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 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 1 of 23



Data as of 4-19-12

2006-7 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 2 of 23

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: Prompted by: Date Opened: Investigator: Approver: Subject:	EA 11-004 Consume 04/11/201 John Abbo Frank Bor Driver's M	4 r Complain 1 ott ris laster Powe	ts and l er Wind	PE10-047 Reviewer: low Switch	Scott Yo	on	
MANUFACTURER & PRODUCT INFORMATION								
Manufacturer:	HONDA (AMER	ICAN HON	DA MOTO	R CO.)				
Population:	2000 Honda CR-V 149,583							
Problem Description: Melting and/or burning of the master power window switch and related electrical system wiring components								
FAILURE REPORT SUMMARY								
			ODI		Manufactu	rer	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								rue
ACTION / SUMMARY INFORMATION "fires" unknown								
Action: Open an Eng	ineering Analysis							
Summary:								
The Office of Defects In Questionnaire reports al master power window so replacement. Since ope	vestigation (ODI) (leging smoke and witch and, in some ening the investiga	pened this fire occurre cases its v tion, ODI h	investigati ed inside th wiring hame as received	on as F ie drive ess, ha i two a	PE10-047 based r's door. The co d sustained hea dditional reports.	on three \ mplainant t related d	/ehicle Owner's s reported that the amage and required	
The reports provided by	The reports provided by Henda 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: <u>http://detnews.com/article/20110904/AUTO01/109040323/Honda-</u> recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2 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.

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)

2

2006-7 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 5 of 23



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

ODI RESUME

{ * } Indicates GM Confidential Business Information Redacted



2006-7 GMT360/370

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

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

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



2006-7 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 8 of 23

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.

{ * } Indicates GM Confidential Business Information Redacted



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



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

U.S. Department of Transportation National Highway Traffic Safety Administration	ODI RESUME						
INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: David Langiabr							
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: <u>1996-1999</u> VEHICLE POPULATION: Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430							
PROBLEM DESCRIPTION: The speed control resistor assembly for the heater blower may overheat and start a fire. Also, failure of the blower switch causes loss of one or more blower speeds.							
FAILURE REPORT SUMMARY							
	ODI	MANUFACTURER	TOTAL				
COMPLAINTS: FIRES: INJ FIRES: # INJURIÉS: FAT FIRES: #FATALS: LAWSUITS: OTHER: DESCRIPTION OF C ACTION: This Engin conduct a Safety Reca	68** 4 0 0 0 0 0 0 0 0 0 0 0 0 0	approx. 2,600* 89 0 0 0 0 9 approx. 13,000* MS On July 9, 2001, Ford notified	approx 2.700* 93 0 0 0 9 approx. 13,000*				

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2006-7 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 14 of 23



2006-7 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 15 of 23



2006-7 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 16 of 23



2006-7 GMT360_370 DDM Function Historian 4-19-12-p.pdf Page 17 of 23



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ODI Investigation

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ODI Investigation

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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



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



2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 2 of 40

Driver Door Module Short Circuit

{ * }



Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 3 of 40

Inspections/Investigations

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

1GNDT13S072 1000 - 1000 (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 4 of 40

Inspections/Investigations

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



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Data as of 4-19-12

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{ * } Indicates GM Confidential Business Information Redacted



{ * } Indicates GM Confidential Business Information Redacted



Back-Up

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{ * } Indicates GM Confidential Business Information Redacted



Mitsubishi Galant (2001 Detroit Auto Show)



2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 11 of 40
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	
GM CANADA				
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	
GM MEXICO				
Chevrolet	Trailblazer & EXT	2006	4,937	
I.P.C.		1		
Chevrolet	Trailblazer & EXT	2006-7	21,733	
GMC	Envoy & XL	2006-7	10,131	
SAAB	9-7x	2006-7	818	
	Total		32,682	
lsuzu	Ascender	2006-7	7,031	
SAAB	9-7x	2006-7	10,039	
ΤΟΥΟΤΑ				
SAAB	9-7x	9-7x 2006		
Unknown				
Buic k	Rainier	2007	40	
Chevrolet	Trailblazer 2006-7		349	
GMC	Envoy 2006		147	
lsuzu	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

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

S	ODI RESUME			
U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: PE Date Opened: 02. Investigator: En Approver: Fra Subject: Dri	: 12-003 09/2012 Ny Reichard Ink Borris Ver's Master Power Wind	Reviewer: Scott ow Switch	Yon
	MANUFACT	URE R & 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.			d related electrical	
FAILURE REPORT SUMMARY				
		ODI	Manufacturer	Total
Complaints:		12	TBD	TBD
Crashes/Fires:		10	TBD	TBD
Injury Incidents:		Û	TBD	TBD
Fatality Incidents:		D	TBD	TBD
Other*:		D	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 Traiblazer 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 let 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 www-odi.nhtsa.dot.gov/complaints 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



2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 15 of 40

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





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

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

Data as of 4/16/12

2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 18 of 40



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

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

2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 20 of 40



Inspections/Investigations

1GKET63M4622 - (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 22 of 40

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

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

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.

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 - 242007 - 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) <u>Rates using PVDM volume</u>

*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



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

2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 31 of 40

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



Data as of 4-19-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 32 of 40

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: Prompted by: Date Opened: Investigator: Approver: Subject:	EA 11-00 Consume 04/11/201 John Abb Frank Bor Driver's M	4 r Complai 11 ott rris laster Pov	ints and ver Wind	PE10-047 Reviewer: low Switch	Scott Yo	n	
	MANUFA	TUREF	R & PRC	рост	INFORMATI	ON		
Manufacturer:	Manufacturer: HONDA (AMERICAN HONDA MOTOR CO.)							
Products: Population:	roducts: 2006 Honda CR-V							
Problem Description: Melting and/or burning of the master power window switch and related electrical system wiring components								
FAILURE REPORT SUMMARY					8			
			ODI		Manufactu	irer	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					rue			
ACTION / SUMMARY INFORMATION "fires" unknown					own			
Action: Open an Engineering Analysis								
Summary:					1			
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.

2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 33 of 40

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.

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

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(blown fuse, intermittent operation or power window malfunction) or who spilled liquids or beverage 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 busines. 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 atalysis 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/innoke/ fire condition inside the switch/oor panel assembly.

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ODI RESUME

Peter Ong

curs in the front passenger door panel FAILURE REPORT SUMMARY

s of Other: Warranty claims related to passenger switch failures.

n America, Inc., Mitsubishi Caribbean

ODI

6

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0

Date Closed: 08/21/2009

Manufacturer

29

29

2

0

3407

Date: 08/21/2009

Date: 08/21/2009

Date: 08/21/2009

Total

35

35

3

0

0

307

Investigation: EA08-011

Prompted By: PE08-014

Subject: Passenger Door Fire

Date Opened: 07/01/29

Principal Investigator

(Continued on page two)

2

U.S. Department

of Transportation

National High

Manufacturer: Mitsubishi Motors No

Close this Engineering Analysis see: <u>Peter Ong</u> ACO

Products: 2001 – 2003 Mitsubishi Population: 292,945 Problem Description: A fire occur

Traffic Safety

Complaints:

Injuries: Fatality Incide

Fatalities:

Other*:

Action

*Descrip

Crashes/Fires:

Injury Incidents:

. Chief D. Scott You

Office Dis: Kathleen C. Dr.Meter

2006-7 GMT360/370

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

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







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



2006-7 GMT360_370 DDM Function EFADC 6-27-12-p.pdf Page 40 of 40

EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7 GMT360_370 DDM Function EFADC 8-6-12 mailout-p



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. It 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.

