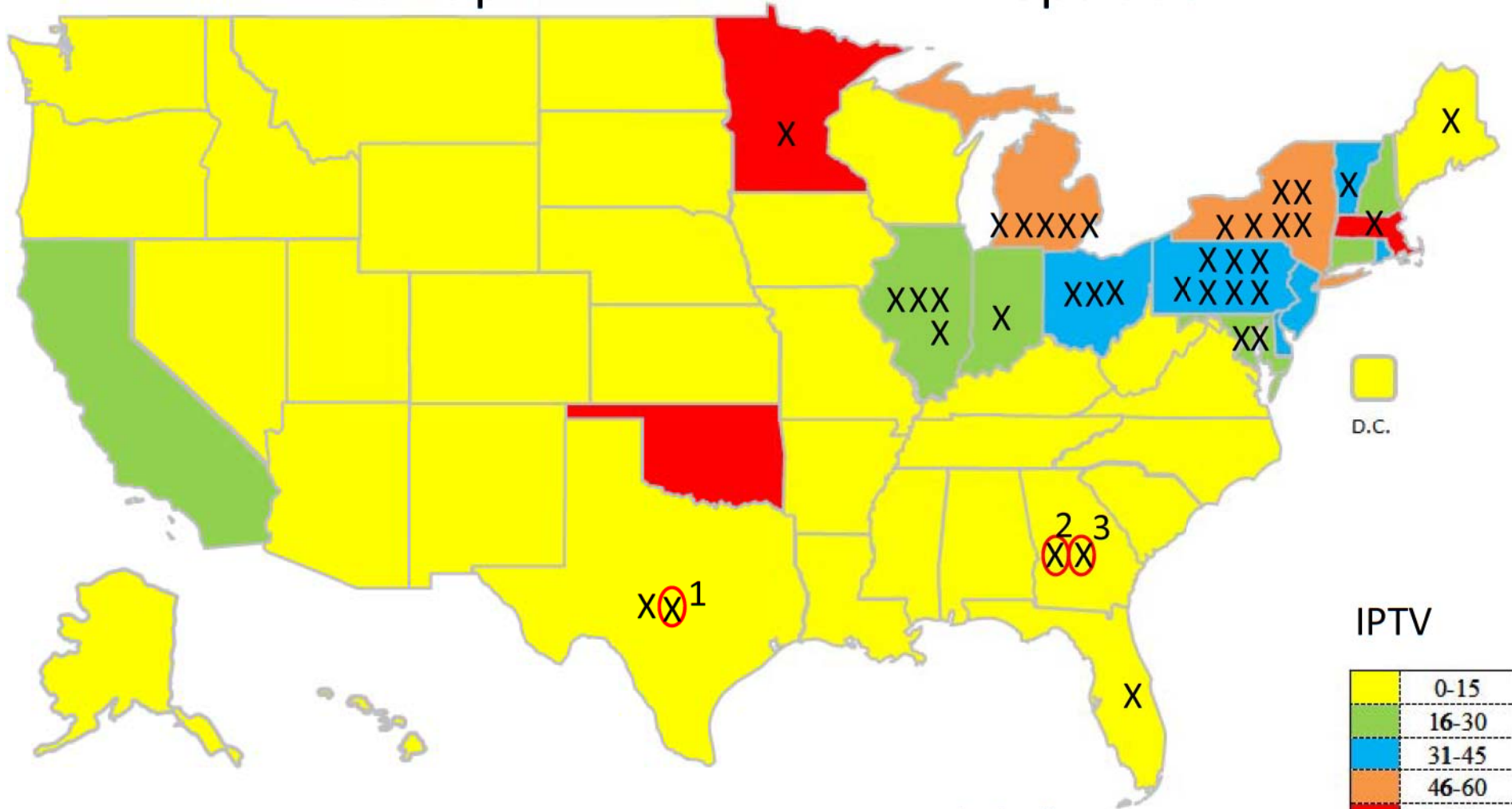
**2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender**  
**Potential change from SC to SR 525,377 vehicles (global)**  
**{ \*\* } (depending upon action)**

ETQ N110323





# 2006-2007 GMT360/370 DDM US Warranty Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)


⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

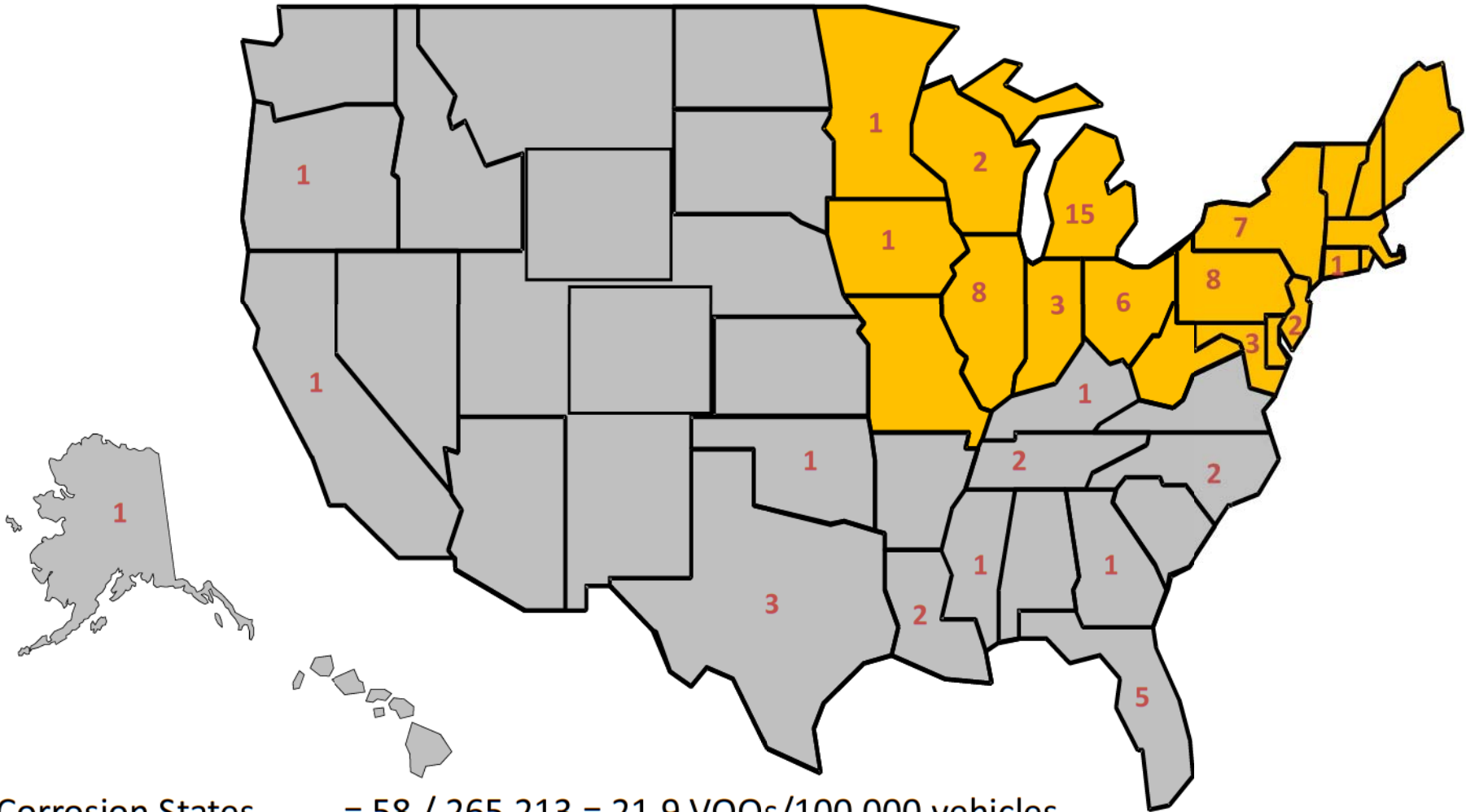
Data as of 4-19-12

122 of 483,664 have no state record

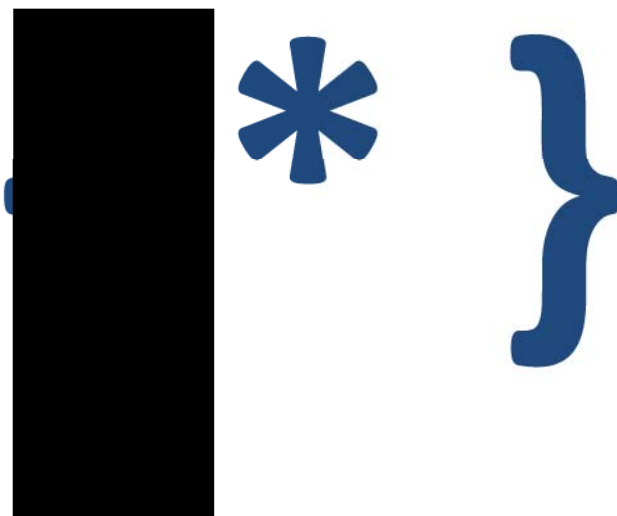


2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
 79 VOQs as of 4/16/12

 NHTSA defined Corrosion States



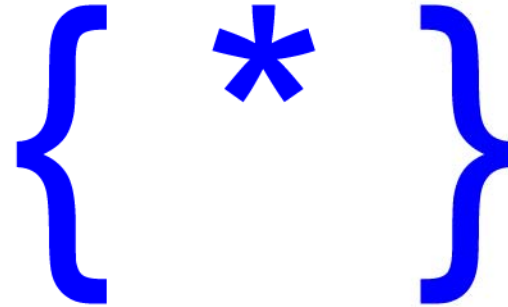
Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles  
 Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles



## 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit



Base Switch Package

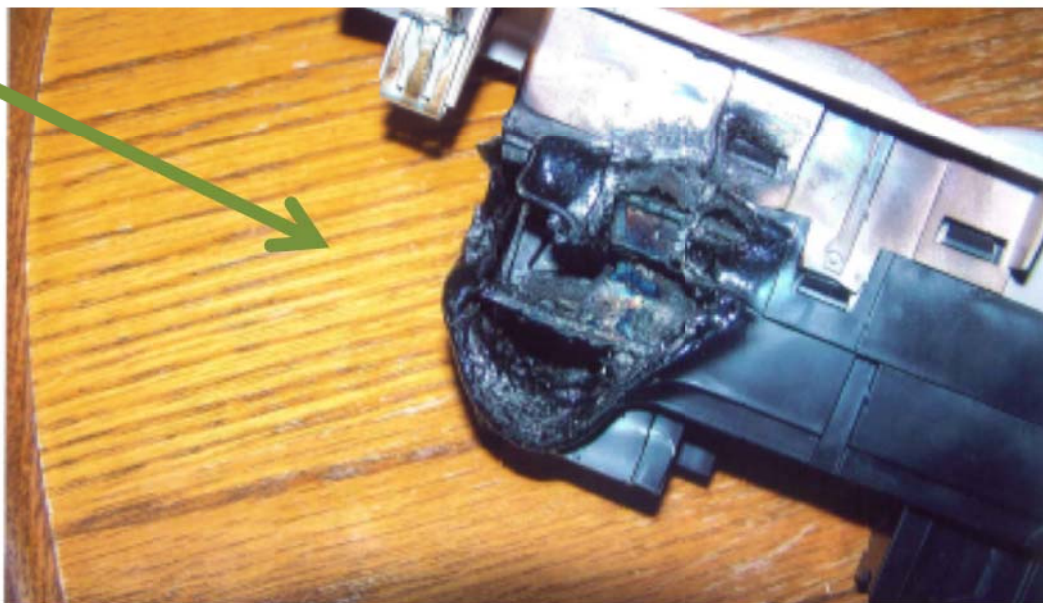


Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



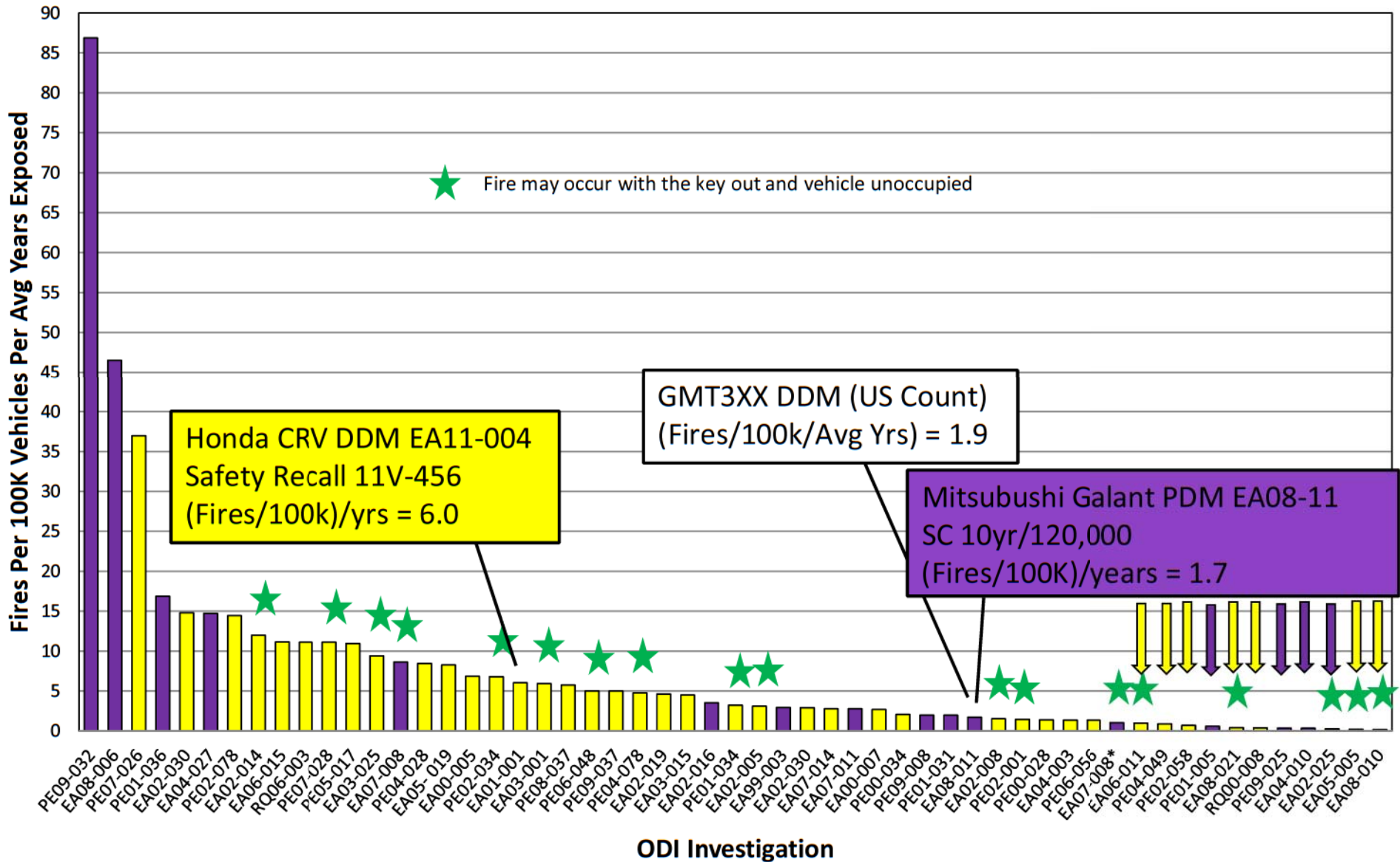
# Inspections/Investigations

1GNDT13S362 [REDACTED] - [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended, New York.



# Back-Up

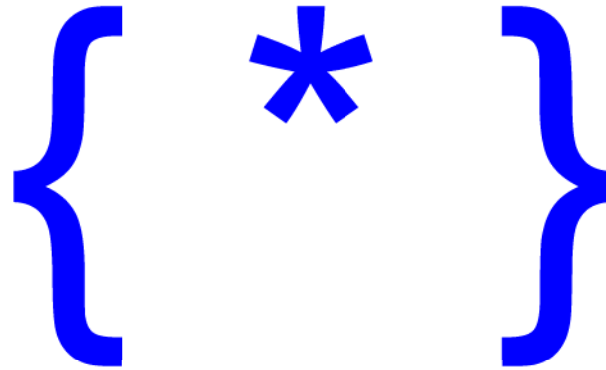
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12



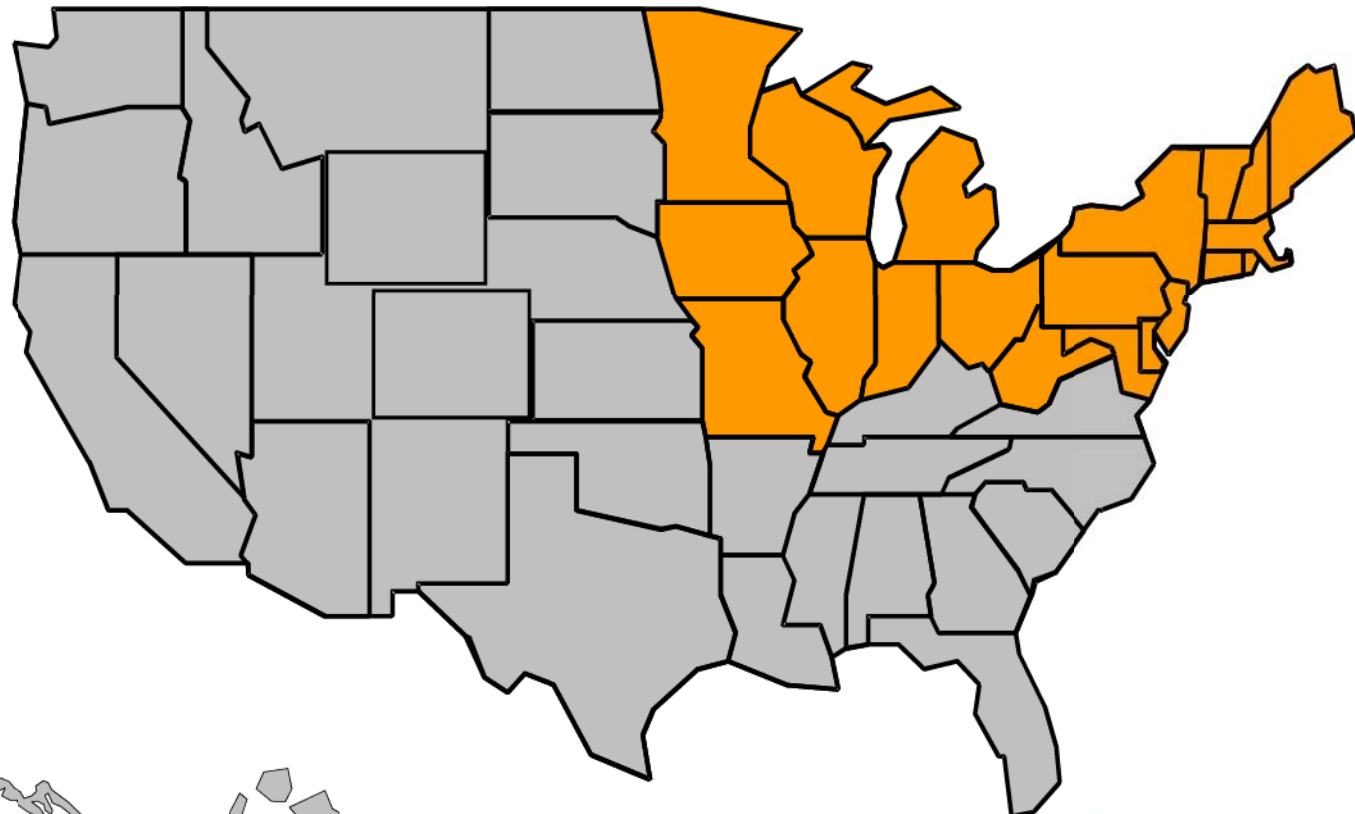
# Driver Door Module Short Circuit Support for Potentially Providing Special Coverage



# NHTSA – Corrosion States



Per NHTSA letter NSA-11jdw (ref ODI RQ97017) received 9/4/98, minimum states to be included for problems related to corrosion from long term exposure to road salt



US "corrosion" states: Connecticut, Delaware, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Missouri, Minnesota, New Jersey, New York, New Hampshire, Ohio, Pennsylvania, Rhode Island, Vermont, Wisconsin, West Virginia, and the District of Columbia

# Mitsubishi Galant (2001 Detroit Auto Show)



**VEHICLES POTENTIALLY AFFECTED BY SELLING DIVISION,  
MODEL, AND MODEL YEAR**

Selling Division	Model	Model Year	Number Involved
<b>BUICK</b>	Rainier	2006-7	18,905
<b>CHEVROLET</b>	Trailblazer & EXT	2006-7	313,611
<b>GMC</b>	Envoy & XL	2006-7	123,925
	<b>Total</b>		<b>456,441</b>
<b>GM CANADA</b>			
Buick	Rainier	2006-7	414
Chevrolet	Trailblazer & EXT	2006-7	6,141
GMC	Envoy & XL	2006-7	6,596
SAAB	9-7x	2006	537
	<b>Total</b>		<b>13,688</b>
<b>GM MEXICO</b>			
Chevrolet	Trailblazer & EXT	2006	4,937
<b>I.P.C.</b>			
Chevrolet	Trailblazer & EXT	2006-7	21,733
GMC	Envoy & XL	2006-7	10,131
SAAB	9-7x	2006-7	818
	<b>Total</b>		<b>32,682</b>
Isuzu	Ascender	2006-7	7,031
SAAB	9-7x	2006-7	10,039
<b>TOYOTA</b>			
SAAB	9-7x	2006	1
<b>Unknown</b>			
Buick	Rainier	2007	40
Chevrolet	Trailblazer	2006-7	349
GMC	Envoy	2006	147
Isuzu	Ascender	2007	22
	<b>Total</b>		<b>558</b>
	<b>Total GM</b>		<b>525,377</b>

2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

**Problem Description:**

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry


**Problem Description:**

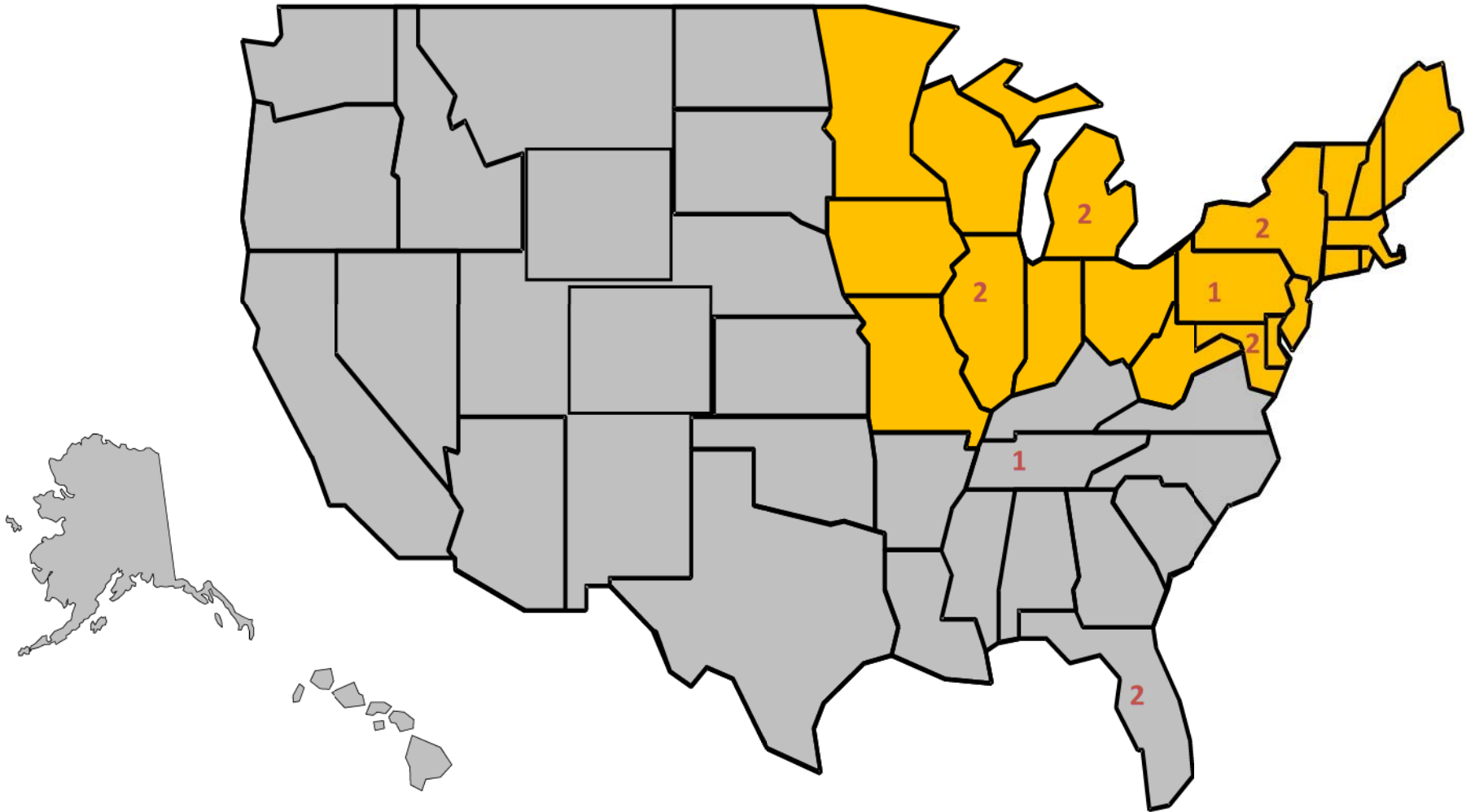
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

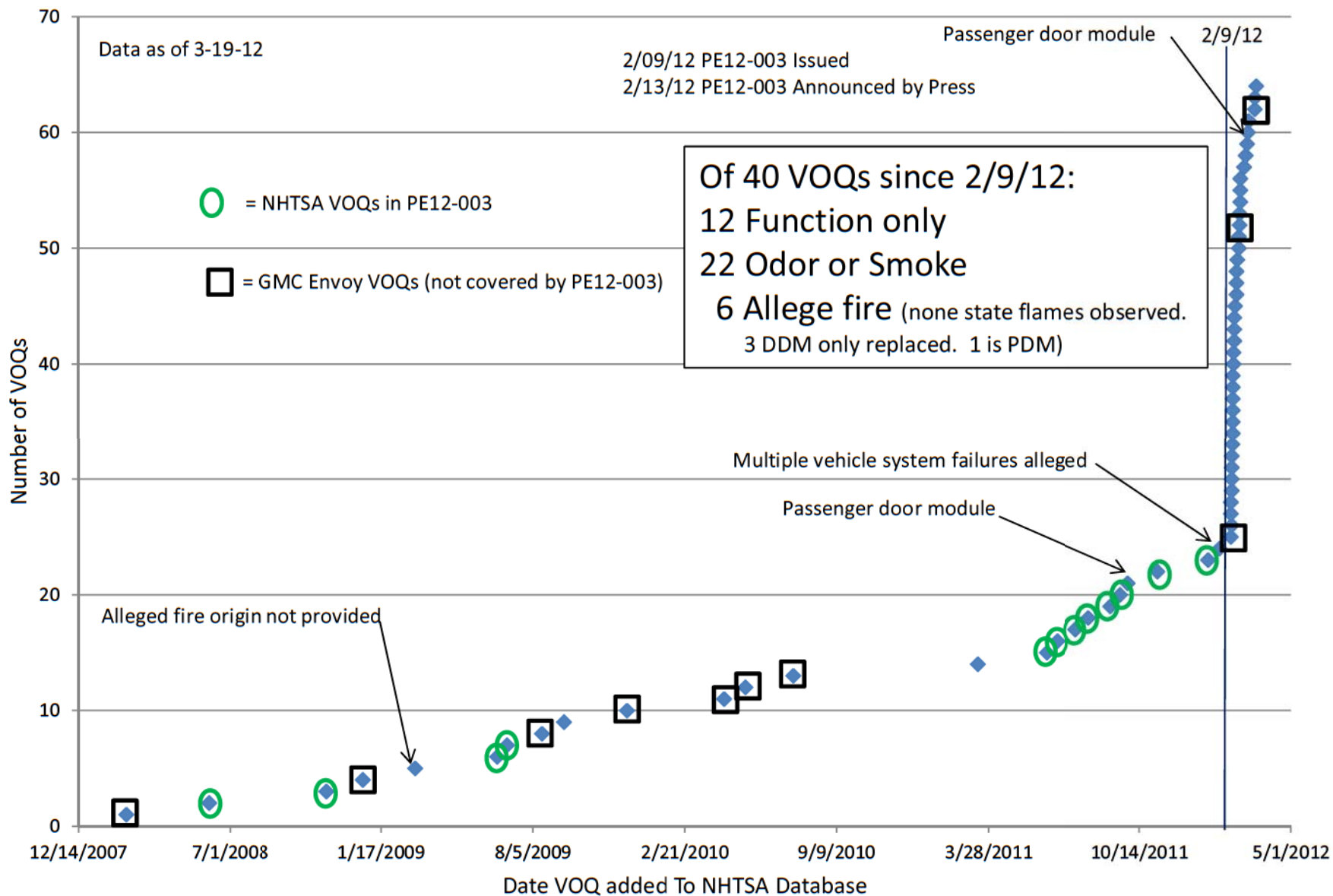
 U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>		<b>ODI RESUME</b>	
Investigation:	PE 12-003	Date Opened:	02/09/2012
Investigator:	Emily Reichard	Reviewer:	Scott Yon
Approver:	Frank Borris	Subject:	Driver's Master Power Window Switch
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			

PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

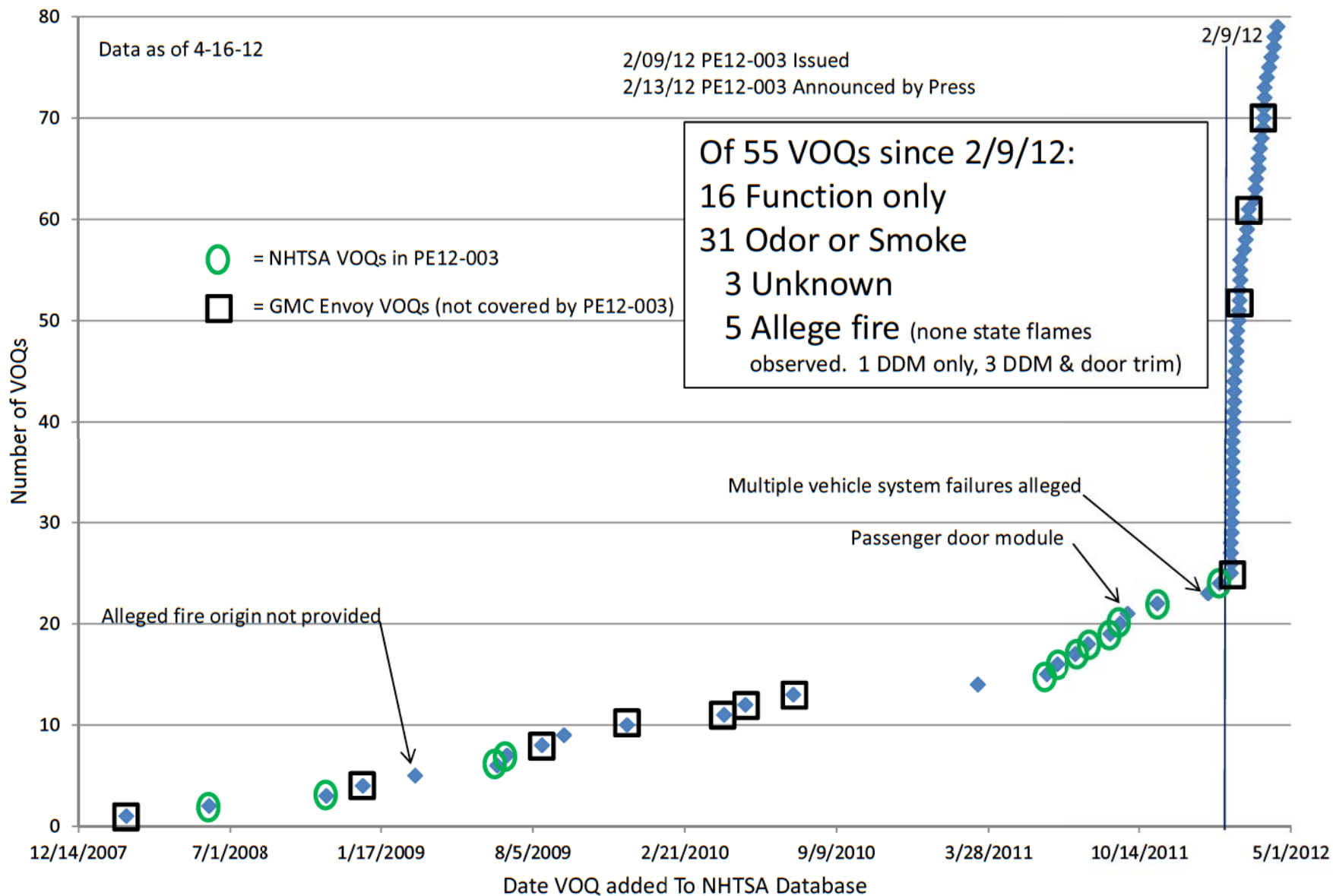
 NHTSA defined Corrosion States



## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



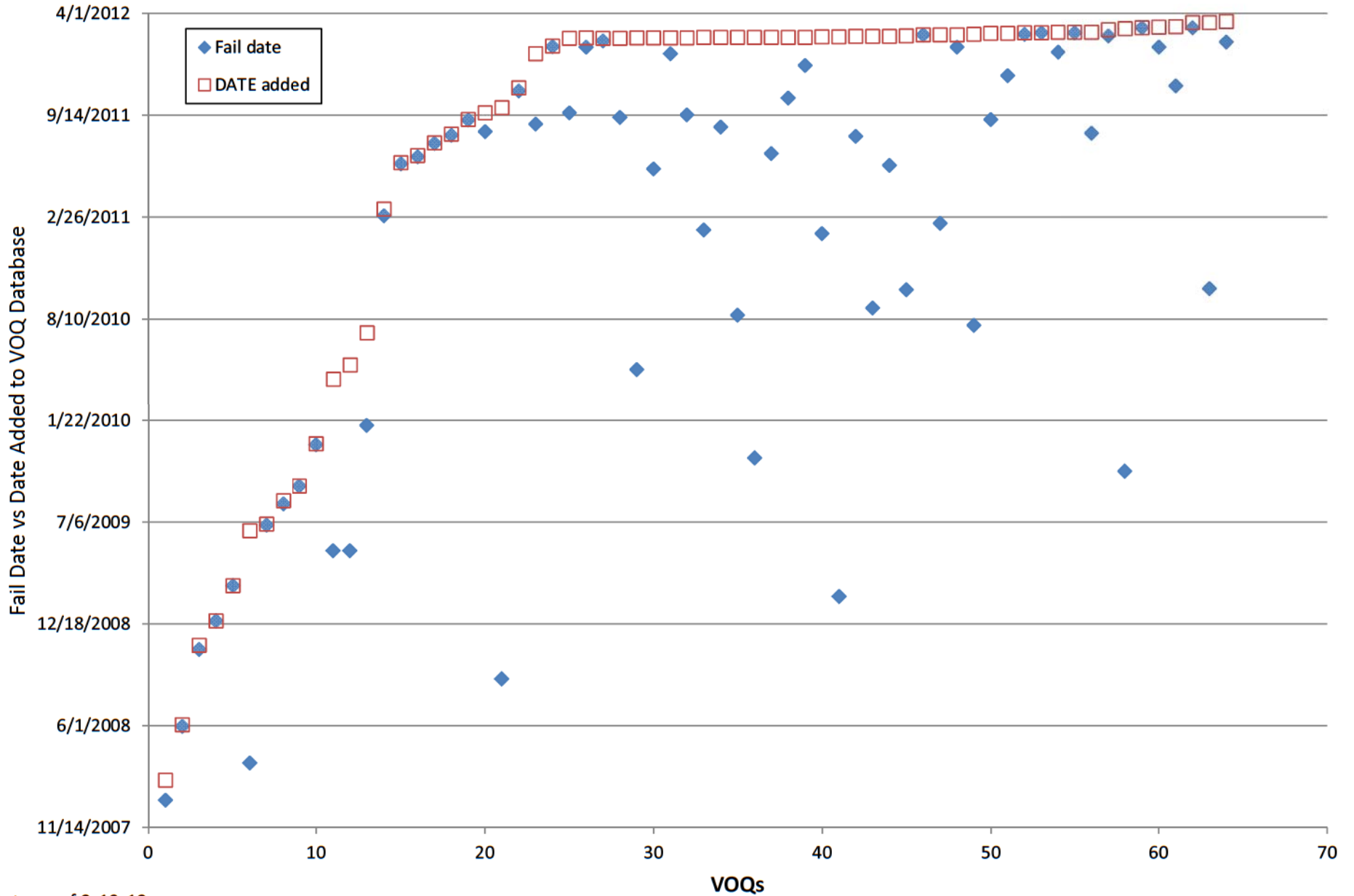
## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



Data as of 4/16/12

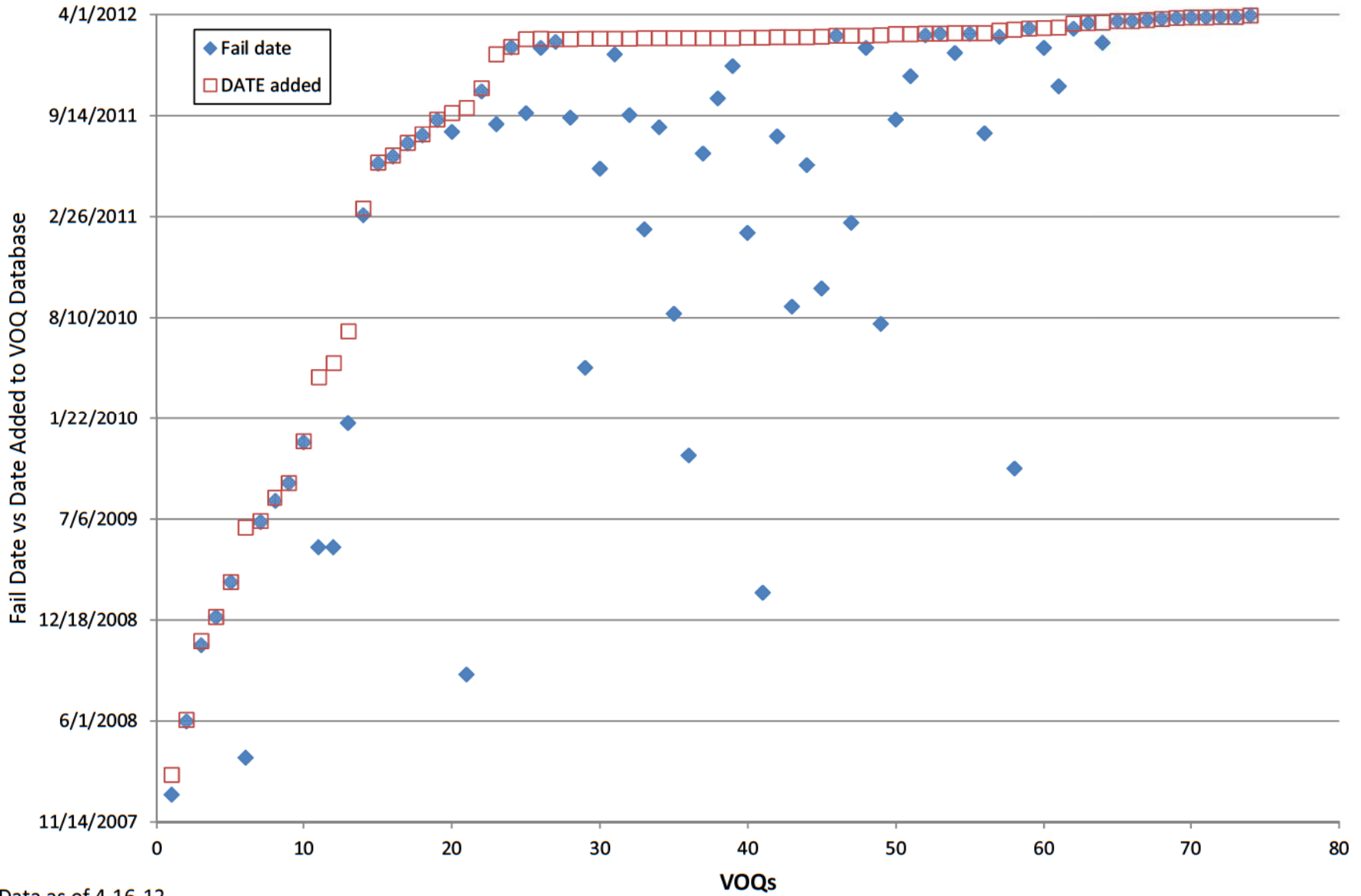


## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



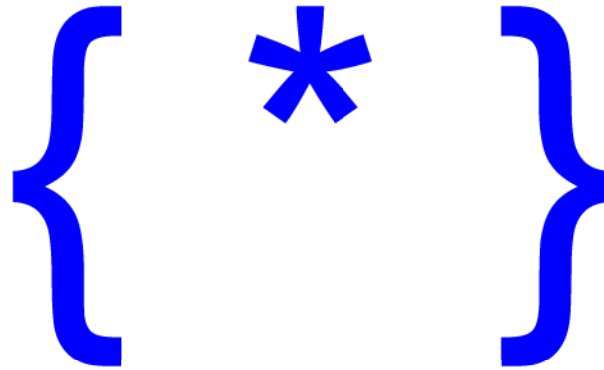
Data as of 3-19-12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 4-16-12

# Driver Door Module Short Circuit



# Inspections/Investigations

1GKET63M462 [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit VOQs

**Data 4/16/12**

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege “fire”

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

4 confirmed fires

2 Unknown

13 fire/flame not likely (minor damage)

21 state smoke

17 state odor

21 state function

1 TBD

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6) & 2007 (81.1)

### [TREAD search for 2005](#)

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

## TREAD Data summary (fire)

### Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

- Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:
  - Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
  - Fire did not occur in 22 cases (11 2006 & 11 2007)

\*No cases known where "fire" extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

7.6/100K

2006 (5.4) & 2007 (11.2)

\*No cases known where “fire” extended beyond vehicle interior. Many imply fire while not observed.



# Driver Door Module Short Circuit

VOQs + TREAD (Data 4/19/12)

**51\* Total** (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

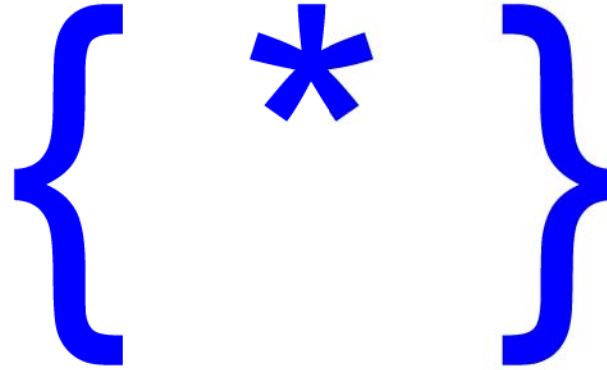
2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

Very few incidents were actual “fires”. Most were odor, melting, or smoke.

# Risk Assessment



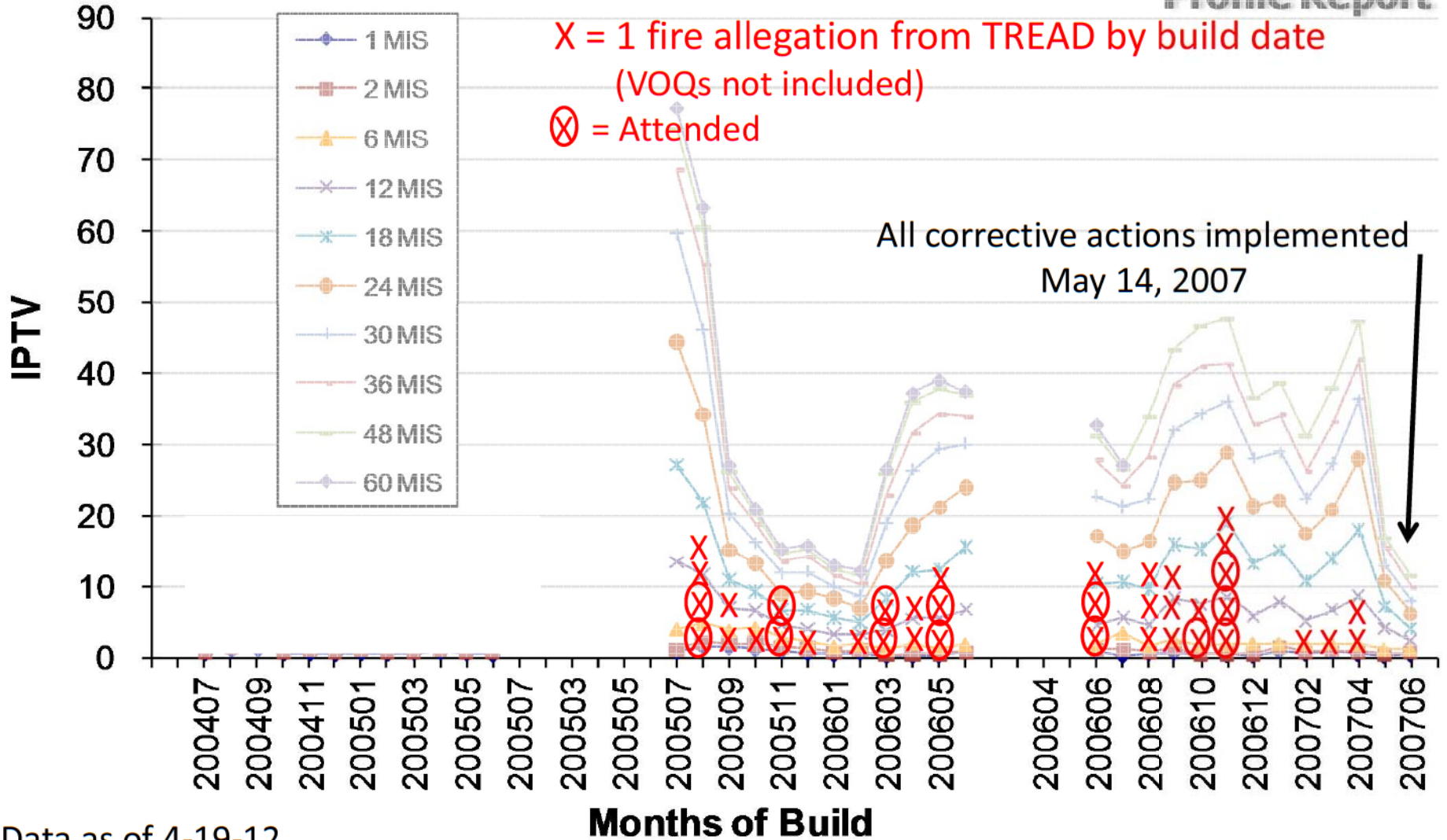


# U.S. Fire Allegations by Build Date

2006-2007 GMT360/370 DDM Global Warranty

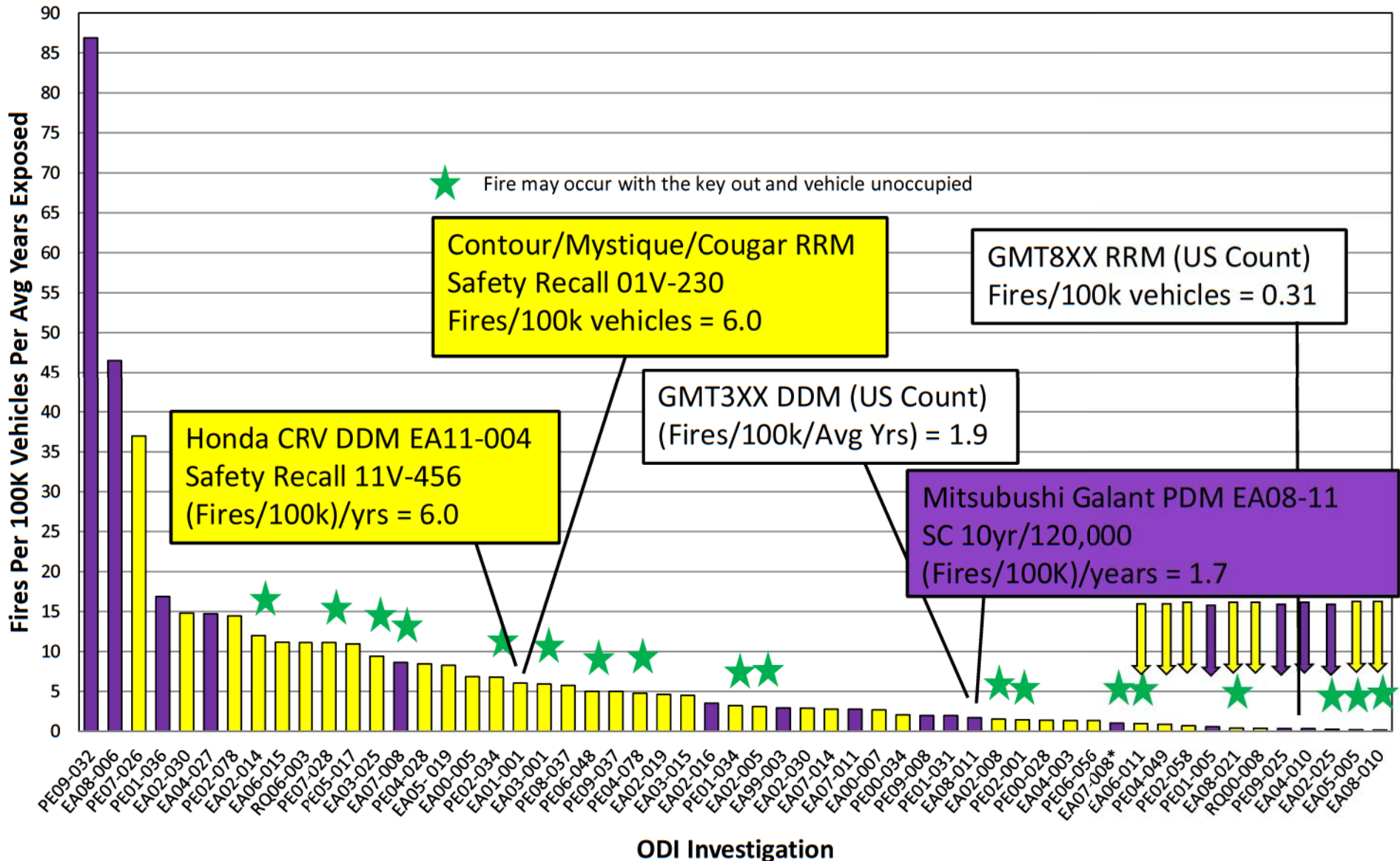
Labor Ops N2117

Profile Report



Data as of 4-19-12

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
	Subject:	Driver's Master Power Window Switch	

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	28	29**
Crashes/Fires:	5	28	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0

\*Description of Other:

\*\* Count indicates duplicate reports received by ODI and manufacturer.

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<p><b>Summary:</b></p> <p>The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.</p> <p>The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.</p>

# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.


Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2>

	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
Issued: Peter Ong <i>[Signature]</i> Inv. Chief: D. Scott Yin Office Dir: Kathleen C. DeMeter	Date: 08/21/2009 Date: 08/21/2009 Date: 08/21/2009		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

**Summary:**

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.



# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

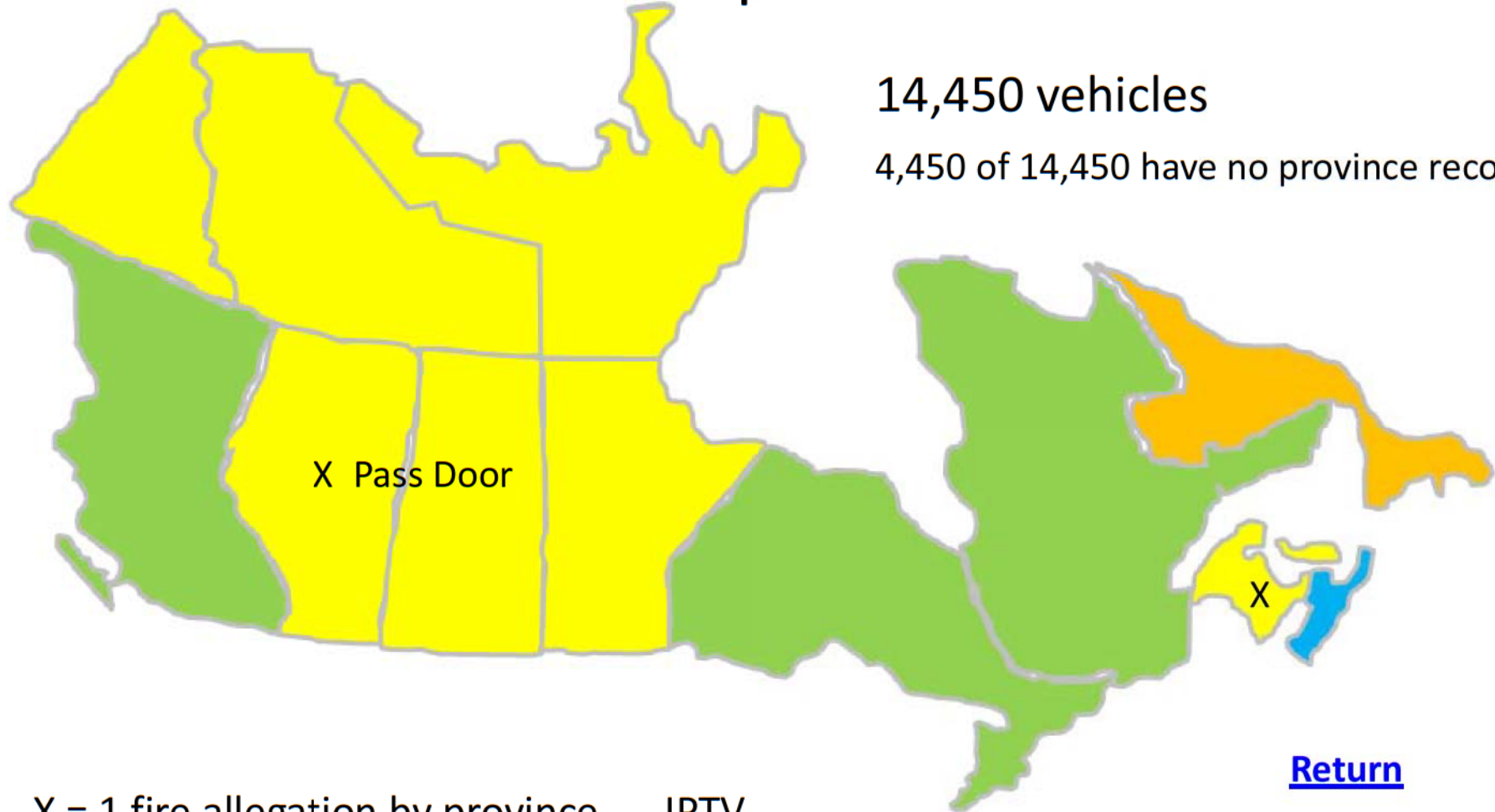




# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record



X = 1 fire allegation by province

IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Warranty data as of 4-19-12

[Return](#)

EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function FPERC & IR

Submission 12-7-12-p

## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
567,592 Vehicles (Globally)

ETQ N110323

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

**Problem Description:**

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry

**Problem Description:**

Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

 U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>		<b>ODI RESUME</b>	
Investigation:	PE 12-003	Date Opened:	02/09/2012
Investigator:	Emily Reichard	Reviewer:	Scott Yon
Approver:	Frank Borris	Subject:	Driver's Master Power Window Switch
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			


6/11/12 NHTSA issues EA12-004

Product: 2006-7 Trailblazer

83 VOQs and 341,796 vehicles

Problem Description:

Melting and/or burning of the driver's master power window switch

	<b>ODI RESUME</b>		
	Investigation: EA 12-004 Prompted by: PE 12-003, Consumer Complaints Date Opened: 06/11/2012 Investigator: Emily Reichard Approver: Frank Borris Subject: Driver's Master Power Window Switch	Reviewer: Scott Yon	
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer: GENERAL MOTORS LLC Products: MY 2006-2007 Chevrolet Trailblazer Population: 341,796			
Problem Description: Melting and/or burning of the driver's master power window switch.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	83	167	242**
Crashes/Fires:	11	21	28**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	698	677**
*Description of Other: Warranty claims describing melting and/or burning of driver side power window switch			
** Total eliminates duplicates received by ODI and manufacturer.			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: An Engineering Analysis has been opened.			
Summary: The Office of Defects Investigation (ODI) opened preliminary evaluation PE 12-003 on February 9, 2012 in response to complaints alleging driver door module melting and/or burning in MY 2006-2007 Chevrolet Trailblazers. In response to ODI's Information Request (IR) letter, General Motors (GM) presented 167 reports and 698 warranty claims that related to the alleged problem. ODI has received a total of 83 complaints, 66 alleging the door module had melted or burned, and the remaining 17 stating that the window switches acted erratically or were inoperative. Twenty-eight of the reports received have led to driver door fires, some of which allege the vehicle was keyed off and unattended.  Based on the agency's current analysis, ODI has upgraded its investigation to determine whether the subject vehicles contain a defect that presents an unreasonable risk to safety. The vehicle models and production dates of affected vehicles will be evaluated, particularly other GMT360 vehicles.  The ODI reports cited above can be reviewed online at <a href="http://www.odi.nhtsa.dot.gov/complaints">www.odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10247838, 10260600, 10274337, 10275626, 10284010, 10396958, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10446657, 10447754, 10447757, 10447770, 10447788, 10447813, 10447831, 10447865, 10447880, 10447882, 10447938, 10447994, 10447996, 10447997, 10448028, 10448086, 10448138, 10448176, 10448201, 10448337, 10448456, 10448464, 10448478, 10448540, 10448900, 10448941, 10449150, 10449166, 10449169, 10449236, 10449722, 10450055, 10450202, 10450284, 10451584, 10451878, 10451918, 10452197, 10452301, 10452586, 10452748, 10452896, 10453161, 10453227, 10453261, 10453578, 10453746, 10453951, 10454196, 10454211, 10454539, 10454673, 10455122, 10455150, 10455279, 10455469, 10456285, 10456529, 10457116, 10457644, 10457811, 10458224, 10458485, 10458599,			



# Driver Door Module Short Circuit

- Corrosion State/Province Safety Recall and Special Coverage all other vehicles approved August 8, 2012
- NHTSA Questions to EA12-004 received October 18, 2012
  - Questions focus on excluding non-corrosion states from the safety recall

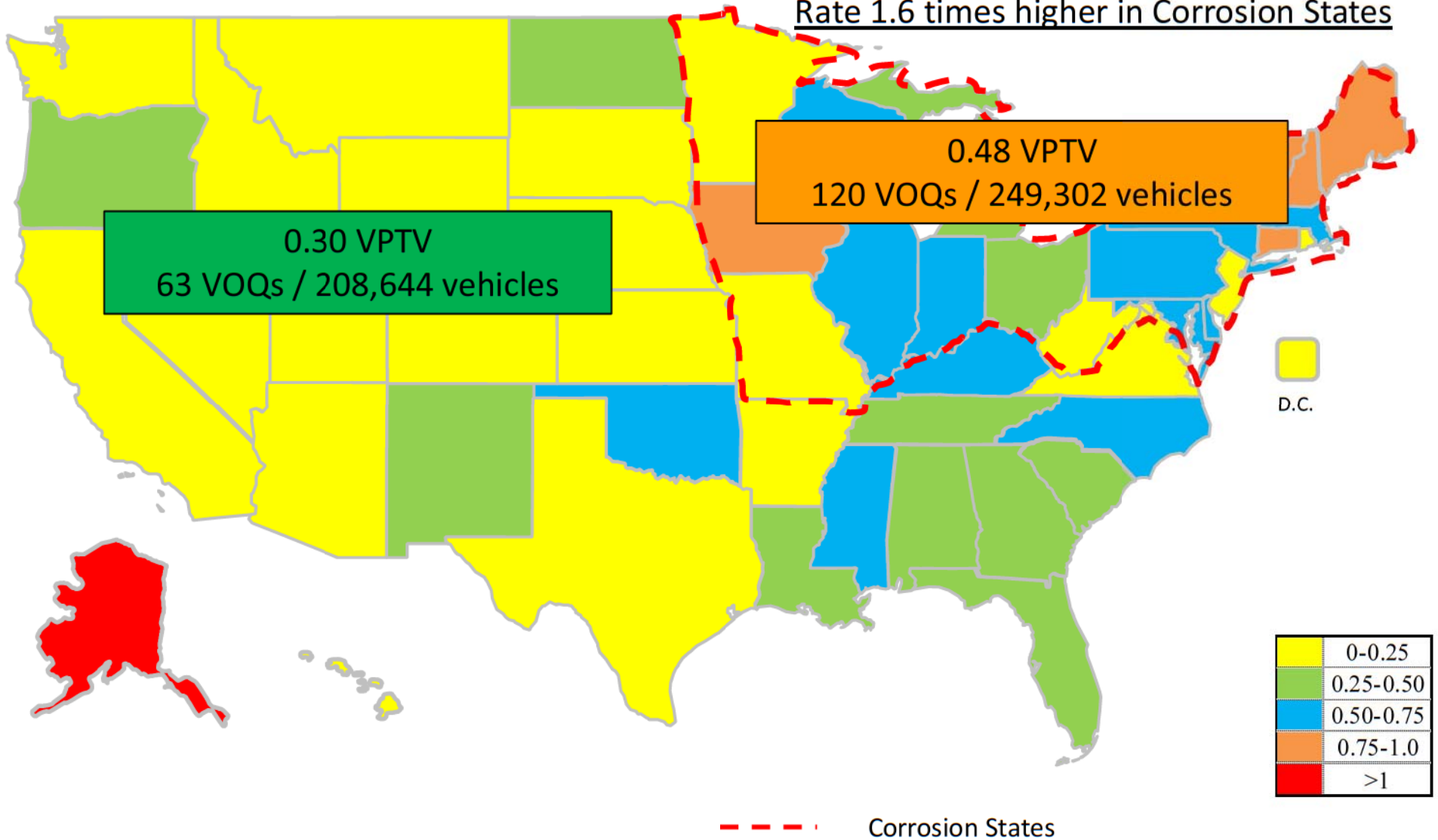
# Risk Assessment & VOQs

NHTSA Requested Separate Risk Assessments for vehicles included in safety recall and those provided special coverage

- The predominate failure mode GM has seen in the warranty claims for the driver power window switch is that the component becomes inoperative. When GM's analysis of warranty claims was further limited to claims that included some description that fell within the 49 CFR 579.4 definition of "fire", the predominate failure modes are odor, smoke and melting.
- Additional analysis to complete the risk assessment is in process

2006-2007 Trailblazer/Envoy/Rainier/9-7X/Ascender DDM  
 EA12-004 VOQ Rate (VOQs/1,000 vehicles) with PVDM Population\*

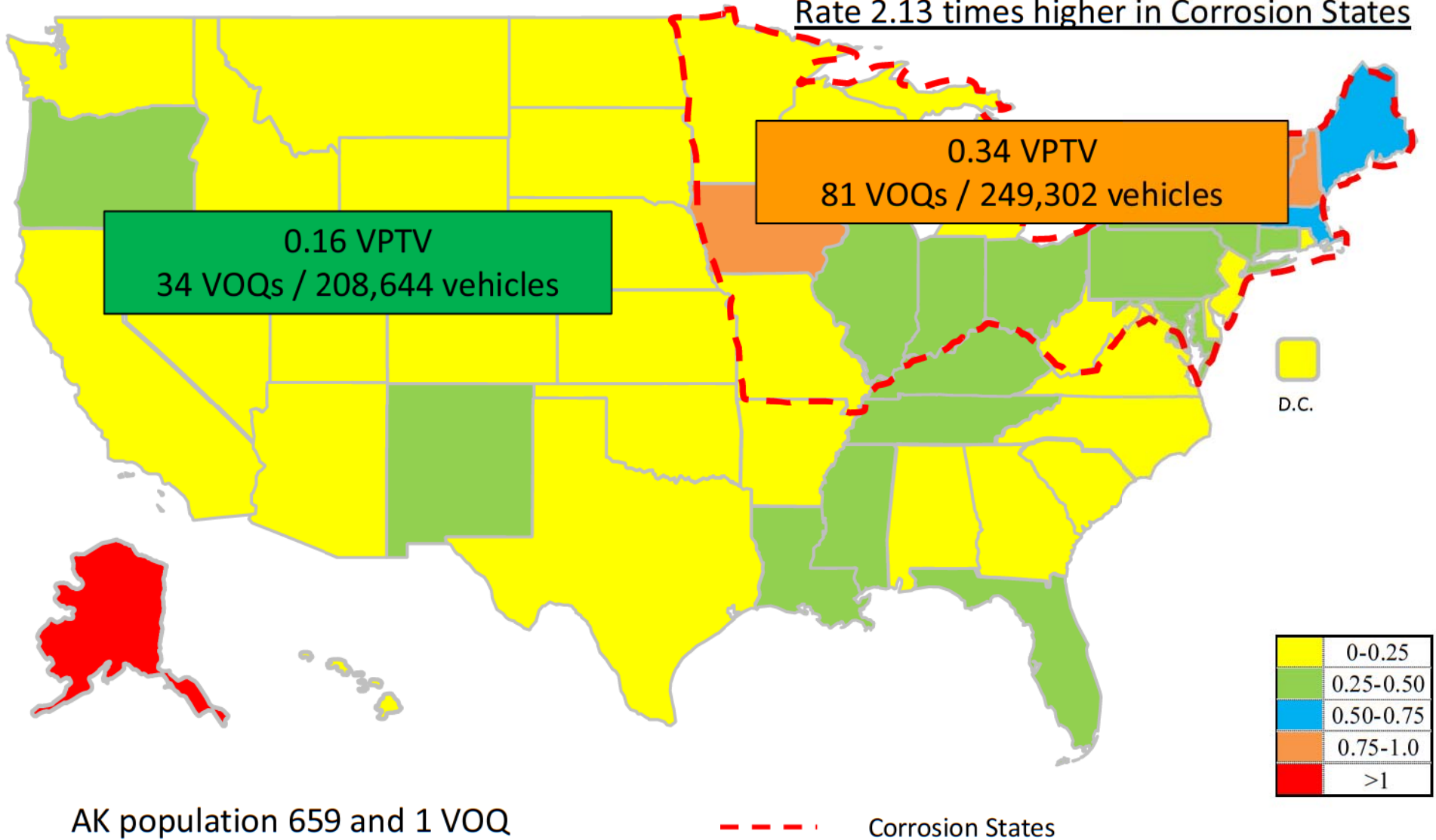
Rate 1.6 times higher in Corrosion States



2007 Population built before 5/15/07

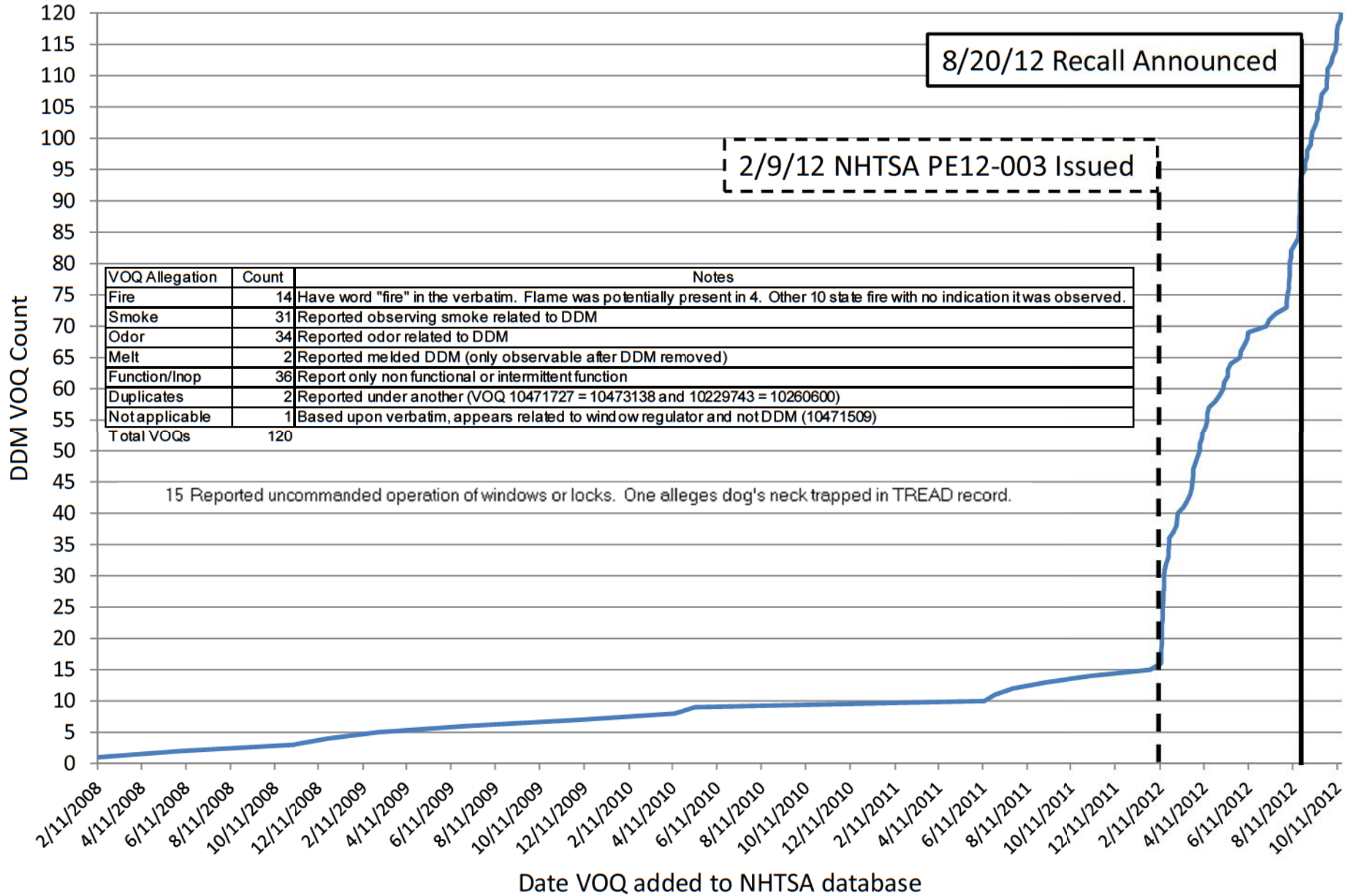
2006-2007 Trailblazer/Envoy/Rainier/9-7X/Ascender DDM  
 EA12-004 NHTSA "Fire" VOQ Rate (VOQs/1,000 vehicles) with PVDM Population\*

Rate 2.13 times higher in Corrosion States



2007 Population built before 5/15/07

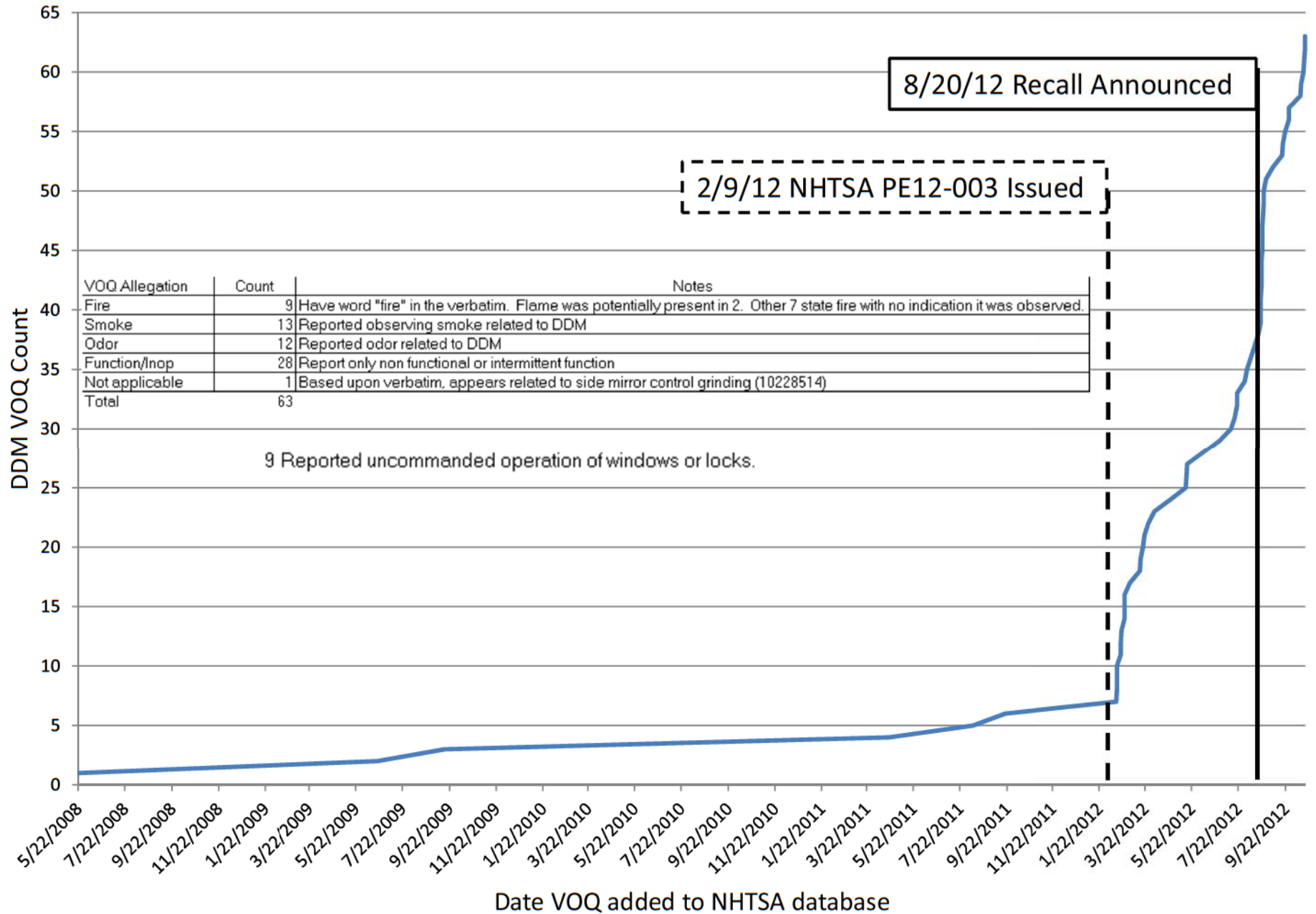
## 2006-7 GMT360/370 DDM Corrosion State VOQS by Date Added



## Corrosion State VOQs

- 6 of 105 VOQs since 2/9/12 (PE12-003) have fire in verbatim.
  - None stated fire was observed
- Most reports since August 2010 are function only
- 120 VOQs (including dups)
  - 48 attended
  - 54 unattended
  - 18 TBD
  - 1 N/A

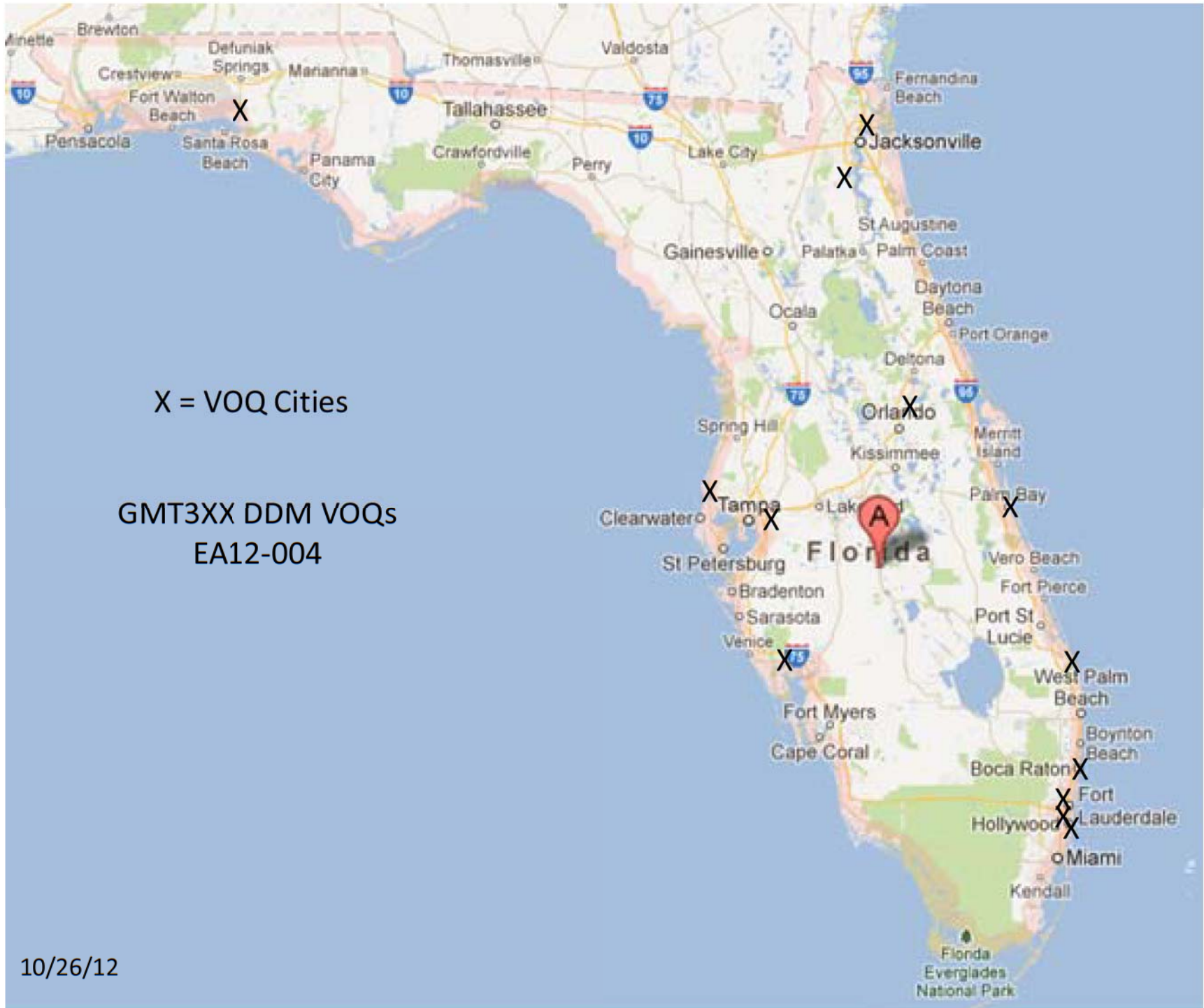
## 2006-7 GMT360/370 DDM Non-Corrosion State VOQS by Date Added



## Non-Corrosion State VOQs

- 1 of 57 VOQs since 2/9/12 (PE12-003) have fire in verbatim.
  - Says fire was observed
- Most reports since August 2010 are function or odor only
- 8 originally delivered to a corrosion state
- 63 Total VOQs
  - 29 attended
  - 27 unattended
  - 6 TBD
  - 1 N/A





# Back-Up

# Driver Door Module Short Circuit

{ \* }

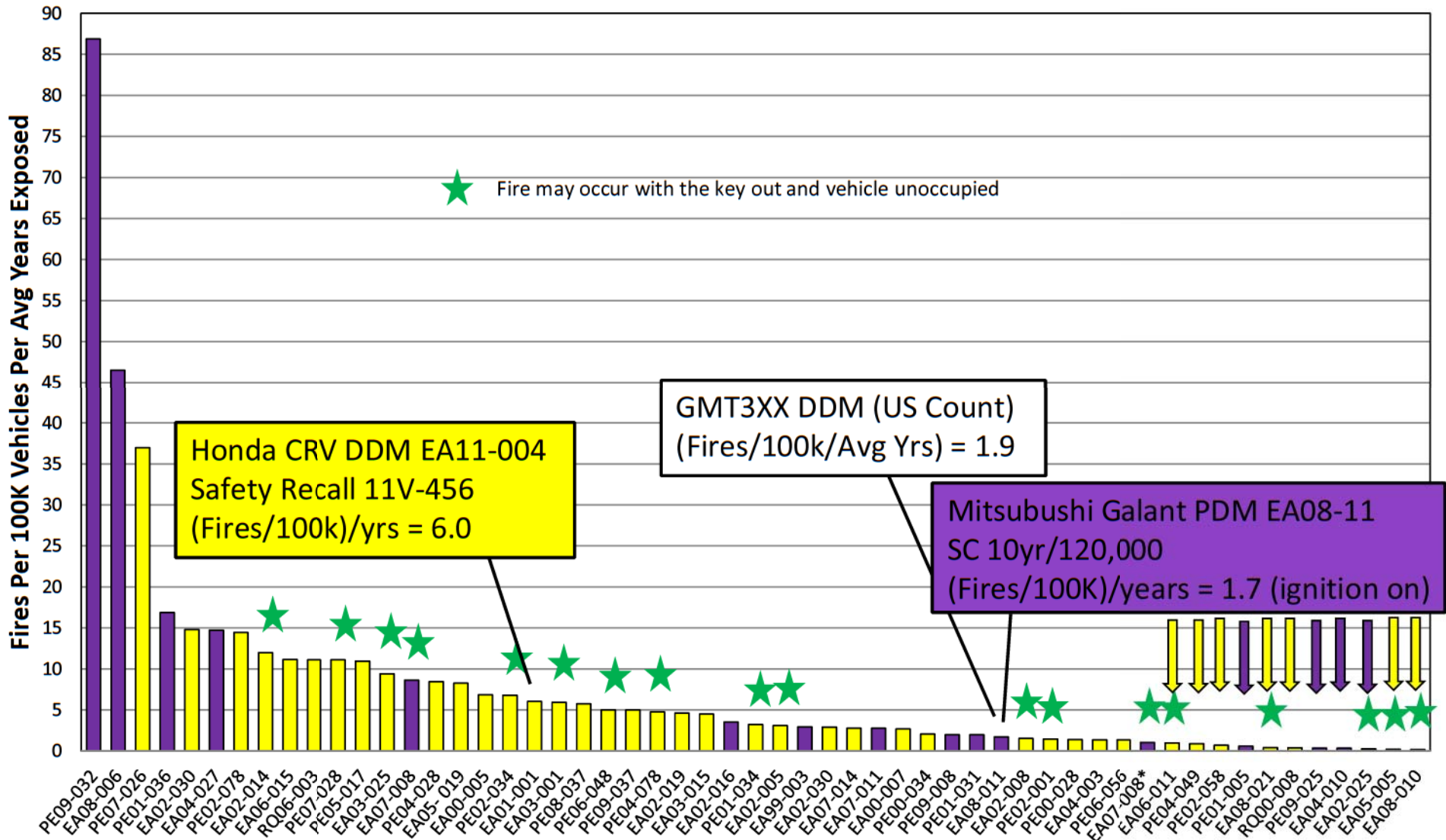


Base Switch Package



Uplevel Switch Package

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Investigation**

Data as of 4-19-12

## 2006-7 GMT360/370 Global Population

Country	Model Year		Grand Total
	2006	2007	
0	2	13	15
ALGERIA		3	3
ANTIGUA & BARBUDA	1		1
ARUBA		1	1
AZERBAIJAN	4	3	7
BAHAMAS		2	2
BAHRAIN	503	566	1,069
BR VIRGIN ISL	2		2
CANADA	9,649	4,697	14,346
CHILE	198	175	373
COLOMBIA	19		19
COSTA RICA		1	1
DOMINICAN REPUBLIC	3		3
ECUADOR	95		95
EGYPT		31	31
FRANCE		2	2
GERMANY		1	1
GUAM	16		16
GUATEMALA	6	2	8
ISRAEL	421	61	482
JAPAN	601	315	916
JORDAN	236	231	467
KUWAIT	3,903	3,963	7,866
LEBANON	452	159	611
MAURITIUS		2	2
MEXICO	2,816	2,257	5,073
MOROCCO		1	1
NETH. ANTILLES	3	6	9
NETHERLANDS	55	6	61
OMAN	279	249	528
PANAMA		2	2
PERU	4	2	6
PHILIPPINES	87		87
QATAR	641	779	1,420
RUSSIAN FEDERATION	682	995	1,677
SAUDI ARABIA	9,009	5,617	14,626
SINGAPORE		1	1
U. A. E.	900	999	1,899
UNITED STATES	317,563	195,833	513,396
VENEZUELA	660	1,807	2,467
<b>Grand Total</b>	<b>348,810</b>	<b>218,782</b>	<b>567,592</b>

EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function FPERC 6-15-12-p

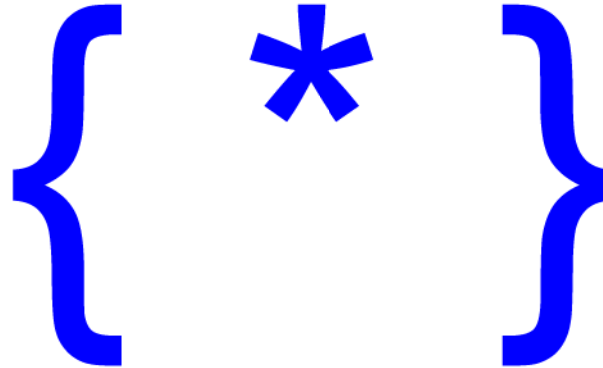
## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
21,500 SC & 4,500 reimbursement (Total Pop 537,175 )

{ \*\* }

ETQ N110323

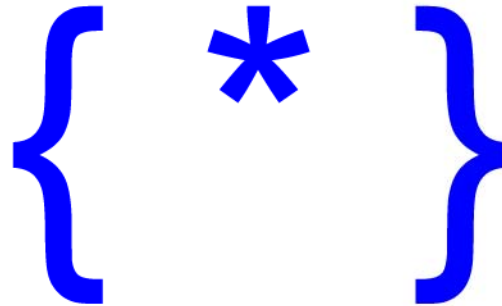


## 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)





# Driver Door Module Short Circuit



Base Switch Package

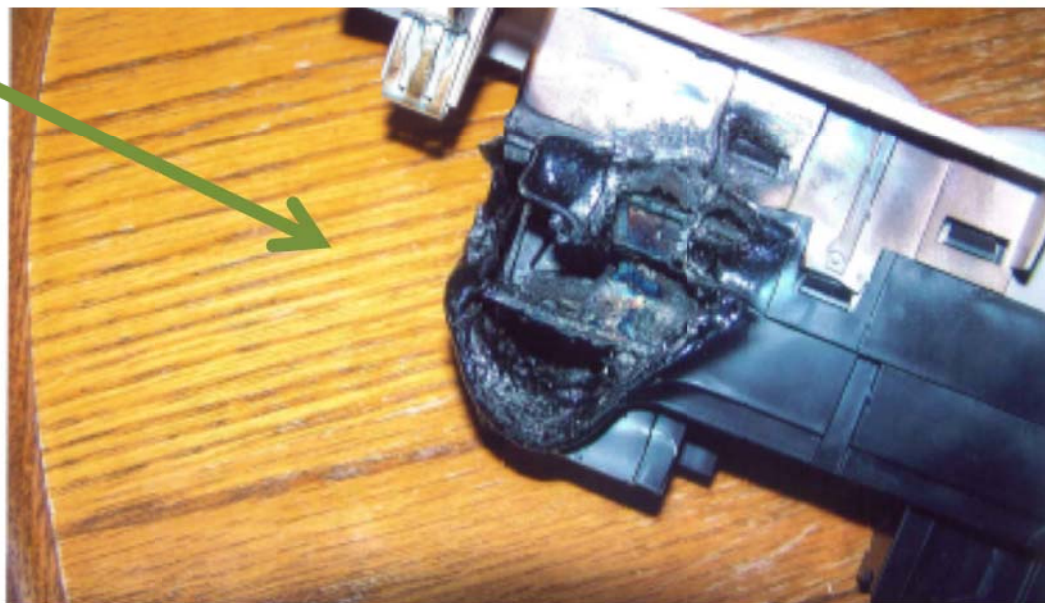


Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.

