EA02-025

FORD 10/27/03

APPENDIX N

BOOK 40

PART 5 OF 8

From: Westenberg, Joanne (J.L.)
Sent: Wednesday, January 31, 2001 3:34 PM
To: Reimers, Steve (S.J.)
Subject: RE: 99S15 letters to Owners

Steve,

99S15 owner letters were sent May 20-21, 1999.
Follow-up postcards were sent June 25, 1999.
Message on Combat (monthly) to dealers: September 1999 through September 2001
Reminder notice (OSU): September 1999, March 2000 and September 2000. Next & final reminder: March 2001

Let me know if you need additional information. Thanks!

-----Original Message-----
From: Reimers, Steve (S.J.)
Sent: Wednesday, January 31, 2001 11:15 AM
To: Westenberg, Joanne (J.L.)
Subject: 99S15 letters to Owners

Can you tell me the dates when the 99S15 recall letters were sent to owners and when they were re-sent? I am trying to correlate service part volume spikes to causes.

thanks,
Steve Reimers
RV&T EESE Chassis E/E Systems
313 39 03288, fax 313 39 04145

[redacted]

CLARKE DEP.

[redacted] RESIDENCE FIRE INVESTIGATION

For

Cozen and O'Connor
Your File Number 110901

by

Alan C. Topinka, P.E., C.F.E.I., P.I.

TABLE OF CONTENTS

I ASSIGNMENT

Schaefer Engineering Corporation (Schaefer Engineering) was requested to investigate a fire that occurred at the [redacted] residence located at [redacted] Federal Way, Washington. Specifically, Schaefer Engineering was asked to determine the cause of the fire.

In the course of this investigation, Schaefer Engineering performed the following:

a. Visually examined and photographed the interior and exterior of the residence and the vehicles in the garage area. Photographs taken during the course of this investigation are appended to this report. Photographs will be referred to by the Frame count (Fc) number located in the lower, right corner of the photograph.

b. Documented the condition of the Lincoln Town Car (Town Car) vehicle that was in the garage at the time of the fire. The Town Car was removed and transported to the Schaefer Engineering laboratory after documentation

c. Documented the location of selected evidence for further examination. Selected evidence was removed and transported to the Schaefer Engineering laboratory after documentation. The selected evidence included but was not limited to the following:

   i. The residence furnace and portions of the flue piping.

   ii. The residence water heater and portions of the flue piping.

   iii. Debris and vehicle components found on the garage floor found underneath and near the Town Car.

   iv. Light circuits, receptacles and electrical conductors removed from the garage.

d. Visually and/or microscopically examined the evidence removed from the scene.

e. Examined the engine and passenger compartments of the Town Car.

f. Marked, photographed and removed selected components and electrical conductors from the vehicle for further detailed and microscopic examination. The removed evidence included portions of the vehicle Speed Control Deactivation Switch (SCDS).

g. Participated in several examinations of the removed evidence and Town Car vehicle with representatives of Ford Motor Company (Ford) and Texas Instruments (TI).

h. Radiographed the remains of the SCDS.

i. Consulted with and conducted a vehicle and SCDS examination with Mr. Richard A. Clarke of Clark Automotive Consultants, Incorporated. Mr. Clarke is an expert on the operation and failure of the SCDS.

j. Participated in a detailed visual and microscopic examination and disassembly of the SCDS. The examination and disassembly was conducted in conjunction with Mr. Clarke and representatives of TI and Ford.

k. Performed a recall search on the subject Town Car. Obtained and reviewed recall documentation from NHTSA and Ford pertaining to the SCDS.

l. Interviewed [redacted] and [redacted] and [redacted] the owners and occupants of the subject residence.

m. Interviewed Bryan Petersen, Fire Prevention Specialist for the Federal Way Fire Department.

n. Interviewed Chief Mike Knorr of the Federal Way Fire Department.

o. Reviewed the Federal Way Fire Department Fire Investigative Report for incident 01-00469.

p. Reviewed written information from McMillen & Associates from an interview wit[redacted]

q. Reviewed the depositions of [redacted] C[redacted] and [redacted]

r. Examined and photographed a similar exemplar Town Car vehicle.

s. Reviewed various documents relating to the failure of the SCDS from TI and Ford.

II BACKGROUND

The author of this report, Alan Topinka of Schaefer Engineering, examined the fire damaged residence on January 23, 2001 and again on January 24, 2001. I was assisted during my site investigation by Mr. Kreg Drew of Schaefer Engineering. The subject Town Car vehicle was wrapped in plastic and transported to a leased storage facility on February 1, 2001.

According to information obtained from the Federal Way Fire Department report and information from the interviews with and depositions of [redacted] and [redacted] had arrived home from work at approximately 7:15 PM on the night of the fire. He parked his Town Car on the left side (north) of the garage (when viewed from the garage entry doors) and entered the residence through the door into the utility room area. [redacted] arrived home in her Chevrolet Camaro with her son [redacted] at approximately 8:30 PM and parked on the right side of the garage. [redacted] and [redacted] father remained inside the residence until just prior to noticing the fire at which time [redacted] heard sounds similar to a door shutting. [redacted] and her son then noticed the smell of smoke and investigated the possibility of an appliance malfunction in the laundry room area that was adjacent to the garage. The washer and dryer were not operating so they opened the door to the garage and noticed the fire. Both [redacted] and [redacted] indicated that the fire when viewed from the open laundry room door was coming from the front driver side of the Town Car. Flame was not noted coming from the passenger side or rear of the vehicle and no flames were noted near the Camaro at the south side of the garage. The north garage door was opened and [redacted] reportedly exited the main door of the residence and attempted to access the Town Car from the north side to remove it from the garage. The smoke, heat and flame were too intense and [redacted] reportedly exited the garage after an unsuccessful attempt to open the south garage door.