<u>Responsibility</u>: 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



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




GMT3XX DDM Proposed PCB Treatment



Close-up of PCB edge coating

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



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

1GNDT13S072 1000 - 1000 (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

{ * } Indicates GM Confidential Business Information Redacted

{ ** } Indicates Cost Information Redacted

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

 $\left\{ \begin{array}{c} * \\ \end{array} \right\}$

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{ * } Indicates GM Confidential Business Information Redacted



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



Data as of 4-19-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function EFADC 8-6-12-p.pdf Page 3 of 39

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



{ * } Indicates GM Confidential Business Information Redacted



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



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{*} Indicates GM Confidential Business Information Redacted

Driver Door Module Short Circuit





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Inspections/Investigations

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

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





Inspections/Investigations



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Back-Up

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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

Driver Door Module Short Circuit Support for Potentially Providing Special Coverage



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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



Mitsubishi Galant (2001 Detroit Auto Show)



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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	<mark>313,611</mark>
GMC	Envoy & XL	2006-7	123,925
	Total		456,441
GM CANADA			
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		<mark>13,688</mark>
GM MEXICO			
Chevrolet	Trailblazer & EXT	2006	4,937
I.P.C.			
Chevrolet	Trailblazer & EXT	2006-7	21,733
GMC	Envoy & XL	2006-7	10,131
SAAB	9-7x	2006-7	818
	Total		32,682
lsuzu	Ascender	2006-7	7,031
SAAB	9-7x	2006-7	10,039
ΤΟΥΟΤΑ			
SAAB	9-7x	2006	1
Unknown			
Buick	Rainier	2007	40
Chevrolet	Trailblazer	2006-7	349
GMC	Envoy	2006	147
lsuzu	Ascender	2007	22
	Total		558
	Total GM		525,377

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2	ODI RESUME					
U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: PE Date Opened: 02 Investigator: En Approver: Fra Subject: Dri	: 12-003 /09/2012 /IV Reichard ank Borris ver's Master Power Wind	Reviewer: Scott ow Switch	Yon		
MANUF ACTURE R & 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:		D	TBD	TBD		
Fatality Incidents:		D	TBD	TBD		
Other*:		D	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 Traiblazer 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 let 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 www-odi.nhtsa.dot gov/complaints 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

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

Data as of 4/16/12

2006-7 GMT360_370 DDM Function EFADC 8-6-12-p.pdf Page 19 of 39



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

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

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Inspections/Investigations

1GKET63M462 (no details on circumstances of incident, but damage is consistent with DDM)



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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

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

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.

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.

VOQs + TREAD (Data 4/19/12)

 51^* Total (Includes all allegations that fire was present) 2006 - 242007 - 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) <u>Rates using PVDM volume</u>

*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



{ * } Indicates GM Confidential Business Information Redacted



2006-7 GMT360_370 DDM Function EFADC 8-6-12-p.pdf Page 30 of 39

U.S. Fire Allegations by Build Date 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2117


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 National Highway Traffic Safety Administration	Investigation: E Prompted by: C Date Opened: C Investigator: J Approver: F Subject: E	A 11-004 Consumer 4/11/201 ohn Abbo rank Borr Driver's Ma	Complain Complain tt tt ris aster Pow	nts and F ver Wind	PE10-047 Reviewer: ow Switch	Scott Yo	n	
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							e	
ACTION / SUMMARY INFORMATION "fires" unknown							/n	
Action: Open an Eng	ineering Analysis							
Summary:								
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: <u>http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2</u>

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.

9	ODIRESUME						
U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/20/8 Principal Investigator Peter Org Subject: Passenger Door Fire	D	ate Closed: 08/21/	2009			
Manufacturer: Mitsul Products: 2001 - 200 Population: 292,945	bishi Motoes Noon America, Inc., Mitsu 13 Mitsubishi Quant	bishi Caribbe	an				
Problem Description:	A fire occurs in the front passenger doo	or panel.					
Problem Description:	A fire ocurs in the front passenger do: FAILURE REPORT SUM	or panel.					
Problem Description:	A fire occurs in the front passenger doo FAILURE REPORT SUM	MARY ODI	Manufacturer	Total			
Problem Description: Complaints:	A fire occurs in the front passenger doc FAILURE REPORT SUM	MARY ODI 6	Manufacturer 29	Total 35			
Problem Description: Complaints: Crashes/Fires:	A fire occurs in the front passenger doo FAILURE REPORT SUM	MARY ODI 6 6	Manufacturer 29 29	Total 35 35			
Complaints: Crashes/Fires: Injury Incidents:	A fire occurs in the front passenger do: FAILURE REPORT SUM	MARY ODI 6 6 1	Manufacturer 29 29 2	Total 35 35 3			
Complaints: Crashes/Fires: Injury Incidents: # Injurys: Enaility Incidents	A fire occurs in the front passenger do FAILURE REPORT SUM	or panel. MARY 0DI 6 6 1 1 0	Manufacturer 29 29 2 2 0	Total 35 35 3 3 9			
Problem Description: Complaints: Crashes/Fires: Injury Incidents: # Injurys: Fatality Incidents: # Fatalities:	A fire occurs in the front passenger do FAILURE REPORT SUM	or panel. MARY ODI 6 6 1 1 0 0	Manufacturer 29 29 2 2 0 0	Total 35 35 3 3 0			
Problem Description: Complaints: Crashes/Fires: Injury Incidents: # Injuries: Fatality Incidents: # Patalities: Other*:	A fire occurs in the front passenger doc FAILURE REPORT SUM	MARY 0DI 6 6 1 1 0 0 0	Manufacturer 29 29 2 2 2 0 0 307	Total 35 35 3 0 0 307			
Problem Description: Complaints: Crashes/Fires: Injury Incidents: # Injuries: Fatality Incident: # Fatalities: Other*: *Description of Other	A fire occurs in the front passenger do FAILURE REPORT SUM	or panel. MARY ODI 6 6 1 1 0 0 0 witch failure	Manufacturer 29 2 2 2 0 0 307	Total 35 35 3 0 0 307			
Problem Description: Complaints: Crashes/Fires: Injury Incidents: # Injuries: Fatality Incidents: # Description of Other Action: Close this En Income <u>Prior Ong</u>	A fire occurs in the front passenger do FAILURE REPORT SUM : Warranty claims related to passenger s ginoering Analysis. Pro	or panel. MARY ODI 6 6 1 1 0 0 0 witch failure Date:	Manufacturer 29 2 2 0 0 307 8.	Total 35 3 3 0 0 307			

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 beverage 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)

2006-7 GMT360/370

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

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

{ * } Indicates GM Confidential Business Information Redacted



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{ * } Indicates GM Confidential Business Information Redacted



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



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EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7 GMT360_370 DDM Function FPERC & IR Submission 12-7-12-p

{ * } Indicates GM Confidential Business Information Redacted

Driver Door Module Short Circuit



2006-7 GMT360_370 DDM Function FPERC & IR Submission 12-7-12-p.pdf Page 1 of 16

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2	ODI RESUME				
U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: PE Date Opened: 02 Investigator: En Approver: Fiz Subject: Dri	: 12-003 09/2012 My Reichard Ink Borris Ver's Master Power Wind	Reviewer: Scott ow Switch	Yon	
	MANUFACT	URE R & 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.					
	FAI	LURE REPORT SUM	MARY		
		ODI	Manufacturer	Total	
Complaints:		12	TBD	TBD	
Crashes/Fires:		10	TBD	TBD	
Injury Incidents:	Injury Incidents: 0 TBD TBD				
Fatality Incidents:	Fatality Incidents: 0 TBD TBD				
Other*: 0 TBD TBD				TBD	
*Description of Other:					
	АСПО	N / SUMMARY INFO	RMATION		
Action: A Preliminary	Evaluation (PE) has t	een 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 Traiblazer 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 let 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 www-odi.nhtsa.dot.gov/complaints under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10446657					

6/11/12 NHTSA issues EA12-004 Product: 2006-7 Trailblazer

83 VOQs and 341,796 vehicles

<u>Problem Description:</u> Melting and/or burning of the driver's master power window switch