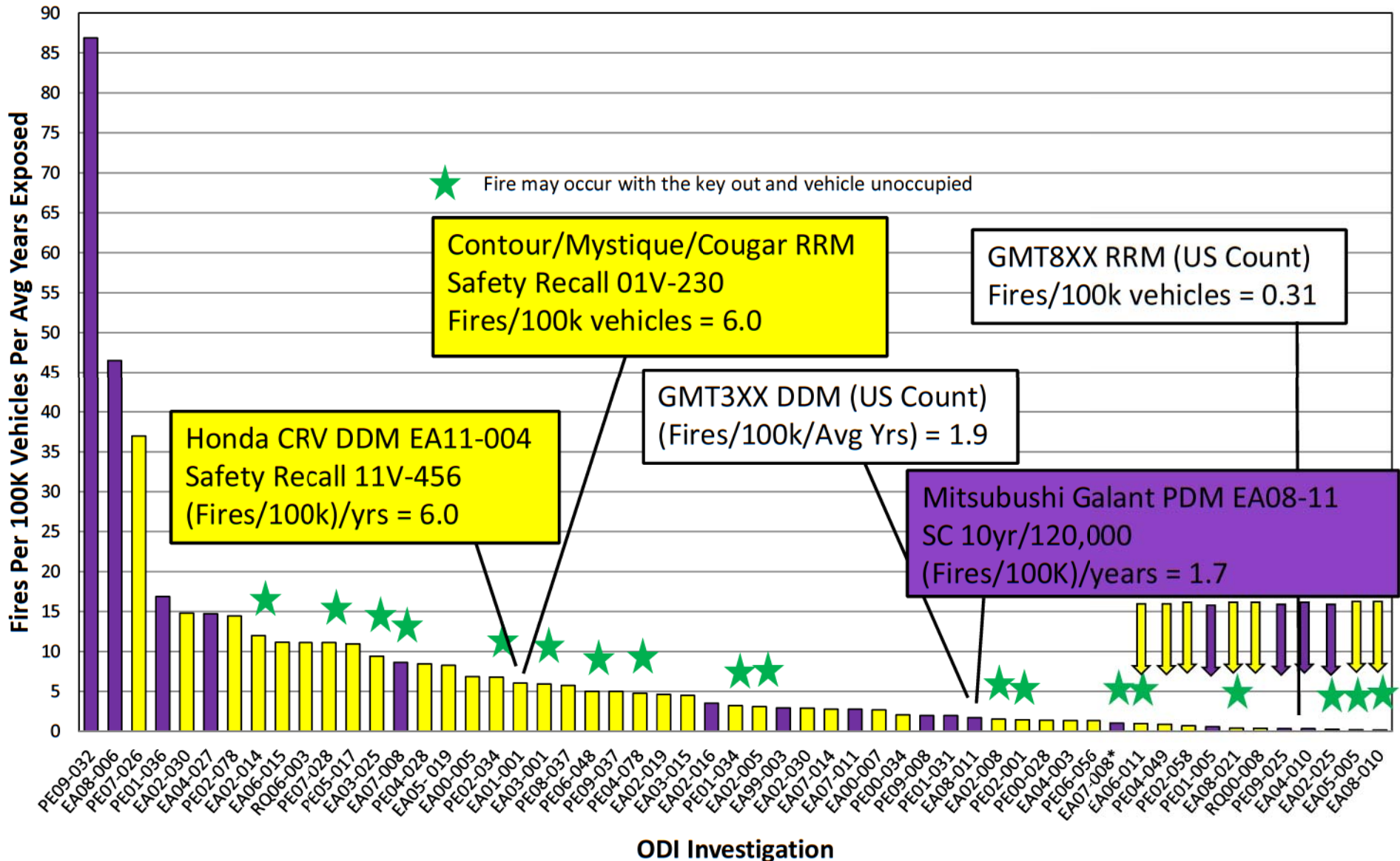


# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12



**VEHICLES POTENTIALLY AFFECTED BY SELLING DIVISION,  
MODEL, AND MODEL YEAR**

Selling Division	Model	Model Year	Number Involved
BUICK	Rainier	2006-7	19,134
CHEVROLET	Trailblazer & EXT	2006-7	322,529
<b>GM CANADA</b>			
Buick	Rainier	2006-7	419
Chevrolet	Trailblazer & EXT	2006-7	6,242
GMC	Envoy XL	2006-7	6,672
SAAB	9-7x	2006-7	537
	Total		13,870
<b>GM MEXICO</b>			
Chevrolet	Trailblazer & EXT	2006-7	4,942
<b>GMC TRUCK</b>			
GMC	Envoy & XL	2006-7	126,382
<b>I.P.C.</b>			
Chevrolet	Trailblazer & EXT	2006	21,734
GMC	Envoy & XL	2006-7	10,131
SAAB	9-7x	2007	818
	Total		32,683
<b>ISUZU</b>			
ISUZU	Ascender	2006-7	7,031
SAAB	9-7x	2006-7	10,039
<b>TOYOTA</b>			
SAAB	9-7x	2006	1
<b>Unknown</b>			
Buick	Rainier	2007	40
Chevrolet	Trailblazer	2006-7	353
GMC	Envoy	2006-7	149
Isuzu	Ascender	2007	22
	Total		564
	Total GM		537,175

# Back-Up

2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

**Problem Description:**

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry

**Problem Description:**


Electrical fire originating in the driver's side door

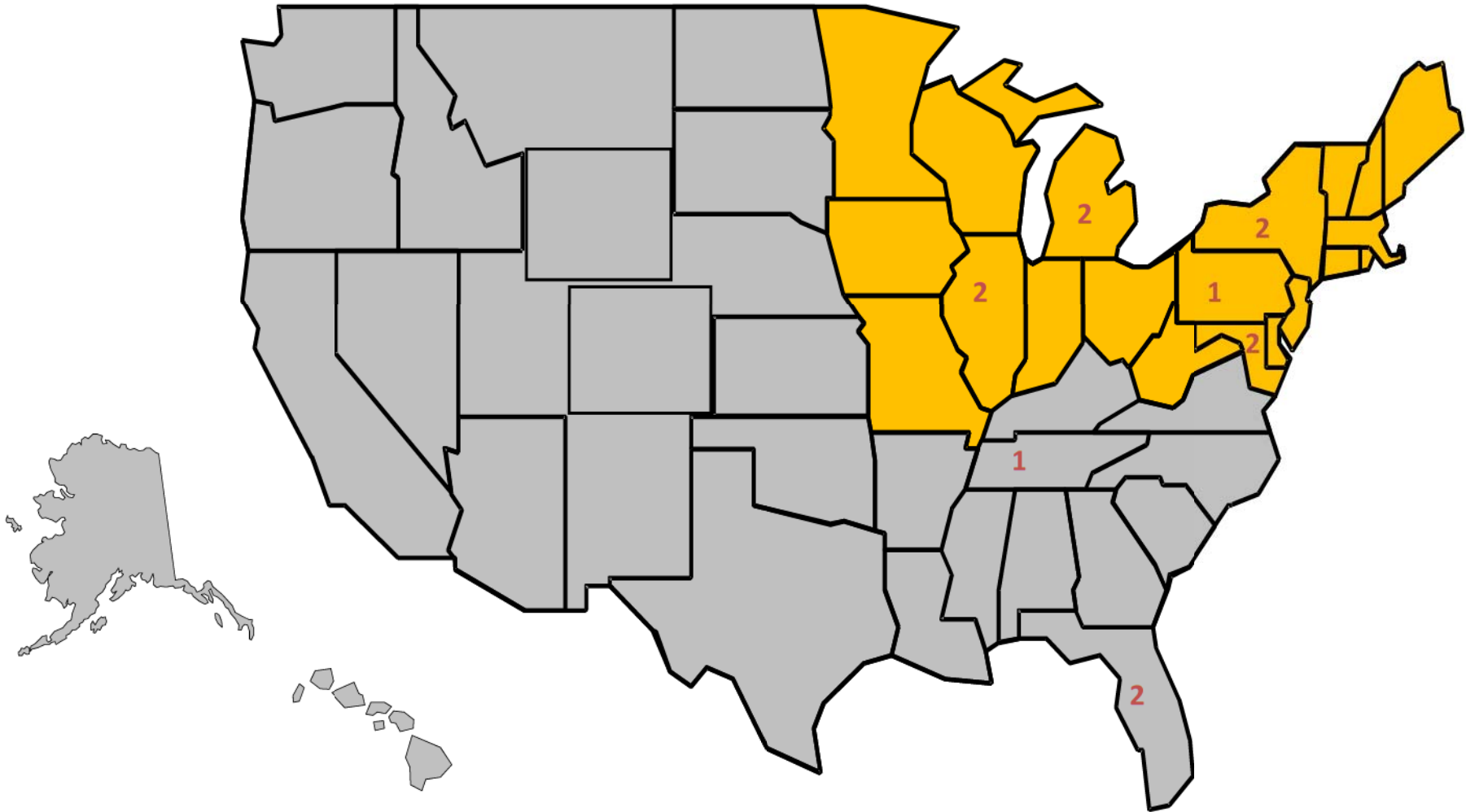
6 VOQs and 830,000 vehicles

 U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>		<b>ODI RESUME</b>	
Investigation:	PE 12-003	Date Opened:	02/09/2012
Investigator:	Emily Reichard	Reviewer:	Scott Yon
Approver:	Frank Borris	Subject:	Driver's Master Power Window Switch
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			




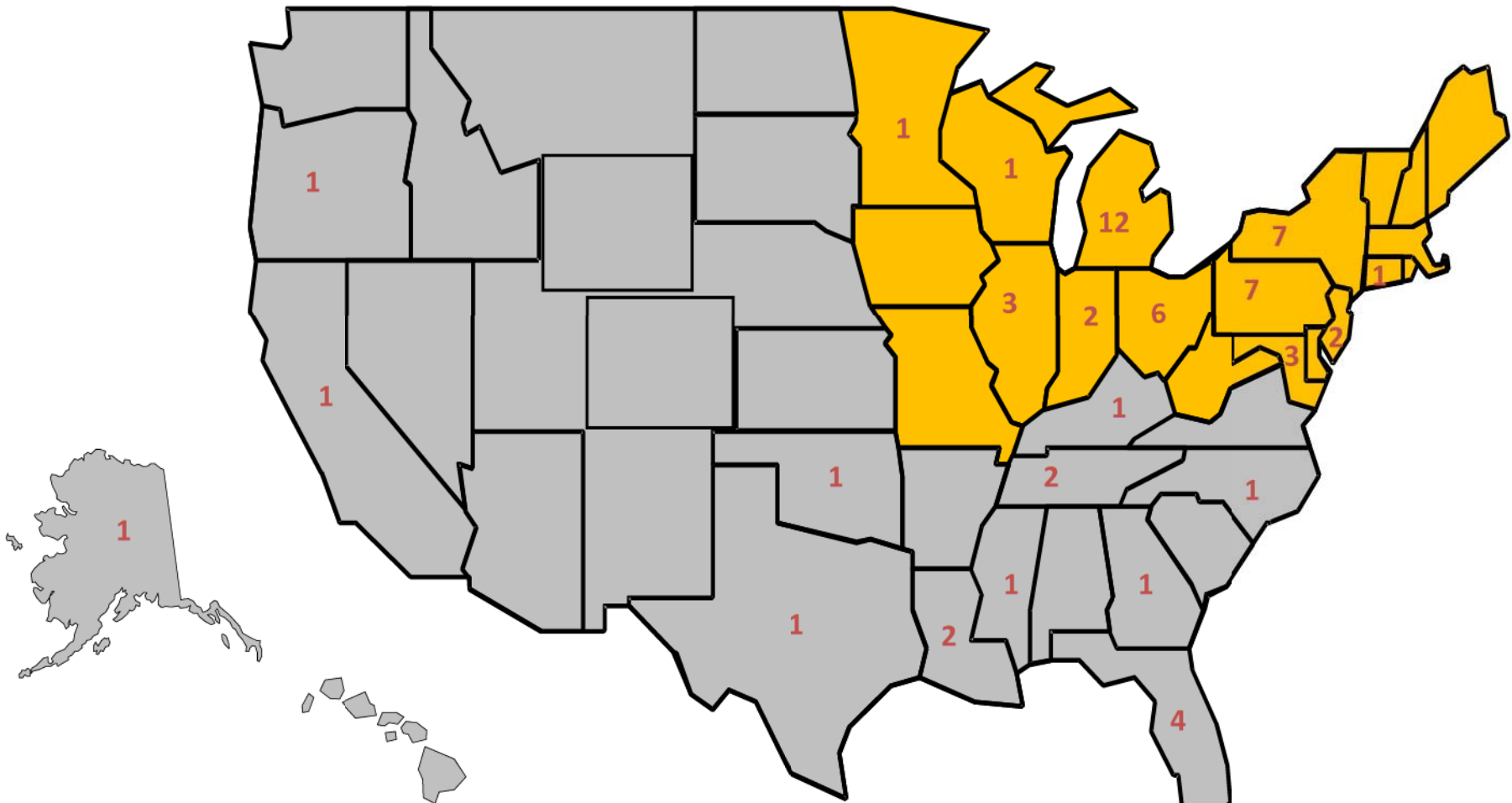
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States




2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
62 VOQs as of 3/19/12

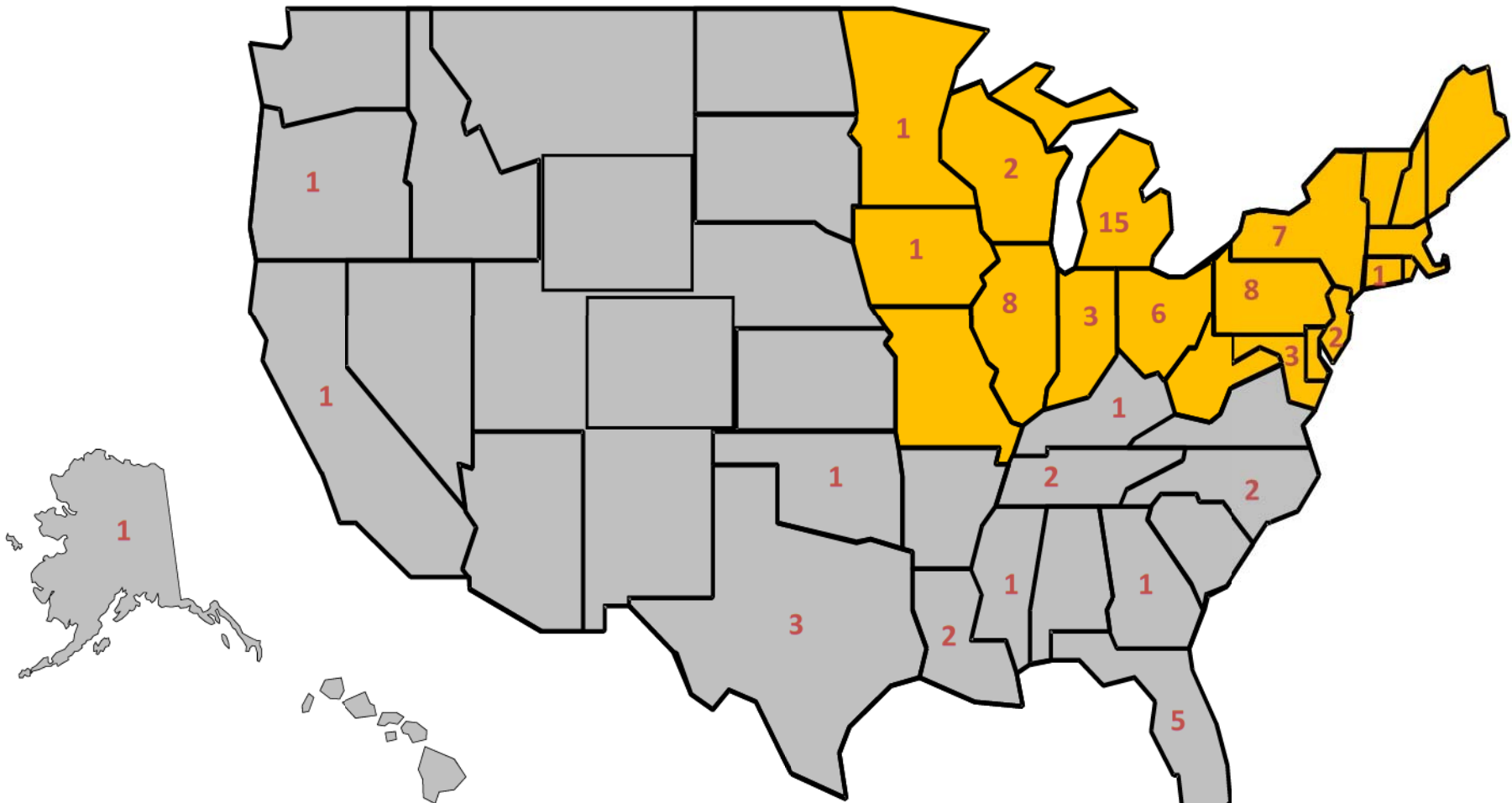
 NHTSA defined Corrosion States



Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles  
Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles

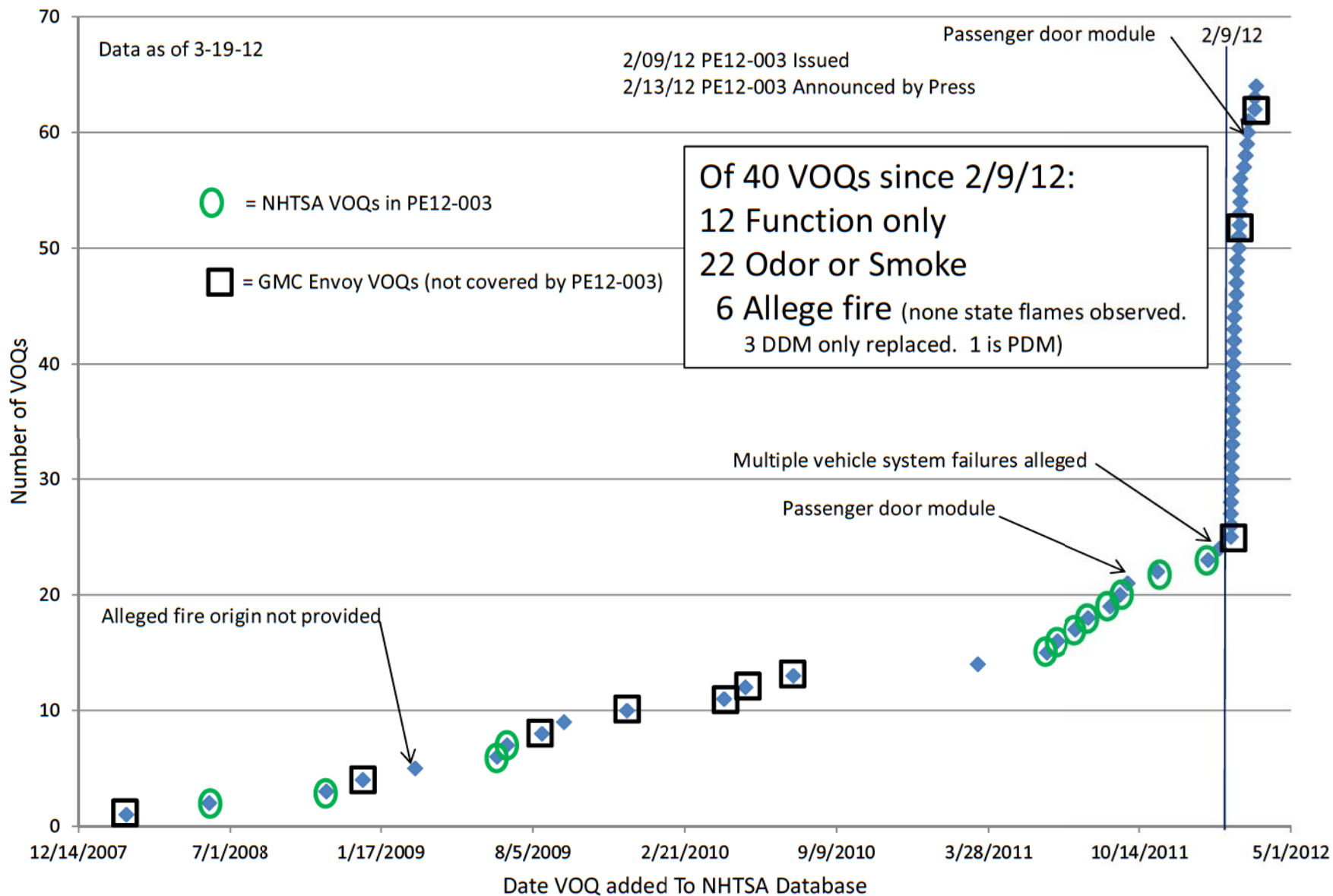
2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
 79 VOQs as of 4/16/12

 NHTSA defined Corrosion States

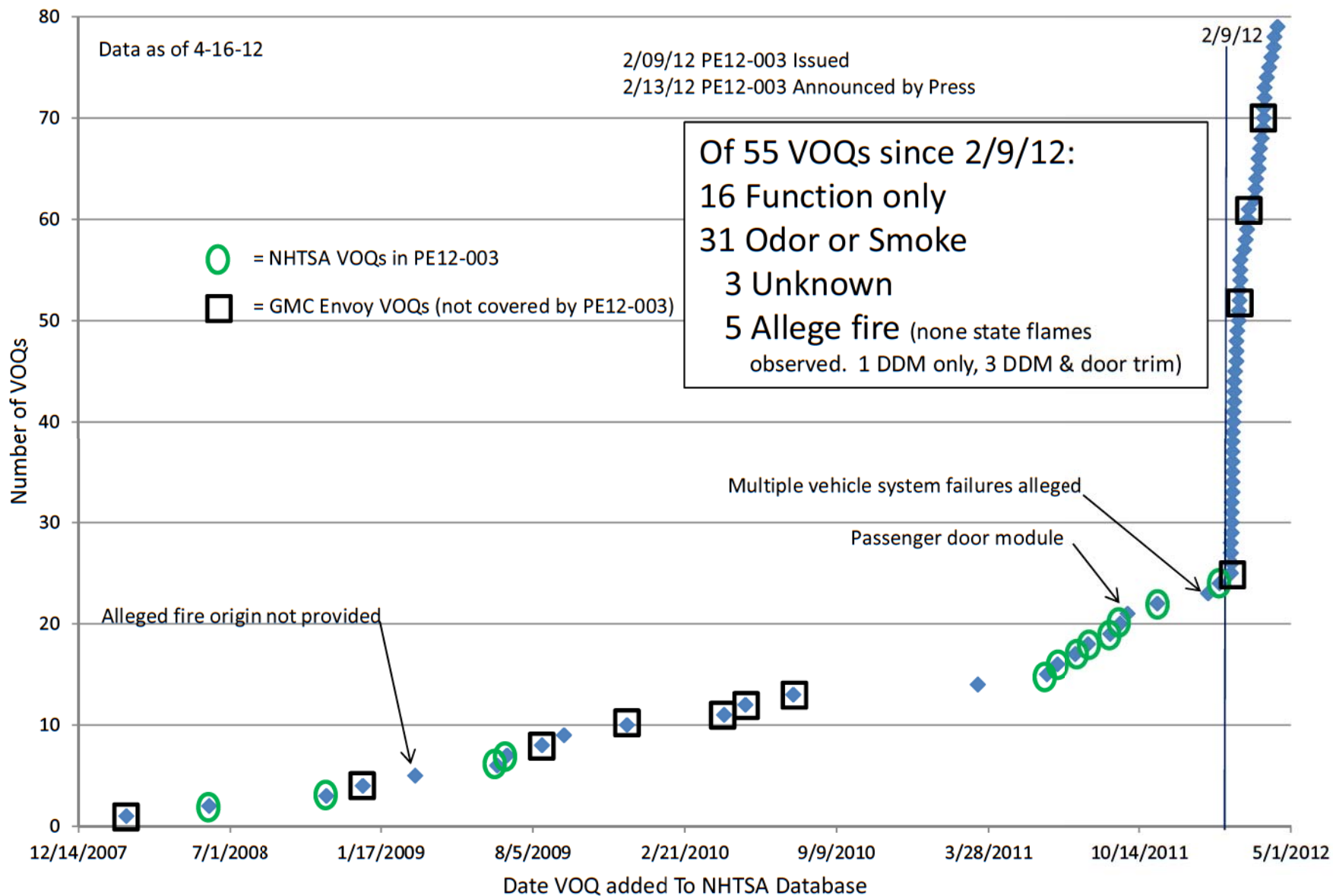


Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles  
 Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles

## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded

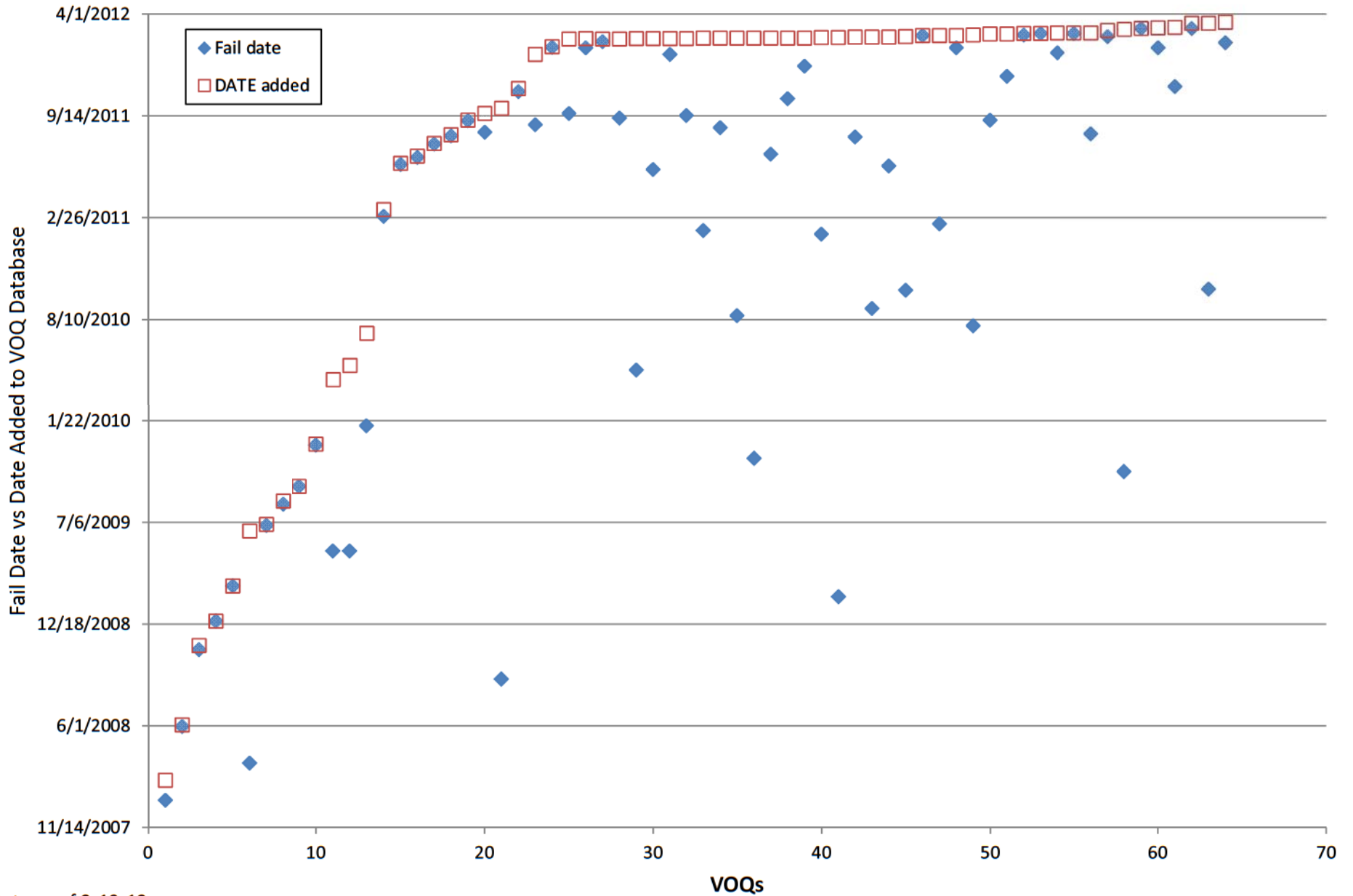


## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



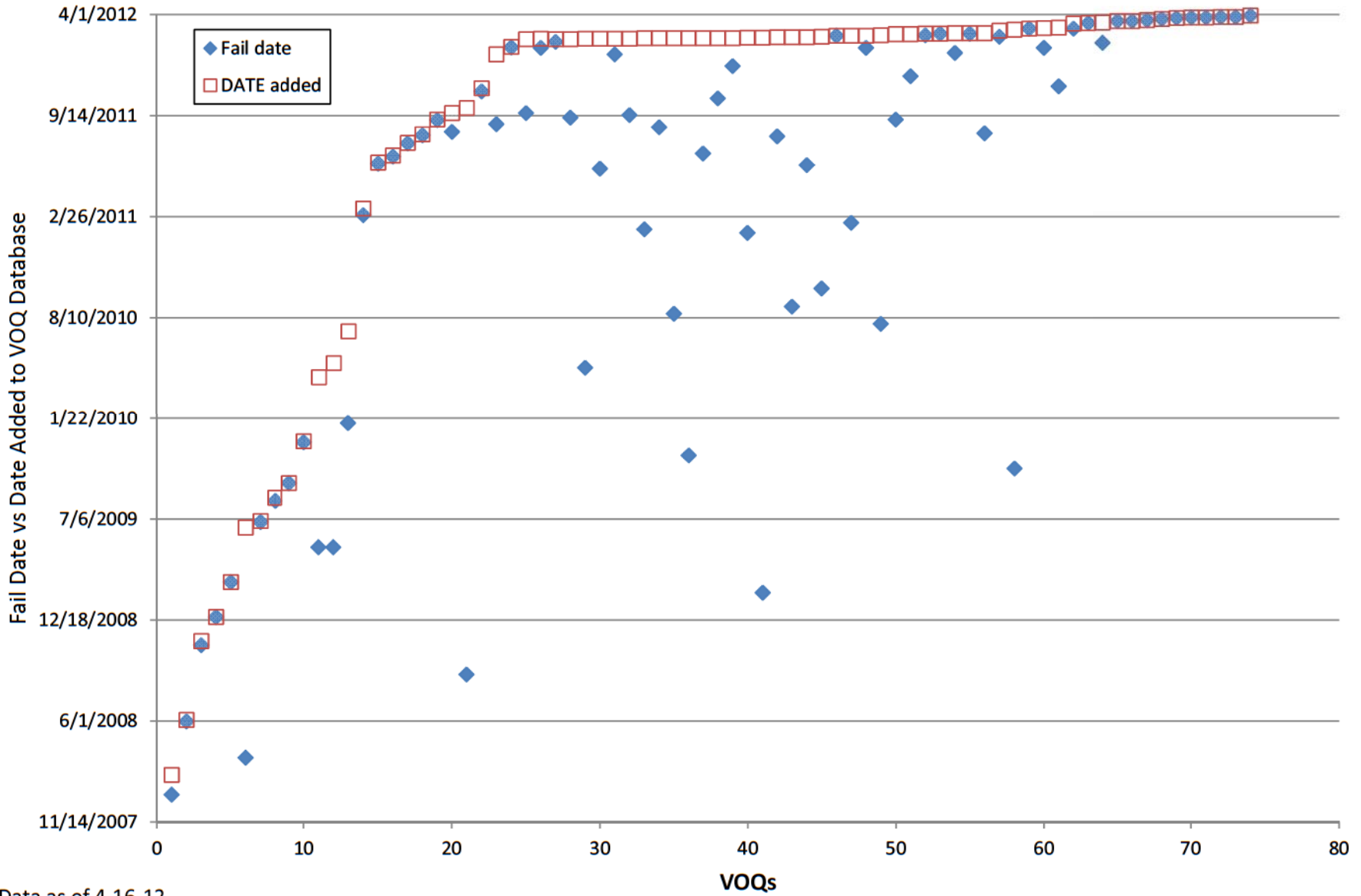
Data as of 4/16/12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



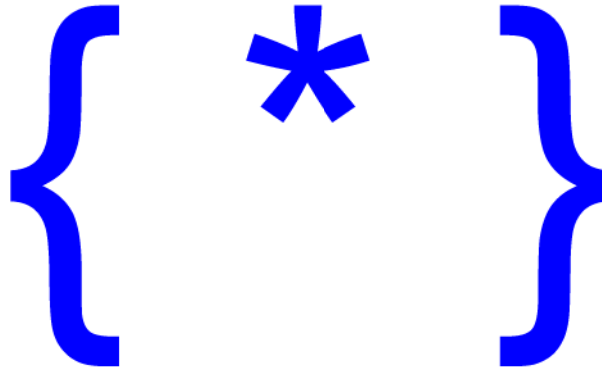
Data as of 3-19-12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 4-16-12

## Driver Door Module Short Circuit





# Inspections/Investigations

1GKET63M462 [REDACTED] [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit VOQs

**Data 4/16/12**

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege “fire”

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

4 confirmed fires

2 Unknown

13 fire/flame not likely (minor damage)

21 state smoke

17 state odor

21 state function

1 TBD

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6) & 2007 (81.1)

## [TREAD search for 2005](#)

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

## TREAD Data summary (fire)

### Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

- Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:
  - Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
  - Fire did not occur in 22 cases (11 2006 & 11 2007)

\*No cases known where "fire" extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

7.6/100K

2006 (5.4) & 2007 (11.2)

\*No cases known where “fire” extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

VOQs + TREAD (Data 4/19/12)

**51\* Total** (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

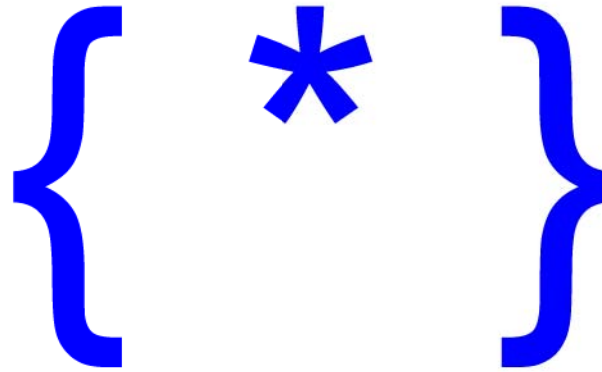
2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

Very few incidents were actual “fires”. Most were odor, melting, or smoke.

# Risk Assessment





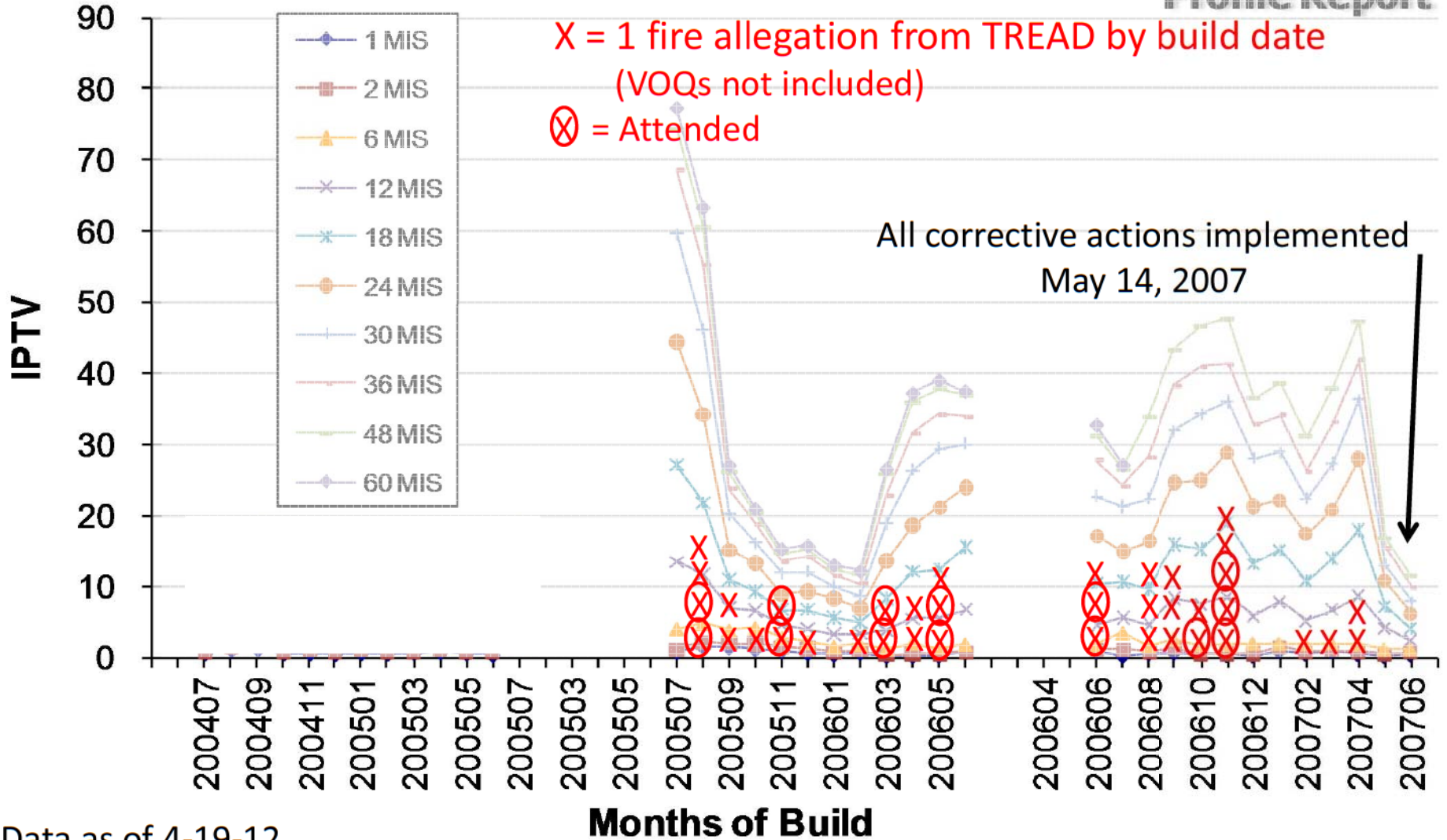


# U.S. Fire Allegations by Build Date

2006-2007 GMT360/370 DDM Global Warranty

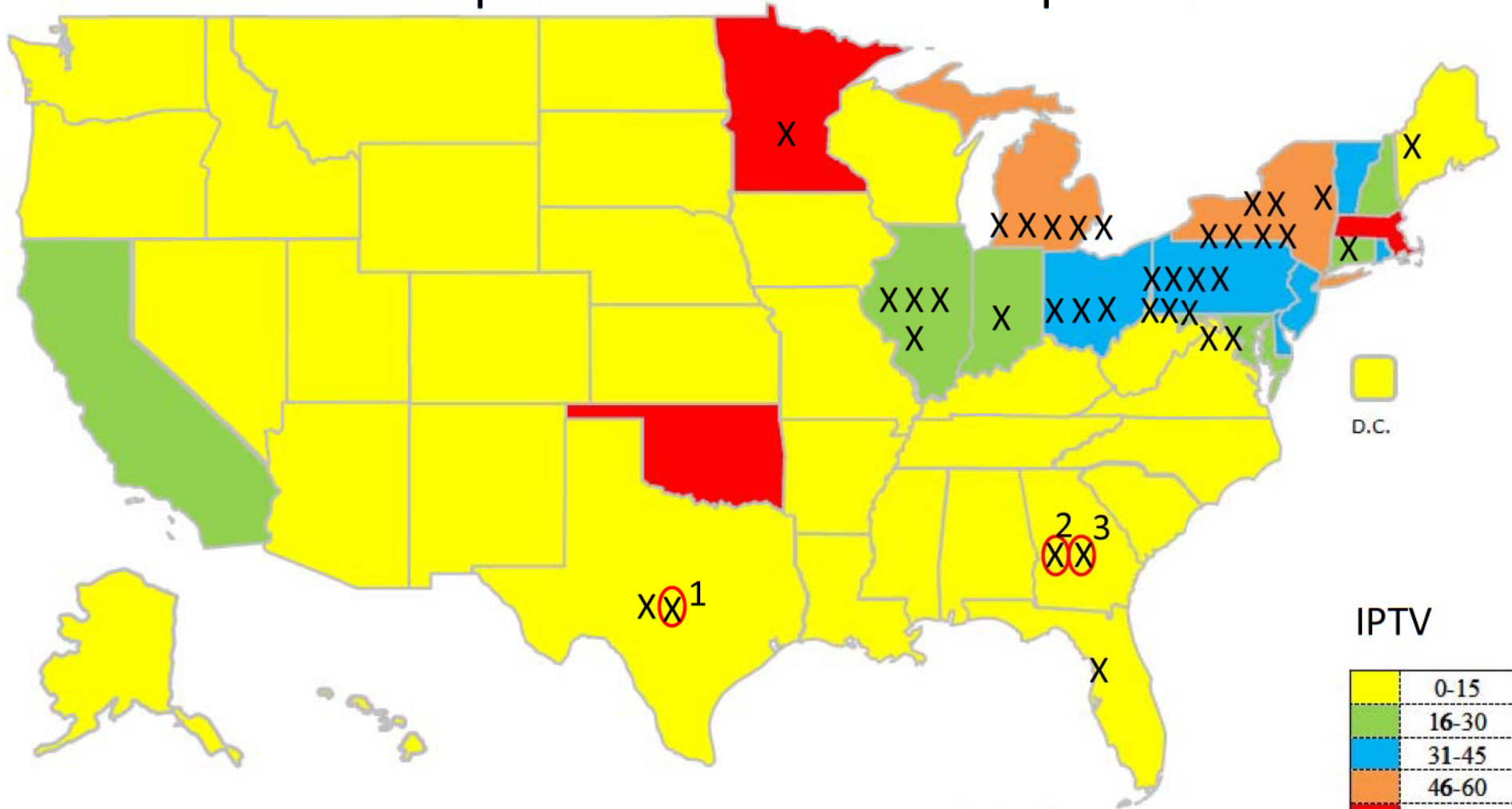
Labor Ops N2117

Profile Report



Data as of 4-19-12

# 2006-2007 GMT360/370 DDM US Warranty Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 4-19-12

122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
	Subject:	Driver's Master Power Window Switch	

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2008 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	28	29**
Crashes/Fires:	5	28	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0
*Description of Other:			
** Count indicates duplicate reports received by ODI and manufacturer.			

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<p><b>Summary:</b></p> <p>The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.</p> <p>The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.</p>

# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.


Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2>

	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
Issued: Peter Ong <i>[Signature]</i> Title: Chief, ID, Scott Yin Office Dir: Kathleen C. DeMeter	Date: 08/21/2009 Date: 08/21/2009 Date: 08/21/2009		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

**Summary:**

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.

# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>





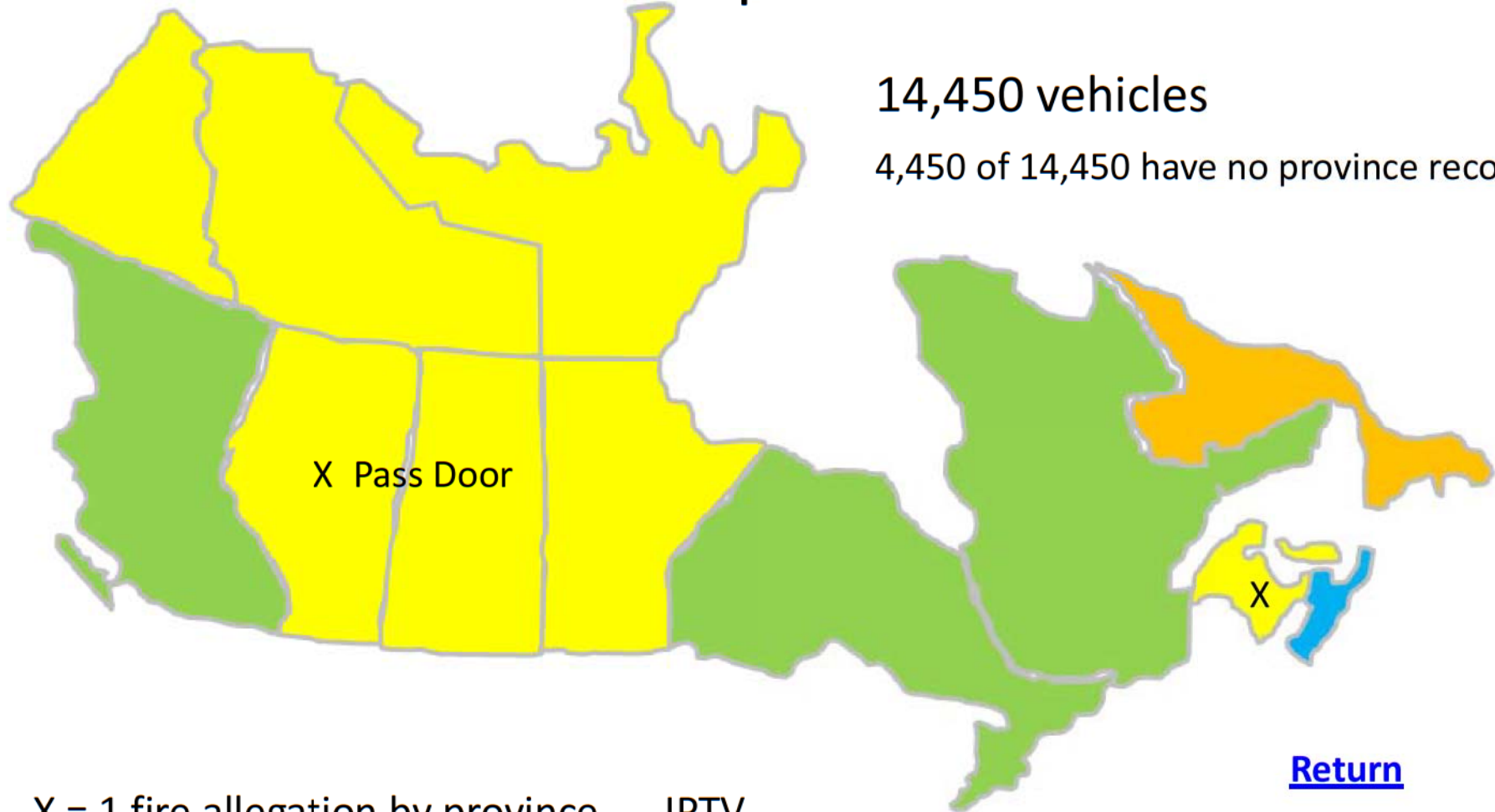




# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record



X = 1 fire allegation by province

IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Warranty data as of 4-19-12

[Return](#)

EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function FPET 6-14-12 all

back-up-p

## Driver Door Module Short Circuit

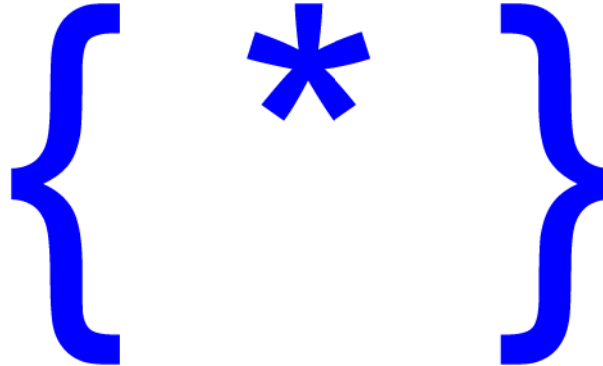


2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender

21,500 SC & 4,500 reimbursement

{ \*\* }

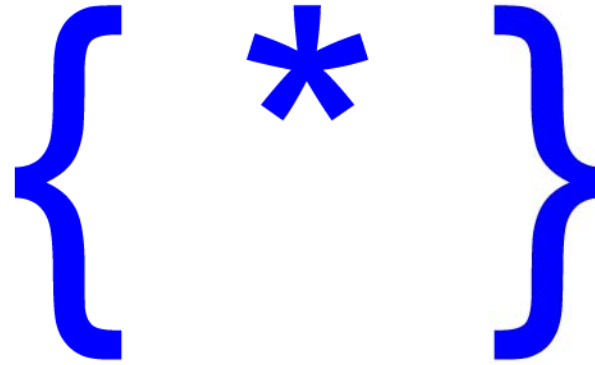
ETQ N110323



## 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit



Base Switch Package

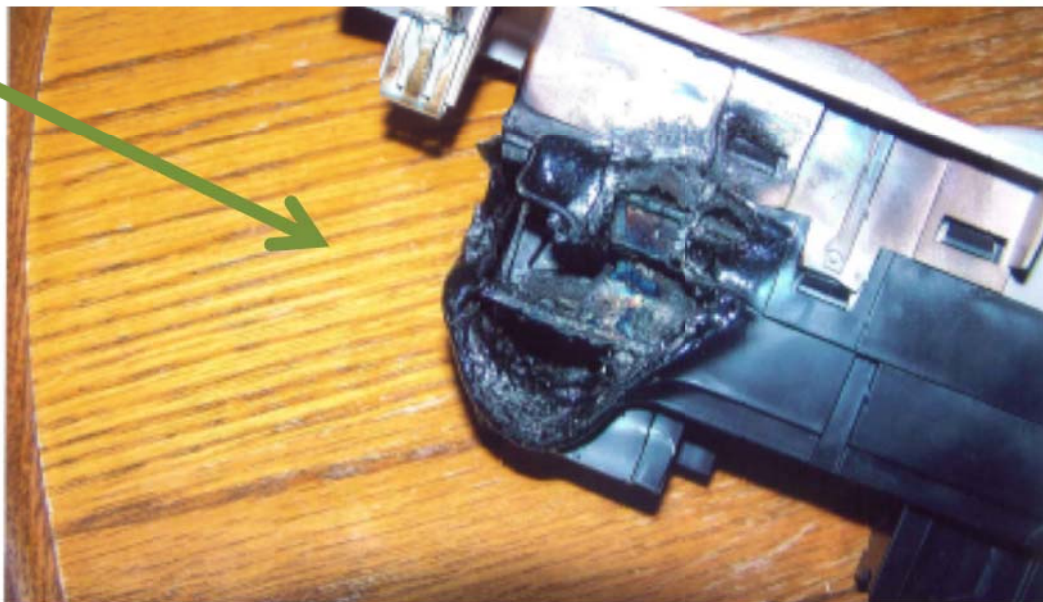


Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



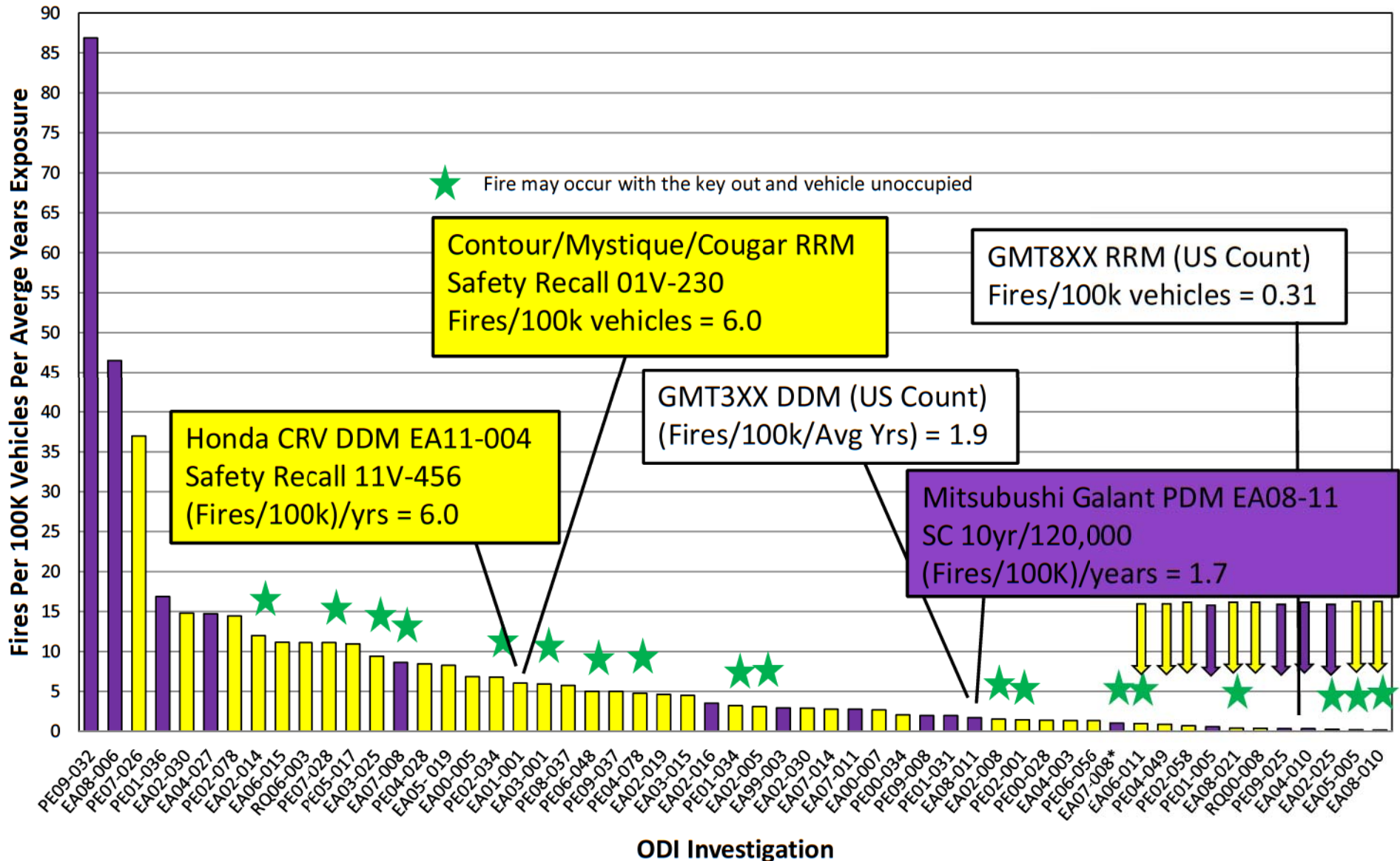
# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.





**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12



# Back-Up

2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

**Problem Description:**

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry


**Problem Description:**

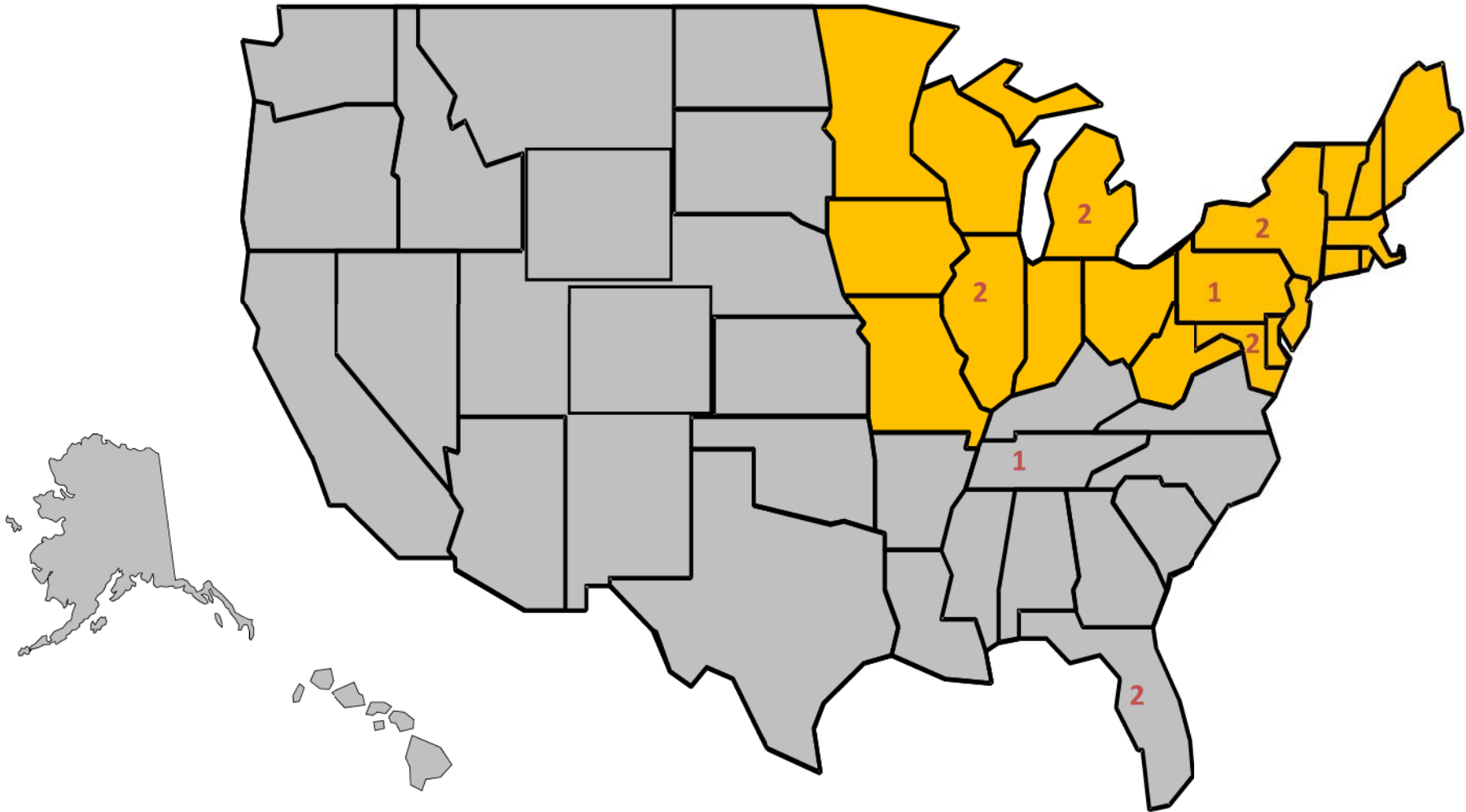
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

 U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	<b>ODI RESUME</b>		
	Investigation: PE 12-003 Date Opened: 02/09/2012 Investigator: Emily Reichard Approver: Frank Borris Subject: Driver's Master Power Window Switch	Reviewer: Scott Yon	
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			

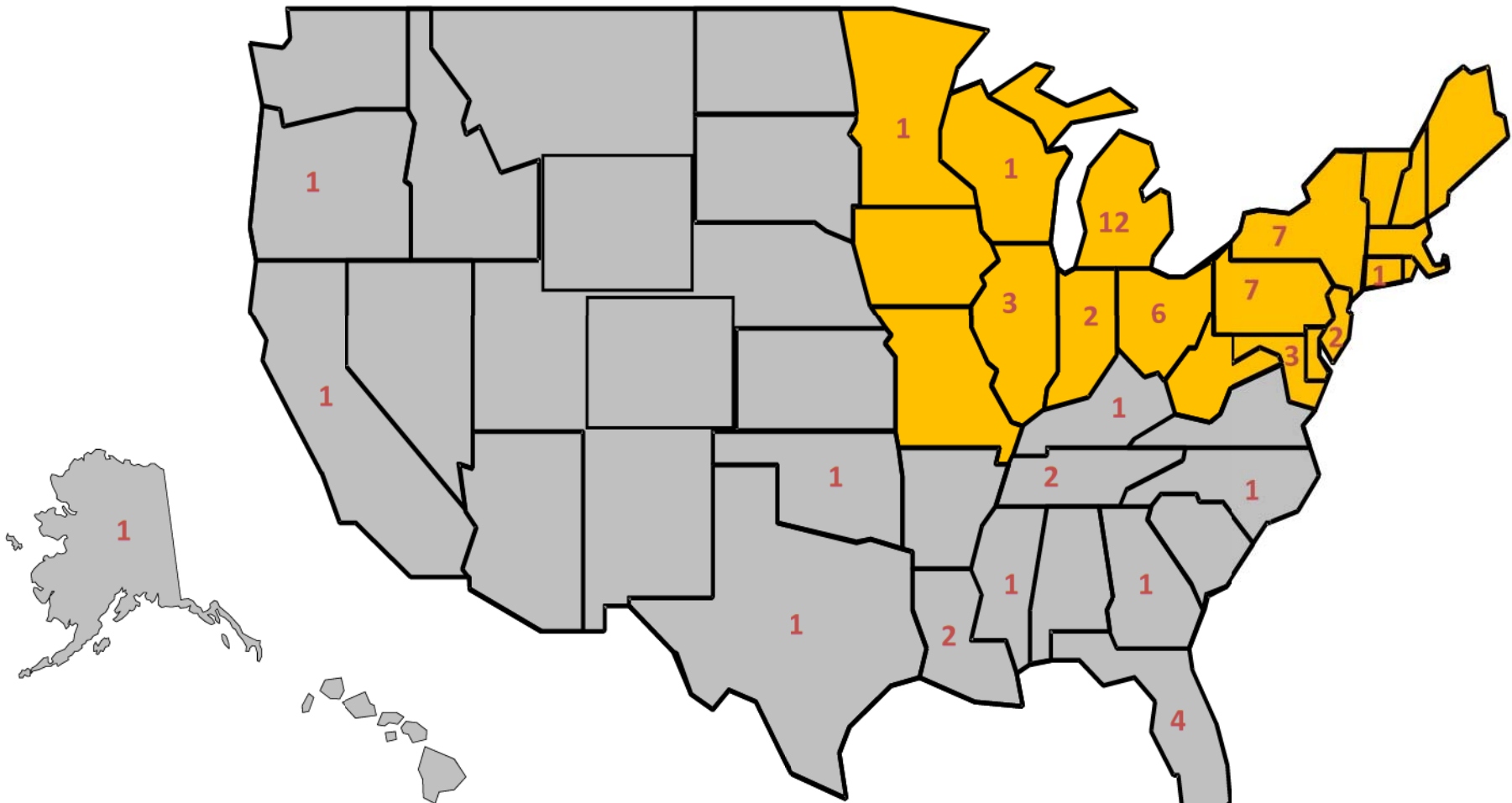
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States




2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
62 VOQs as of 3/19/12

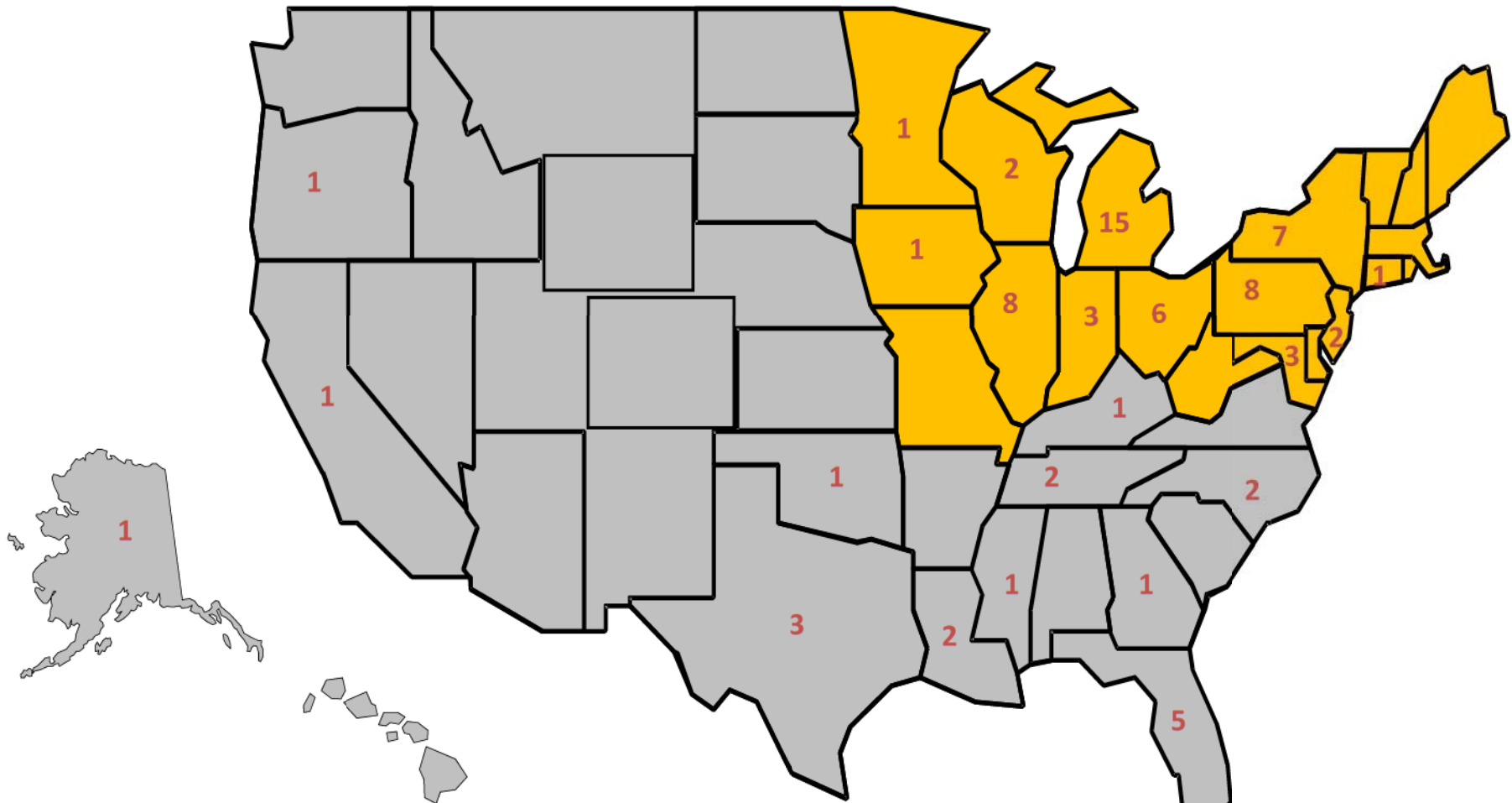
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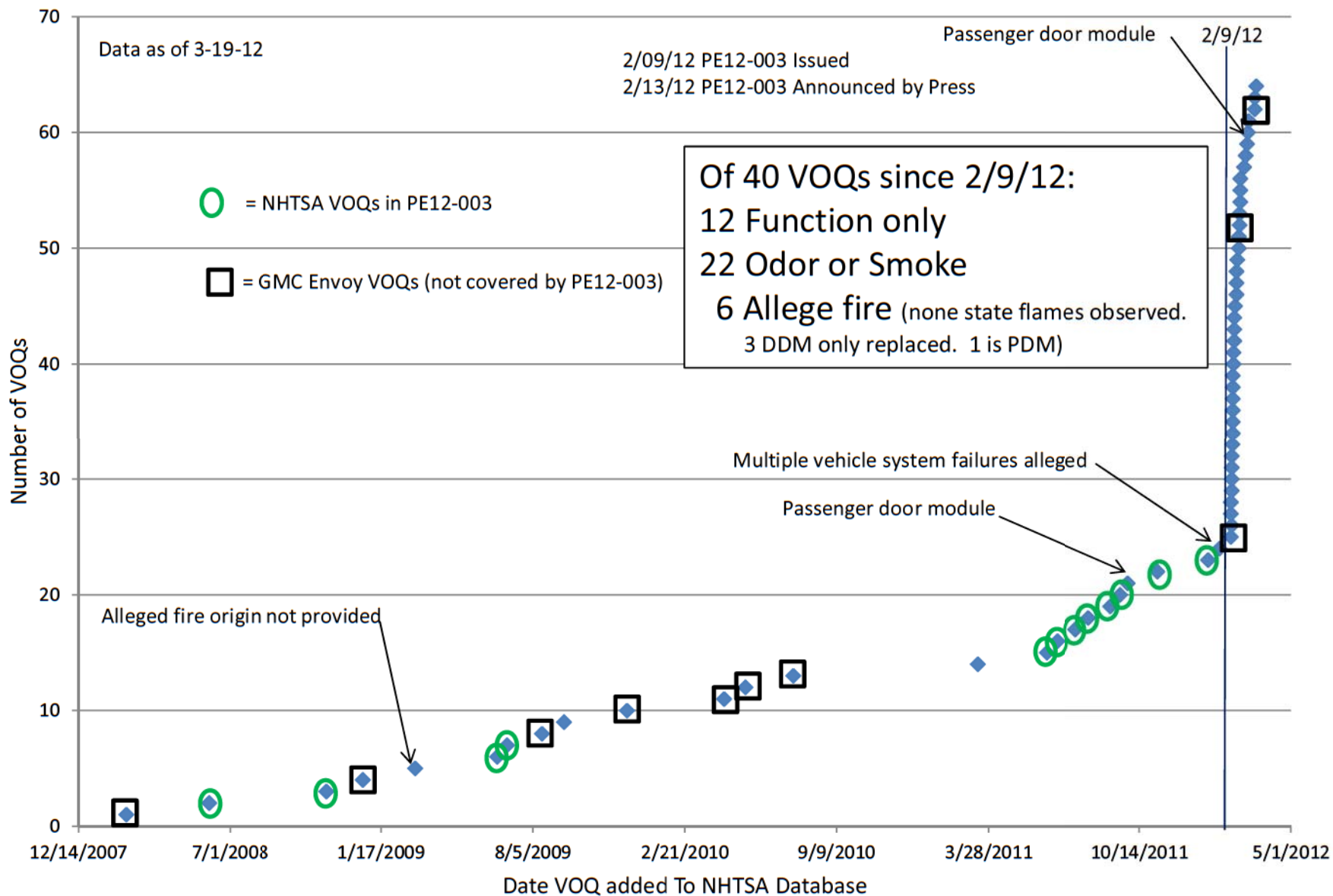
2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
 79 VOQs as of 4/16/12

 NHTSA defined Corrosion States



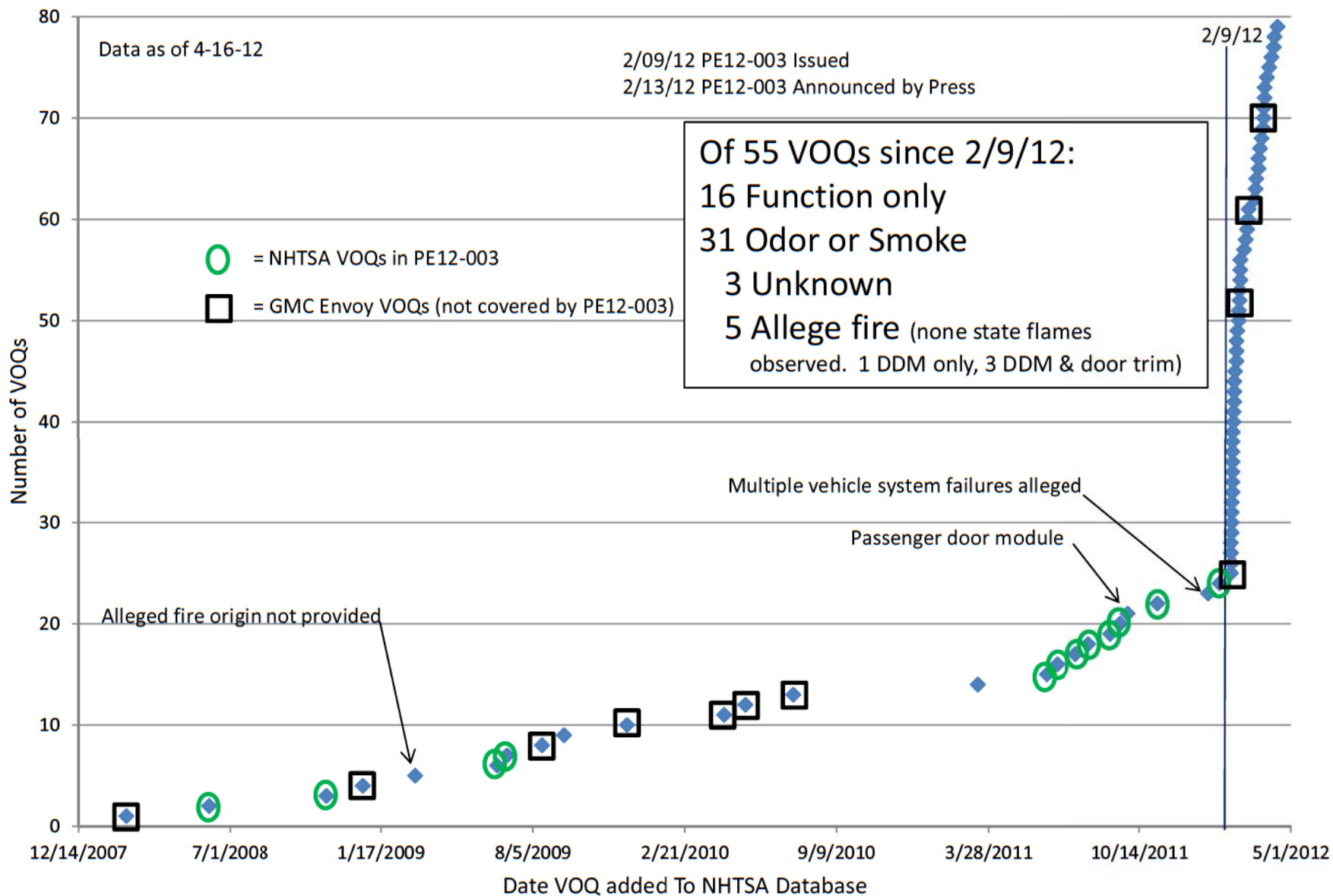
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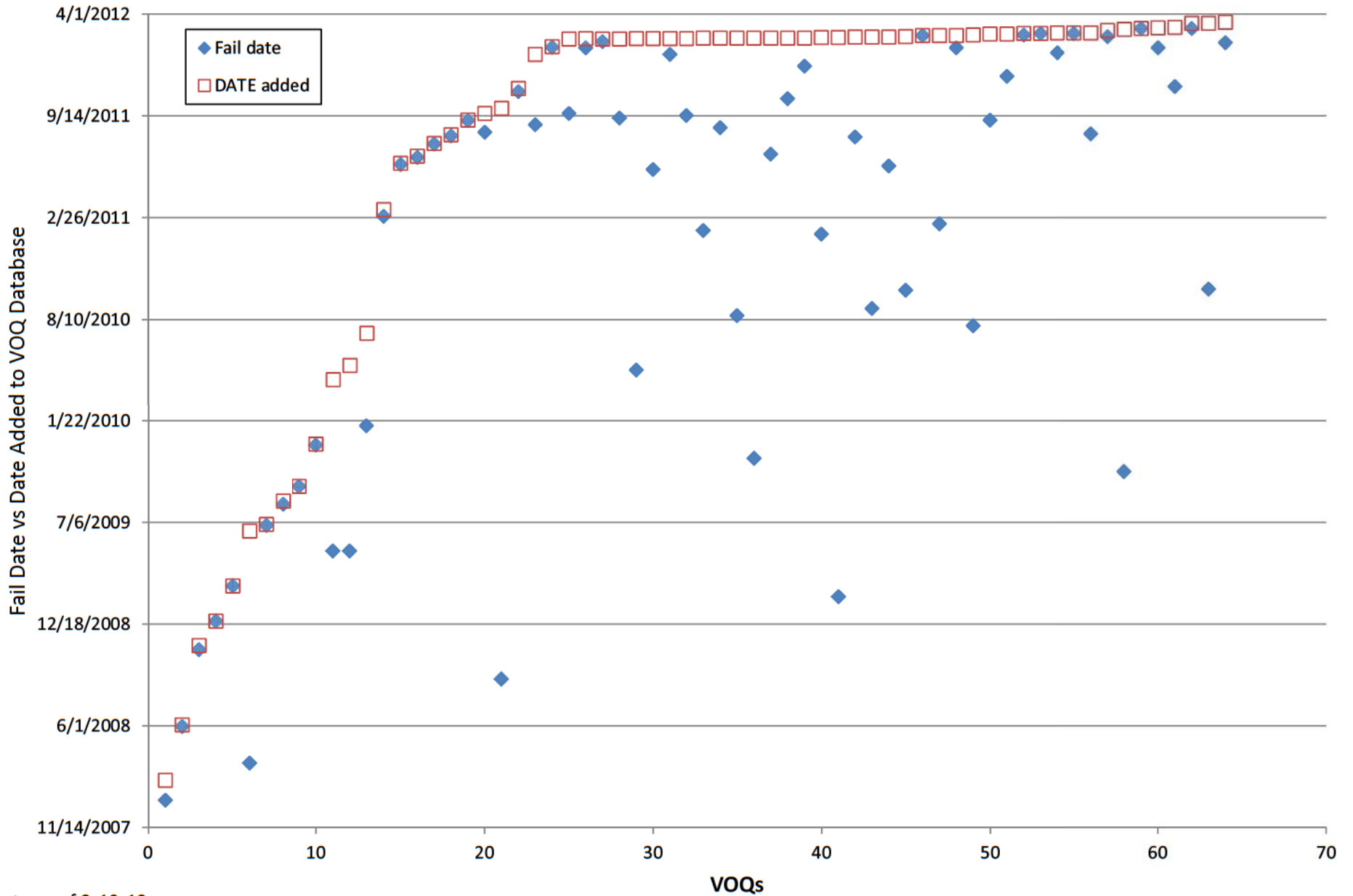


## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



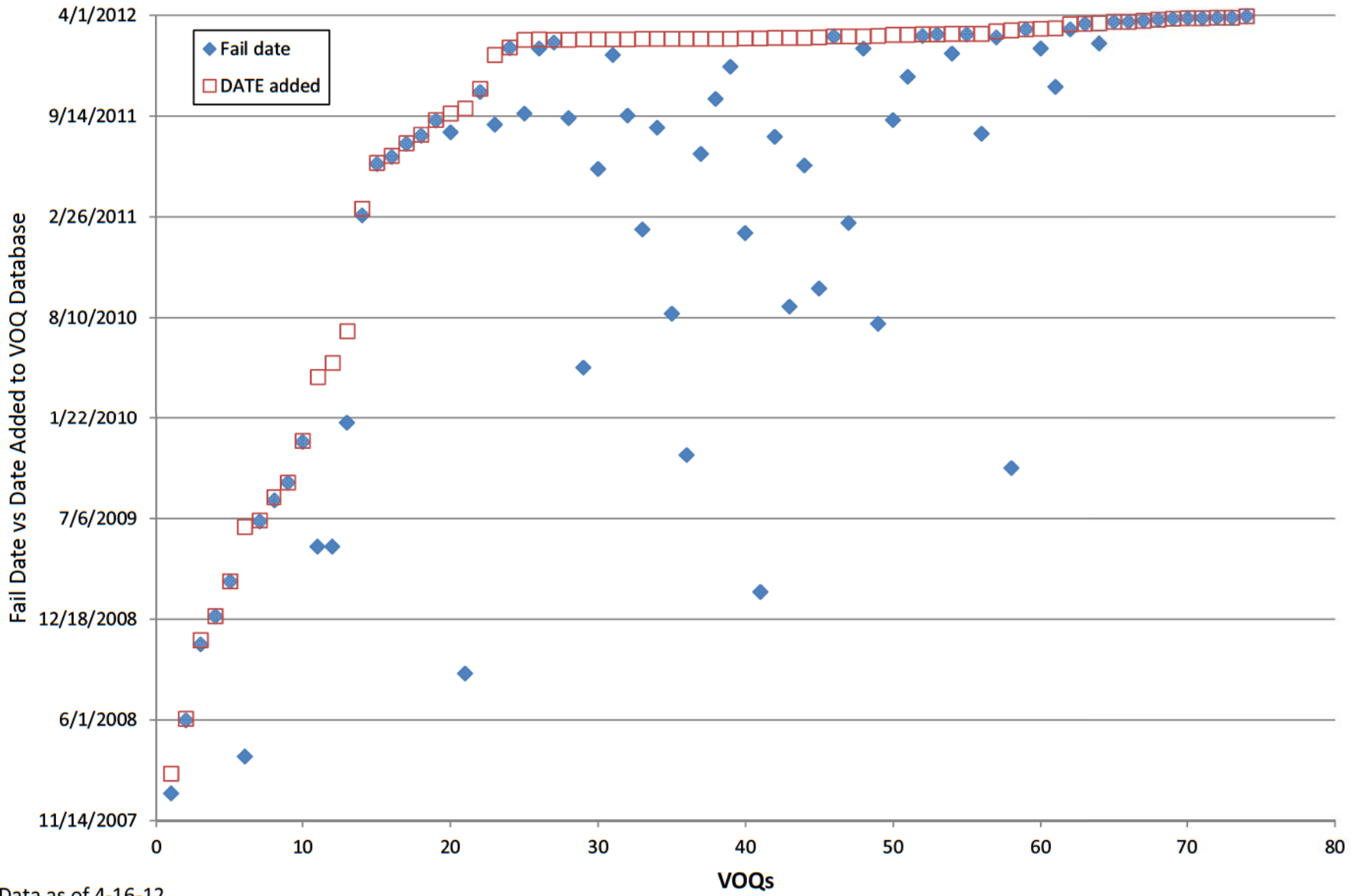
Data as of 4/16/12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



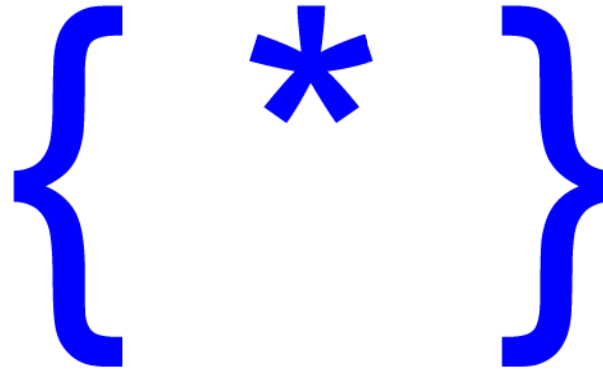
Data as of 3-19-12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 4-16-12

## Driver Door Module Short Circuit



# Inspections/Investigations

1GKET63M462 [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit VOQs

**Data 4/16/12**

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege "fire"

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

4 confirmed fires

2 Unknown

13 fire/flame not likely (minor damage)

21 state smoke

17 state odor

21 state function

1 TBD

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6) & 2007 (81.1)

## [TREAD search for 2005](#)

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

## TREAD Data summary (fire)

### Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

- Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:
  - Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
  - Fire did not occur in 22 cases (11 2006 & 11 2007)

\*No cases known where "fire" extended beyond vehicle interior. Many imply fire while not observed.



# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

7.6/100K

2006 (5.4) & 2007 (11.2)

\*No cases known where “fire” extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

VOQs + TREAD (Data 4/19/12)

**51\* Total** (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

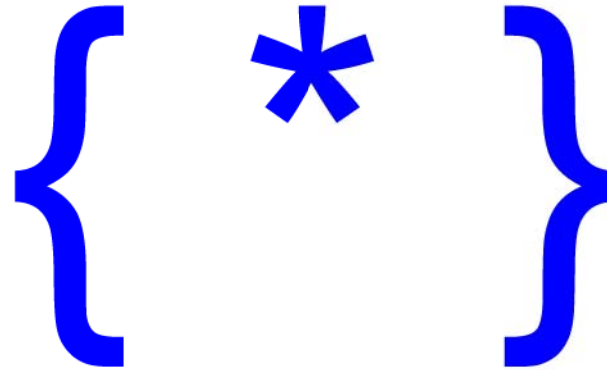
2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

Very few incidents were actual “fires”. Most were odor, melting, or smoke.

# Risk Assessment



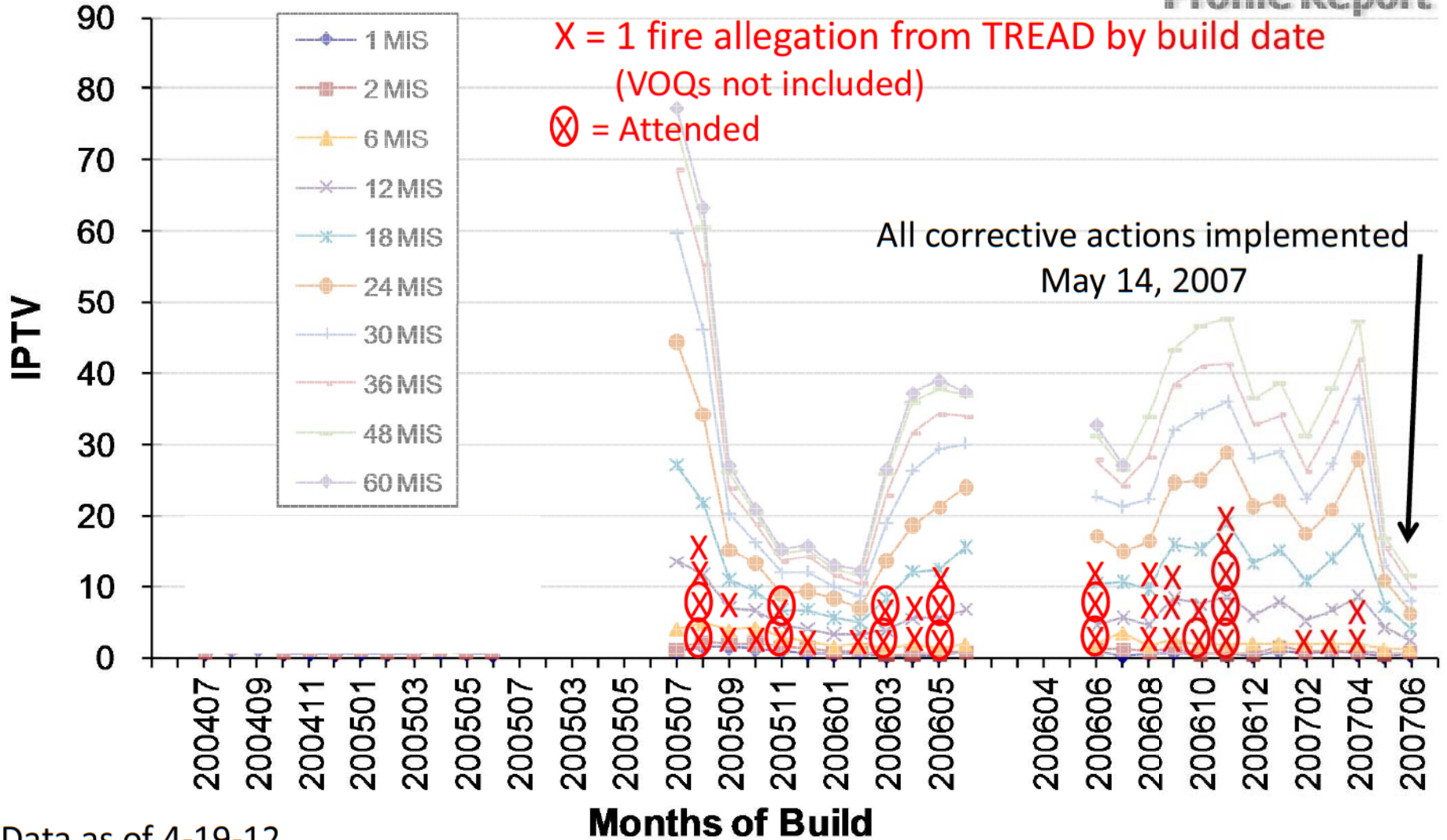


# U.S. Fire Allegations by Build Date

2006-2007 GMT360/370 DDM Global Warranty

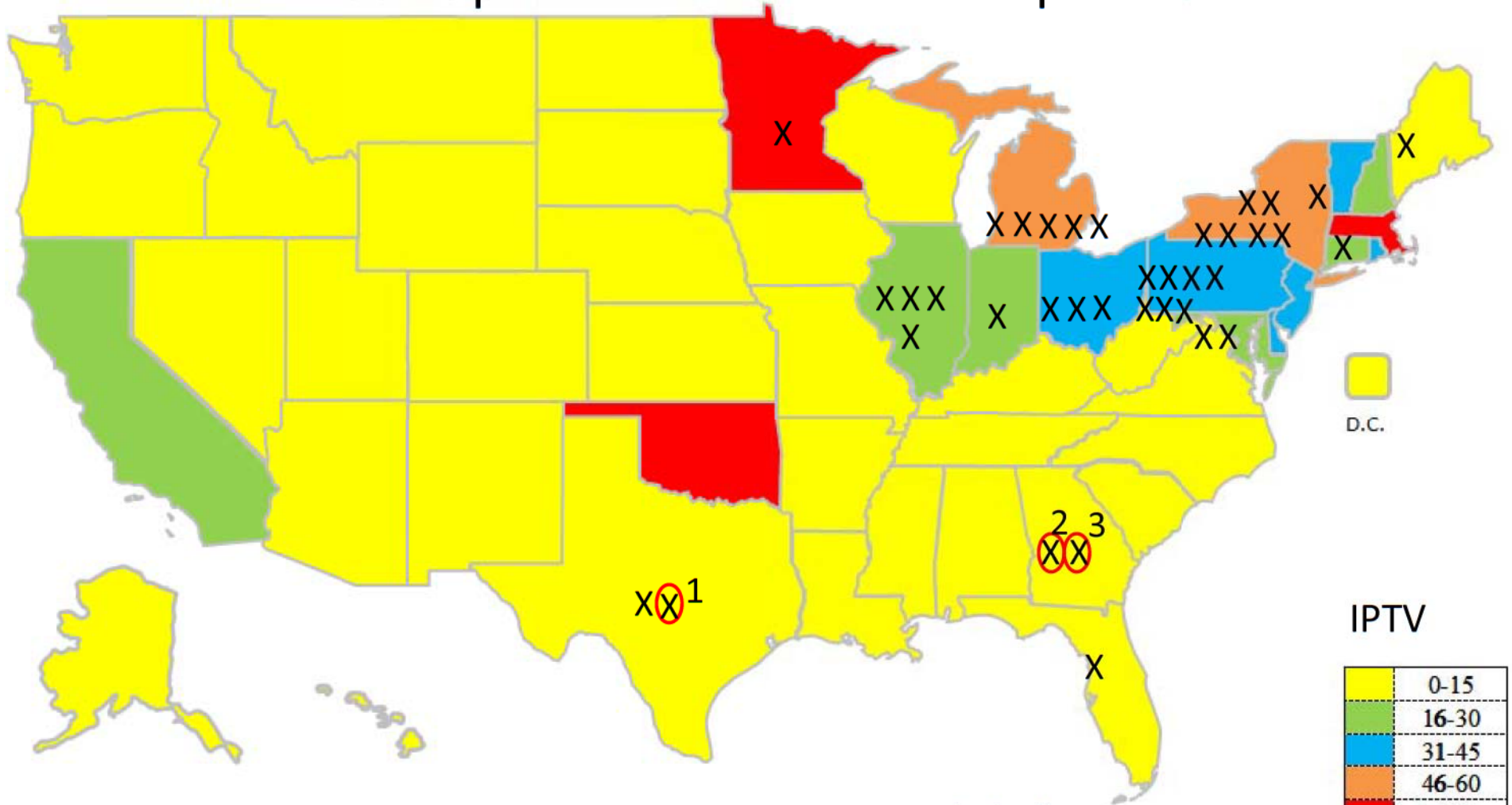
Labor Ops N2117

Profile Report



Data as of 4-19-12

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X = 1 fire allegation by state from TREAD (VOQs not included)

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122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
	Subject:	Driver's Master Power Window Switch	

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
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Complaints:	5	28	29**
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Fatality Incidents:	0	0	0
Other*:	0	0	0
*Description of Other:			
** Count indicates duplicate reports received by ODI and manufacturer.			

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<p><b>Summary:</b></p> <p>The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.</p> <p>The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.</p>

# 2006 Honda CRV DDM

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**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

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	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
Engineer: <i>Peter Ong</i>	Date: 08/21/2009		
Inv. Chief: <i>D. Scott Yin</i>	Date: 08/21/2009		
Office Dir: <i>Kathleen C. DeMeter</i>	Date: 08/21/2009		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

**Summary:**

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

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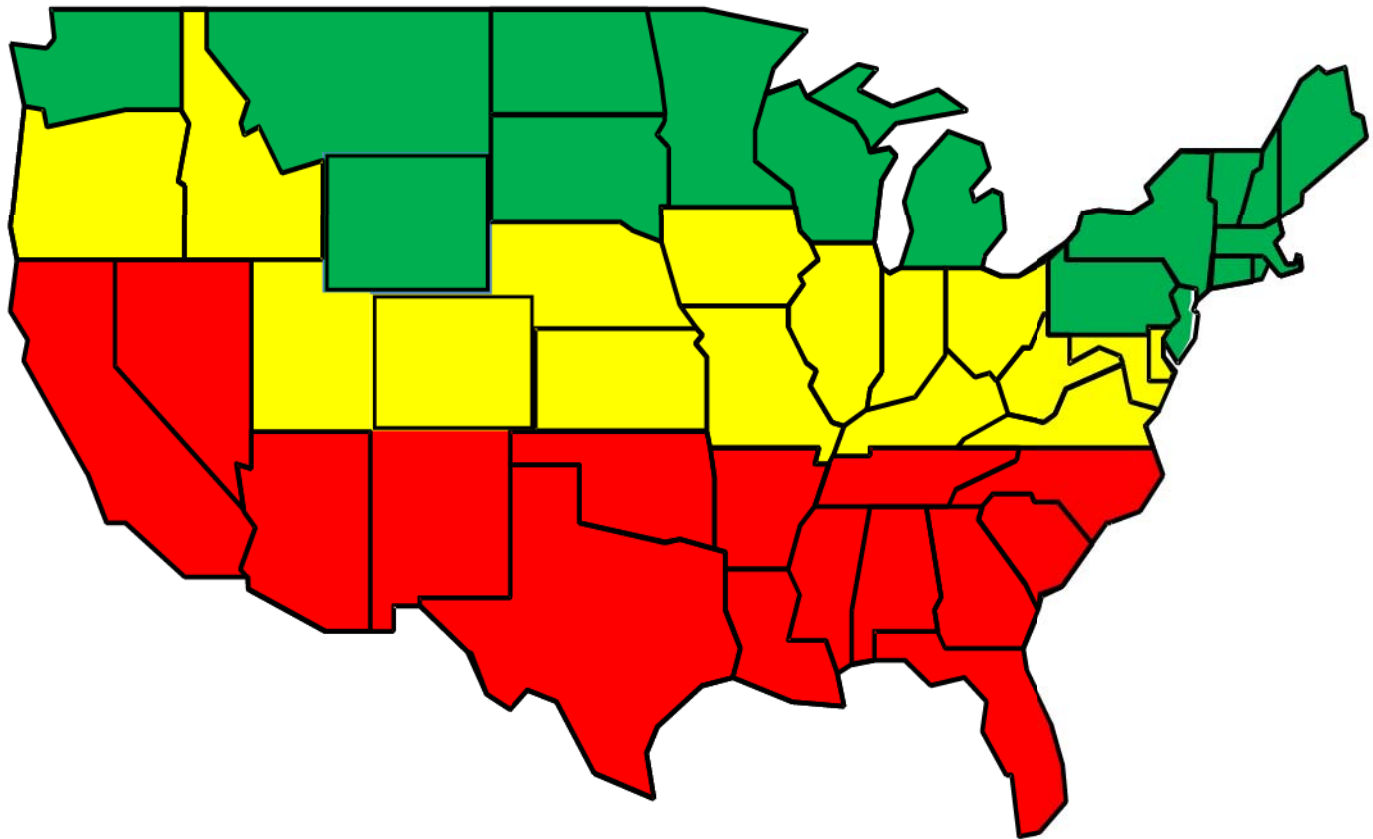
# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

## Hot, Moderate, and Cool States

Hot States: AL, AZ, AR, CA, FL, GA, HI, LA, MS, NC, NM, NV, OK, SC, TN, TX  
Moderate States: CO, DC, DE, IA, ID, IL, IN, KS, KY, MD, MO, NE, OH, OR, UT, VA, WV, WY  
Cool States: AK, CT, MA, ME, MI, MN, MT, ND, NH, NJ, NY, PA, RI, SD, VT, WA, WI













# 2006 Honda CRV DDM

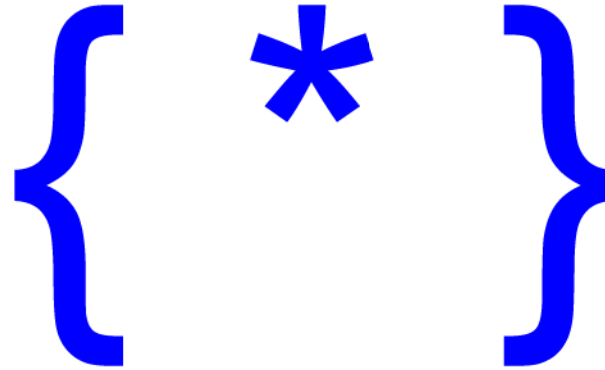
## **Honda Recalling Almost One Million Fit, CR-V and CR-Z Models**

09/06/2011 | By: Huw Evans (Autoguide.com)

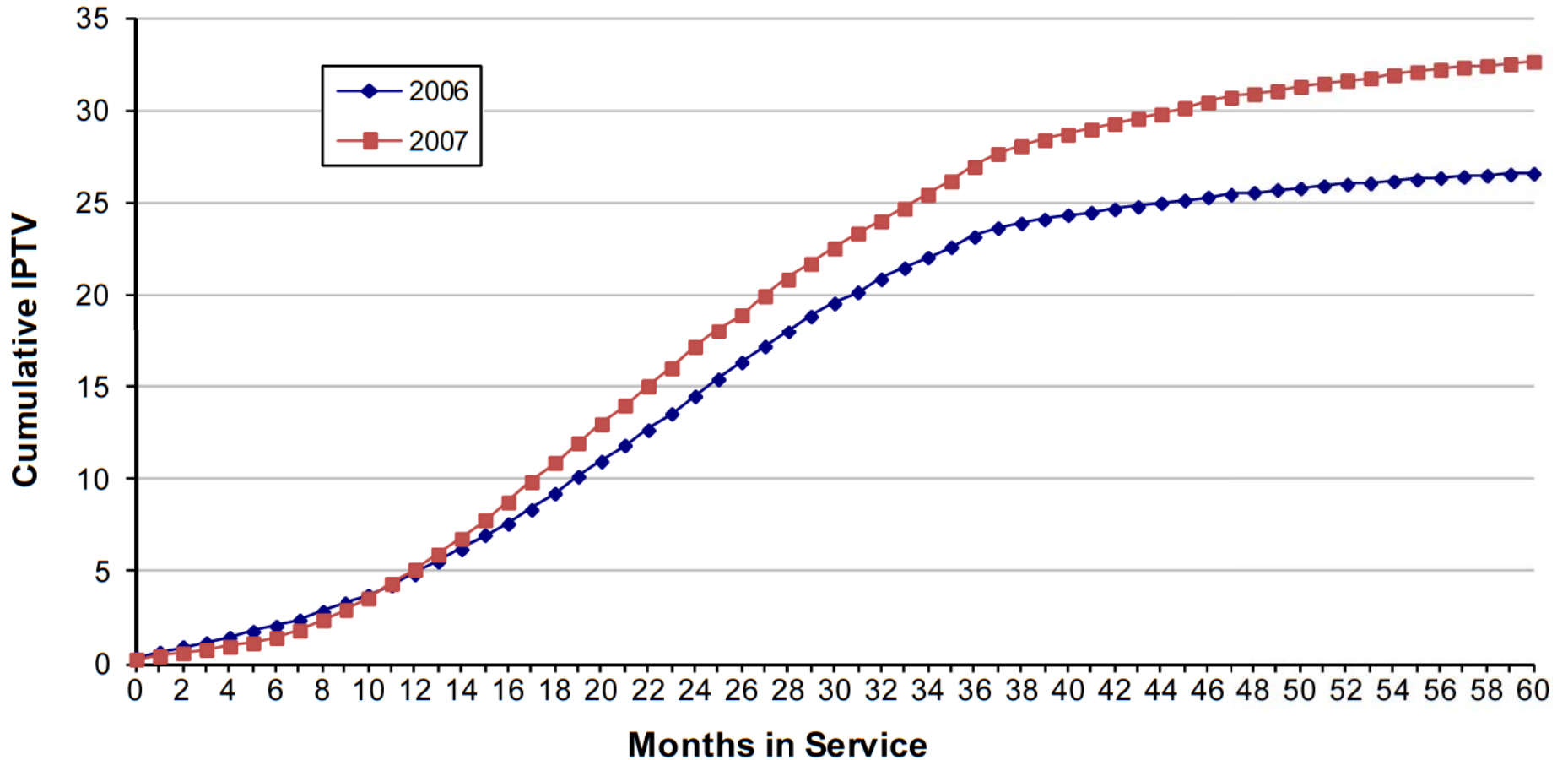
As a result of identifying problems with power window switches, Honda Motor Co. has announced it is recalling some 960,000 vehicles worldwide.