[redacted], a neighbor of the [redacted], identified the location of the fire in the area of the front driver side of the Town Car. This is consistent with the description of the initial location of the fire Provided by [redacted] and [redacted].

The subject Town Car was purchased in September of 1997 and had been used as the primary vehicle for [redacted] limousine service. The vehicle was purchased used from a dealer with approximately 30,000 odometer miles. To the best of his knowledge, the vehicle was equipped with the original sound and electronic system. [redacted] had not made any alterations or additions to the sound and electronic system. The vehicle had been in an accident during the time that [redacted] owned the vehicle. The vehicle sustained damage to the front and left side. [redacted] indicated that

he believed that the hood had been damaged, but did not know if it had been replaced. He seldom, if ever, used the cruise control system for the vehicle. Except for heavy oil usage, the vehicle was reportedly operating normally prior to the fire.

According to Chief Knorr of the Federal Way Fire Department, a high pressure water cannon (deck gun) was used to extinguish the fire. Chief Knorr indicated that the deck gun was very powerful and created significant damage to the structure. During operation of the water cannon, Chief Knorr reported that fire debris and materials from the structure were flying around. Chief Knorr believed that fire debris and material inside the passenger compartments of both vehicles in the garage of the residence was likely blown in from the fire suppression effort. The vehicle windows had failed, leaving multiple pathways for debris to enter the vehicle. He also stated that he believed that the hood of the Lincoln Town Car was latched in the closed position during the fire and that the hood may have been lifted during or after the fire suppression effort.

III SCENE INVESTIGATION

The following was noted during our examination and investigation of the scene evidence:

1. The residence was a two-story structure with an attached garage at the south end (Photographs 1 through 6). A portion of the second story of the structure was built above the northeast portion of the garage.
2. Two fire damaged vehicles were positioned in the driveway immediately outside (west) of the garage doors (Photographs 4, 7, 8, 9). The vehicles had been pulled out of the garage area sometime during or immediately after the fire suppression effort. The vehicle to the north side of the driveway was a Lincoln Town Car. The vehicle positioned at the south side of the driveway was a Chevrolet Camaro.
3. The fire damage to the interior of the garage was extensive, particularly at the northeast corner (Photographs 14, 16). The roof eves and rafters to the west and south of the second story structure were severely burned (Photographs 17, 22, 23). The roofing material and sheathing above the garage had burned away or fallen to the garage floor. The west wall of the second story structure above the garage was also severely burned at the exterior from the fire that had progressed through the garage roof and attic below (Photographs 15, 18).
4. Most of the wall surfaces in the garage had been sheathed with gypsum wall board. The wall board material at the front (east) and south side wall had been pulled down or destroyed during the fire fighting effort. The wall studs behind this area were mostly unburned (Photographs 20, 21, 27).
5. Some of the wall board had been left in place by the fire department at the north wall of the garage (Photograph 14). Calcination and deterioration of the wall board, particularly near the front driver side of the Town Car, was evident indicating exposure to severe heat and fire at this location (Photographs 14, 16, 31). Calcination and fire and heat patterns on the north wall decreased with distance from the location that the front driver side of the Town Car had been positioned.
6. The natural gas fired water heater and furnace were positioned at the northeast corner of the garage in an elevated and recessed area (Photographs 26, 34, 35). Fire patterns on the exterior of both appliances indicated that they were exposed to a general high level of heat and flame from the exterior (Photographs 55 through 62). No specific fire or soot

patterns were identified that indicated that either of the appliances or gas line connections were the cause of the fire. Damage to the wall board and structure was less significant near both appliances, indicating fire and heat impingement from the northeast garage area and not the appliance area (Photographs 47, 55, 59). Damage to the wood structure above the appliances was evident (Photographs 51 through 54). The damage to the wood was more evident because the wood was exposed and unprotected by gypsum board and additional oxygen for combustion was available through the flue piping chase. The damage to the wood was generally uniform from external exposure. No indication of insufficient clearance between the flue piping components and combustibles was identified.

7. The water heater, furnace, related flue piping and electrical connections were removed for further examination at the Schaefer Engineering Seattle laboratory. The elevated and recessed space that the appliances had been located was not severely damaged (Photographs 192 through 196), indicating again that the appliances had not been the cause of the fire.

8. The electrical system at the north and east side of the garage was minimal and consisted primarily of conductors that ran north/south near the support beam for the west wall of the second story structure to the distribution panel at the southwest corner of the garage (Photographs 30, 112, 114), two overhead light fixtures with associated switches and conductors (Photographs 115, 116, 145 through 158, 162, 163, 164), limited electrical for the gas fired furnace and the garage door opener (Photographs 121, 122, 123, 124, 140, 141, 142). No evidence of electrical fault, arcing or malfunction was noted on any of the lighting or furnace conductors or the garage door openers. The conductors that ran north/south were positioned approximately above the front middle of both vehicles. The copper conductors had melted through at a position above the left front portion of the Town Car vehicle (Photograph 111). Copper melts at a very high temperature of 1981 °F. No other melted copper conductors were identified on the electrical system still in place in the north and east garage area. This indicated that the area above the left front side of the Town Car vehicle had been exposed to the greatest amount of heat in this area.

9. The electrical distribution panel was located at the southwest corner of the garage. The damage to the panel was from external flame, heat and smoke (Photographs 117, 118).