0	ODI RESUME					
U.S. Department	Investigation:	EA 12-004				
of Transportation	Prompted by: Date Opered: 1	PE 12-003, Consumer Com 16/11/2012	plaints			
National Highway	hvestigator:	Emily Reichard	Reviewer: Scott	Yon		
Traffic Safety	Approver:	Frank Borris				
Administration	Subject:	Driver's Master Power Wind	low Switch			
MANUFACTURER & PRODUCT INFORMATION						
Manufacturer:	GENERAL MOTORS LLC					
Products:	MY 2006-2007 Chevrolet Trailblazer					
Population:	341,780					
Problem Description:	Melting and/or bu	rning of the driver's master	power window switch.			
	Fa	AILURE REPORT SU	MMARY			
		ODI	Manufacturer	Total		
Complaints:		83	167	242™		
Crashes/Fires:		11	21	28**		
hjury Incidents:		0	0	0		
Fatality Incidents:		0	0	0		
Other*:		0	698	677‴		
*Description of Other:	Warranty claims de	scribing melting and/or bur	ning of driver side power	windowswitch		
🏧 Total eliminates dupli	cates received by O	DI and manufacturer.				
	ACTI	ON / SUMMARY INFO	RMATION			
Action: An Engineerir	ng Analysis has bee	n opened.				
Action: An Engineering Analysis has been opened. Summary: The Office of Defects Investigation (ODI) opened preliminary evaluation PE12-003 on February 9, 2012 in response to compliants alleging driver door module metting 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 metted or burned, and the remaining 17 stating that the window switches acted erratioally 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 www-odi.nhts a.dot.gov/complaints under the following identification (ODI) numbers: 10247838, 10260600, 10274337, 10276626, 10284010, 10398968, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10448657, 10447754, 10447757, 10447770, 10448028, 10447813, 10447831, 10447865, 10447880, 10447832, 10447938, 10447994, 10447996, 10447997, 10448028, 10448086, 10448138, 10448176, 10448201, 10448337, 10448455, 10448464, 10448478, 10448478, 10448900, 10448941, 104418138, 10448176, 104492166, 10449222, 10449722, 10450655, 10450202, 10460202, 10463261, 10463578, 10463746, 10452197, 10462301, 10462586, 10452743, 10452895, 104564294, 10469227, 10463261, 10463578, 10463746, 10452197, 10462301, 10462586, 10452743, 10452856, 104564599, 10460227, 10463264, 10461878, 1045376, 10452197, 10462301, 10452768, 10452743, 104564589, 104564589, 10456292, 10455279, 10455469, 10456299, 10456299, 10457416, 10457811, 104564						

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*



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*



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

Date VOQ added to NHTSA database

2006-7 GMT360_370 DDM Function FPERC & IR Submission 12-7-12-p.pdf Page 10 of 16

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



2006-7 GMT360_370 DDM Function FPERC & IR Submission 12-7-12-p.pdf Page 12 of 16

Back-Up

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{ * } Indicates GM Confidential Business Information Redacted

Driver Door Module Short Circuit { * }



Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function FPERC & IR Submission 12-7-12-p.pdf Page 14 of 16

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

2006-7 GMT360_370 DDM Function FPERC & IR Submission 12-7-12-p.pdf Page 15 of 16

	Model Y	ear	
Country	2006	2007	Grand Total
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
Grand Total	348,810	218,782	567,592

2006-7 GMT360/370 Global Population

EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7 GMT360_370 DDM Function FPERC 6-15-12-p

{ * } Indicates GM Confidential Business Information Redacted

{ ** } Indicates Cost Information Redacted

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)



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 2 of 36

{*} Indicates GM Confidential Business Information Redacted

Driver Door Module Short Circuit





Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 3 of 36

Inspections/Investigations

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

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





2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 4 of 36

Inspections/Investigations

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



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 5 of 36

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

{ * } Indicates GM Confidential Business Information Redacted



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 7 of 36

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
GM CANADA			
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
GM MEXICO			
Chevrolet	Trailblazer & EXT	2006-7	4,942
GMC TRUCK			
GMC	Envoy & XL	2006-7	126,382
I.P.C.			
Chevrolet	Trailblazer & EXT	2006	21,734
GMC	Envoy & XL	2006-7	10,131
SAAB	9-7x	2007	818
	Total		32,683
ISUZU			
ISUZU	Ascender	2006-7	7,031
SAAB	9-7x	2006-7	10,039
ΤΟΥΟΤΑ			
SAAB	9-7x	2006	1
Unknown			
Buick	Rainier	2007	40
Chevrolet	Trailblazer	2006-7	353
GMC	Envoy	2006-7	149
lsuzu	Ascender	2007	22
	Total		564
	Total GM		537,175

2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 8 of 36

Back-Up

2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 9 of 36

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2	ODI RESUME				
U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: PE Date Opened: 02 Investigator: En Approver: Fr Subject: Dr	E12-003 .09/2012 nily Reichard ank Borris iver's Master Power Wind	Reviewer: Scott ow Switch	Yon	
	MANUFACT	URE R & 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.					
	FAI	LURE REPORT SUM	MARY		
		ODI	Manufacturer	Total	
Complaints:		12	TBD	TBD	
Crashes/Fires:		10	TBD	TBD	
Injury Incidents:		0	TBD	TBD	
Fatality Incidents:	Fatality Incidents: 0 TBD TBD				
Other*: 0 TBD TBD				TBD	
*Description of Other:					
	АСПО	N / SUMMARY INFO	RMATION		
Action: A Preliminary	Evaluation (PE) has l	een opened.			
Summary: The Office of Defects Investigation (OD) 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 Traiblazer 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 let 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 www-odi.nhtsa.dot gov/complaints 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



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





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

2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 16 of 36



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

2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 17 of 36



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 18 of 36

Inspections/Investigations

1GKET63M462 (no details on circumstances of incident, but damage is consistent with DDM)



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 19 of 36

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

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

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.

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.

VOQs + TREAD (Data 4/19/12)

 51^* Total (Includes all allegations that fire was present) 2006 - 242007 - 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) <u>Rates using PVDM volume</u>

*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



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 25 of 36



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 26 of 36

U.S. Fire Allegations by Build Date 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2117



²⁰⁰⁶⁻⁷ GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 27 of 36

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



Data as of 4-19-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 28 of 36

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: Prompted by: Date Opened: Investigator: Approver: Subject:	EA 11-004 Consumer 04/11/201 John Abbo Frank Bor Driver's M	f r Complai 1 ott ris laster Pov	nts and P ver Windo	E10-047 Reviewer: w Switch	Scott Yor	ı			
MANUFACTURER & PRODUCT INFORMATION										
Manufacturer:	HONDA (AMERICAN HONDA MOTOR CO.)							1		
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		Manufactu	rer	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										
ACTION / SUMMARY INFORMATION "fires" unkr								own		
Action: Open an Engineering Analysis										
Summary:								1		
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: <u>http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2</u>

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.



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 beverage 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)

2006-7 GMT360/370

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

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



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 33 of 36



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 34 of 36



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 35 of 36

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



2006-7 GMT360_370 DDM Function FPERC 6-15-12-p.pdf Page 36 of 36

EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p

{ ** } Indicates Cost Information Redacted

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)



2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 2 of 55

Driver Door Module Short Circuit





Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 3 of 55

Inspections/Investigations

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

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





Inspections/Investigations

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



2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 5 of 55

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

2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 8 of 55

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2	ODI RESUME							
U.S. Department of Transportation National Highway Traffic Safety Administration	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							
MANUFACTURE R & 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:	Injury Incidents:		TBD	TBD				
Fatality Incidents:		0	TBD	TBD				
Other*:		D	TBD	TBD				
*Description of Other:								
	АСПО	N / SUMMARY INFO	RMATION					
Action: A Preliminary	Prevaluation (PE) has t	een opened.						
Summary: The Office of Defects In reports provided through window switch in model door fires, including som left unattended (key-off) ODI has opened this inv ODI reports cited above numbers: 10229743, 10 10426281, 10434446, 1	vestigation (ODI) has h Early Warning Repor year 2006-2007 Chev he that occurred while h estigation to further ar can be reviewed at w 1247838, 10274337, 1 0445657	received twelve (12) cons ting, alleging melting and rolet Traiblazer vehicles, the vehicle was in operat nalyze the scope, frequen ww-odi.nhtsa.dot.gov/con 0275626, 10406203, 104	sumer complaints, as wel Nor buming of the driver Several of the complain ion and during periods w roy, and consequence of nplaints under the followi 09023,10414691,1041	II as manufacturer field s master power ts have led to driver there the vehicle was ithe alleged incidents. ing identification (ODI) 7938, 10423865,				
PE12-003 2006-7 Trailblazer Drive Door Module 12 NHTSA VOQs as of 2/9/12



NHTSA defined Corrosion States



2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 10 of 55

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



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





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 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 15 of 55



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

2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 16 of 55

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2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 17 of 55

Inspections/Investigations

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



2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 18 of 55

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

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

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.

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.

