

**Fire
Cause
Analysis**
A DIVISION OF IFT INC.

September 5, 2006

To: Manuel Bento
State Farm Insurance Co.
1475 66th Street
Emeryville, CA. 94608-1004

Re: Insured: [REDACTED]
FCA #: 07-8652-V
Date of loss: July 26, 2006
Date of Investigation: August 8, 2006
Location of Investigation: Adesa Impact Fremont

Claim #: [REDACTED]
Vehicle Make: Mazda
Vehicle Model: Tribute
Year: 2002
Vin#: 4F2CU08112K [REDACTED]
License#: [REDACTED]

ASSIGNMENT

To determine the origin and cause of the fire that occurred in the above-described vehicle. Enclosed for your information is my report of the fire investigation, conducted at your request, regarding the above referenced fire loss. This report consists of this summary, an interview, and the attached photographs.

In summary, this fire loss occurred in the above-described vehicle, while parked. The vehicle was unoccupied at the time of the fire. The fire was first observed by a passerby who, observed smoke and then flame emitting from the engine compartment, notified BART Police. No injuries were reported as a result of this fire

Exterior examination:

The filler cap was in place during the fire. No damage to the fuel tank was observed.

The stock alloy wheels were on the vehicle during my examination. The left front tire was damaged by the fire and deflated. The three remaining tires were inflated and not damaged. The four tires are Continental brand size 235/70R16.

Offices:
San Francisco Bay Area
Sacramento Valley
Southern California
Phoenix, Arizona

935 PARDEE STREET
BERKELEY, CA. 94710-2623 USA
510.649.1300
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Fax: 510.649.3099

<i>Tire depth:</i>	<i>Left front</i>	<i>5/32</i>	<i>Left rear</i>	<i>5/32</i>
	<i>Right front</i>	<i>5/32</i>	<i>Right rear</i>	<i>5/32</i>

The window glass of the front left door and windshield was not present. The glass was found in the interior of the vehicle indicating it failed as a result of the heat from the fire. The window glass of the right front and rear passenger doors was intact and soot stained.

The left front door lock was intact and the lock cylinder was not compromised or defeated. All exterior body damage observed occurred as a result of the fire or suppression efforts. The vehicle paint was in good condition. Burn patterns observed on the roof and side body panels indicate that the fire originated within the engine compartment.

Interior examination:

The ignition cylinder and steering wheel lock were intact. No ignition key was observed in the vehicle. Severe fire damage occurred to the instrument cluster and right dash. The remaining interior sustained heat and smoke damage. No personal items were observed in the passenger compartment during examination. Burn patterns observed indicated that the fire originated in the engine compartment and extended into the passenger compartment through the factory penetrations in the bulkhead.

Engine Compartment:

The dipstick for the engine oil and automatic transmission was destroyed. Fire damage allowed suppression water to enter the transmission and engine, making an accurate oil level or oil sample impossible. The engine compartment sustained severe fire damage. Burn patterns indicated the fire originated on the left side of the engine compartment. Electrical activity was observed on the electrical wiring in the left side of the engine compartment in the area of origin.

Cargo area:

The spare tire was located in the spare carrier area of the vehicle. The emergency jack and associated tools were in their designated areas. There were no personal items observed in the cargo area.

Recalls:

The recalls and complaints related to this vehicle were reviewed. No information contained within the reviewed information was applicable to the cause of this fire.

Repair work:

There was no recent repair work reported.

Summary of examination:

The greatest amount of overall fire damage was located within the engine compartment. The remaining areas of the vehicle interior sustained varying degrees of fire, heat, and smoke damage. The fire extended into the passenger compartment through the factory penetrations in the bulkhead. The area of fire origin was located in the left side of the engine compartment. This was the area of greatest fire damage. Due to the fire damage in the area of origin, the exact point of fire origin was undetermined.