10. The utility room that was located just east of the east garage wall was not significantly damaged from heat, fire or smoke. Damage was evident and the walls had been blown out from the high pressure water cannon that was used to extinguish the fire (Photographs 27, 28).
11. The high pressure water stream from the cannon had pushed much of the debris in the garage to the east wall (Photographs 16, 17, 20). Much of the debris that had been under and adjacent to the vehicles had been dislocated to the east and north portion of the garage (Photographs 16, 29). The floor area below both vehicles was relatively clean because the vehicles were slid out of the garage after the fire was extinguished. A relatively clean area that a carpet had been located below the Town Car was evident (Photograph 16). The debris that was located under and near the Town Car vehicle was examined and evidence collected and transported to Schaefer Engineering.
12. Marks on the concrete floor from burning material were identified at multiple locations throughout the garage. Spalling damage to the concrete was also noted at several locations (Photographs 201 through 207). The concrete spalling damage was generally consistent with locations with available combustible materials on the vehicles (i.e. plastic doors, tires and bumpers). The spalling was scattered and was not consistent with an intentional accelerant pour pattern.
13. Both vehicles were severely fire damaged. All or nearly all of the combustible non-metallic components had been consumed during the fire (Photographs 23, 102 through 110).
14. The gas cap covers on both vehicles were in the open position at the time of the examination (Photographs 84, 200). The covers would have been easily forced open from the high pressure water forces and/or the expanding gasoline vapors. The gas caps were not located, however, if the majority of the caps were plastic they would have been consumed by the fire. Plastic residue was noted on the metallic gas tank fill tube on the Town Car (Photographs 4005, 4006, 4007).
15. A large amount of debris from the garage area was located in the passenger compartments of both vehicles (Photographs 104, 109). The debris most likely entered the vehicles during the fire suppression and wall tear down performed by the fire department.
16. The engine compartment of the Town Car was severely damaged by the fire (Photographs 64 through 70, 74 through 83). Fire patterns in the engine and on the hood and the examination of melted and degraded material in the engine compartment indicated that the greatest heat and damage was at the left (driver) side of the engine. An initial examination

and conductors and components of interest were marked for further examination (Photographs 185 through 191).

17. Examination of the scene evidence indicated that the area of fire origin was most likely in the driver side of the engine compartment of the Lincoln Town Car at the north side of the garage. The Town Car was plastic wrapped and transported to a warehouse facility along with other evidence and debris for subsequent examination and evaluation (Photographs 1007, 1008, 1009).

IV EVIDENCE EXAMINATION

VEHICLE EXAMINATION

The following observations and evaluations were made during examination of the vehicle and related debris.

1. The vehicle was reported to be a 1993 Lincoln Town car with VIN 1LNLM81W0PY[redacted] and Washington license [redacted] The VIN number was not able to be obtained from the vehicle due to damage.
2. The greatest fire and heat damage was observed at the left passenger side of the engine compartment. Comparison of the damage to similar materials throughout the engine compartment (including aluminum, steel and composite materials) indicated that the heat and fire damage was lowest at the rear left side of the engine compartment.
3. The engine compartment of the Town Car was examined in detail to identify a possible cause for the fire. Electrical terminals, connections and conductors throughout the engine compartment were examined for arcing or other anomalies that may have been related to the cause of the fire (Photographs 1101 through 1110). Components, conductors and materials of interest were marked for removal and more detailed visual and microscopic examination (Photographs 1111 through 1138).
4. Debris that was on a piece of carpet that had been underneath the engine area of the Town Car and other debris removed from the floor was examined for evidence related to the cause of the fire (Photographs 1143 through 1150). Components, conductors and materials of interest were separated from the debris for a more detailed visual and/or microscopic examination.
5. A recall search was made on the vehicle to determine if any recalls potentially related to the fire were issued for the subject Town Car. The search revealed a NHTSA recall for the vehicle SCDS, which potentially related to the cause of the fire (NHTSA

the fire were issued for the subject Town Car. The search revealed a NHTSA recall for the vehicle SCDS, which potentially related to the cause of the fire (NHTSA No. 99V124).

6. A portion of the SCDS for the vehicle was resting on the vehicle frame and was removed for further examination (Photographs 1157 through 1162). The SCDS is located low on the rear driver side of the vehicle engine compartment and is attached with a bracket to the vehicle steel frame (Photographs 3043, 3047 on an exemplar vehicle). The portion of the switch found at this location was not attached to the bracket and was resting on the frame (Photograph 1161). The location that the switch was mounted on the vehicle was in the area of greatest heat and fire damage to the engine compartment.
7. The vehicle passenger compartment was examined and excavated. Examination of the fire patterns and damage and degradation of similar materials was consistent with the fire starting in the engine compartment and not the passenger compartment.
8. The key appeared to have been removed prior to the fire and the position of the key slot was consistent with the vehicle being in the off position (Photographs 1139, 1140).
9. Examination of the passenger compartment after excavation indicated that no significant additional accessories such as high power consumption amplifiers or stereo equipment had been added after market (Photographs 2026 through 2031). The remains of the stereo in the middle dash area were consistent with the appearance of a manufacturer installed or stock system.
10. No after market conductors for accessories that were add on after market were identified in the engine compartment. A small wire end for a connector that was attached to a power terminal at the right side of the engine compartment was most likely not part of the factory installed equipment (Photograph 2002). The terminal was removed to further examine the connector wire end (Photographs 2006, 2007). Examination of the wire ends under low power optics revealed that the wire had been cut. No mating conductor for the wire end was found in the engine compartment or passenger compartment.
11. With the exception of the SCDS, no electrical arcing or anomalies were noted on any of the components, conductors or materials on or removed from the vehicle. No Electrical arcing or anomalies were noted on the components, conductors or materials separated from the debris.
12. A license plate matching the reported license number assigned to the subject Town Car was found in the debris (Photograph 1151). License plates are typically made from

aluminum which often melts in a high temperature fire. Additional hardened molten metal that appeared to be the other license plate from the Town Car was also identified within the debris. The license plate had probably been dislodged by the high pressure water cannon and was not visibly to the fire department during their investigation.