VOQs + TREAD (Data 4/19/12)

 51^* Total (Includes all allegations that fire was present) 2006 - 242007 - 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) <u>Rates using PVDM volume</u>

*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



2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 24 of 55



U.S. Fire Allegations by Build Date 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2117



2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 26 of 55

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



Data as of 4-19-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 27 of 55

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: Prompted by: Date Opened: Investigator: Approver: Subject:	EA 11-004 Consumer 04/11/201 John Abbo Frank Bor Driver's M	f r Complai 1 ott ris laster Pov	nts and P ver Windo	E10-047 Reviewer: ww.Switch	Scott Yor	n	
	MANUFA	TURER	& PRC	DUCTI	NFORMATI	ON]
Manufacturer: Products: Population:	HONDA (AMERICAN HONDA MOTOR CO.) 2006 Honda CR-V 149.583]			
Problem Description: Melting and/or burning of the master power window switch and related electrical system wiring components								
	E	AILURE	REPOR	RT SUM	MARY]
			ODI		Manufactu	rer	Total	
Complaints:			5		26		29**	
Crashes/Fires:			5		26		29**]
Injury Incidents:			0		0		0	
Fatality Incidents:			0		0		0	1
Other*:			0		0		0	1
*Description of Other:		•						
** Count indicates duplicate reports received by ODI and manufacturer. Number of tru					true			
ACTION / SUMMARY INFORMATION "fires" unknow				own				
Action: Open an Engineering Analysis]			
Summary:					1			
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: <u>http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2</u>

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.

0	ODIRESUME					
U.S. Department of Transportation National Highway Traffic Satety Administration	Investigation: EA08-011 Prompted By: PE08-014 Date Opened: 07/01/2018 Principal Investigator: Peter Ong Subject: Pausenger Joor Fire	Date Closed: 08/21/2009				
Manufacturer: Mitsubishi Motoes Norri America, Inc., Mitsubishi Caribbean Products: 2001 – 2003 Mitsubishi Galant Population: 292,945						
Problem Description: A fire ocurs in the front passenger door panel.						
	FAILURE REPORT SUN	IMARY				
	/	ODI	Manufacturer	Total		
Complaints:		6	29	35		
Crashes/Fires:		6	29	35		
Injury Incidents:			2	3		
# Injuries:			2	3		
Fatality Incidents.		0	0	0		
or examines:		307	107			
Description of Only-	Uber: 0 307 307					
Action: Close this Engineering Analysis.						
Office Die Kathleen (Date: 08/21/2009					
Summary:			219 84 8222			

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 beverage 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)



2006-7 GMT360/370

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

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

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
1-07	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
1-0P	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)

Trouble				
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



2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 43 of 55

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

U.S. Department of Transportation National Highway Traffic Safety Administration	ODI RESUME			
INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: David Langjahr				
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: 1996-1999 VEHICLE POPULATION: Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430 PROBLEM DESCRIPTION: The speed control resistor assembly for the heater blower may overheat and				
start a fire. Also, failu	re of the blower switch cause	s loss of one or more blower s	peeds.	
	FAILURE REP	ORT SUMMARY		
	ODI	MANUFACTURER	TOTAL	
COMPLAINTS: FIRES: INJ FIRES: # INJURIÉS: FAT FIRES: #FATALS: LAWSUITS: OTHER: DESCRIPTION OF O	68** 4 0 0 0 0 0 0 0 0 0 0 0 0 0	approx. 2,600* 89 0 0 0 0 9 approx. 13,000*	approx. 2.700* 93 0 0 0 9 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				

2006-7 GMT360_370 DDM Function FPET 6-14-12 all back-up-p.pdf Page 44 of 55

44

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




















EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7 GMT360_370 DDM Function FPET 6-14-12-p



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 1 of 36

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



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 2 of 36

{ * }



Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 3 of 36

Inspections/Investigations

1GNDT13S872 - 19900 - 19900 - 19900 - 19900 - 1990 - 1990 - 1990 - 1990

1GNDT13S072 1000 - 1000 (725483); Incident date: 2-27-2011; 63,000 miles; Fire in driver front door while the s/v was parked and unattended.



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 4 of 36

Inspections/Investigations

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



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 5 of 36



Data as of 4-19-12

{ * } Indicates GM Confidential Business Information Redacted



VEHICLES	POTENTIALLY	AFFECTED	BY SELLI	NG DIVISION,
	MODEL	AND MODE	YEAR	

	inobel, And inobel		
Selling Division	Model	Model Year	Number Involved
BUICK	Rainier	2006-7	19,134
CHEVROLET	Trailblazer & EXT	2006-7	322,529
GM CANADA			
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
GM MEXICO			
Chevrolet	Trailblazer & EXT	2006-7	4,942
GMC TRUCK			
GMC	Envoy & XL	2006-7	126,382
I.P.C.			
Chevrolet	Trailblazer & EXT	2006	21,734
GMC	Envoy & XL	2006-7	10,131
SAAB	9-7x	2007	818
	Total		32,683
ISUZU			
ISUZU	Ascender	2006-7	7,031
SAAB	9-7x	2006-7	10,039
ΤΟΥΟΤΑ			
SAAB	9-7x	2006	1
Unknown			
Buick	Rainier	2007	40
Chevrolet	Trailblazer	2006-7	353
GMC	Envoy	2006-7	149
lsuzu	Ascender	2007	22
	Total		564
	Total GM		537,175

Back-Up

2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 9 of 36

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

\mathbf{S}							
U.S. Department of Transportation	Investigation: PI Date Opened: 02 Investigator: Br Approver: Fr	E 12-003 209/2012 Tily Reichard Tark Bottis	Reviewer: Scott Y	on			
Traffic Safety Administration	raffic Safety Subject: Driver's Master Power Window Switch						
	MANUFACT	IURE R & 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.							
	FAI	ILURE REPORT SUI	VMARY				
		ODI	Manufacturer	Total			
Complaints:	Complaints:		TBD	TBD			
Crashes/Fires:		10	TBD	TBD			
Injury Incidents:	Injury Incidents:		TBD	TBD			
Fatality Incidents:		0	TBD	TBD			
Other*:		D	TBD	TBD			
*Description of Other:							
	АСПО	N / SUMMARY INFO	RMATION				
Action: APreliminary	Evaluation (PE) has	been opened.					
Summary: The Office of Defects Im reports provided through window switch in model door fires, including som left unattended (key-off) ODI has opened this inv ODI reports cited above numbers: 10229743, 10 10426281, 10434446, 11	vestigation (ODI) has bearly Warning Repo year 2006-2007 Cheo e that occurred while estigation to further a can be reviewed at w 247838, 10274337, 1 0445657	received twelve (12) con rting, alleging melting and vrolet Traiblazer vehicles the vehicle was in opera nalyze the scope, frequen ww-odi.nhtsa.dot.gov/con 10275626, 10406203, 104	sumer complaints, as well d/or burning of the driver's . Several of the complaints tion and during periods wh noy, and consequence of the mplaints under the followin 409023, 10414691, 104179	as manufacturen field master power s have led to driver ere the vehicle was he alleged incidents. g identification (ODI) 938, 10423865,			

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



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





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

2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 14 of 36



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

2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 16 of 36



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

2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 17 of 36

{ * } Indicates GM Confidential Business Information Redacted



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 18 of 36

Inspections/Investigations

1GKET63M4622 - (723759) Incident date: 12-16-2010; Lawpack (no details on circumstances of incident, but damage is consistent with DDM)



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 19 of 36

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

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

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.

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 - 242007 - 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) <u>Rates using PVDM volume</u>

*5 VOQs have matching TREAD records or total would be 56. Very few incidents were actual "fires". Most were odor, melting, or smoke. { * } Indicates GM Confidential Business Information Redacted



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 25 of 36


2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 26 of 36

<u>U.S. Fire Allegations by Build Date</u> 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2117



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



Data as of 4-19-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 28 of 36

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: Prompted by: Date Opened: Investigator: Approver: Subject:	EA 11-00 Consume 04/11/201 John Abb Frank Bor Driver's M	4 r Complai 11 ott rris laster Pov	ints and ver Wind	PE10-047 Reviewer: dow Switch	Scott Yo	on	
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		Manufactu	rer	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						rue		
ACTION / SUMMARY INFORMATION "fires" unknown						own		
Action: Open an Engineering Analysis								
Summary:								
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.								

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

The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported misor burns or bruises. There are no reported crashes or fatalities. There are 307 wurraryt claims of witch malfunctions or short circuits without any reported heat, anoke or fire. MMNA impection 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/imoke/ fire condition inside the switch/door panel assembly.

s of Other: Warranty claims related to passenger switch failures.