The recall is mostly related to 2006 to early 2010 Fit subcompacts (totaling almost 800,000). **In addition, in the U.S., the company is also recalling some 80,111 CR-Vs from the 2006 model year for similar problems.** The recall is a result of potential problems such as fire hazards that could result from faulty electrical contacts in the switches.

# Driver Door Module Short Circuit



# 2006-2007 GMT360/370 DDM N.A. Warranty Labor Ops N2117



Data as of 4-29-11

# 2006-7 GMT360/370

## 16,452 Door Module Claims as of 4/29/12

### Labor Codes (N2117)

Cust. Codes	Problem Description	Cases	%	IPTV
1-OJ	INOPERATIVE	12,125	74	21.39
0-0590	Features/Controls/Displays - Other issues	1,031	6	1.82
1-OL	INTERMITTENT	820	5	1.45
0-0524	Features/Controls/Displays - Locks/Keys/Keyless Remote	642	4	1.13
0-0890	Interior - Other issues	367	2	0.65
0-0490	Exterior - Other issues	128	1	0.23
1-O7	WON'T MAINTAIN ADJUST	115	1	0.20
1-OA	BINDS	100	1	0.18
1-MJ	CUSTOMER SATISFACTION	77	0	0.14
1-V3	SMOKE/STEAM	75	0	0.13
1-OF	ENGAGE/DISENGAGE	67	0	0.12
1-ON	LOOSE	65	0	0.11
1-NQ	RATTLE	57	0	0.10
1-PN	WILL NOT START	55	0	0.10
1-OP	ODOR	49	0	0.09
1-OI	FUMES	5	0	0.01
1-PK	OVERHEATING	3	0	0.01

All complaint  
codes not shown

# 2006-7 GMT360/370

## 16,452 Door Module Claims as of 4/29/12

### Labor Codes (N2117)

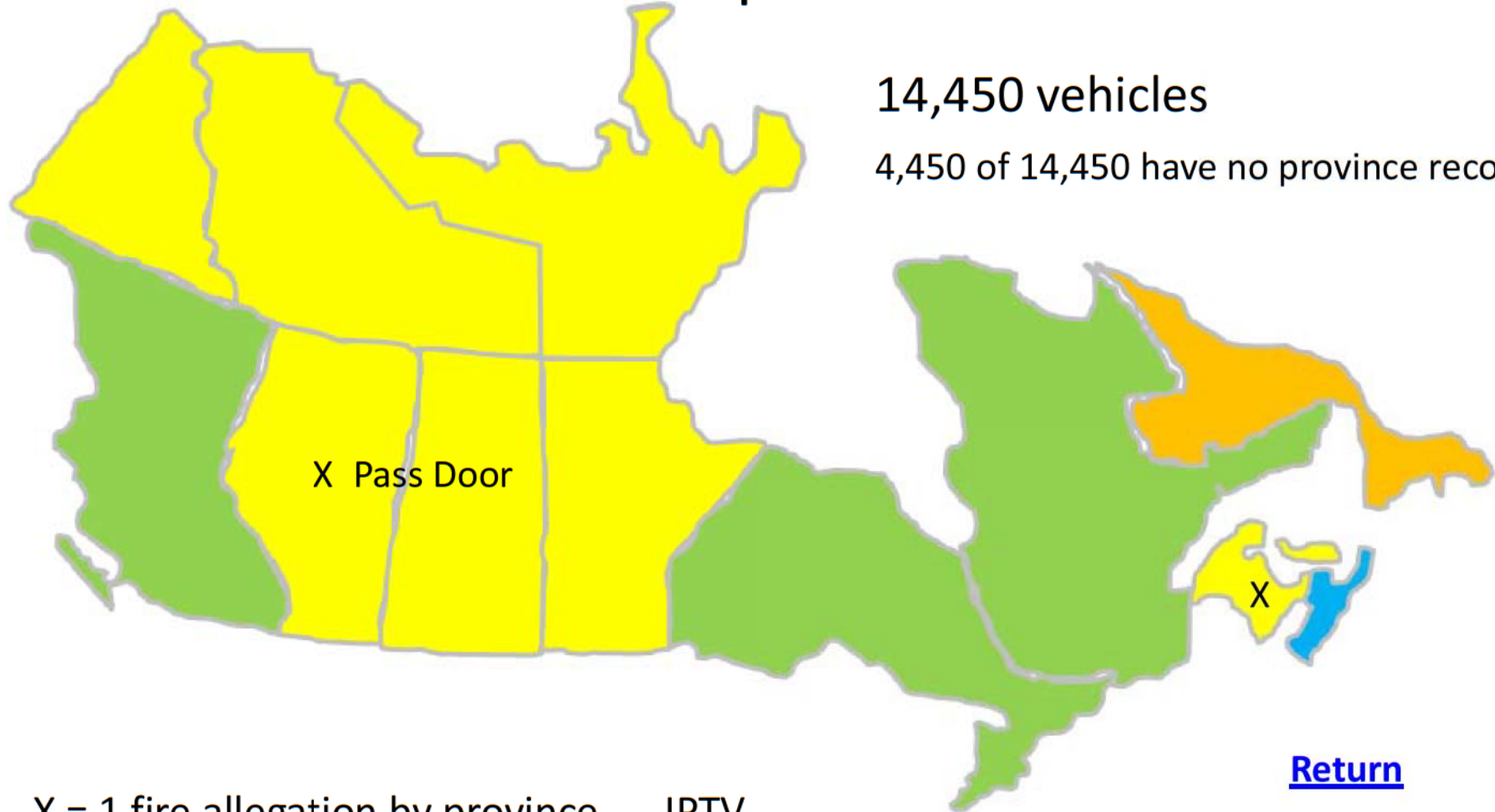
Code	Problem Description	Cases	%	IPTV
1-6C	COMPONENT-INOPERATIVE	5,483	33	9.67
1-6G	COMPONENT-SHORTED	3,688	22	6.51
1-OB	OBDII Code used	1,820	11	3.21
0-6579	Module/Component-Shorted	1,284	8	2.27
1-6F	COMPONENT-OPEN	1,215	7	2.14
1-6D	COMPONENT-INTERMITTENT	629	4	1.11
0-6573	Module/Component-No/Incorrect Communication	386	2	0.68
0-7079	Wiring/Electrical/Sensors-Shorted	223	1	0.39
1-3L	OUT OF CALIBRATION	202	1	0.36
1-1E	BURNED	185	1	0.33
1-1D	BROKEN	101	1	0.18
1-98	CUSTOMER SATISFACTION	87	1	0.15
1-2W	LOOSE	81	0	0.14
0-6581	Module/Component-Registers Incorrectly	67	0	0.12
0-7073	Wiring/Electrical/Sensors-No/Incorrect Communication	66	0	0.12
0-6017	Module/Component-Broken	60	0	0.11
1-93	TECHNICAL SERVICE BULLETIN	56	0	0.10
1-3X	REGISTERS INCORRECTLY	52	0	0.09
1-7W	ELECTRICAL INTERFERENCE	52	0	0.09
0-6583	Module/Component-Poor Contact	47	0	0.08
1-3A	MISADJUSTED/MISALIGNED	42	0	0.07
1-4X	WORN	33	0	0.06
1-1H	CLOGGED/RESTRICTED/BLOCKED	29	0	0.05
1-7L	WIRE-CUT/BROKEN/OPEN	25	0	0.04
1-6J	CONNECTOR-CORRODED	7	0	0.01
1-7G	WIRE-BURNED-EXTERNAL HEAT	7	0	0.01
1-7H	WIRE BURNED-INTERNAL HEAT	7	0	0.01

All Trouble  
Codes not  
shown

# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record



X = 1 fire allegation by province


IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Data as of 4-29-12

[Return](#)

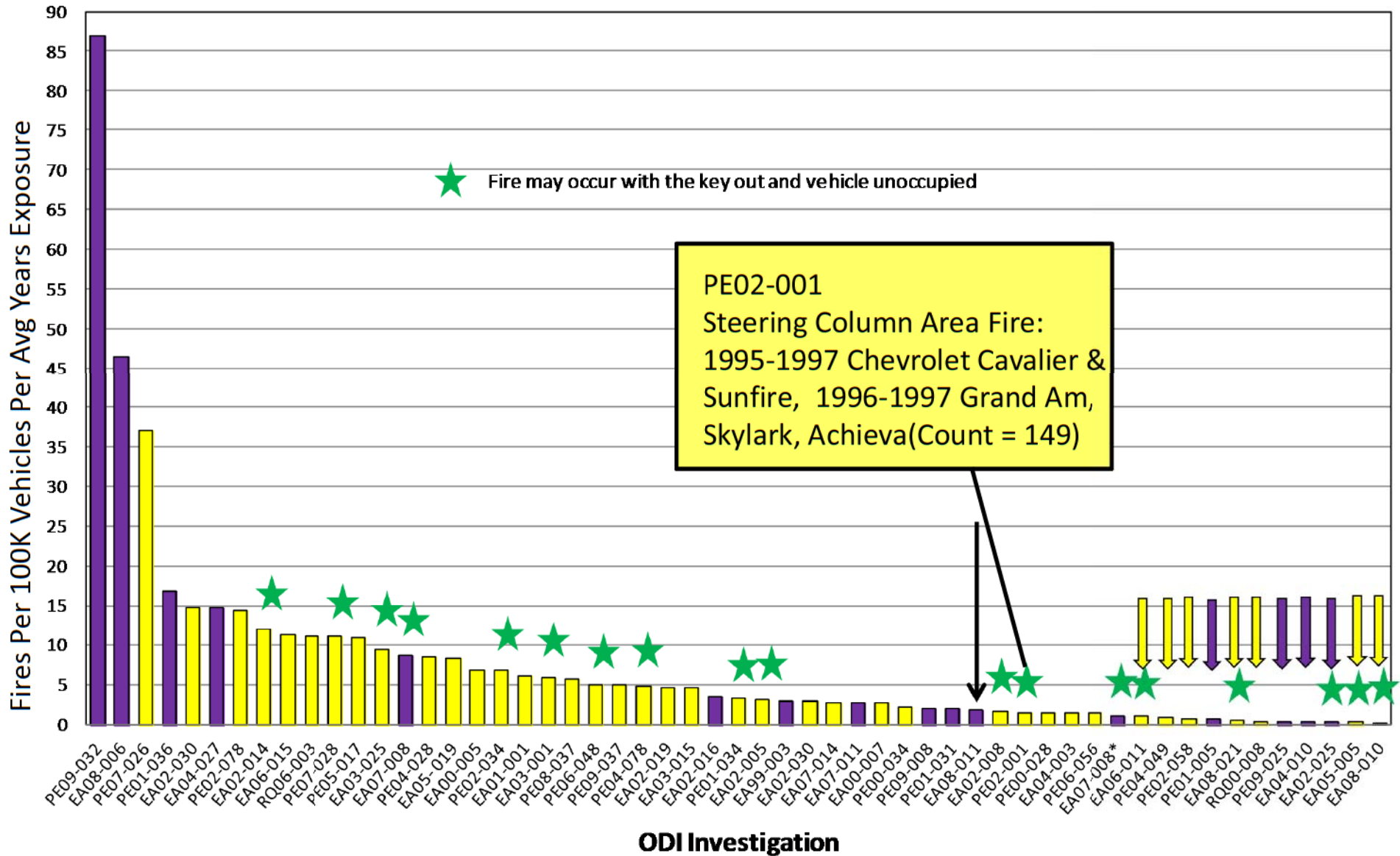
**From N100240 2003-07 GMT800 HVAC Blower Motor Relay Resistor Module**

	<h1>ODI RESUME</h1>		
INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: <i>David Langjahr</i>	DATE OPENED: 1-5-01 <u>DATE CLOSED 31-JUL-01</u>		
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: 1996-1999 VEHICLE POPULATION: <u>Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430</u>			
PROBLEM DESCRIPTION: The speed control <u>resistor assembly for the heater blower may overheat and start a fire.</u> Also, failure of the blower switch causes loss of one or more blower speeds.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	MANUFACTURER	TOTAL
COMPLAINTS:	68**	approx. 2,600*	approx. 2,700*
FIRES:	<u>4</u>	89	<u>93</u>
INJ FIRES:	0	0	0
# INJURIES:	0	0	0
FAT FIRES:	0	0	0
#FATALS:	0	0	0
LAWSUITS:	0	9	9
OTHER:	0	approx. 13,000*	approx. 13,000*
DESCRIPTION OF OTHER: WARRANTY CLAIMS			
ACTION: This Engineering Evaluation is closed. On July 9, 2001, Ford notified NHTSA of its intent to conduct a Safety Recall #01V-230 (Ford #01S22).			

GM CONFIDENTIAL

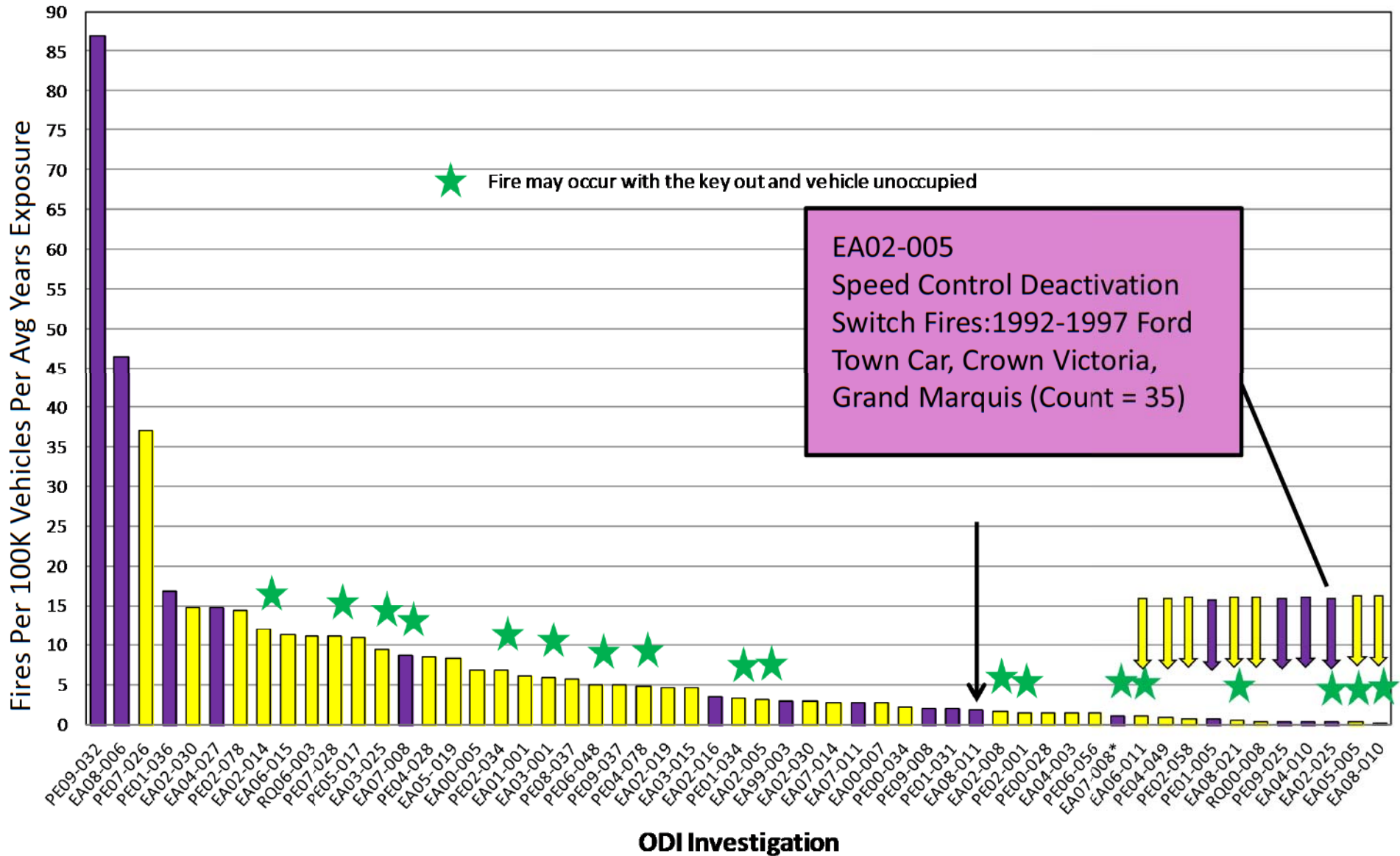
Return

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

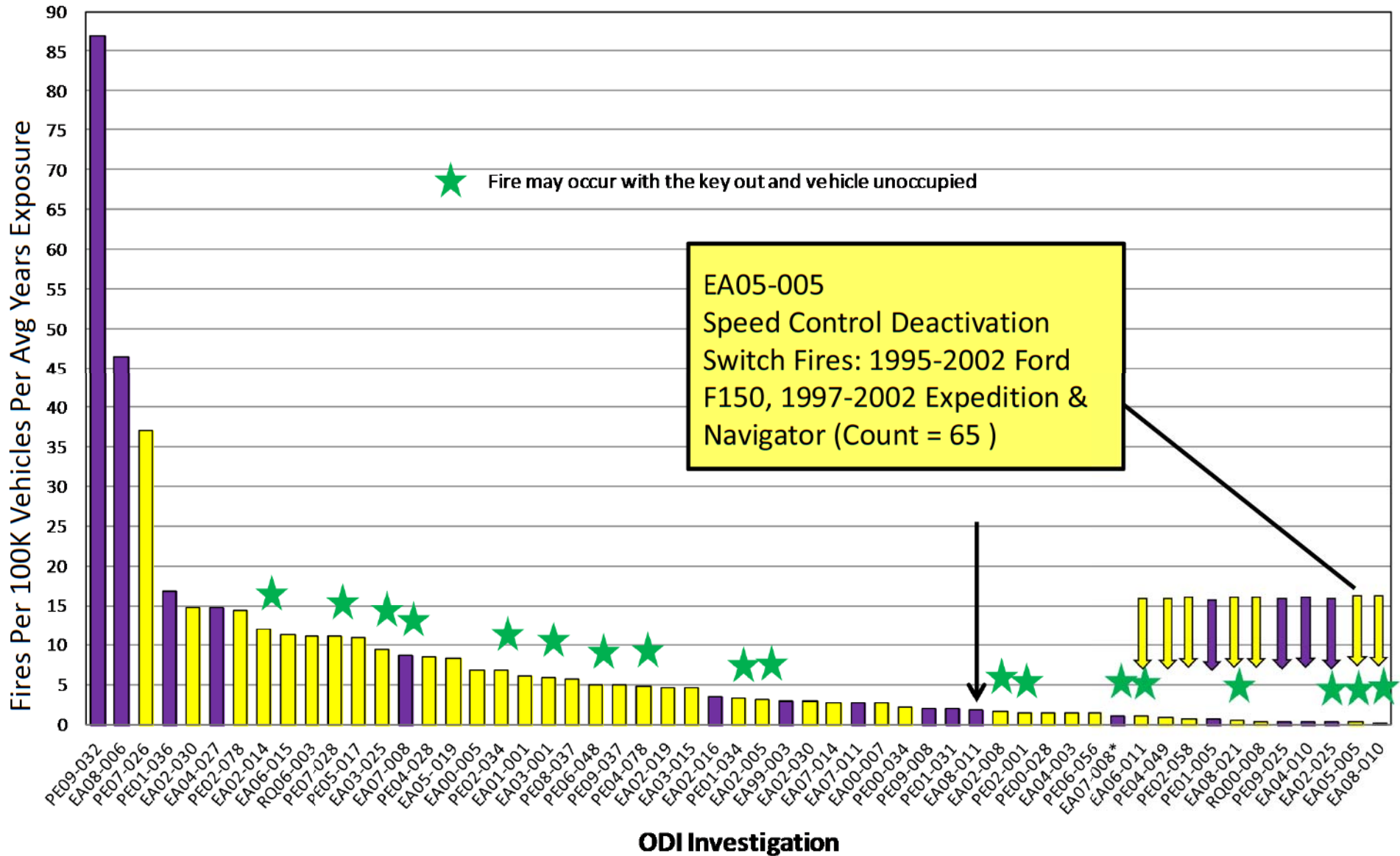




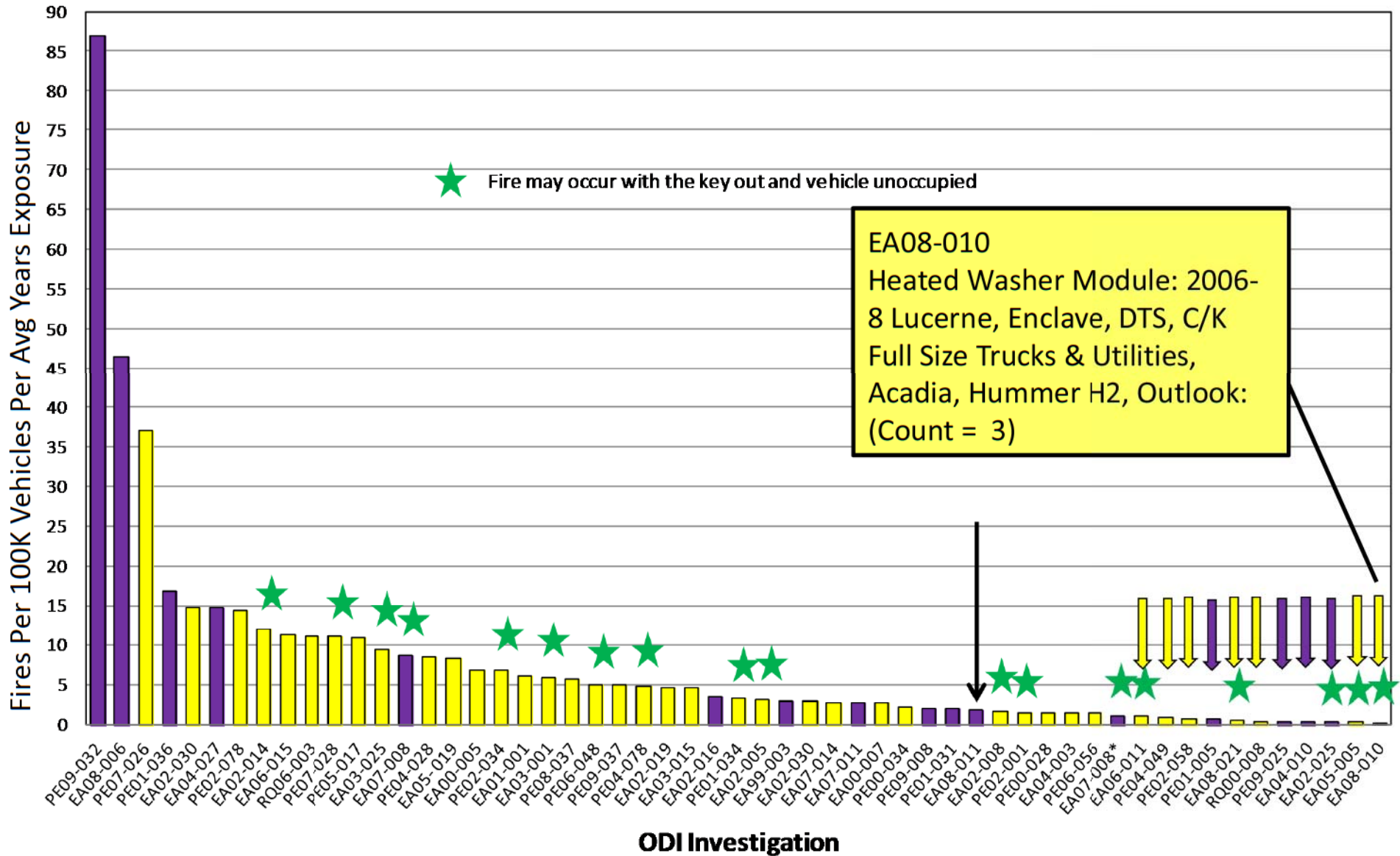
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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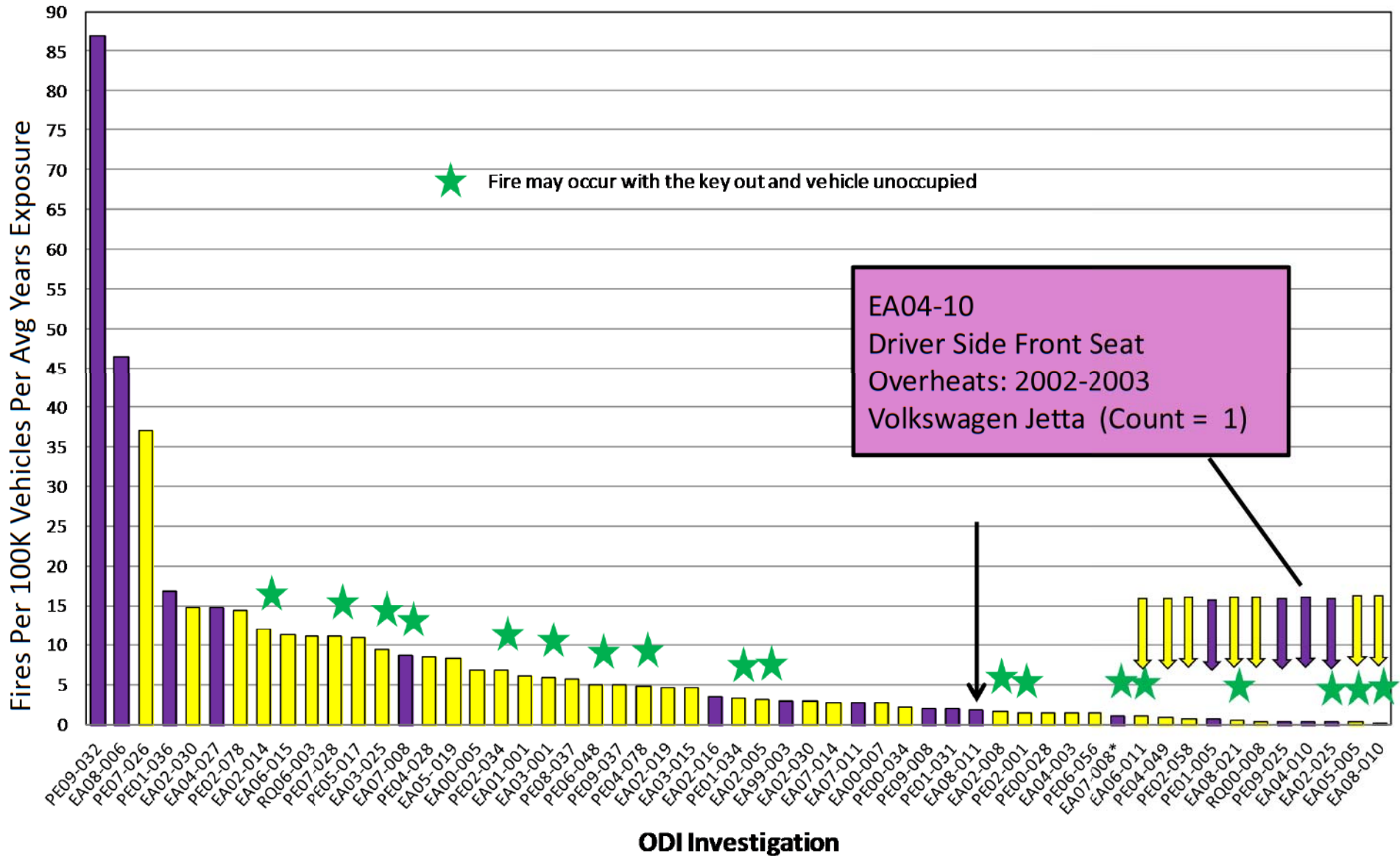
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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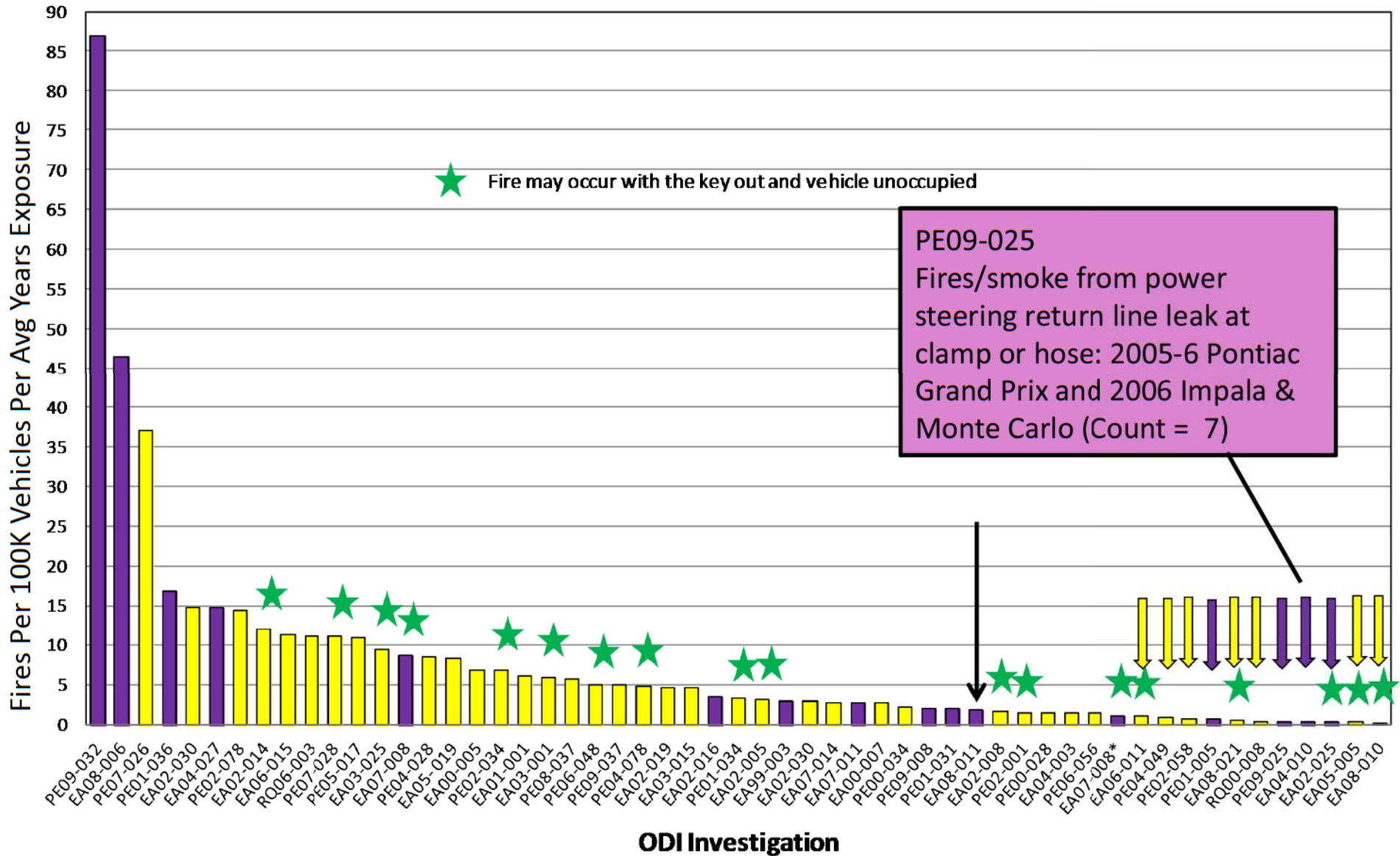
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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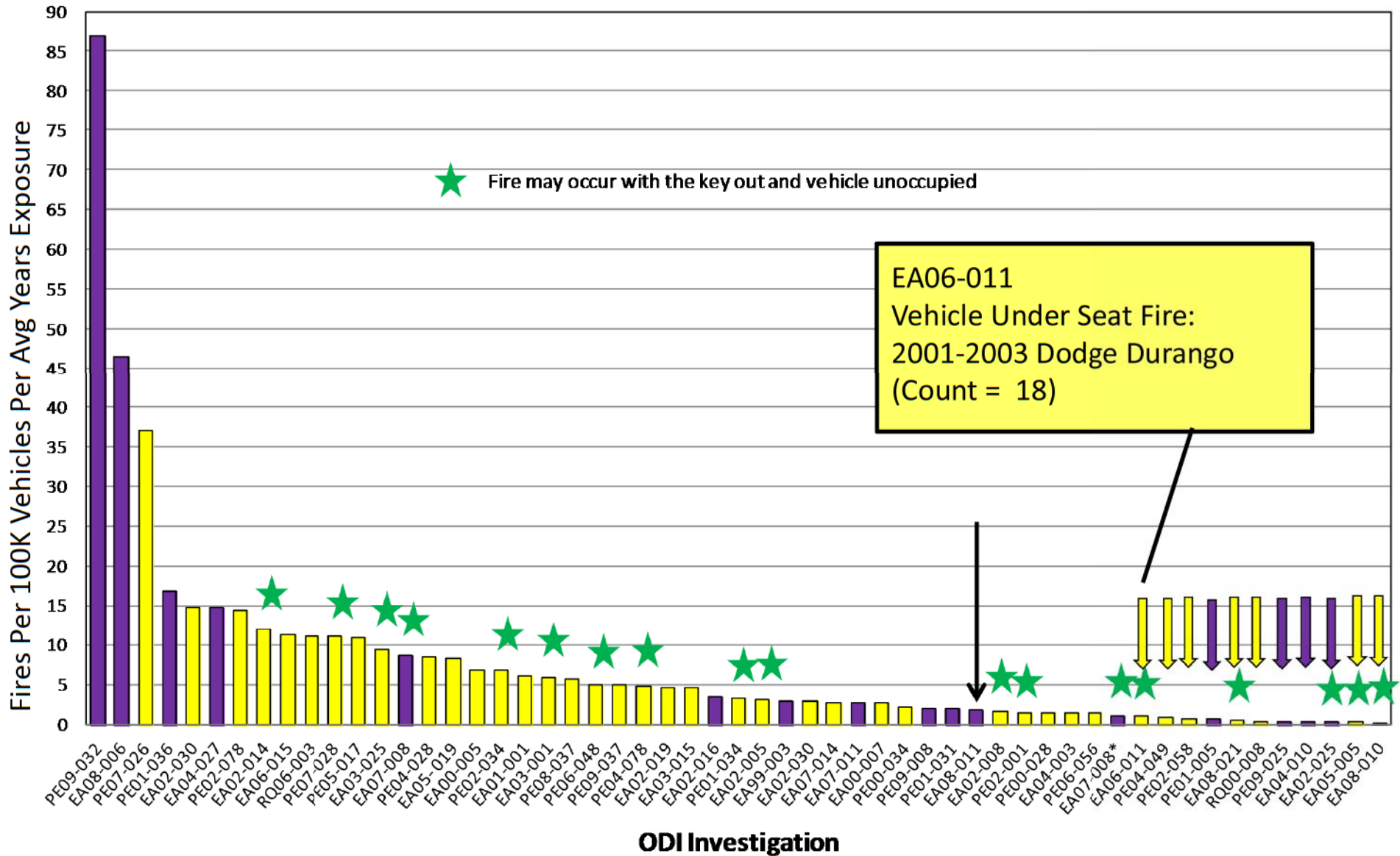
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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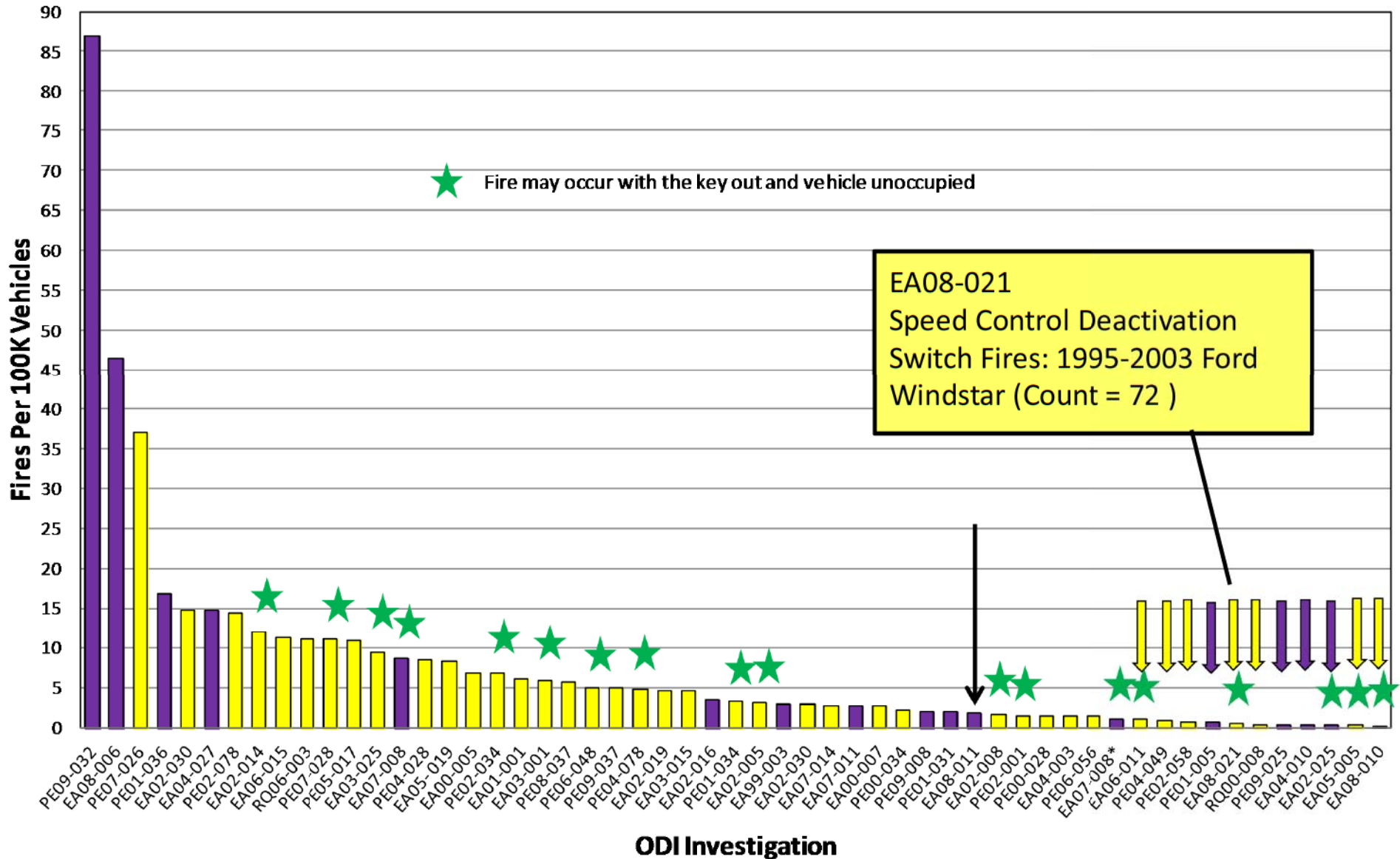
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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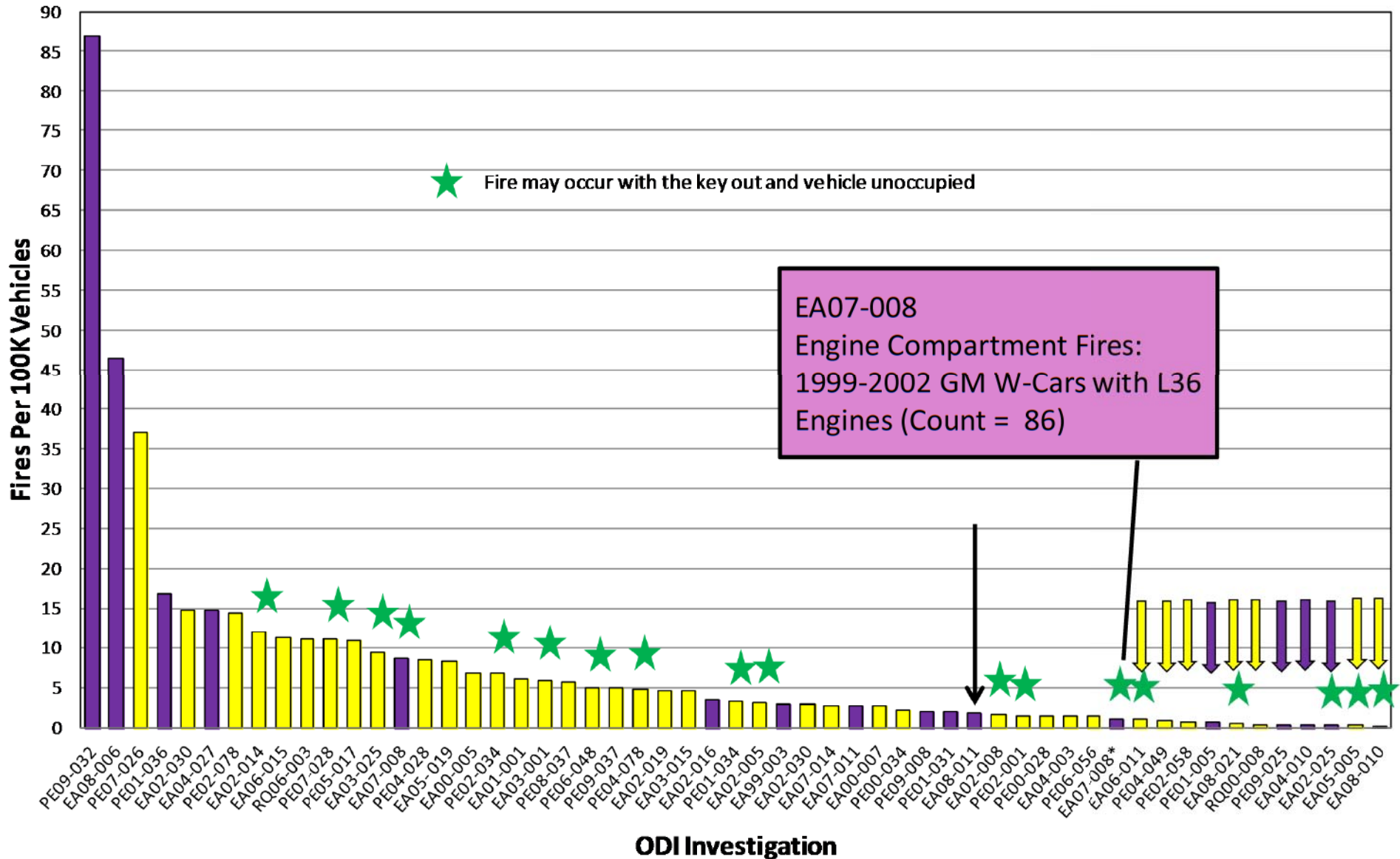
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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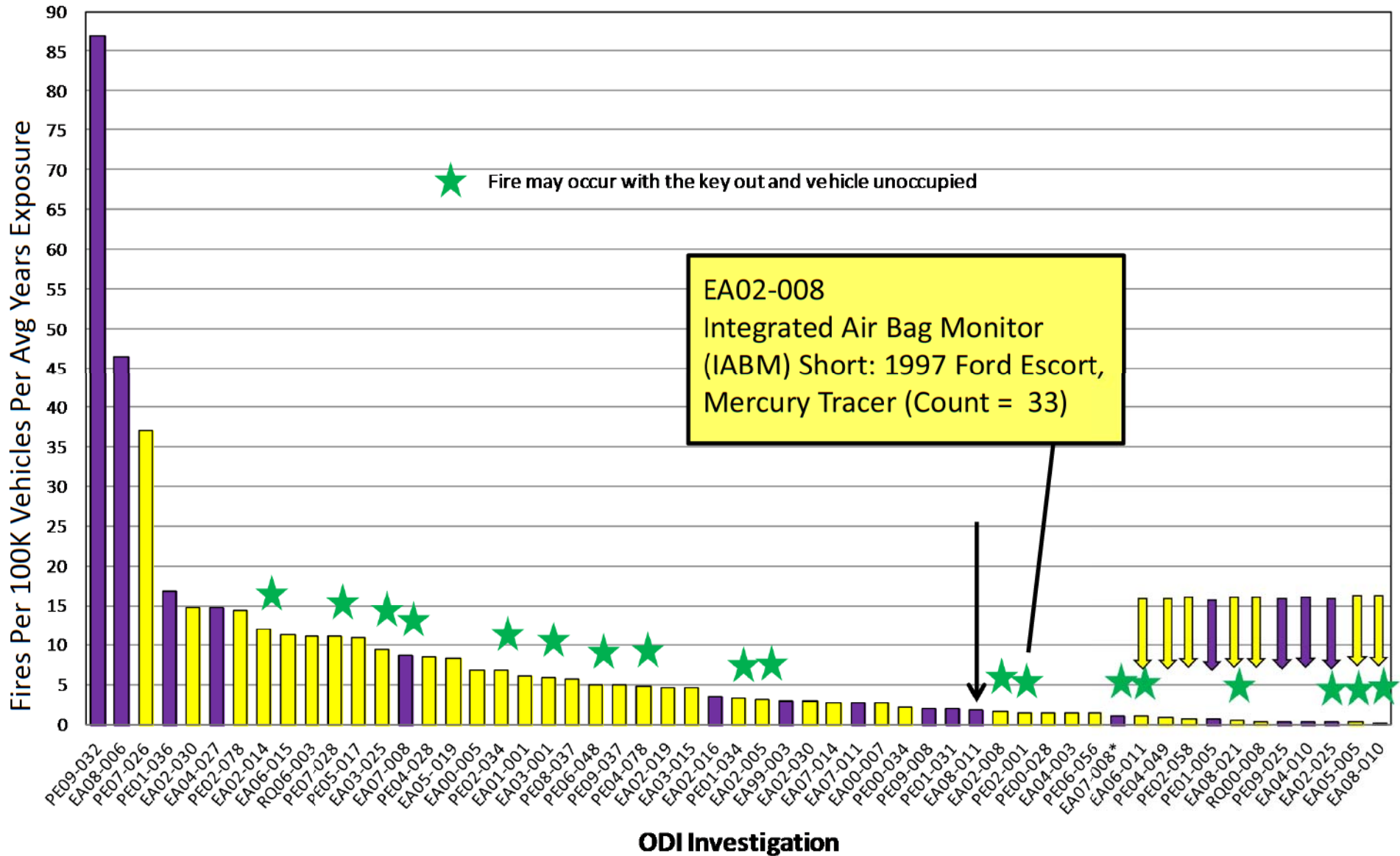


**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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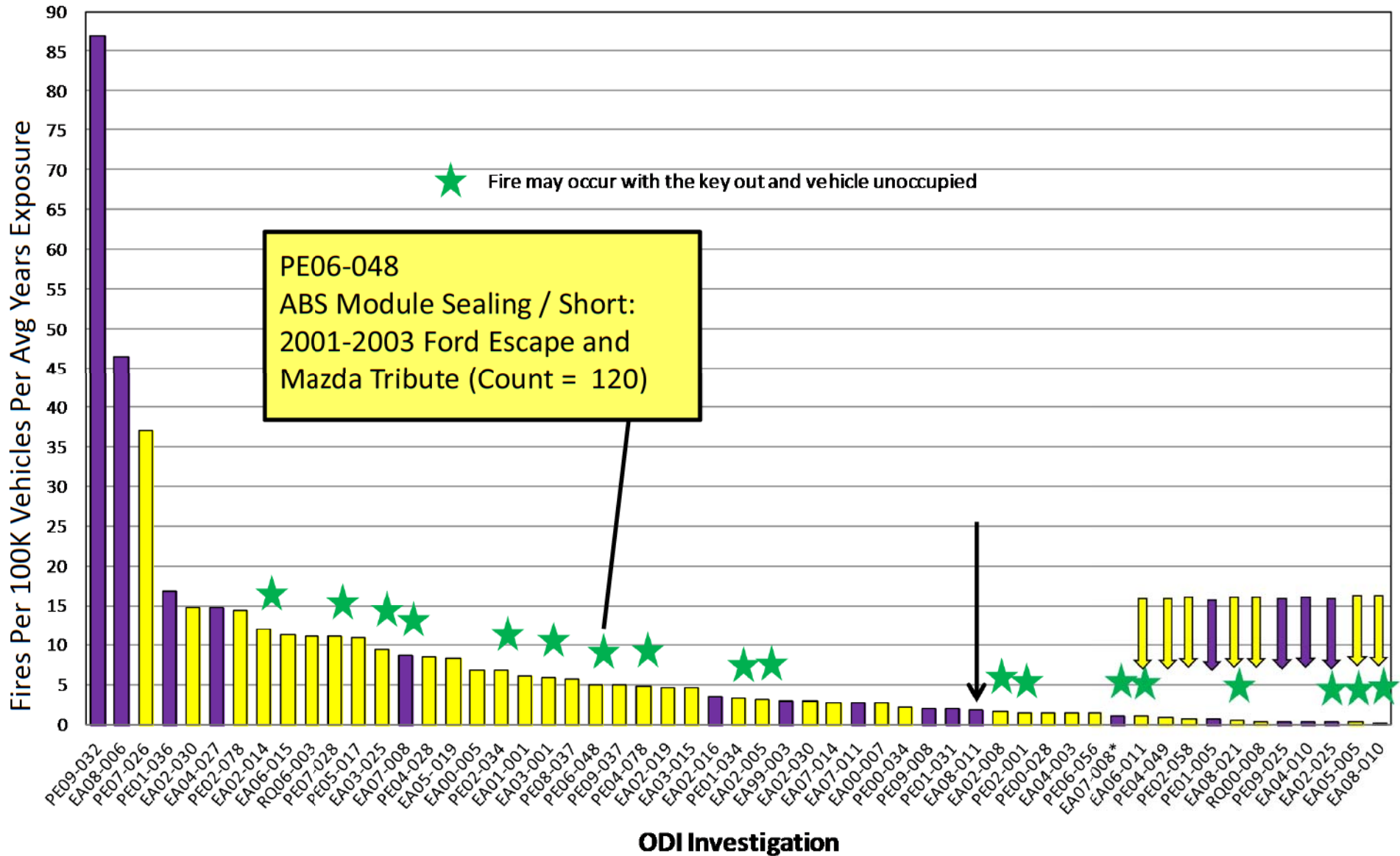




**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function FPET 6-14-12-p

## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
21,500 SC & 4,500 reimbursement (Total Pop 537,175 )  
{ \*\* }

ETQ N110323

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

# 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit

{ \* }



Base Switch Package



Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] - [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



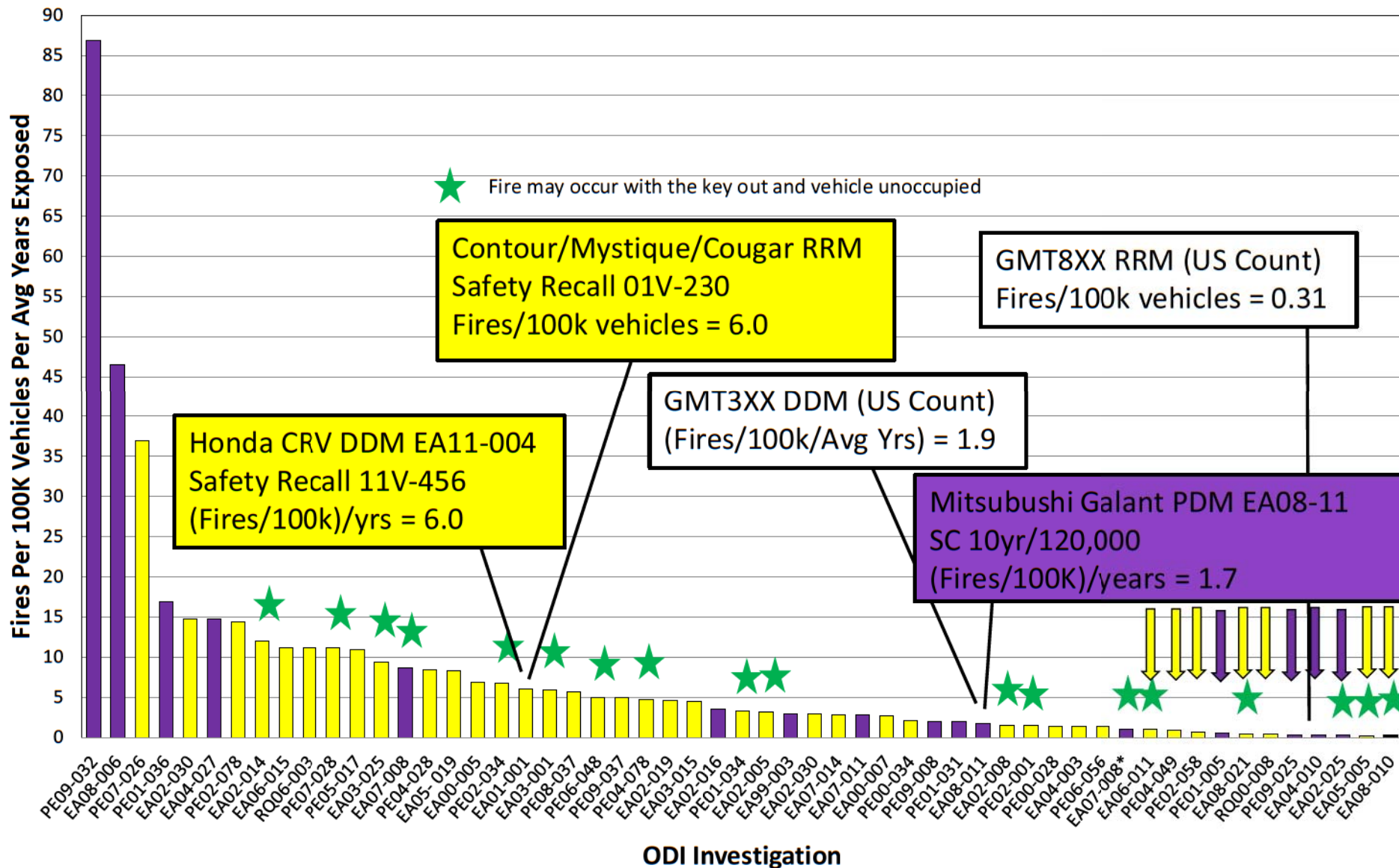
# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.





**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12



**VEHICLES POTENTIALLY AFFECTED BY SELLING DIVISION,  
MODEL, AND MODEL YEAR**

Selling Division	Model	Model Year	Number Involved
BUICK	Rainier	2006-7	19,134
CHEVROLET	Trailblazer & EXT	2006-7	322,529
<b>GM CANADA</b>			
Buick	Rainier	2006-7	419
Chevrolet	Trailblazer & EXT	2006-7	6,242
GMC	Envoy XL	2006-7	6,672
SAAB	9-7x	2006-7	537
	Total		13,870
<b>GM MEXICO</b>			
Chevrolet	Trailblazer & EXT	2006-7	4,942
<b>GMC TRUCK</b>			
GMC	Envoy & XL	2006-7	126,382
<b>I.P.C.</b>			
Chevrolet	Trailblazer & EXT	2006	21,734
GMC	Envoy & XL	2006-7	10,131
SAAB	9-7x	2007	818
	Total		32,683
<b>ISUZU</b>			
ISUZU	Ascender	2006-7	7,031
SAAB	9-7x	2006-7	10,039
<b>TOYOTA</b>			
SAAB	9-7x	2006	1
<b>Unknown</b>			
Buick	Rainier	2007	40
Chevrolet	Trailblazer	2006-7	353
GMC	Envoy	2006-7	149
Isuzu	Ascender	2007	22
	Total		564
	Total GM		537,175

# Back-Up

2/9/12 NHTSA issues PE12-003  
 Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

Problem Description:


Melting and/or burning of the driver's master power window switch and related electrical components

2/6/12 NHTSA issues PE12-02  
 Product: 2007 Toyota Rav4 and Camry


Problem Description:

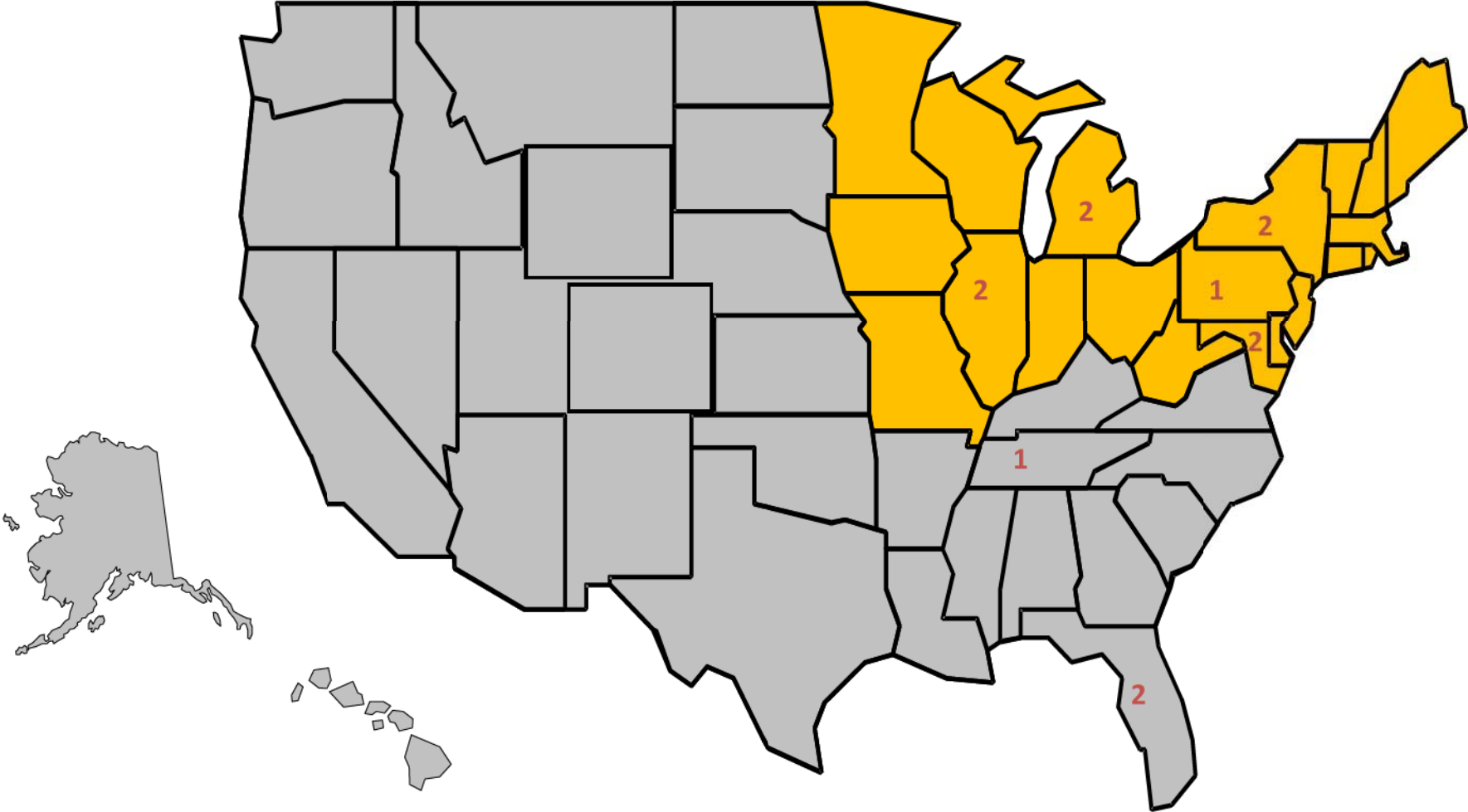
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

	<b>ODI RESUME</b>		
	Investigation:	PE 12-003	
U.S. Department of Transportation	Date Opened:	02/09/2012	
<b>National Highway Traffic Safety Administration</b>	Investigator:	Emily Reichard	Reviewer: Scott Yon
	Approver:	Frank Boris	
	Subject:	Driver's Master Power Window Switch	
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			

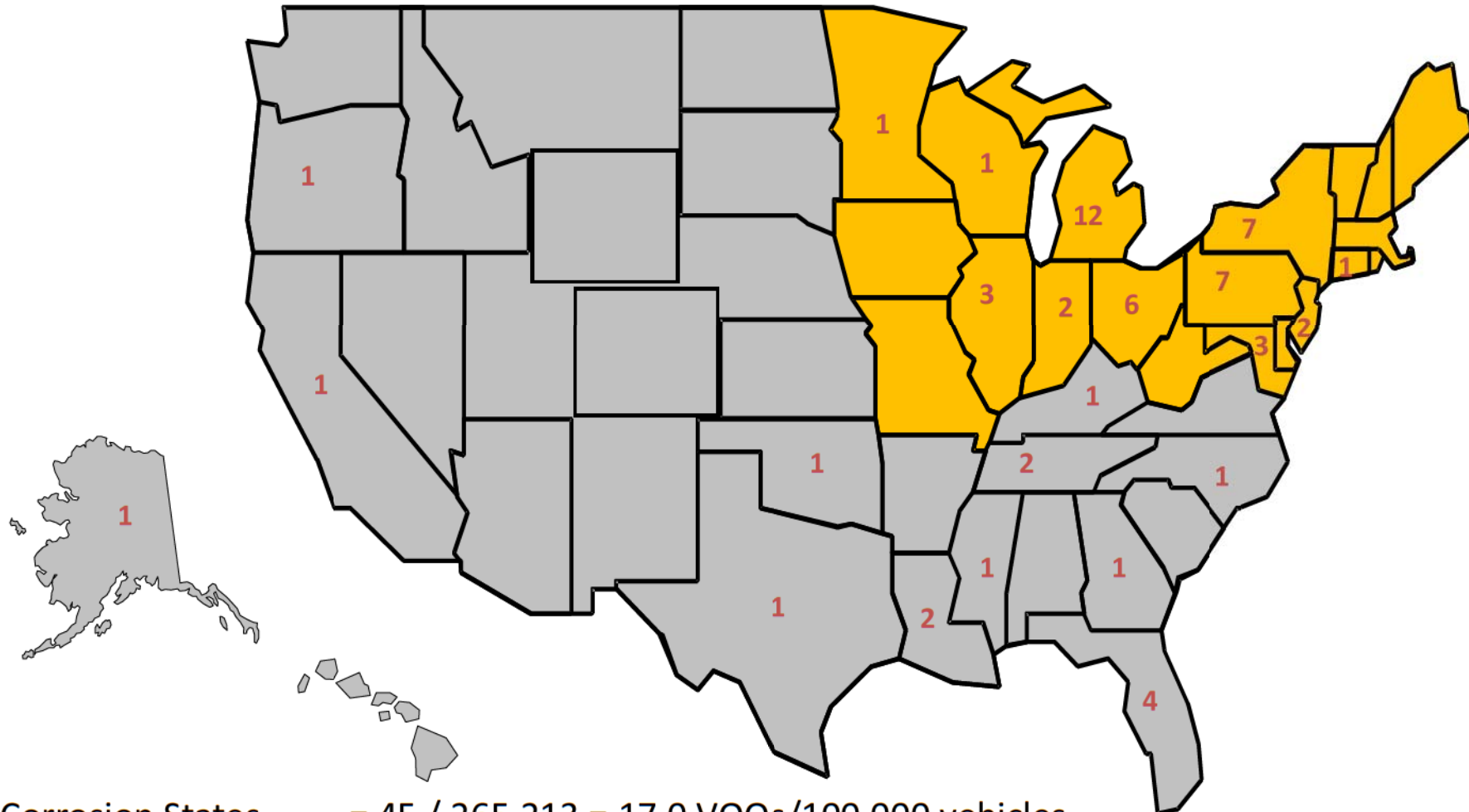
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States



2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
 62 VOQs as of 3/19/12


 NHTSA defined Corrosion States

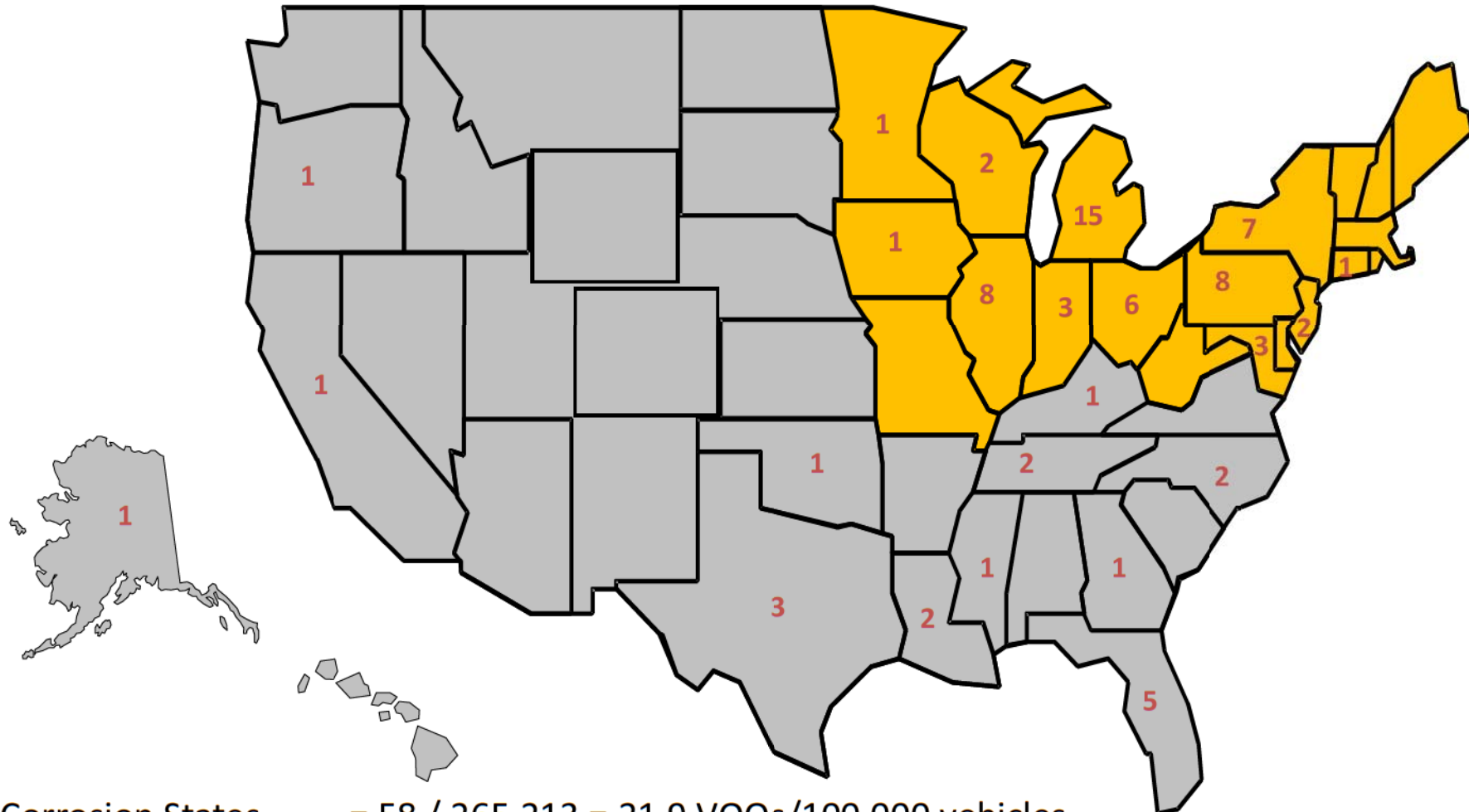


Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles

Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles

2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
79 VOQs as of 4/16/12

 NHTSA defined Corrosion States

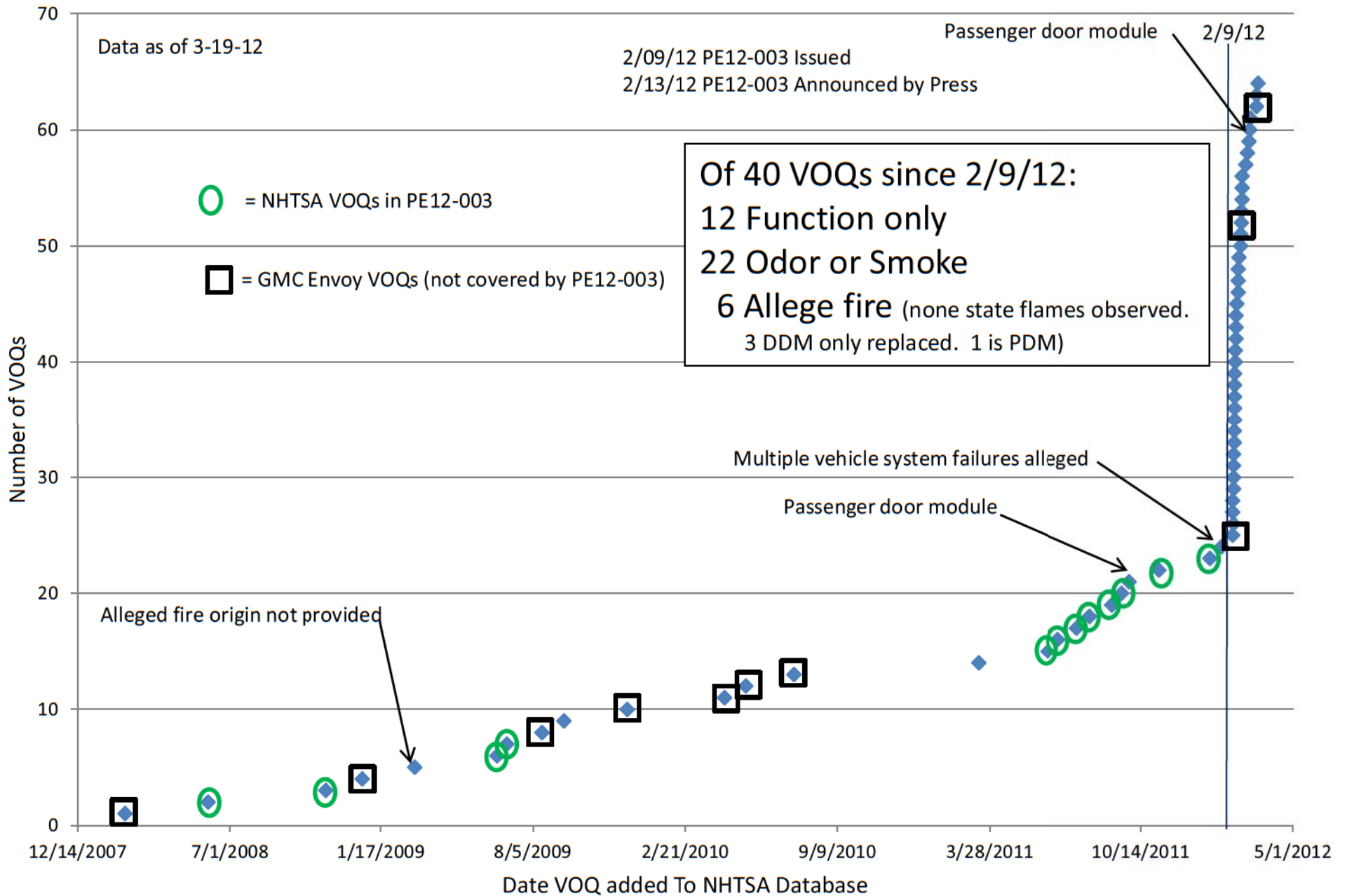


Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles

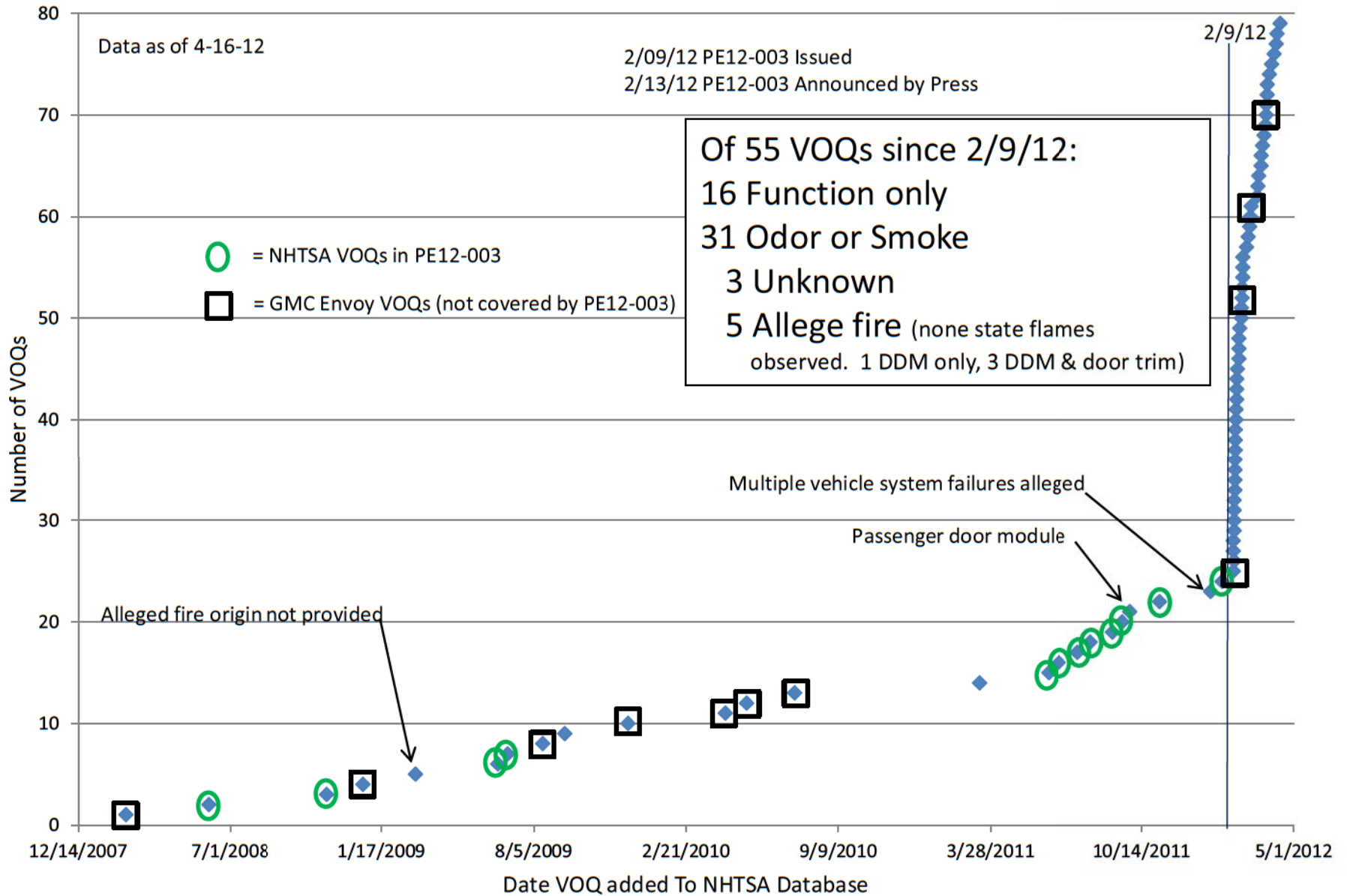
Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles



# 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded

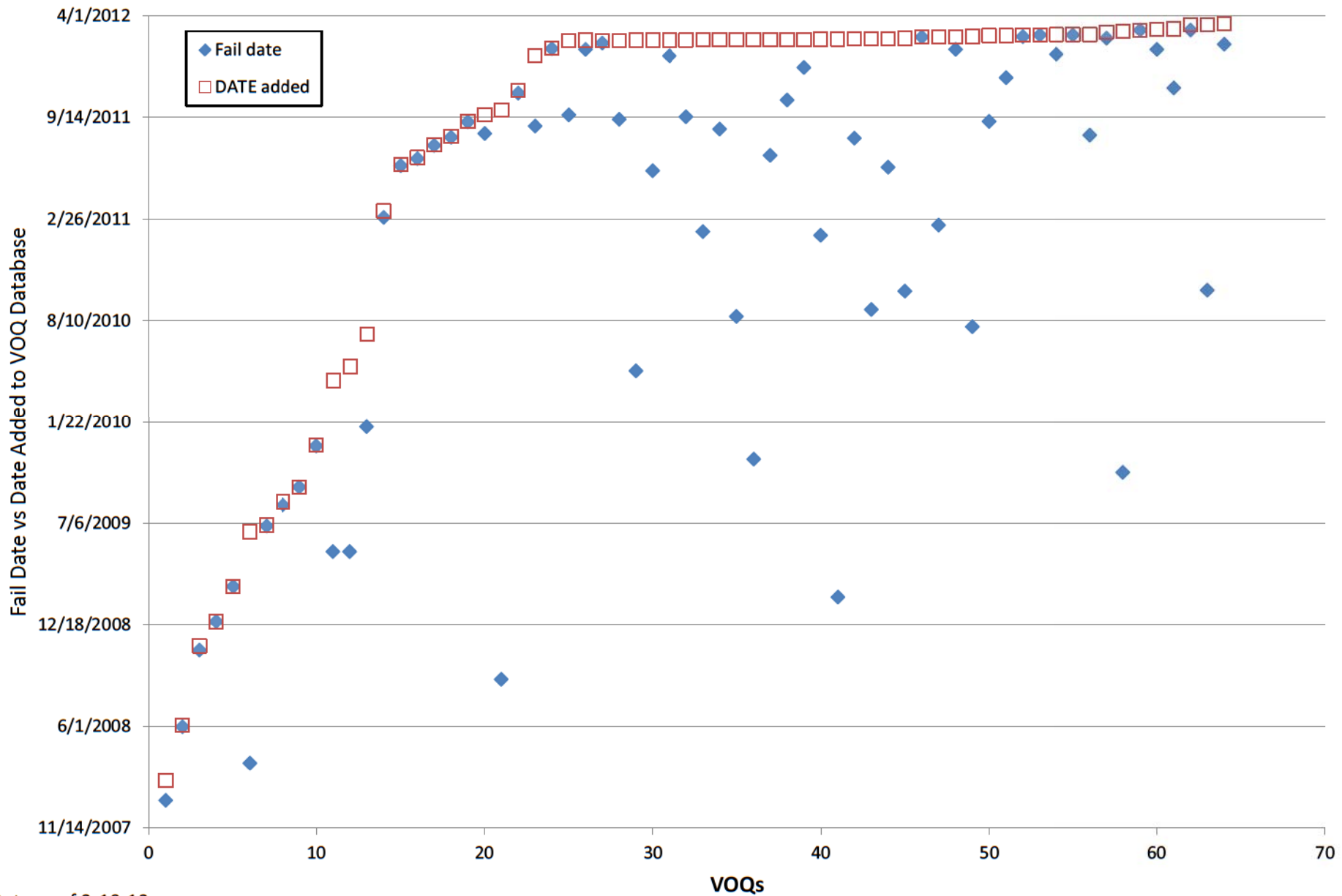


## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



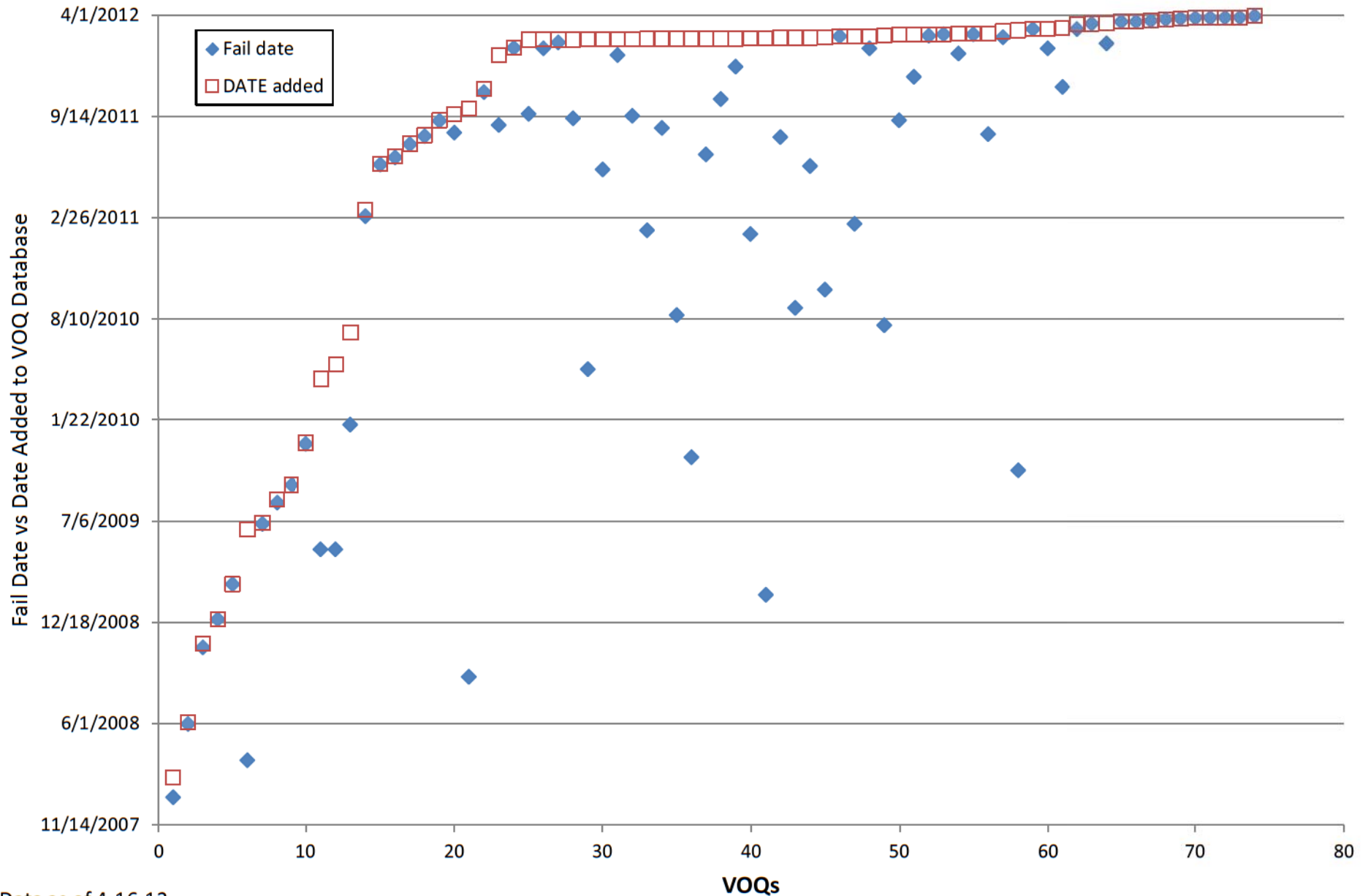
Data as of 4/16/12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 3-19-12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 4-16-12



# Inspections/Investigations

1GKET63M462[REDACTED] - [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit VOQs

**Data 4/16/12**

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege “fire”

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

4 confirmed fires

2 Unknown

13 fire/flame not likely (minor damage)

21 state smoke

17 state odor

21 state function

1 TBD

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6) & 2007 (81.1)

### TREAD search for 2005

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007



# Driver Door Module Short Circuit

## TREAD Data summary (fire)

### Data 4/19/12

#### 37\* Claims overall

2006 – 16

2007 – 21

- Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:
  - Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
  - Fire did not occur in 22 cases (11 2006 & 11 2007)

\*No cases known where "fire" extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

7.6/100K

2006 (5.4) & 2007 (11.2)

\*No cases known where “fire” extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

VOQs + TREAD (Data 4/19/12)

**51\* Total** (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

Very few incidents were actual “fires”. Most were odor, melting, or smoke.



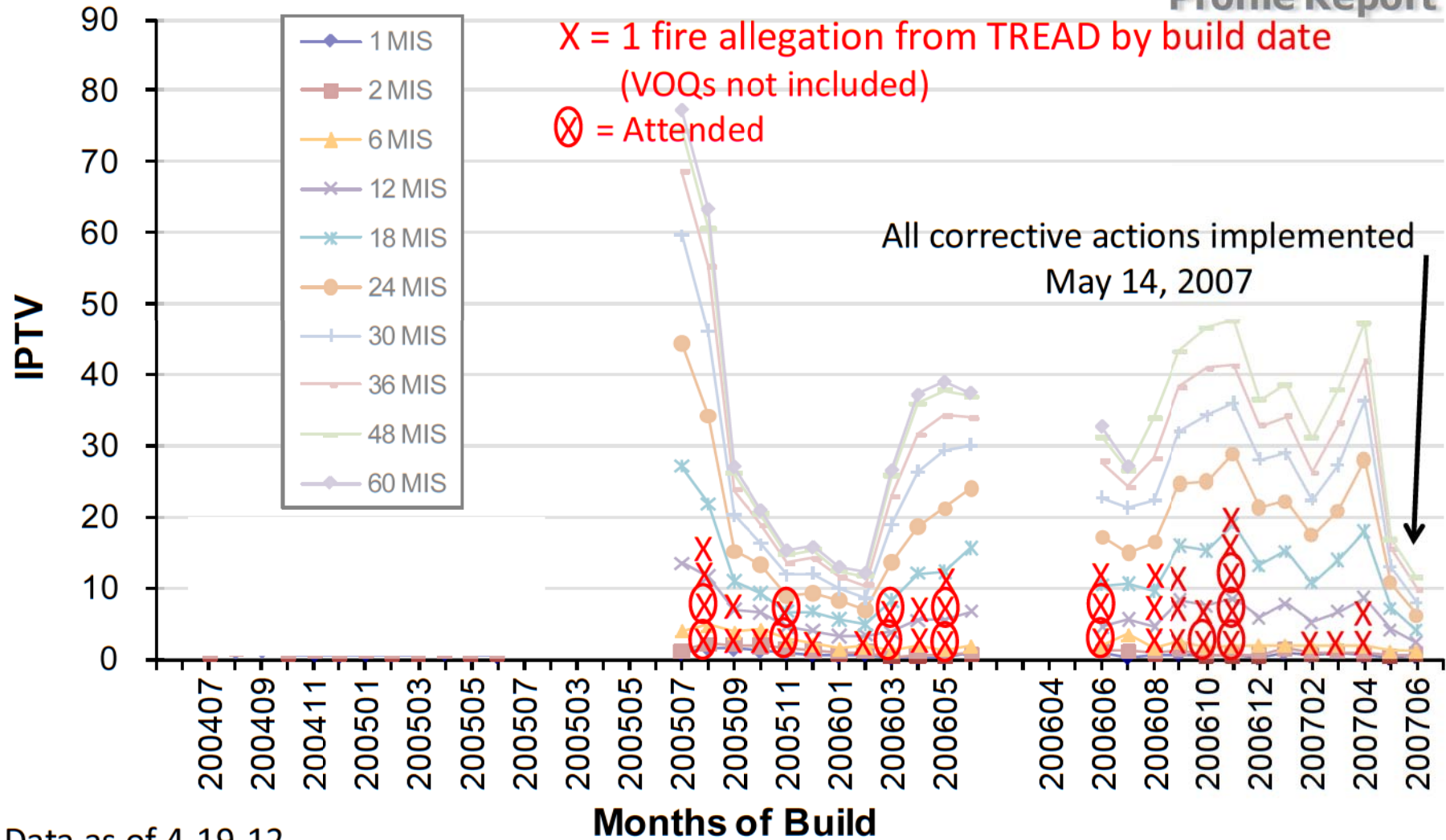


# U.S. Fire Allegations by Build Date

## 2006-2007 GMT360/370 DDM Global Warranty

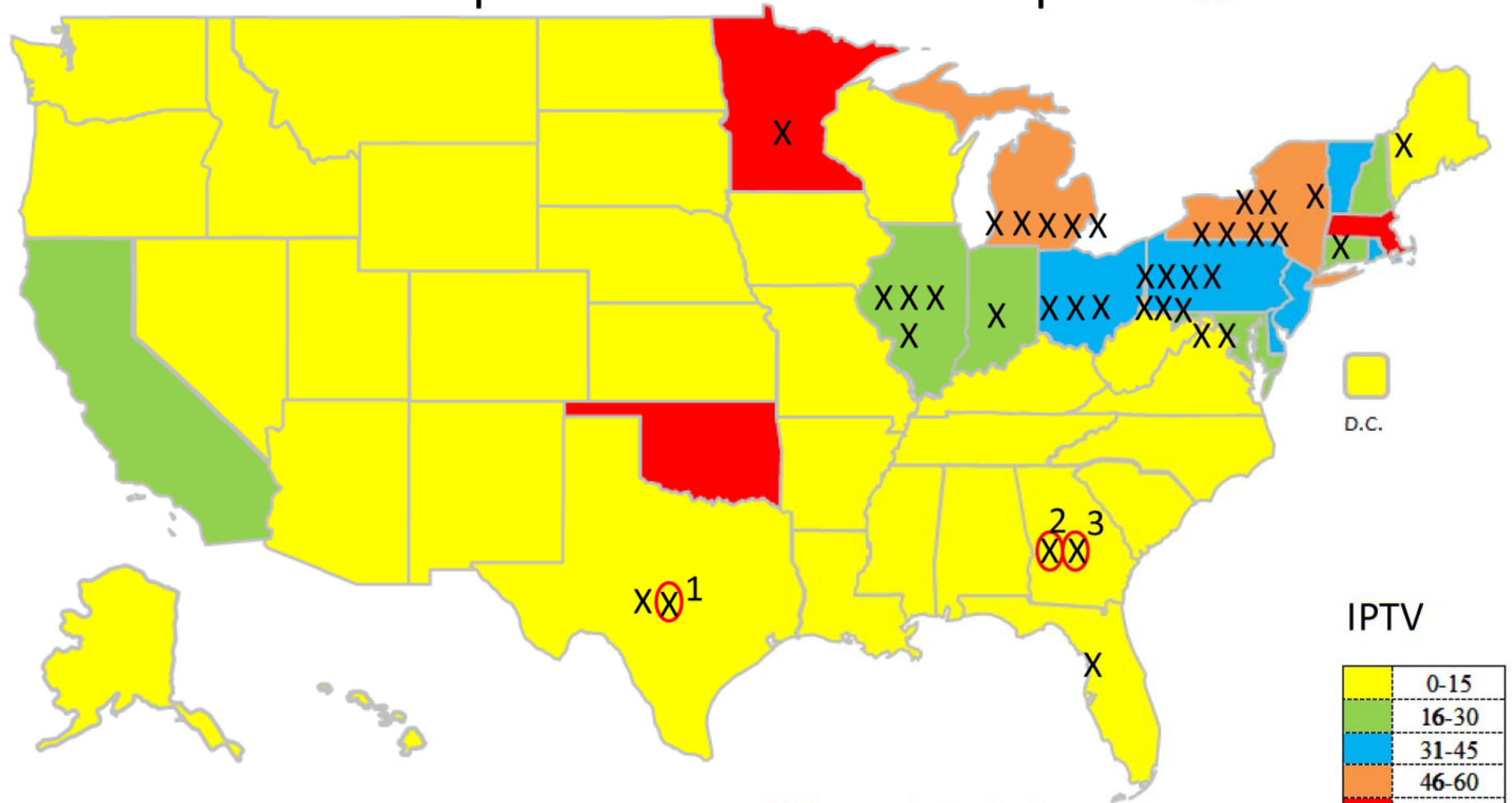
### Labor Ops N2117

**Profile Report**



Data as of 4-19-12

# 2006-2007 GMT360/370 DDM US Warranty Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 4-19-12

122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	<b>Investigation:</b>	EA 11-004	
	<b>Prompted by:</b>	Consumer Complaints and PE10-047	
	<b>Date Opened:</b>	04/11/2011	
	<b>Investigator:</b>	John Abbott	<b>Reviewer:</b> Scott Yon
	<b>Approver:</b>	Frank Borris	
	<b>Subject:</b>	Driver's Master Power Window Switch	

MANUFACTURER & PRODUCT INFORMATION	
<b>Manufacturer:</b>	HONDA (AMERICAN HONDA MOTOR CO.)
<b>Products:</b>	2006 Honda CR-V
<b>Population:</b>	149,583
<b>Problem Description:</b>	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	26	29**
Crashes/Fires:	5	26	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0
<b>*Description of Other:</b>			
** Count indicates duplicate reports received by ODI and manufacturer.			

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
<b>Action:</b> Open an Engineering Analysis
<b>Summary:</b> The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.  The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.



# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.



Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaxerj2>

	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
By: <i>Peter Ong</i>  Title: Chief, D. Scott Yen Office Dir: <i>Kathleen C. DeMeter</i>	Date: 08/21/2009 Date: 08/21/2009 Date: 08/21/2009		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

**Summary:**

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

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# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>



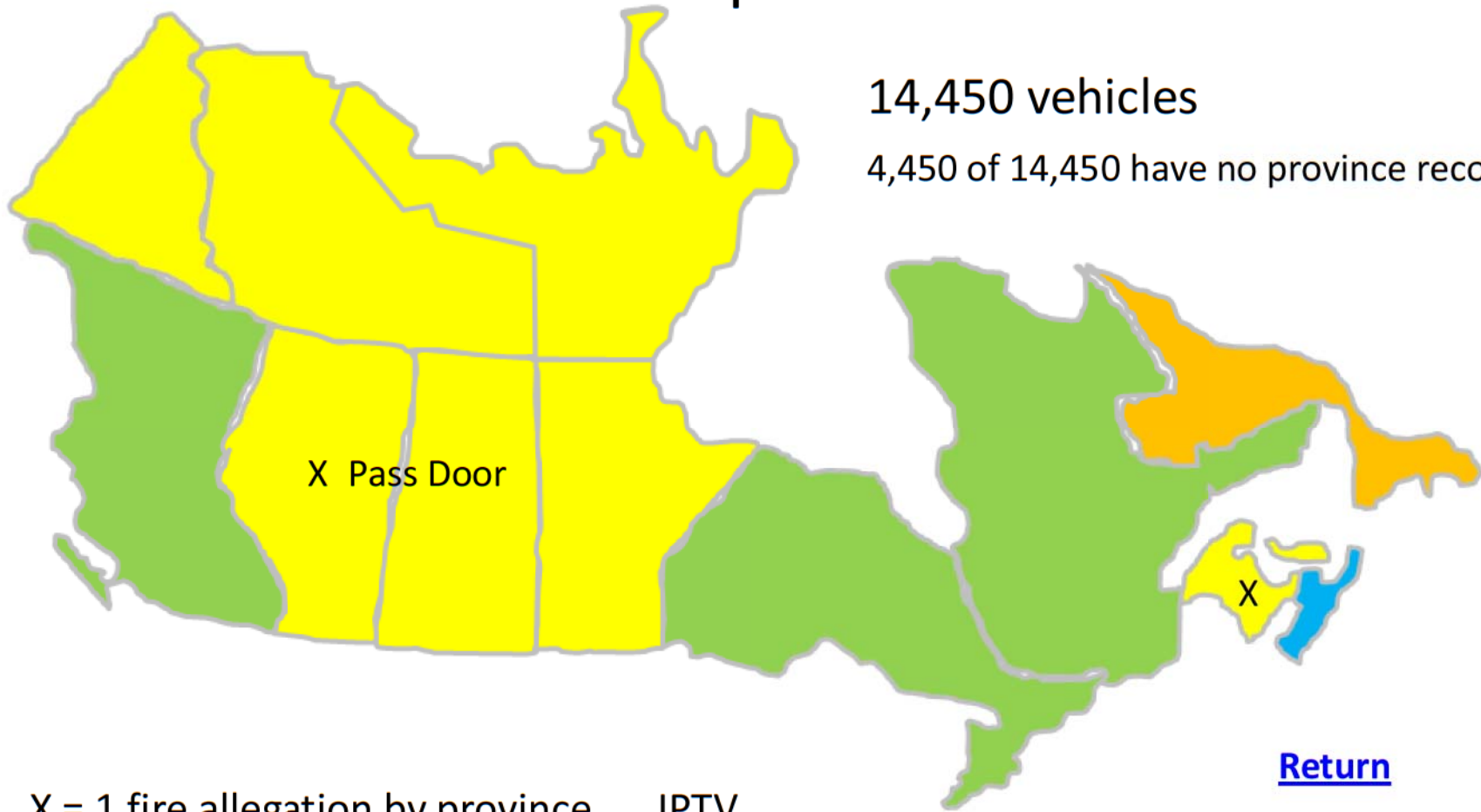




# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record



X = 1 fire allegation by province

IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Warranty data as of 4-19-12

[Return](#)

EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function ISR 4-10-12 corrected  
4-19-12 for smoke only VOQs-

p



## Driver Door Module Short Circuit

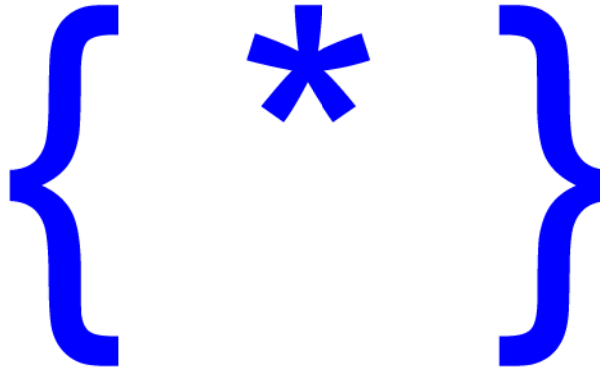


2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender

10,222 SC & 5,147 reimbursement

{ \*\* }

ETQ N110323



2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

Problem Description:

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry


Problem Description:

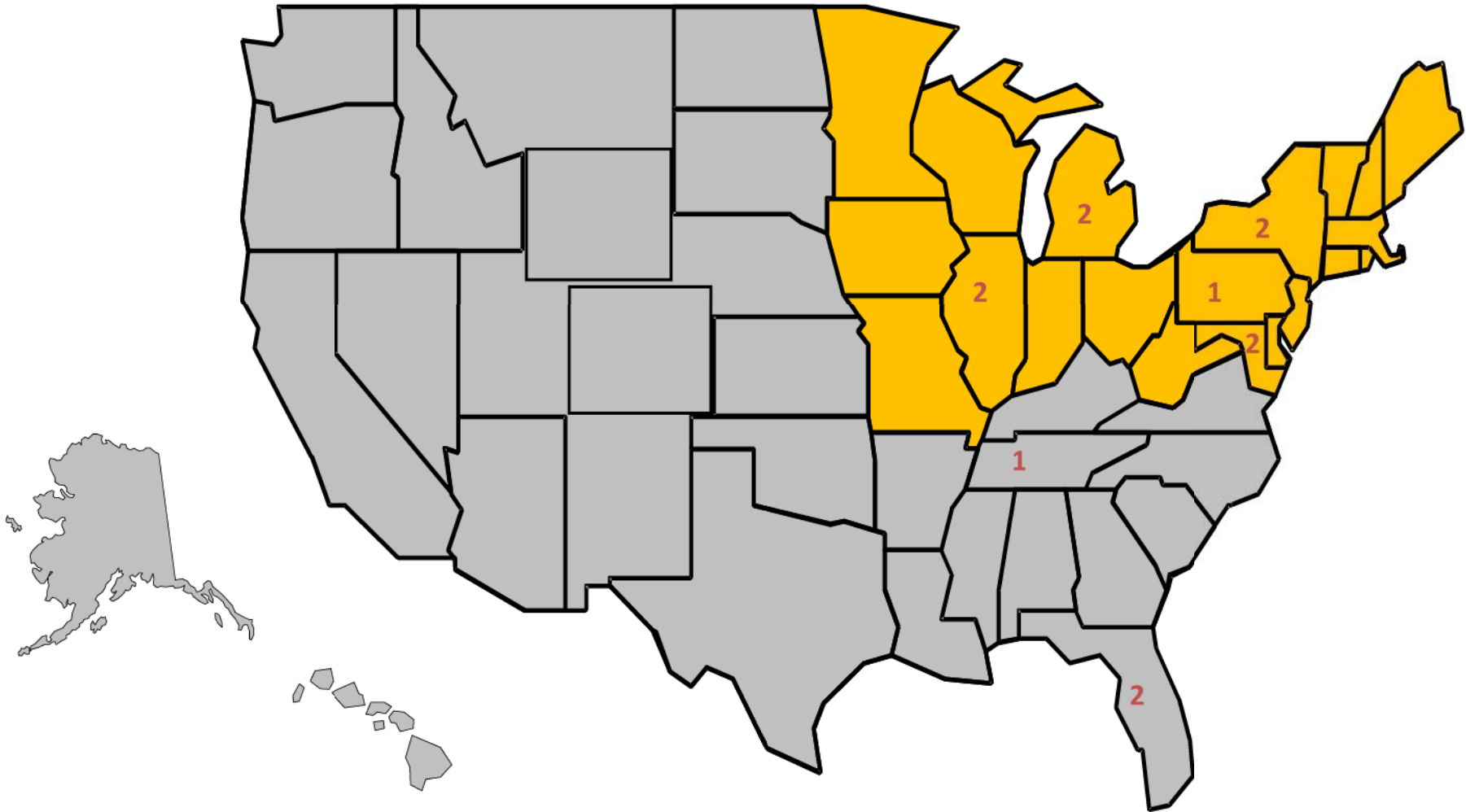
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles


		<b>ODI RESUME</b>	
U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>		Investigation: PE 12-003 Date Opened: 02/09/2012 Investigator: Emily Reichard Approver: Frank Borris Subject: Driver's Master Power Window Switch	Reviewer: Scott Yon
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			

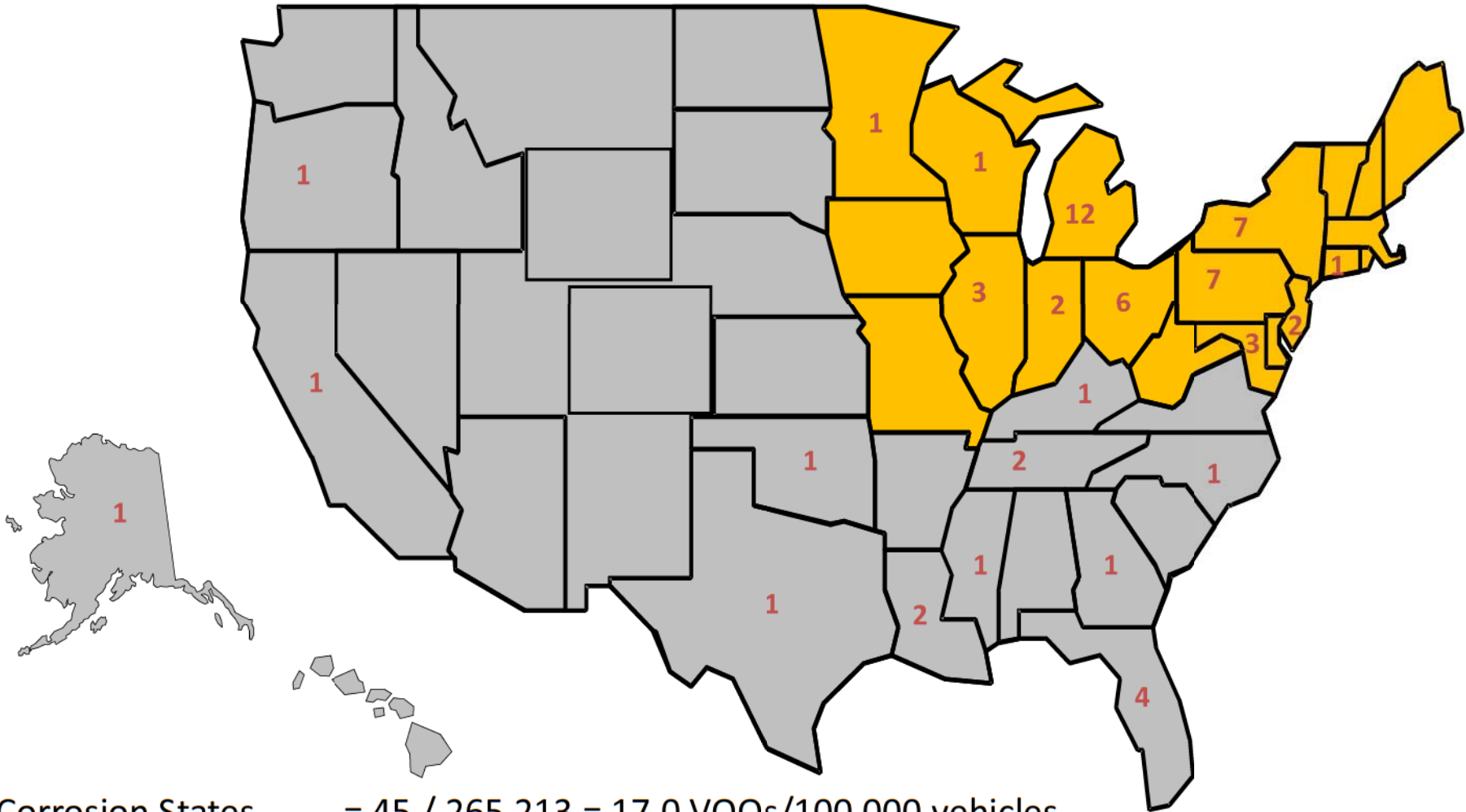
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States



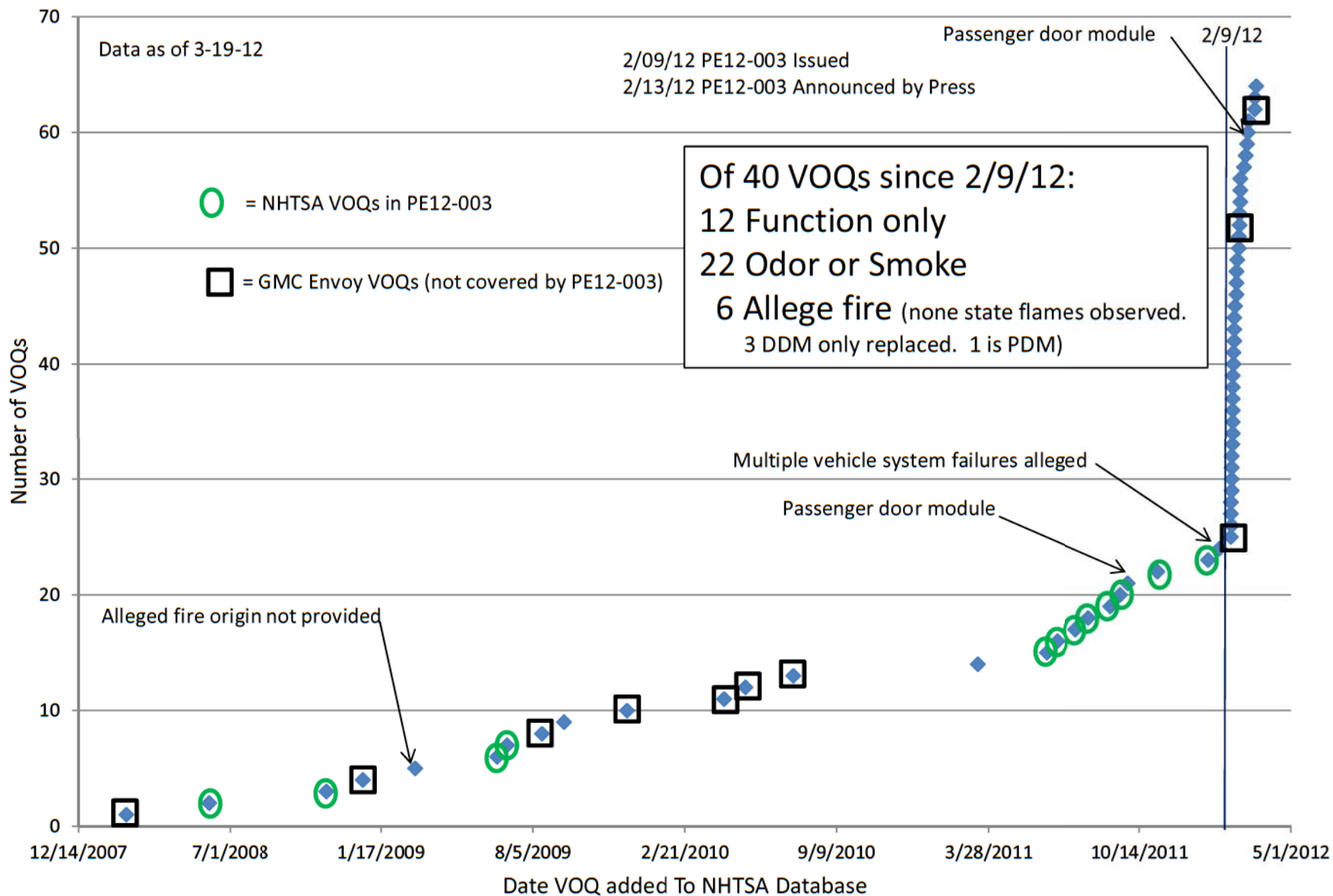
2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
 62 VOQs as of 3/19/12

 NHTSA defined Corrosion States

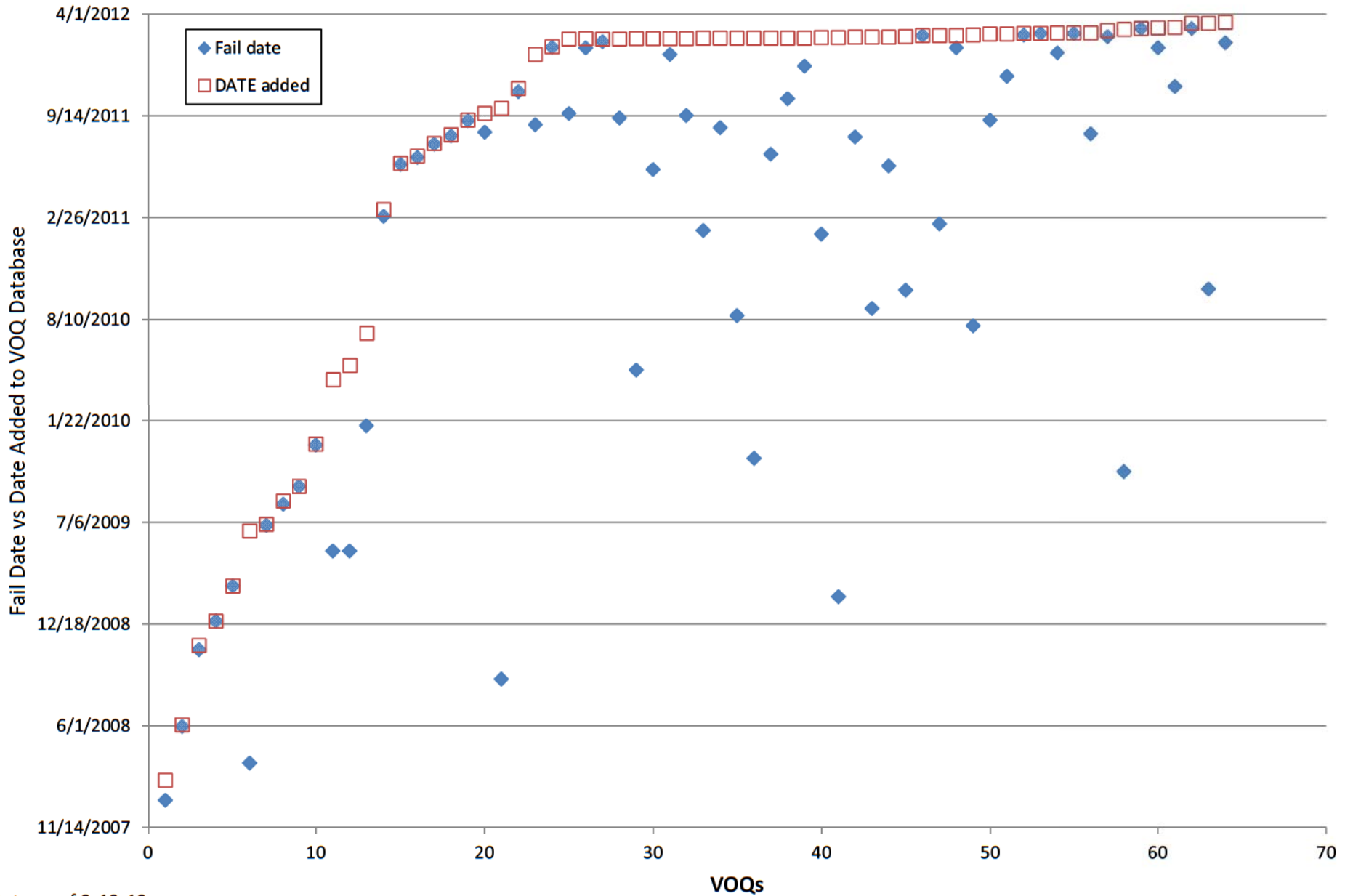


Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles  
 Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles

## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded

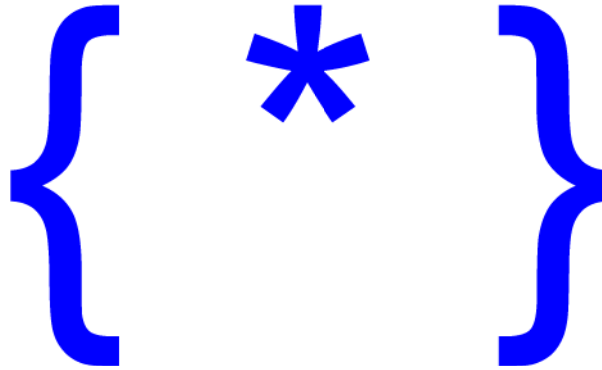


## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 3-19-12

## Driver Door Module Short Circuit

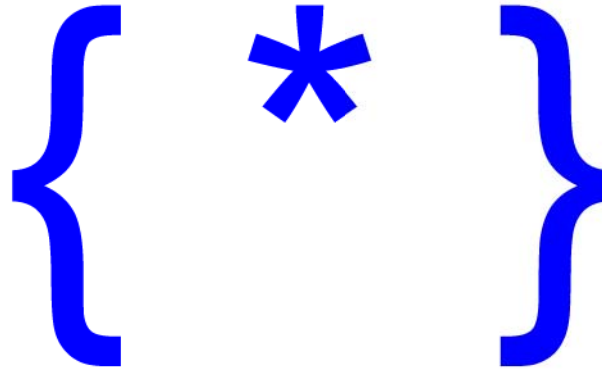


## 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)





# Driver Door Module Short Circuit



Base Switch Package

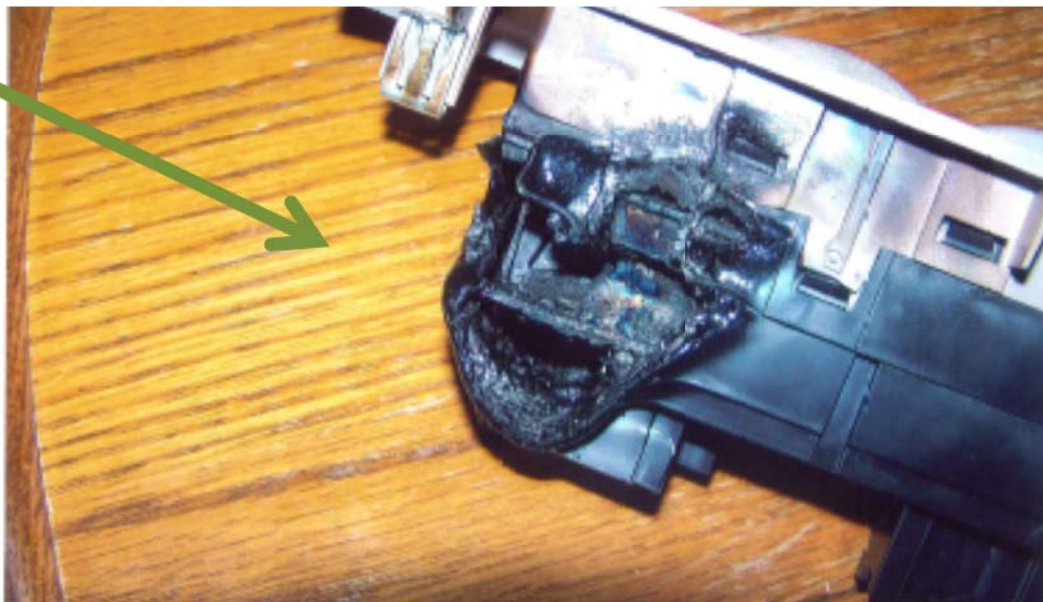


Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.



# Inspections/Investigations

1GKET63M462 [REDACTED] [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit

VOQs (with Fire in Verbatim)

**Data 1/31/12** (one added 11/7/11)

10 Total

2006 – 5

2007 – 5

2.1/100K

2006 (1.7) & 2007 (2.7)

There are 14 total VOQs, but 4 say smoke only (3 2006 and 1 2007)  
5 VOQs have a matching TREAD report (1 2006 & 4 2007).

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 1/31/12

252 reports overall

2006 – 105

2007 – 147

51.9/100K

2006 (35.3) & 2007 (78.4)

## [TREAD search for 2005](#)

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

TREAD Data summary (fire)

**Data 1/31/12**

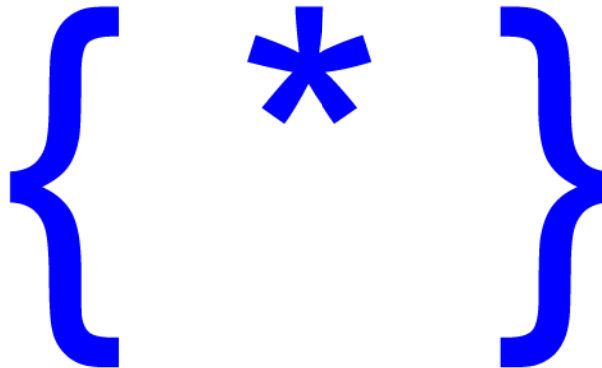
36\* Claims overall

2006 – 16

2007 – 20

7.4/100K

2006 (5.4) & 2007 (10.7)



# Driver Door Module Short Circuit

VOQs + TREAD (Data 1/31/12)

42\* Total

2006 – 21

2007 – 21

8.7/100K or 1.6/100K @ 5.5yrs exposure

2006 (7.1 or 1.2/100K@6yrs) & 2007 (11.2 or 2.2/100K@5yrs)

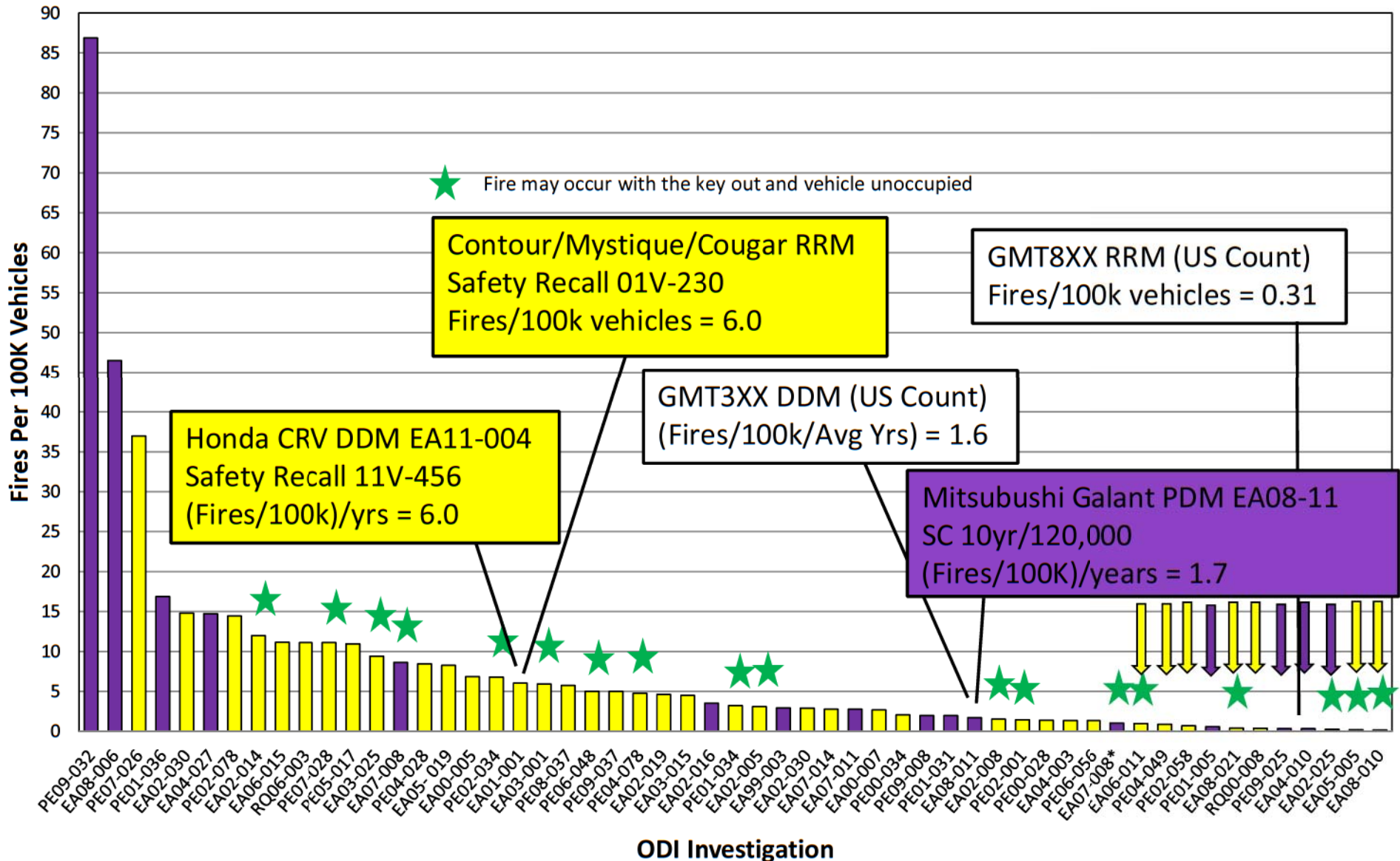
Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56 (in one case VOQ says smoke, but tread record says “fire”, so reduce only by 4).

Very few incidents were actual “fires”. Most were odor, melting, or smoke.

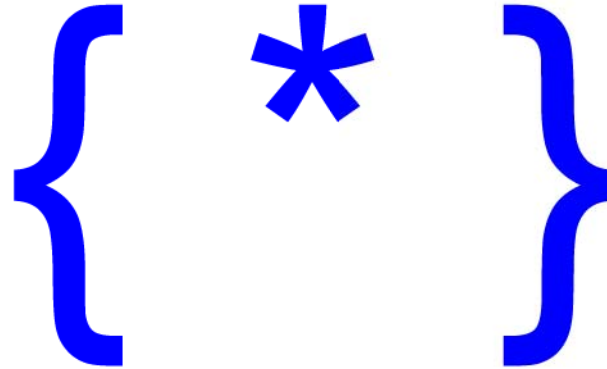


**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 1-31-12

# Risk Assessment



# Back-Up

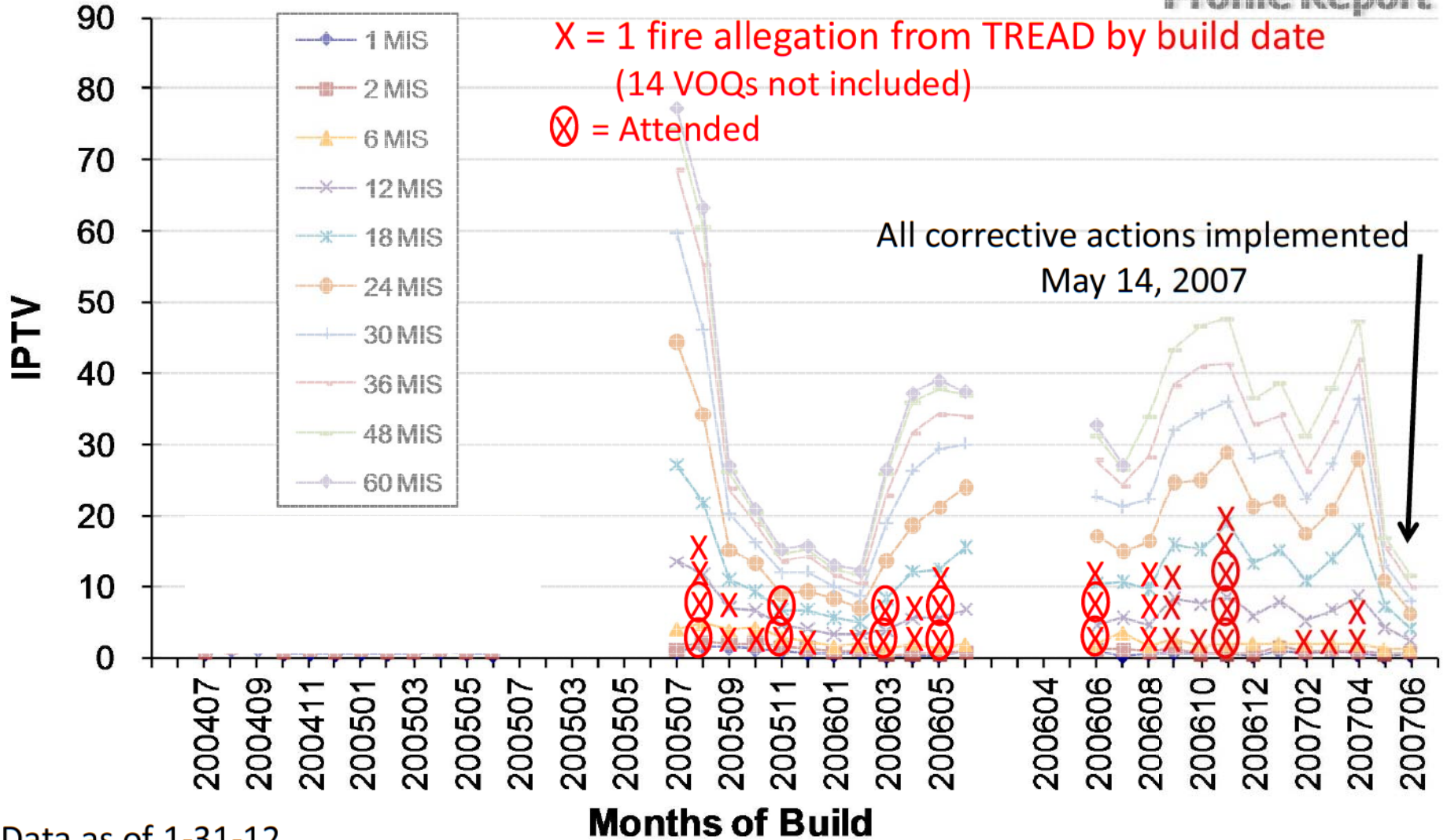


# U.S. Fire Allegations by Build Date

2006-2007 GMT360/370 DDM Global Warranty

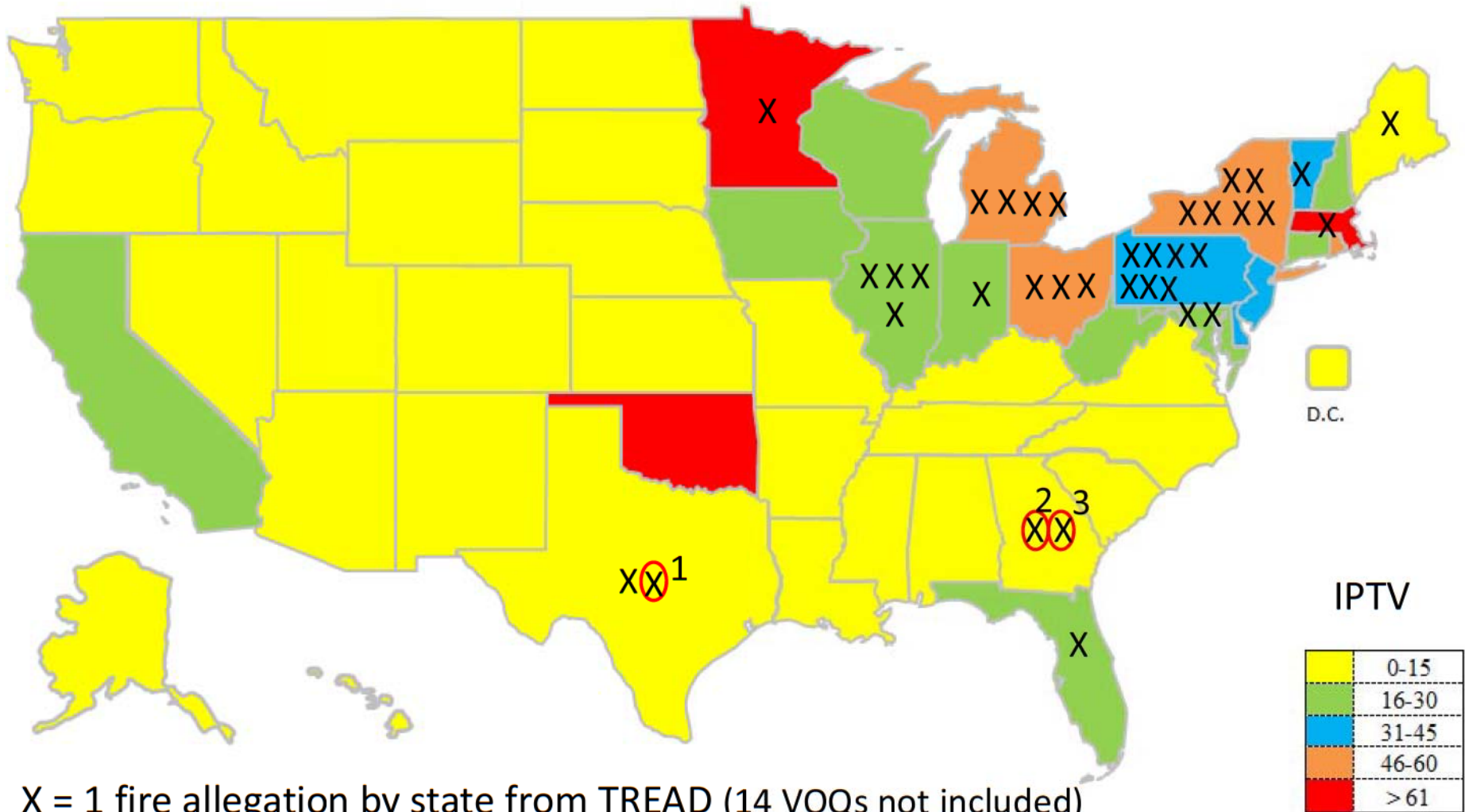
Labor Ops N2116 , N2117

Profile Report



Data as of 1-31-12

# 2006-2007 GMT360/370 DDM US Warranty Labor Ops N2116 , N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (14 VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 1-31-12

122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
	Subject:	Driver's Master Power Window Switch	

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	28	29**
Crashes/Fires:	5	28	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0

\*Description of Other:

\*\* Count indicates duplicate reports received by ODI and manufacturer.

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<p><b>Summary:</b></p> <p>The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.</p> <p>The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.</p>

# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

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Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

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	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
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# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
Engineer: Peter Ong <i>[Signature]</i> Inv. Chief: D. Scott Yin Office Dir: Kathleen C. DeMeter	Date: 08/21/2009 Date: 08/21/2009 Date: 08/21/2009		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
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(Continued on page two)			

**Summary:**

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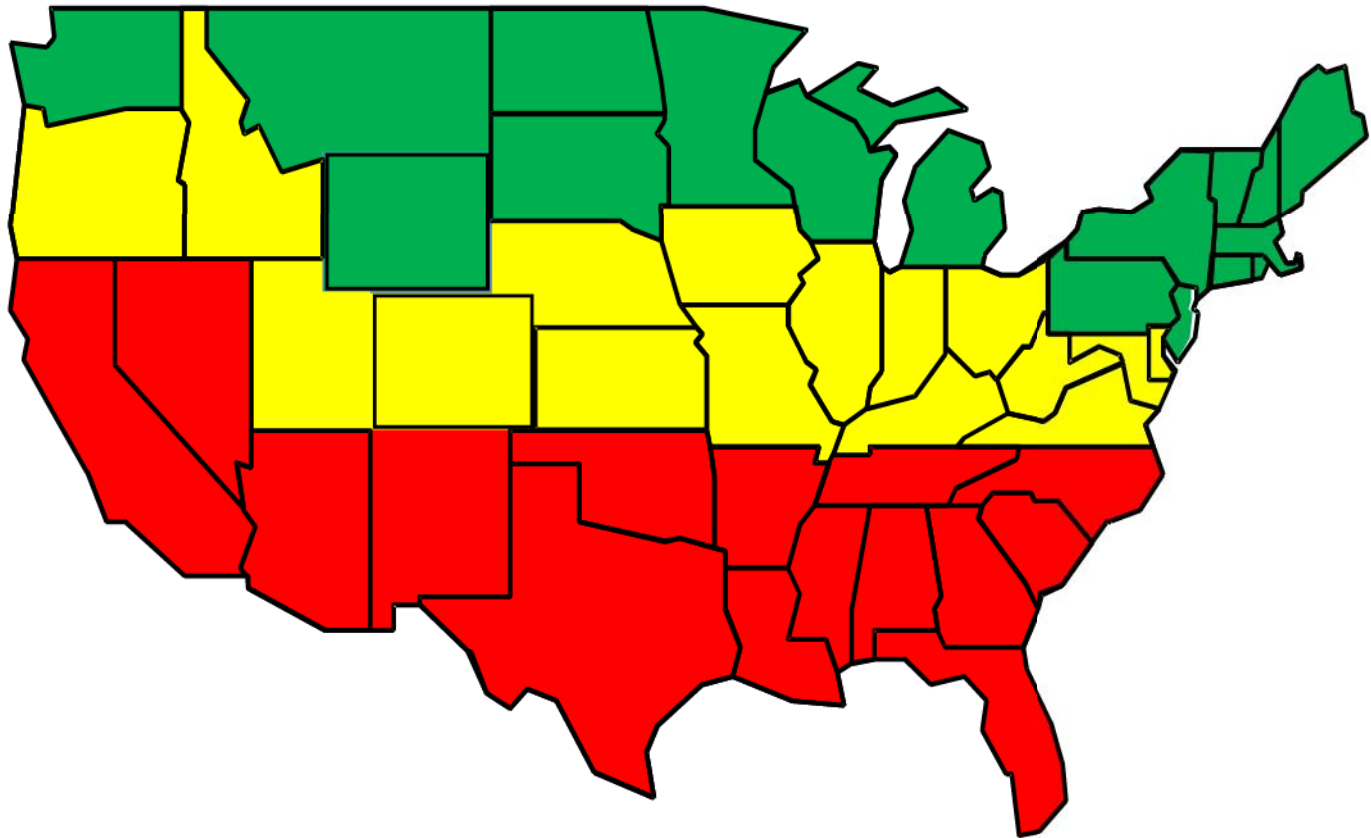
# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

## Hot, Moderate, and Cool States

Hot States: AL, AZ, AR, CA, FL, GA, HI, LA, MS, NC, NM, NV, OK, SC, TN, TX  
Moderate States: CO, DC, DE, IA, ID, IL, IN, KS, KY, MD, MO, NE, OH, OR, UT, VA, WV, WY  
Cool States: AK, CT, MA, ME, MI, MN, MT, ND, NH, NJ, NY, PA, RI, SD, VT, WA, WI

















## Reports & Warranty Claims – U.S

	US
<b>Fire</b>	<b>68</b>
VOQ	8
Warranty Verbatim	28
GM Reports / NISM *	32
<b>Non-Fire*</b>	<b>6,096</b>
VOQ	6
Warranty Customer Code “Smoke”	75
Warranty Customer Code “Odor”	49
GM Reports	215
Warranty Tech Code “Shorted”	5,563
Warranty Tech Code “Burned”	188

\*5 VOQs also have GM reports (4 fire & 1 smoke). GM reports reduced by 5.  
Total may include duplicates between warranty and GM reports.

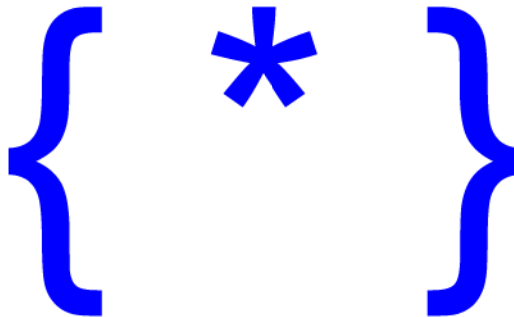
TREAD data 1/31/12

Warranty data 1/31/12

GM CONFIDENTIAL

## Rates – U.S.

	# Vehicles	Count	Rate
<b>Fires</b>			
US	485,213	45*	9.3/100k
<b>Non-Fire</b>			
US	485,213	6,096	12.6 IPTV



# 2006 Honda CRV DDM

## **Honda Recalling Almost One Million Fit, CR-V and CR-Z Models**

09/06/2011 | By: Huw Evans (Autoguide.com)

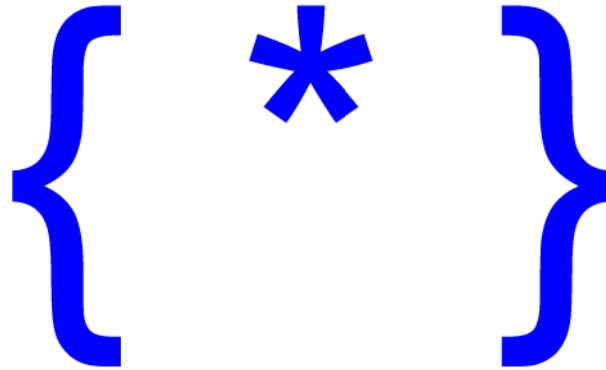
As a result of identifying problems with power window switches, Honda Motor Co. has announced it is recalling some 960,000 vehicles worldwide.

The recall is mostly related to 2006 to early 2010 Fit subcompacts (totaling almost 800,000). **In addition, in the U.S., the company is also recalling some 80,111 CR-Vs from the 2006 model year for similar problems.** The recall is a result of potential problems such as fire hazards that could result from faulty electrical contacts in the switches.

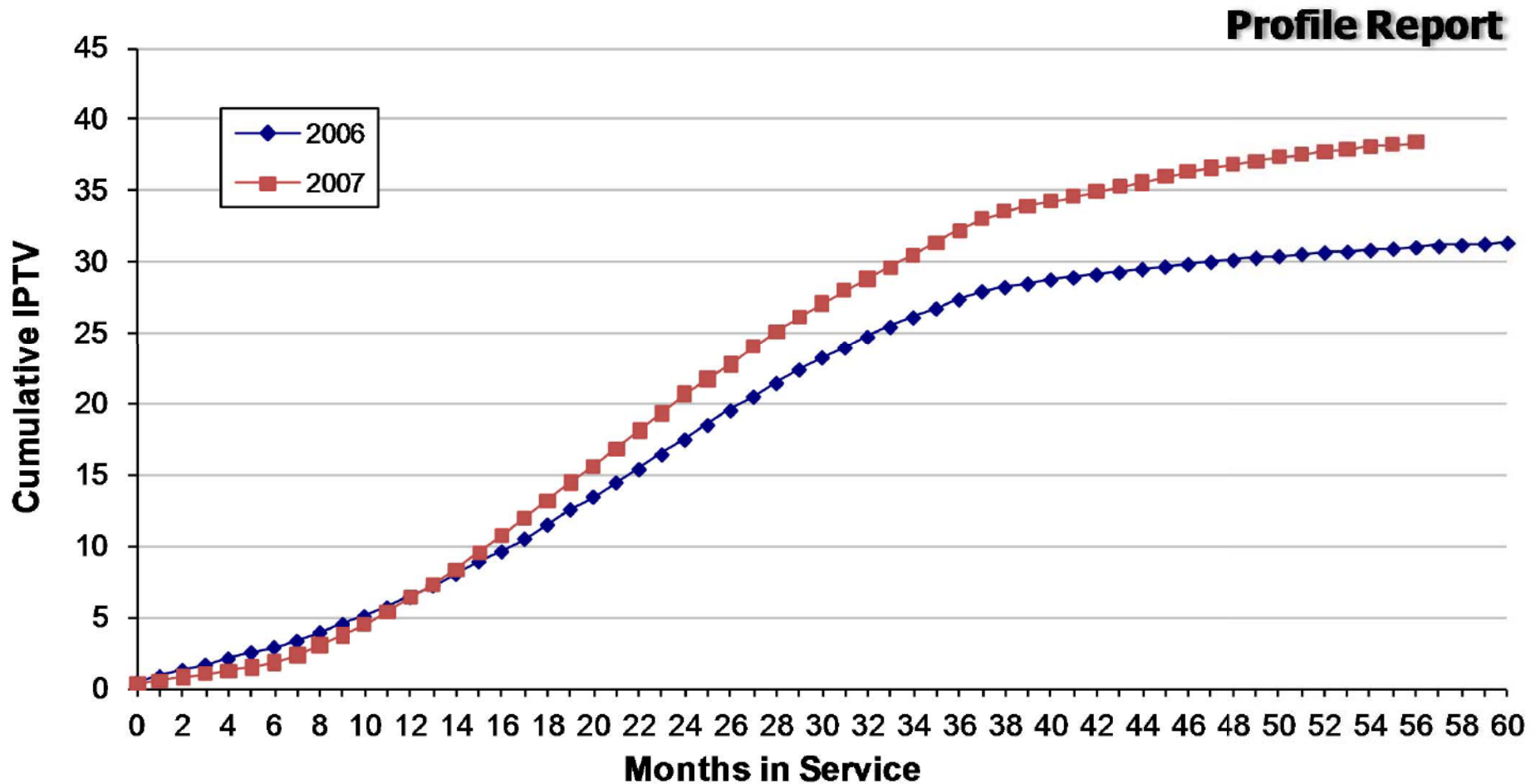
## Driver Door Module Short Circuit

- Data Update (from 3/28/11 through 1/31/12)
  - +4 VOQs or 14 total (2 smoke & 2 fire or flame)
  - +11 Warranty claims with fire or flame in verbatim
    - Previous analysis had 17 claims with fire or flame in verbatim
    - Latest repair date is 1/19/11
    - All claims with PROC date > 7/1/11 are DDM or DDM+ wiring only
  - +19 Customer Reports (TREAD) with fire or flame in verbatim through 1/31/12 (36 total)
    - Previous analysis had 17 claims with fire or flame in verbatim
    - 21 of 36 unattended at time of incident with 6 reports fire observed
      - 15 unattended without fire observed (either no fire or self extinguished)
    - 13 of 36 attended at time of incident with fire allegedly observed
    - 2 of 36 can't determine if attended or fire observed

# Driver Door Module Short Circuit



# 2006-2007 GMT360/370 DDM N.A. Warranty Labor Ops N2116 , N2117



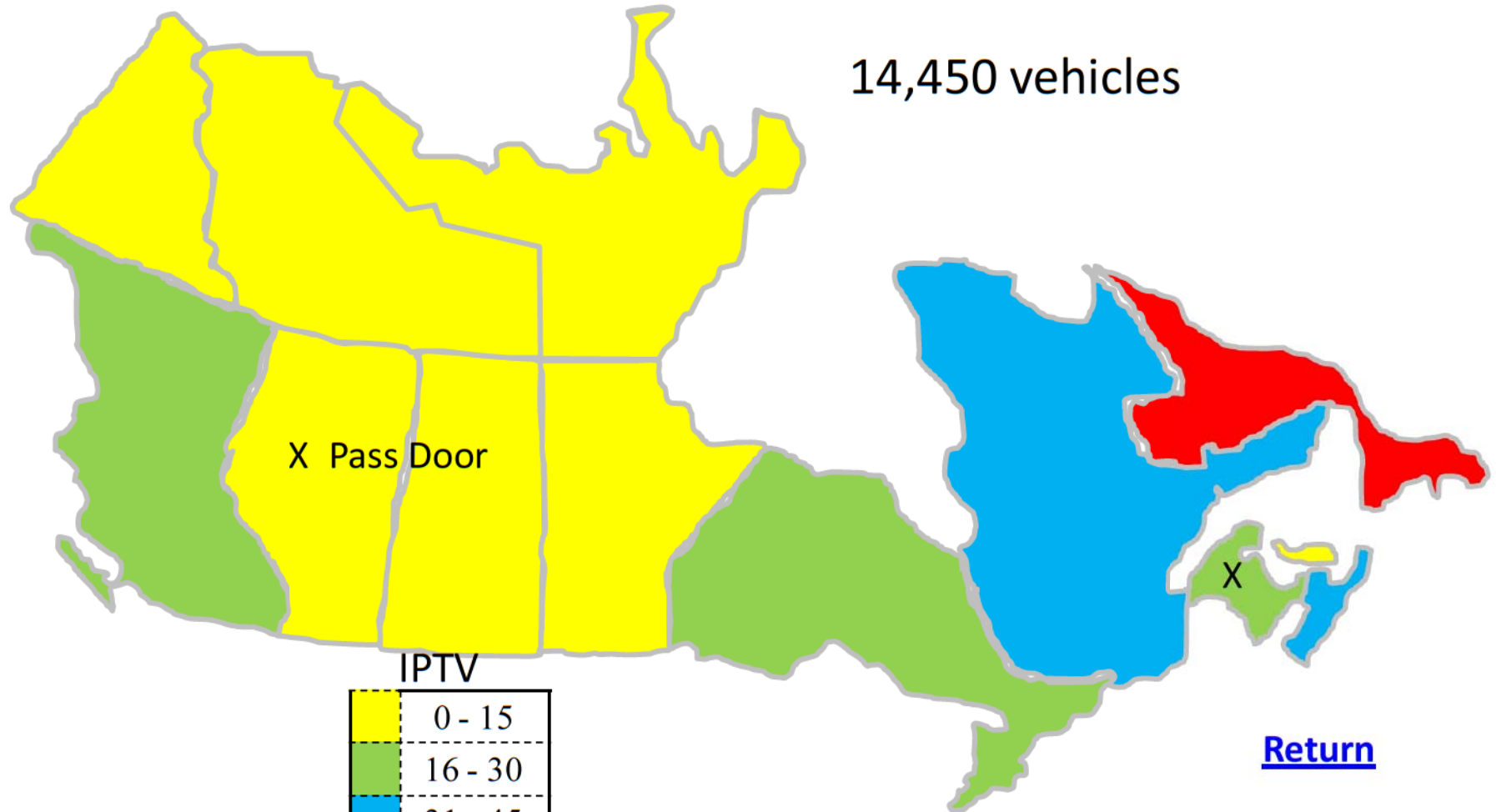
Data as of 8-30-11



# Canada

# 2006-2007 GMT360/370 DDM CA Warranty Labor Ops N2116 , N2117

14,450 vehicles



IPTV

0 - 15
16 - 30
31 - 45
46 - 60
61 - 80

X = 1 fire allegation by province

4,450 of 14,450 have no province record

Data as of 9-8-11

# Door Module Claims as of 2/1/12

## Labor Codes (N2116 , N2117)

Trouble Code	Problem Description	Cases
1-6C	COMPONENT-INOPERATIVE	6040
1-6G	COMPONENT-SHORTED	4015
1-OB	OBDII Code used	2039
1-6F	COMPONENT-OPEN	1377
0-6579	Module/Component-Shorted	1317
1-6D	COMPONENT-INTERMITTENT	722
0-6573	Module/Component-No/Incorrect Cc	422
1-3L	OUT OF CALIBRATION	275
0-7079	Wiring/Electrical/Sensors-Shorted	231
1-1E	BURNED	188
1-1D	BROKEN	133
1-2W	LOOSE	114
1-93	TECHNICAL SERVICE BULLETIN	84
0-6581	Module/Component-Registers incor	74
0-6017	Module/Component-Broken	69
0-7073	Wiring/Electrical/Sensors-No/Incorr	69
1-3X	REGISTERS INCORRECTLY	67
1-3A	MISADJUSTED/MISALIGNED	60
0-6583	Module/Component-Poor Contact	48
1-7W	ELECTRICAL INTERFERENCE	44
1-7L	WIRE-CUT/BROKEN/OPEN	24
0-7077	Wiring/Electrical/Sensors-Seized/B	23
1-6N	CONNECTOR-PARTIAL CONNECTE	15
1-6Z	SOCKET-SHORTED	13
0-2017	Surface (interior)-Broken	12
1-6M	CONNECTOR-DISCONNECTED	12
0-9094	Other-Follow operation	11
1-6B	COMPONENT-GROUND	11
1-7D	WIRE - SHORTED TO GROUND	11
1-6H	CONNECTOR-BENT/DAMAGED	7
1-7G	WIRE-BURNED-EXTERNAL HEAT	7
1-7H	WIRE BURNED-INTERNAL HEAT	7

18,207

All causal codes  
not shown

# Door Module Claims as of 2/1/12


## Labor Codes (N2116 , N2117)

Problem Description	Cases
INOPERATIVE	13368
Features/Controls/Displays - Other	1070
INTERMITTENT	964
Features/Controls/Displays - Lock	668
Interior - Other issues	394
WON'T MAINTAIN ADJUST	147
Exterior - Other issues	135
BINDS	119
LOOSE	92
CUSTOMER SATISFACTION	85
ENGAGE/DISENGAGE	75
SMOKE/STEAM	75
Features/Controls/Displays - Mirror	56
UNUSUAL GAGE READING	54
ODOR	49
LOCKS/LOCKING UP	47
Features/Controls/Displays - Light	38
THEFT DETERRENT LIGHT	37
Features/Controls/Displays - Gauge	36
TECH BULLETIN	31
WON'T TURN OFF	31
SERVICE ENGINE SOON	31
EXCESS EFFORT	30
Drivability - Other issues	24
FIT	24

18,207

All complaint  
codes not shown

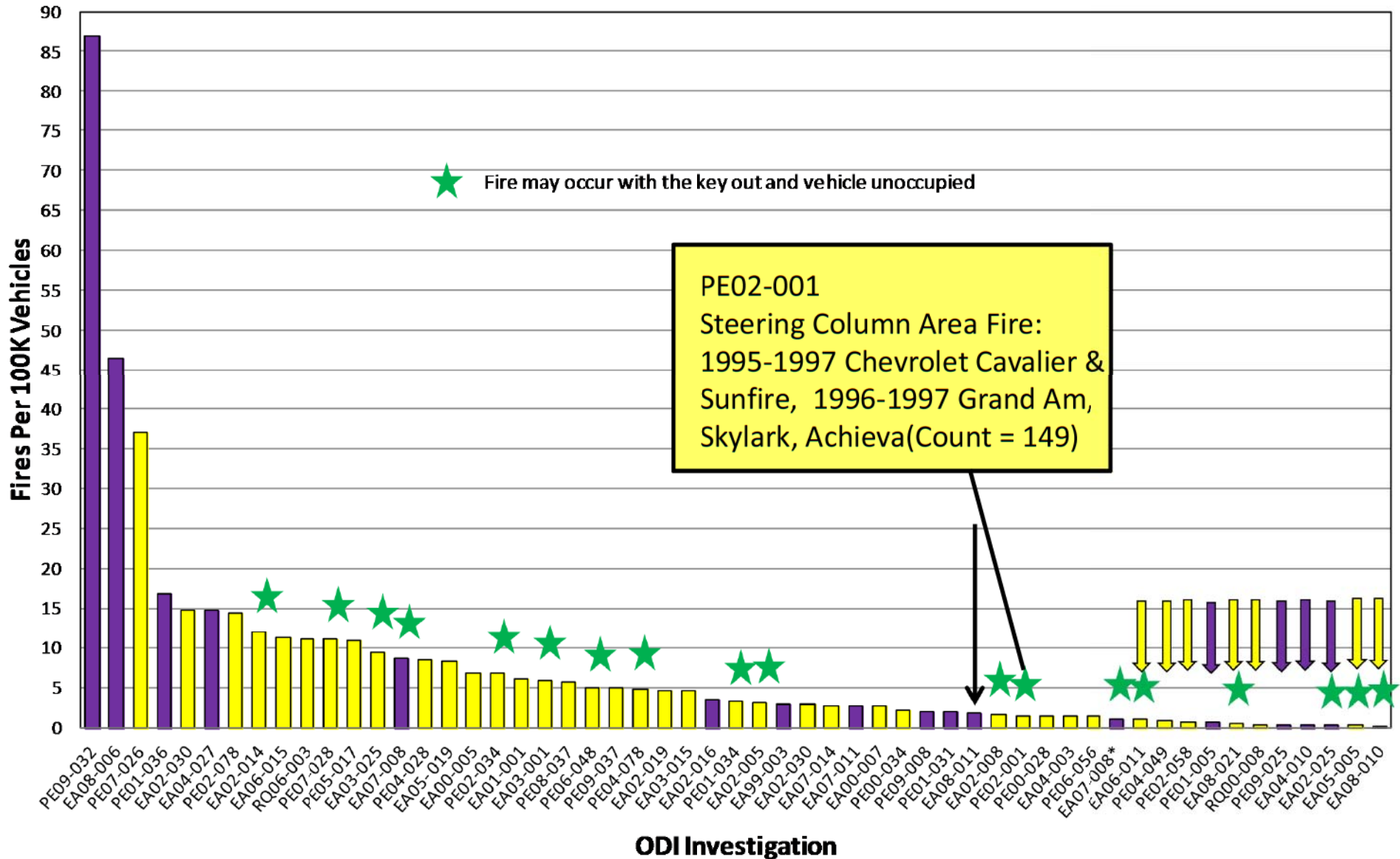
**From N100240 2003-07 GMT800 HVAC Blower Motor Relay Resistor Module**

	<h1>ODI RESUME</h1>		
	INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: <i>David Langjahr</i>		DATE OPENED: 1-5-01 <u>DATE CLOSED 31-JUL-01</u>
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: 1996-1999 VEHICLE POPULATION: <u>Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430</u>			
PROBLEM DESCRIPTION: The speed control <u>resistor assembly for the heater blower may overheat and start a fire.</u> Also, failure of the blower switch causes loss of one or more blower speeds.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	MANUFACTURER	TOTAL
COMPLAINTS:	68**	approx. 2,600*	approx. 2,700*
FIRES:	<b>4</b>	89	<b>93</b>
INJ FIRES:	0	0	0
# INJURIES:	0	0	0
FAT FIRES:	0	0	0
#FATALS:	0	0	0
LAWSUITS:	0	9	9
OTHER:	0	approx. 13,000*	approx. 13,000*
DESCRIPTION OF OTHER: WARRANTY CLAIMS			
ACTION: This Engineering Evaluation is closed. On July 9, 2001, Ford notified NHTSA of its intent to conduct a Safety Recall #01V-230 (Ford #01S22).			

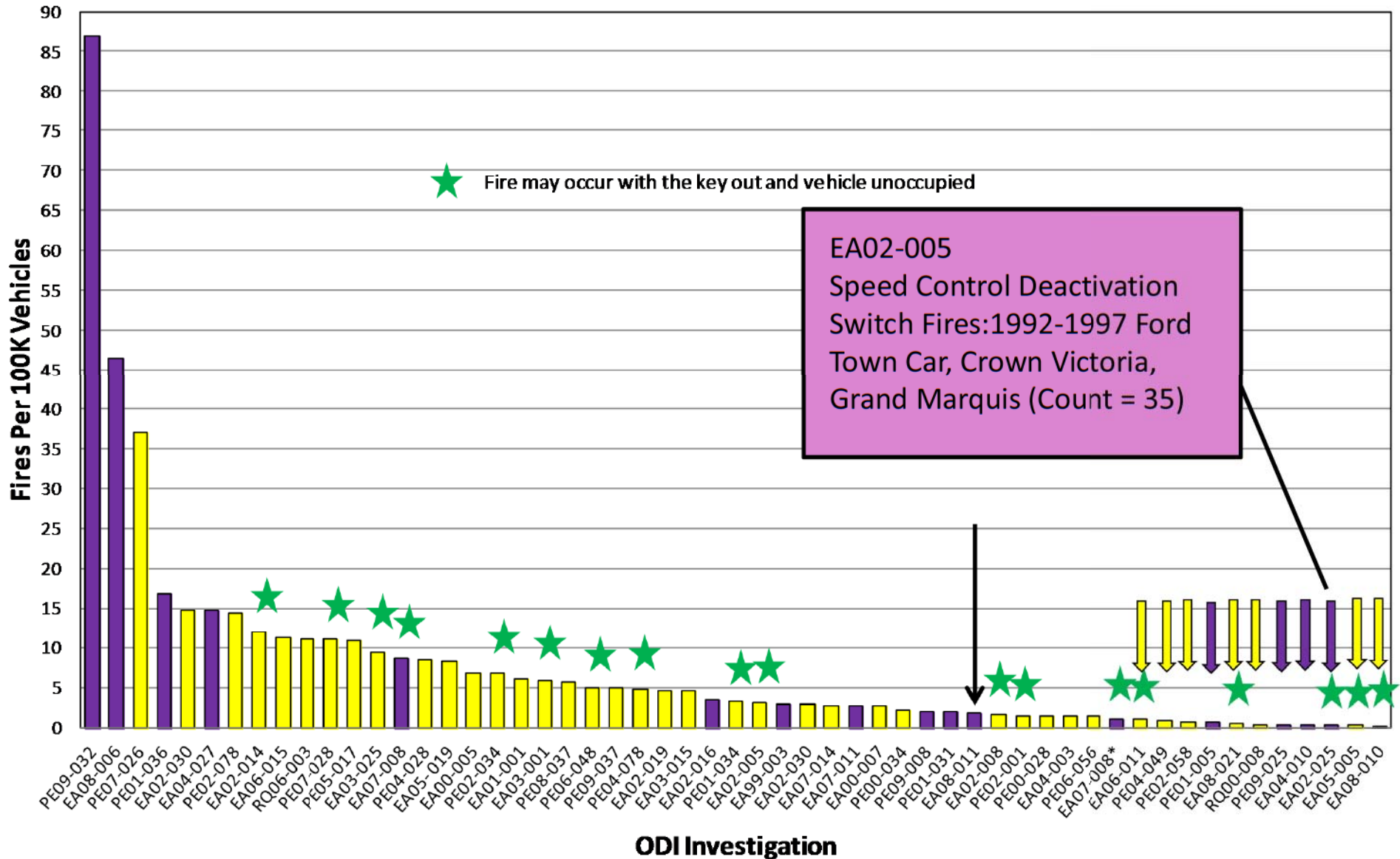
GM CONFIDENTIAL

Return

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

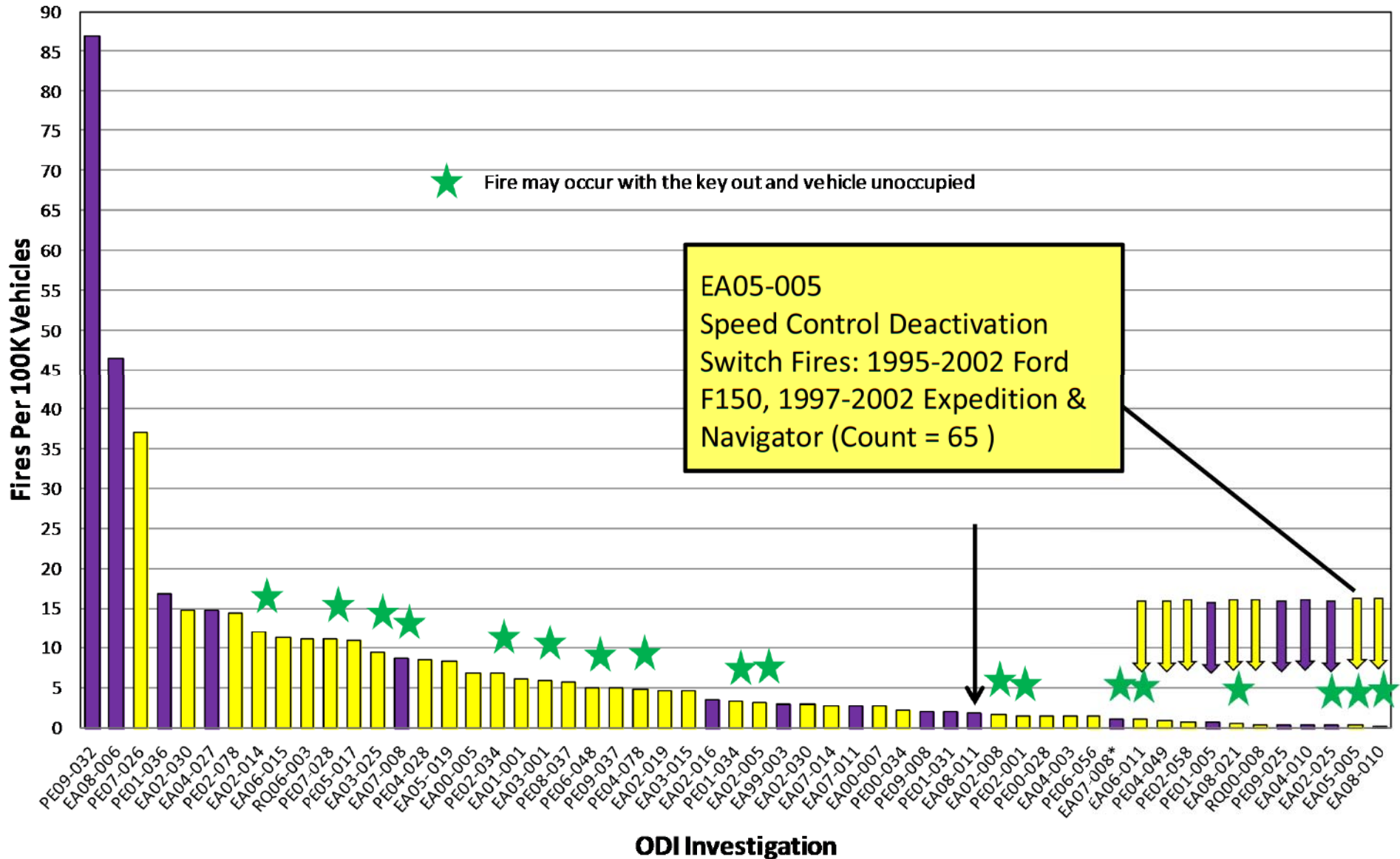


**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



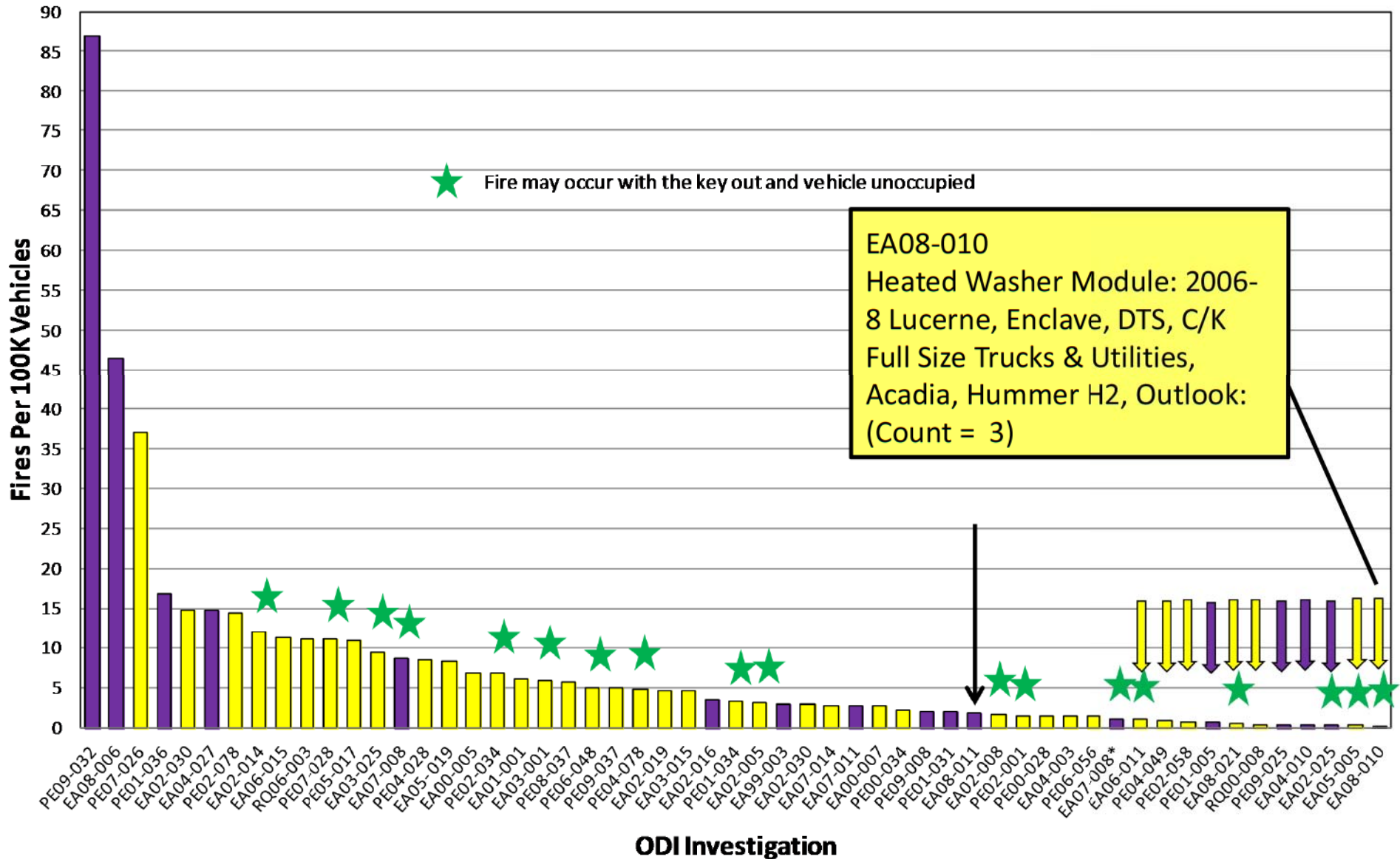
EA02-005  
 Speed Control Deactivation  
 Switch Fires:1992-1997 Ford  
 Town Car, Crown Victoria,  
 Grand Marquis (Count = 35)

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

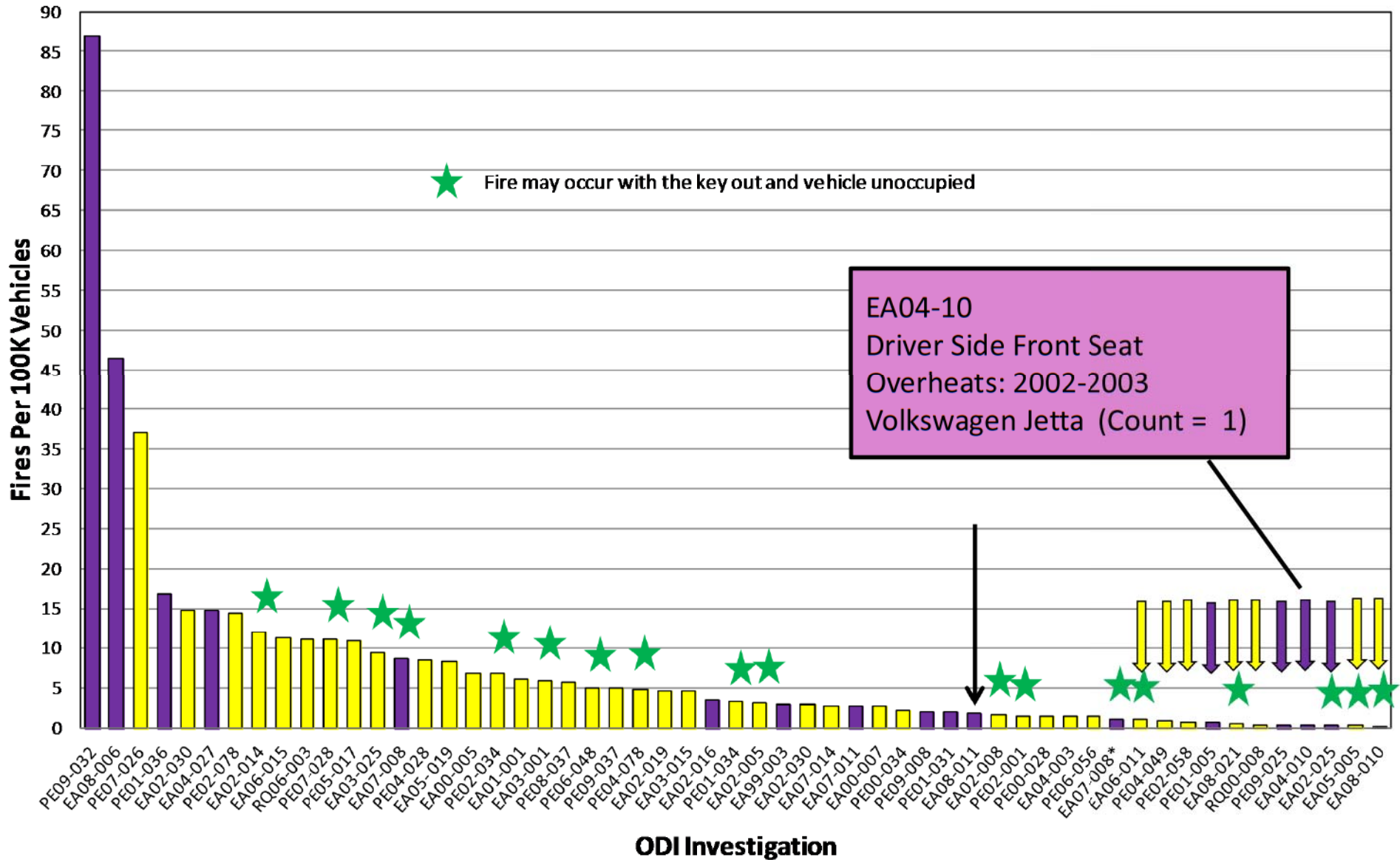




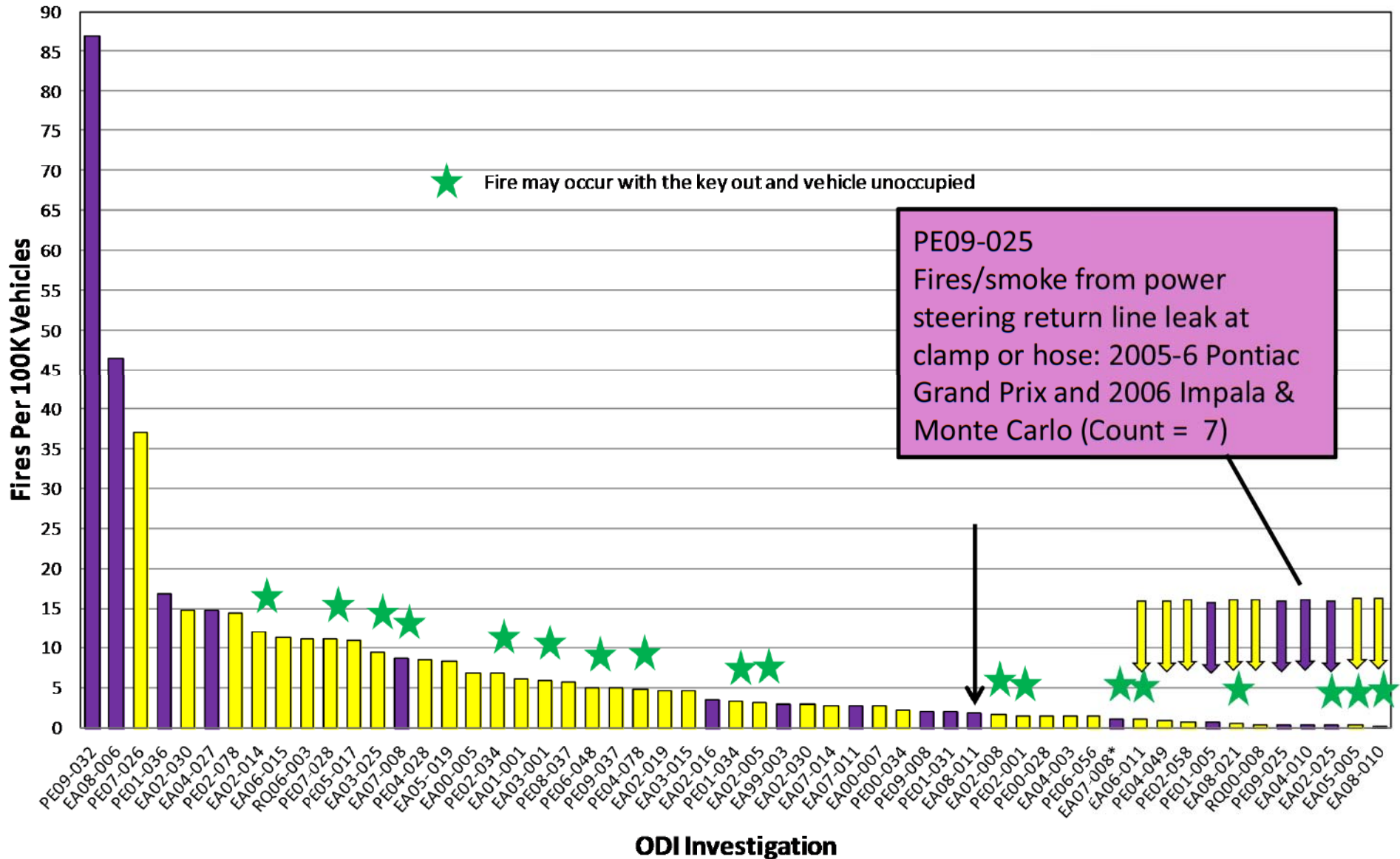
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



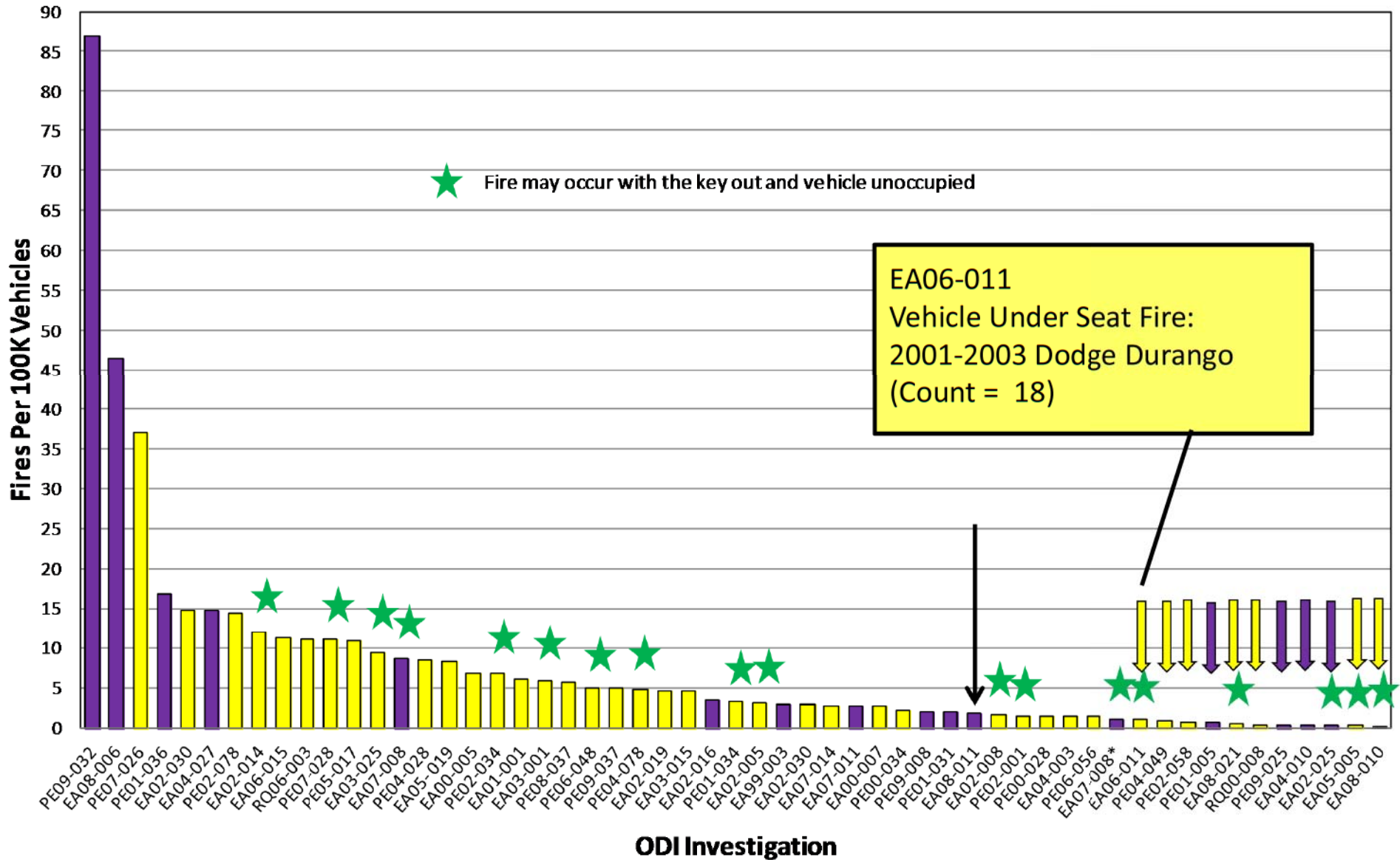
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



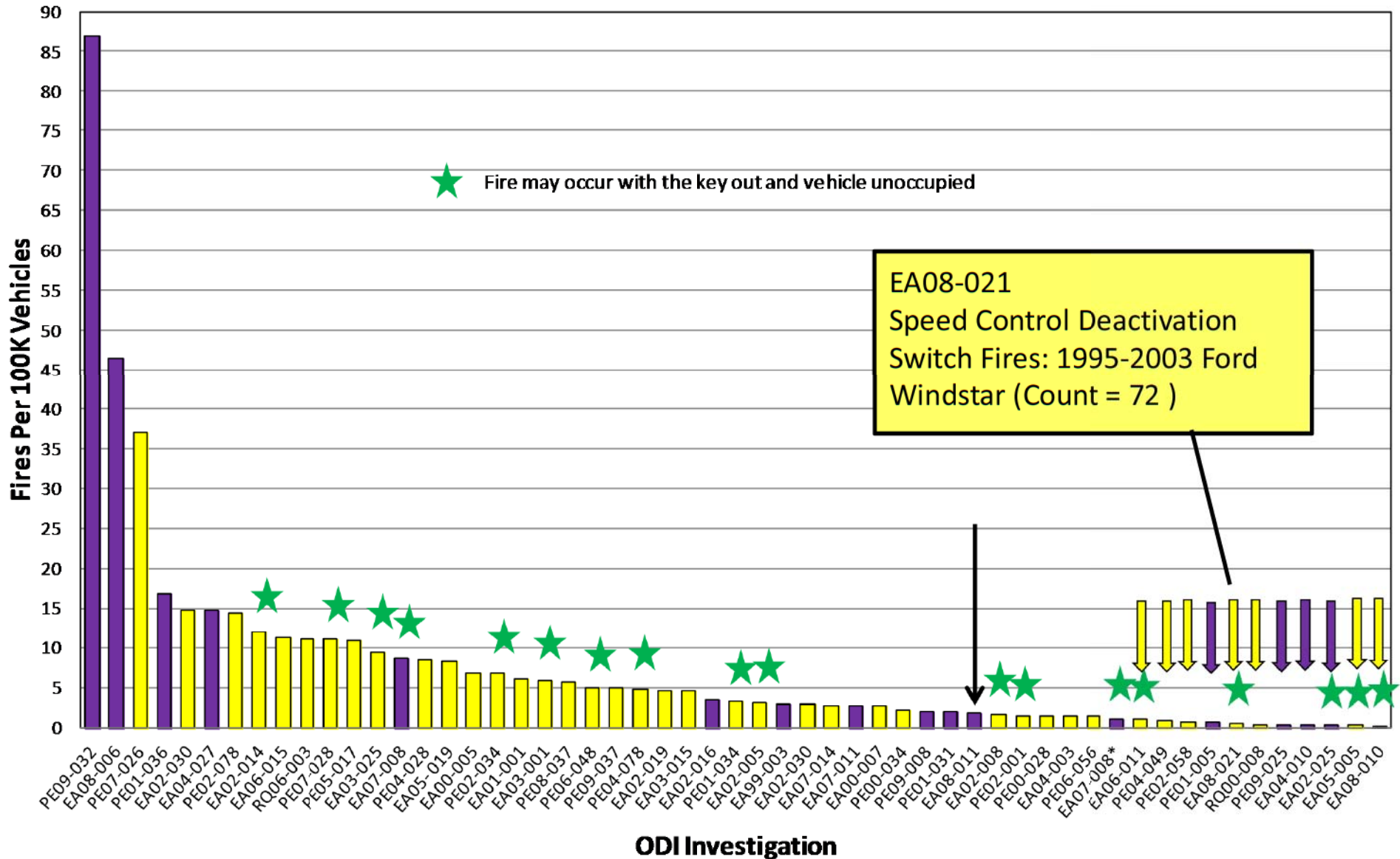
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



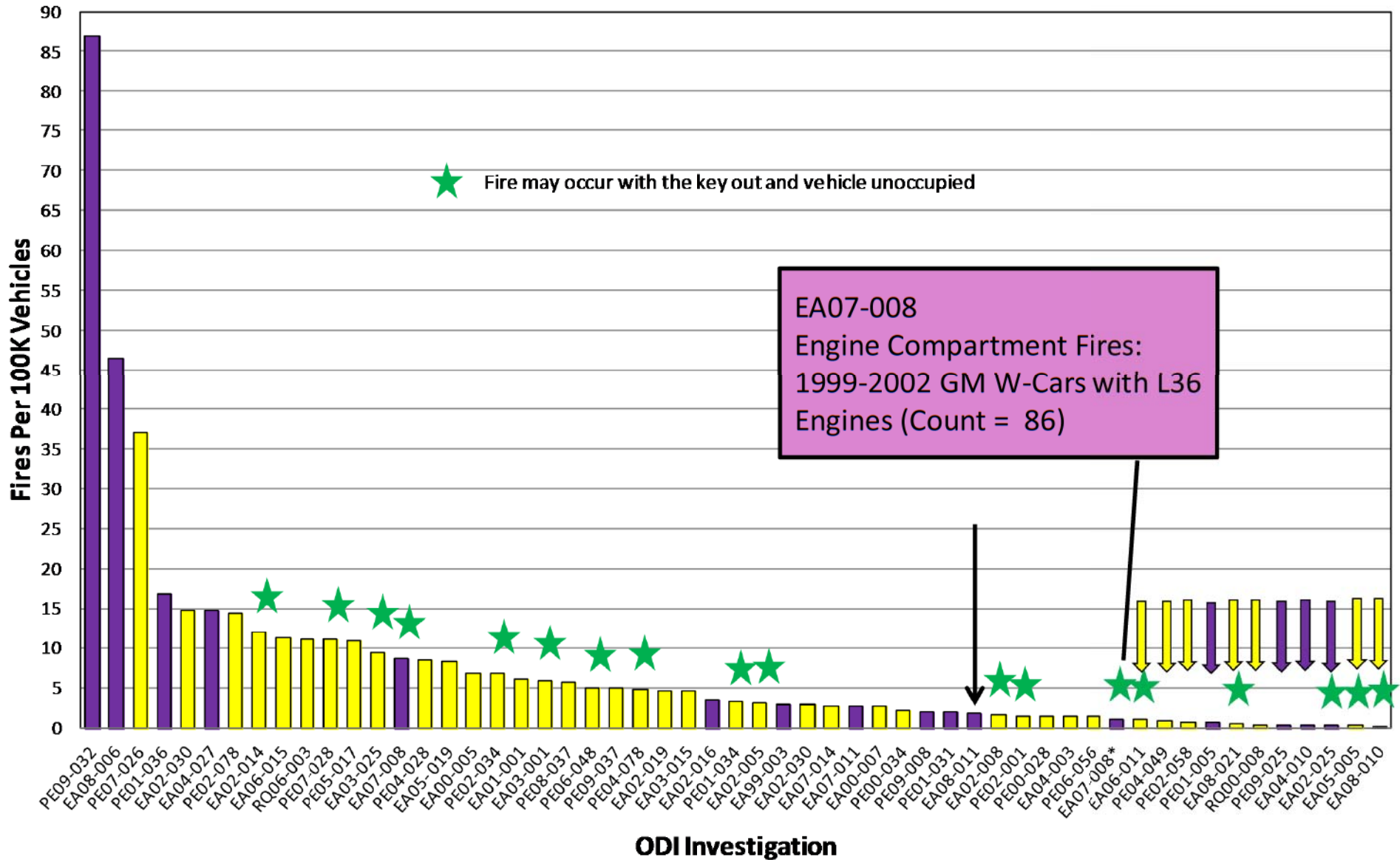
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