13. Residue that appeared to be from plastic material was found on the gas tank fill threads (Photographs 4005, 4006, 4007). A plastic gas gap would have melted due to the high temperatures. The gas cap on an exemplar 1993 Lincoln Town Car was plastic (Photographs 3025, 3026, 3027). The subject cap likely melted in place during the fire.
14. The hood was in the open position. Shadow patterns and marks on the latch mechanism and hood indicated that the hood was most likely in the closed position at the time of the fire (Photograph 2043). This is consistent with the information obtained from Chief Knorr of the Federal Way fire Department.
15. The pressure (mechanical) side of the SCDS was identified in the debris that was under the vehicle and saved as evidence (Photograph 1505).

EXAMINATION AND DISASSEMBLY OF THE SCDS

According to the information obtained from the NHTSA recall system (NHTSA Recall No. 99V124), "The speed control deactivation switch can develop a resistive short in the electrical circuit that could potentially result in an underhood fire. A fire is possible both when the vehicle is running and when the vehicle engine is off." Based on information provided in documents from TI and Ford, a resistive short can develop due to switch cavity contamination through the perforated Kapton seal or connector seal. The short can generate heat, melt the plastic housing and ignite. The following observations and evaluations were made during examination of the SCDS removed from the subject Town Car:

1. The condition of the pressure (mechanical) side and electrical side of the subject SCDS as removed from the vehicle and debris are shown in Photographs 1501 through 1531.
2. The identification number on the side remains of the aluminum ring that had held the two sides of the switch was identified with the number 2209 or 2309.
3. When compared to an exemplar SCDS, the electrical side of the subject SCDS was clearly damage and missing portions of the copper conductors and contacts (Photographs 1169 through 1174).
4. The copper electrical components appeared arc melted and damaged from heat from electrical activity. The interior of the non-metallic casing for the electrical side of the switch

was discolored and degraded from the heat primarily on the side of the missing copper conductor. The damage to the casing was clearly more severe on the inside of the part indicating the heating was internal to the switch and not from an exterior fire (Photographs 1175 through 1178). Copper conductors that had been located near but outside of the SCDS were not melted or arced.

5. Radiographs of the subject SCDS revealed severe damage to the electrical components from electrical activity and arcing (see Appendix B).
6. Holes were found in the side of the casing that could have allowed oxygen to enter the casing (Photographs 1529, 1530).
7. The mechanical side of the switch was cut open to examine the internal components (Photographs 532 through 537). The interior components and the Kapton seal layers were fragmented. A variety of fragments and particles were found inside the switch and passage way. No chemical analysis of these materials had been made at the time of this report. Microphotographs of the mechanical side of the switch and Kapton seal were made and are stored on CD. These images are available upon request.
8. The failure mode described in the NHTSA recall information is consistent with the evidence in this case. Although the subject vehicle was identified by a Ford representative as one that is not included in the recall, the failure of the evidence identically matches the failure mode identified in the recall. It was believed, but not confirmed, that the subject SCDS was within the group of defective switches covered by the recall.
9. The subject SCDS was examined by Mr. Richard Clarke. Mr. Clarke has examined many other switches and has performed extensive research on the switch failure. Mr. Clarke indicated that the damage to the subject switch was consistent with damage to other switches that have caused fires. A detailed report on the switch failure is being prepared by Mr. Clarke and will be provided independent of this report.

EXAMINATION OF OTHER EVIDENCE

Other evidence removed from the residence and obtained from the debris that was gathered as evidence was visually examined. The evidence included but was not limited to the gas fired water heater and furnace with associated connections, water heater and furnace flue piping, residential electrical from the garage, and vehicle components found in the debris. No malfunction or other anomaly that related to the cause of the fire was noted.

V *CONCLUSION/OPINIONS*

Based on the foregoing engineering investigation and analysis, to a reasonable degree of engineering and scientific probability, Schaefer Engineering has concluded the following:

1. The area of fire origin was the left (passenger) side of the Lincoln Town Car vehicle that was parked at the north side of the [redacted] residence.
2. The Speed Deactivation Control Switch (SCDS) for the Town Car was located in the area of fire origin.
3. The SCDS had electrically malfunctioned and arced. The electrical malfunction and arcing was from an internal malfunction of the switch and not from exposure to heat and flame from a fire external to the switch.
4. The observed malfunctions of the SCDS were consistent with the NHTSA recall for the SCDS and the description of the switch failure identified in the Ford Motor Company and Texas Instruments documentation that was reviewed.
5. The fire at the [redacted] residence was caused by a malfunctioning SCDS.
6. The fire was not intentionally set.
7. No other cause for the fire was identified.

Respectfully Submitted,

Alan C. Topinka, P.E., C.F.E.I., P.I.
Principal Engineer

Reviewed,

Kevin H. Lewis, P.E., C.F.E.I., P.I.
Principal Engineer

APPENDIX A: NHTSA RECALL NOTIFICATION

FOR IMMEDIATE RELEASE
July 7, 1999
Contact: Tim Hurd
Tel. No. (202) 3895550

Ford Motor Company

Models:
Ford Crown Victoria Years: 1992-1993
Lincoln Town Car Years: 1992-1993
Mercury Grand Marquis Years: 1992-1993

Number involved: 279,000
Dates of Manufacture: November 1991 - November 1992
Defect: The speed control deactivation switch can develop a resistive short in the electrical circuit that could potentially result in an underhood fire. A fire is possible both when the vehicle is running and when the vehicle engine is off. Also, the short could disable the speed control system or cause the brake light fuse to open.
Remedy: Dealers will install a new speed control deactivation switch and connector shell. Owner notification began during May 1999. Owners who do not receive the free remedy within a reasonable time should contact Ford at 1-800-392-3673.