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, so extend the warrasty 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 i 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 beverag onto the front passenger door window switch will be entitled to have the switch replaced and any

ODI RESUME

Peter Ong

curs in the front passenger door panel FAILURE REPORT SUMMARY

n America, Inc., Mitsubishi Caribbean

ODI

6

1

0

Date Closed: 08/21/2009

Manufacturer

29

29

2

0

3407

Date: 08/21/2009

Date: 08/21/2009

Date: 08/21/2009

Total

35

35

3

0

0

307

Investigation: EA08-011

Prompted By: PE08-014

Subject: Passenger Ooor Fire

Date Opened: 07/01/29

Principal Investigator

(Continued on page two)

2

U.S. Department

of Transportation

National High

Manufacturer: Mitsubishi Motors No

Close this Engineering Analysis see: <u>Peter Ong</u> ACO

Products: 2001 – 2003 Mitsubishi Population: 292,945 Problem Description: A fire occur

Traffic Safety

Complaints:

Injuries: Fatality Incide

Fatalities:

Other*:

Action

*Descrip

Crashes/Fires:

Injury Incidents:

. Chief D. Scott You

Office Dis: Kathleen C. Dr.Meter

related repairs performed at no charge.

2006-7 GMT360/370

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

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



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 33 of 36



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 34 of 36



2006-7 GMT360_370 DDM Function FPET 6-14-12-p.pdf Page 35 of 36

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



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 VOQsp

{ ** } Indicates Cost Information Redacted

Driver Door Module Short Circuit



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

ETQ N110323



2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 1 of 56

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2	ODI RESUME				
U.S. Department of Transportation National Highway Traffic Safety Administration	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				
	MANUFACT	URE R & 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:		D	TBD	TBD	
Fatality Incidents:		D	TBD	TBD	
Other*:		0	TBD	TBD	
*Description of Other:					
	АСПО	N / SUMMARY INFO	RMATION		
Action: A Preliminary	Evaluation (PE) has t	een 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 Traiblazer 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 let 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 www-odi.nhtsa.dot.gov/complaints 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





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 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 6 of 56



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







Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 9 of 56

Inspections/Investigations

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

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





Inspections/Investigations

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



2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 11 of 56

Inspections/Investigations

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



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).

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

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 14 of 56

TREAD Data summary (fire)

Data 1/31/12

36* Claims overall 2006 – 16 2007 – 20

7.4/100K 2006 (5.4) & 2007 (10.7)



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) <u>Rates using PVDM volume</u>

*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). <u>Very few incidents were actual "fires". Most were odor, melting, or smoke.</u>

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



2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 18 of 56

Back-Up

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 19 of 56



2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 20 of 56

U.S. Fire Allegations by Build Date 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2116, N2117



2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 21 of 56

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



Data as of 1-31-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 22 of 56

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: E Prompted by: C Date Opened: C Investigator: J Approver: F Subject: C	A 11-004 Consumer Complaints and 14/11/2011 John Abbott Frank Borris Driver's Master Power Win	I PE10-047 Reviewer: Scott dow Switch	Yon		
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						
ACTION / SUMMARY INFORMATION "fires" unknown						
Action: Open an Engineering Analysis						
Summary: 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: <u>http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2</u>
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.



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(Continued on page two)



2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 26 of 56

2006-7 GMT360/370

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

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

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





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2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 31 of 56





2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 33 of 56



2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 34 of 56

Reports & Warranty Claims - U.S

	US
Fire	68
VOQ	8
Warranty Verbatim	28
GM Reports / NISM *	32
Non-Fire*	6,096
VOQ	6
Warranty Customer Code "Smoke"	75
	15
Warranty Customer Code "Odor"	49
Warranty Customer Code "Odor" GM Reports	49 215
Warranty Customer Code "Odor" GM Reports Warranty Tech Code "Shorted"	49 215 5,563

*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

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 35 of 56

Rates – U.S.

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



13 Return

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 36 of 56

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

Profile Report



Data as of 8-30-11

45

Canada

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 41 of 56

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



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

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 43 of 56

Door Module Claims as of 2/1/12 Labor Codes (N2116 , N2117)

Problem Description	Cases
INOPERATIVE	13368
Features/Controls/Displays - Othe	1070
INTERMITTENT	964
Features/Controls/Displays - Loc	668
Interior - Other issues	394
WON'T MAINTAIN A DJUST	147
Exterior - Other issues	135
BINDS	119
LOOSE	92
CUSTOMER SATISFACTION	85
ENGA GE/DISENGA GE	75
SMOKE/STEAM	75
Features/Controls/Displays - Mirro	56
UNUSUAL GAGE READING	54
ODOR	49
LOCKS/LOCKING UP	47
Features/Controls/Displays - Ligh	38
THEFT DETERRENT LIGHT	37
Features/Controls/Displays - Gau	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

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 44 of 56

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

U.S. Department of Transportation National Highway Traffic Safety Administration	ODI RESUME		
INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: David Langiabr			
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: 1996-1999 VEHICLE POPULATION: Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430			
PROBLEM DESCRIPTION: The speed control resistor assembly for the heater blower may overheat and start a fire. Also, failure of the blower switch causes loss of one or more blower speeds.			
FAILURE REPORT SUMMARY			
	ODI	MANUFACTURER	TOTAL
COMPLAINTS: FIRES: INJ FIRES: # INJURIÉS: FAT FIRES: #FATALS: LAWSUITS: OTHER: DESCRIPTION OF O	68** 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	approx. 2,600* 89 0 0 0 0 9 approx. 13,000*	approx. 2.700* 93 0 0 0 9 approx. 13,000*
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 CON	IFIDENTIAL	Return

2006-7 GMT360_370 DDM Function ISR 4-10-12 corrected 4-19-12 for smoke only VOQs-p.pdf Page 45 of 56

45























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



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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2	ODI RESUME			
U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: PE Date Opened: 02. Investigator: En Approver: Fra Subject: Dri	: 12-003 09/2012 Ny Reichard Ink Borris Ver's Master Power Wind	Reviewer: Scott ow Switch	Yon
	MANUFACT	URE R & 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:	Injury Incidents: 0 TBD TBD			TBD
Fatality Incidents: 0			TBD	TBD
Other*:	0 TBD TBD			
*Description of Other:				
	АСПО	N / SUMMARY INFO	RMATION	
Action: A Preliminary	Evaluation (PE) has b	een 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 Traiblazer 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 let 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 www-odi.nhtsa.dot.gov/complaints 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 Driver Door Module Potential Thermals by Date Loaded

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 5 of 56



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

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 6 of 56



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



2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 8 of 56

{ * }



Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 9 of 56

Inspections/Investigations

1GNDT13S872 - 77454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

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



2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 10 of 56

Inspections/Investigations

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



2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 11 of 56

Inspections/Investigations

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



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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).

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

TREAD Data summary (fire)

Data 1/31/12

36* Claims overall 2006 – 16

2007 – 20

7.4/100K 2006 (5.4) & 2007 (10.7)

{ * }

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) <u>Rates using PVDM volume</u>

*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

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 19 of 56



2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 20 of 56

U.S. Fire Allegations by Build Date 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2116 , N2117



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



Data as of 1-31-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 22 of 56

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: E Prompted by: 0 Date Opened: 0 Investigator: 3 Approver: E Subject: 0	A 11-00 Consume 4/11/201 ohn Abb rank Bor Driver's M	4 r Complai 11 ott rris laster Pov	ints and ver Wind	PE10-047 Reviewer: low Switch	Scott Yo	on	
MANUFACTURER & PRODUCT INFORMATION								
Manufacturer:HONDA (AMERICAN HONDA MOTOR CO.)Products:2006 Honda CR-VPopulation:149,583								
Problem Description: Melting and/or burning of the master power window switch and related electrical system wiring components								
FAILURE REPORT SUMMARY								
			ODI		Manufactu	irer	Total	
Complaints:			5		26		29**	
Crashes/Fires:			5		26		29**	
Injury Incidents:			0		0		0	
Fatality Incidents:	atality Incidents:		0		0		0	
Other*:		0			0		0	
*Description of Other:								
** Count indicates duplicate reports received by ODI and manufacturer. Number of true						rue		
ACTION / SUMMARY INFORMATION "fires" unknown						own		
Action: Open an Engineering Analysis								
Summary:								
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.

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 23 of 56

2006 Honda CRV DDM

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David Shepardson/ Detroit News Washington Bureau

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

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ODI RESUME

Peter Ong

curs in the front passenger door panel FAILURE REPORT SUMMARY

s of Other: Warranty claims related to passenger switch failures.

n America, Inc., Mitsubishi Caribbean

ODI

6

.