INTERVIEWS

#1) [REDACTED] - Insured

I interviewed Mr. [REDACTED] by phone on the day of my examination. He provided the following information:

- His wife had driven the vehicle on the day of the fire.
- She had driven from their home to a South San Francisco BART station where she parked and commuted to work.
- She had parked the vehicle at approximately 8:00 AM.
- She returned to the BART parking lot after work and found the vehicle had caught fire and had been towed.
- The fire was observed by a passerby who notified the BART Police at approximately 8:10 AM.
- She had not experienced any problems with the vehicle on the day of the fire.
- She had not observed any odors nor observed smoke from the vehicle when she parked.
- The vehicle had been running fine and no problems were noted.
- There had been no recent repairs performed.
- The oil had been changed approximately two months prior.
- The break pads had been replaced approximately eight months prior.

Evidence:

The following item was collected as evidence in this case:

- SP-1 Electric component from the left side of the engine compartment

We will hold this evidence pending your further instructions regarding its handling.

CAUSE

Examination determined that the area of fire origin is located on the left side of the engine compartment. This was the area of greatest fire damage. An analysis of the investigation indicates the most likely cause of this fire is an unknown electrical failure on the left (driver's) side of the engine compartment.

Due to the fire damage in the area of origin, the specific point of fire origin and material/item first ignited was not observed during my non-destructive examination of the vehicle. The area of origin contained a wiring harness, unidentified electronic components, and an electrical distribution panel.

The vehicle was not in operation at the time of the fire and had been parked, reportedly ten minutes, before a fire was observed. The driver did not report smelling an odor or observing smoke venting from the engine compartment after parking the vehicle. The vehicle systems were operating normally while the vehicle was being driven. Since the vehicle was not in operation, it is unlikely that heat from the engine is the cause of this fire.

Electrical wiring and components were observed in the area of origin. The most likely cause of this fire is from a failure of an energized electrical component in the area of origin.

Recommendations:

The vehicle manufacturer should be placed on notice. Forensic testing of the vehicle's electrical component collected as evidence should be performed in an effort to determine the malfunction causing a heating condition that would initiate this fire. If you wish, Fire Cause Analysis can provide you the necessary engineering services.

My assessment of the origin and cause of this fire is based on the analysis of physical evidence, the assessment of reported information, and the evaluation of all possible causes. Please contact me if you would like any further clarification regarding this investigation.

Submitted by,

T. Scott Perkins

T. Scott Perkins, CFI
Fire Investigator
Fire Cause Analysis

Ulises Castellon

Ulises Castellon, CPCU, RPA
Quality Review
Fire Cause Analysis

SP/uc/bp/sw
07-8652-01-RSP

Incident Report

South San Francisco Fire Department

Basic	
Alarm Date and Time	08:11:39 Wednesday, July 26, 2006
Arrival Time	08:15:37
Controlled Date and Time	
Last Unit Cleared Date and Time	08:54:46 Wednesday, July 26, 2006
Response Time	0:03:58
Priority Response	Yes
Completed	Yes
Fire Department Station	63
Shift	A
Incident Type	131 - Passenger vehicle fire
Initial Dispatch Code	VF
Aid Given or Received	N - None
Action Taken 1	11 - Extinguish
Action Taken 2	12 - Salvage & overhaul
Action Taken 3	86 - Investigate
Apparatus - Suppression	1
Personnel - Suppression Personnel	3
Property Loss	\$20,000.00
Contents Loss	\$5,000.00
Property Value	\$20,000.00
Contents Value	\$5,000.00
Hazardous Material Released	7 - Motor oil - from engine or portable container
Property Use	965 - Vehicle parking area
Location Type	In Front Of
Address	In front of
City, State Zip	SOUTH SAN FRANCISCO, CA
District	63

Person Involved/Property Owner -	
Owner	Yes
Involvement Code	DRV
Last Name	
First Name	
Street Address	
City, State Zip	South San Francisco, CA