[NHTSA Recall No. 99V124/Ford Recall No. 99S16]

News & Alerts

Health Professional: Mislabeled Cancer Drug Recalled

Health Professional: Voluntary Recall of Rabies Vaccine, RabAvert

Free - One Year subscription to Child magazine .. from ClubMom ...details...

more news...

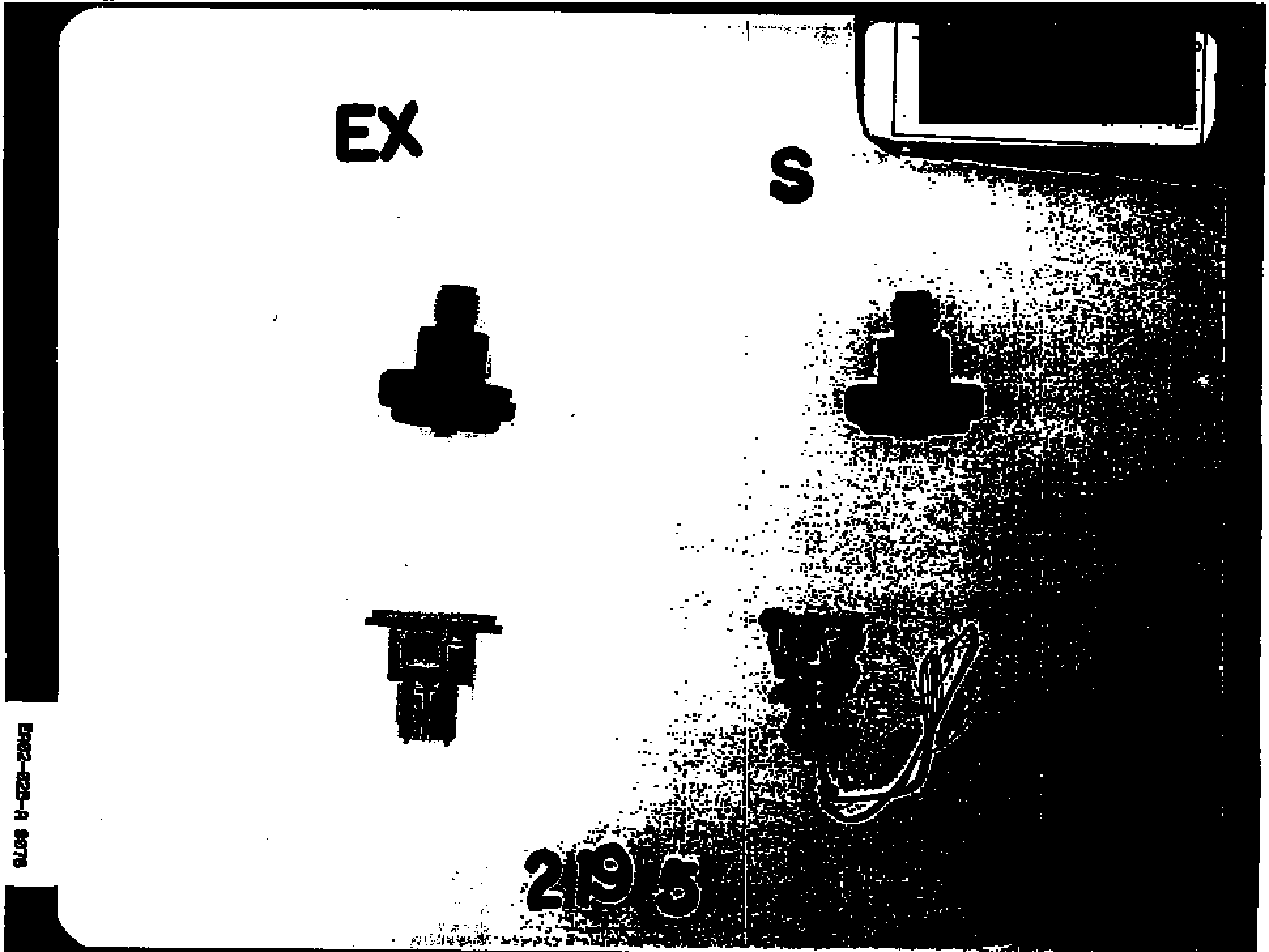
FDA Rethinking Tylenol Warnings - Risk of overdose may be higher than originally thought

Medical Marijuana' Gets Its Day in Court- Supreme Court to decide whether the drug can be distributed to patients

Dads Spending More Time with Kids - But moms still handle the lion's share of the work

New Test Detects Glaucoma Earlier - It may help prevent complications from disease