0

Date Closed: 08/21/2009

Manufacturer

29

29

2

0

3407

Date: 08/21/2009

Date: 08/21/2009

Date: 08/21/2009

Total

35

35

3

0

0

307

Investigation: EA08-011

Prompted By: PE08-014

Subject: Passenger Door Fire

Date Opened: 07/01/29

Principal Investigator

(Continued on page two)

2

U.S. Department

of Transportation

National High

Manufacturer: Mitsubishi Motors No

Close this Engineering Analysis see: <u>Peter Ong</u> ACO

Products: 2001 – 2003 Mitsubishi Population: 292,945 Problem Description: A fire occur

Traffic Safety

Complaints

Injuries: Fatality Incide

Fatalities:

Other*:

Action

*Descrip

Crashes/Fires:

Injury Incidents:

. Chief D. Scott You

Office Dis: Kathleen C. Dr.Meter



2006-7 GMT360/370

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

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

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







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Reports & Warranty Claims – U.S

	US
Fire	68
VOQ	8
Warranty Verbatim	28
GM Reports / NISM *	32
Non-Fire*	6,096
LIOO	
VOQ	6
Warranty Customer Code "Smoke"	6 75
Warranty Customer Code "Smoke" Warranty Customer Code "Odor"	6 75 49
Warranty Customer Code "Smoke" Warranty Customer Code "Odor" GM Reports	6 75 49 215
Warranty Customer Code "Smoke" Warranty Customer Code "Odor" GM Reports Warranty Tech Code "Shorted"	6 75 49 215 5,563

*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

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



2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 36 of 56

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.

- 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



Data as of 8-30-11

Canada

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 41 of 56

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



2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 42 of 56

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	MISA DJUSTED/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

All causal codes not shown

18,207

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 43 of 56

Door Module Claims as of 2/1/12 Labor Codes (N2116, N2117)

Problem Description	Cases
INOPERATIVE	13368
Features/Controls/Displays - Othe	1070
INTERMITTENT	964
Features/Controls/Displays - Locl	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 - Mirro	56
UNUSUAL GAGE READING	54
ODOR	49
LOCKS/LOCKING UP	47
Features/Controls/Displays - Ligh	38
THEFT DETERRENT LIGHT	37
Features/Controls/Displays - Gau	36
TECH BULLETIN	31
WON'T TURN OFF	31
SERVICE ENGINE SOON	31
EXCESS EFFORT	30
Drivability - Other issues	24
FП	24
	18.207

All complaint codes not shown

2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 44 of 56

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

U.S. Department of Transportation National Highway Traffic Safety Administration	ODI RESUME					
INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: David Langjahr						
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: <u>1996-1999</u> VEHICLE POPULATION: Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430						
PROBLEM DESCRIPTION: The speed control resistor assembly for the heater blower may overheat and start a fire. Also, failure of the blower switch causes loss of one or more blower speeds.						
FAILURE REPORT SUMMARY						
	ODI	MANUFACTURER	TOTAL			
COMPLAINTS: FIRES: INJ FIRES: # INJURIÉS: FAT FIRES: #FATALS: LAWSUITS: OTHER: DESCRIPTION OF O	4 0 0 0 0 0 0 0 0 THER: WARRANTY CLAIR	approx. 2,600* 89 0 0 0 0 9 approx. 13,000* MS	approx. 2.700* 93 0 0 0 9 approx. 13,000*			
ACTION: This Engineering Evaluation is closed. On July 9, 2001, Ford notified NHTSA offits intent to conduct a Safety Recall #01V-230 (Ford #01S22).						

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2006-7 GMT360_370 DDM Function ISR 4-10-12-p.pdf Page 45 of 56

45























EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p

{ ** } Indicates Cost Information Redacted

Driver Door Module Short Circuit



2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 1 of 56

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

\mathbf{c}	ODI RESUME				
U.S. Department of Transportation National Highway	Investigation: PE Date Opened: 02. Investigator: En Approver: Fra Subject: Dri	: 12-003 .09/2012 .nly Reichard ank Borris .ser's Master, Power Wind	Reviewer: Scott	Yon	
Administration					
	MANUFACT	URE R & PRODUCT	INFORMATION		
Manufacturer: Products: Population: Problem Description:	GENERAL MOTOR: 2006-2007 Chevrole 309,423 (Estimated) Melting and/or burnin components.	SLLC At Trailblazers) ng of the driver's master p	oower window switch and	d related electrical	
	FAI	LURE REPORT SUM	MARY		
		ODI	Manufacturer	Total	
Complaints:		12	TBD	TBD	
Crashes/Fires:		10	TBD	TBD	
Injury Incidents:		D	TBD	TBD	
Fatality Incidents:		0	TBD	TBD	
Other*:		D	TBD	TBD	
*Description of Other:					
	АСПО	N / SUMMARY INFO	RMATION		
Action: APreliminary	Evaluation (PE) has b	een opened.			
Summary: The Office of Defects Im reports provided through window switch in model door fires, including som left unattended (key-off) ODI has opened this inv ODI reports cited above numbers: 10229743, 10 10426281, 10434446, 10	vestigation (ODI) has n Early Warning Repor year 2006-2007 Chev e that occurred while estigation to further ar can be reviewed at w 247838, 10274337, 1 0445657	received twelve (12) cons ting, alleging melting and rolet Traiblazer vehicles . the vehicle was in operat halyze the scope, frequen ww-odi.nhtsa.dot.gov/con 0275626, 10406203, 104	aumer complaints, as wel Nor burning of the driver's Several of the complaint ion and during periods w cy, and consequence of nplaints under the followi 09023, 10414691, 10413	l as manufacturen field smaster power ts have led to driver here the vehicle was the alleged incidents. ng identification (ODI) 7938, 10423865,	

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



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





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

2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 6 of 56



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

2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 7 of 56



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

2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 8 of 56



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

2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 9 of 56

{ * } Indicates GM Confidential Business Information Redacted



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



Driver Door Module Short Circuit

{ * }



Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 12 of 56

Inspections/Investigations

1GNDT13S872 - 77454): Incident date: 3-5-2011; Estimated mileage: 50,000 miles; Fire in driver door while the s/v was parked and unattended.

1GNDT13S072 1999 - 1999 (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 (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

1GKET63M4622 - (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 - 242007 - 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) <u>Rates using PVDM volume</u>

*5 VOQs have matching TREAD records or total would be 56. Very few incidents were actual "fires". Most were odor, melting, or smoke.



Data as of 4-19-12



Back-Up

2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 23 of 56



<u>U.S. Fire Allegations by Build Date</u> 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2117



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



Data as of 4-19-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function TREAD War VOQs Update 4-16-12-p.pdf Page 26 of 56

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: E Prompted by: C Date Opened: 0 Investigator: J Approver: F Subject: D	A 11-00 onsume 4/11/201 ohn Abb rank Bor river's M	4 r Complai 1 ott τis laster Pov	ints and ver Wind	PE10-047 Reviewer: dow Switch	Scott Ye	on	
	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								
wining components							8	
	FA	ILURE	REPOR	RT SU	MMARY			
			ODI		Manufactu	rer	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							rue	
ACTION / SUMMARY INFORMATION "fires" unknown							own	
Action: Open an Engineering Analysis								
Summary:								
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: <u>http://detnews.com/article/20110904/AUTO01/109040323/Honda-</u> recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2 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.

The agency is aware of 35 alleged front passenger door panel heat, smoke or fire incidents, including three reported misor burns or bruises. There are no reported crashes or fatalities. There are 307 wurraryt claims of witch malfunctions or short circuits without any reported heat, anoke or fire. MMNA impection 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/imoke/ fire condition inside the switch/door panel assembly.

s of Other: Warranty claims related to passenger switch failures.