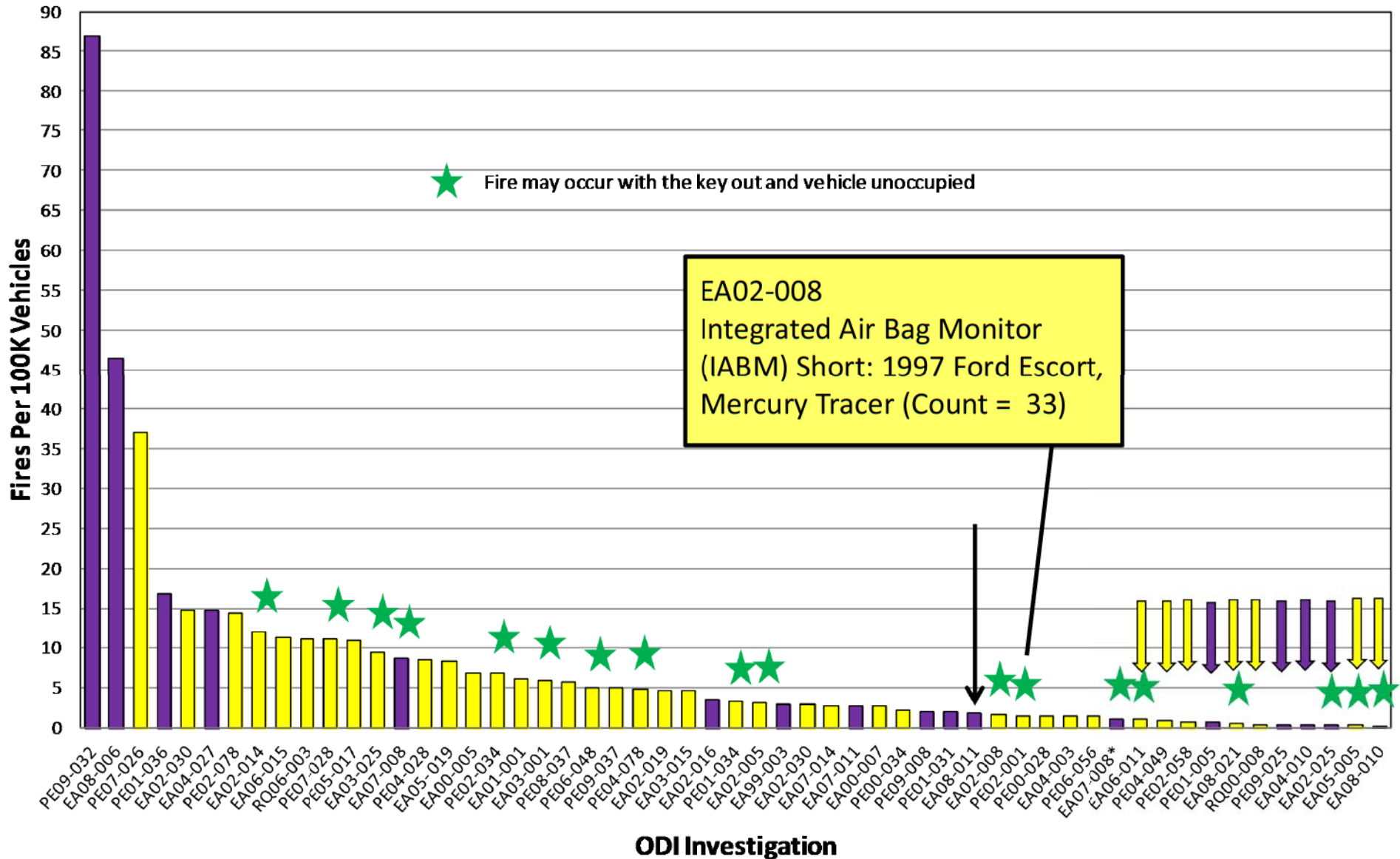
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



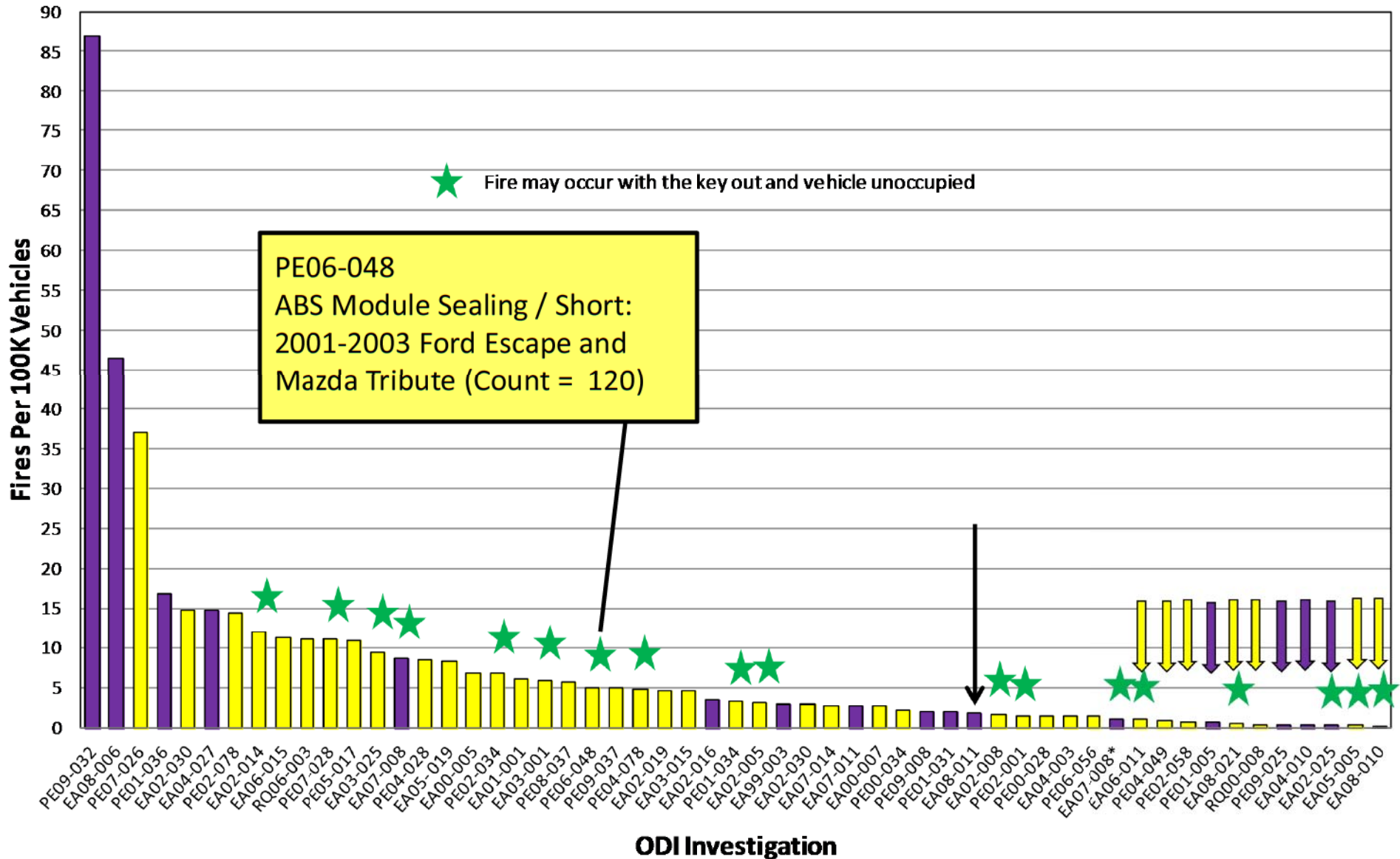
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**





EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function ISR 4-10-12-p

## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
10,222 SC & 5,147 reimbursement

{ \*\* }

ETQ N110323

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

2/9/12 NHTSA issues PE12-003  
 Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

Problem Description:


Melting and/or burning of the driver's master power window switch and related electrical components

2/6/12 NHTSA issues PE12-02  
 Product: 2007 Toyota Rav4 and Camry


Problem Description:

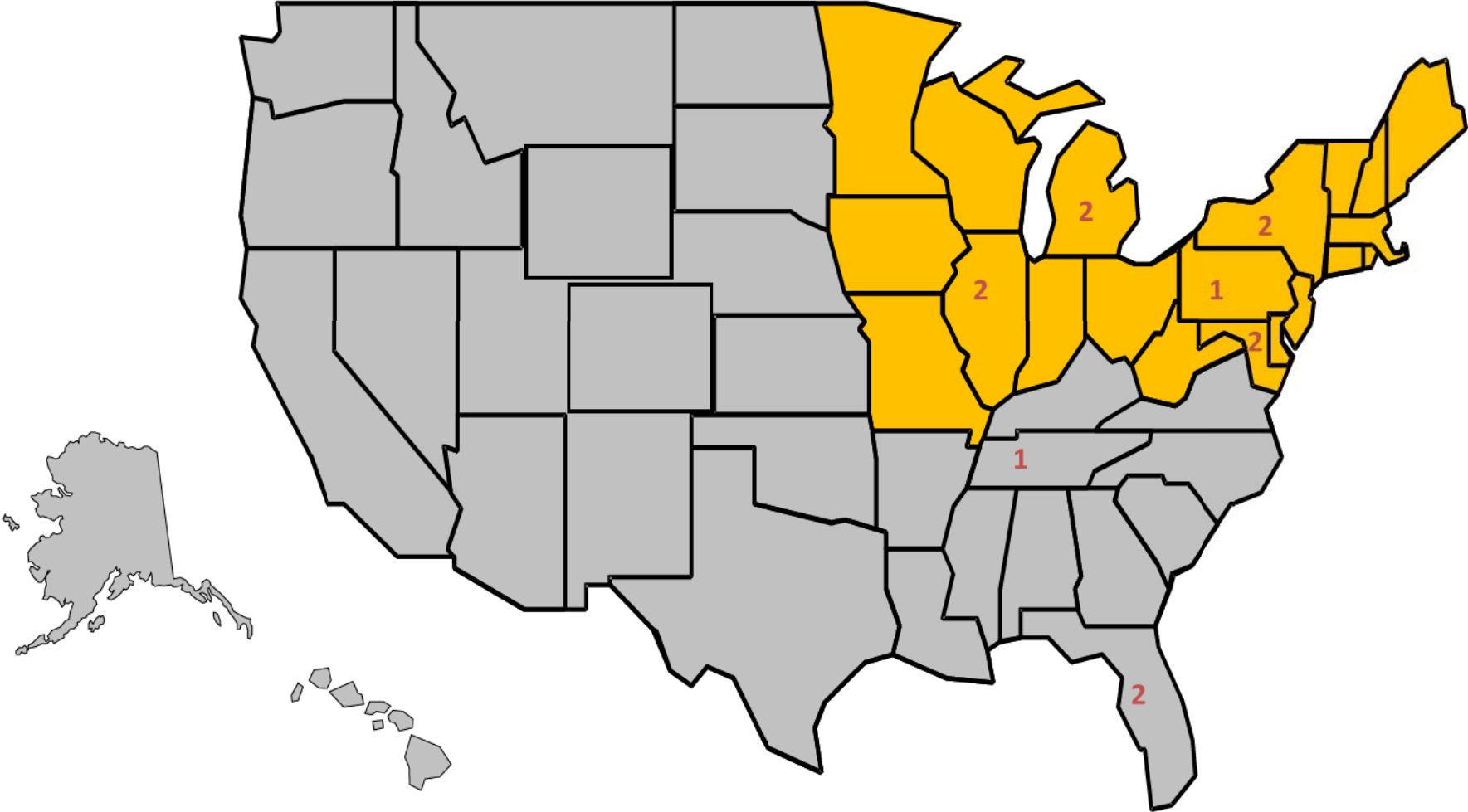
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles


	<b>ODI RESUME</b>		
	Investigation:	PE 12-003	
U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Date Opened:	02/09/2012	
	Investigator:	Emily Reichard	Reviewer: Scott Yon
	Approver:	Frank Boris	
	Subject:	Driver's Master Power Window Switch	
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			

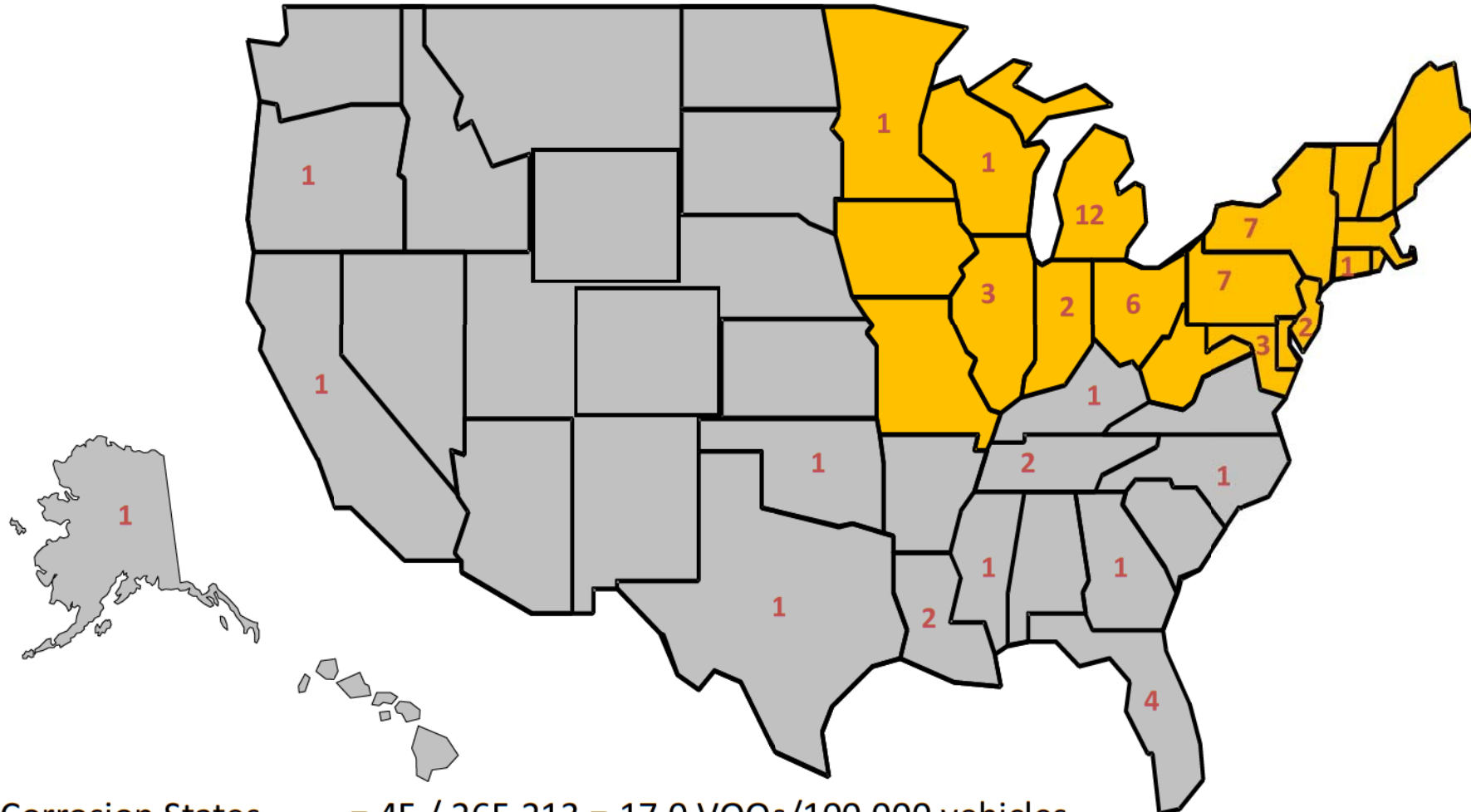
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States



2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
62 VOQs as of 3/19/12

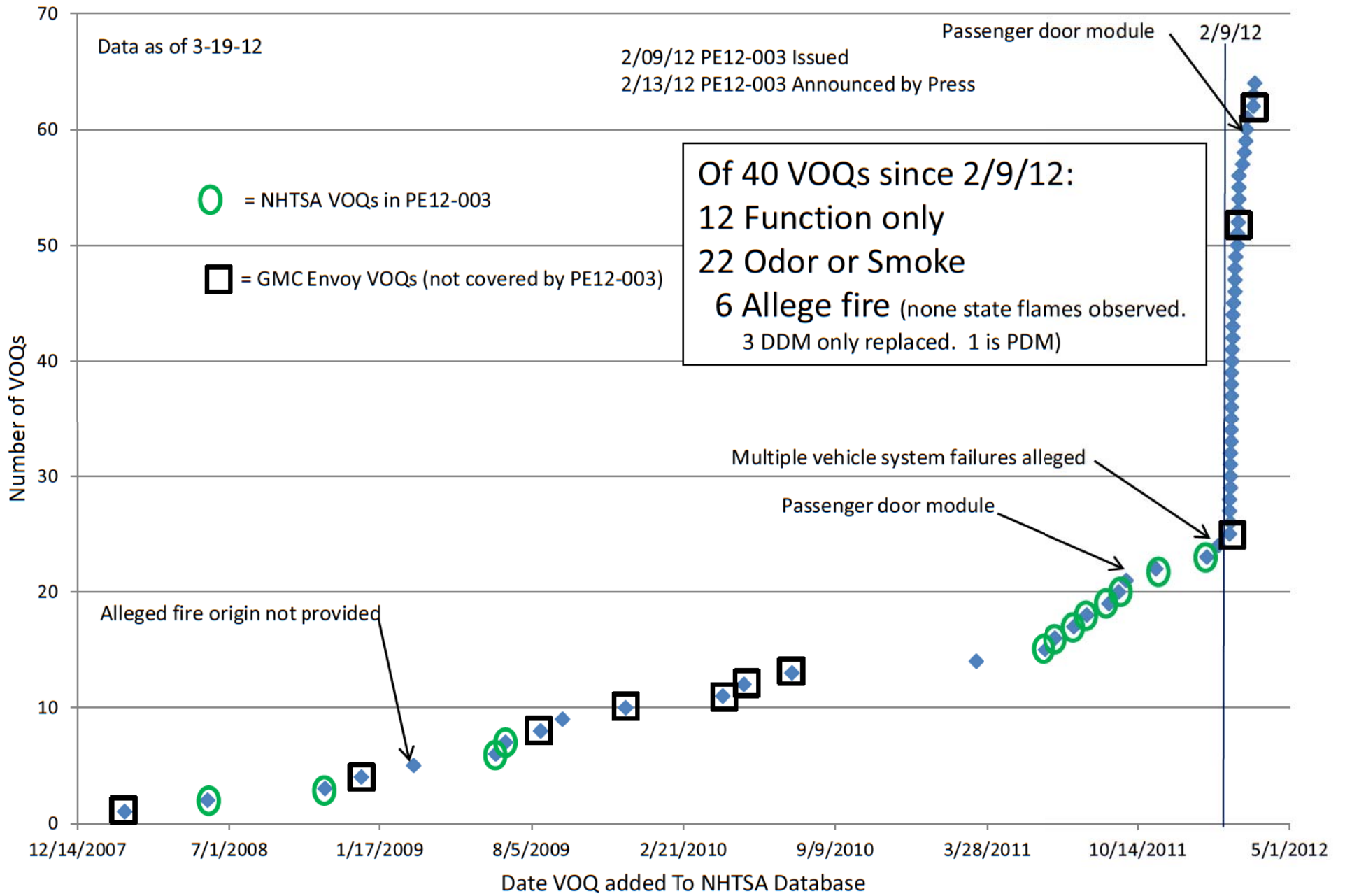
 NHTSA defined Corrosion States



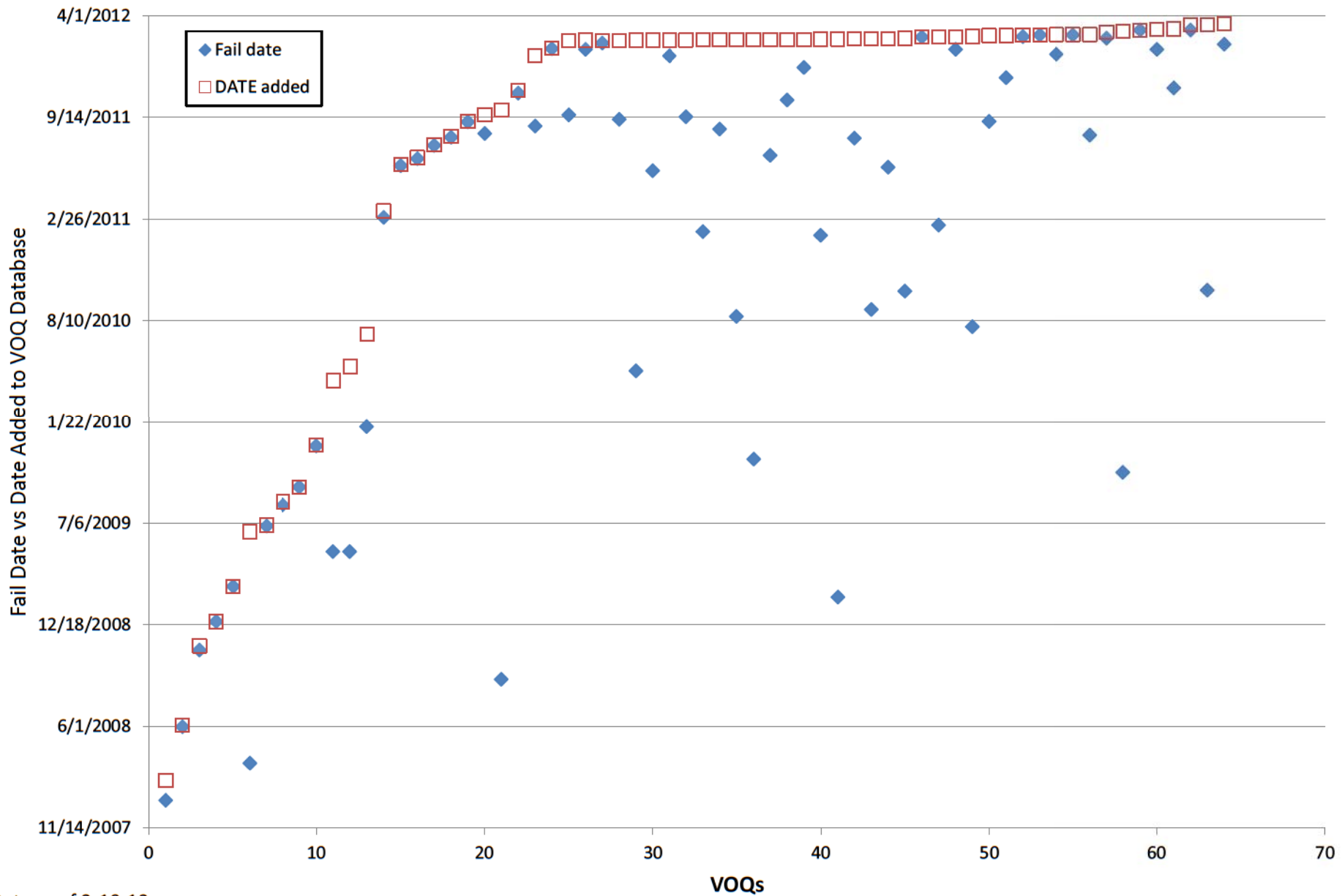
Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles

Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles

# 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 3-19-12





# 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit

{ \* }



Base Switch Package



Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] - [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.



# Inspections/Investigations

1GKET63M462 [REDACTED] - [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit

VOQs

**Data 1/31/12** (one added 11/7/11)

14\* Total

2006 – 8

2007 – 6

2.9/100K

2006 (2.7) & 2007 (3.2)

\*3 report seeing flames. 4 Say caught on fire. 7 say odor/smoke/melt. 2 VOQs with incident dates 6/25/11 & 7/21/11 were smoke only while driving. 1 VOQ with incident date 8/13/11 has door trim and seat damage on parked vehicle (self extinguished) The latest VOQ is 11/17/11. 5 have a matching TREAD report (1 2006 & 4 2007).

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 1/31/12

252 reports overall

2006 – 105

2007 – 147

51.9/100K

2006 (35.3) & 2007 (78.4)

### TREAD search for 2005

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 1/31/12

36\* Claims overall

2006 – 16

2007 – 20

7.4/100K

2006 (5.4) & 2007 (10.7)

{ \* }



# Driver Door Module Short Circuit

VOQs + TREAD (Data 1/31/12)

45\* Total

2006 – 23

2007 – 22

9.3/100K or 1.7/100K @ 5.5yrs exposure

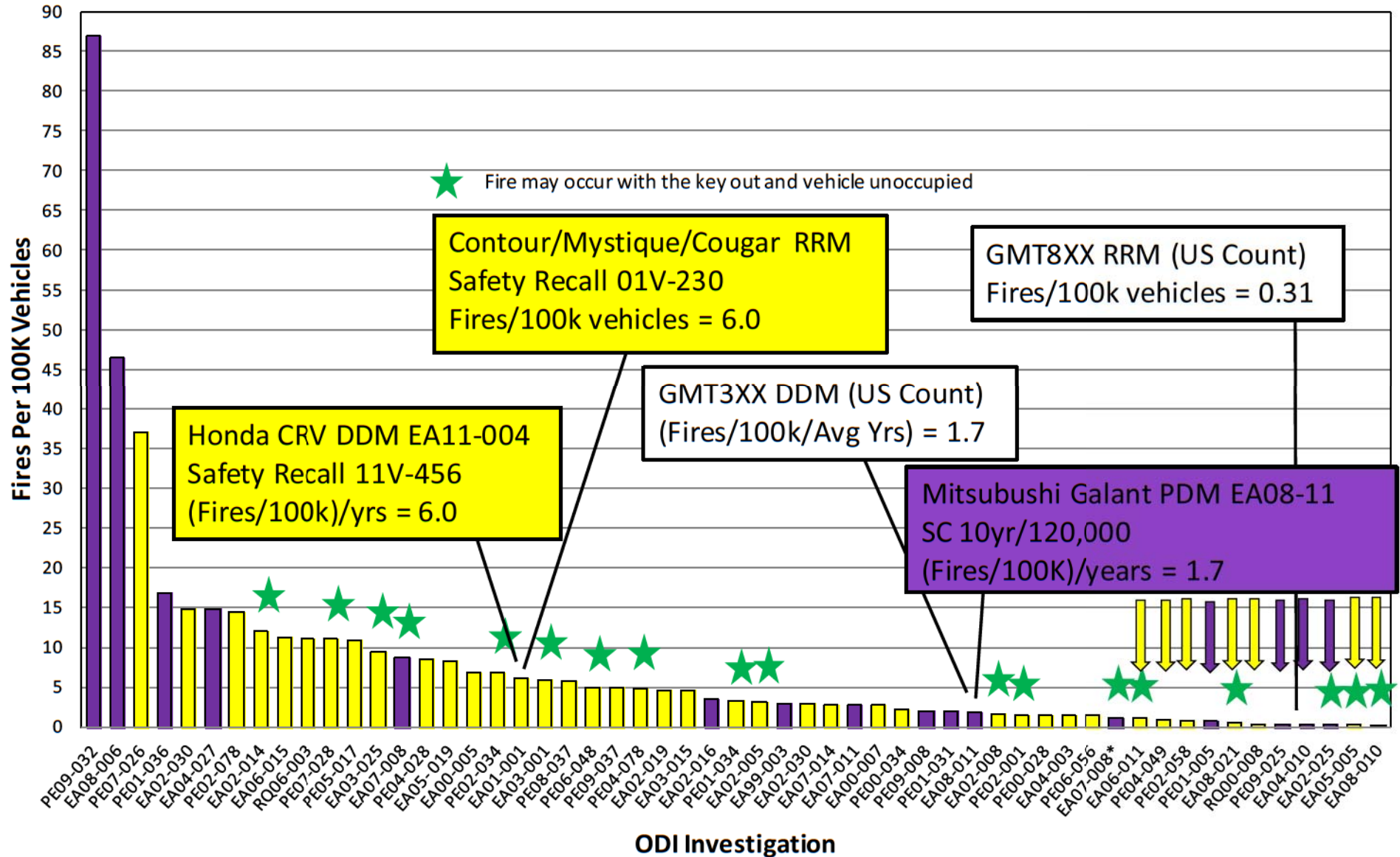
2006 (7.7 or 1.3/100K@6yrs) & 2007 (11.7 or 2.3/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 50.

Very few incidents were actual “fires”. Most were odor, melting, or smoke.

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 1-31-12



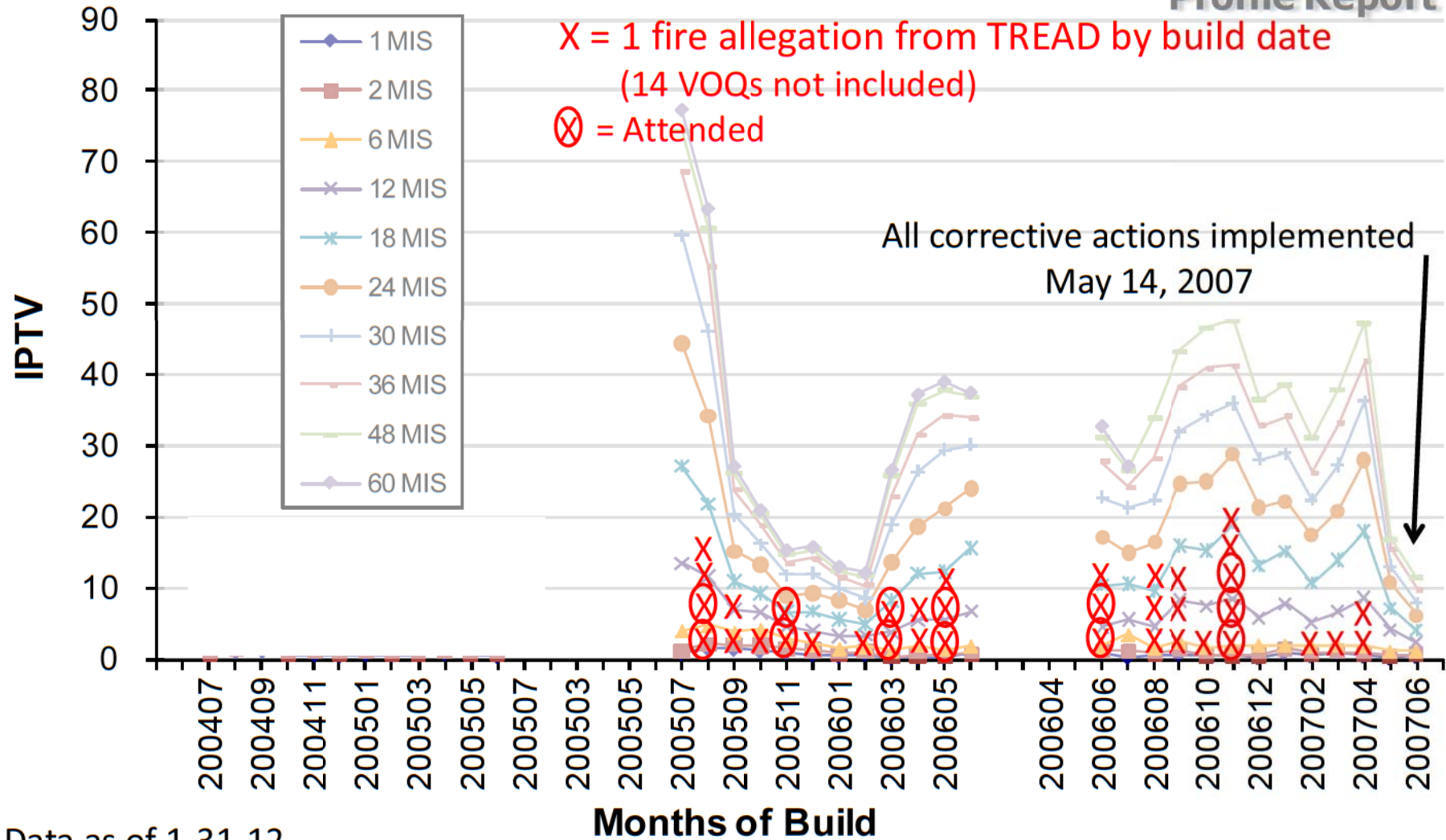
# Back-Up



# U.S. Fire Allegations by Build Date

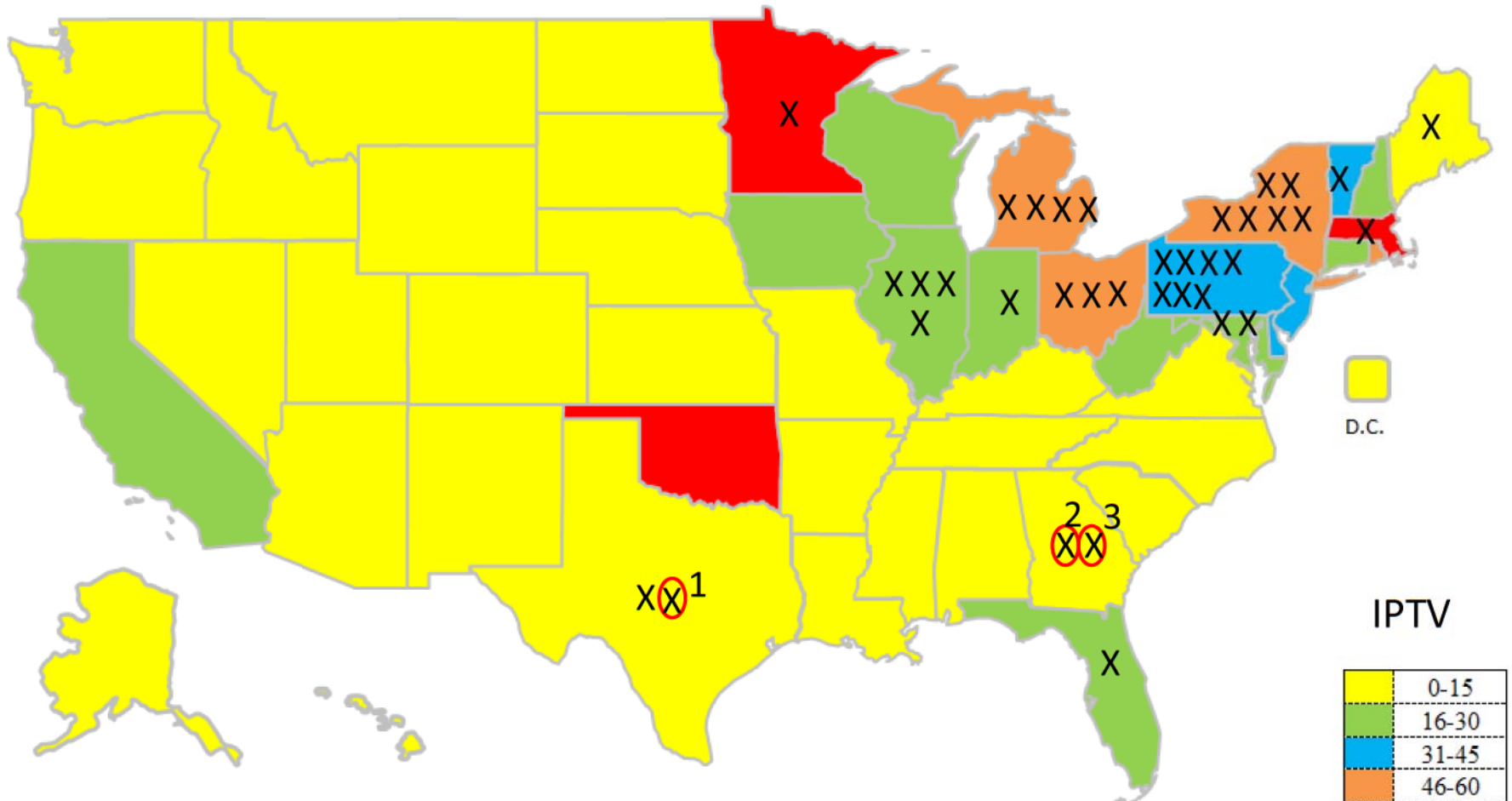
## 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2116 , N2117

**Profile Report**



Data as of 1-31-12

# 2006-2007 GMT360/370 DDM US Warranty Labor Ops N2116 , N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (14 VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 1-31-12

122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
Subject:	Driver's Master Power Window Switch		

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	26	29**
Crashes/Fires:	5	26	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0
*Description of Other:			
** Count indicates duplicate reports received by ODI and manufacturer.			

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<b>Summary:</b> The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.  The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.



# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.



Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaxerj2>

	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
By: <i>Peter Ong</i>  Title: Chief, D. Scott Yen Office Dir: <i>Kathleen C. DeMeter</i>	Date: 08/21/2009 Date: 08/21/2009 Date: 08/21/2009		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

**Summary:**

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

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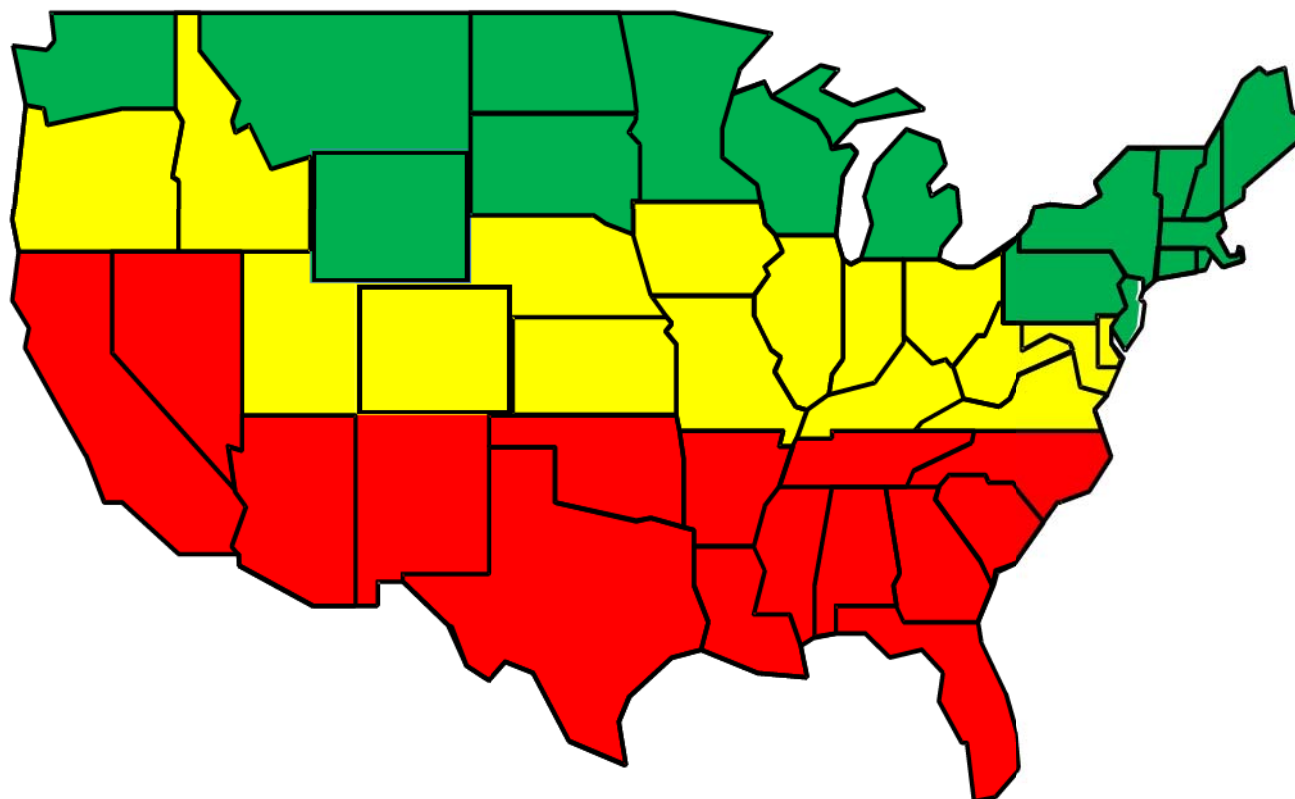
# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

## Hot, Moderate, and Cool States

Hot States: AL, AZ, AR, CA, FL, GA, HI, LA, MS, NC, NM, NV, OK, SC, TN, TX  
Moderate States: CO, DC, DE, IA, ID, IL, IN, KS, KY, MD, MO, NE, OH, OR, UT, VA, WV, WY  
Cool States: AK, CT, MA, ME, MI, MN, MT, ND, NH, NJ, NY, PA, RI, SD, VT, WA, WI

















## Reports & Warranty Claims – U.S

	US
<b>Fire</b>	<b>68</b>
VOQ	8
Warranty Verbatim	28
GM Reports / NISM *	32
<b>Non-Fire*</b>	<b>6,096</b>
VOQ	6
Warranty Customer Code “Smoke”	75
Warranty Customer Code “Odor”	49
GM Reports	215
Warranty Tech Code “Shorted”	5,563
Warranty Tech Code “Burned”	188

\*5 VOQs also have GM reports (4 fire & 1 smoke). GM reports reduced by 5.  
Total may include duplicates between warranty and GM reports.

TREAD data 1/31/12

Warranty data 1/31/12

GM CONFIDENTIAL

## Rates – U.S.

	# Vehicles	Count	Rate
<b>Fires</b>			
US	485,213	45*	9.3/100k
<b>Non-Fire</b>			
US	485,213	6,096	12.6 IPTV

{ \* }

# 2006 Honda CRV DDM

## **Honda Recalling Almost One Million Fit, CR-V and CR-Z Models**

09/06/2011 | By: Huw Evans (Autoguide.com)

As a result of identifying problems with power window switches, Honda Motor Co. has announced it is recalling some 960,000 vehicles worldwide.

The recall is mostly related to 2006 to early 2010 Fit subcompacts (totaling almost 800,000). **In addition, in the U.S., the company is also recalling some 80,111 CR-Vs from the 2006 model year for similar problems.** The recall is a result of potential problems such as fire hazards that could result from faulty electrical contacts in the switches.

# Driver Door Module Short Circuit

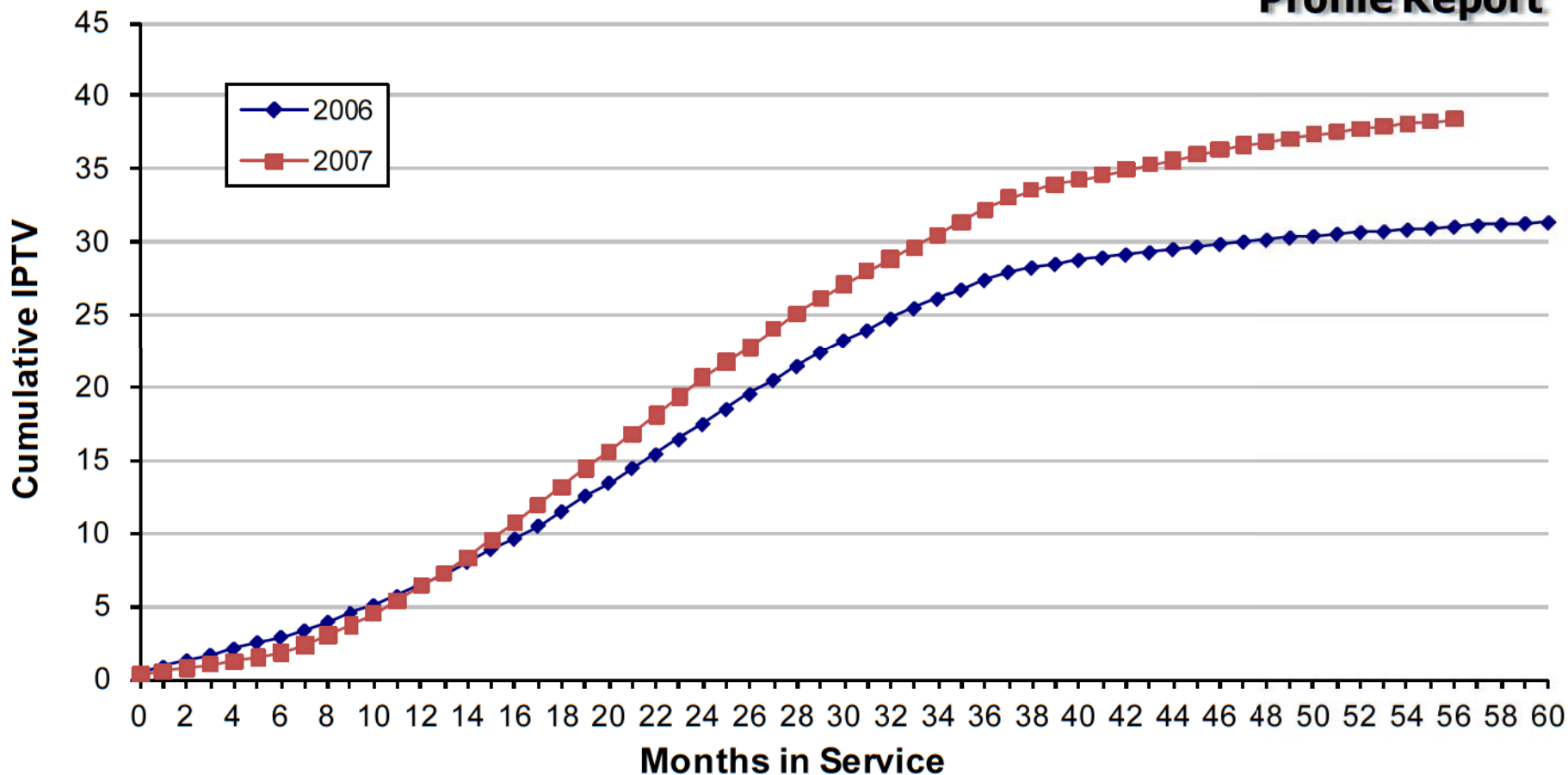
- Data Update (from 3/28/11 through 1/31/12)
  - +4 VOQs or 14 total (2 smoke & 2 fire or flame)
  - +11 Warranty claims with fire or flame in verbatim
    - Previous analysis had 17 claims with fire or flame in verbatim
    - Latest repair date is 1/19/11
    - All claims with PROC date > 7/1/11 are DDM or DDM+ wiring only
  - +19 Customer Reports (TREAD) with fire or flame in verbatim through 1/31/12 (36 total)
    - Previous analysis had 17 claims with fire or flame in verbatim
    - 21 of 36 unattended at time of incident with 6 reports fire observed
      - 15 unattended without fire observed (either no fire or self extinguished)
    - 13 of 36 attended at time of incident with fire allegedly observed
    - 2 of 36 can't determine if attended or fire observed





# 2006-2007 GMT360/370 DDM N.A. Warranty Labor Ops N2116 , N2117

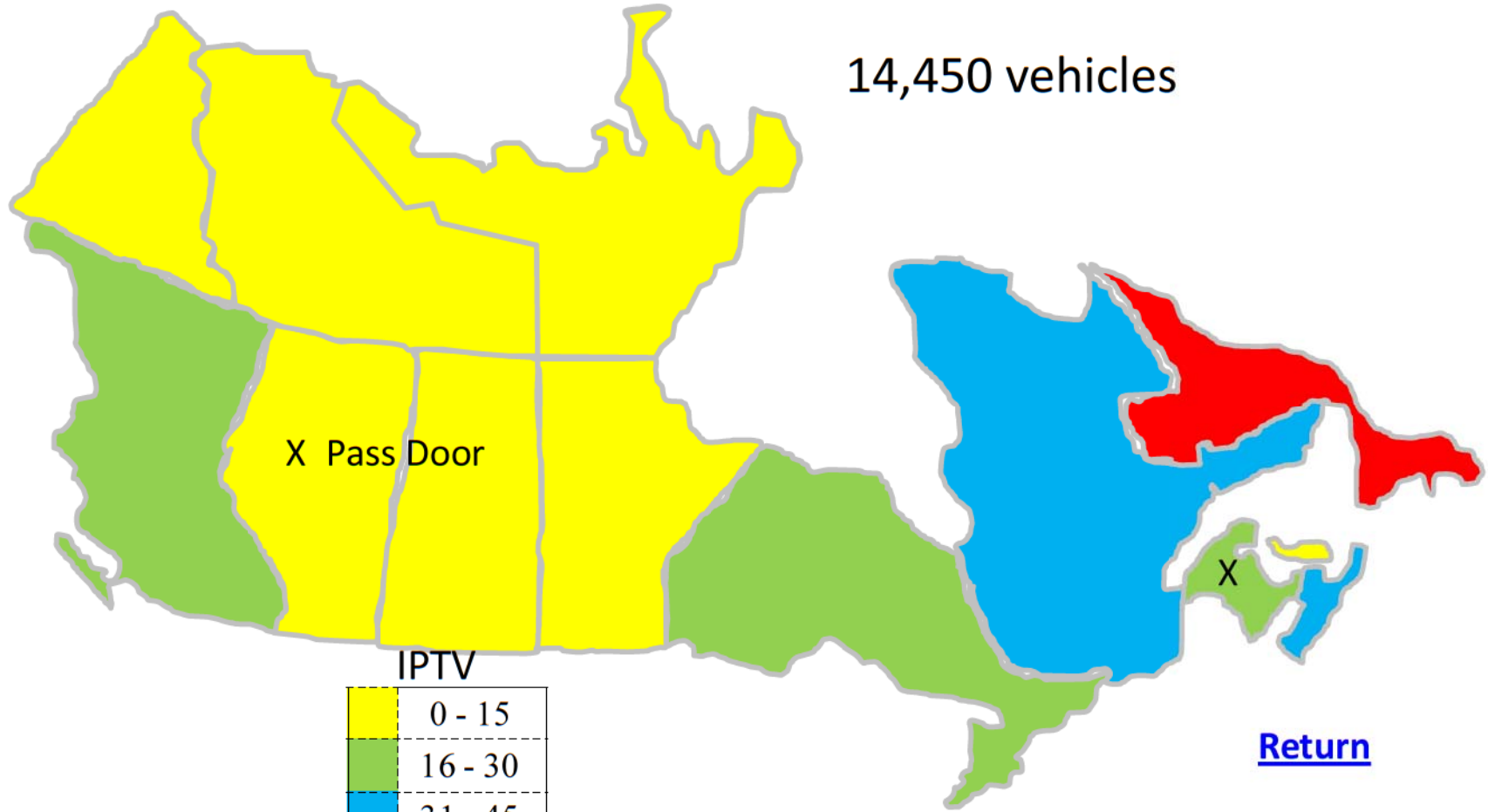
**Profile Report**



Data as of 8-30-11

# Canada

# 2006-2007 GMT360/370 DDM CA Warranty Labor Ops N2116 , N2117



14,450 vehicles

X Pass Door

IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

X = 1 fire allegation by province

Return

4,450 of 14,450 have no province record

Data as of 9-8-11

# Door Module Claims as of 2/1/12

## Labor Codes (N2116 , N2117)

Trouble Code	Problem Description	Cases
1-6C	COMPONENT-INOPERATIVE	6040
1-6G	COMPONENT-SHORTED	4015
1-OB	OBDII Code used	2039
1-6F	COMPONENT-OPEN	1377
0-6579	Module/Component-Shorted	1317
1-6D	COMPONENT-INTERMITTENT	722
0-6573	Module/Component-No/Incorrect Co	422
1-3L	OUT OF CALIBRATION	275
0-7079	Wiring/Electrical/Sensors-Shorted	231
1-1E	BURNED	188
1-1D	BROKEN	133
1-2W	LOOSE	114
1-93	TECHNICAL SERVICE BULLETIN	84
0-6581	Module/Component-Registers incor	74
0-6017	Module/Component-Broken	69
0-7073	Wiring/Electrical/Sensors-No/Incorr	69
1-3X	REGISTERS INCORRECTLY	67
1-3A	MISADJUSTED/MISALIGNED	60
0-6583	Module/Component-Poor Contact	48
1-7W	ELECTRICAL INTERFERENCE	44
1-7L	WIRE-CUT/BROKEN/OPEN	24
0-7077	Wiring/Electrical/Sensors-Seized/B	23
1-6N	CONNECTOR-PARTIAL CONNECTE	15
1-6Z	SOCKET-SHORTED	13
0-2017	Surface (interior)-Broken	12
1-6M	CONNECTOR-DISCONNECTED	12
0-9094	Other-Follow operation	11
1-6B	COMPONENT-GROUND	11
1-7D	WIRE - SHORTED TO GROUND	11
1-6H	CONNECTOR-BENT/DAMAGED	7
1-7G	WIRE-BURNED-EXTERNAL HEAT	7
1-7H	WIRE BURNED-INTERNAL HEAT	7

18,207

All causal codes  
not shown

# Door Module Claims as of 2/1/12


## Labor Codes (N2116 , N2117)

Problem Description	Cases
INOPERATIVE	13368
Features/Controls/Displays - Other	1070
INTERMITTENT	964
Features/Controls/Displays - Lock	668
Interior - Other issues	394
WON'T MAINTAIN ADJUST	147
Exterior - Other issues	135
BINDS	119
LOOSE	92
CUSTOMER SATISFACTION	85
ENGAGE/DISENGAGE	75
SMOKE/STEAM	75
Features/Controls/Displays - Mirror	56
UNUSUAL GAGE READING	54
ODOR	49
LOCKS/LOCKING UP	47
Features/Controls/Displays - Light	38
THEFT DETERRENT LIGHT	37
Features/Controls/Displays - Gauge	36
TECH BULLETIN	31
WON'T TURN OFF	31
SERVICE ENGINE SOON	31
EXCESS EFFORT	30
Drivability - Other issues	24
FIT	24

18,207

All complaint  
codes not shown

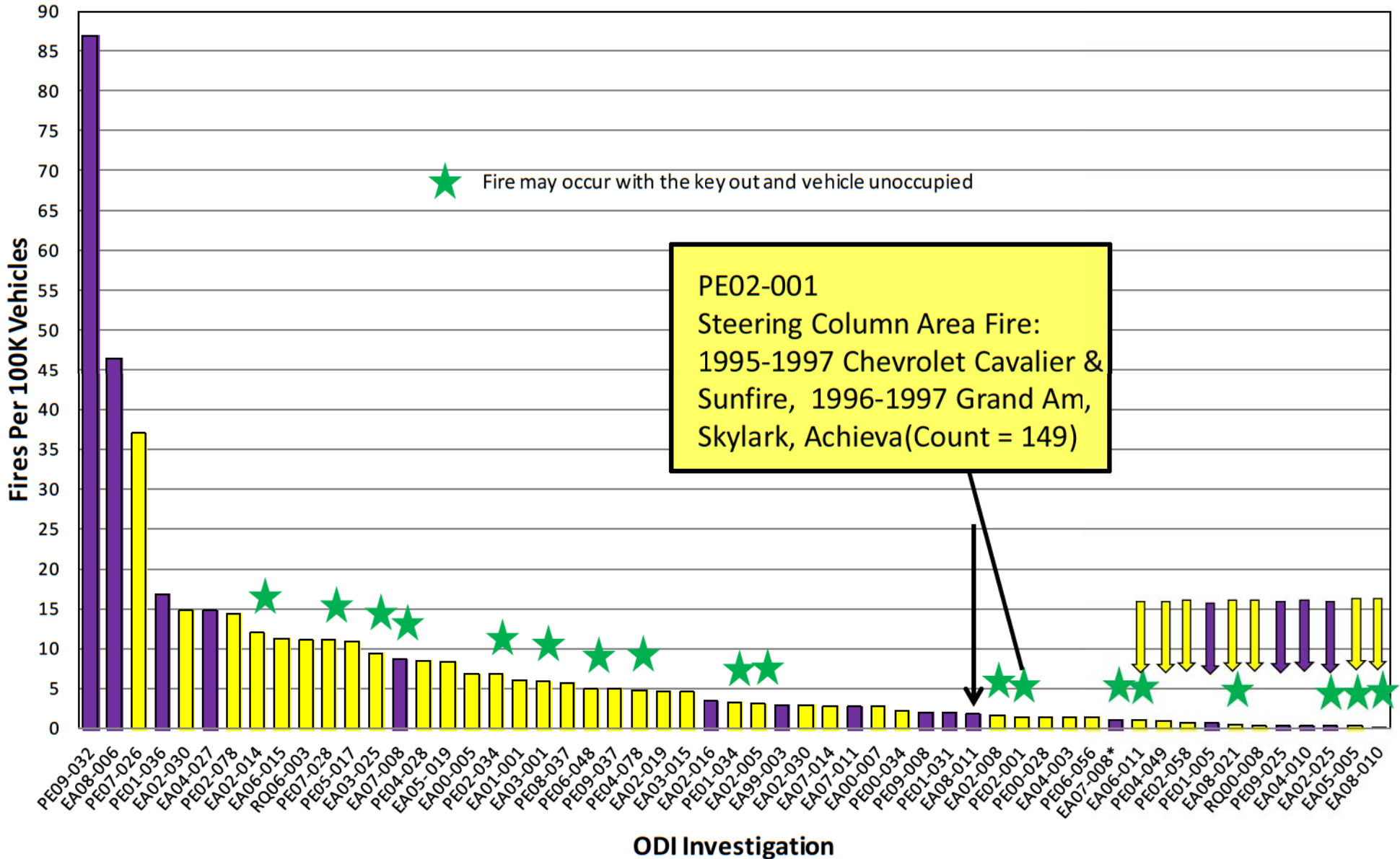
**From N100240 2003-07 GMT800 HVAC Blower Motor Relay Resistor Module**

 <p>U.S. Department of Transportation National Highway Traffic Safety Administration</p>	<h1>ODI RESUME</h1>		
<p>INVESTIGATION: EA01-001                  SUBJECT: Interior Compartment Fires                  PROMPTED BY: Owner Complaints (PE00-023)                  PRINCIPAL INVESTIGATOR: <i>David Langjahr</i></p>		<p>DATE OPENED: 1-5-01                  DATE CLOSED: <u>31-JUL-01</u></p>	
<p>MANUFACTURER: Ford Motor Company                  MODELS: Ford Contours, Mercury Mystiques and Cougars                  MODEL YEARS: 1996-1999                  VEHICLE POPULATION: <u>Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430</u></p>			
<p>PROBLEM DESCRIPTION: The speed control <u>resistor assembly</u> for the heater blower may overheat and start a fire. Also, failure of the blower switch causes loss of one or more blower speeds.</p>			
<p>FAILURE REPORT SUMMARY</p>			
	<p>ODI</p>	<p>MANUFACTURER</p>	<p>TOTAL</p>
COMPLAINTS:	68**	approx. 2,600*	approx. 2,700*
FIRES:	4	89	93
INJ FIRES:	0	0	0
# INJURIES:	0	0	0
FAT FIRES:	0	0	0
#FATALS:	0	0	0
LAWSUITS:	0	9	9
OTHER:	0	approx. 13,000*	approx. 13,000*
<p>DESCRIPTION OF OTHER: WARRANTY CLAIMS</p>			
<p>ACTION: This Engineering Evaluation is closed. On July 9, 2001, Ford notified NHTSA of its intent to conduct a Safety Recall #01V-230 (Ford #01S22).</p>			

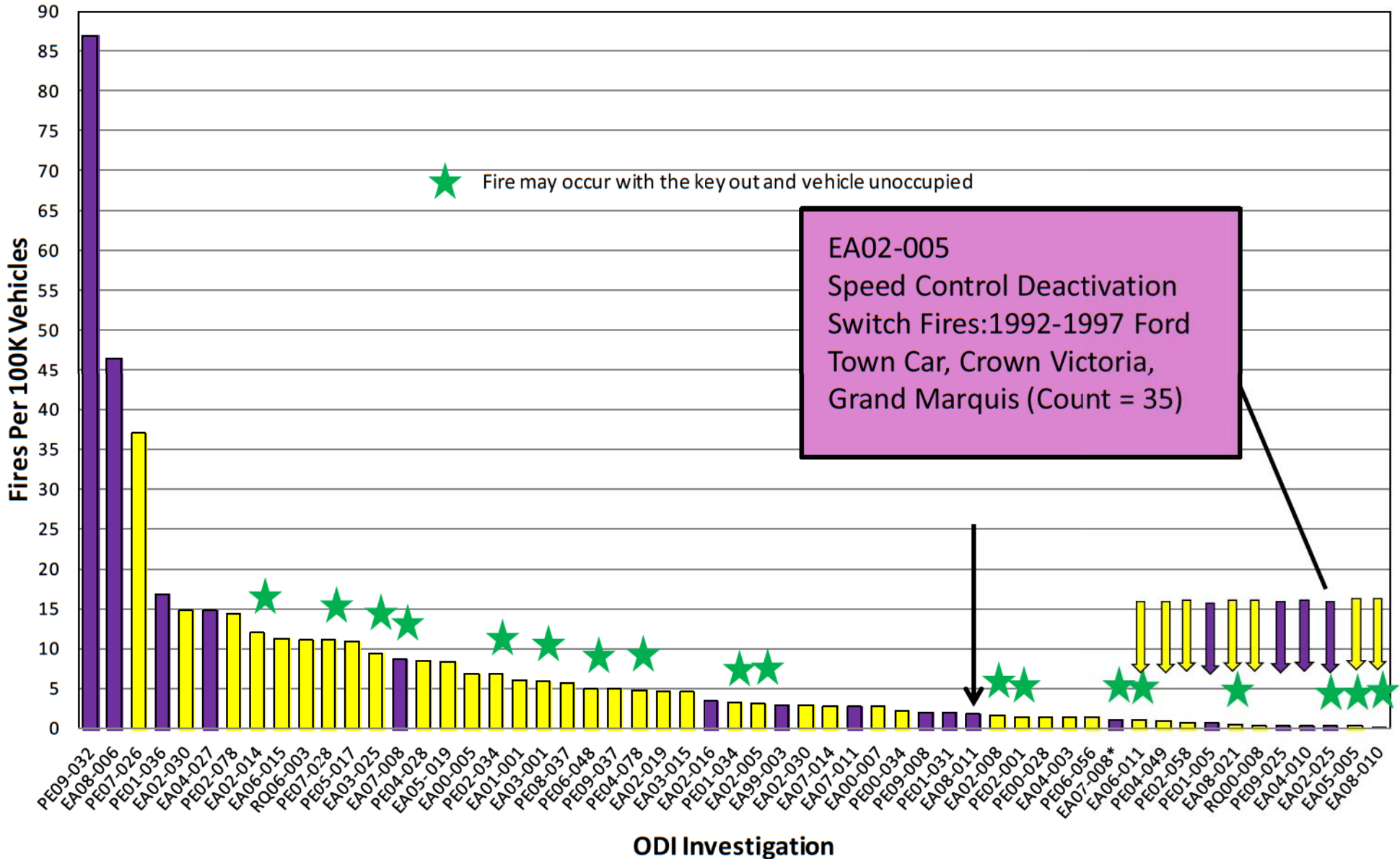
GM CONFIDENTIAL

Return

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

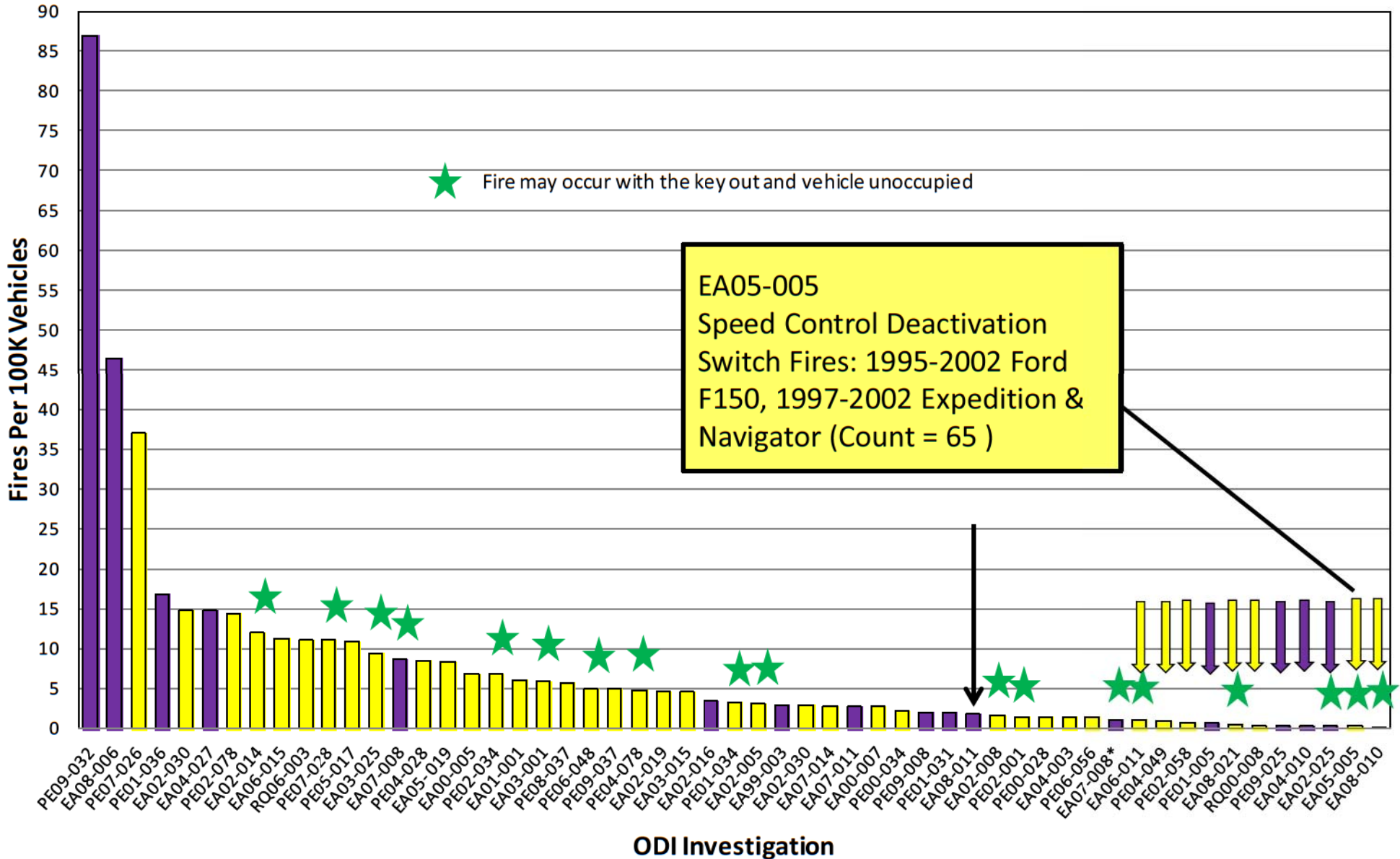


**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

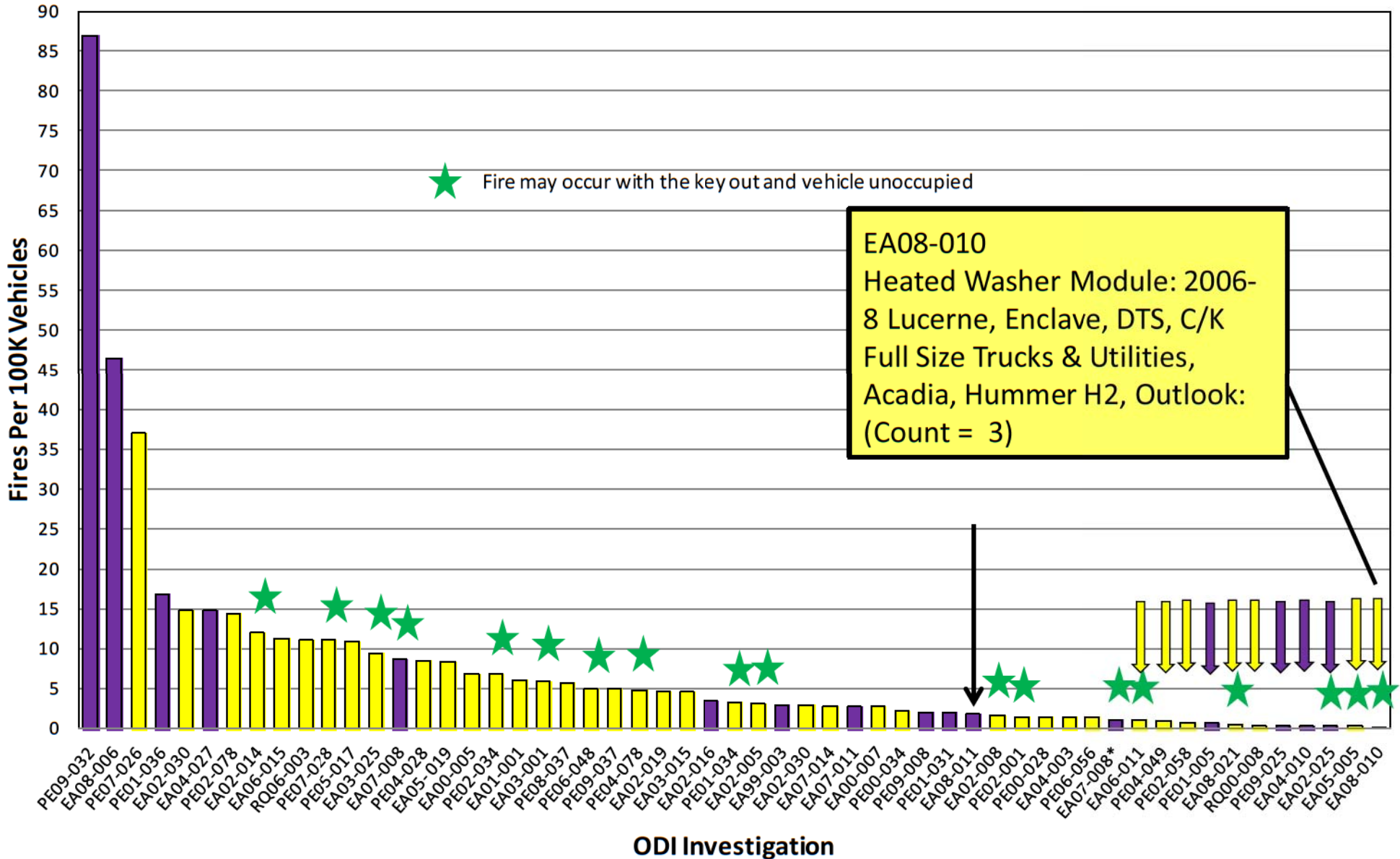




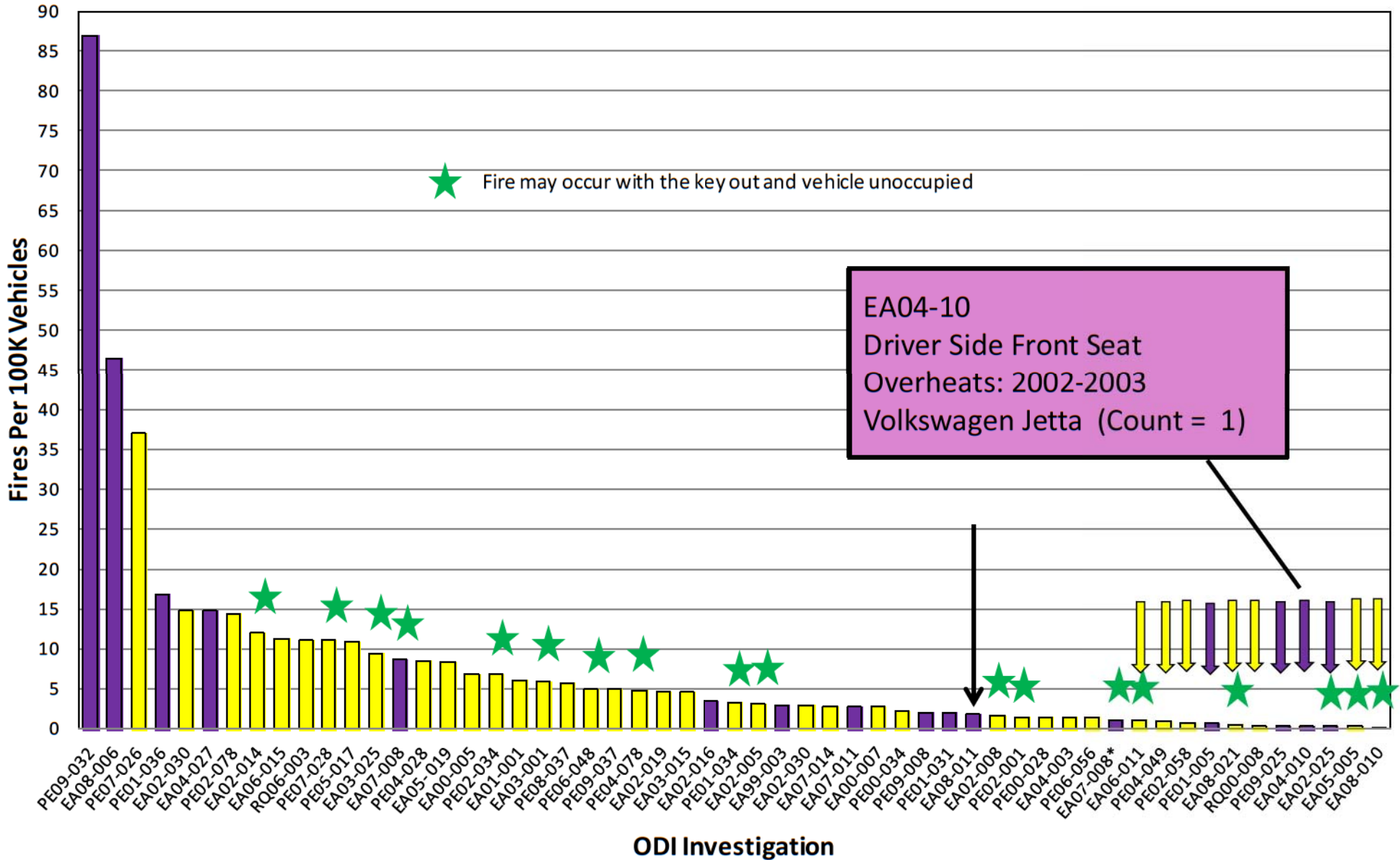
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



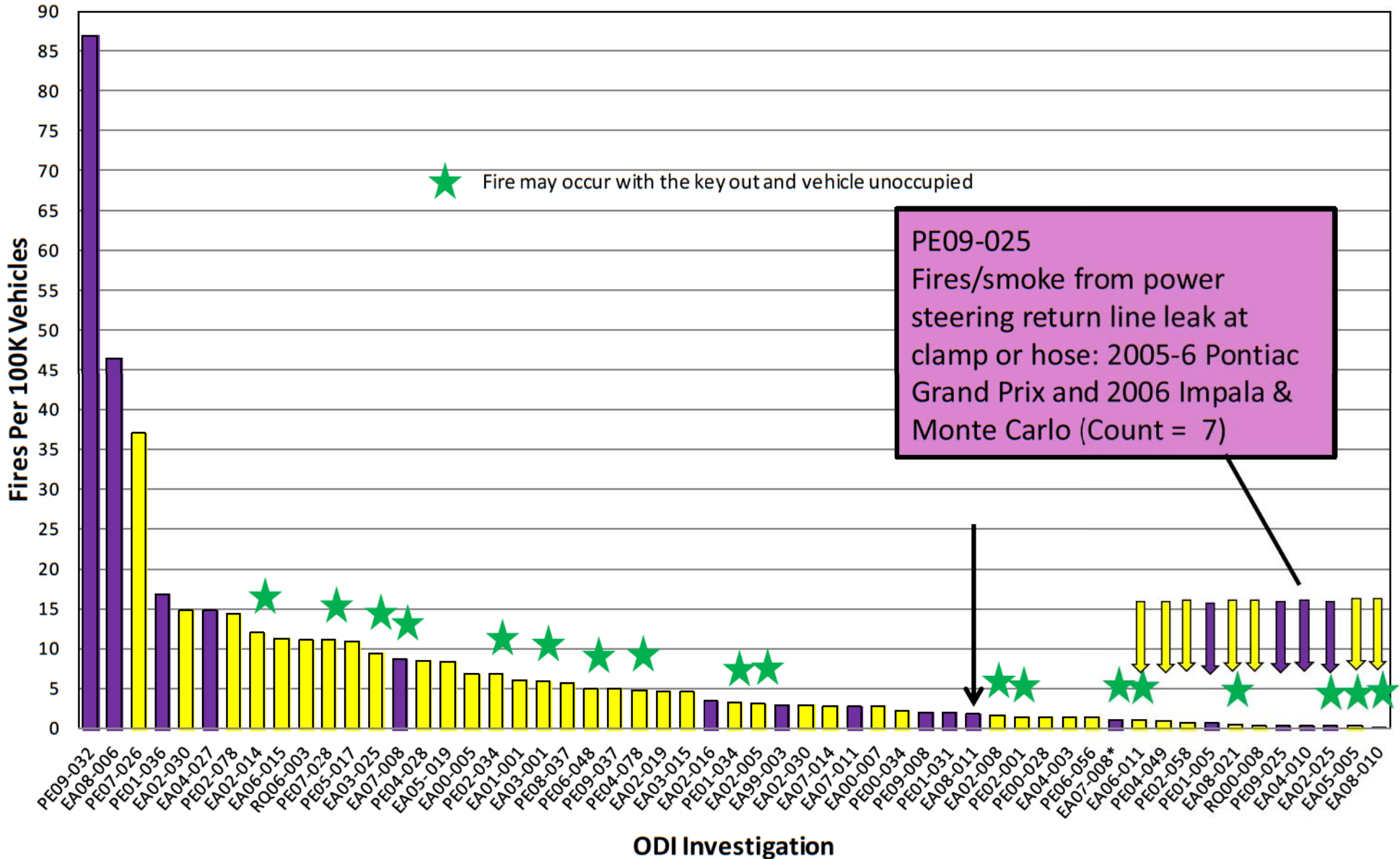
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



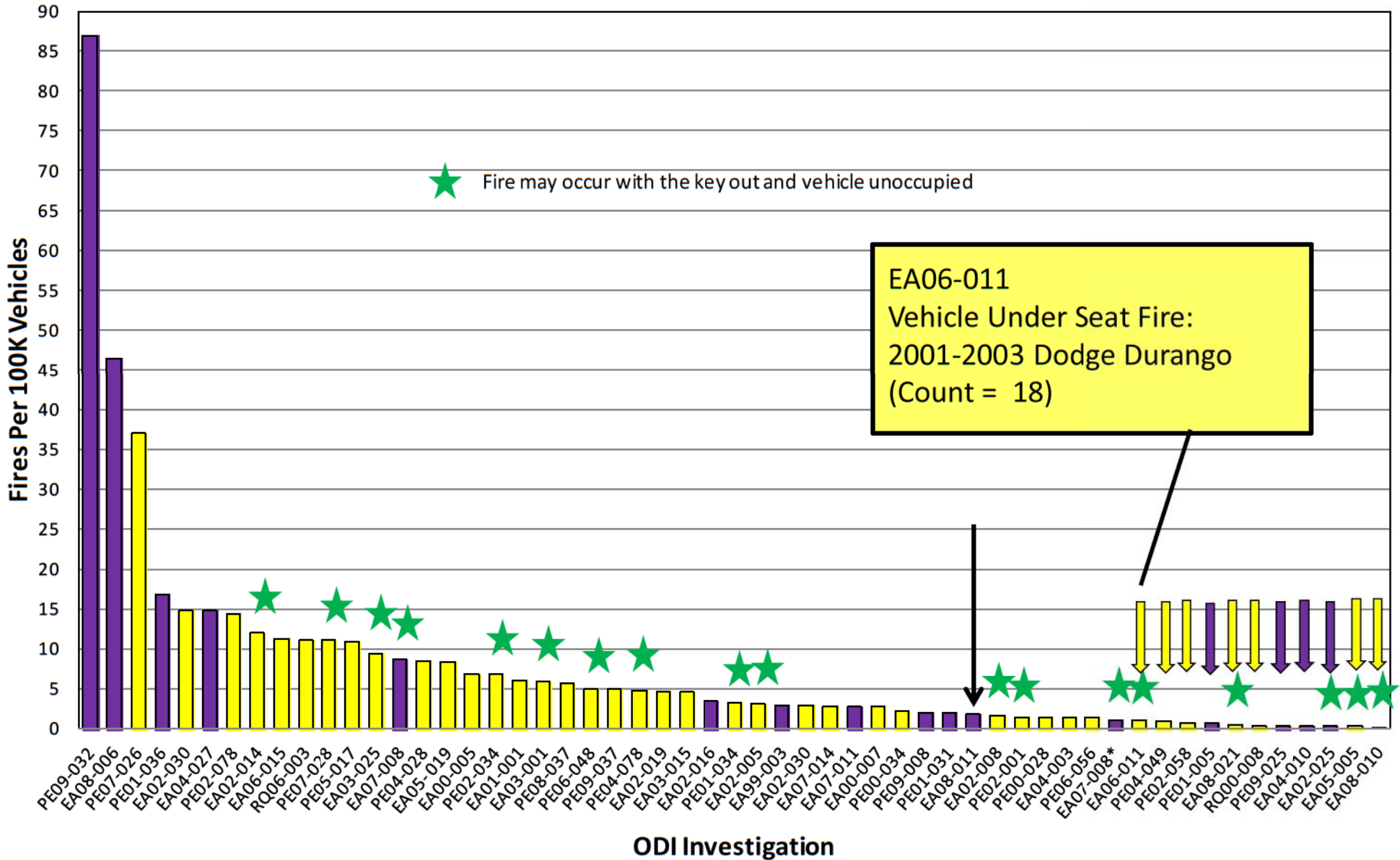
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



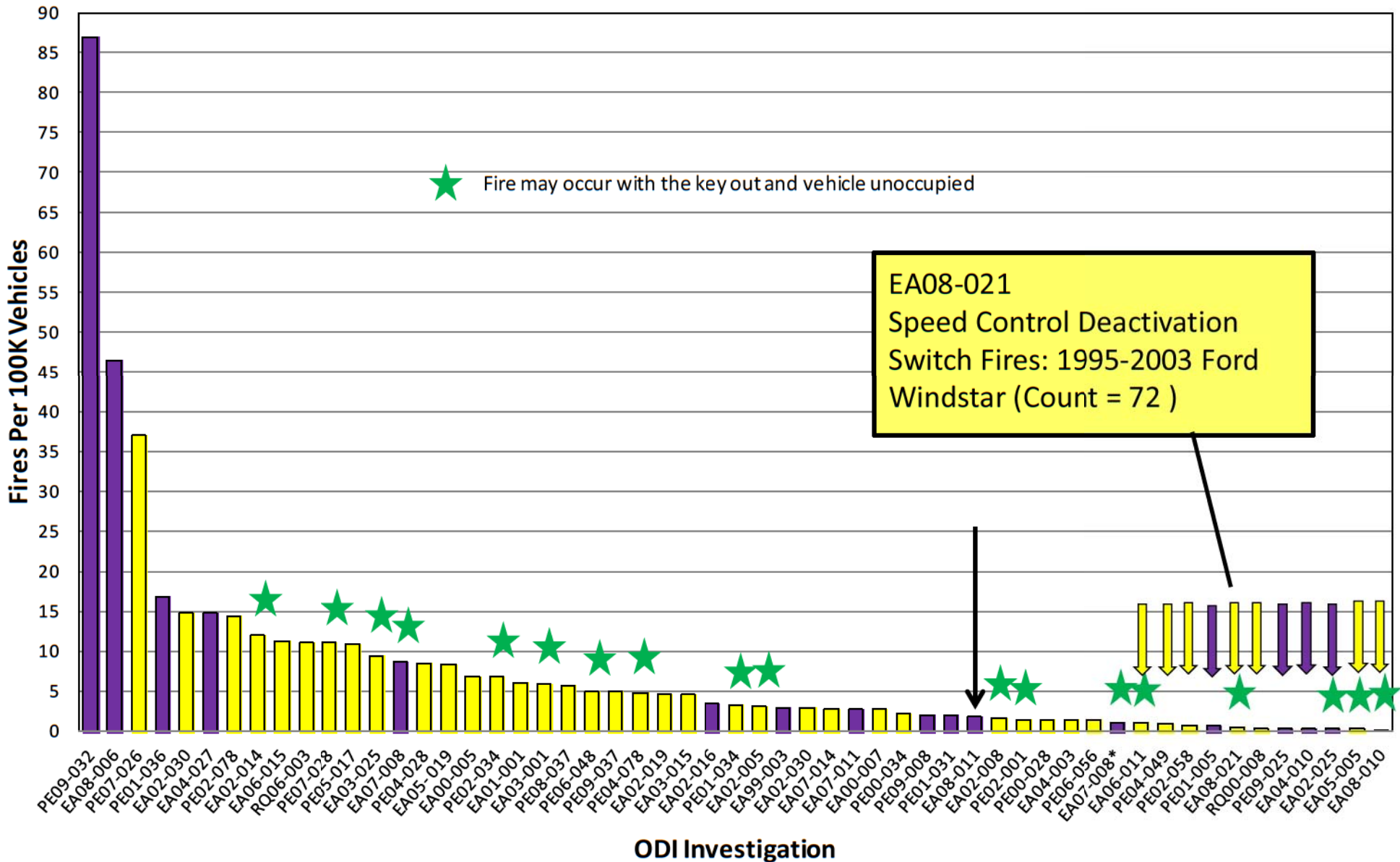
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



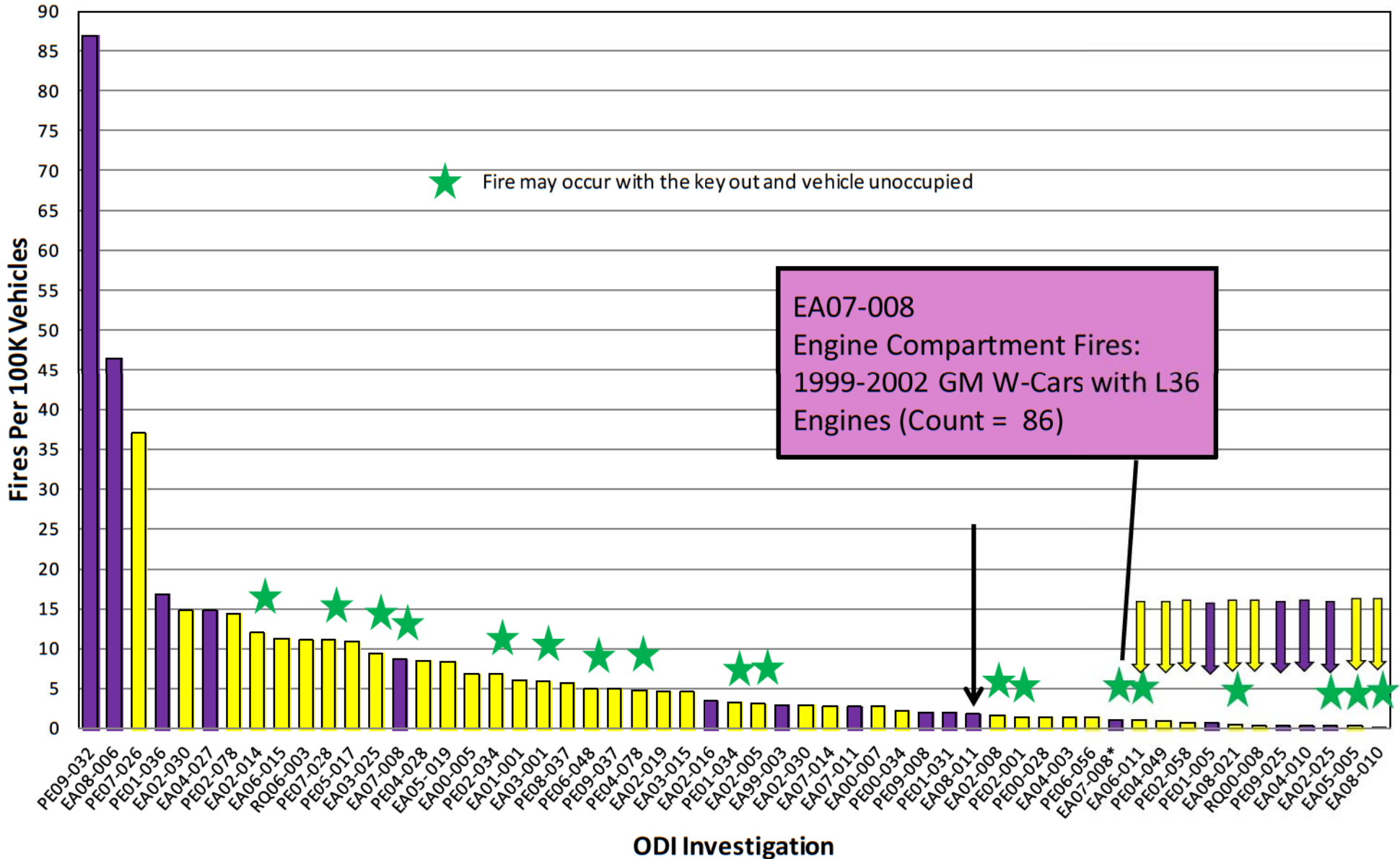
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



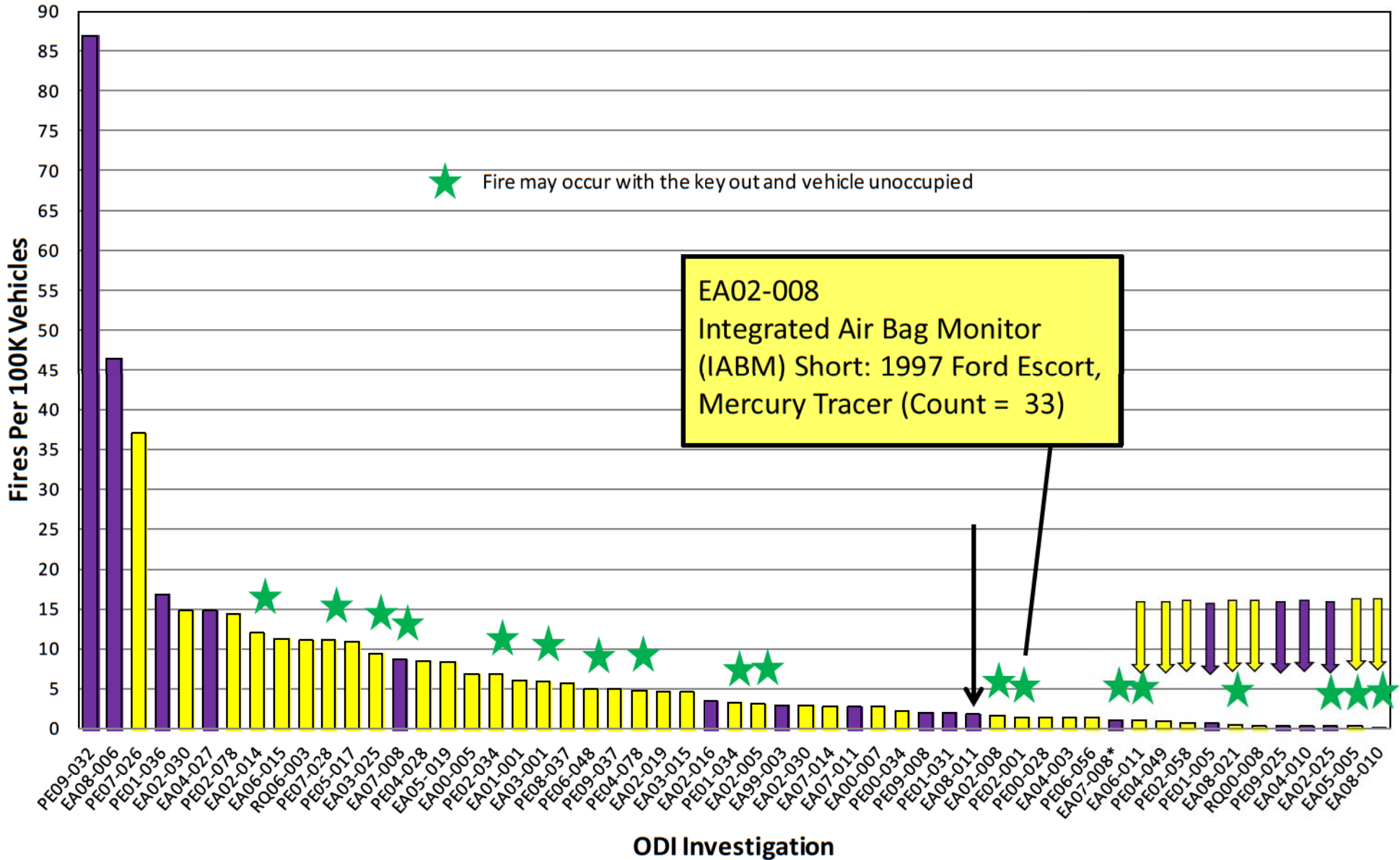
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

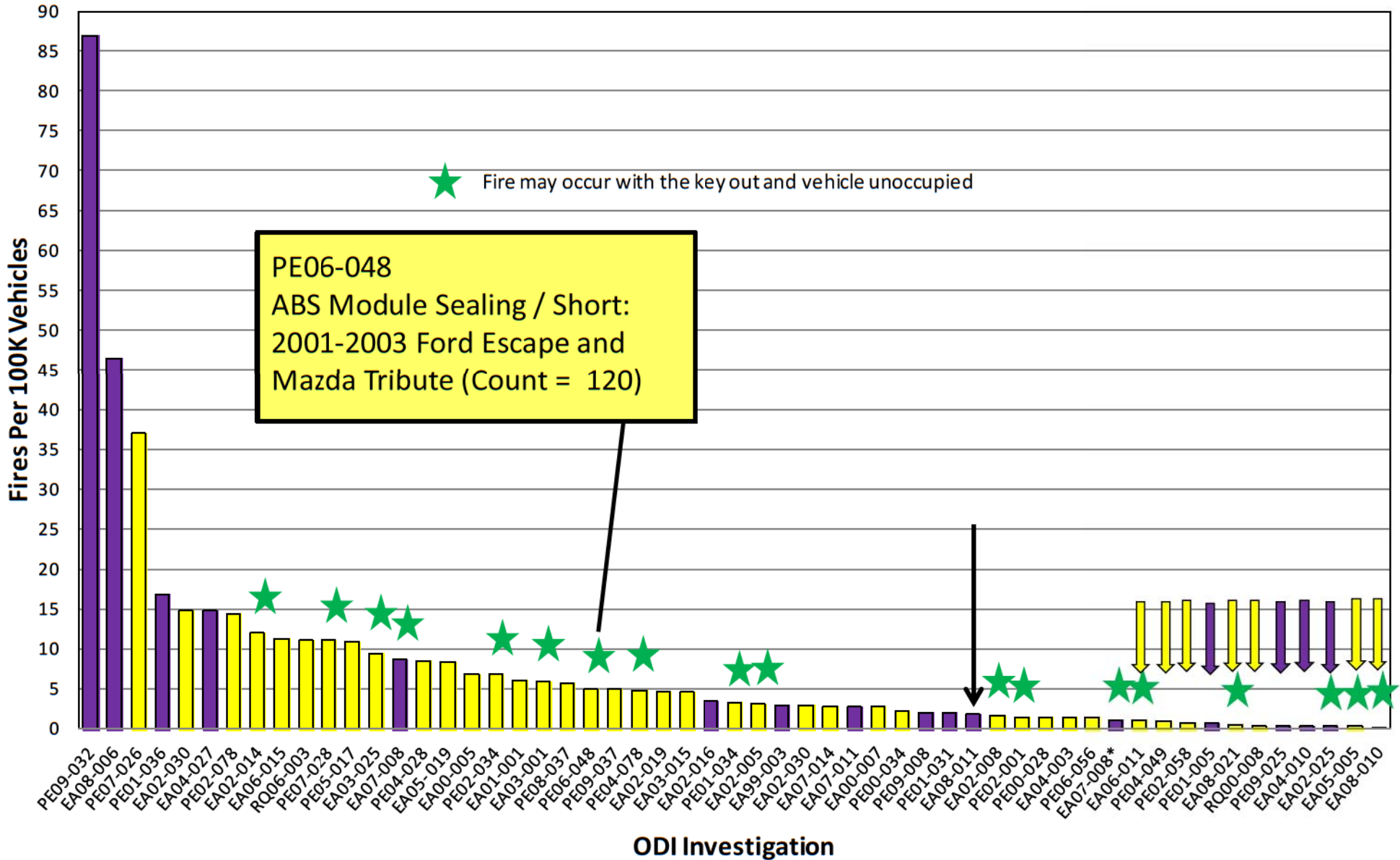


**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**





**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM  
Function TREAD War VOQs  
Update 4-16-12-p

# Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
10,222 SC & 5,147 reimbursement