APPENDIX B: PHOTOCOPIES OF RADIOGRAPHS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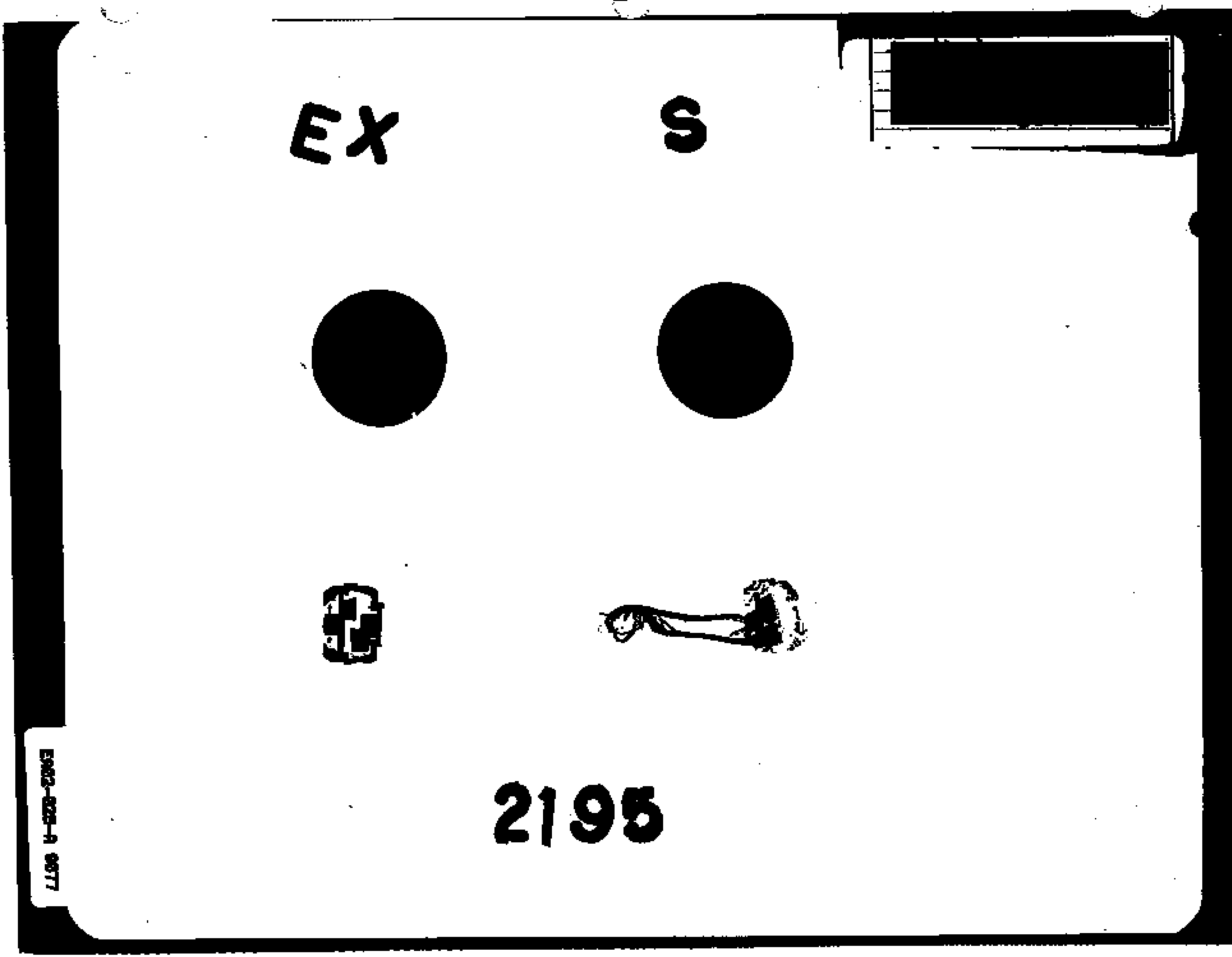
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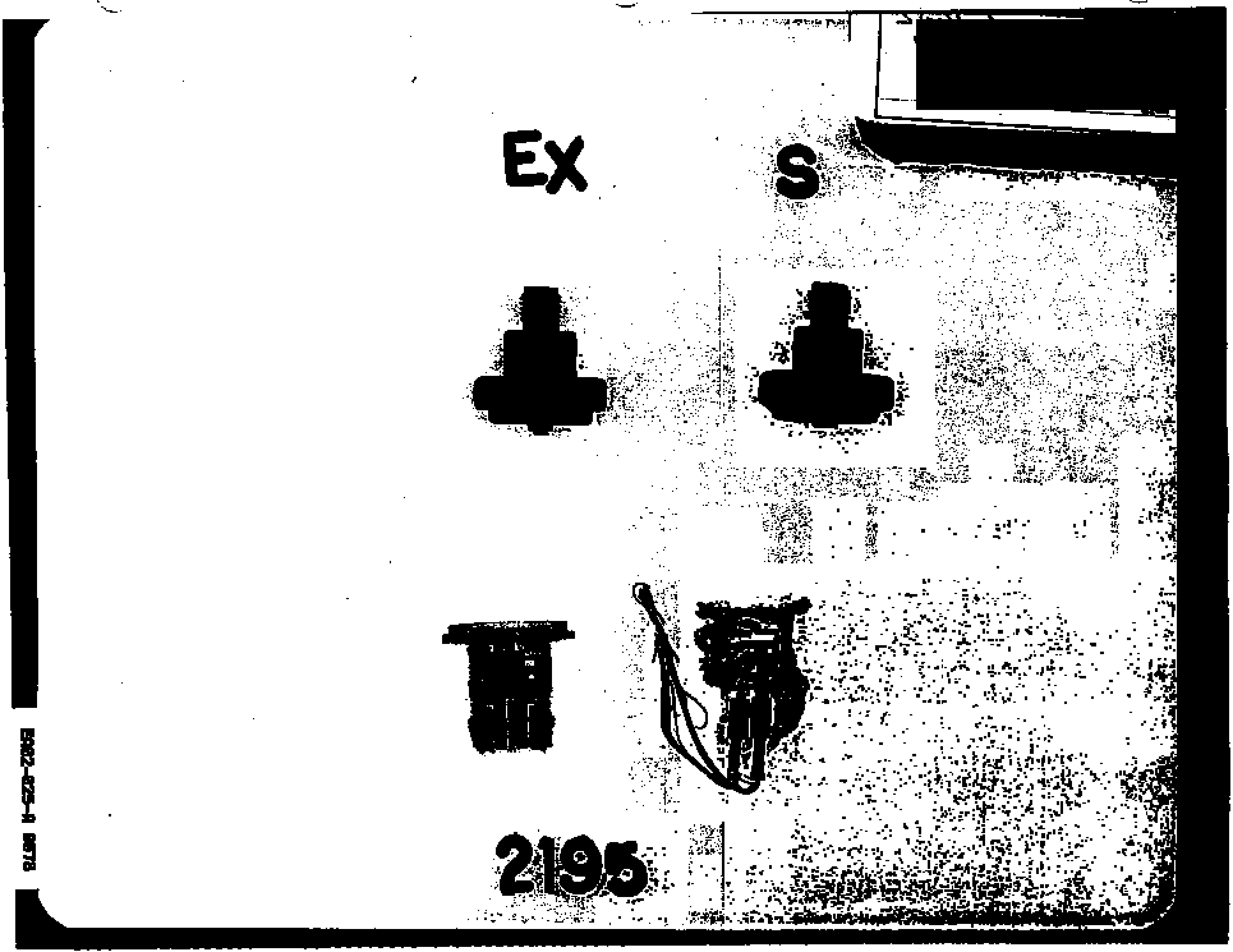
Ex
S
2195