In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, so extend the warrasty coverage on model year (MY) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 milles, whichever comes first. Notification of this special coverage program to all registered vehicle owners is scheduled to begin i 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 beverag onto the front passenger door window switch will be entitled to have the switch replaced and any

ODI RESUME

Peter Ong

curs in the front passenger door panel FAILURE REPORT SUMMARY

n America, Inc., Mitsubishi Caribbean

ODI

6

1

0

Date Closed: 08/21/2009

Manufacturer

29

29

2

0

3407

Date: 08/21/2009

Date: 08/21/2009

Date: 08/21/2009

Total

35

35

3

0

0

307

Investigation: EA08-011

Prompted By: PE08-014

Subject: Passenger Door Fire

Date Opened: 07/01/29

Principal Investigator

(Continued on page two)

2

U.S. Department

of Transportation

National High

Manufacturer: Mitsubishi Motors No

Close this Engineering Analysis see: <u>Peter Ong</u> ACO

Products: 2001 – 2003 Mitsubishi Population: 292,945 Problem Description: A fire occur

Traffic Safety

Complaints:

Injuries: Fatality Incide

Fatalities:

Other*:

Action

*Descrip

Crashes/Fires:

Injury Incidents:

. Chief D. Scott You

Office Dis: Kathleen C. Dr.Meter

related repairs performed at no charge.



2006-7 GMT360/370

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

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

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















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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
1-07	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
1-01	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)

Problem Description	-		
	Cases	%	IPTV
COMPONENT-INOPERATIVE	5,483	33	9.67
COMPONENT-SHORTED	3,688	22	6.51
OBDII Code used	1,820	11	3.21
Module/Component-Shorted	1,284	8	2.27
COMPONENT-OPEN	1,215	7	2.14
COMPONENT-INTERMITTENT	629	4	1.11
Module/Component-No/Incorrect Communication	386	2	0.68
Wiring/Electrical/Sensors-Shorted	223	1	0.39
OUT OF CALIBRATION	202	1	0.36
BURNED	185	1	0.33
BROKEN	101	1	0.18
CUSTOMER SATISFACTION	87	1	0.15
LOOSE	81	0	0.14
Module/Component-Registers Incorrectly	67	0	0.12
Wiring/Electrical/Sensors-No/Incorrect Communication	66	0	0.12
Module/Component-Broken	60	0	0.11
TECHNICAL SERVICE BULLETIN	56	0	0.10
REGISTERS INCORRECTLY	52	0	0.09
ELECTRICAL INTERFERENCE	52	0	0.09
Module/Component-Poor Contact	47	0	0.08
MISADJUSTED/MISALIGNED	42	0	0.07
WORN	33	0	0.06
CLOGGED/RESTRICTED/BLOCKED	29	0	0.05
WIRE-CUT/BROKEN/OPEN	25	0	0.04
CONNECTOR-CORRODED	7	0	0.01
WIRE-BURNED-EXTERNAL HEAT	7	0	0.01
WIRE BURNED-INTERNAL HEAT	7	0	0.01
	Problem Description COMPONENT-INOPERATIVE COMPONENT-SHORTED OBDII Code used Module/Component-Shorted COMPONENT-OPEN COMPONENT-INTERMITTENT Module/Component-No/Incorrect Communication Wiring/Electrical/Sensors-Shorted OUT OF CALIBRATION BURNED BROKEN CUSTOMER SATISFACTION LOOSE Module/Component-Registers Incorrectly Wiring/Electrical/Sensors-No/Incorrect Communication Module/Component-Registers Incorrectly Wiring/Electrical/Sensors-No/Incorrect Communication Module/Component-Broken TECHNICAL SERVICE BULLETIN REGISTERS INCORRECTLY ELECTRICAL INTERFERENCE Module/Component-Poor Contact MISADJUSTED/MISALIGNED WORN CLOGGED/RESTRICTED/BLOCKED WIRE-CUT/BROKEN/OPEN CONNECTOR-CORRODED WIRE-BURNED-EXTERNAL HEAT WIRE BURNED-INTERNAL HEAT	Problem DescriptionCasesCOMPONENT-INOPERATIVE5,483COMPONENT-SHORTED3,688OBDII Code used1,820Module/Component-Shorted1,284COMPONENT-OPEN1,215COMPONENT-INTERMITTENT629Module/Component-No/Incorrect Communication386Wiring/Electrical/Sensors-Shorted223OUT OF CALIBRATION202BURNED185BROKEN101CUSTOMER SATISFACTION87LOOSE81Module/Component-Registers Incorrectly67Wiring/Electrical/Sensors-No/Incorrect Communication66Module/Component-Registers Incorrectly67Wiring/Electrical/Sensors-No/Incorrect Communication66Module/Component-Broken60TECHNICAL SERVICE BULLETIN56REGISTERS INCORRECTLY52ELECTRICAL INTERFERENCE52Module/Component-Poor Contact47MISADJUSTED/MISALIGNED42WORN33CLOGGED/RESTRICTED/BLOCKED29WIRE-CUT/BROKEN/OPEN25CONNECTOR-CORRODED7WIRE BURNED-EXTERNAL HEAT7WIRE BURNED-INTERNAL HEAT7	Problem DescriptionCases7%COMPONENT-INOPERATIVE5,48333COMPONENT-SHORTED3,68822OBDII Code used1,82011Module/Component-Shorted1,2848COMPONENT-OPEN1,2157COMPONENT-INTERMITTENT6294Module/Component-No/Incorrect Communication3862Wiring/Electrical/Sensors-Shorted2231OUT OF CALIBRATION2021BURNED1851BROKEN1011CUSTOMER SATISFACTION871LOOSE810Module/Component-Registers Incorrectly67OWiring/Electrical/Sensors-No/Incorrect Communication66Module/Component-Registers Incorrectly67Module/Component-Broken600TECHNICAL SERVICE BULLETIN560REGISTERS INCORRECTLY520Module/Component-Poor Contact470MISADJUSTED/MISALIGNED420WORN330CLOGGED/RESTRICTED/BLOCKED290WIRE-BURNED-EXTERNAL HEAT70WIRE BURNED-INTERNAL HEAT70WIRE BURNED-INTERNAL HEAT70

All Trouble

Codes not

shown

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



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

U.S. Department of Transportation National Highway Traffic Safety Administration	ODI RESUME				
INVESTIGATION: EA01-001 SUBJECT: Interior Compartment Fires PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: David Langjahr					
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: <u>1996-1999</u> VEHICLE POPULATION: Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430					
PROBLEM DESCRIPTION: The speed control resistor assembly for the heater blower may overheat and start a fire. Also, failure of the blower switch causes loss of one or more blower speeds.					
FAILURE REPORT SUMMARY					
	ODI	MANUFACTURER	TOTAL		
COMPLAINTS: FIRES: INJ FIRES: # INJURIÉS: FAT FIRES: #FATALS: LAWSUITS: OTHER:	68** 4 0 0 0 0 0 0 0	approx. 2,600* 89 0 0 0 0 9 approx. 13,000*	approx. 2.700* 93 0 0 0 0 9 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					

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ODI Investigation



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ODI Investigation



ODI Investigation



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ODI Investigation





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ODI Investigation
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

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

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

{ * } Indicates GM Confidential Business Information Redacted

{ ** } Indicates Cost Information Redacted

Driver Door Module Short Circuit



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

ETQ N110323



{ * } Indicates GM Confidential Business Information Redacted



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Back-Up

2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 3 of 57

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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2	ODI RESUME						
U.S. Department of Transportation National Highway Traffic Safety Administration	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						
	MANUF ACTURE R & 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:		D	TBD	TBD			
Fatality Incidents:		D	TBD	TBD			
Other*:		D	TBD	TBD			
*Description of Other:							
ACTION / SUMMARY INFORMATION							
Action: A Preliminary	Evaluation (PE) has b	een 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 Traiblazer 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 let 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 www-odi.nhtsa.dot.gov/complaints 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



2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 6 of 57

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





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 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 9 of 57



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 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 10 of 57



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

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2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 12 of 57

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



2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 13 of 57

{*} Indicates GM Confidential Business Information Redacted

Driver Door Module Short Circuit





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Inspections/Investigations

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

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





Inspections/Investigations

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



2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 16 of 57

Inspections/Investigations

1GKET63M462 (no details on circumstances of incident, but damage is consistent with DDM)



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

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

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.

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.