{ \*\* }

ETQ N110323

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

Problem Description:

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry


Problem Description:

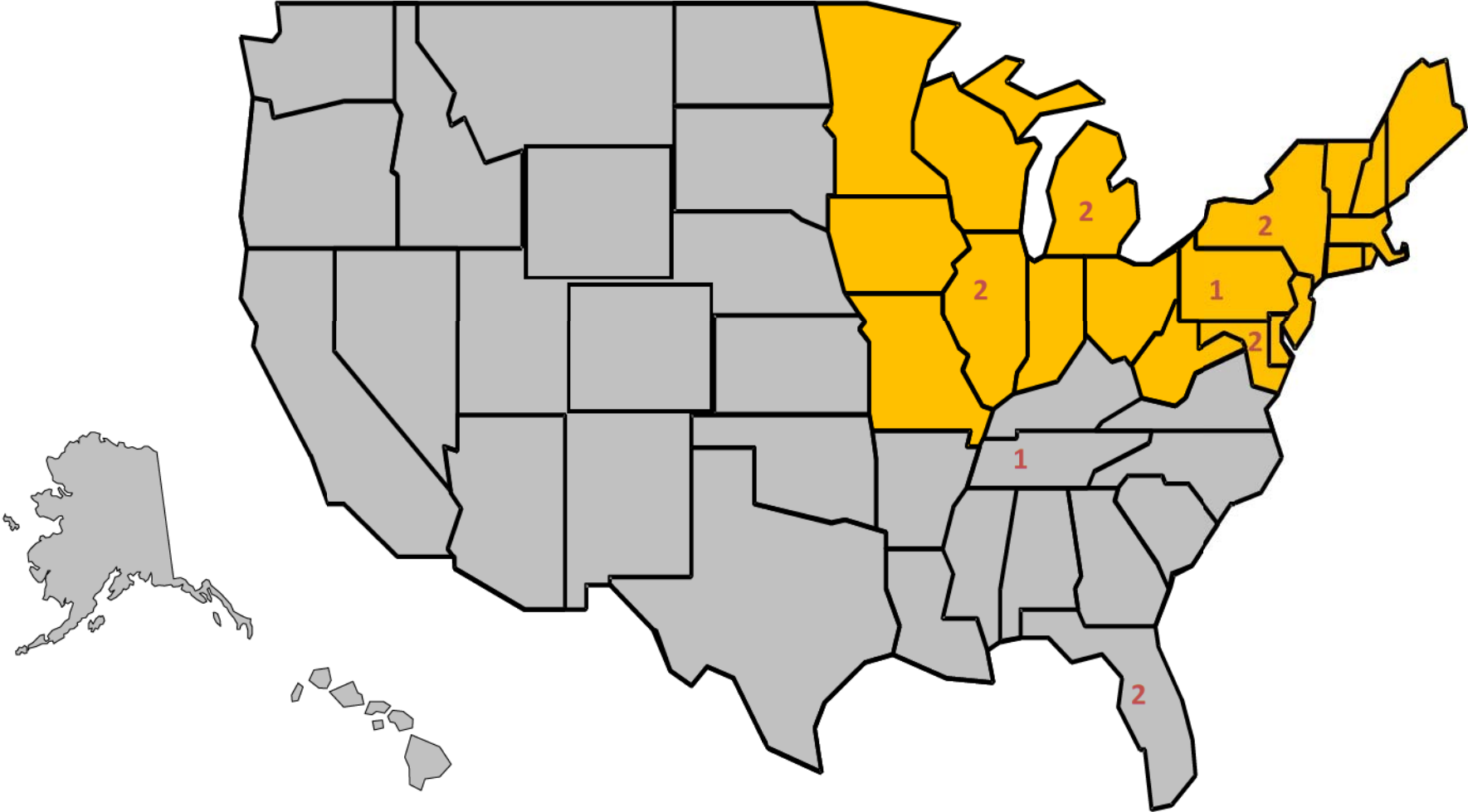
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

 U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>		<b>ODI RESUME</b>	
Investigation:	PE 12-003	Date Opened:	02/09/2012
Investigator:	Emily Reichard	Reviewer:	Scott Yon
Approver:	Frank Borris		
Subject:	Driver's Master Power Window Switch		
MANUFACTURER & PRODUCT INFORMATION			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
ACTION / SUMMARY INFORMATION			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			

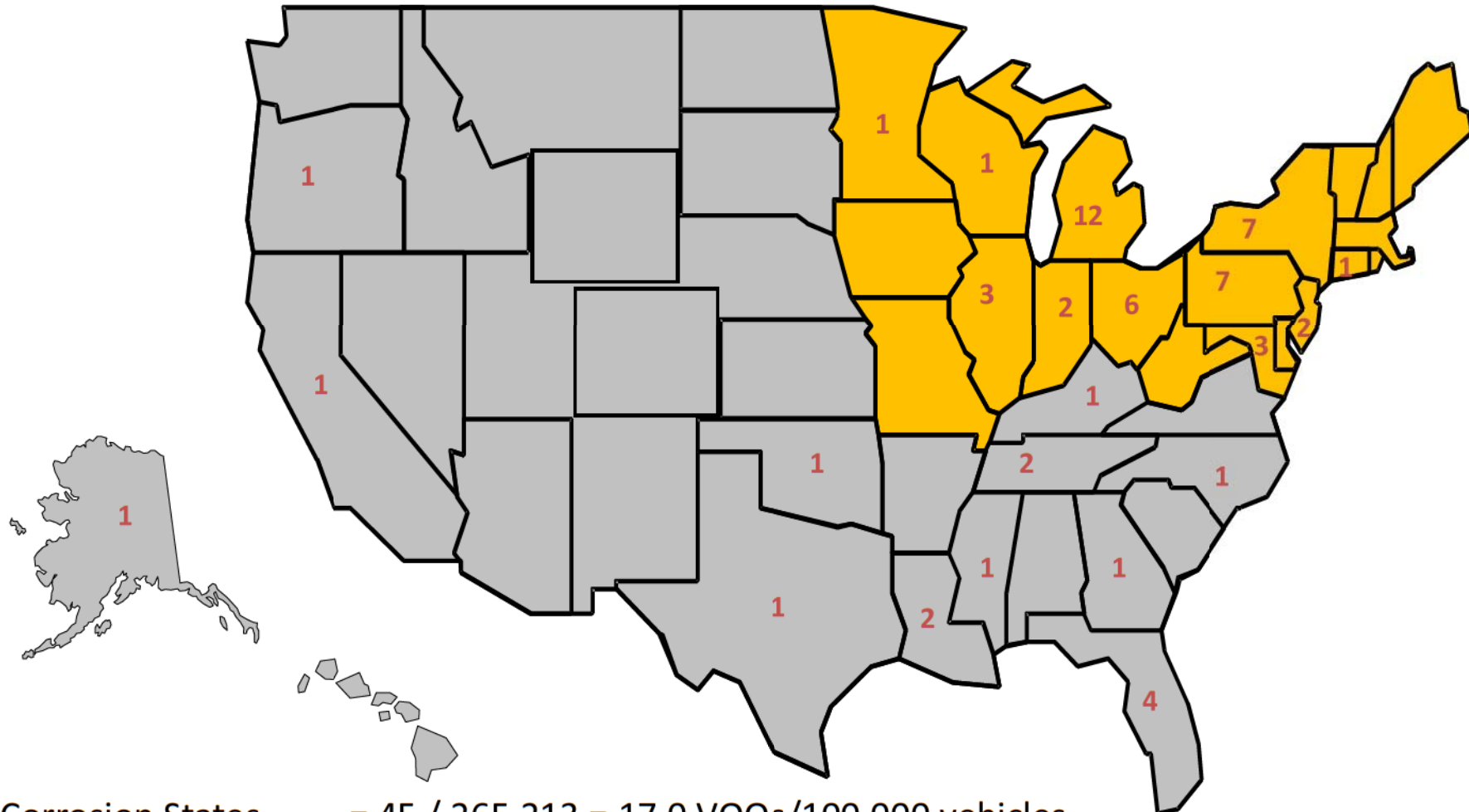
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States



2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
62 VOQs as of 3/19/12

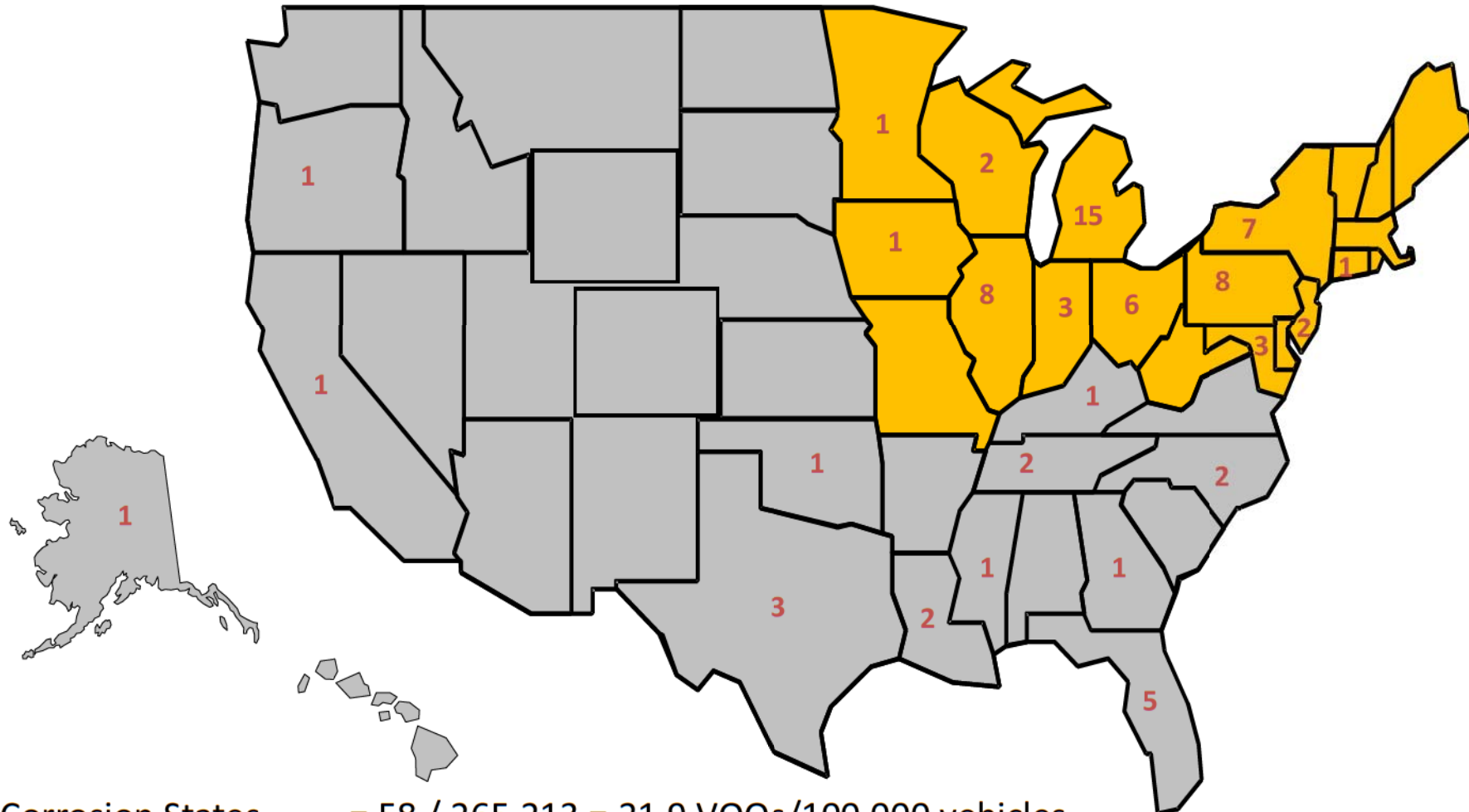
 NHTSA defined Corrosion States



Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles  
Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles

2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
79 VOQs as of 4/16/12

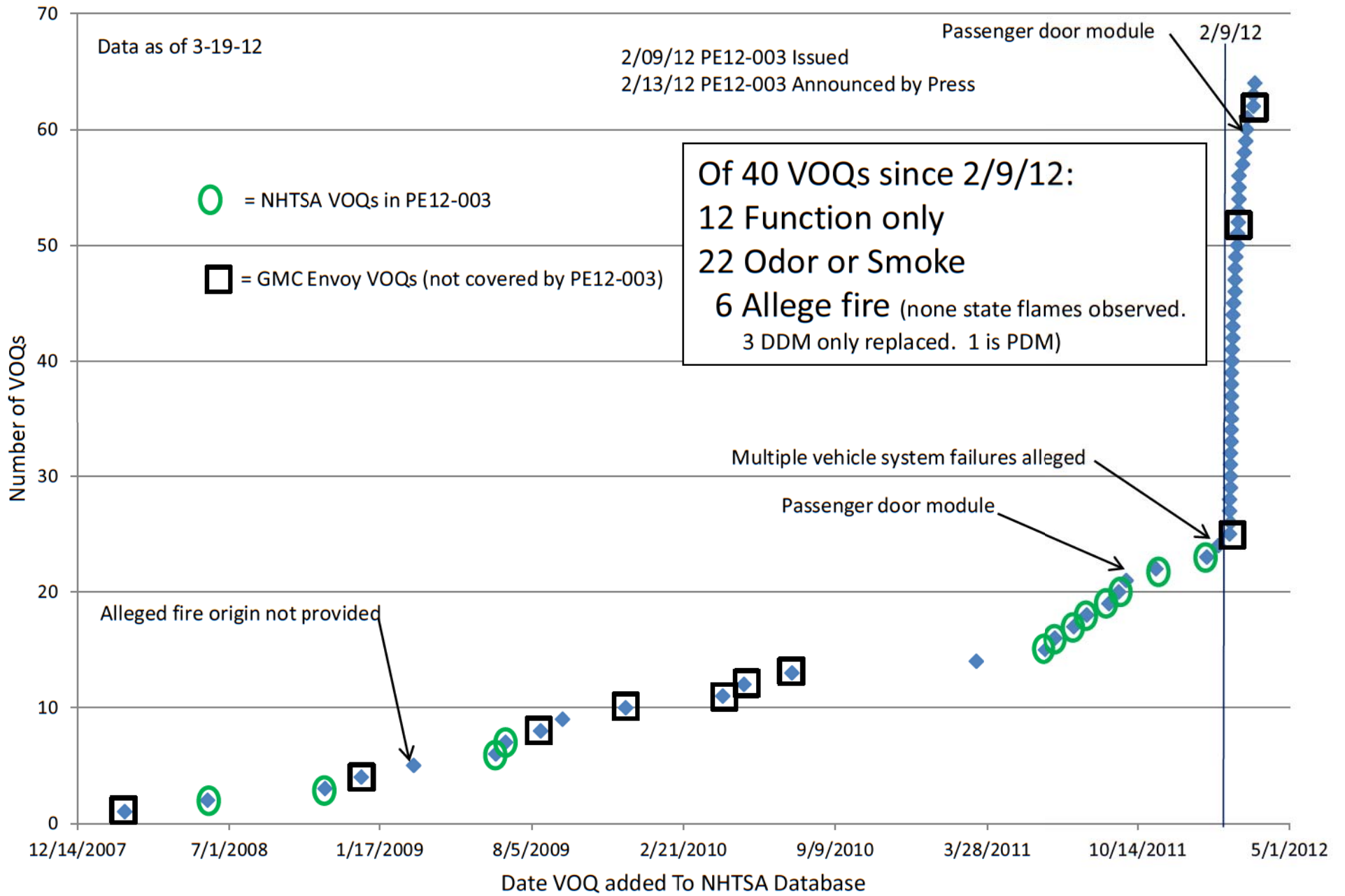
 NHTSA defined Corrosion States



Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles

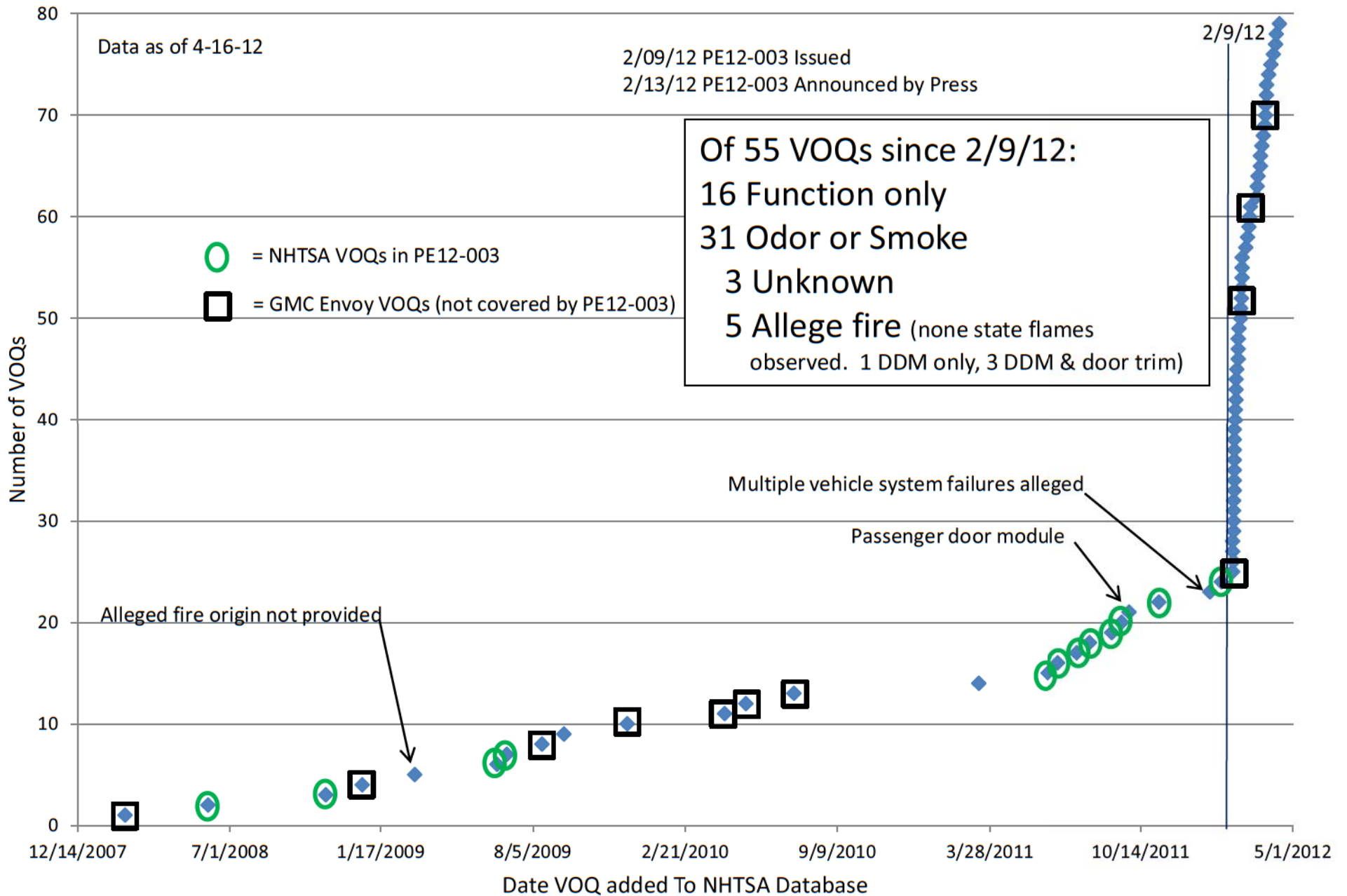
Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles

# 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded

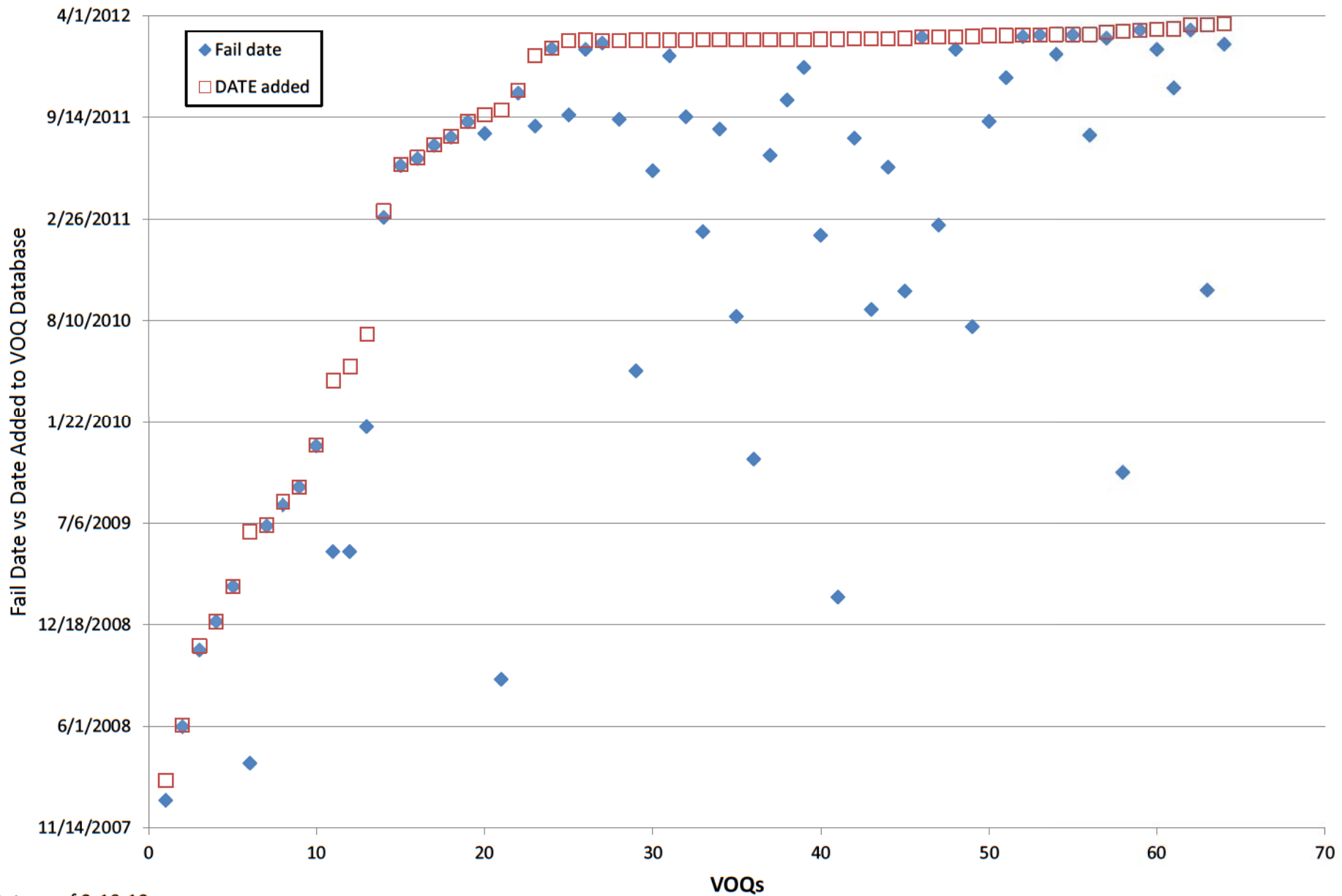




# 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded

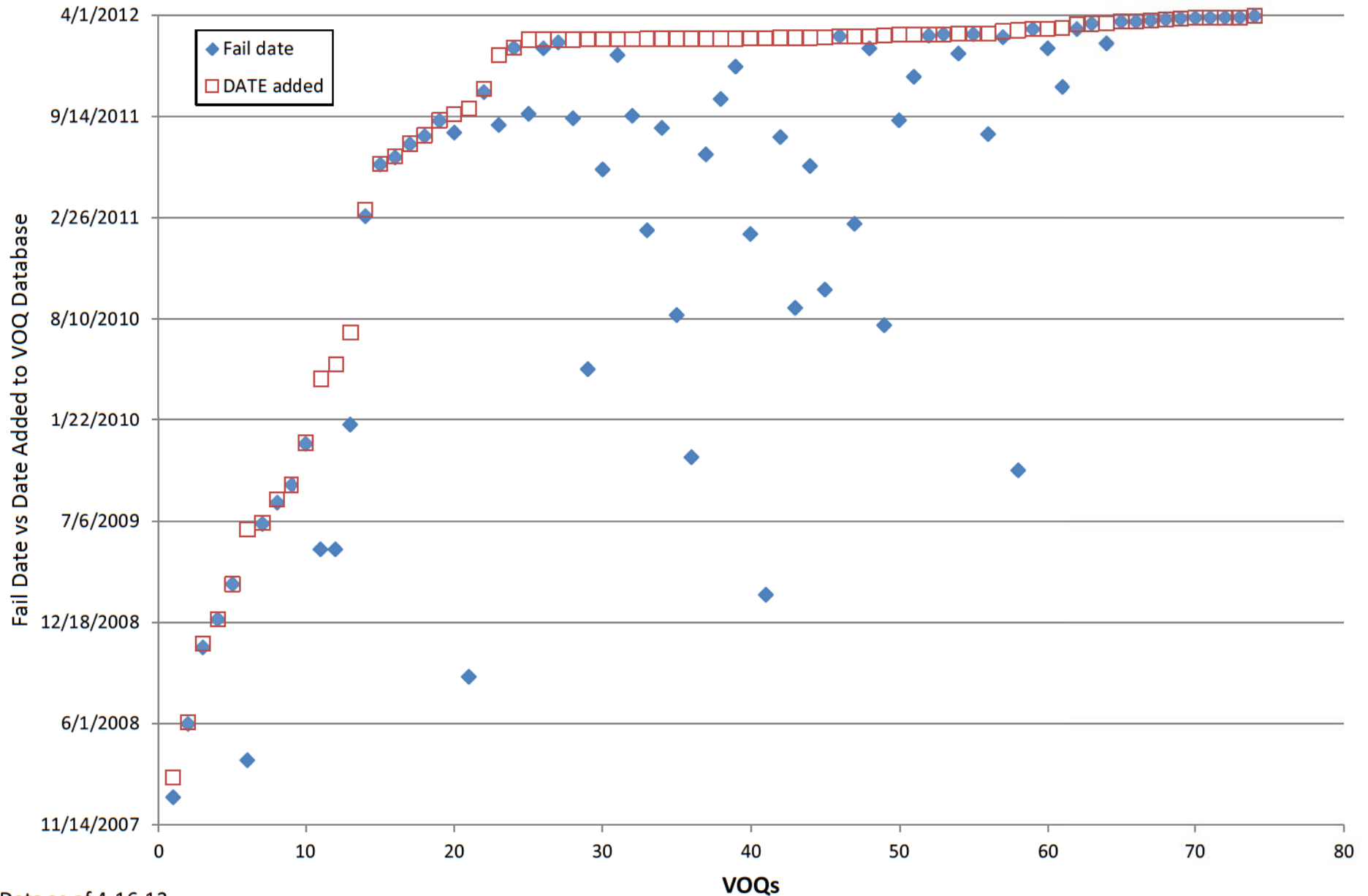


## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 3-19-12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 4-16-12



# 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit

{ \* }



Base Switch Package



Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] - [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.





# Inspections/Investigations

1GKET63M462[REDACTED] - [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit VOQs

**Data 4/16/12**

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege “fire”

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

4 confirmed fires

2 Unknown

13 fire/flame not likely (minor damage)

21 state smoke

17 state odor

21 state function

1 TBD

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6) & 2007 (81.1)

### TREAD search for 2005

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

## TREAD Data summary (fire)

### Data 4/19/12

#### 37\* Claims overall

2006 – 16

2007 – 21

- Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:
  - Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
  - Fire did not occur in 22 cases (11 2006 & 11 2007)

\*No cases known where "fire" extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

7.6/100K

2006 (5.4) & 2007 (11.2)

\*No cases known where “fire” extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

VOQs + TREAD (Data 1/31/12)

**51\* Total** (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

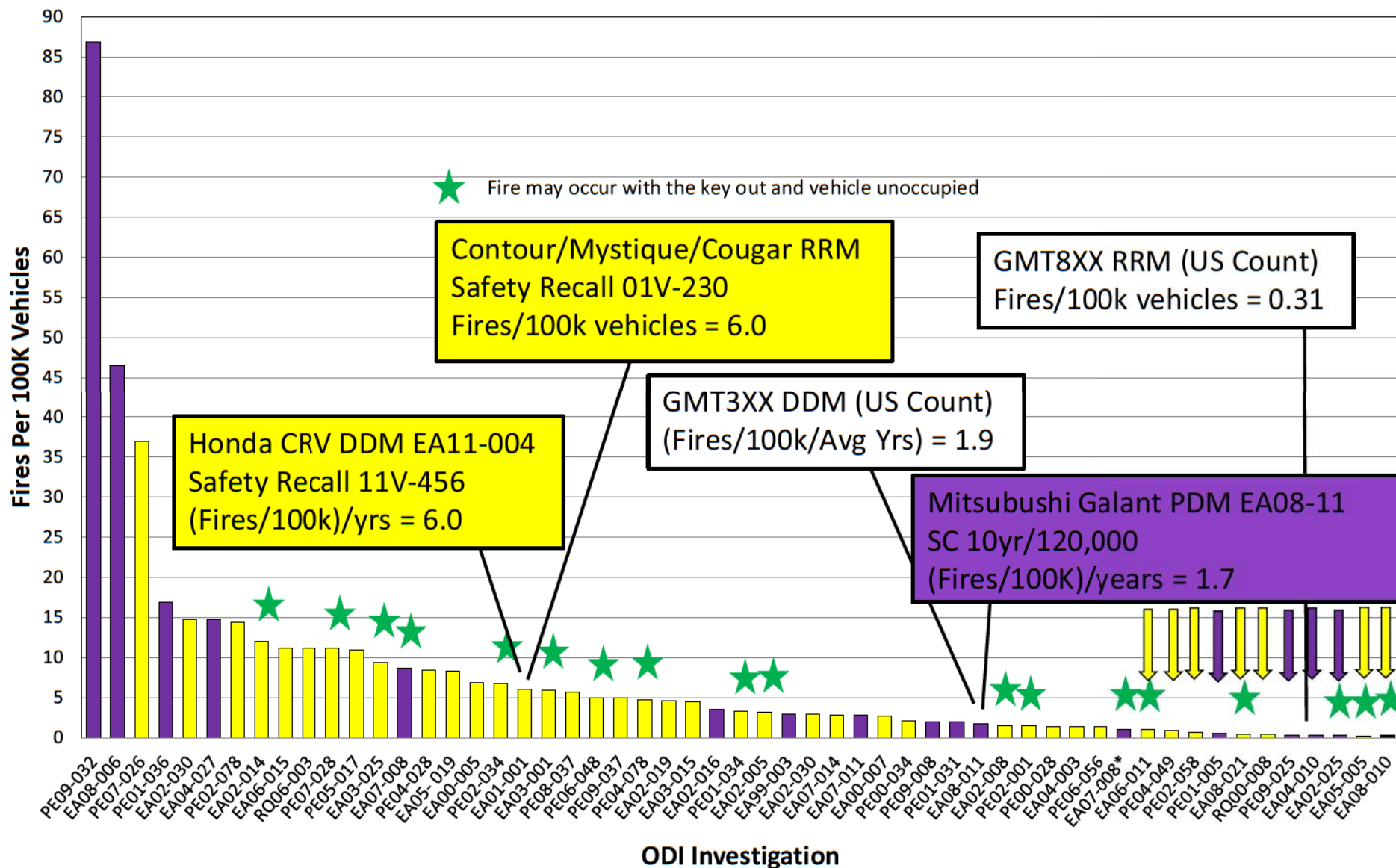
2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

Very few incidents were actual “fires”. Most were odor, melting, or smoke.

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12





# Back-Up

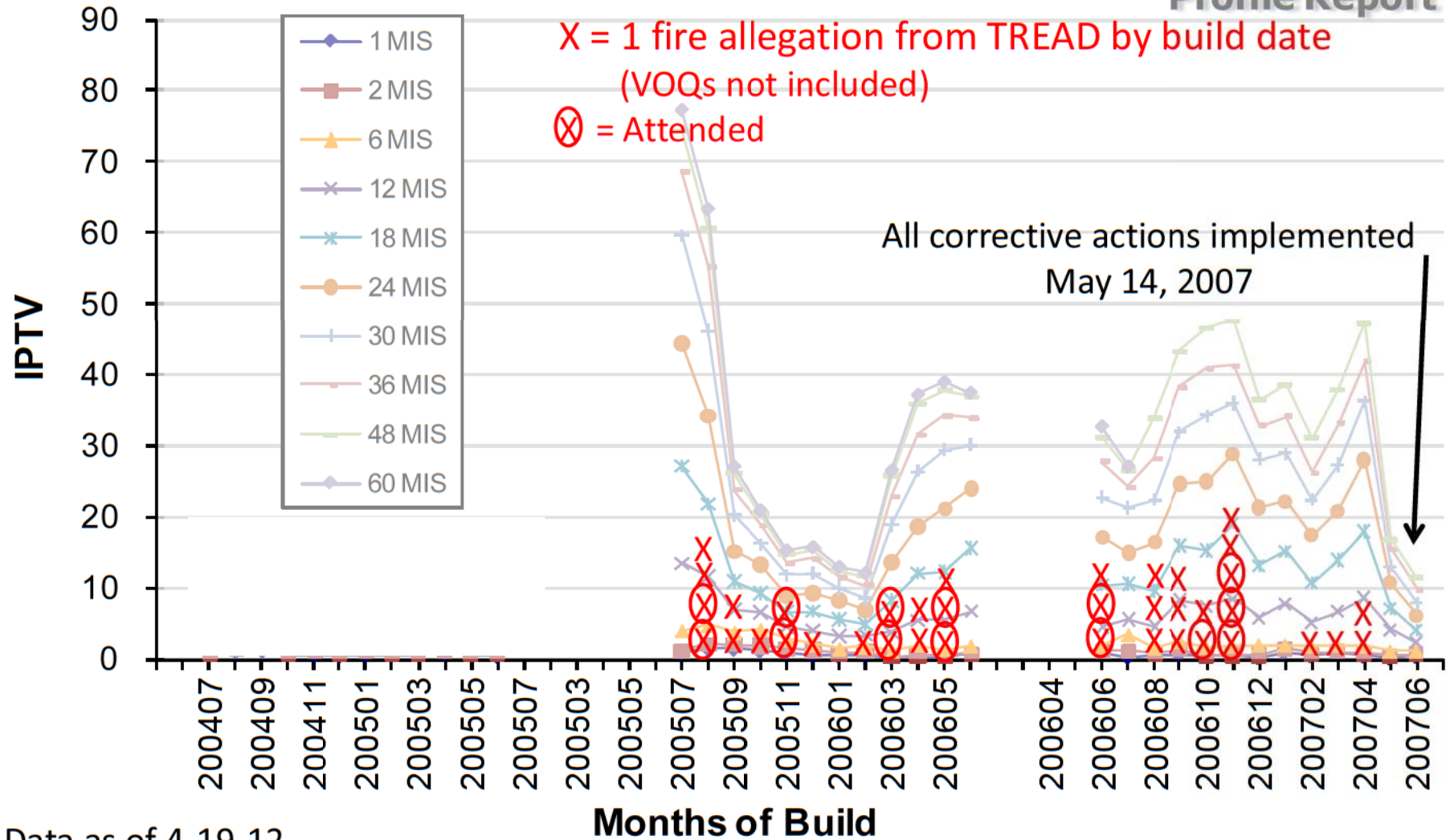


# U.S. Fire Allegations by Build Date

## 2006-2007 GMT360/370 DDM Global Warranty

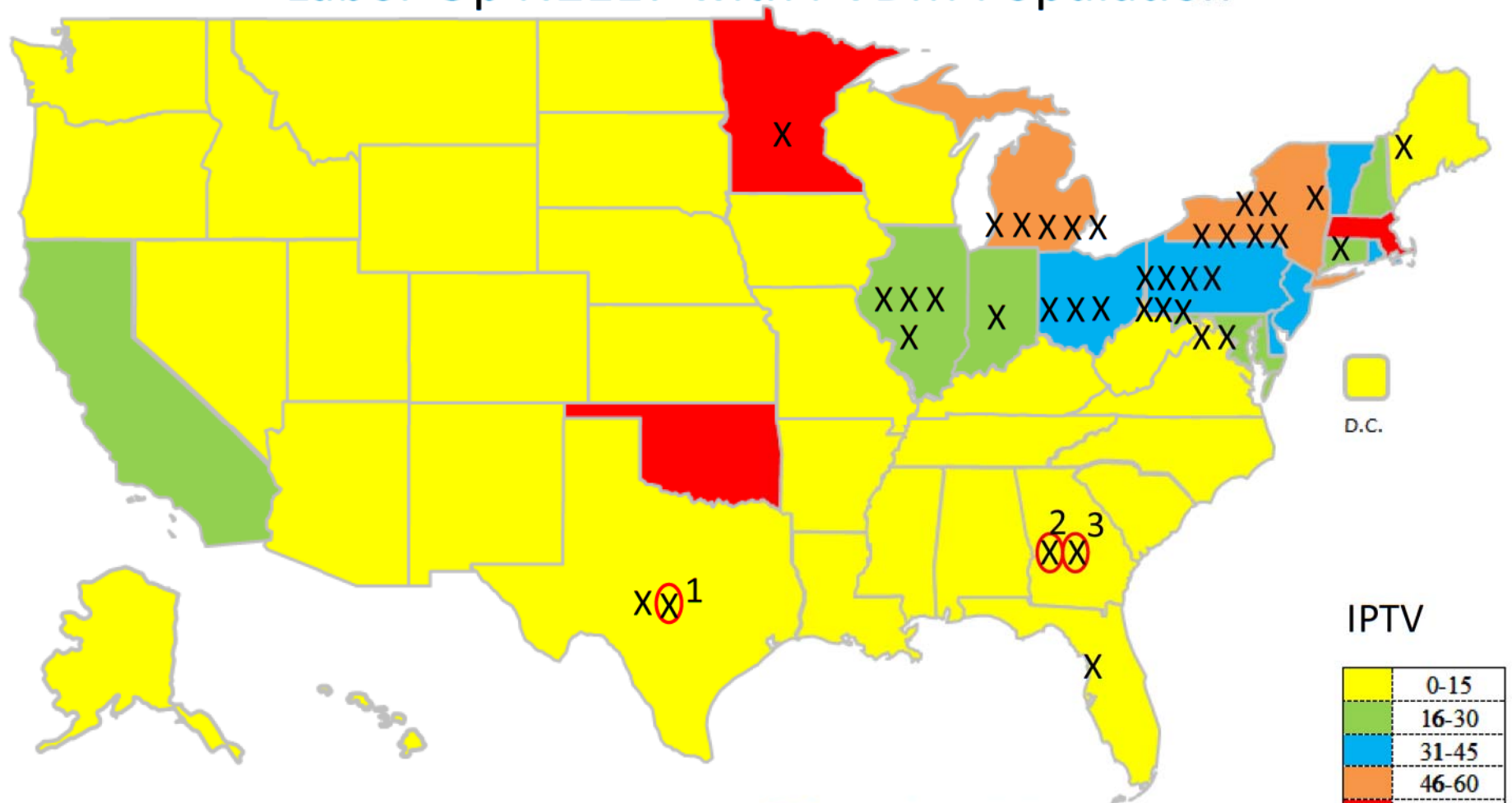
### Labor Ops N2117

**Profile Report**



Data as of 4-19-12

# 2006-2007 GMT360/370 DDM US Warranty Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 4-19-12

122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
Subject:	Driver's Master Power Window Switch		

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	26	29**
Crashes/Fires:	5	26	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0
*Description of Other:			
** Count indicates duplicate reports received by ODI and manufacturer.			

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
Action: Open an Engineering Analysis
<b>Summary:</b> The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.  The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.

# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.



Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaxerj2>

	<b>ODI RESUME</b>		
	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2008 Principal Investigator: Peter Ong Subject: Passenger Door Fire	Date Closed: 08/21/2009	
Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean Products: 2001 - 2003 Mitsubishi Galant Population: 292,945			
Problem Description: A fire occurs in the front passenger door panel.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	307	307
*Description of Other: Warranty claims related to passenger switch failures.			
Action: Close this Engineering Analysis.			
By: <i>Peter Ong</i>  Title: Chief, D. Scott Yen Office Dir: <i>Kathleen C. DeMeter</i>	Date: 08/21/2009 Date: 08/21/2009 Date: 08/21/2009		
<b>Summary:</b> In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.			
The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.			
(Continued on page two)			

**Summary:**  
 In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.





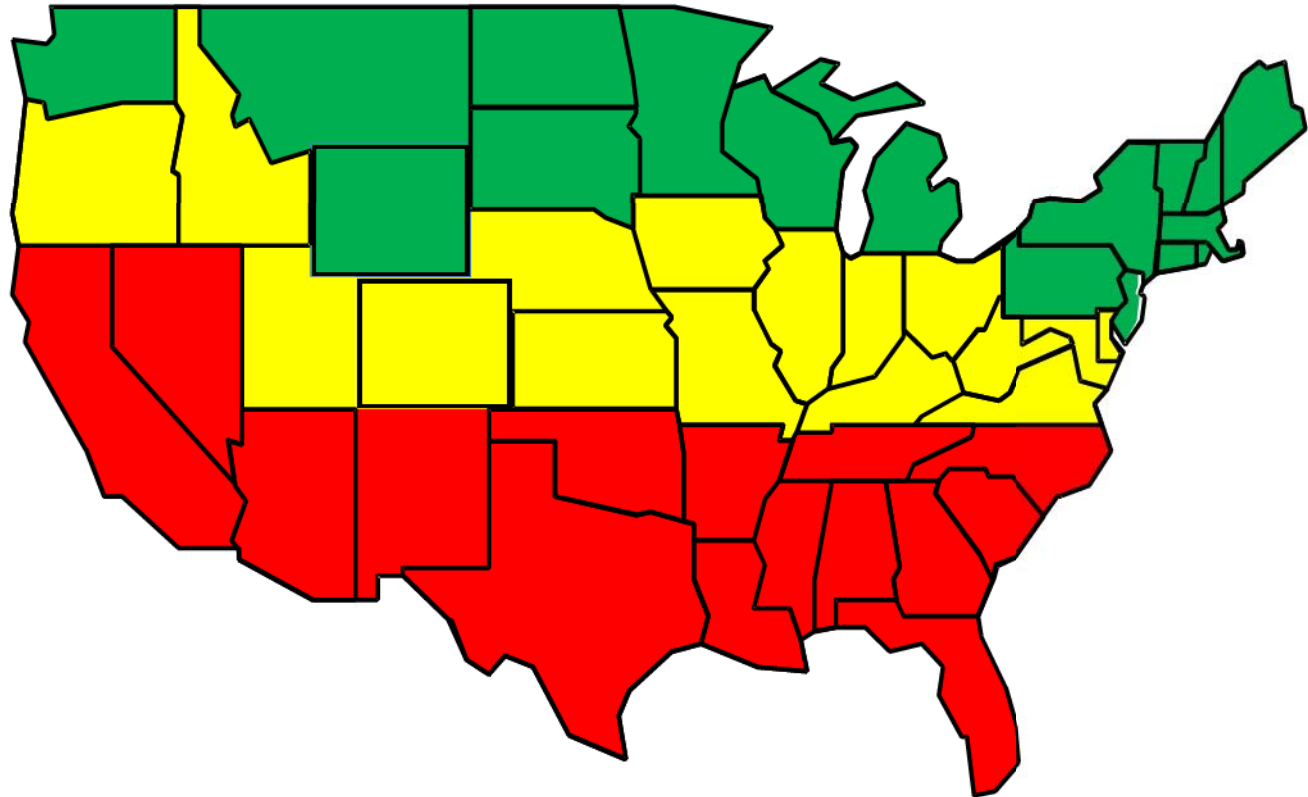
# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

## Hot, Moderate, and Cool States

Hot States: AL, AZ, AR, CA, FL, GA, HI, LA, MS, NC, NM, NV, OK, SC, TN, TX  
Moderate States: CO, DC, DE, IA, ID, IL, IN, KS, KY, MD, MO, NE, OH, OR, UT, VA, WV, WY  
Cool States: AK, CT, MA, ME, MI, MN, MT, ND, NH, NJ, NY, PA, RI, SD, VT, WA, WI

















# 2006 Honda CRV DDM

## **Honda Recalling Almost One Million Fit, CR-V and CR-Z Models**

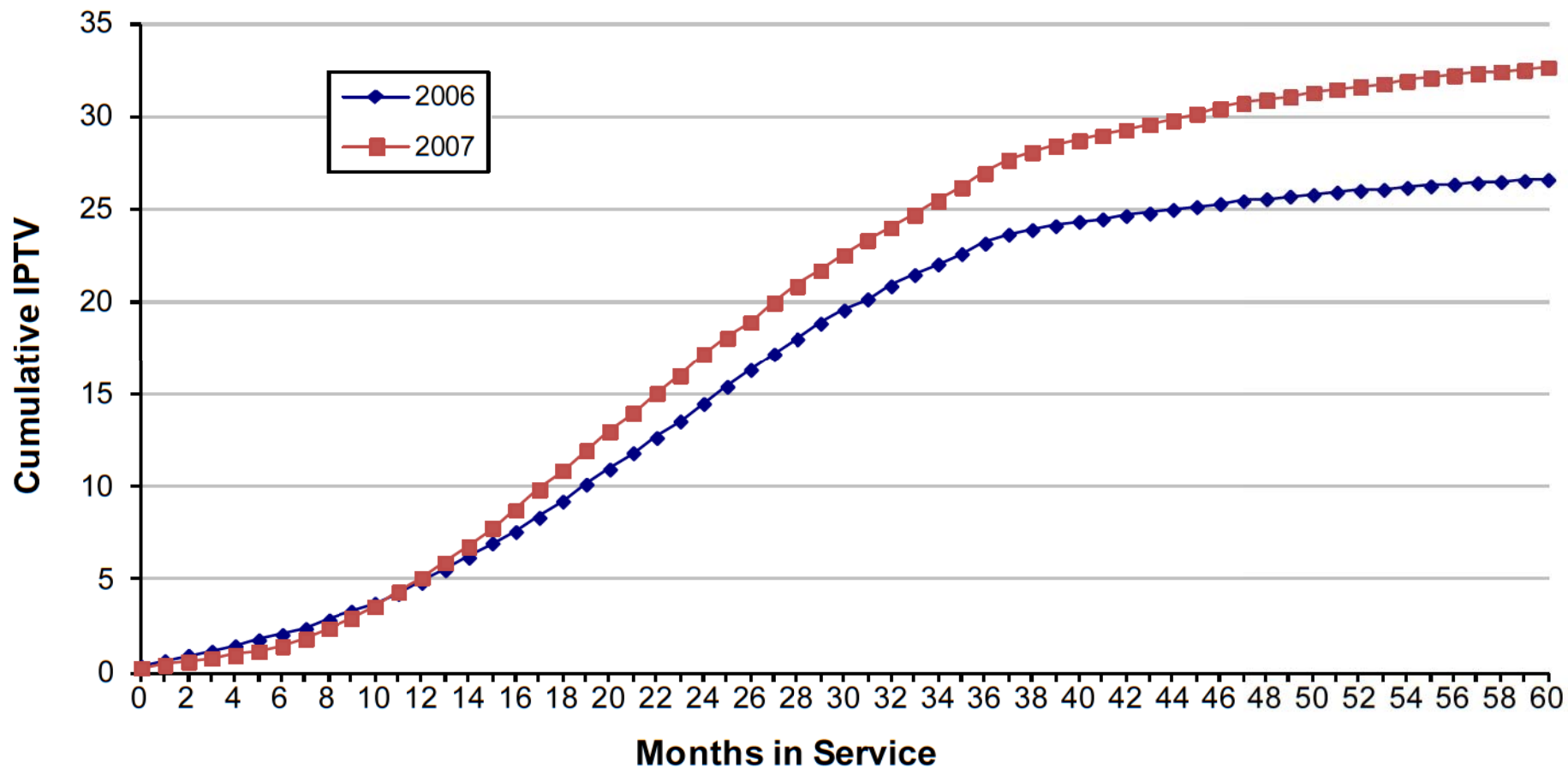
09/06/2011 | By: Huw Evans (Autoguide.com)

As a result of identifying problems with power window switches, Honda Motor Co. has announced it is recalling some 960,000 vehicles worldwide.

The recall is mostly related to 2006 to early 2010 Fit subcompacts (totaling almost 800,000). **In addition, in the U.S., the company is also recalling some 80,111 CR-Vs from the 2006 model year for similar problems.** The recall is a result of potential problems such as fire hazards that could result from faulty electrical contacts in the switches.



# 2006-2007 GMT360/370 DDM N.A. Warranty Labor Ops N2117



Data as of 4-29-11

# 2006-7 GMT360/370

## 16,452 Door Module Claims as of 4/29/12

### Labor Codes (N2117)

Cust. Codes	Problem Description	Cases	%	IPTV
1-OJ	INOPERATIVE	12,125	74	21.39
0-0590	Features/Controls/Displays - Other issues	1,031	6	1.82
1-OL	INTERMITTENT	820	5	1.45
0-0524	Features/Controls/Displays - Locks/Keys/Keyless Remote	642	4	1.13
0-0890	Interior - Other issues	367	2	0.65
0-0490	Exterior - Other issues	128	1	0.23
1-O7	WON'T MAINTAIN ADJUST	115	1	0.20
1-OA	BINDS	100	1	0.18
1-MJ	CUSTOMER SATISFACTION	77	0	0.14
1-V3	SMOKE/STEAM	75	0	0.13
1-OF	ENGAGE/DISENGAGE	67	0	0.12
1-ON	LOOSE	65	0	0.11
1-NQ	RATTLE	57	0	0.10
1-PN	WILL NOT START	55	0	0.10
1-OP	ODOR	49	0	0.09
1-OI	FUMES	5	0	0.01
1-PK	OVERHEATING	3	0	0.01

All complaint  
codes not shown

# 2006-7 GMT360/370

## 16,452 Door Module Claims as of 4/29/12

### Labor Codes (N2117)

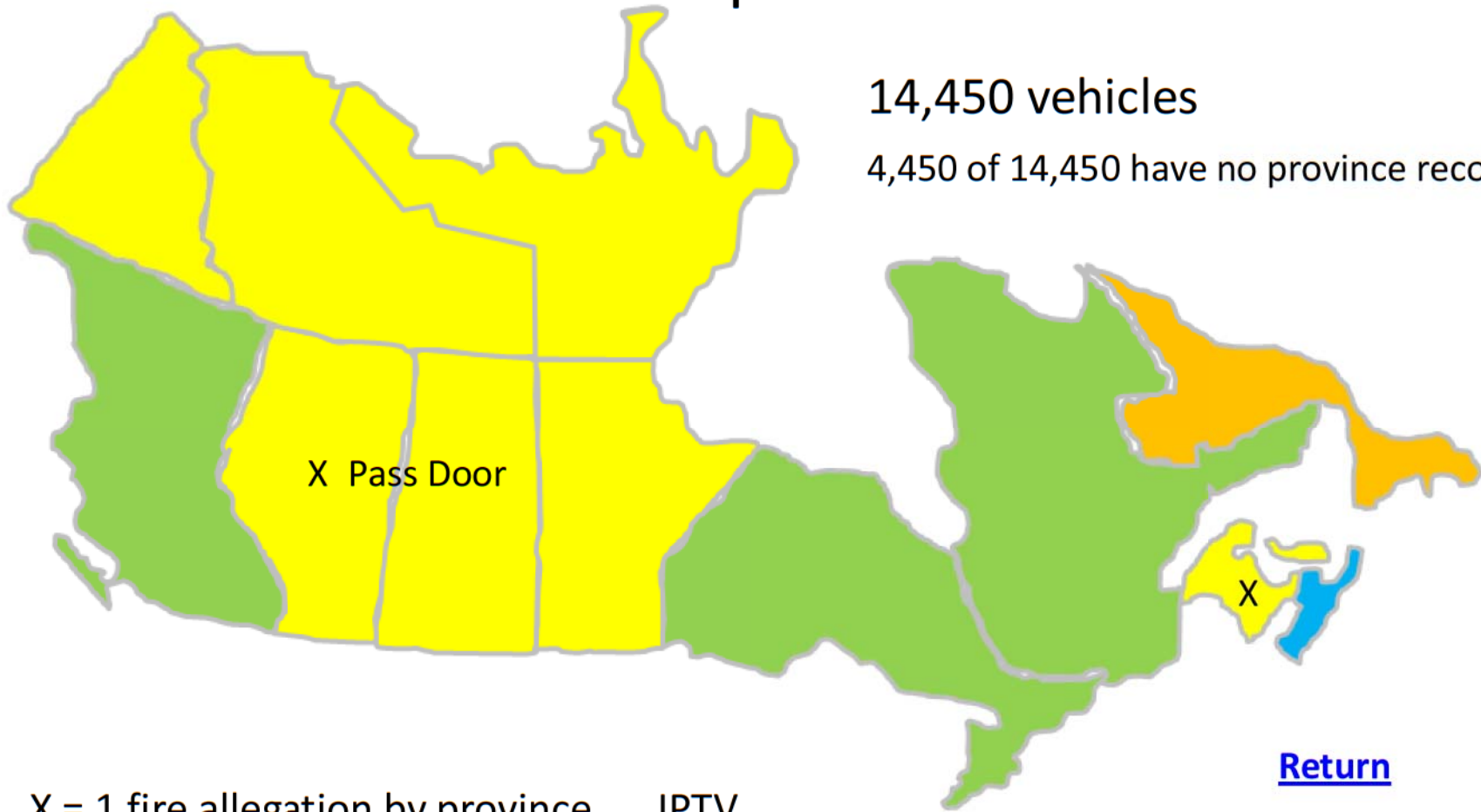
<b>Trouble Code</b>	<b>Problem Description</b>	<b>Cases</b>	<b>%</b>	<b>IPTV</b>
1-6C	COMPONENT-INOPERATIVE	5,483	33	9.67
1-6G	COMPONENT-SHORTED	3,688	22	6.51
1-OB	OBDII Code used	1,820	11	3.21
0-6579	Module/Component-Shorted	1,284	8	2.27
1-6F	COMPONENT-OPEN	1,215	7	2.14
1-6D	COMPONENT-INTERMITTENT	629	4	1.11
0-6573	Module/Component-No/Incorrect Communication	386	2	0.68
0-7079	Wiring/Electrical/Sensors-Shorted	223	1	0.39
1-3L	OUT OF CALIBRATION	202	1	0.36
1-1E	BURNED	185	1	0.33
1-1D	BROKEN	101	1	0.18
1-98	CUSTOMER SATISFACTION	87	1	0.15
1-2W	LOOSE	81	0	0.14
0-6581	Module/Component-Registers Incorrectly	67	0	0.12
0-7073	Wiring/Electrical/Sensors-No/Incorrect Communication	66	0	0.12
0-6017	Module/Component-Broken	60	0	0.11
1-93	TECHNICAL SERVICE BULLETIN	56	0	0.10
1-3X	REGISTERS INCORRECTLY	52	0	0.09
1-7W	ELECTRICAL INTERFERENCE	52	0	0.09
0-6583	Module/Component-Poor Contact	47	0	0.08
1-3A	MISADJUSTED/MISALIGNED	42	0	0.07
1-4X	WORN	33	0	0.06
1-1H	CLOGGED/RESTRICTED/BLOCKED	29	0	0.05
1-7L	WIRE-CUT/BROKEN/OPEN	25	0	0.04
1-6J	CONNECTOR-CORRODED	7	0	0.01
1-7G	WIRE-BURNED-EXTERNAL HEAT	7	0	0.01
1-7H	WIRE BURNED-INTERNAL HEAT	7	0	0.01

All Trouble Codes not shown

# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record




X = 1 fire allegation by province IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Data as of 4-29-12

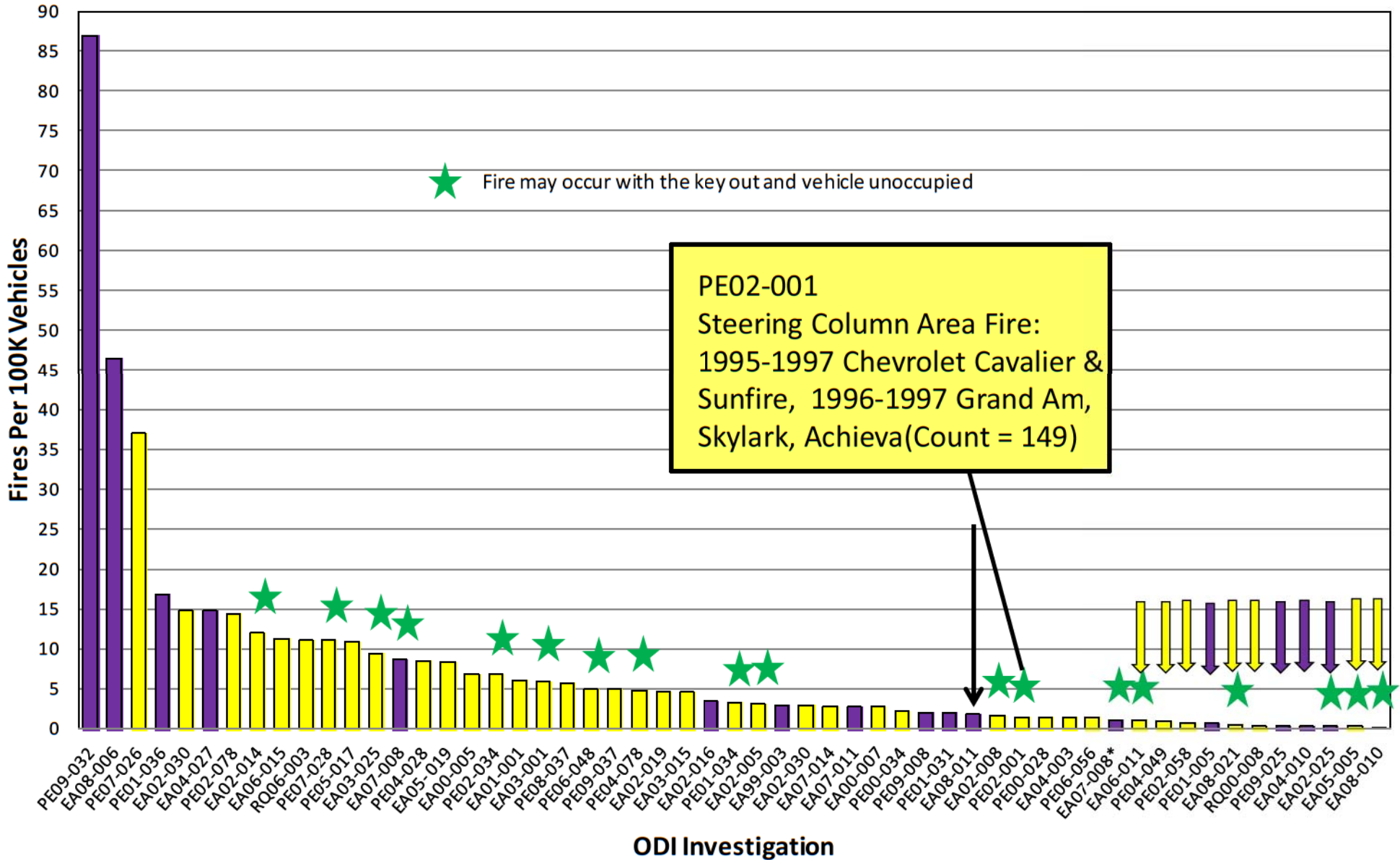
**From N100240 2003-07 GMT800 HVAC Blower Motor Relay Resistor Module**

		<h1>ODI RESUME</h1>	
INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: <i>David Langjahr</i>		DATE OPENED: 1-5-01 DATE CLOSED: <u>31-JUL-01</u>	
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: 1996-1999 VEHICLE POPULATION: <u>Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430</u>			
PROBLEM DESCRIPTION: The speed control <u>resistor assembly for the heater blower may overheat and start a fire.</u> Also, failure of the blower switch causes loss of one or more blower speeds.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	MANUFACTURER	TOTAL
COMPLAINTS:	68**	approx. 2,600*	approx. 2,700*
FIRES:	<b>4</b>	89	<b>93</b>
INJ FIRES:	0	0	0
# INJURIES:	0	0	0
FAT FIRES:	0	0	0
#FATALS:	0	0	0
LAWSUITS:	0	9	9
OTHER:	0	approx. 13,000*	approx. 13,000*
DESCRIPTION OF OTHER: WARRANTY CLAIMS			
ACTION: This Engineering Evaluation is closed. On July 9, 2001, Ford notified NHTSA of its intent to conduct a Safety Recall #01V-230 (Ford #01S22).			

GM CONFIDENTIAL

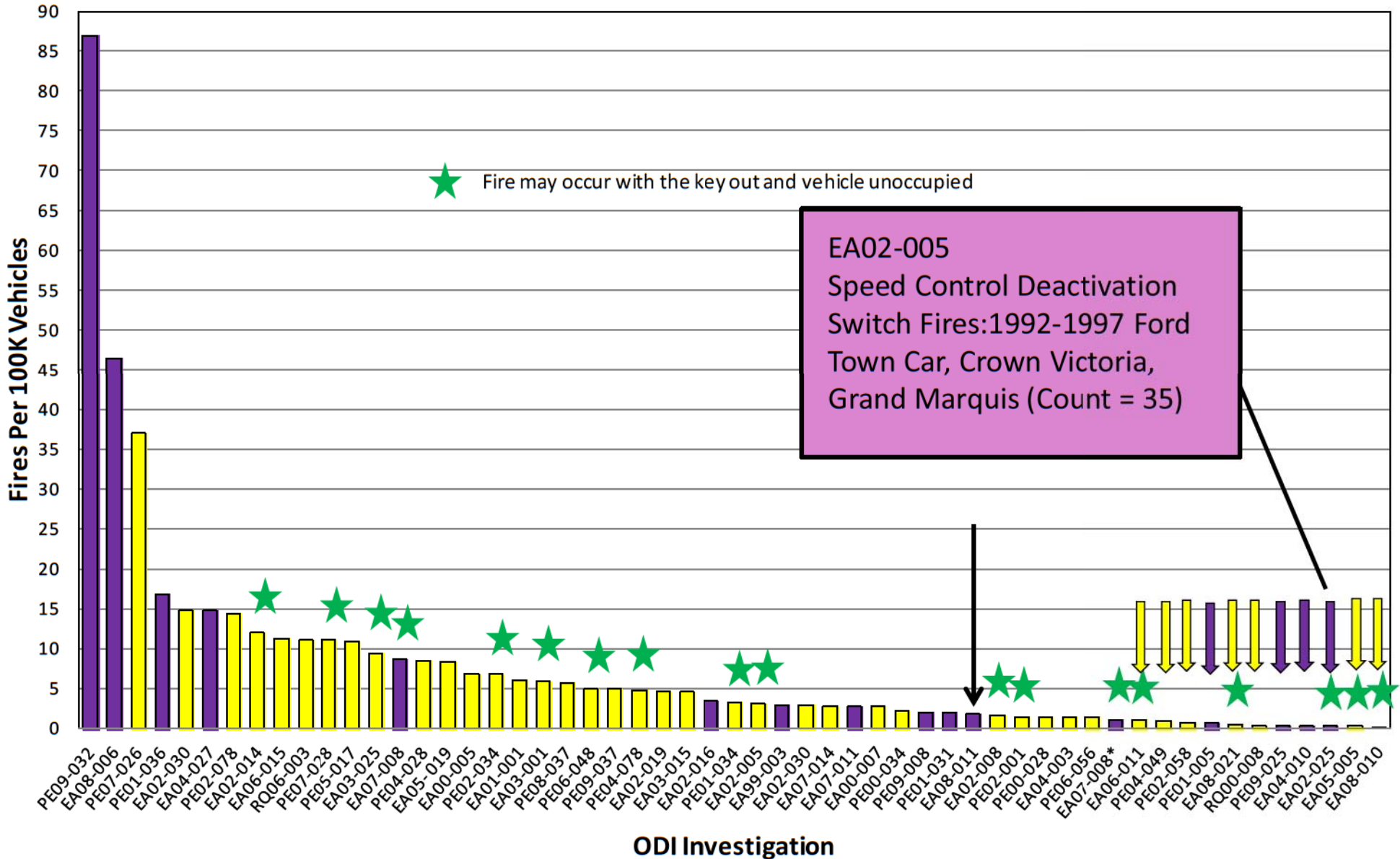
Return

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

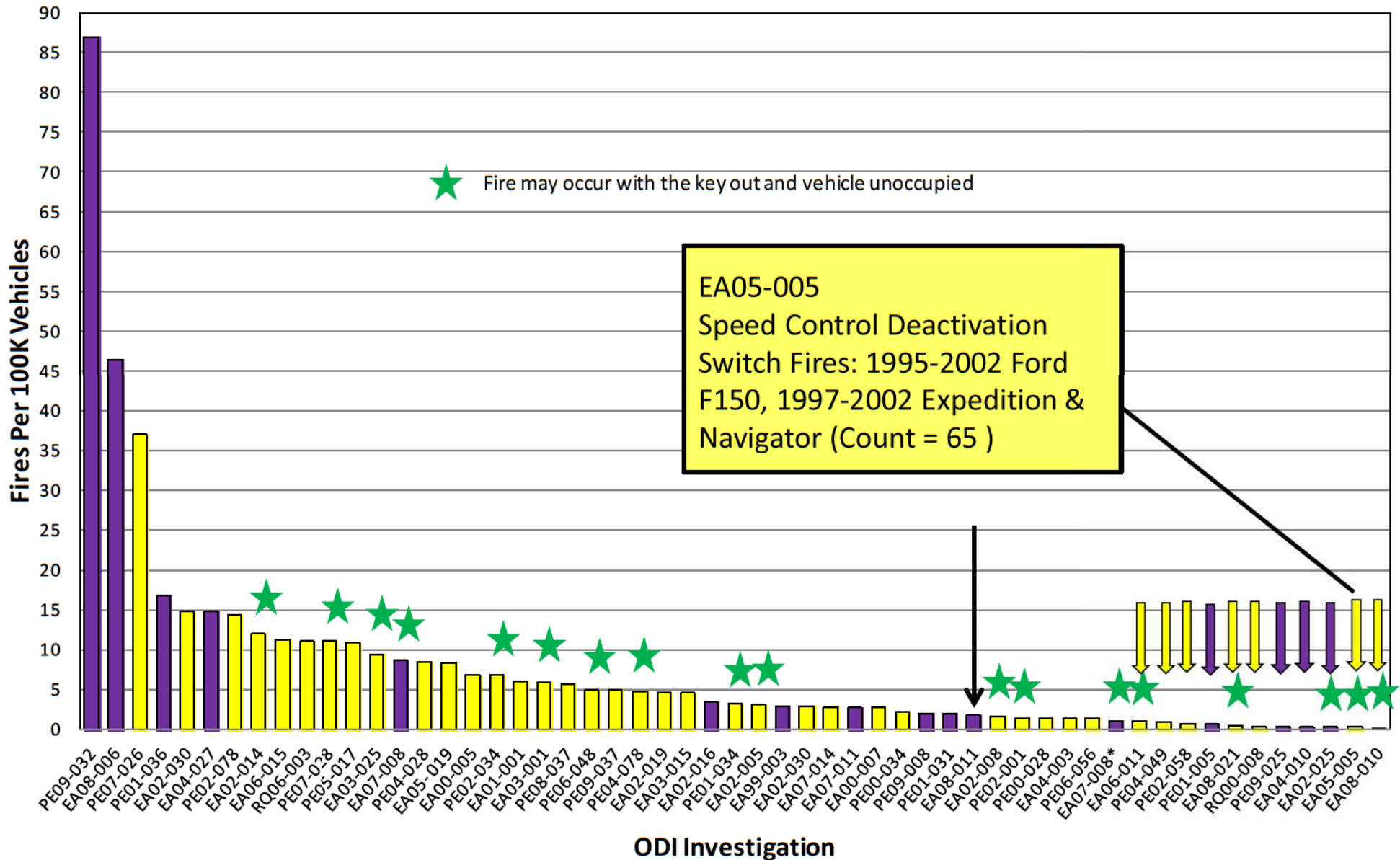




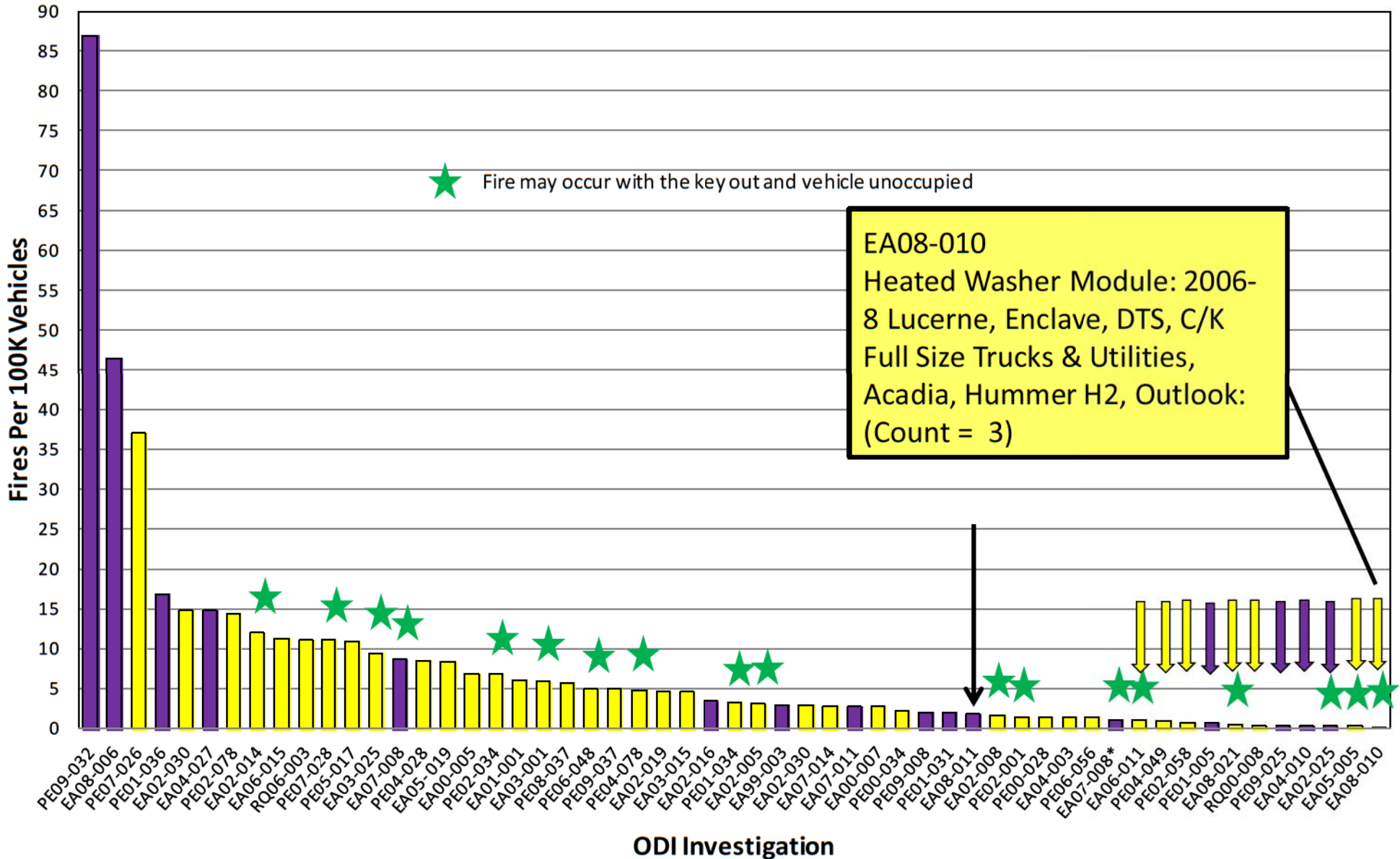
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
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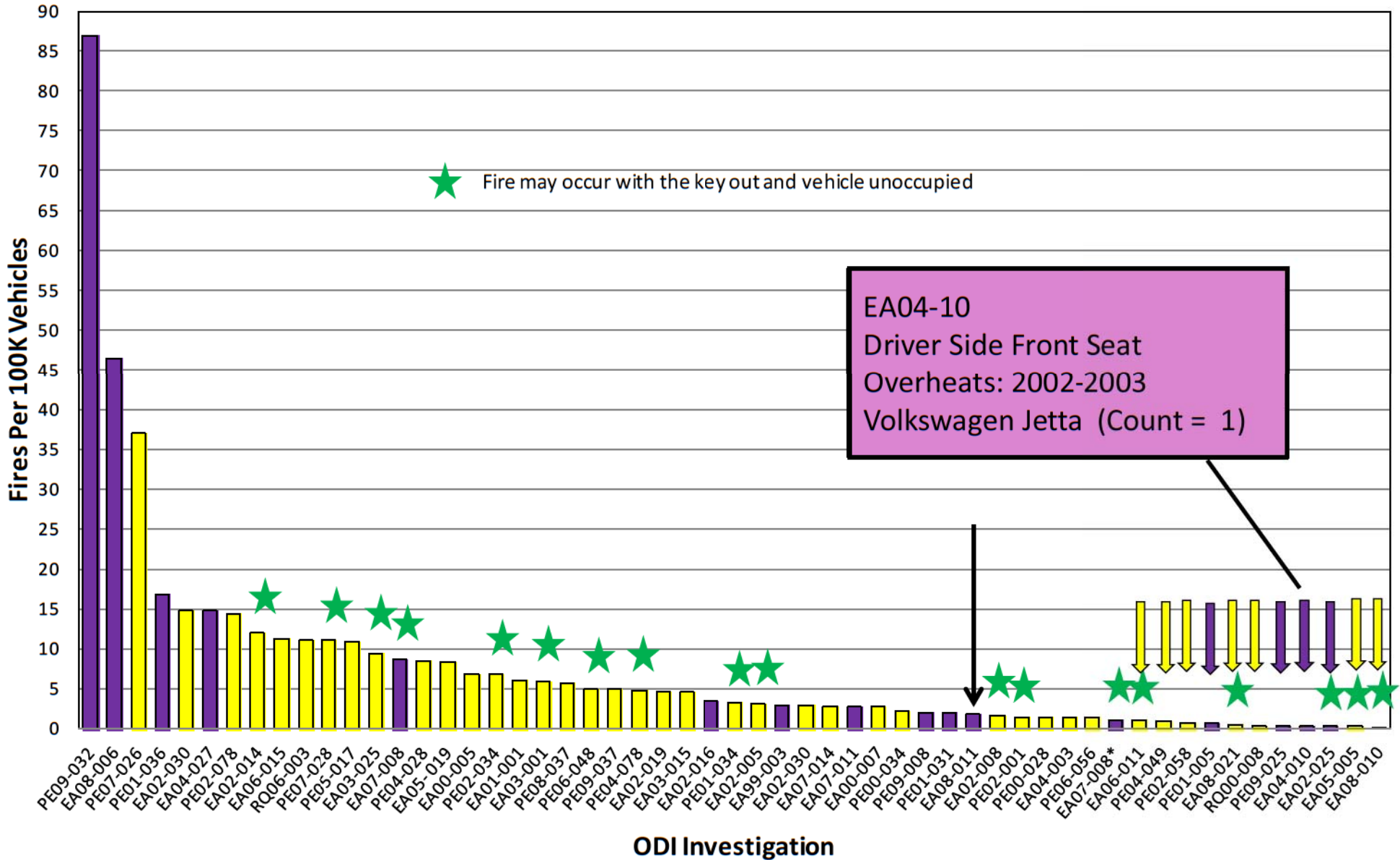
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



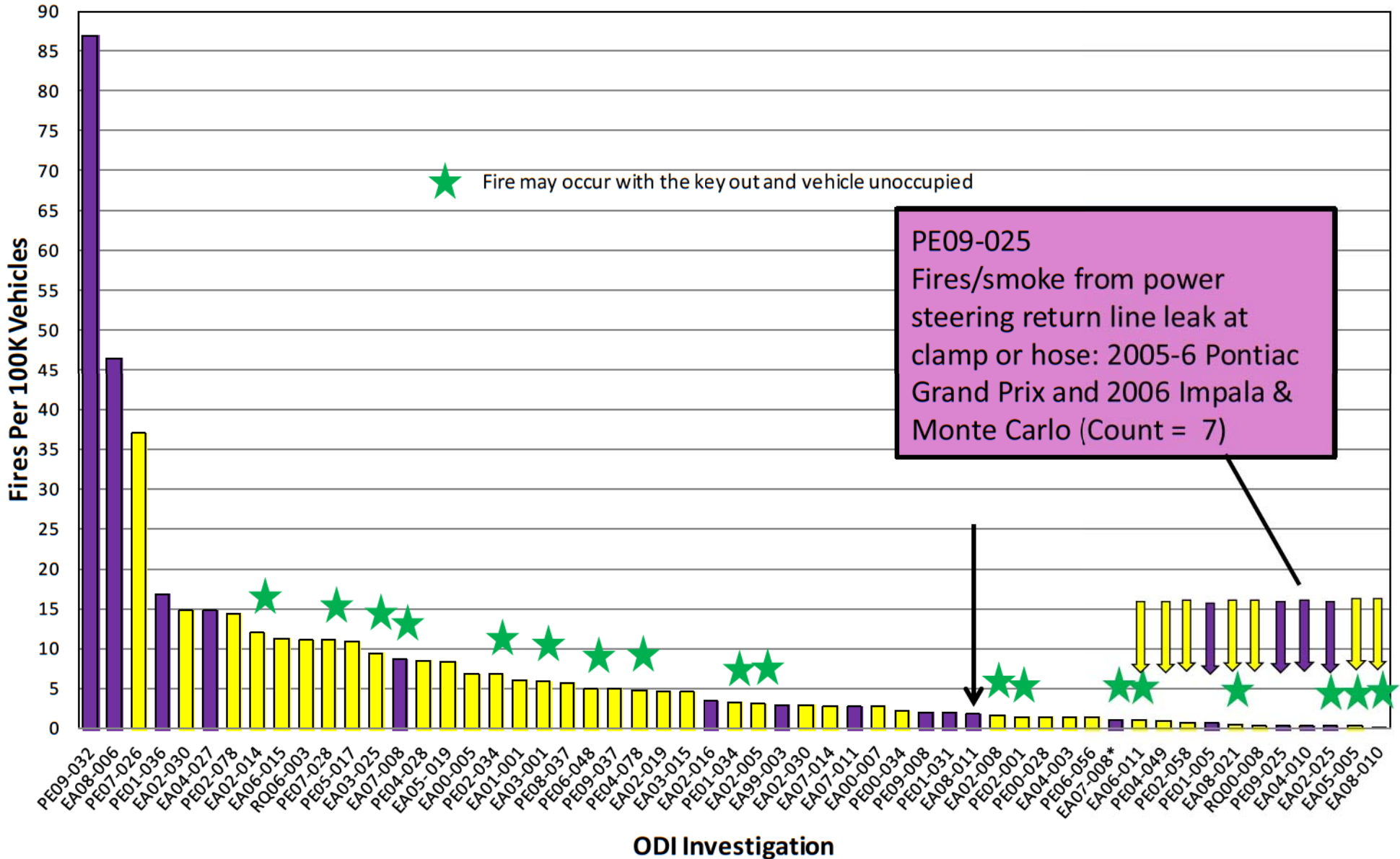
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



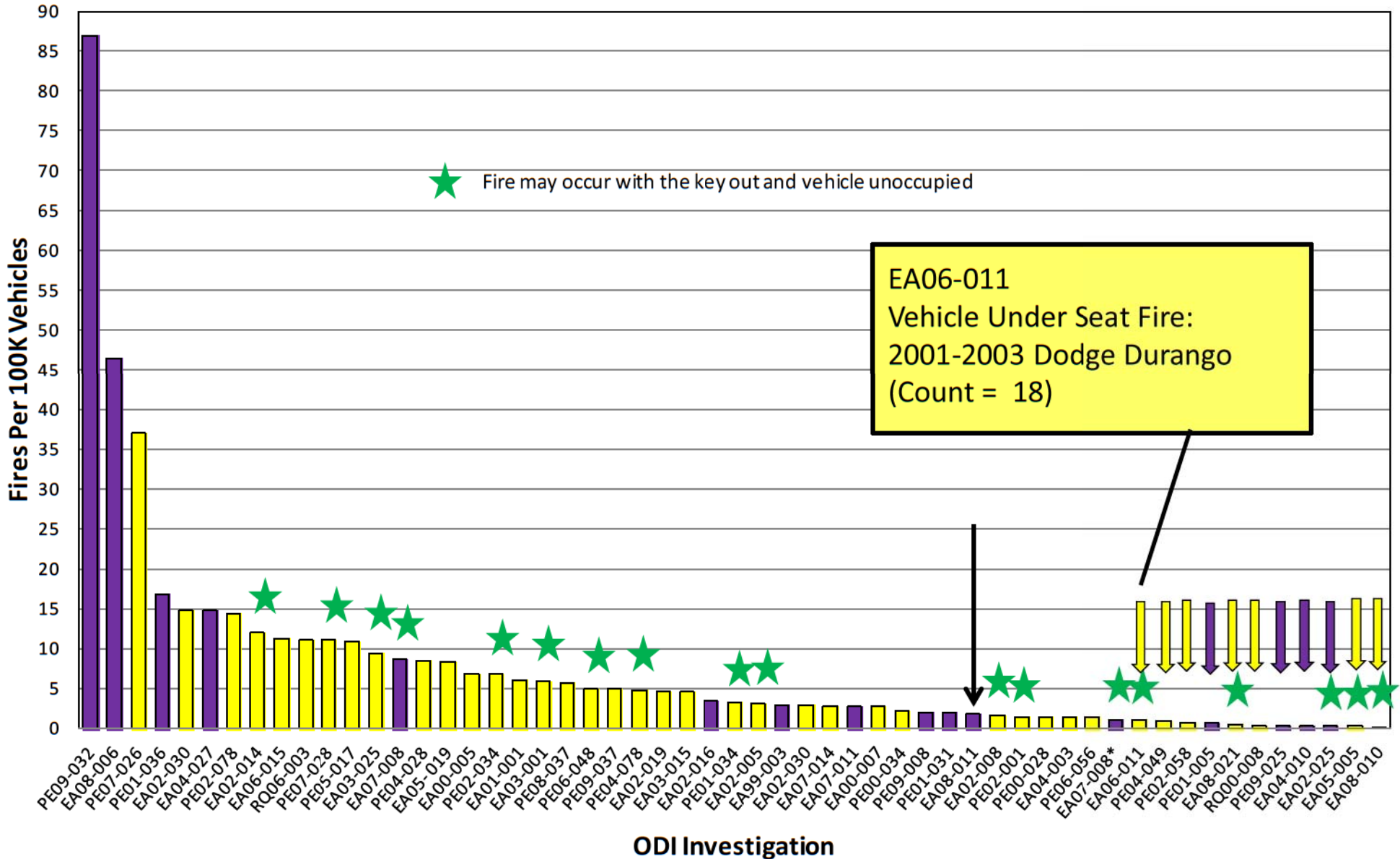
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



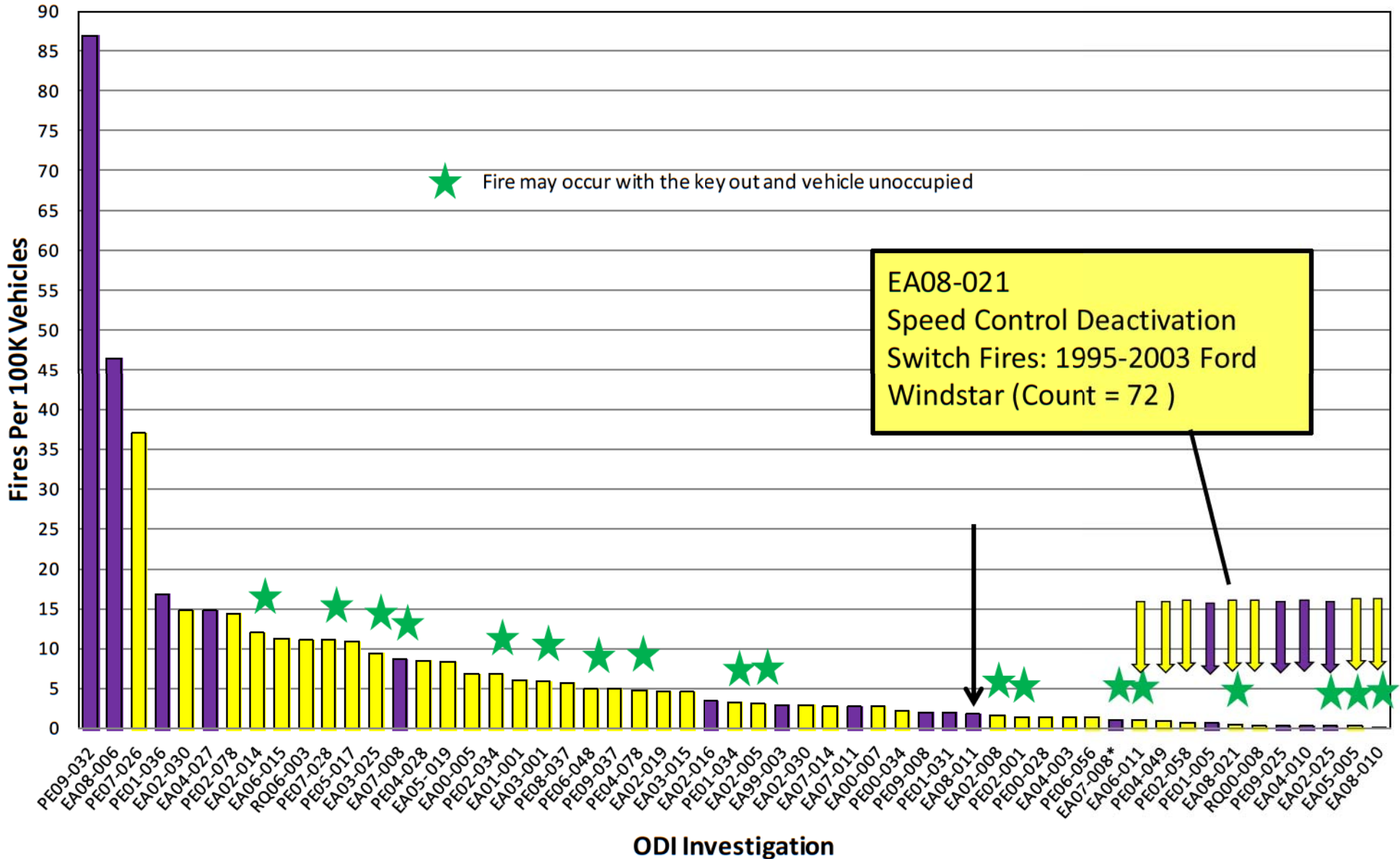
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



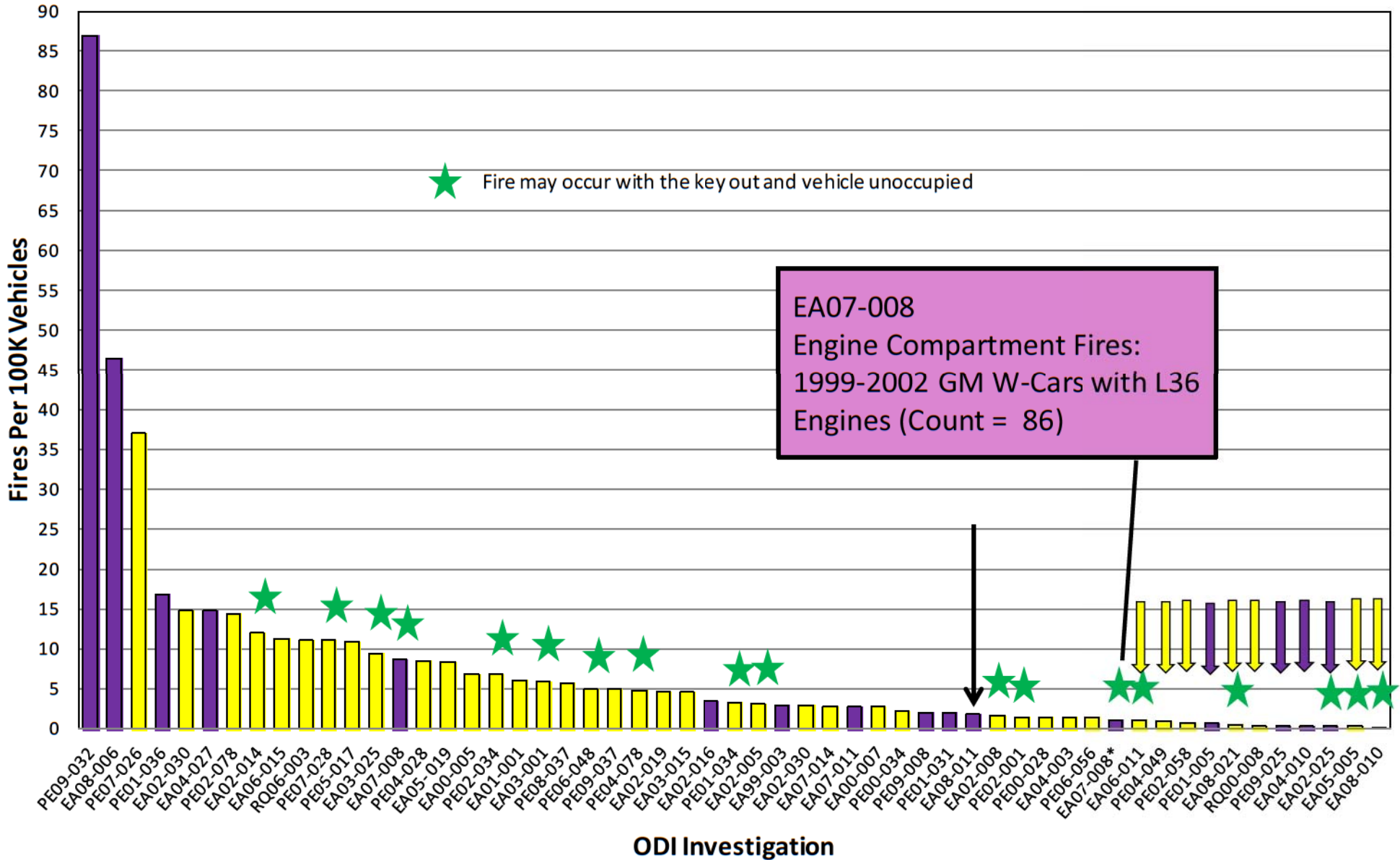
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