Thomas M. Dunford
Cozen & O'Conner
Suite 5200
Washington Mutual Tower
1201 Third Avenue,
Seattle, WA 98101

Voice: (206)-340-1000

Re: [redacted]
1993 Lincoln Town Car
VIN: 1LNLM81WOPY[redacted]Mfg 12/92, Odo N\A miles Trip N\A miles.
Case #: R-269

DECLARATION OF RICHARD A. CLARKE

Introduction

1. My name is Richard A. Clarke, my educational background and training qualifies me to make this Declaration.

2. My curriculum vitae is attached to this Declaration as Exhibit A and accurately outlines my qualifications, education and background.

3. I began work in development engineering working in the area of automotive performance testing, construction, design and development for Lotus Engineering and General Motors in 1985.

4. I was hired into the research and development department of Active Suspension for engineering and preprodution analysis.

5. Specifically, my direct responsibilities at this time period for Lotus and General Motors were the design, review installation, packaging and testing of production and preprodution prototype vehicles adapted with Active Suspension.

6. During that time I was responsible for the installation of active suspension, testing and engineering support for the 1987 World Championship Lotus Formula One Team. The Hendrix Motor Sports Chevrolet GTP Corvette in the United Kingdom and the United States.

7. I was then hired as the National Field Service Engineer for Lotus Cars, USA. From 1987 to 1996.

8. In 1996 I founded Clarke Automotive Consultants, Inc. And began working as a Forensic Automobile Crash and Fire Investigator. I have established an automotive testing facility.

The attached report is a true and correct description of testing and inspections I have personally conducted on the SCDS (Speed Control Deactivation Switch).

Dear Mr. Dunford:

Please find below a summary of my opinions, and the basis thereof, in the subject matter:

A. Assignment

On May 24, 2002. Tom Dunford engaged Clarke Automotive Consultants to investigate a single vehicle fire. The SV (subject vehicle) was a 1993 Lincoln Town Car with a vehicle identification number (VIN) 1LNLM81W0P[redacted] An inspection of the SV and disassembly of the SCDS was scheduled for Thursday, July 30, 2002.

The examination and disassembly of the SCDS was conducted at Schaefer Engineering at 14712 Bothell Way NE, Suite 2A, Seattle, Washington. The SV inspection was conducted at Kenmore Self Storage, Unit L716 18716 68th Avenue NE Kenmore, WA 98028. The disassembly of the SCDS was performed by Richard A. Clarke.

Also present were Mark E. Hoffman, Bill Hamilton, Alan C. Topinka, Tom M. Dunford, Raymond S. Webber and Edgar G. Sargent. The examination and disassembly of the SCDS was conducted at Schaefer Engineering at 14712 Bothell Way NE, Suite 2A, Seattle, Washington. 98155-7608.

B. Scope

In performance of the assigned task the following work has been performed to date:

A. Photographic documentation, examination and disassembly of the SCDS was conducted at Schaefer Engineering.

B. Inspection and photographic documentation of SV at Kenmore Self Storage.

C. Read and review the depositions of [redacted], [redacted] and [redacted].

D. Reviewed documents relating to the failure of the SCDS from Ford and TI.

E. Review OSI documentation relating to fires in the panther platform.

F. Perform test on SCDS from the recalled population.

G. Preparation of this report.

C. Findings

Based on the investigation and information collected to date, our findings are as follows:

1. Thermal damage patterns indicate the fire originated in the left hand side rear of the engine compartment.

2. The electrical activity in the base of the SCDS indicates a malfunction had occurred.

3. The disassembly of the mechanical side of the switch revealed cracks in the Kapton seals.

D. Vehicle Examination - General

The Lincoln Town car was inspected July 30, 2002. The vehicle identification number (VIN) was 1LNLM81W0PY[redacted] it was a 1993 model. Decoding of the vin number revealed that the automobile was manufactured on December 17, 1992 by Lincoln in Wixom, Michigan and was retailed on January 2, 1993, with factory anti lock brakes(ABS) and a 4.6 L EFI V8 engine. As can be seen from (**Figure 1 and Figure 2**) the SV was stored in a secure inside dry location.

E. Vehicle Examination - Passenger Compartment

The interior of the SV can be seen in (**Figure 3**) as viewed from the drivers door. (**Figure 4**) shows the interior of the SV as viewed from the drivers side rear door. (**Figure 5**) shows a practically undamaged spare tire viewed from the drivers side rear door. (**Figure 6**) shows the remains of the rear seat cover with foam padding and the head liner.