VOQs + TREAD (Data 4/19/12)

 51^* Total (Includes all allegations that fire was present) 2006 - 242007 - 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) <u>Rates using PVDM volume</u>

*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

2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 23 of 57

Risk Assessment



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{ * } Indicates GM Confidential Business Information Redacted



U.S. Fire Allegations by Build Date 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2117



2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 26 of 57

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



Data as of 4-19-12 122 of 483,664 have no state record

2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 27 of 57

U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: Prompted by: Date Opened: Investigator: Approver: Subject:	EA 11-004 Consumer 04/11/201 John Abbo Frank Bon Driver's M	Complaint 1 ott ris aster Powe	ts and PE er Window	E10-047 Reviewer: v Switch	Scott Yo	n	
MANUFACTURER & PRODUCT INFORMATION								1
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		Manufactu	rer	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 t						true		
ACTION / SUMMARY INFORMATION "fires" unkno							lown	
Action: Open an Engineering Analysis								
Summary:						1		
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: <u>http://detnews.com/article/20110904/AUTO01/109040323/Honda-recalling-86-000-vehicles-in-U.S.-for-fire--rollaway-concerns#ixzz1XCaXerj2</u>

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.



In response to this investigation, Mitsubishi Motors North America (MMNA) initiated a special program on July 31, 2009, so extend the warnenty coverage or model year (MV) 2001-2003 Galant vehicle passenger side window switches to 10 years or 120,000 miles, whichever comes finst. Notification of this special coverage program is all registered vehicle owners is scheduled to begin in Inte-September 2009. Owners who have experienced a problem with the power window switch (blown fuse, interminent 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)

{ * } Indicates GM Confidential Business Information Redacted



2006-7 GMT360/370

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

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

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




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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
1-07	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
1-0P	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)

Trouble				
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



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

U.S. Department of Transportation National Highway Traffic Safety Administration	ODI RESUME							
INVESTIGATION: EA01-001 DATE OPENED: 1-5-01 SUBJECT: Interior Compartment Fires DATE CLOSED31-JUL-01 PROMPTED BY: Owner Complaints (PE00-023) PRINCIPAL INVESTIGATOR: David Langjabr								
MANUFACTURER: Ford Motor Company MODELS: Ford Contours, Mercury Mystiques and Cougars MODEL YEARS: <u>1996-1999</u> VEHICLE POPULATION: Contours/Mystiques (MY 1996-1998)- 335,532; Cougars (MY 1999) - 7,430								
PROBLEM DESCRIPTION: The speed control resistor assembly for the heater blower may overheat and start a fire. Also, failure of the blower switch causes loss of one or more blower speeds.								
FAILURE REPORT SUMMARY								
	ODI	MANUFACTURER	TOTAL					
COMPLAINTS: FIRES: INJ FIRES: # INJURIÉS: FAT FIRES: #FATALS: LAWSUITS: OTHER: DESCRIPTION OF O	68** 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	approx. 2,600* 89 0 0 0 0 9 approx. 13,000*	approx, 2,700* 93 0 0 0 9 approx. 13,000*					
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 CON	IFIDENTIAL	Return					

2006-7 GMT360_370 DDM Function TREAD, War, VOQs Update 4-16-12 mtg 6-5-12-p.pdf Page 46 of 57

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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



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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



Driver Door Module Short Circuit

{ * }



Base Switch Package

Uplevel Switch Package

2006-7 GMT360_370 DDM Function-Review of PIE0212 5-16-12-p.pdf Page 3 of 7

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



2006-7 GMT360_370 DDM Function-Review of PIE0212 5-16-12-p.pdf Page 4 of 7

Inspections/Investigations

1GNDT13S872 - 19900 - 19900 - 19900 - 19900 - 1990 - 1990 - 1990 - 1990

1GNDT13S072 - Control (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.



2006-7 GMT360_370 DDM Function-Review of PIE0212 5-16-12-p.pdf Page 6 of 7

Inspections/Investigations

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



2006-7 GMT360_370 DDM Function-Review of PIE0212 5-16-12-p.pdf Page 7 of 7

EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7 GMT360_370 DDM Warranty From PE Submissionp

{ ** } Indicates Cost Information Redacted

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



2006-7 GMT360_370 DDM Warranty From PE Submission-p.pdf Page 1 of 10



2006-7 GMT360_370 DDM Warranty From PE Submission-p.pdf Page 2 of 10

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



2006-7 GMT360_370 DDM Warranty From PE Submission-p.pdf Page 3 of 10
2006-2007 GMT360/370 DDM US Warranty (Repair Dealer) Labor Op N2117 with PVDM Population



Data as of 4-19-12 122 of 483,664 have no state record in PVDM

2006-7 GMT360_370 DDM Warranty From PE Submission-p.pdf Page 4 of 10

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



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



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Driver Door Module Short Circuit





Base Switch Package

Uplevel Switch Package

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

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





EA12-004 GM 12-14-2012 ATTACHMENT Q_09 2006-7_GMT360_370_DDM_Functi on FPERC & IR Submission 4-20-12-р

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Driver Door Module Short Circuit



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

12 VOQs and 309,423 vehicles

<u>Problem Description:</u> 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

<u>Problem Description:</u> Electrical fire originating in the driver's side door

6 VOQs and 830,000 vehicles

2							
U.S. Department of Transportation National Highway Traffic Safety Administration	Investigation: PE Date Opened: 02 Investigator: En Approver: Fra Subject: Dri	12-003 09/2012 nily Reichard ank Borris ver's Master Power Wind-	Reviewer: Scott ow Switch	Yon			
MANUF ACTURE R & 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							
			Manufacturer	Total			
Complaints:	Complaints:		TBD	TBD			
Crashes/Fires:		10	TBD	TBD			
Injury Incidents:		D	TBD	TBD			
Fatality Incidents:		Û	TBD	TBD			
Other*:		D	TBD	TBD			
*Description of Other:							
	АСПО	N / SUMMARY INFO	RMATION				
Action: A Preliminary B	Evaluation (PE) has t	een 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 Traiblazer 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 let 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 www-odi.nhtsa.dot.gov/complaints under the following identification (ODI) numbers: 10229743, 10247838, 10274337, 10275626, 10406203, 10409023, 10414691, 10417938, 10423865, 10426281, 10434446, 10445657							

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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

	GM Reports	Subcategories			
Type of Report		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

Risk Assessment { * } { * } { * }

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Back-Up

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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





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)



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

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





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



1GKET63M462 (no details on circumstances of incident, but damage is consistent with DDM)



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).

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

TREAD Data summary (fire)

Data 1/31/12

36* Claims overall 2006 – 16 2007 – 20

7.4/100K 2006 (5.4) & 2007 (10.7)

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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) <u>Rates using PVDM volume</u>

*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). <u>Very few incidents were actual "fires". Most were odor, melting, or smoke.</u>

U.S. Fire Allegations by Build Date 2006-2007 GMT360/370 DDM Global Warranty Labor Ops N2116 , N2117



Data as of 1-31-12

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



Data as of 1-31-12 122 of 483,664 have no state record

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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

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

EA12-004 GM 12-14-2012 ATTACHMENT Q_09 N110323 2006-7 GMT360_370 Driver Door Module Inv Summary-p

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

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Figure 1 - Trailblazer door trim with DDM indicated.



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

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

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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).



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.



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

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 - 1062007 - 152

2007 – 132 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.



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

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Scope

Number of Vehicles Potentially Involved

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

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

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	
GM CANADA				
Buick	Rainier	2006-7	414	
Chevrolet	Trailblazer & EXT	2006-7	<mark>6,14</mark> 1	
GMC	Envoy & XL	2006-7	6,596	
SAAB	9-7x	2006	537	
	Total		13,688	
GM MEXICO				
Chevrolet	Trailblazer & EXT	2006	4,937	
		_		
I.P.C.				
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	
TOVOTA		1		
SAAB	9-/x	2006	1	
	1			
Unknown				
BUICK	Rainier	2007	40	
Chevrolet	Trailblazer	2006-7	349	
GMC	Envoy	2006	147	
lsuzu	Ascender	2007	22	
	Total		558	
	Total GM		525,377	

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.

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As Of 06/21/12

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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Appendix I

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

STANDARD DATA SOURCES USED IN THIS INVESTIGATION

	VSSM (SPO)		ODI	TREAD
Data	Bulletins /	Service	Consumer	*See
Source	Advisories	Part	Complaints	attached
		Sales	(NHTSA	TREAD
			VOQ)	summary
No	Х	Х		
Yes			Х	Х
Pull			Multiple.	Multiple
Date(s)			Last	Last
			4/16/12	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 <u>conductivity of highly concentrated salt</u> <u>water is approx. 8 orders of magnitude greater</u> <u>than that of pure water</u>.

EA12-004 GM 12-14-2012 ATTACHMENT Q_09 Salt Water Conductivity