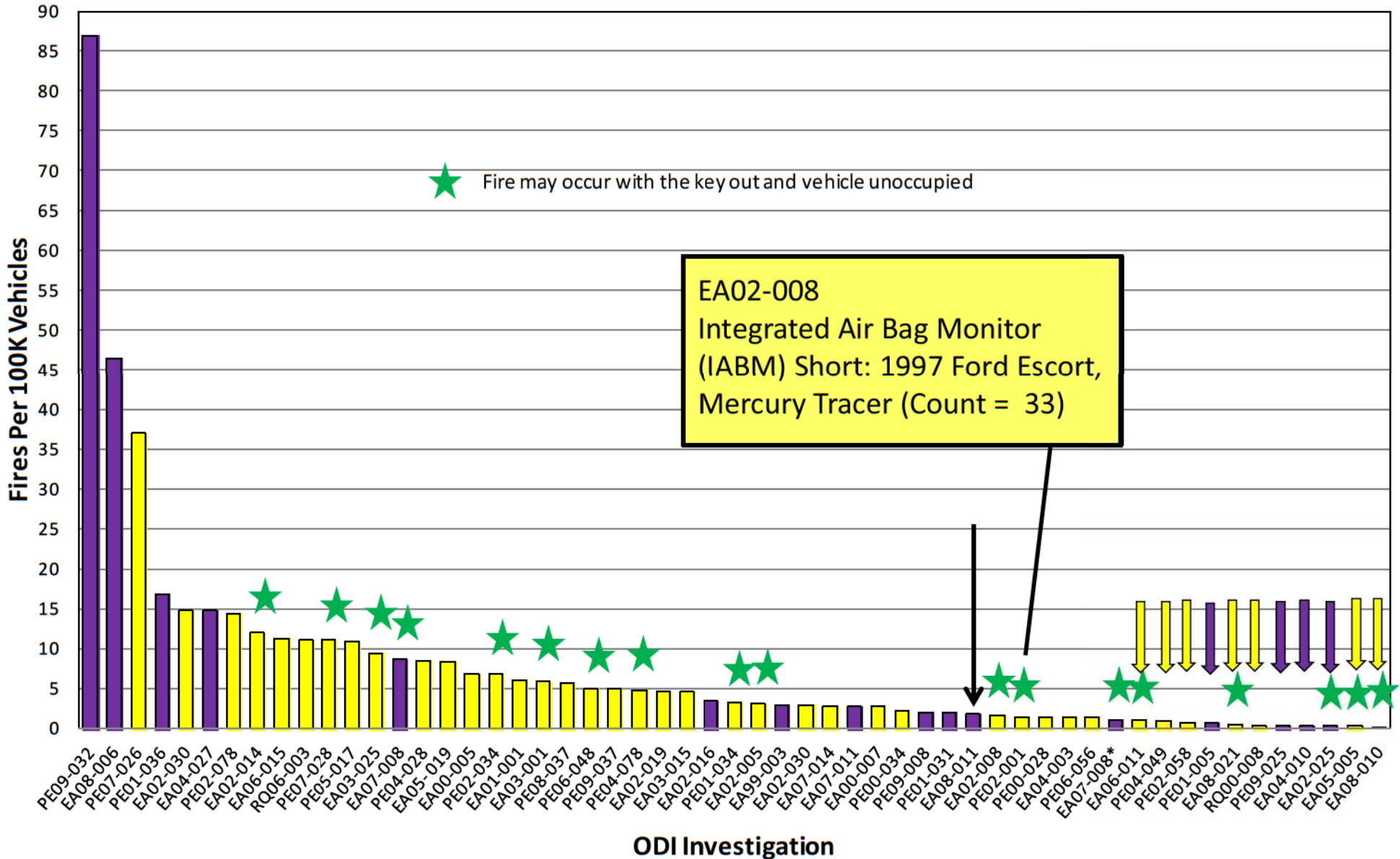


**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

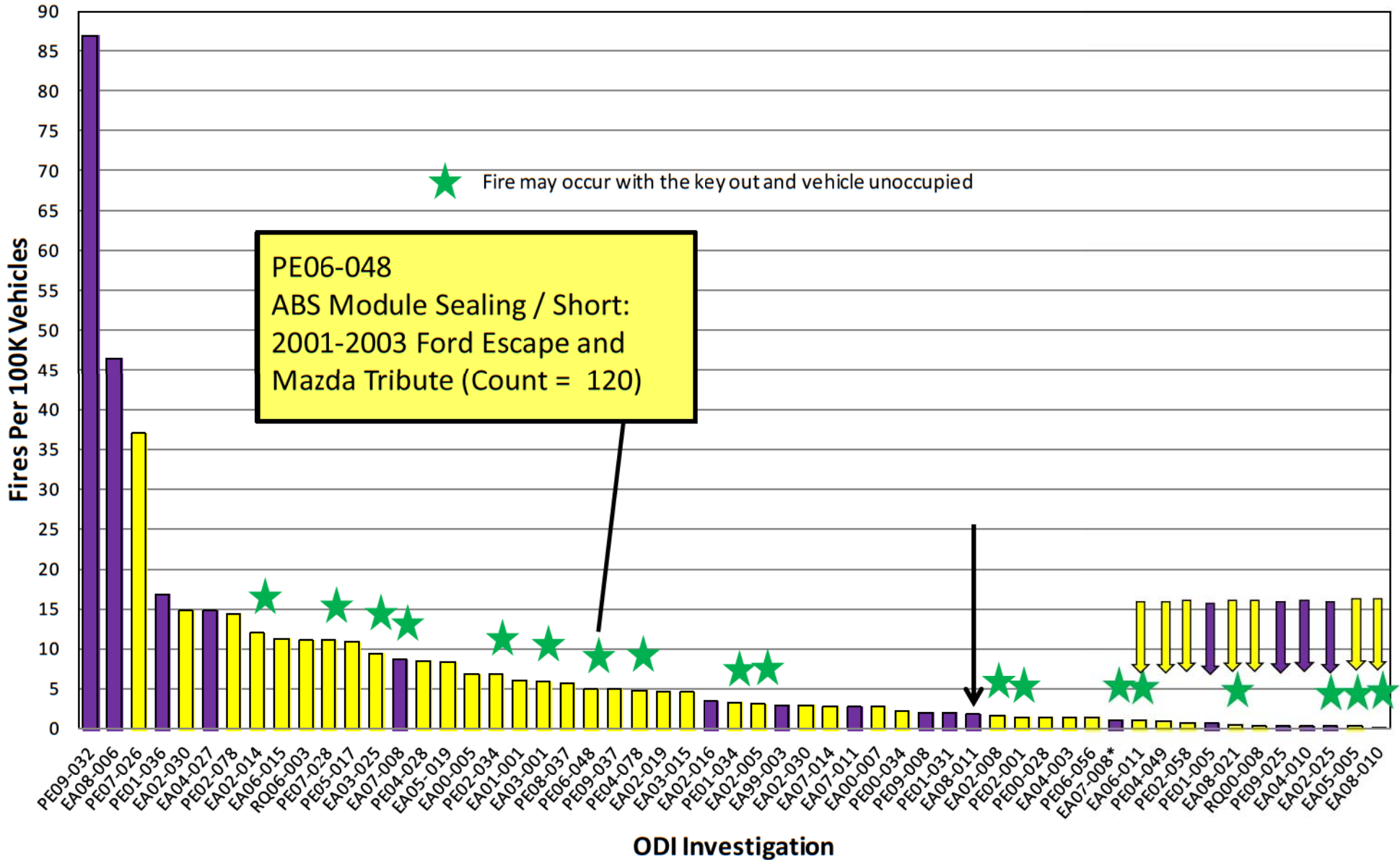




**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function TREAD, War, VOQs

Update 4-16-12 mtg 6-5-12-p

## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender

10,222 SC & 5,147 reimbursement

{ \* \* }

ETQ N110323

{ \* }



# Back-Up

2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

**Problem Description:**

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry


**Problem Description:**

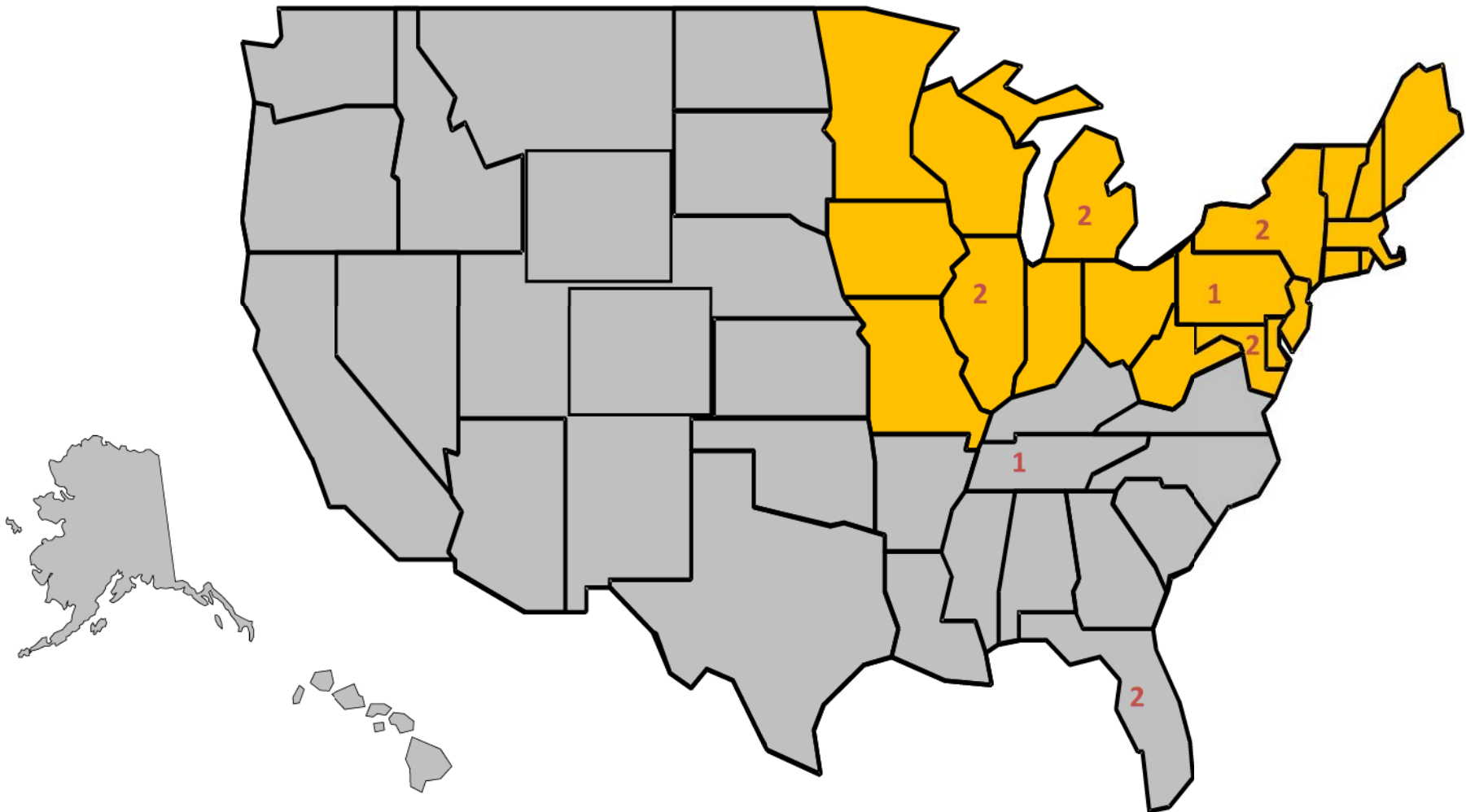
Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

		<b>ODI RESUME</b>	
U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>		Investigation: PE 12-003 Date Opened: 02/09/2012 Investigator: Emily Reichard Approver: Frank Borris Subject: Driver's Master Power Window Switch	Reviewer: Scott Yon
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			


PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

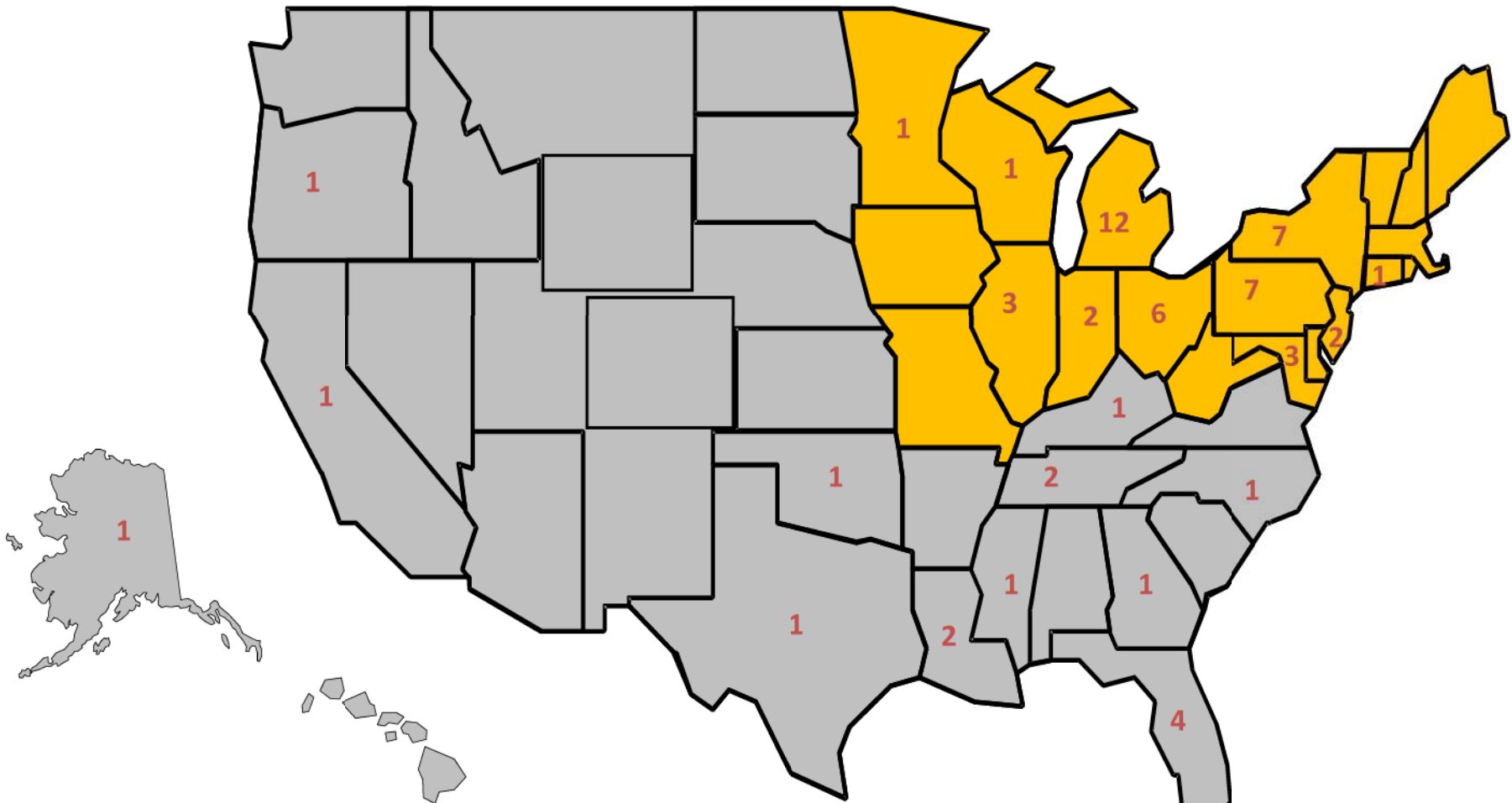
 NHTSA defined Corrosion States






2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
62 VOQs as of 3/19/12

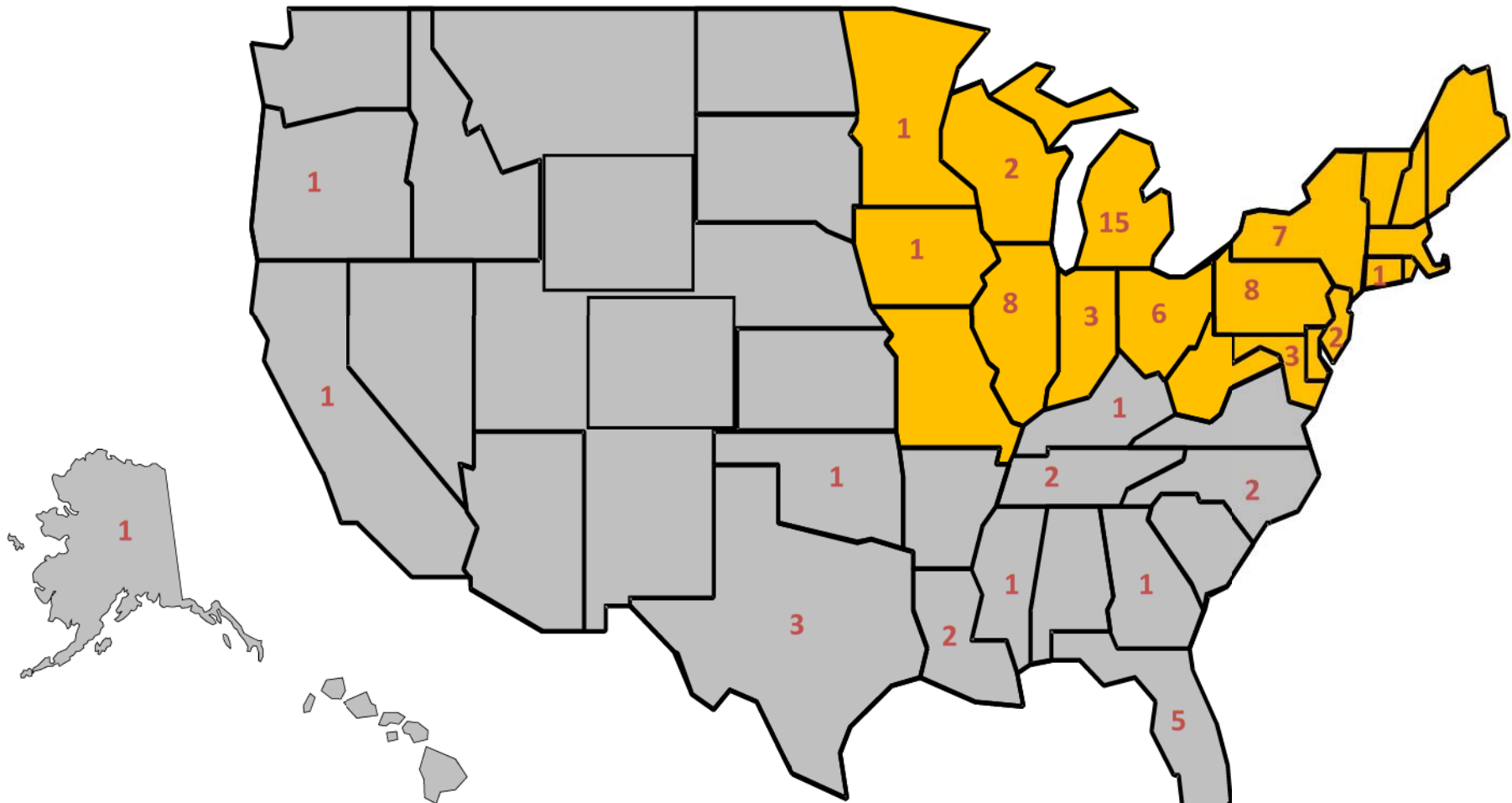
 NHTSA defined Corrosion States



Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles  
Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles

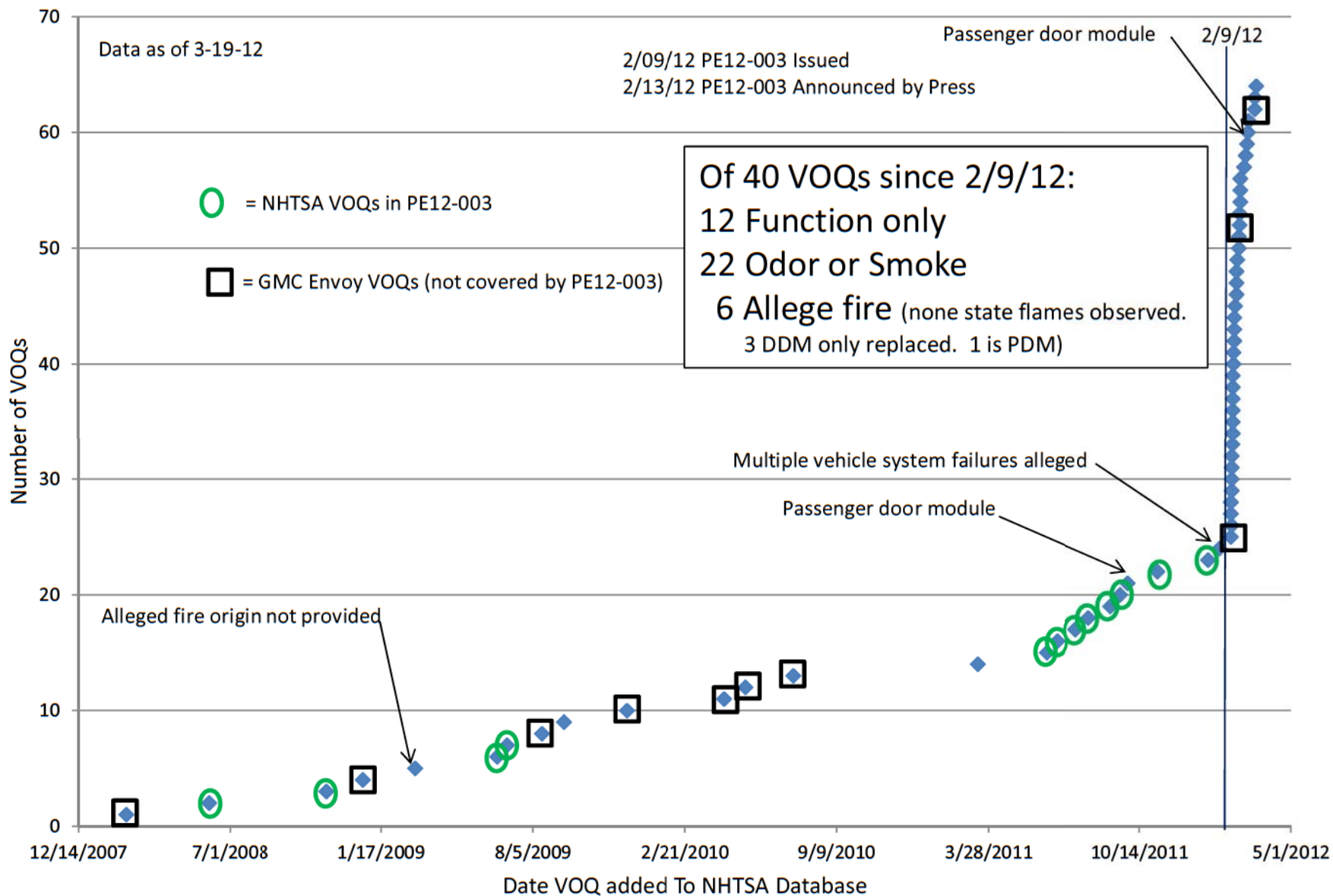
2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
 79 VOQs as of 4/16/12

 NHTSA defined Corrosion States

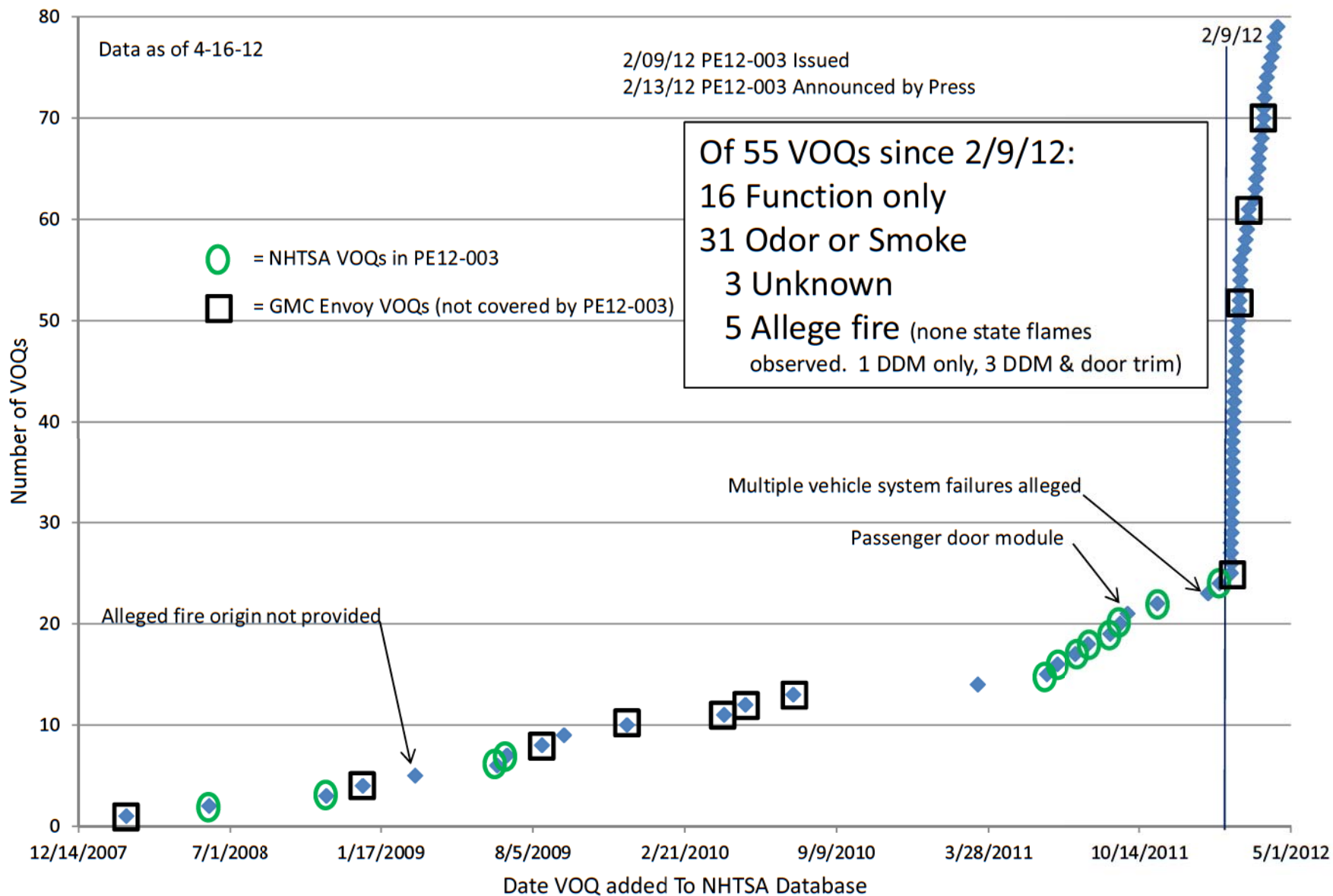


Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles  
 Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles

## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded

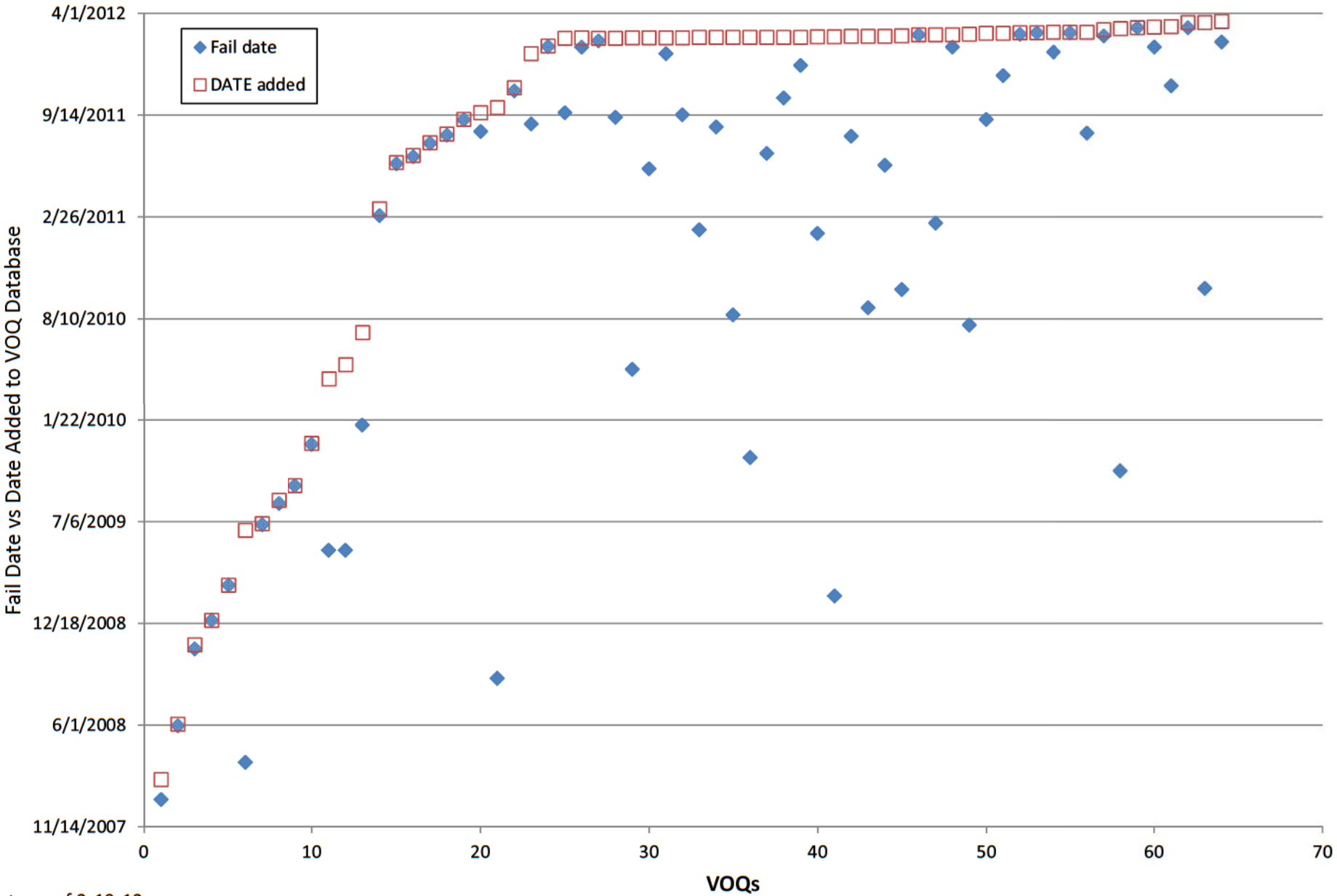


## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



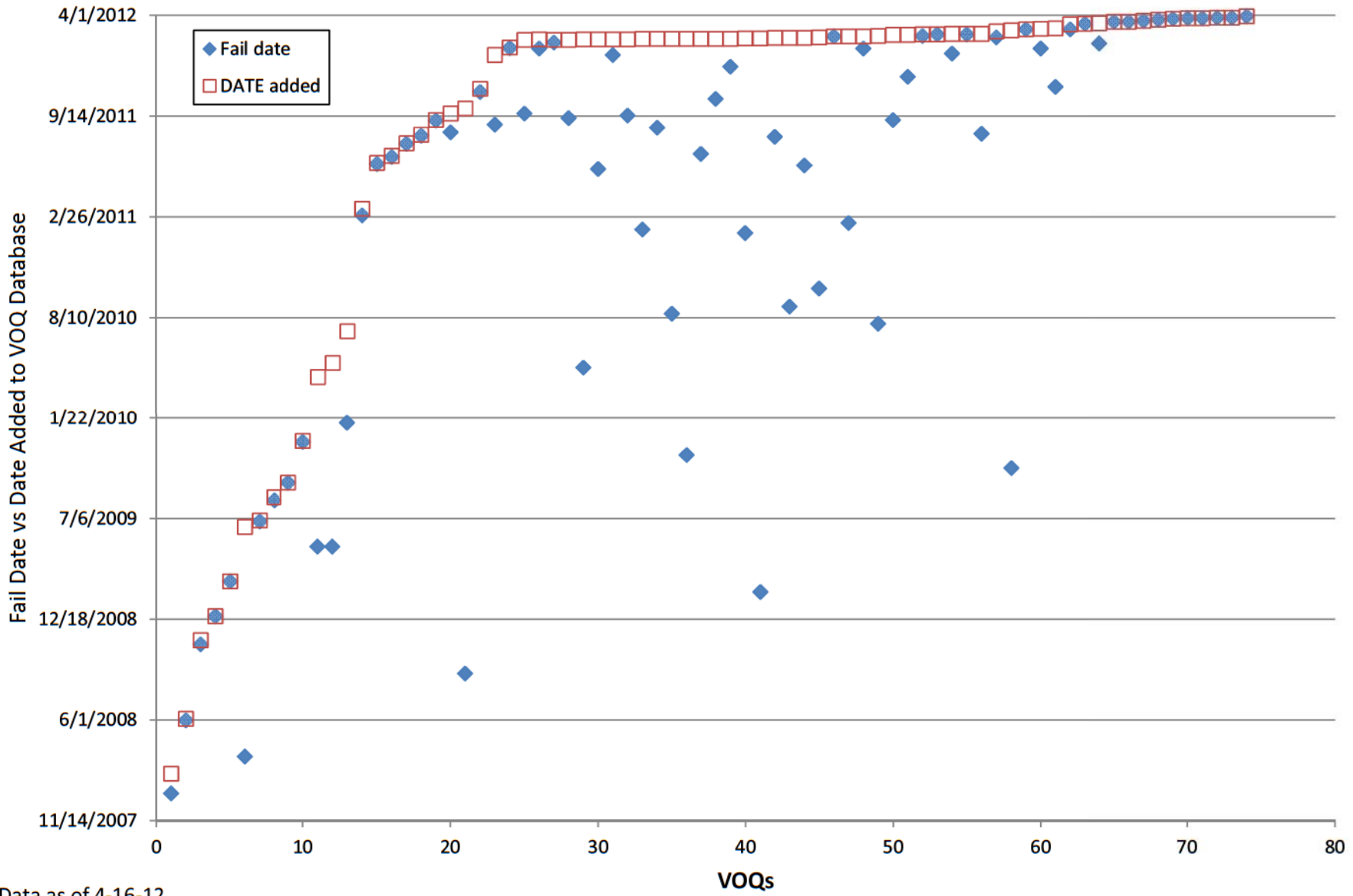
Data as of 4/16/12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



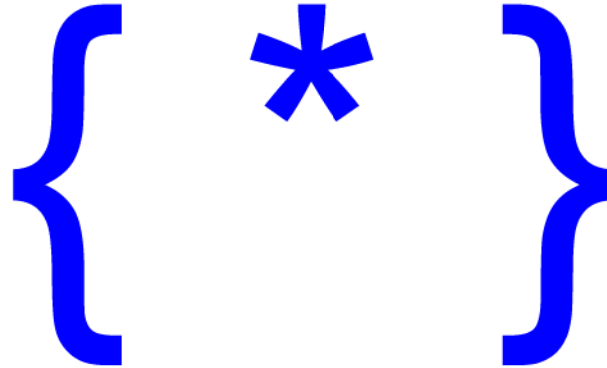
Data as of 3-19-12

## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 4-16-12

# Driver Door Module Short Circuit

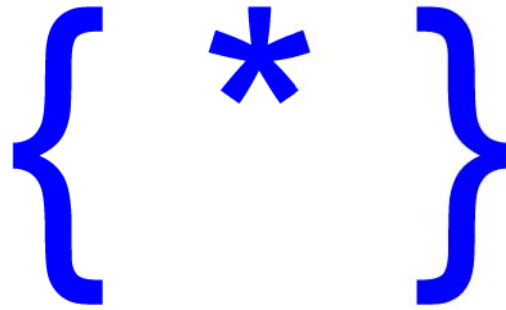


## 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)





# Driver Door Module Short Circuit



Base Switch Package

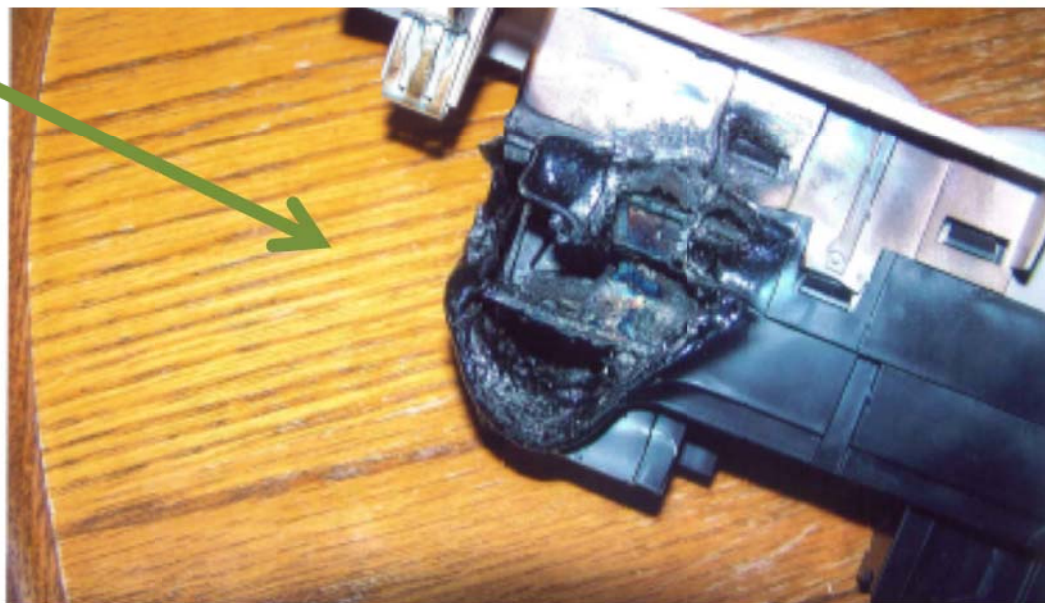


Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.



# Inspections/Investigations

1GKET63M462 [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit VOQs

**Data 4/16/12**

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege “fire”

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

4 confirmed fires

2 Unknown

13 fire/flame not likely (minor damage)

21 state smoke

17 state odor

21 state function

1 TBD

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6) & 2007 (81.1)

## [TREAD search for 2005](#)

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

## TREAD Data summary (fire)

### Data 4/19/12

37\* Claims overall

2006 – 16

2007 – 21

- Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:
  - Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
  - Fire did not occur in 22 cases (11 2006 & 11 2007)

\*No cases known where "fire" extended beyond vehicle interior. Many imply fire while not observed.

# Driver Door Module Short Circuit

TREAD Data summary (fire)

**Data 4/19/12**

37\* Claims overall

2006 – 16

2007 – 21

7.6/100K

2006 (5.4) & 2007 (11.2)

\*No cases known where “fire” extended beyond vehicle interior. Many imply fire while not observed.



# Driver Door Module Short Circuit

VOQs + TREAD (Data 4/19/12)

**51\* Total** (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

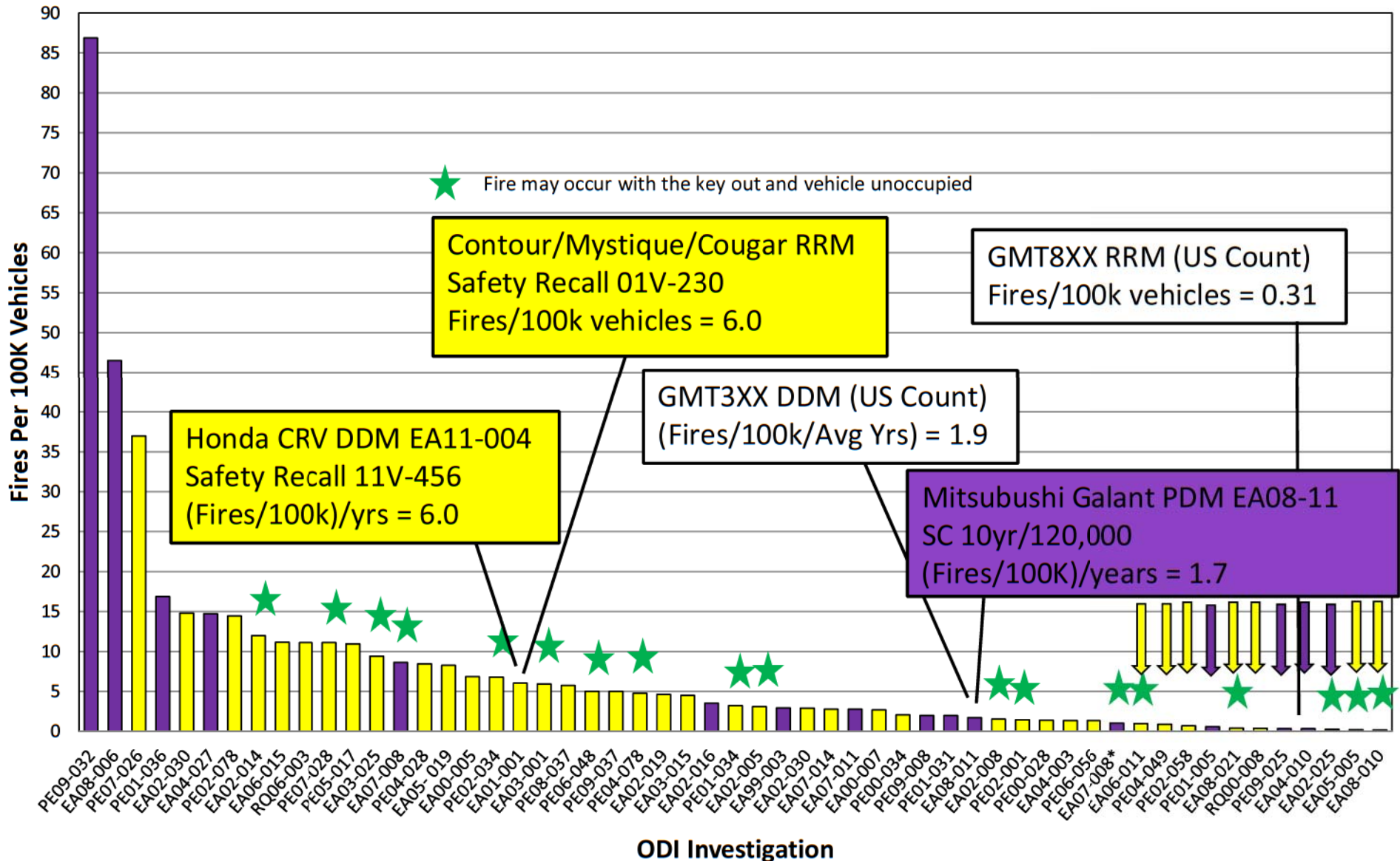
2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

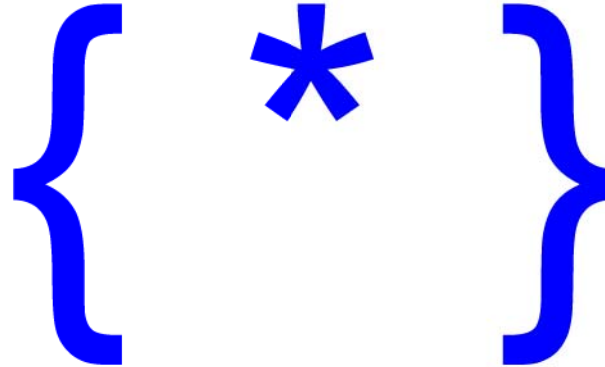
Very few incidents were actual “fires”. Most were odor, melting, or smoke.

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 4-19-12

# Risk Assessment



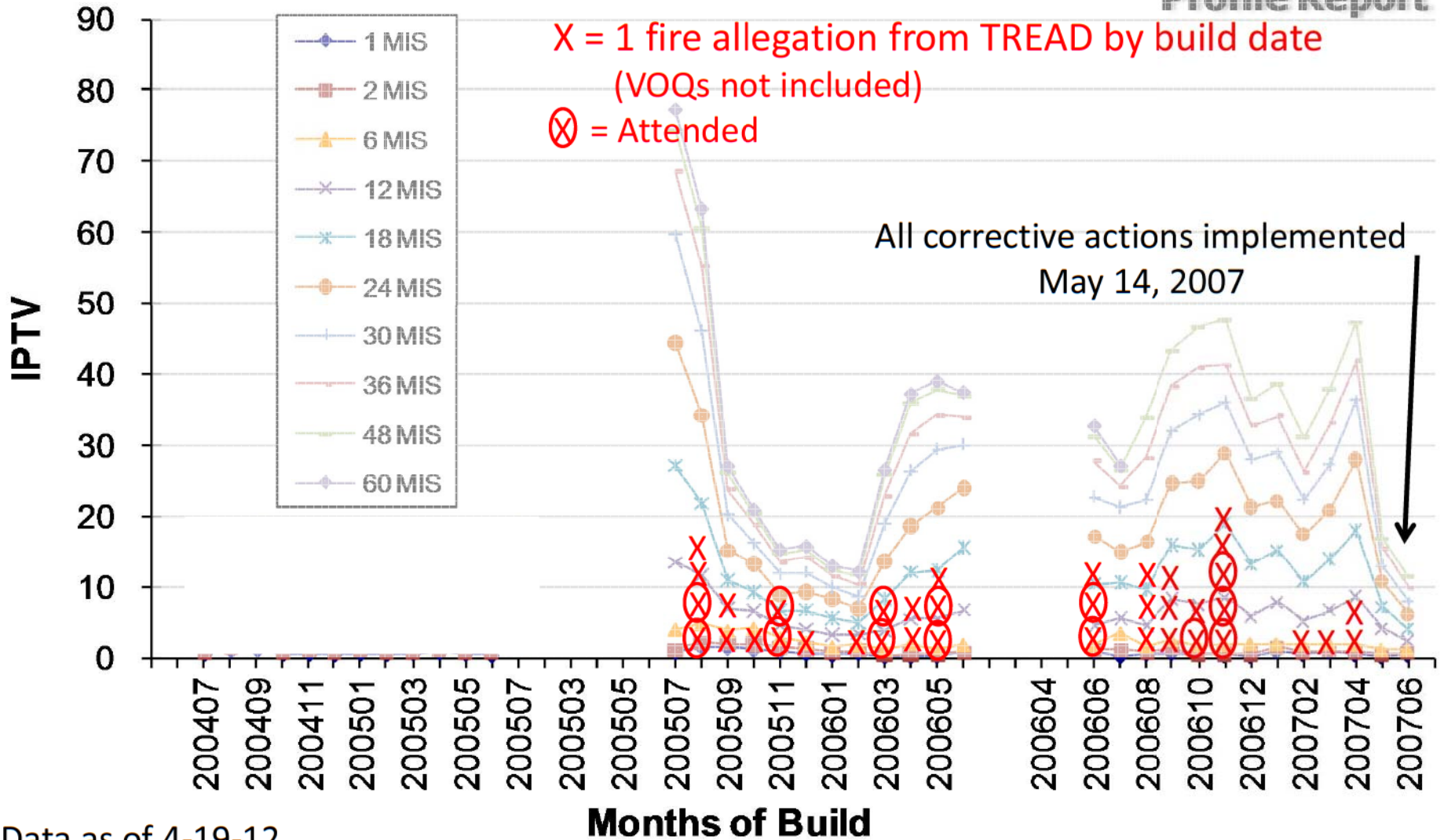


# U.S. Fire Allegations by Build Date

2006-2007 GMT360/370 DDM Global Warranty

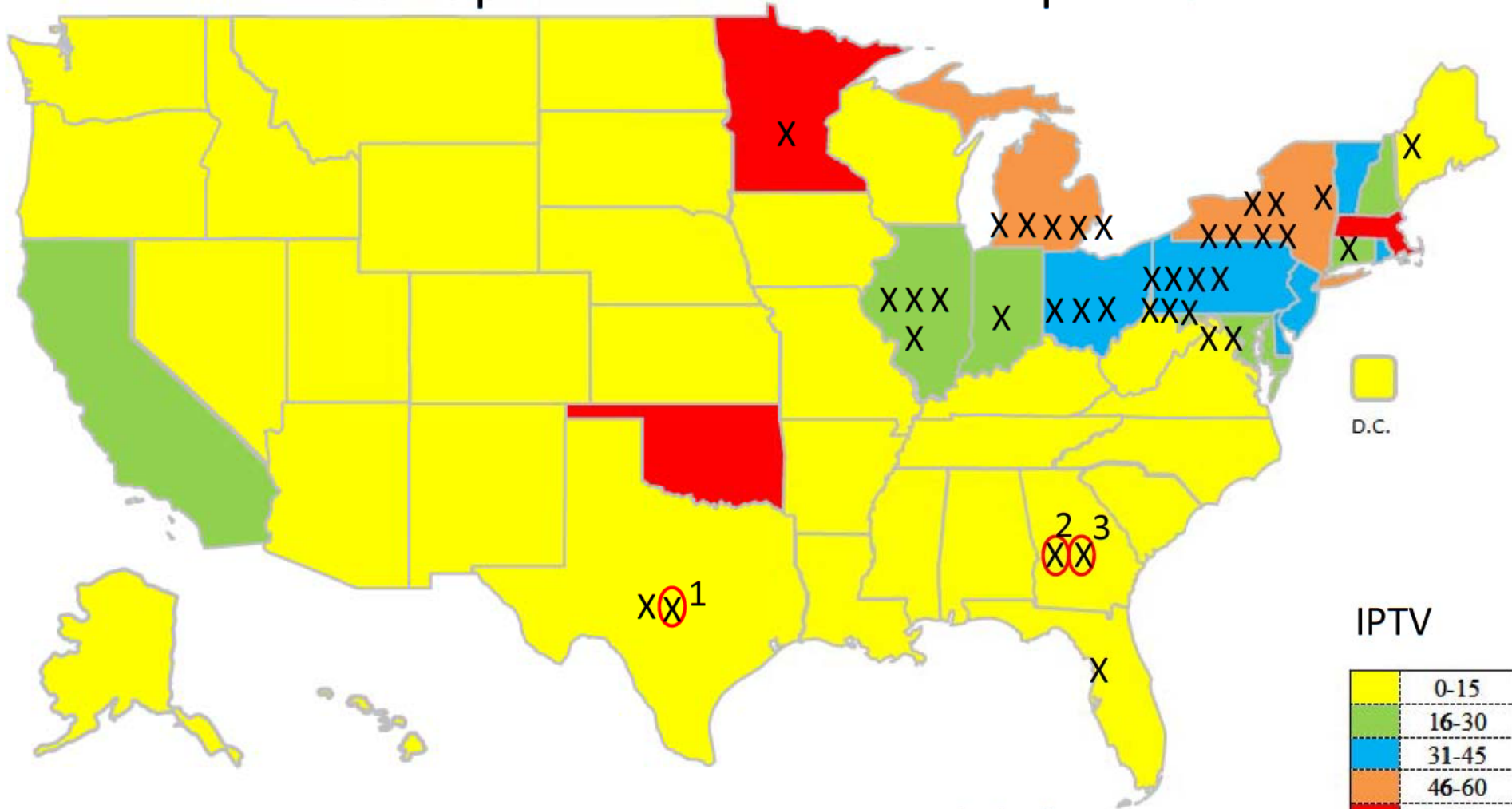
Labor Ops N2117

Profile Report



Data as of 4-19-12

# 2006-2007 GMT360/370 DDM US Warranty Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 4-19-12

122 of 483,664 have no state record

U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>	Investigation:	EA 11-004	
	Prompted by:	Consumer Complaints and PE10-047	
	Date Opened:	04/11/2011	
	Investigator:	John Abbott	Reviewer: Scott Yon
	Approver:	Frank Borris	
	Subject:	Driver's Master Power Window Switch	

MANUFACTURER & PRODUCT INFORMATION	
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)
Products:	2006 Honda CR-V
Population:	149,583
Problem Description:	Melting and/or burning of the master power window switch and related electrical system wiring components

FAILURE REPORT SUMMARY			
	ODI	Manufacturer	Total
Complaints:	5	28	29**
Crashes/Fires:	5	28	29**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	0	0

\*Description of Other:

\*\* Count indicates duplicate reports received by ODI and manufacturer.

Number of true "fires" unknown

ACTION / SUMMARY INFORMATION
<b>Action:</b> Open an Engineering Analysis
<b>Summary:</b> The Office of Defects Investigation (ODI) opened this investigation as PE10-047 based on three Vehicle Owner's Questionnaire reports alleging smoke and fire occurred inside the driver's door. The complainants reported that the master power window switch and, in some cases its wiring harness, had sustained heat related damage and required replacement. Since opening the investigation, ODI has received two additional reports.  The reports provided by Honda in response to ODI's Information Request appear consistent with ODI's Vehicle Owner's Questionnaire reports.

# 2006 Honda CRV DDM

September 04. 2011 1:00AM (The Detroit News)

## **Honda recalling 86,000 vehicles in U.S. for fire, rollaway concerns**

**David Shepardson/ Detroit News Washington Bureau**

Honda Motor Co. said early Sunday it is recalling nearly 86,000 vehicles in two separate campaigns — including one to address possible fire concerns.

With the new recalls, Honda has now called back more vehicles than it did in all of 2010.

Honda said it is recalling 80,111 2006 CR-V vehicles to replace the power window master switch — after the U.S. government said it had reports of five fires.

The design of the power window master switch can allow residue from interior cleaners to accumulate, which can, over time with switch use, cause the electrical contacts to degrade and lead to a fire in the switch, the Japanese automaker said.

Honda said no injuries or deaths have been reported in connection with the CR-V issue.

**In April, the National Highway Traffic Safety Administration upgraded an investigation into the 2006 CR-V after the agency had received five reports alleging smoke and fire occurred inside the driver's door. It received another 24 complains that didn't include fires.**

From The Detroit News: <http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2>



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

## ODI RESUME

Investigation: EA08-011  
 Prompted By: PE08-014  
 Date Opened: 07/01/2008  
 Principal Investigator: Peter Ong  
 Subject: Passenger Door Fire

Date Closed: 08/21/2009

Manufacturer: Mitsubishi Motors North America, Inc., Mitsubishi Caribbean  
 Products: 2001 - 2003 Mitsubishi Galant  
 Population: 292,945

Problem Description: A fire occurs in the front passenger door panel.

### FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	6	29	35
Crashes/Fires:	6	29	35
Injury Incidents:	1	2	3
# Injuries:	1	2	3
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*	0	307	307

\*Description of Other: Warranty claims related to passenger switch failures.

Action: Close this Engineering Analysis.

Engineer: Peter Ong *[Signature]* Date: 08/21/2009  
 Inv. Chief: D. Scott Yin Date: 08/21/2009  
 Office Dir: Kathleen C. DeMeter Date: 08/21/2009

**Summary:**  
 In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, to extend the warranty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin in late-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverages onto the front passenger door window switch will be entitled to have the switch replaced and any related repairs performed at no charge.

The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported minor burns or bruises. There are no reported crashes or fatalities. There are 307 warranty claims of switch malfunctions or short circuits without any reported heat, smoke or fire. MMNA inspection and analysis of fire-damaged door panels/switches found evidence of spilled liquids with high sugar content on the power window switches. MMNA claims the residue of these liquids led to a shorting/smoke/ fire condition inside the switch/door panel assembly.

(Continued on page two)

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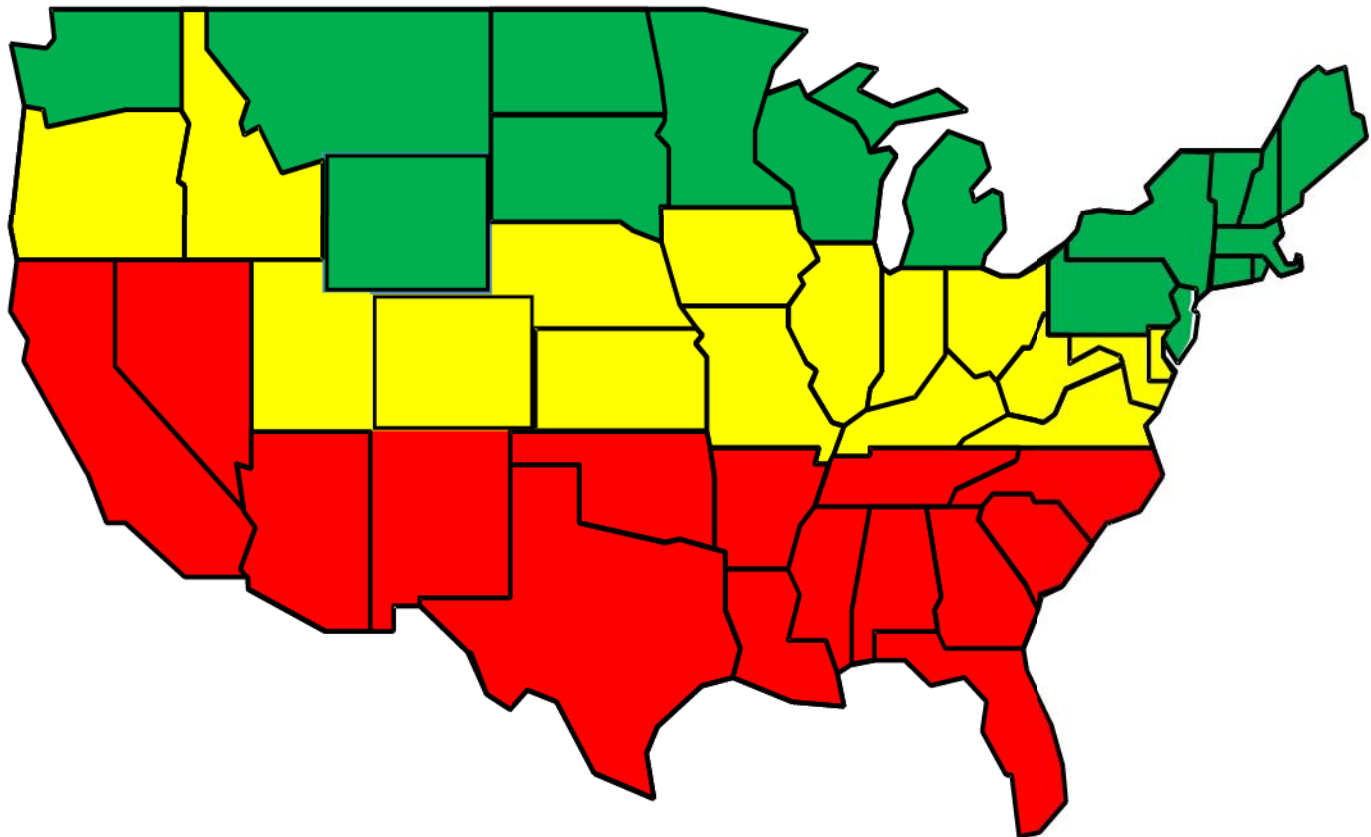
# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

## Hot, Moderate, and Cool States

Hot States: AL, AZ, AR, CA, FL, GA, HI, LA, MS, NC, NM, NV, OK, SC, TN, TX  
Moderate States: CO, DC, DE, IA, ID, IL, IN, KS, KY, MD, MO, NE, OH, OR, UT, VA, WV, WY  
Cool States: AK, CT, MA, ME, MI, MN, MT, ND, NH, NJ, NY, PA, RI, SD, VT, WA, WI

















# 2006 Honda CRV DDM

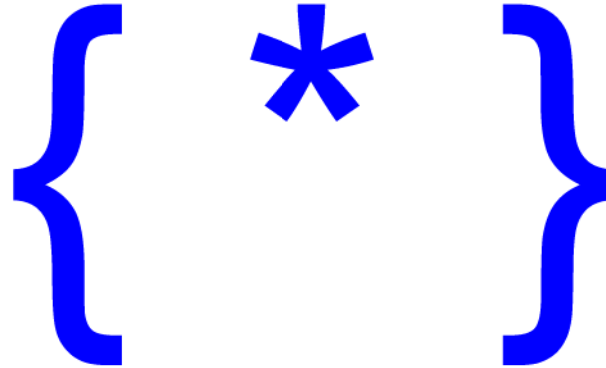
## **Honda Recalling Almost One Million Fit, CR-V and CR-Z Models**

09/06/2011 | By: Huw Evans (Autoguide.com)

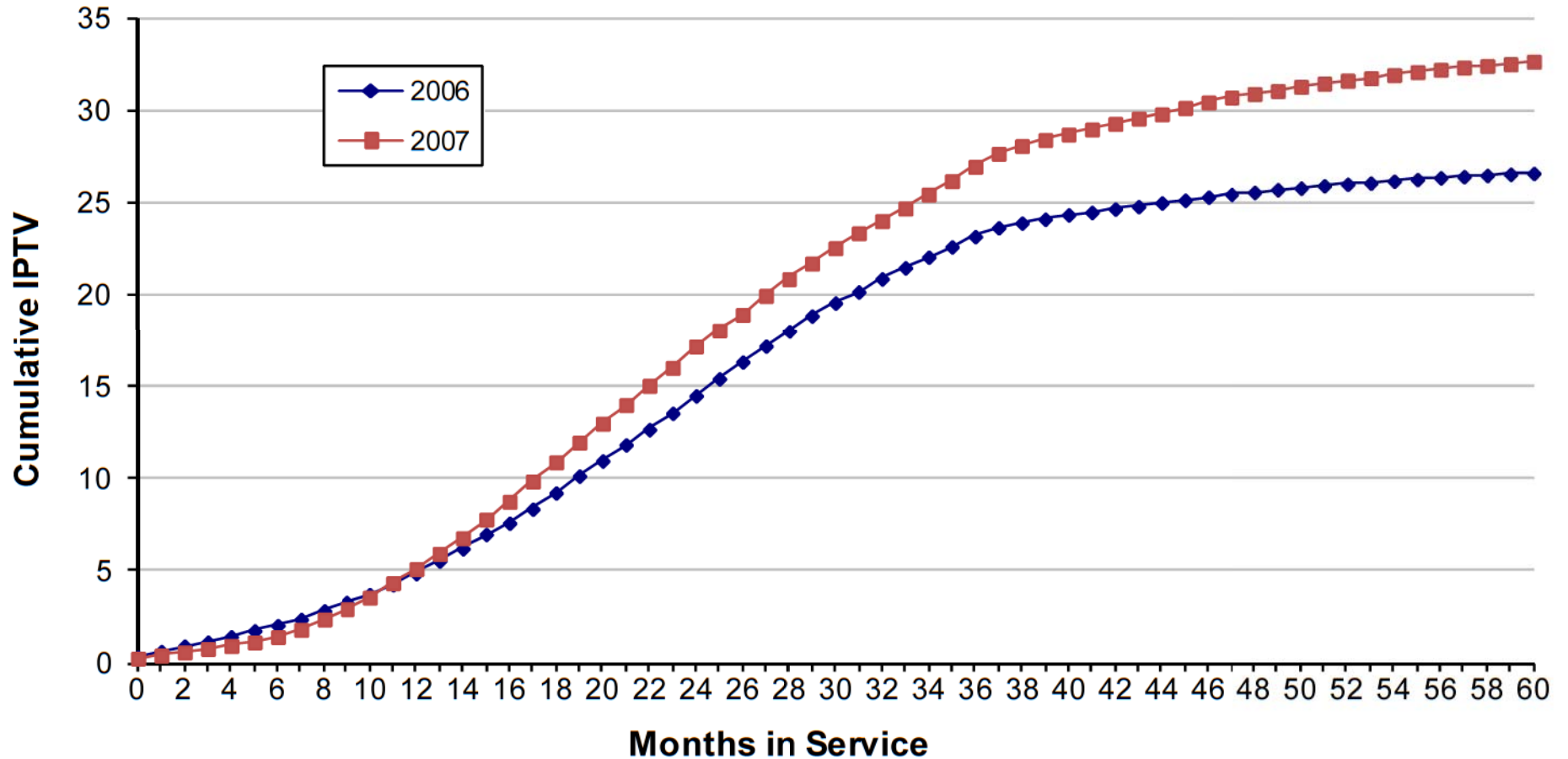
As a result of identifying problems with power window switches, Honda Motor Co. has announced it is recalling some 960,000 vehicles worldwide.

The recall is mostly related to 2006 to early 2010 Fit subcompacts (totaling almost 800,000). **In addition, in the U.S., the company is also recalling some 80,111 CR-Vs from the 2006 model year for similar problems.** The recall is a result of potential problems such as fire hazards that could result from faulty electrical contacts in the switches.

# Driver Door Module Short Circuit



# 2006-2007 GMT360/370 DDM N.A. Warranty Labor Ops N2117



Data as of 4-29-11

# 2006-7 GMT360/370

## 16,452 Door Module Claims as of 4/29/12

### Labor Codes (N2117)

Cust. Codes	Problem Description	Cases	%	IPTV
1-OJ	INOPERATIVE	12,125	74	21.39
0-0590	Features/Controls/Displays - Other issues	1,031	6	1.82
1-OL	INTERMITTENT	820	5	1.45
0-0524	Features/Controls/Displays - Locks/Keys/Keyless Remote	642	4	1.13
0-0890	Interior - Other issues	367	2	0.65
0-0490	Exterior - Other issues	128	1	0.23
1-O7	WON'T MAINTAIN ADJUST	115	1	0.20
1-OA	BINDS	100	1	0.18
1-MJ	CUSTOMER SATISFACTION	77	0	0.14
1-V3	SMOKE/STEAM	75	0	0.13
1-OF	ENGAGE/DISENGAGE	67	0	0.12
1-ON	LOOSE	65	0	0.11
1-NQ	RATTLE	57	0	0.10
1-PN	WILL NOT START	55	0	0.10
1-OP	ODOR	49	0	0.09
1-OI	FUMES	5	0	0.01
1-PK	OVERHEATING	3	0	0.01

All complaint  
codes not shown

# 2006-7 GMT360/370

## 16,452 Door Module Claims as of 4/29/12

### Labor Codes (N2117)

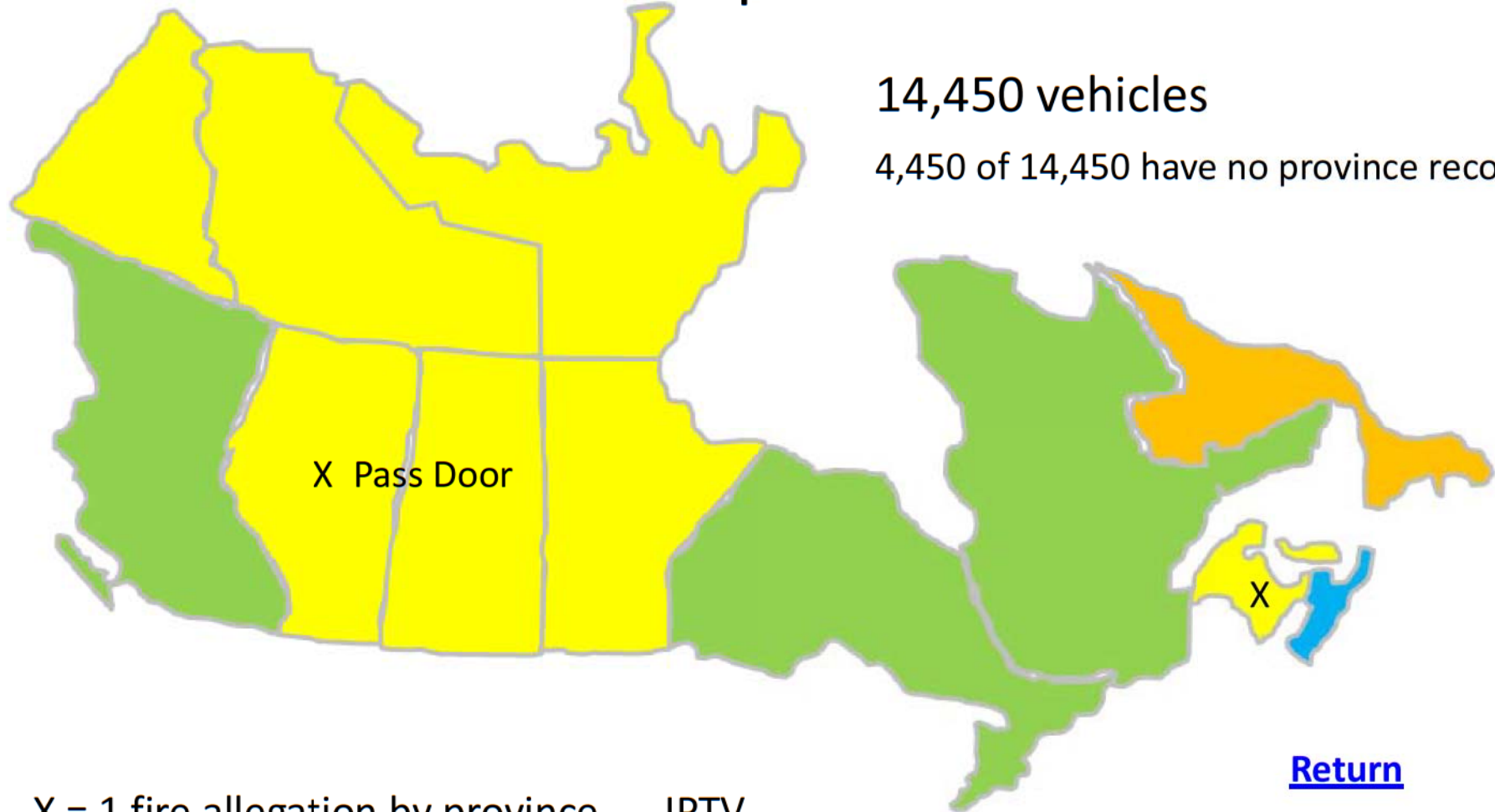
<b>Trouble Code</b>	<b>Problem Description</b>	<b>Cases</b>	<b>%</b>	<b>IPTV</b>
1-6C	COMPONENT-INOPERATIVE	5,483	33	9.67
1-6G	COMPONENT-SHORTED	3,688	22	6.51
1-OB	OBDII Code used	1,820	11	3.21
0-6579	Module/Component-Shorted	1,284	8	2.27
1-6F	COMPONENT-OPEN	1,215	7	2.14
1-6D	COMPONENT-INTERMITTENT	629	4	1.11
0-6573	Module/Component-No/Incorrect Communication	386	2	0.68
0-7079	Wiring/Electrical/Sensors-Shorted	223	1	0.39
1-3L	OUT OF CALIBRATION	202	1	0.36
1-1E	BURNED	185	1	0.33
1-1D	BROKEN	101	1	0.18
1-98	CUSTOMER SATISFACTION	87	1	0.15
1-2W	LOOSE	81	0	0.14
0-6581	Module/Component-Registers Incorrectly	67	0	0.12
0-7073	Wiring/Electrical/Sensors-No/Incorrect Communication	66	0	0.12
0-6017	Module/Component-Broken	60	0	0.11
1-93	TECHNICAL SERVICE BULLETIN	56	0	0.10
1-3X	REGISTERS INCORRECTLY	52	0	0.09
1-7W	ELECTRICAL INTERFERENCE	52	0	0.09
0-6583	Module/Component-Poor Contact	47	0	0.08
1-3A	MISADJUSTED/MISALIGNED	42	0	0.07
1-4X	WORN	33	0	0.06
1-1H	CLOGGED/RESTRICTED/BLOCKED	29	0	0.05
1-7L	WIRE-CUT/BROKEN/OPEN	25	0	0.04
1-6J	CONNECTOR-CORRODED	7	0	0.01
1-7G	WIRE-BURNED-EXTERNAL HEAT	7	0	0.01
1-7H	WIRE BURNED-INTERNAL HEAT	7	0	0.01

All Trouble Codes not shown

# 2006-2007 GMT360/370 DDM CA Warranty Labor Op N2117

14,450 vehicles

4,450 of 14,450 have no province record



X = 1 fire allegation by province


IPTV

	0 - 15
	16 - 30
	31 - 45
	46 - 60
	61 - 80

Data as of 4-29-12



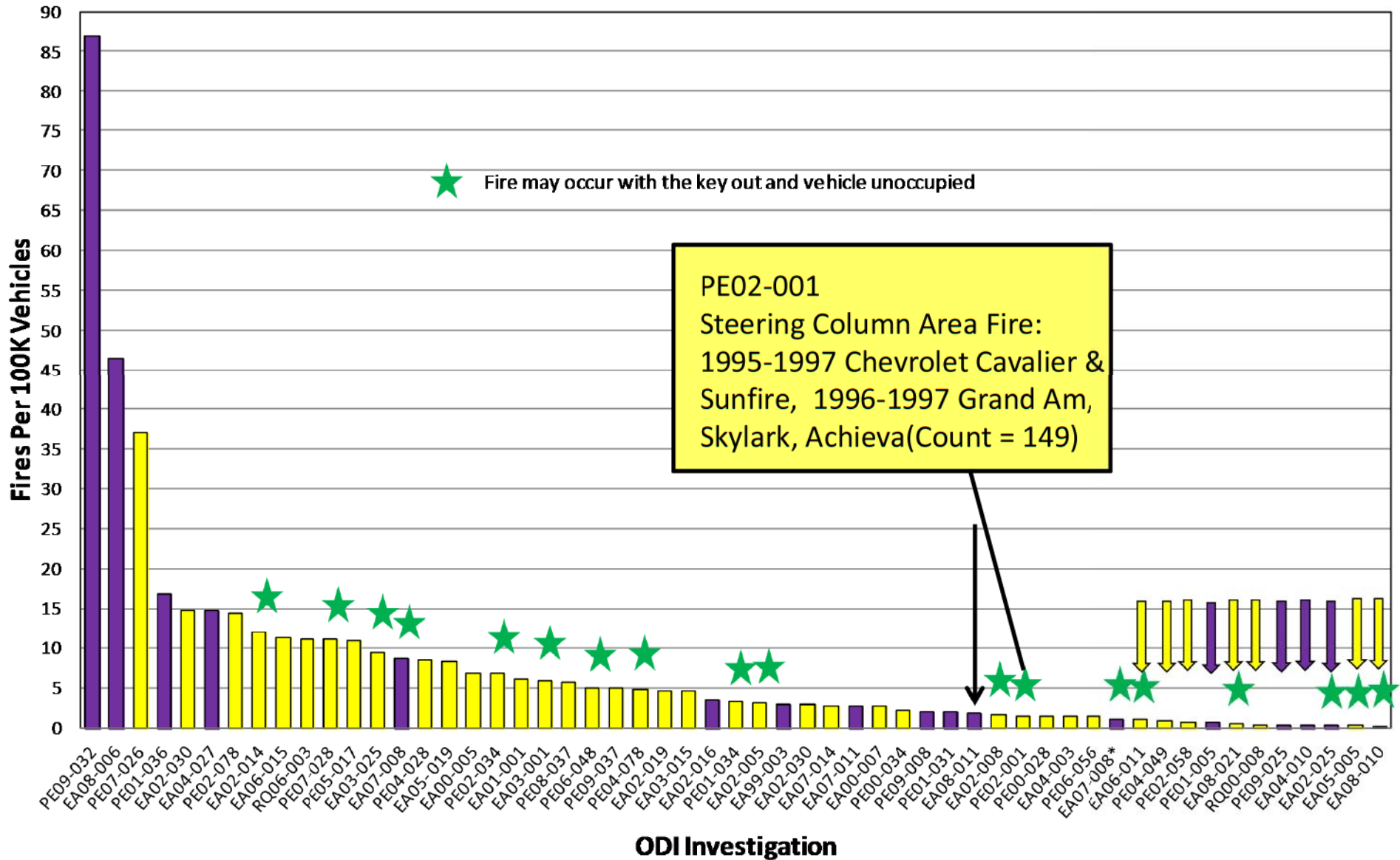
**From N100240 2003-07 GMT800 HVAC Blower Motor Relay Resistor Module**

	<h1>ODI RESUME</h1>		
	INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: <i>David Langjahr</i>		DATE OPENED: 1-5-01 <u>DATE CLOSED 31-JUL-01</u>
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: 1996-1999 VEHICLE POPULATION: <u>Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430</u>			
PROBLEM DESCRIPTION: The speed control <u>resistor assembly for the heater blower may overheat and start a fire.</u> Also, failure of the blower switch causes loss of one or more blower speeds.			
<b>FAILURE REPORT SUMMARY</b>			
	ODI	MANUFACTURER	TOTAL
COMPLAINTS:	68**	approx. 2,600*	approx. 2,700*
FIRES:	<b>4</b>	89	<b>93</b>
INJ FIRES:	0	0	0
# INJURIES:	0	0	0
FAT FIRES:	0	0	0
#FATALS:	0	0	0
LAWSUITS:	0	9	9
OTHER:	0	approx. 13,000*	approx. 13,000*
DESCRIPTION OF OTHER: WARRANTY CLAIMS			
ACTION: This Engineering Evaluation is closed. On July 9, 2001, Ford notified NHTSA of its intent to conduct a Safety Recall #01V-230 (Ford #01S22).			

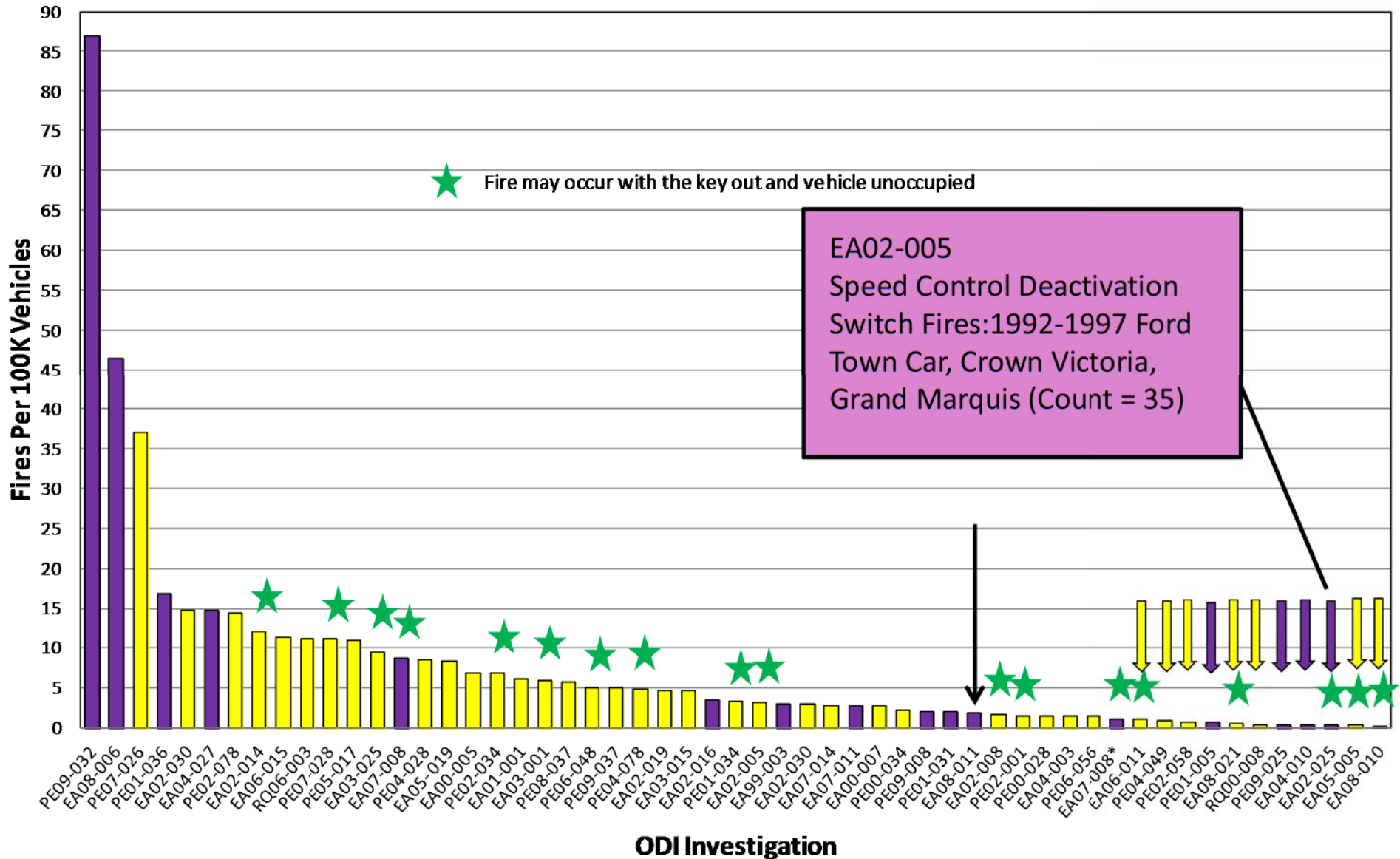
GM CONFIDENTIAL

Return

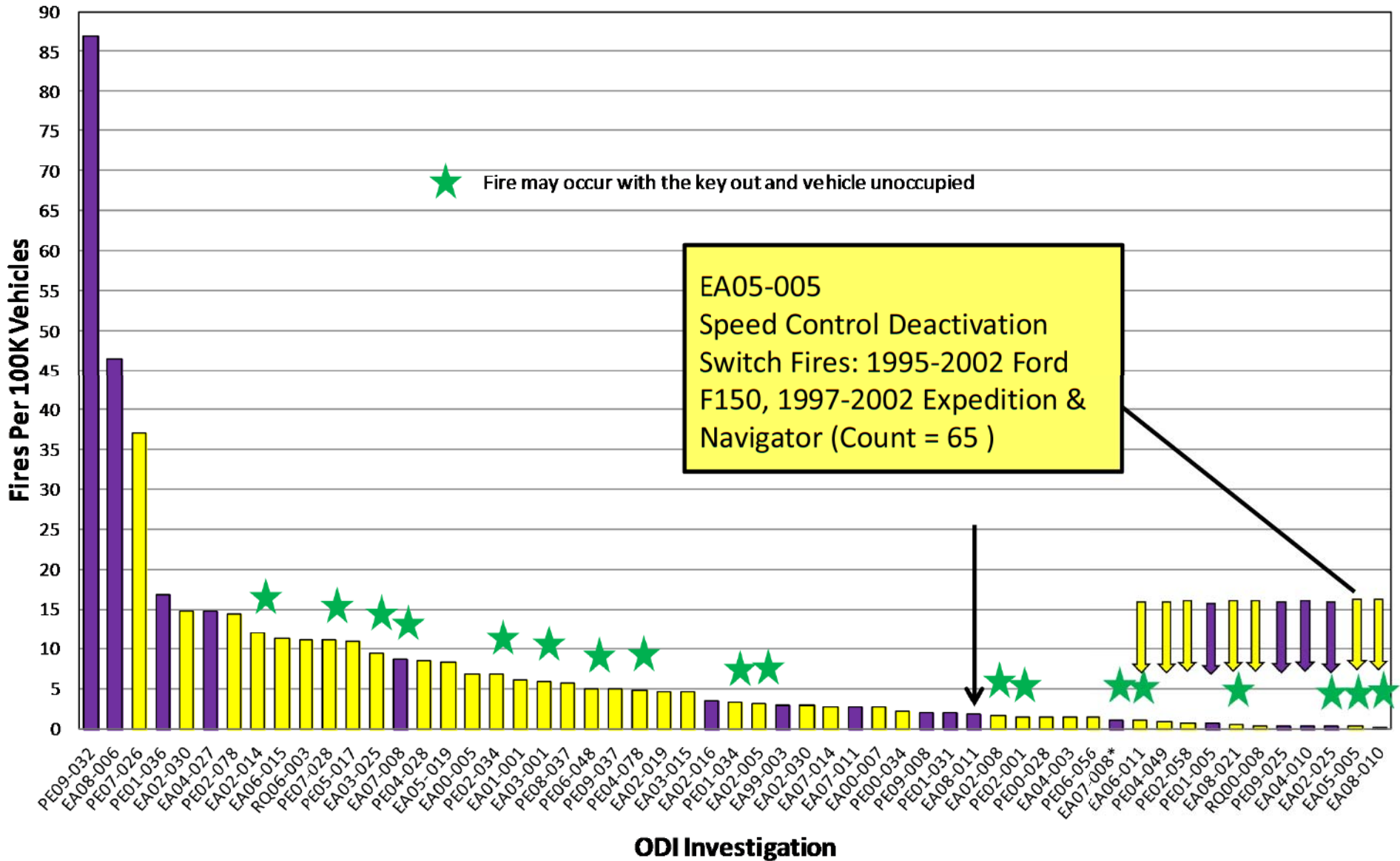
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



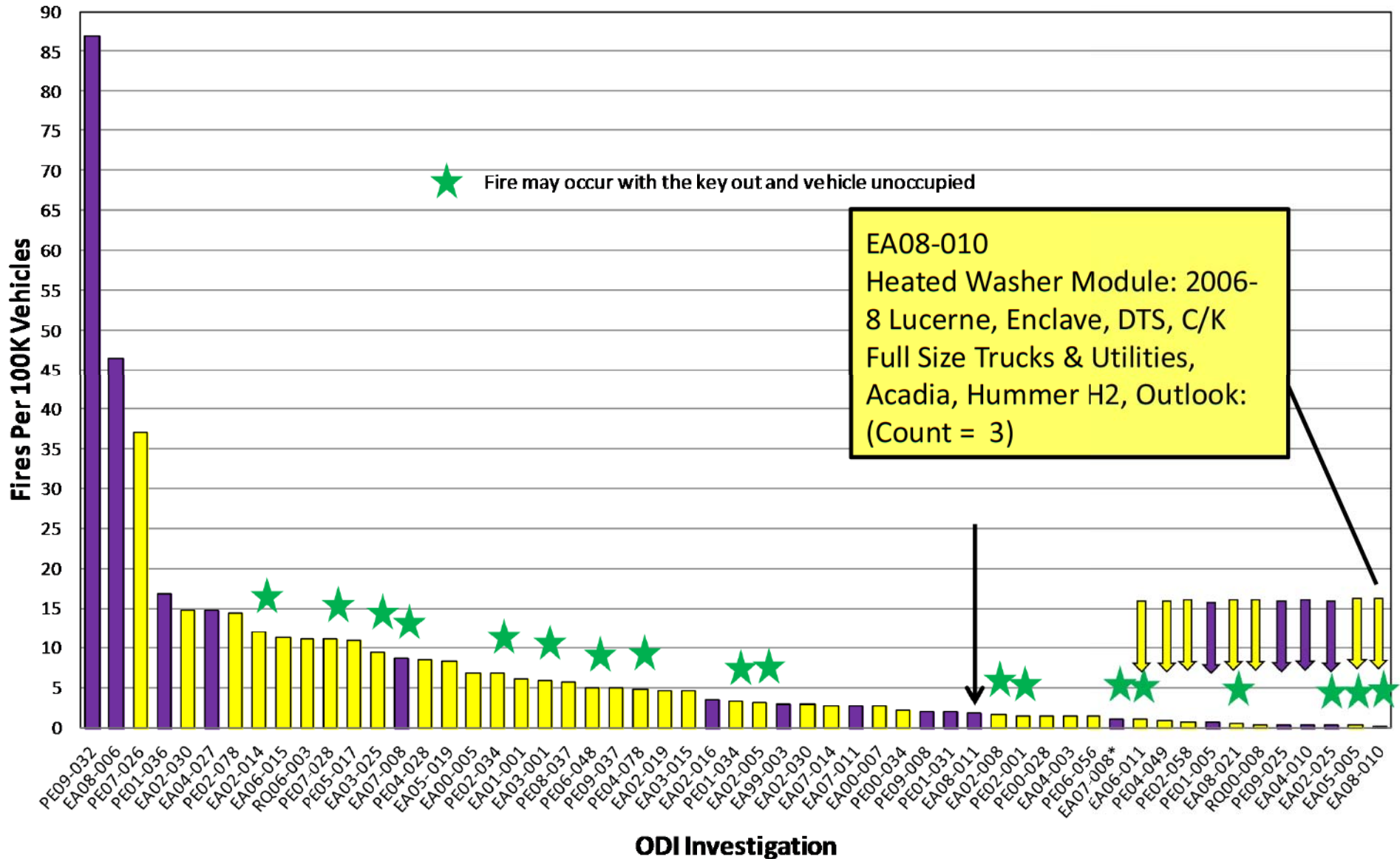
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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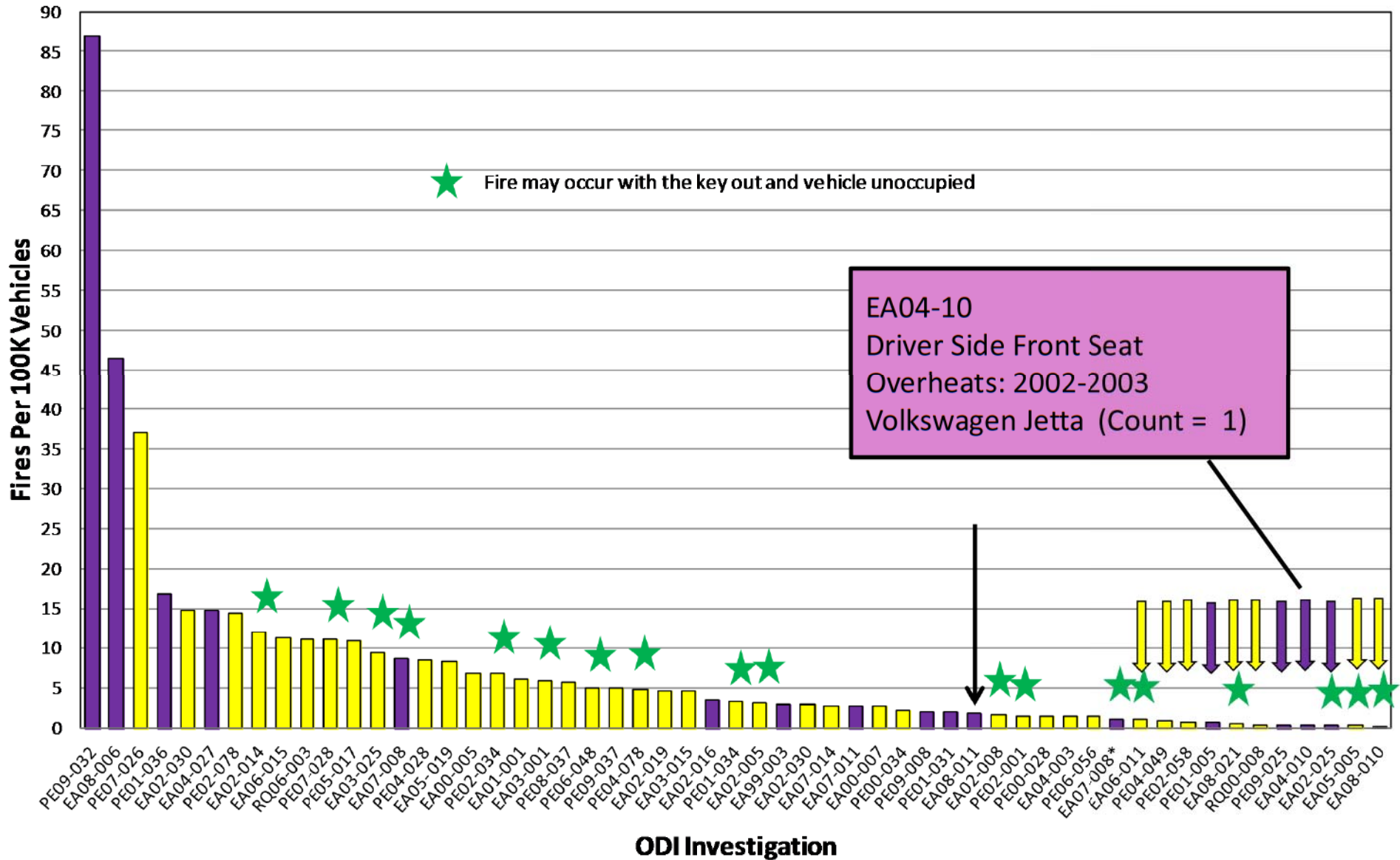
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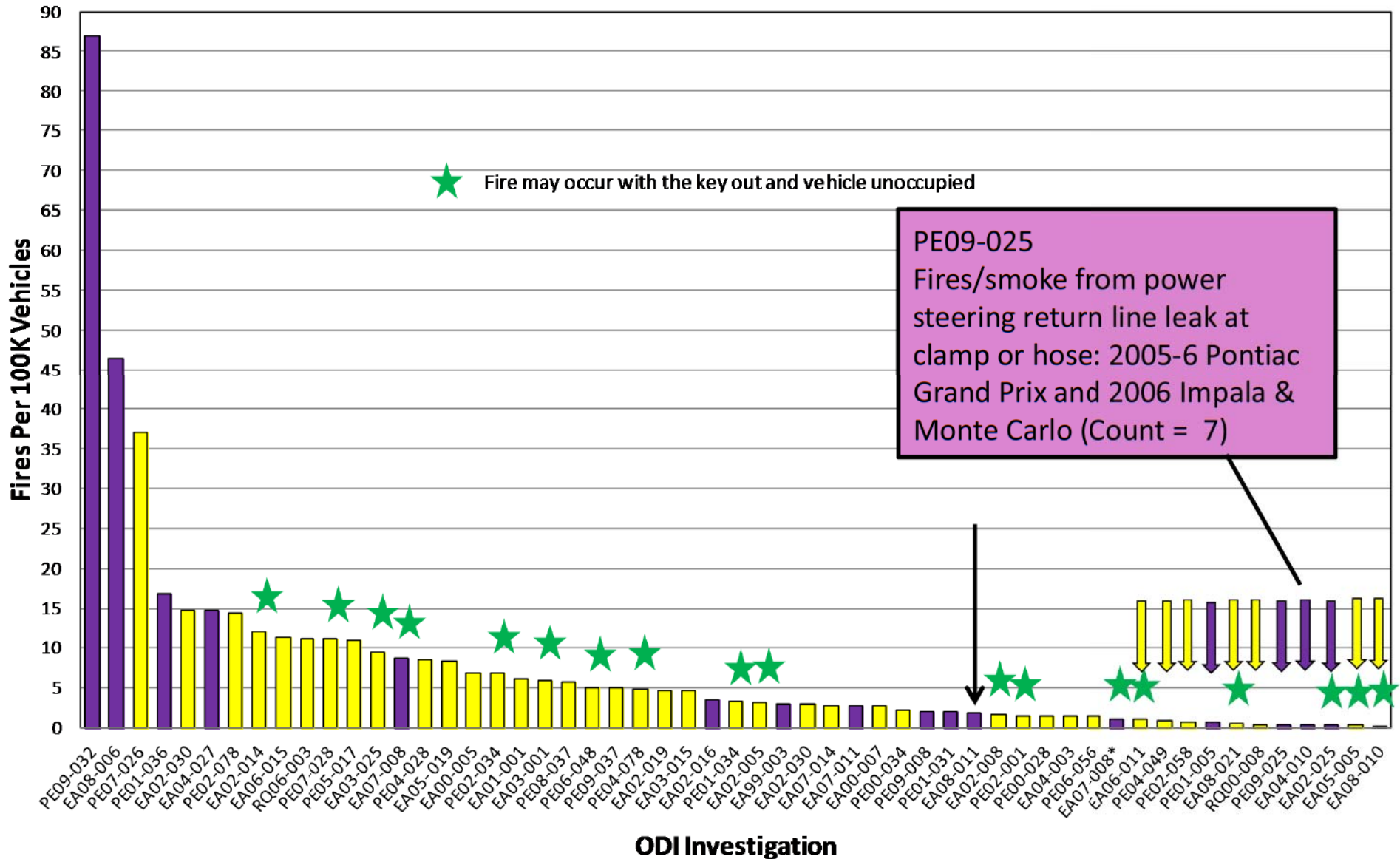
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
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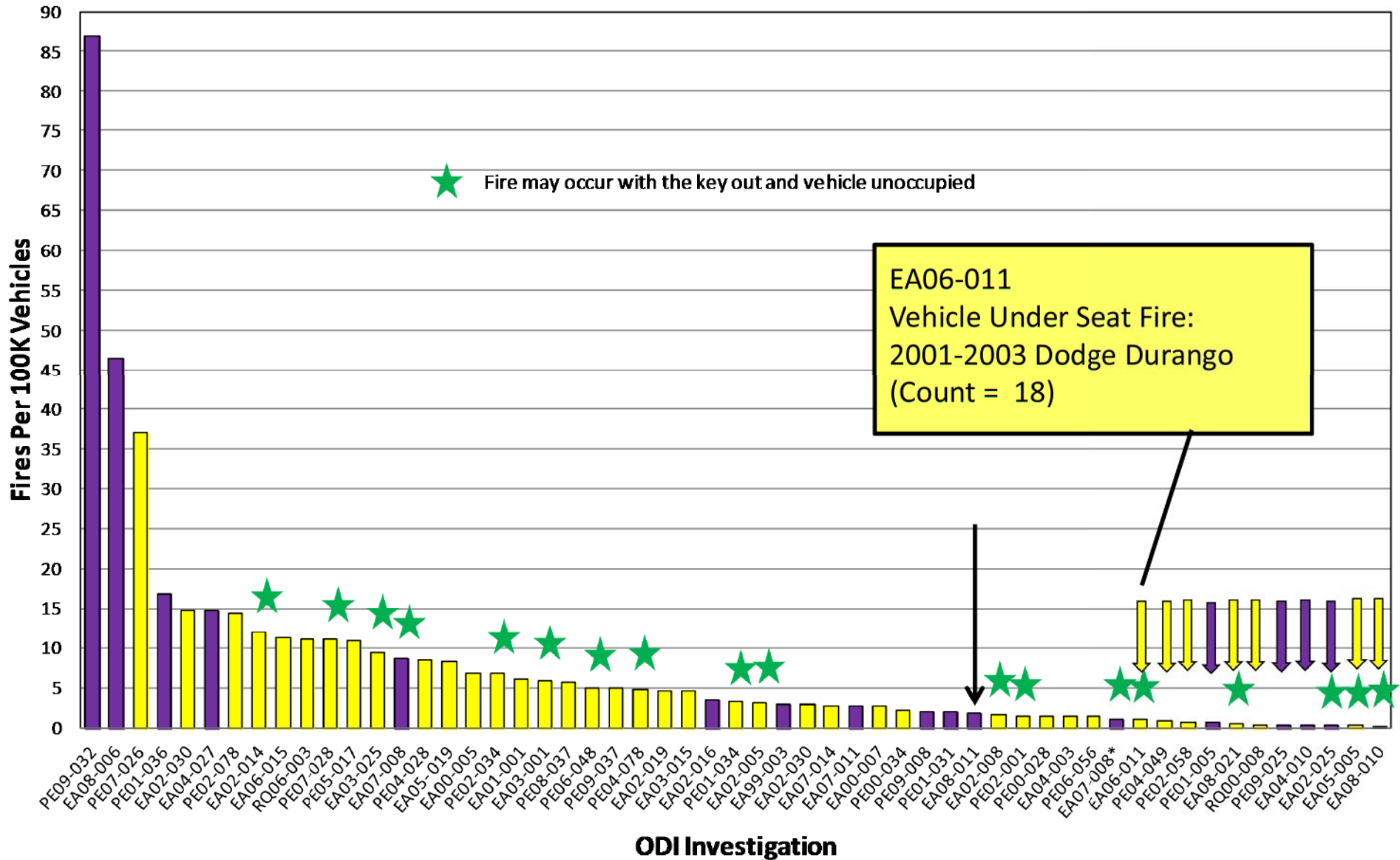
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