Fire	
Area of Origin	83 - Engine area, running gear, wheel area
Heat Source	97 - Multiple heat sources including multiple ignition
Item First Ignited	99 - Multiple items first ignited
Type of Material	UU - Undetermined
Cause of Ignition	U - Cause undetermined after investigation
Contribution To Ignition 1	53 - Equipment unattended
Human Factors	None
Suppression Factor 1	448 - Locked or jammed doors
Mobile Equipment Involved	3 - Involved in ignition and burned
Mobile Equipment Type	11 - Passenger car.
Mobile Equipment Make	MZ - Mazda

Incident Report

South San Francisco Fire Department

Fire	
Mobile Equipment Model	Tribute
Mobile Equipment Year	2002
Mobile Equipment License	
Mobile Equipment State	CA
Arson	
Case Status	3 - Investigation inactive
Initial Observations - Doors locked	Yes
Initial Observations - Fire department	Yes
Apparatus - E63	
Apparatus ID	E63
Response Time	0:02:47
Apparatus Dispatch Date and Time	08:11:58 Wednesday, July 26, 2006
En route to scene date and time	08:12:50 Wednesday, July 26, 2006
Apparatus Arrival Date and Time	08:15:37 Wednesday, July 26, 2006
Apparatus Clear Date and Time	08:51:31 Wednesday, July 26, 2006
Apparatus priority response	Yes
Number of People	3
Apparatus Use	1
Apparatus Action Taken 1	11 - Extinguish
Apparatus Action Taken 2	12 - Salvage & overhaul
Apparatus Action Taken 3	86 - Investigate
Apparatus Action Taken 4	84 - Refer to proper authority
Apparatus Type	11 - Engine
Personnel 1	SOF119 - Clark, Stewart Position: FF
Personnel 2	SOF115 - Porcelli, Richard P Position: PFF Personnel Action Taken 1: 86 - Investigate Personnel Action Taken 2: 81 - Incident command
Personnel 3	SOF126 - Wisler, Brian M Position: PFF Personnel Action Taken 1: 52 - Forcible entry Personnel Action Taken 2: 12 - Salvage & overhaul
Authority	
Reported By	SOF115 - Porcelli, Richard P 14:43:00 Wednesday, July 26, 2006
Officer In Charge	SOF115 - Porcelli, Richard P 14:43:06 Wednesday, July 26, 2006
Reviewer	
Narratives	
Narrative Name	CAD Narrative
Narrative Type	CAD Narrative
Author	

Incident Report

South San Francisco Fire Department

Narratives	
Narrative Text	(MAP) (TB) 707:F2VEHICLE FIRE
Narrative Name	E63
Narrative Type	Company
Narrative Date	14:31:34 Wednesday, July 26, 2006
Author	SOF115 - Porcelli, Richard P
Author Rank	PFF
Author Assignment	1
Narrative Text	Summary: Responded to a reported vehicle fire. Upon arrival E63 found a blue 4-door compact vehicle parked in stall 1351 at the BART station. Vehicle had flames visible from the left front quarter panel area. It appeared from initial reports that the car was empty. E63 took an aggressive approach to prevent other vehicles becoming involved. There were cars on either side of the involved vehicle. The vehicle was extinguished via the hood and breaking the driver side window out to access the passenger compartment. We had fire knock down quickly and prevented fire from extending into the passenger. Cause of the fire is undetermined. Tactics: PPE, Safe driving practices, apparatus placement, and 1.75 inch line. E63 utilized the front 1.75 inch hoseline for primary fire attack and exposure control. The saw was used to make access into the engine compartment area to access the seat of the fire. An axe was used to gain access to the passenger compartment. Overhaul was completed by removing part of the dash to check for extension. E63 used 500 US gallons of water to control and extinguish the fire. Investigation: Due to the heavy fire damage in the engine compartment, it is undetermined as to cause. There we no signs of incendiary devices or use of flammable liquids. Damage: \$20,000 car 5,000 contents

End of Report