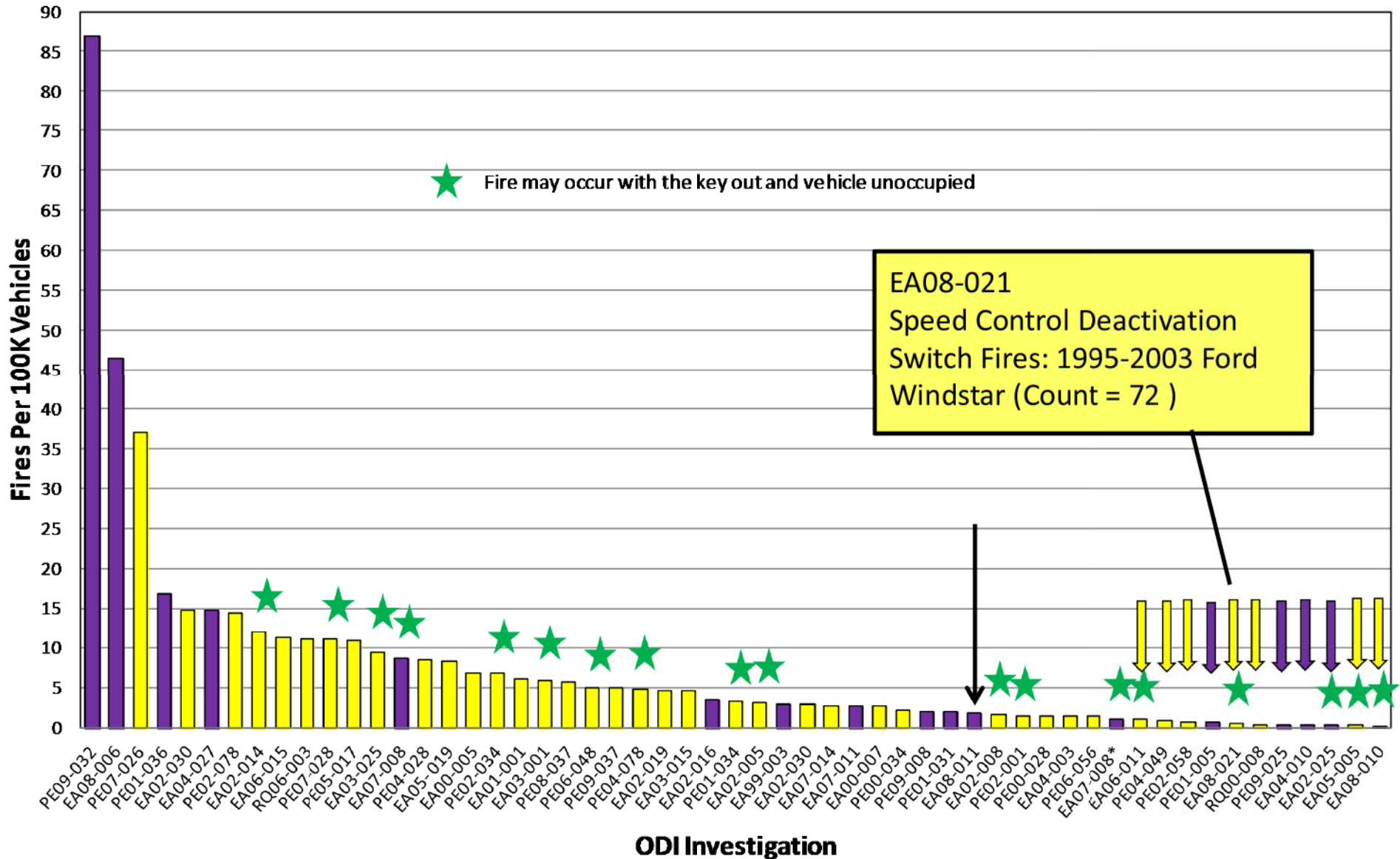


**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**

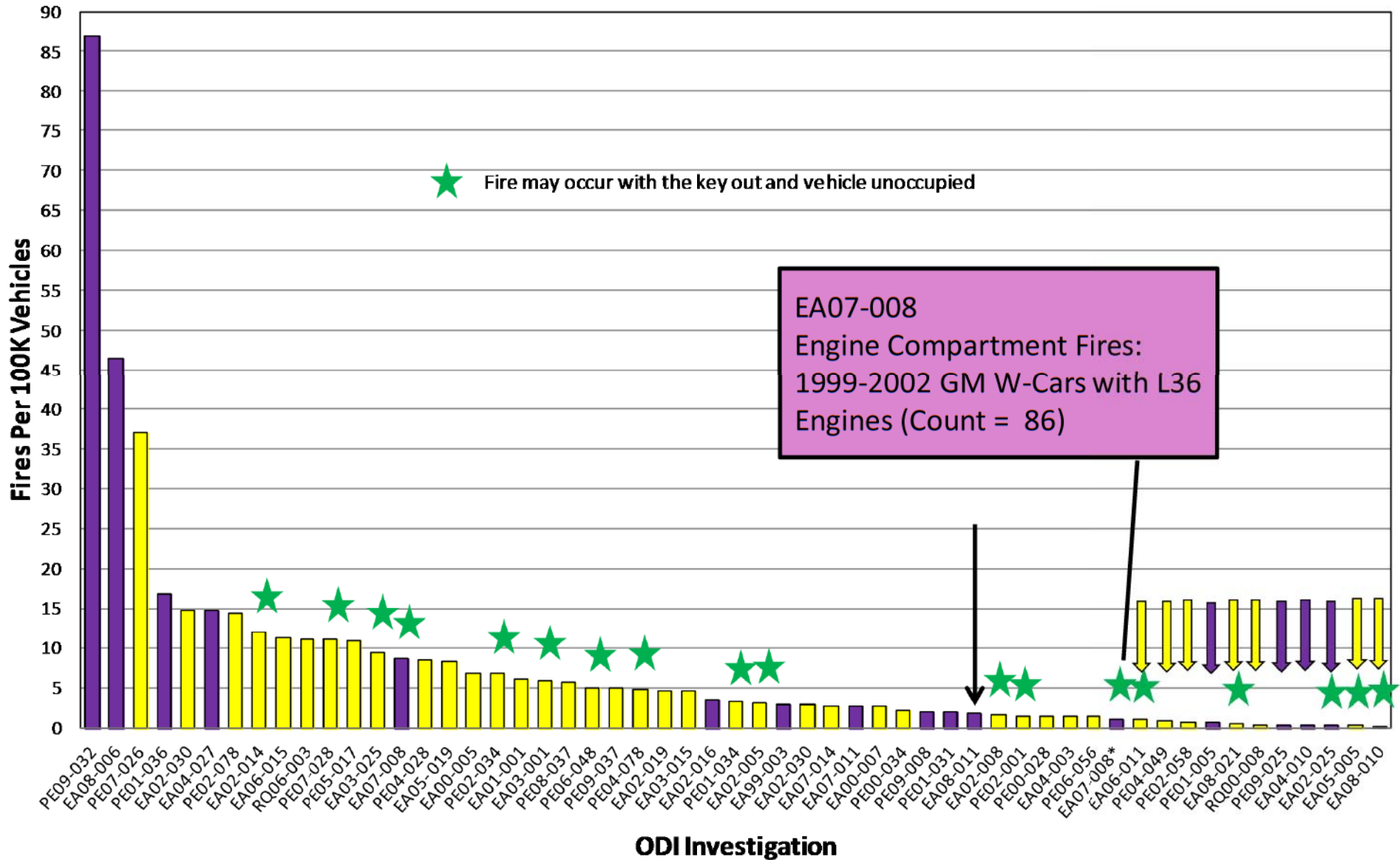




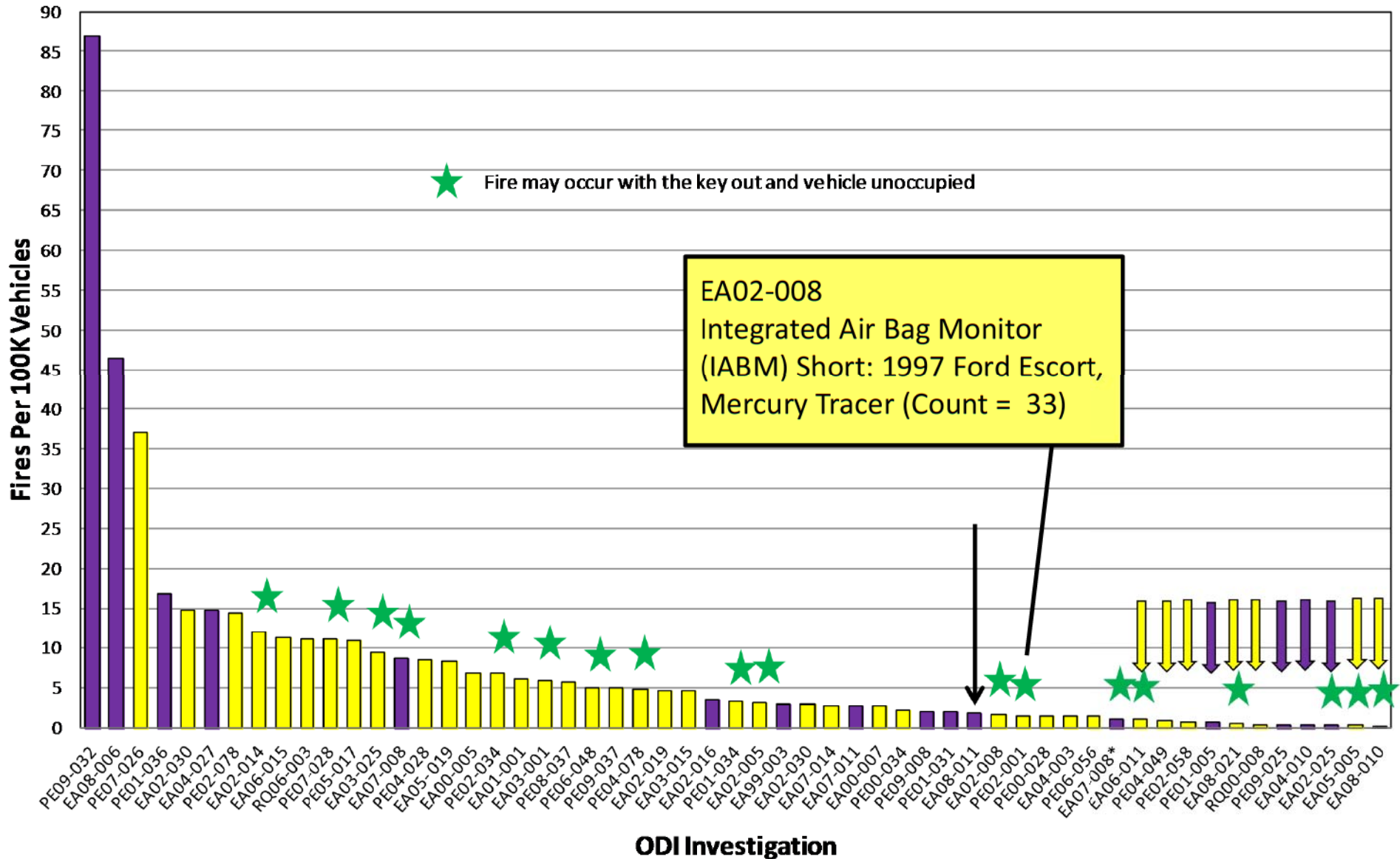
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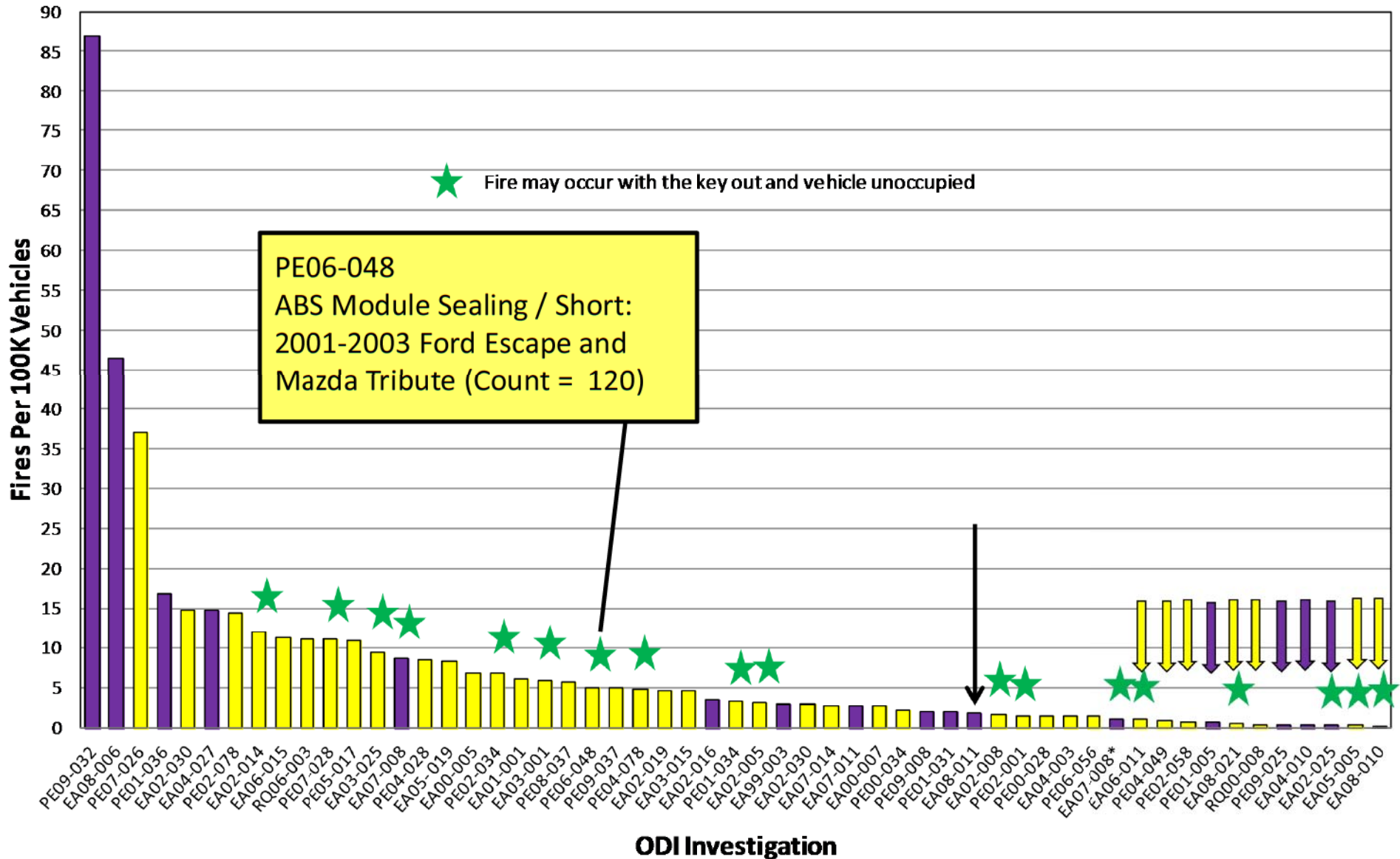
**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Function-Review of PIE0212 5-  
16-12-p

## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
567,592 Vehicles (Globally)

ETQ N110323

{ \* }

{ \* }

{ \* }

{ \* }

{ \* }

2/9/12 NHTSA issues PE12-003  
Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

Problem Description:


Melting and/or burning of the driver's master power window switch and related electrical components

2/6/12 NHTSA issues PE12-02  
Product: 2007 Toyota Rav4 and Camry

Problem Description:

Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

	<b>ODI RESUME</b>		
	Investigation:	PE 12-003	
	Date Opened:	02/09/2012	
	Investigator:	Emily Reichard	Reviewer: Scott Yon
	Approver:	Frank Boris	
	Subject:	Driver's Master Power Window Switch	
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer:	GENERAL MOTORS LLC		
Products:	2006-2007 Chevrolet Trailblazers		
Population:	309,423 (Estimated)		
Problem Description:	Melting and/or burning of the driver's master power window switch and related electrical components.		
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			

# Driver Door Module Short Circuit

{ \* }



Base Switch Package



Uplevel Switch Package



# 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] - [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



# Inspections/Investigations

1GNDT13S362120309 - Stevens (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.



# Inspections/Investigations

1GKET63M462 [REDACTED] - [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



EA12-004

GM

12-14-2012

ATTACHMENT Q\_09

2006-7 GMT360\_370 DDM

Warranty From PE Submission-

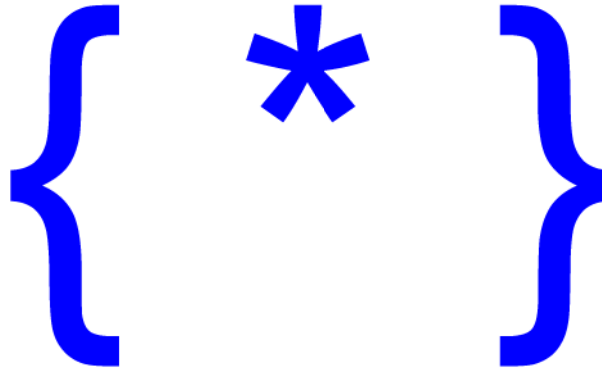
p

## Driver Door Module Short Circuit



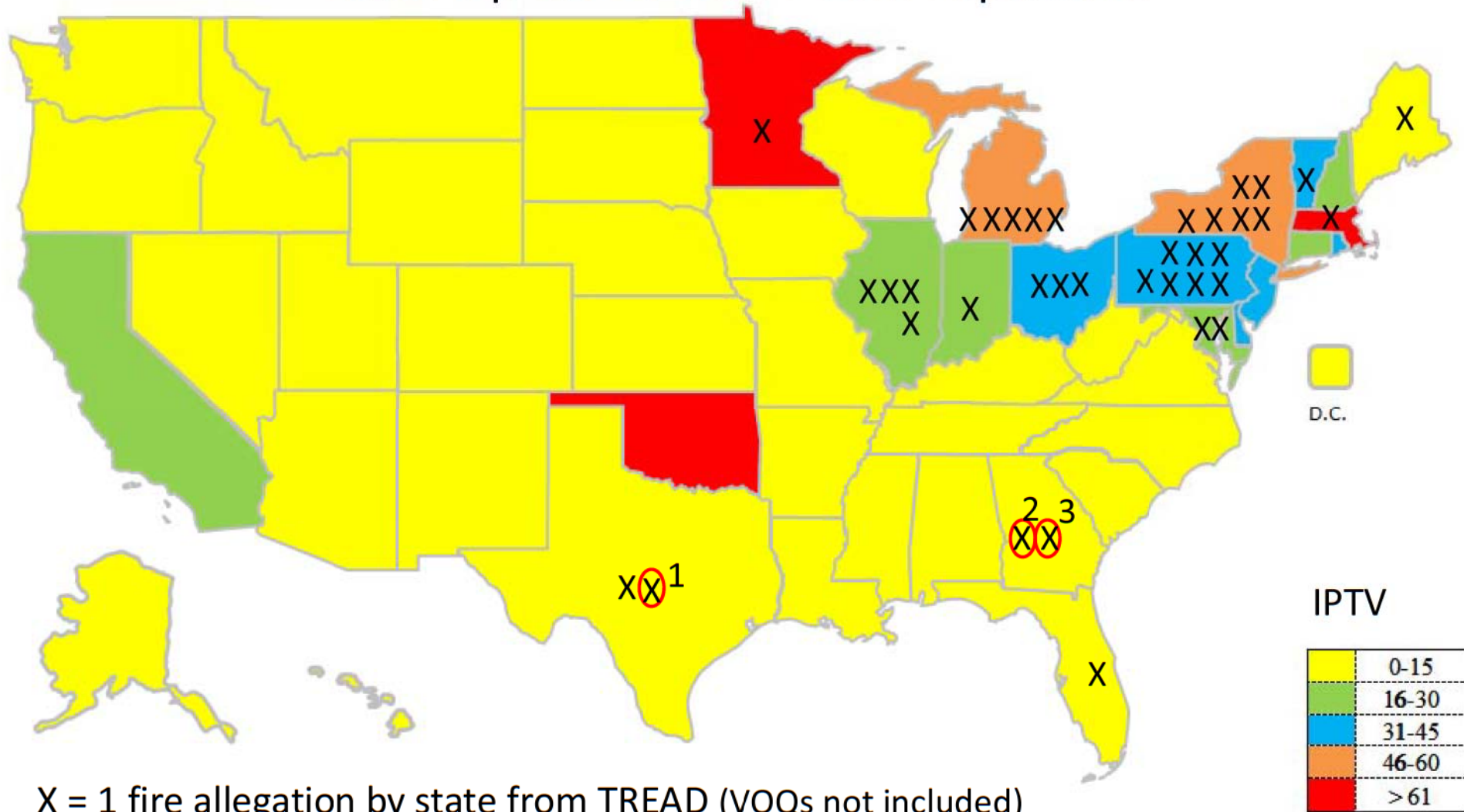
**2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender**  
**Potential change from SC to SR 525,377 vehicles (global)**  
**{ \*\* } (depending upon action)**

ETQ N110323





# 2006-2007 GMT360/370 DDM US Warranty (Ship To Dealer\*) Labor Op N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

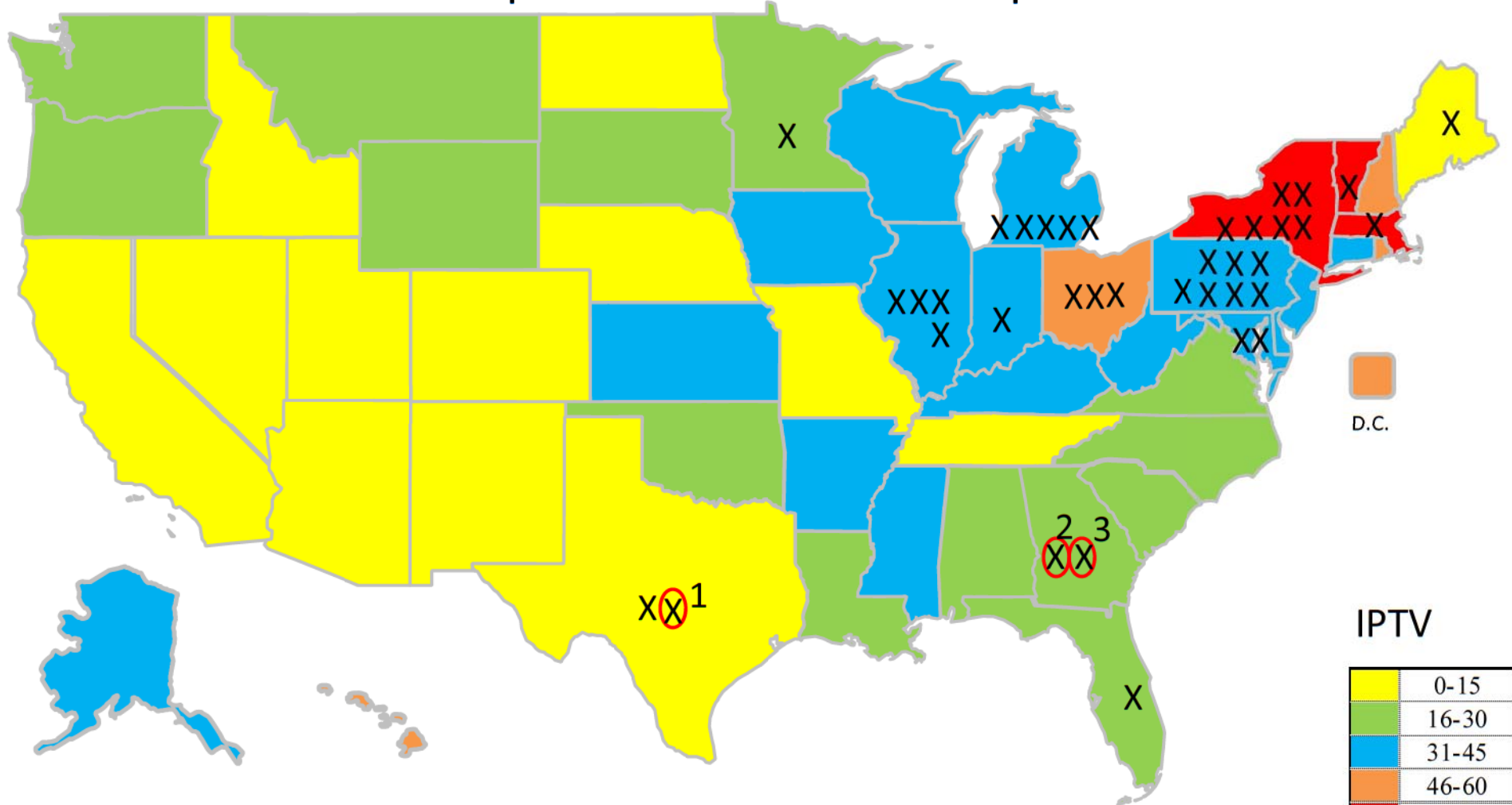
\*3,427 of 15,582 claims with no State

Data as of 4-19-12

122 of 483,664 have no state record in PVDM



# 2006-2007 GMT360/370 DDM US Warranty (Repair Dealer) Labor Op N2117 with PVDM Population



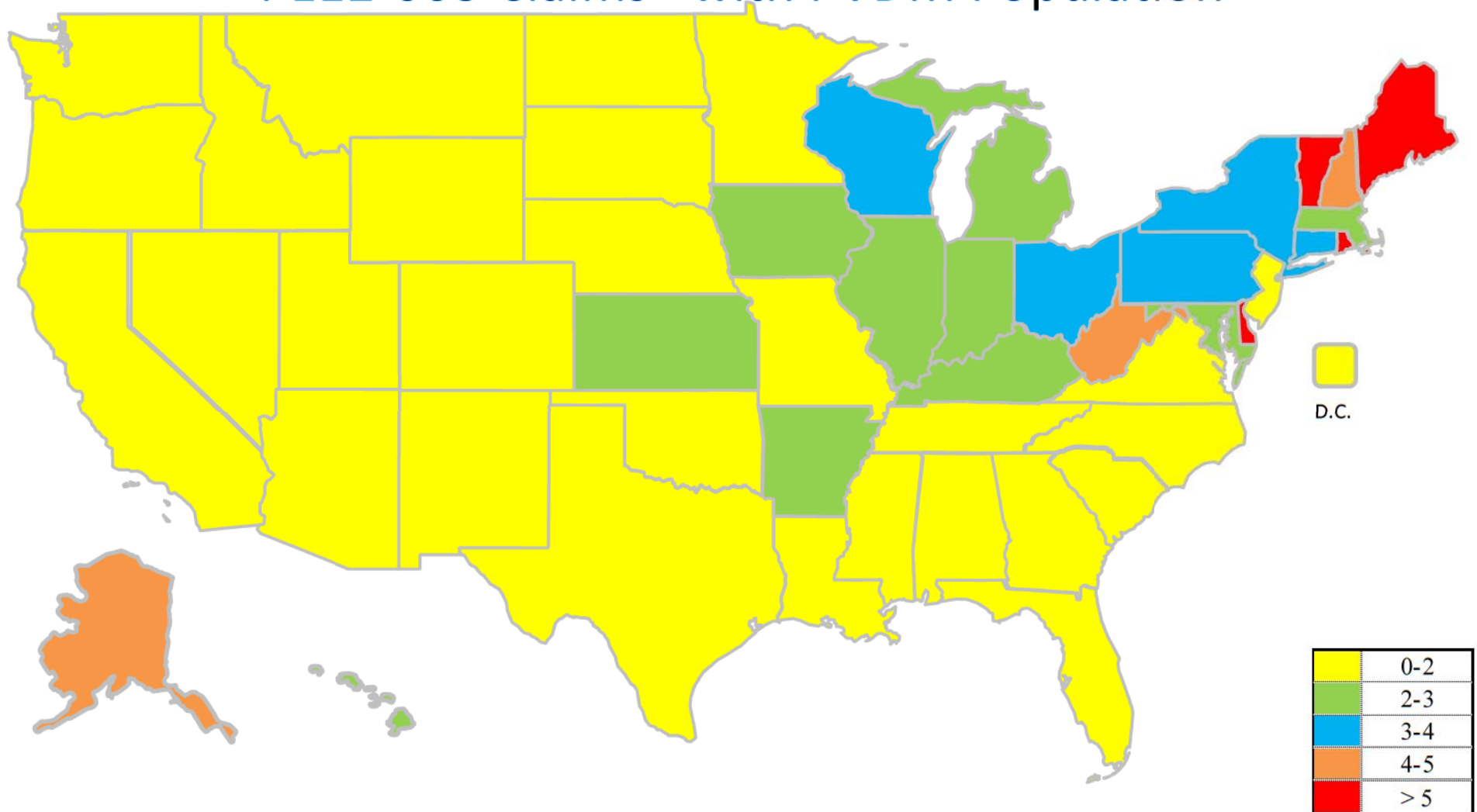
X = 1 fire allegation by state from TREAD (VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 4-19-12

122 of 483,664 have no state record in PVDM

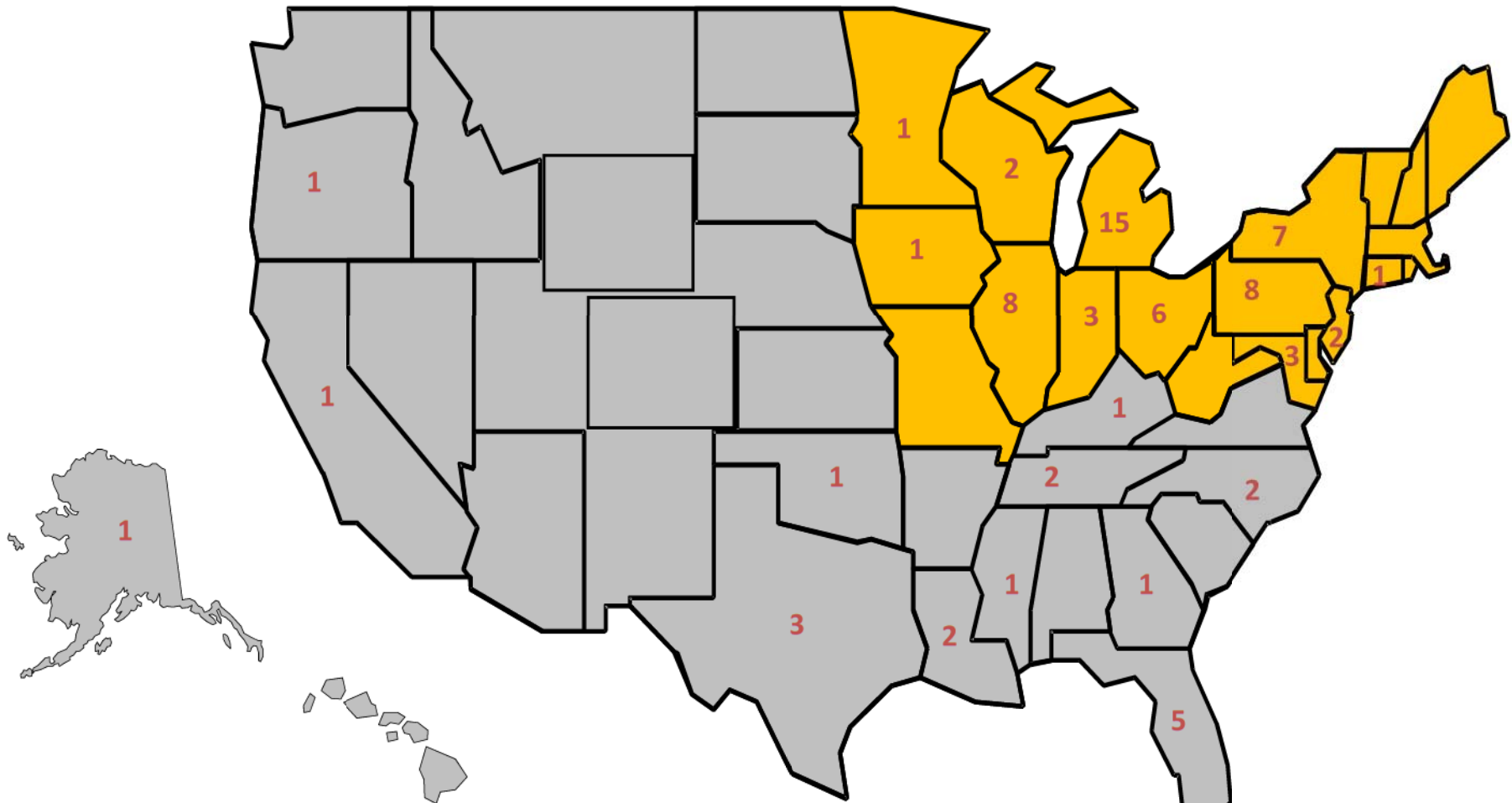
# 2006-2007 Trailblazer DDM US Warranty PE12-003 Claims\* with PVDM Population



\*Claims that may relate to the alleged defect (pulled 2/16/12)

2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
79 VOQs as of 4/16/12

 NHTSA defined Corrosion States



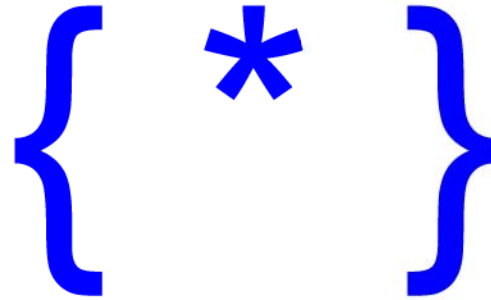
Corrosion States = 58 / 265,213 = 21.9 VOQs/100,000 vehicles  
 Non Corrosion States = 21 / 219,417 = 9.6 VOQs/100,000 vehicles



## 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Driver Door Module Short Circuit



Base Switch Package



Uplevel Switch Package

# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] - [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



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on\_FPERC & IR Submission 4-

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## Driver Door Module Short Circuit



2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
567,592 Vehicles (Globally)

ETQ N110323

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2/9/12 NHTSA issues PE12-003

Product: 2006-7 Trailblazer

12 VOQs and 309,423 vehicles

**Problem Description:**

Melting and/or burning of the driver's master power window switch and related electrical components


2/6/12 NHTSA issues PE12-02

Product: 2007 Toyota Rav4 and Camry

**Problem Description:**

Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

 U.S. Department of Transportation <b>National Highway Traffic Safety Administration</b>		<b>ODI RESUME</b>	
Investigation: PE 12-003		Date Opened: 02/09/2012	
Investigator: Emily Reichard		Reviewer: Scott Yon	
Approver: Frank Borris			
Subject: Driver's Master Power Window Switch			
<b>MANUFACTURER &amp; PRODUCT INFORMATION</b>			
Manufacturer: GENERAL MOTORS LLC		Products: 2006-2007 Chevrolet Trailblazers	
Population: 309,423 (Estimated)		Problem Description: Melting and/or burning of the driver's master power window switch and related electrical components.	
<b>FAILURE REPORT SUMMARY</b>			
	ODI	Manufacturer	Total
Complaints:	12	TBD	TBD
Crashes/Fires:	10	TBD	TBD
Injury Incidents:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Other*:	0	TBD	TBD
*Description of Other:			
<b>ACTION / SUMMARY INFORMATION</b>			
Action: A Preliminary Evaluation (PE) has been opened.			
Summary: The Office of Defects Investigation (ODI) has received twelve (12) consumer complaints, as well as manufacturer field reports provided through Early Warning Reporting, alleging melting and/or burning of the driver's master power window switch in model year 2006-2007 Chevrolet Trailblazer vehicles. Several of the complaints have led to driver door fires, including some that occurred while the vehicle was in operation and during periods where the vehicle was left unattended (key-off).  ODI has opened this investigation to further analyze the scope, frequency, and consequence of the alleged incidents.  ODI reports cited above can be reviewed at <a href="http://www-odi.nhtsa.dot.gov/complaints">www-odi.nhtsa.dot.gov/complaints</a> under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657			



# Driver Door Module Short Circuit

{ \* }



Base Switch Package



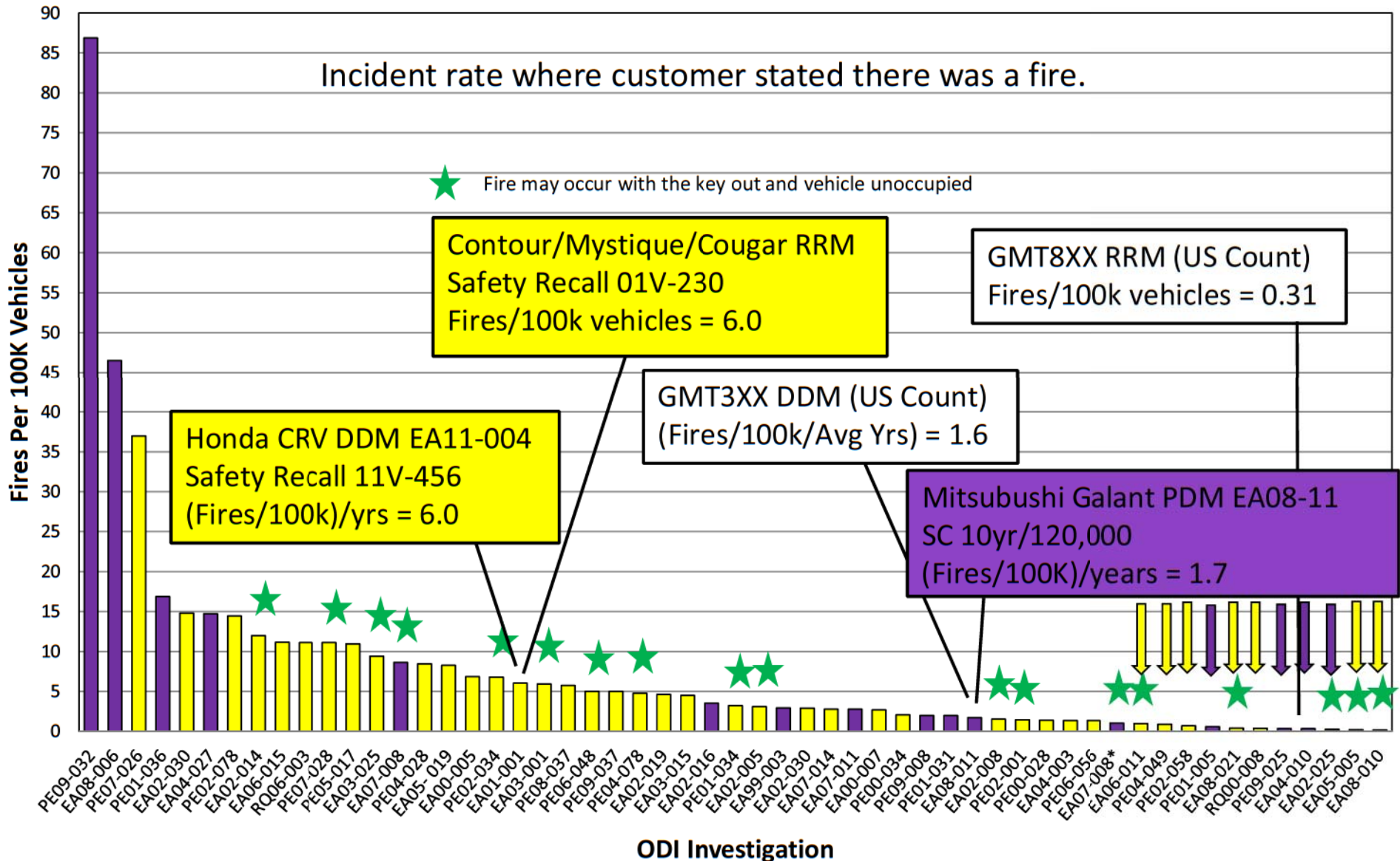
Uplevel Switch Package

# PE12-003 GM Reports

Using NHTSA “Fire” per 49 CFR 579.2 which also includes smoke, melt, etc

Type of Report	GM Reports	Subcategories			
		Corresponding to NHTSA Reports	Number with Property Damage	Number with Injuries	Number with Fatalities
Owner Reports	70	0	0	0	0
Field Reports	77	0	0	0	0
Not-In-Suit Claims	29	0	0	0	0
Subrogation Claims	8	0	0	0	0
Third Party Arbitration Proceedings	0	0	0	0	0
Product Liability Lawsuits	1	0	0	0	0
Total Reports (Including Duplicates)	185	0	0	0	0
Total Vehicles with Reports (Unique VIN)	167	0	0	0	0

**ODI Fire Investigation Precedent - August 2000 to May 10, 2011**  
**Fires Per 100K Vehicles per Avg Years Exposure - Passenger and Light Truck**  
**(Yellow - Closed with Recall; Purple - Closed w/out Recall)**



Data as of 1-31-12

**ODI Investigation**

# Risk Assessment

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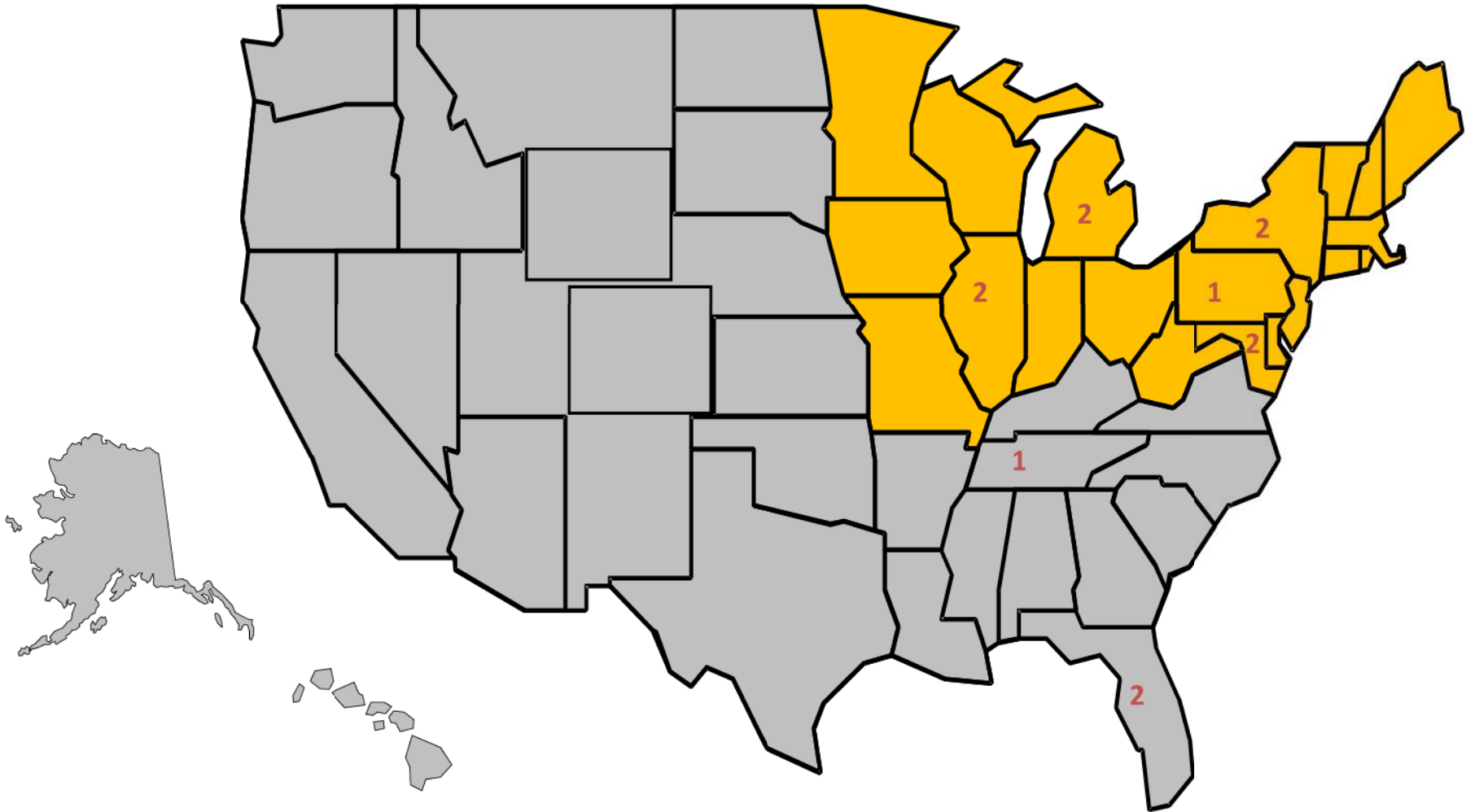
Back-Up






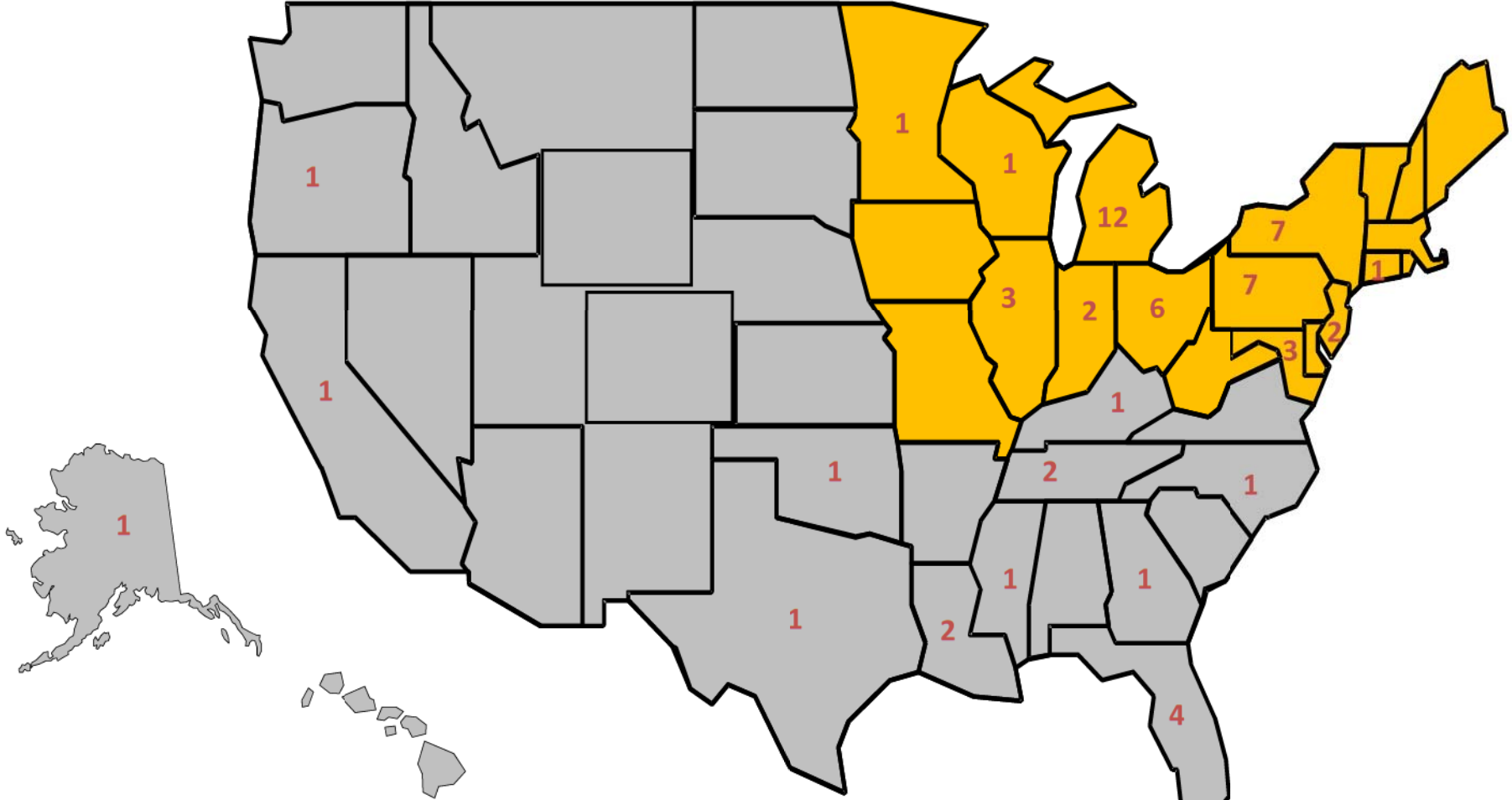
PE12-003 2006-7 Trailblazer Drive Door Module  
12 NHTSA VOQs as of 2/9/12

 NHTSA defined Corrosion States



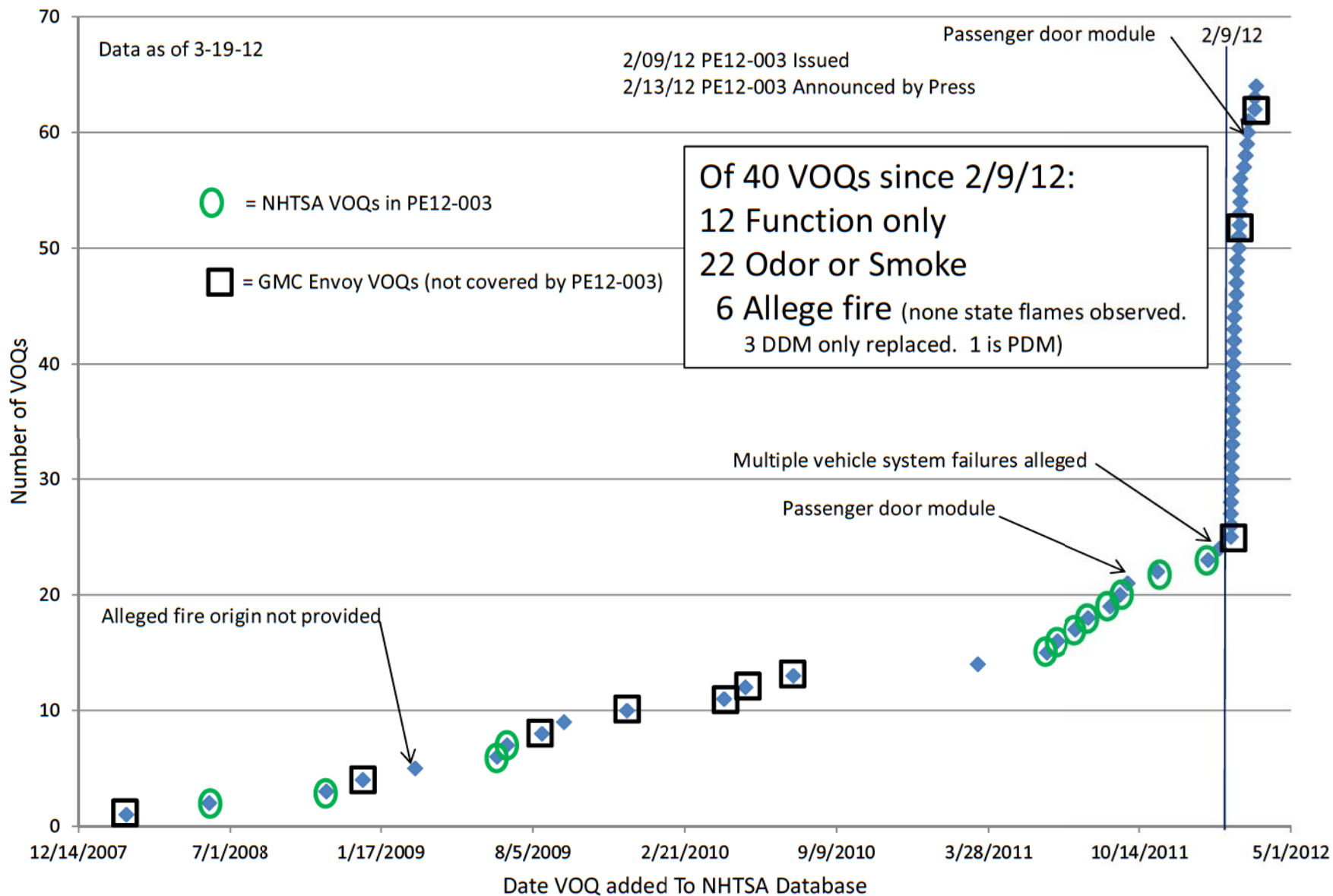
2006-7 Trailblazer/Envoy/Rainier/9-7x Drive Door Module  
62 VOQs as of 3/19/12

 NHTSA defined Corrosion States

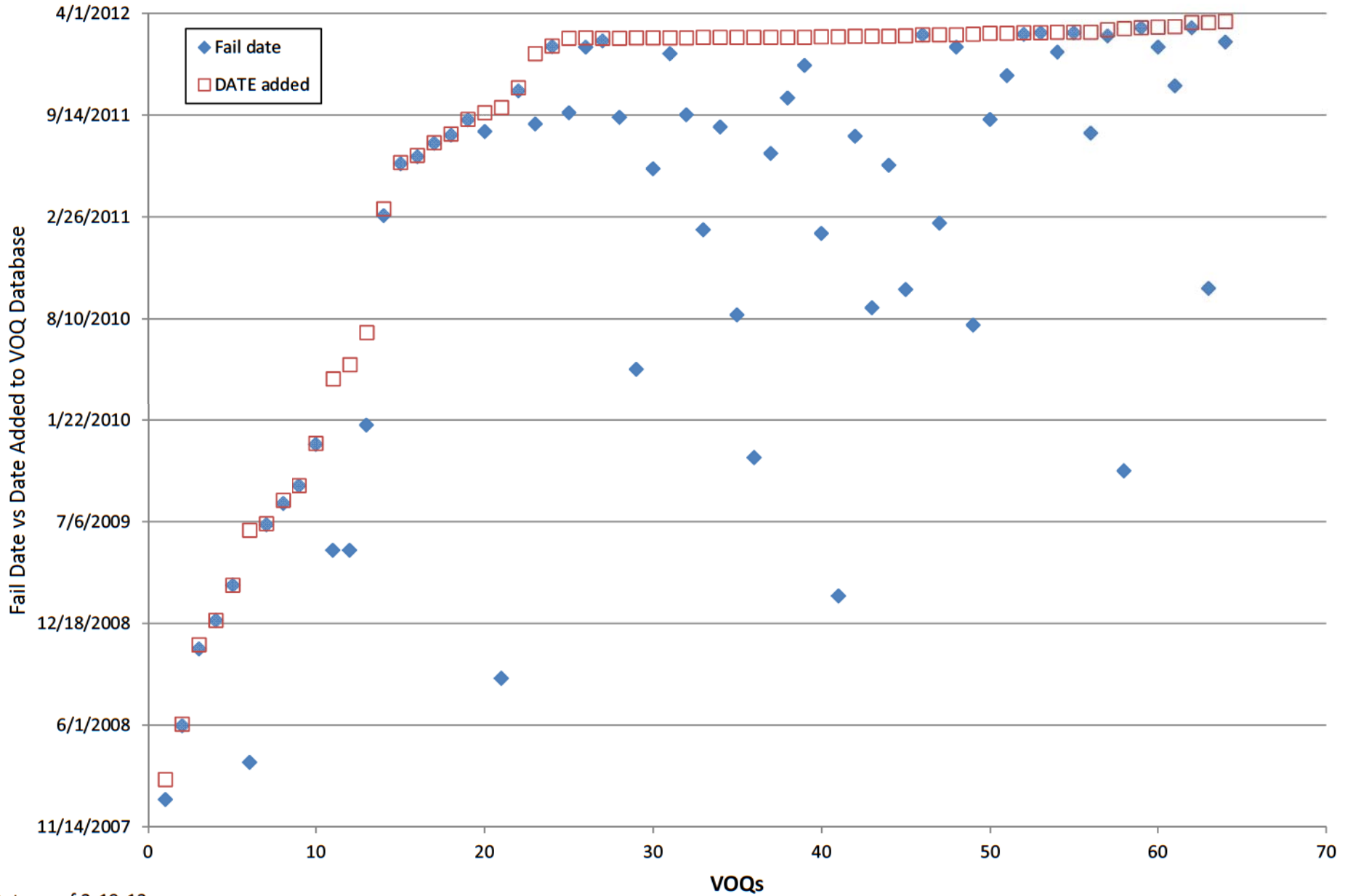


Corrosion States = 45 / 265,213 = 17.0 VOQs/100,000 vehicles  
Non Corrosion States = 17 / 219,417 = 7.8 VOQs/100,000 vehicles

## 2006-7 Trailblazer/Envoy Driver Door Module Potential Thermals by Date Loaded



## 2006-7 Trailblazer/Envoy VOQs Potentially Related to Door Module Thermal Fail Date & Date Added to VOQ Database



Data as of 3-19-12

## 2006-7 GMT360/370 Door Trim (Chevrolet Trailblazer shown)



# Inspections/Investigations

1GNDT13S872 [REDACTED] - [REDACTED] (727454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 [REDACTED] - [REDACTED] (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



# Inspections/Investigations

1GNDT13S362 [REDACTED] (663106) Incident date: 10-29-2008; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.





# Inspections/Investigations

1GKET63M462 [REDACTED] (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



# Driver Door Module Short Circuit

VOQs (with Fire in Verbatim)

**Data 1/31/12** (one added 11/7/11)

10 Total

2006 – 5

2007 – 5

2.1/100K

2006 (1.7) & 2007 (2.7)

There are 14 total VOQs, but 4 say smoke only (3 2006 and 1 2007)

5 VOQs have a matching TREAD report (1 2006 & 4 2007).

# Driver Door Module Short Circuit

TREAD Data summary (fire, melt, smoke, burn)

## Data 1/31/12

252 reports overall

2006 – 105

2007 – 147

51.9/100K

2006 (35.3) & 2007 (78.4)

[TREAD search for 2005](#)

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

# Driver Door Module Short Circuit

TREAD Data summary (fire)

## Data 1/31/12

36\* Claims overall

2006 – 16

2007 – 20

7.4/100K

2006 (5.4) & 2007 (10.7)

{ \* }

# Driver Door Module Short Circuit

VOQs + TREAD (Data 1/31/12)

42\* Total

2006 – 21

2007 – 21

8.7/100K or 1.6/100K @ 5.5yrs exposure

2006 (7.1 or 1.2/100K@6yrs) & 2007 (11.2 or 2.2/100K@5yrs)

Rates using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56 (in one case VOQ says smoke, but tread record says “fire”, so reduce only by 4).

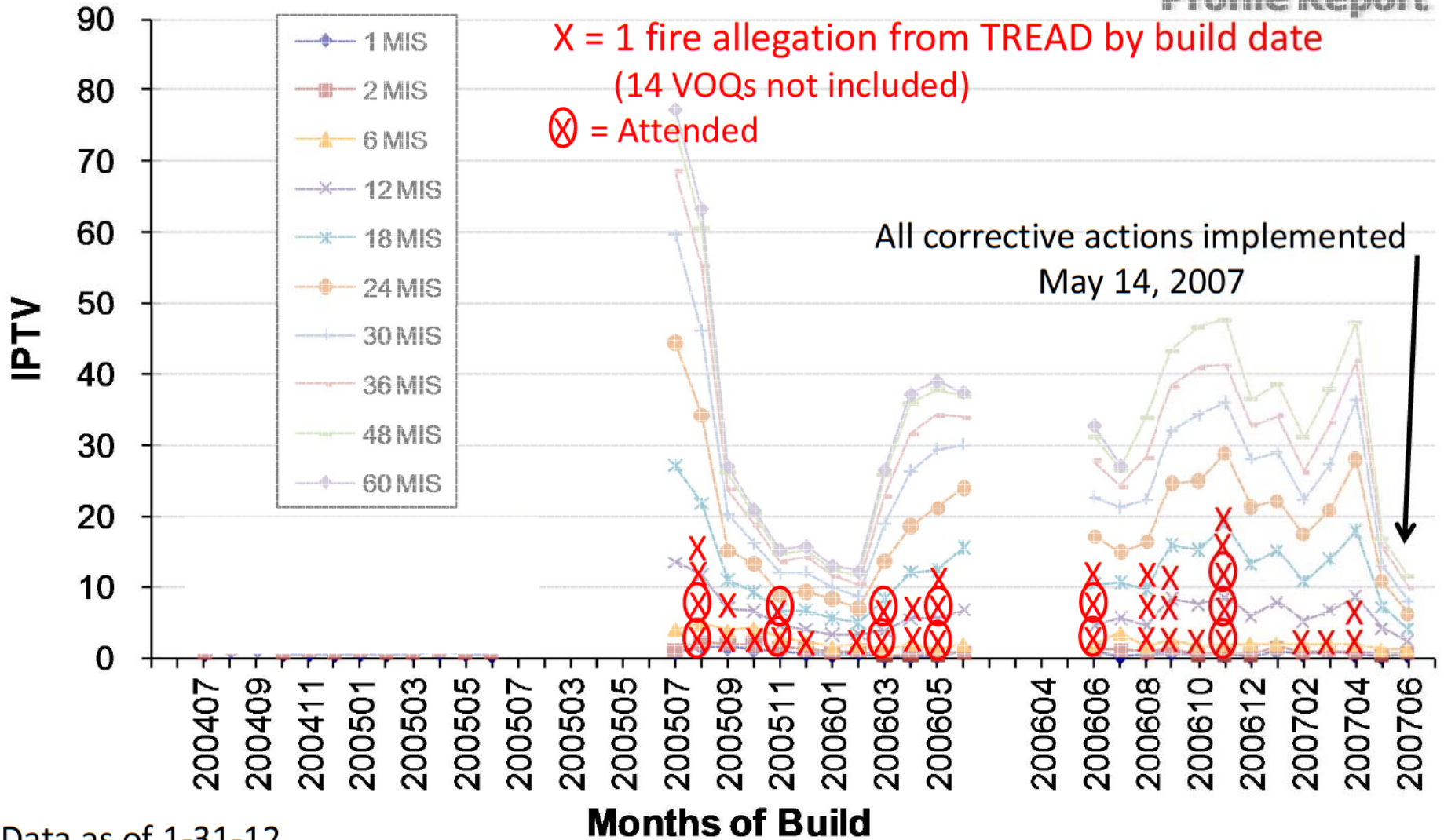
Very few incidents were actual “fires”. Most were odor, melting, or smoke.

# U.S. Fire Allegations by Build Date

2006-2007 GMT360/370 DDM Global Warranty

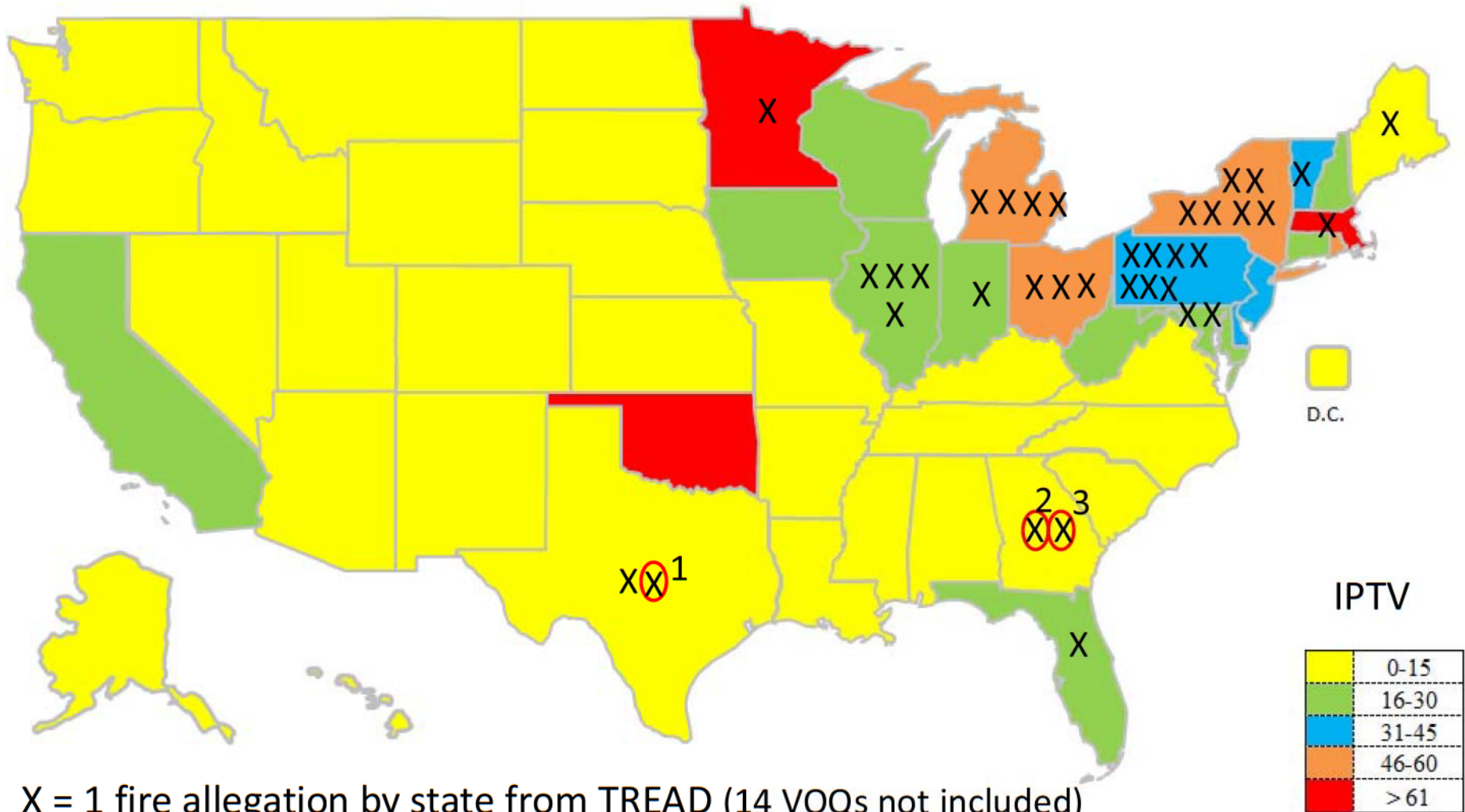
Labor Ops N2116 , N2117

Profile Report



Data as of 1-31-12

# 2006-2007 GMT360/370 DDM US Warranty Labor Ops N2116 , N2117 with PVDM Population



X = 1 fire allegation by state from TREAD (14 VOQs not included)

⊗ Originally registered: 1 = NY, 2 = NY, 3 = MI

Data as of 1-31-12

122 of 483,664 have no state record





# 2006-7 GMT360/370

PVDM volumes 28,000 less than GART AA  
Only 122 PVDM unknown vs 129,000 in GART AA

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

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N110323 2006-7 GMT360\_370

Driver Door Module Inv

Summary-p

2006-7 Trailblazer, Envoy, Rainer, 9-7x, Ascender  
Driver Door Module Short Circuit

{ \* }



Figure 1 – Trailblazer door trim with DDM indicated.



Figure 2 – Trailblazer DDMs without (L) and with (R) heated seat controls.

**{ \* } Indicates GM Confidential Business Information Redacted**

**{ \* }**

**{ \* } Indicates GM Confidential Business Information Redacted**

**{ \* }**

{ \* }

{ \* }



Figure 5 - 1GKET63M462 [REDACTED] (723759) Incident date: 12-16-2010.  
No detail on circumstances of incident, but damage is consistent with DDM.

**{ \* } Indicates GM Confidential Business Information Redacted**

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**{ \* } Indicates GM Confidential Business Information Redacted**

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The 12 VOQs in the NHTSA opening resume for PE12-003 were plotted by state (Figure 8).

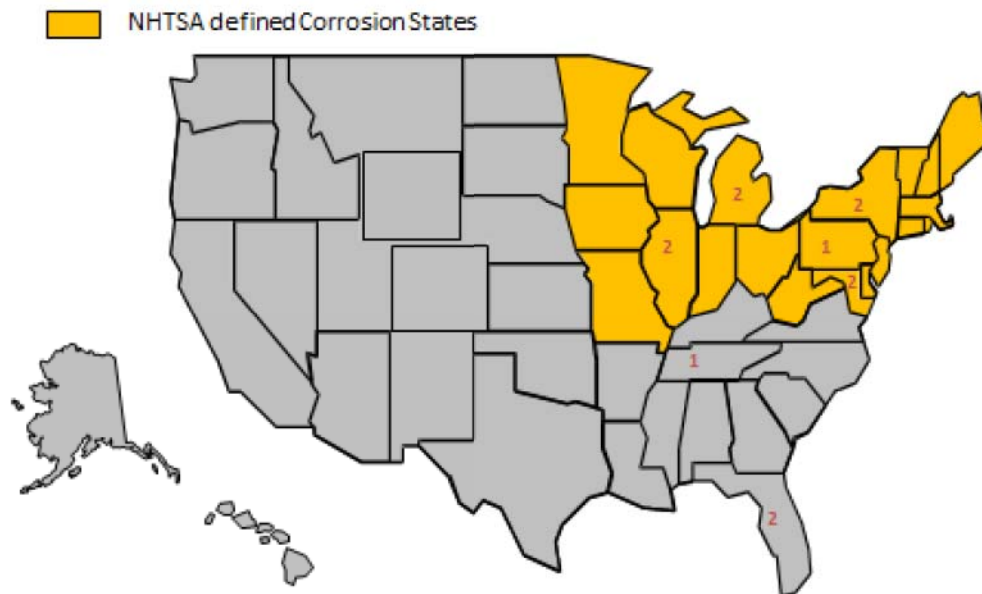


Figure 8 – VOQs from PE12-003 plotted by state (Trailblazer ONLY)

The VOQs show a bias to the NHTSA corrosion states. 9 of the 12 VOQs were in one of the NHTSA defined corrosion states. It is hypothesized that in these states, use of road salt result in accumulation of salt on the exterior of vehicles. When vehicles covered with snow have a window rolled down or door open, some of this snow may drop onto the DDM. The combination of snow and salt may melt and migrate through the window switch openings and wick onto the PCB and begin the corrosion process.

As of April 16, 2012 there are 79 VOQs for both Trailblazer and Envoy vehicles that may be related to the alleged condition. All were plotted by state (Figure 9).

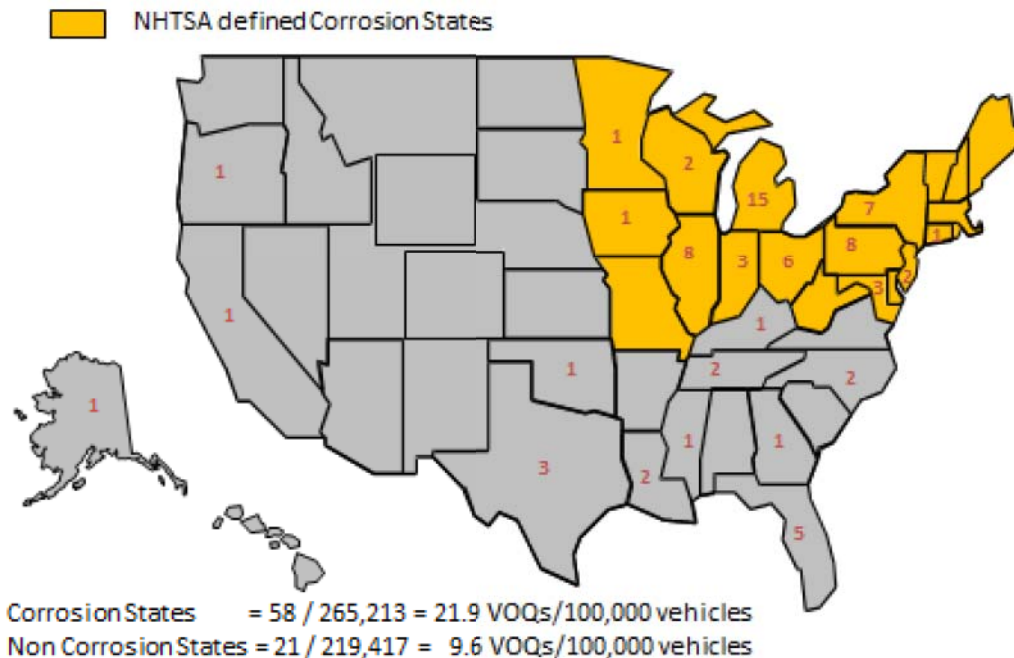
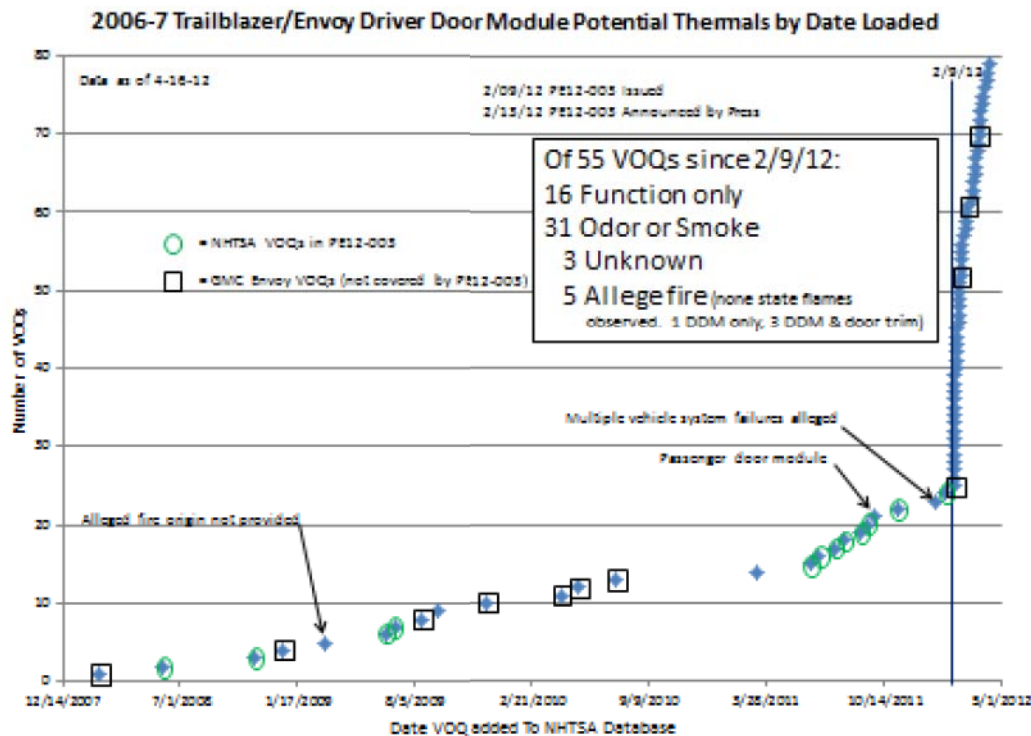


Figure 9 – Trailblazer and Envoy VOQs plotted by state (as of 4/16/12)

The corrosion state bias still exists. The VOQ rate in corrosion states is more than double the rate in non-corrosion states. While the NHTSA opening resume for PE12-003 listed complaints of melting, smoke and fire, after the investigation was listed in the media, there have been 16 function only VOQs.

The VOQs by report date is shown in Figure 10. The significant increase in VOQs took place just after February 9, 2012 when PE12-003 was covered by the media.



Data as of 4/16/12

Figure 9 – VOQs by date loaded in the NHTSA database.

**Number of Documented Reports**

Based upon the NHTSA investigation, the data is focused on reports in the US.

79 VOQs as of April 16, 2012

78 DDM & 1 PDM VOQs (40 2006 & 39 2007)

19 allege “fire”

- Based upon review of verbatims, photos, and GM records (where available), PI assessment is as follows:

- 4 confirmed fires
- 2 Unknown
- 13 fire/flame not likely (minor damage)

- 21 state smoke
- 17 state odor
- 21 state function
- 1 TBD

TREAD Data summary (fire, melt, smoke, burn) as of 4/19/12

258 reports overall

2006 – 106

2007 – 152

53.2/100K

2006 (35.6/100K) & 2007 (81.1/100K)

TREAD data was then filtered for claims where a fire was alleged with the following results:

37 Claims overall

2006 – 16

2007 – 21

– Based upon review of the verbatims, and (where available) warranty information or incident photos, Product Investigations' assessment of the 37 allegations of "fire" is as follows:

- Fire likely occurred or can't be ruled out in 15 cases (5 2006 & 10 2007)
- Fire did not occur in 22 cases (11 2006 & 11 2007)

For the 37 claims of a fire there were none alleged to have extended beyond the interior.

The Fire Historian file uses the total fires in the NHTSA Closing Resume which is the sum of unique fires reported in VOQs and OEM reports. For the DDM investigation, the data for alleged fires is as follows:

VOQs + TREAD (Data 4/19/12)

51\* Total (Includes all allegations that fire was present)

2006 – 24

2007 – 27

10.5/100K or 1.9/100K @ 5.5yrs exposure

2006 (8.1 or 1.3/100K@6yrs) & 2007 (14.4 or 2.9/100K@5yrs)

Rates calculated for the US using PVDM volume

\*5 VOQs have matching TREAD records or total would be 56.

Very few incidents were actual "fires". Most were odor, melting, or smoke.

Other Model Years:

A TREAD and VOQ search for the 2005 model year was done to determine the potential for DDM short circuits. The results were as follows:

14 field/customer reports (all only needed to replace DDM, but 4 allege fire)

1 VOQ reported Sep 2007

Based upon the additional exposure 2005 parts have experienced and the low level of completes, the condition does not appear to significantly affect that model year.

For data pulled through April 19, 2012, plots of the TREAD incidents by vehicle build date are shown in Figure 10. The same incidents were also plotted by state in Figure 11 where the DDM warranty rate by state is also shown. Of the 37 allegations of fires found in TREAD, only 5 are reported outside of the Corrosion States. In researching the history of those 5 vehicles, 3 were found to have been originally sold in New York or Michigan which are corrosion states.

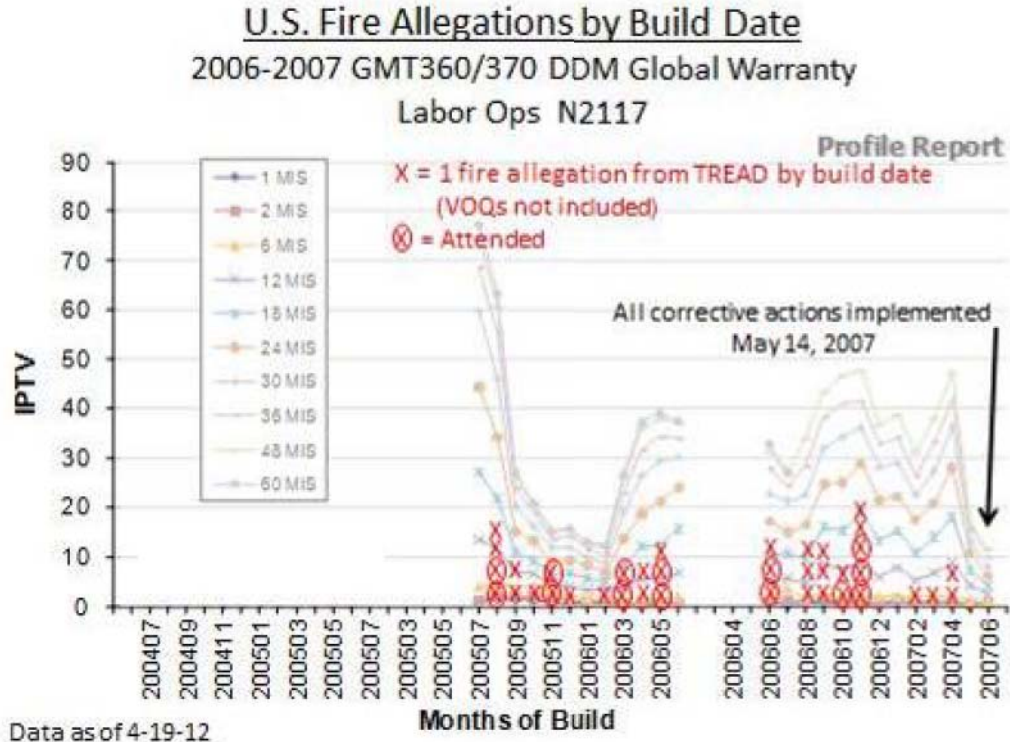
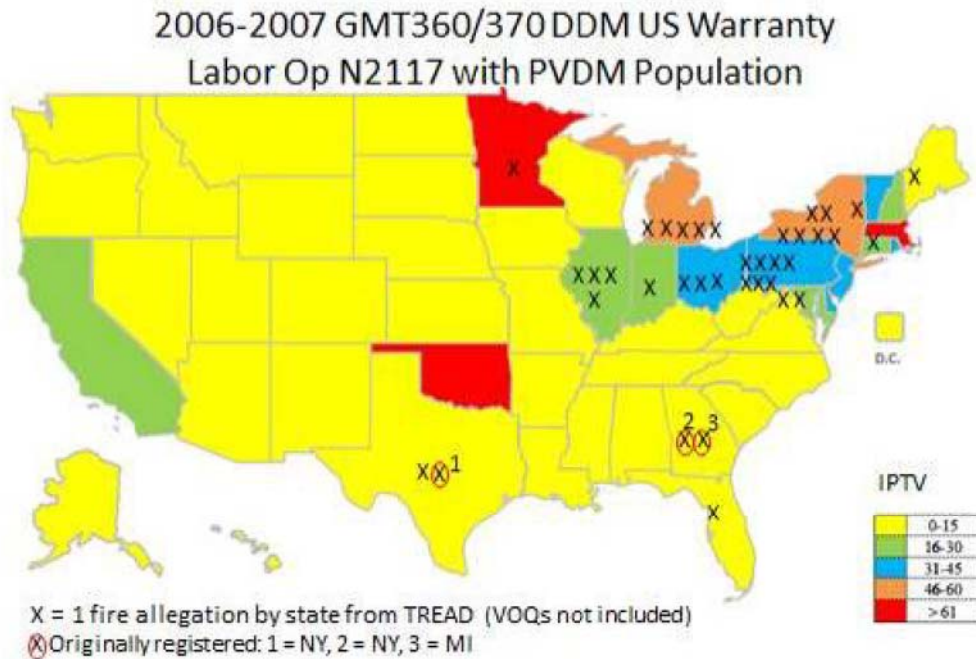


Figure 10 – Reports of fires by vehicle build date. A circle around the X indicates the incident was attended. There are no known fires after the DDM PCB change 5/14/07.



122 of 483,664 have no state record

Figure 11 TREAD reports of fires by state on a plot of warranty IPTV for DDM replacement by state.

**Scope****Number of Vehicles Potentially Involved**

<b>PVDM</b>	<b>Population</b>
<b>Corrosion States</b>	<b>265,796</b>
<b>Cold States</b>	<b>184,443</b>
<b>Moderate States</b>	<b>130,126</b>
<b>Hot States</b>	<b>170,522</b>
<b>Total US</b>	<b>485,213</b>
<b>Unknown</b>	<b>122</b>

Table 1 – US population of Trailblazer, Envoy, Rainier, and Saab 9-7X

Global Population is shown below (after removing 11,992 with new DDM)

**VEHICLES POTENTIALLY AFFECTED BY SELLING  
DIVISION, MODEL, AND MODEL YEAR**

<b>Selling Division</b>	<b>Model</b>	<b>Model Year</b>	<b>Number Involved</b>
<b>BUICK</b>	Rainier	2006-7	18,905
<b>CHEVROLET</b>	Trailblazer & EXT	2006-7	313,611
<b>GMC</b>	Envoy & XL	2006-7	123,925
	<b>Total</b>		<b>456,441</b>

<b>GM CANADA</b>			
<b>Buick</b>	Rainier	2006-7	414
<b>Chevrolet</b>	Trailblazer & EXT	2006-7	6,141
<b>GMC</b>	Envoy & XL	2006-7	6,596
<b>SAAB</b>	9-7x	2006	537
	<b>Total</b>		<b>13,688</b>

<b>GM MEXICO</b>			
<b>Chevrolet</b>	Trailblazer & EXT	2006	4,937

<b>I.P.C.</b>			
<b>Chevrolet</b>	Trailblazer & EXT	2006-7	21,733
<b>GMC</b>	Envoy & XL	2006-7	10,131
<b>SAAB</b>	9-7x	2006-7	818
	<b>Total</b>		<b>32,682</b>

<b>Isuzu</b>	Ascender	2006-7	7,031
<b>SAAB</b>	9-7x	2006-7	10,039

<b>TOYOTA</b>			
<b>SAAB</b>	9-7x	2006	1

<b>Unknown</b>			
<b>Buick</b>	Rainier	2007	40
<b>Chevrolet</b>	Trailblazer	2006-7	349
<b>GMC</b>	Envoy	2006	147
<b>Isuzu</b>	Ascender	2007	22
	<b>Total</b>		<b>558</b>

	<b>Total GM</b>		<b>525,377</b>
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### Frequency of the Condition

Rates are shown above in the “Number of Reports” and a comparison to other investigations is shown below in Figure 11

US warranty rates from a Weibull projection are also shown on the attached embedded file.



GMT360 370 N2117 warranty projections.

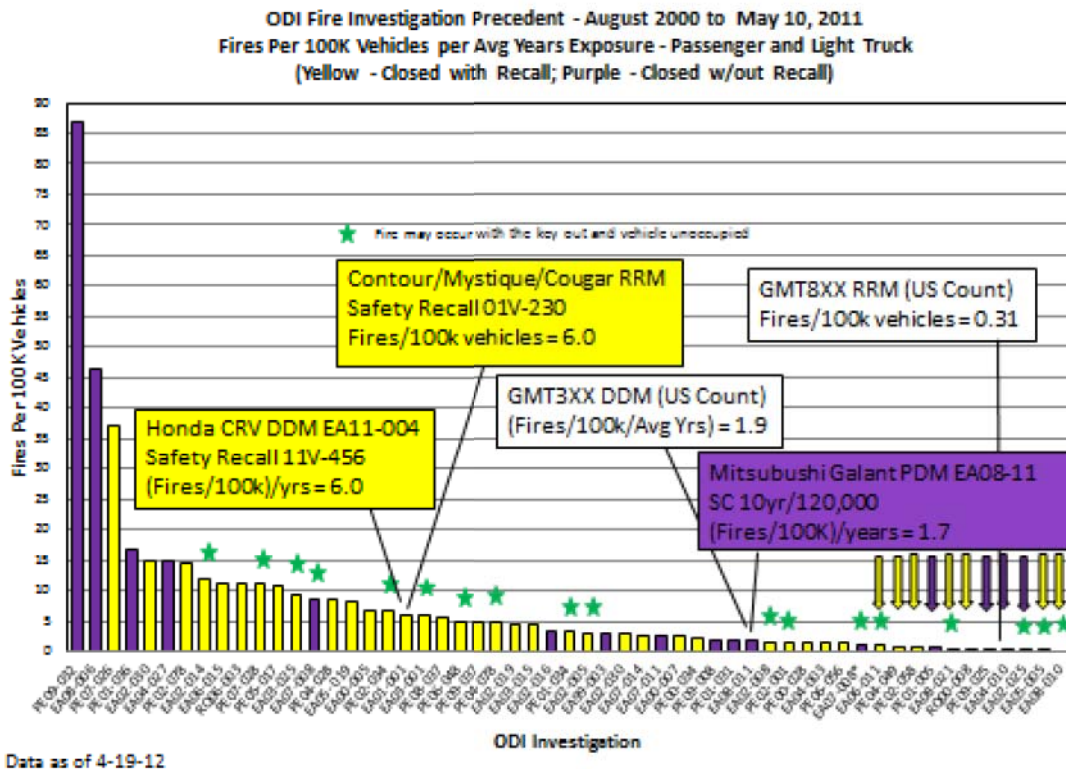


Figure 11 – Historian comparison, GMT3XX comparison to other NHTSA investigations.

The Honda CRV had a safety recall on an incident rate of 6.0 fires/100K/avg yrs exposed. The Mitsubishi Galant had the NHTSA investigation EA08-11 closed without action, but Mitsubishi agreed to provide 10 yr /120,000 mile special coverage for those vehicles. When that investigation was closed, the rate was 1.6 fires/100K/avg yrs exposed.

Additional comparisons to other NHTSA fire investigations are attached in the Appendix.

***Description of Vehicles Potentially Involved***

All GMT360 or GMT370 vehicles built in Moraine, OH and Oklahoma City, OK from the start of 2006 through May 14, 2007 are suspect

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{ \* }



**{ \* } Indicates GM Confidential Business Information Redacted**

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**{ \* } Indicates GM Confidential Business Information Redacted**

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**Appendix I**

**STANDARD DATA SOURCES USED IN THIS INVESTIGATION**

Data Source	Legal/ESIS	Product Development Quality				
	Lawpack / Not-In-Suit Matters (NISM)	Problem Resolution Tracking (PRTS)	Field Info Network Database (FIND)	Production Volume Counts (GART, PVDM, QIS2)	Production VINs (GART or PVDM)	Regular Warranty Claims (GART)
No		X	X			
Yes	X			X	X	X
Pull Date(s)	Multiple Last 4/19/12			2/12	6-5-12	Multiple Last 4-19-12

Data Source	VSSM (SPO)		ODI	TREAD
	Bulletins / Advisories	Service Part Sales	Consumer Complaints (NHTSA VOQ)	<i>*See attached TREAD summary</i>
No	X	X		
Yes			X	X
Pull Date(s)			Multiple Last 4/16/12	Multiple Last 4/19/12

Footnote the details of techniques used: i.e.

- Keyword search conducted with the following words (list all of the words)
- If a sampling technique was used to read a large number of records, describe the technique used
- Provide additional details to clarify facts or assumptions when necessary



2006-7 GMT360\_370  
DDM Historian.pptx

TREAD Data Sources  
 TAC (Technical Assistance Center)  
 CARS PAR (Product Allegation Resolution Center)  
 CARS CAC (Customer Assistance Center)  
 CVEP (Company Vehicle Evaluation Program)  
 CTF (Captured Test Fleet)  
 EQF (Early Quality Feedback Surveys)

# Salt Water Conductivity

- The impurities in water (minerals, gasses, ions) are what allows water to conduct electricity. Pure water, though hard to achieve, is a poor conductor.
- When salt is dissolved in water, the Chloride and Sodium ions in the solution carry the electrical current. More ions means more conductivity.
- The conductivity of highly concentrated salt water is approx. 8 orders of magnitude greater than that of pure water.

EA12-004

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12-14-2012

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Salt Water Conductivity