F. Vehicle Examination - Engine Compartment

The most visible fire and heat damage is to the left front section of the engine compartment. (**Figure 7**) shows the burn pattern to the radiator. (**Figure 8**) shows the manufacturers VIN stamp on the SV. The arrow in this photograph highlights the manufacturing stamped letter P indicating that it was in fact a 1993 model year production.

The fire damaged engine compartment can be seen in (**Figure 9**) as seen from the front of the SV. Also noticeable is the burn pattern to the drivers side bulk head. (**Figure 10**) is a view of the drivers side bulk head. The arrow in this photograph highlights the distinctive hot spot to the bulk head on the drivers side.

(Figure 11) is a view looking across the engine compartment from the passenger side front. The remains of the right front head lamp and trim can still be seen. **(Figure 12)** is a view from left front with the remains of the left front head lamp assembly. **(Figure 13)** shows the brake booster, the arrow shows the remains of the rubber grommet in the right hand top side.

The right hand coil pack can be seen in **(Figure 14)** the arrow in this photograph highlights the remains of the spark plug lead. **(Figure 15)** is a view of the left hand coil pack. **(Figure 16)** is a view from the front over head, the arrow show's the most severe damage being to the left front alloy wheel. **(Figure 17)** the arrows in this photograph highlights the close up damage to the alloy rim. **(Figure 18)** shows the remains of the right front wheel and tire assembly. The positive and negative battery terminals can be seen in **(Figure 19)**. The A/C condenser reveals light heat damage to the left front corner as can be seen in **(Figure 20)**.

G. Examination And Disassembly Of The SCDS

The SCDS had become separated from the SV during the fire, it is mounted to a Prop Valve (Proportioning Valve) which is made out of alloy and located under the brake booster on the drivers side bulk head. The components recovered from the fire scene the Hex Port and the base were preserved in plastic bags as can be seen in **(Figure 21 and 22)**. The base of the SCDS had been X-Rayed prior to my inspection along with an exemplar SCDS these can be seen in **(Figure23 through figure 30)**. The exemplar SCDS had been partially disassembled as can be seen in **(Figure 31)**.

The base of the SCDS can be seen in **(Figure 32 through Figure 34)** the arrows in these photos shows the remains of the S Contact and a copper bead which is the remains of the M Contact. The blow hole is clearly visible on the side of the base, as can be seen in **(Figure 35 through 37)**. A close up of the blow hole can been seen in **(Figure 38)** the arrow in this photo shows the remain of the beaded S Contact. The base clearly showed severe damage to the inside indicating the heating was internal to the switch and not from the exterior fire. The terminals and wiring that are located on the outside of the SCDS were not melted and did not show signs of electrical activity.

The remains of the crimp ring reveal the production date of the SCDS (Julian date) 2309 Nov 1992 as can be seen from **(Figure 39)** as depicted by the arrow. The inspection and disassembly of the Hexport **(Figure 40 through Figure 50)** revealed that all 3 layers of the Kapton seal were cracked and fragmented, the converter, spacer and disc was not disassembled at this time. Microphotographs of the Hexport and Kapton seals were taken by Alan C. Topinka and stored on a CD.

H. Interpretation

The area of fire origin was to the left side rear of the engine compartment. The Speed Control Deactivation Switch (SCDS) is mounted to the Proportioning Valve (Prop Valve) in the area of origin. The Kapton seals had failed as indicated by the cracks through all 3 layers, this is also supported by the arcing and beading in the base of the switch, indicating that an electrical malfunction to the internal portion of the switch occurred.

The malfunction of the SCDS was consistent with the NHTSA recall for SCDS (NHTSA No 99V124) and the internal documents supplied by Ford Motor Company and Texas Instruments. My opnion is that the fire originated from the SCDS, and my opinion is supported by my testing and disassembly of over 40 exemplar SCDS conducted at Clarke Automotive Consultants which is attached to this report.

This report is based on information collected to date. The data, findings and opinions are subject to changes that may be warranted by subsequently acquired information. This report or portions thereof may not be used for advertising or otherwise published without first obtaining written consent.

I. Attachments

1. Curriculum Vitae.
2. Rates Schedule.
3. Depositions.
4. Trial testimony.
5. Memberships and affiliations.
6. Binder Ford O.S.I ref S.C.D.S.
7. S.C.D.S Test video volume 1 and 2.

Richard A. Clarke, CFEI

RAC:mac

M. Hoffman

THE UNITED STATES DISTRICT COURT

WESTERN DISTRICT OF WASHINGTON

AT SEATTLE

ALLSTATE INSURANCE COMPANY, an Illinois Corporation and NORTHLAND INSURANCE COMPANY, a Minnesota Corporation,	)	
Plaintiffs,	)	
vs.	)	No. C01-1416L
FORD MOTOR COMPANY, a Delaware Corporation, and TEXAS INSTRUMENTS, INC., a Delaware Corporation,	)	
Defendants.	)	

DEPOSITION UPON ORAL EXAMINATION

OF

RICHARD CLARKE

Taken at 1230 Third Avenue, Suite 5200

Seattle, Washington

DATE TAKEN: October 3, 2002

REPORTED BY: CINDY K. YOUNG YO-UN-GC-K4-54QD

Rough & Associates
COURT REPORTERS
1218 THIRD AVENUE, SUITE 1010
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ALSO PRESENT:	E.P. HAMILTON, III

* * * * *

DEPOSITION OF RICHARD CLARKE

EXAMINATION INDEX

EXHIBIT INDEX

EXHIBIT INDEX CONTINUED

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SEATTLE, WASHINGTON; THURSDAY, OCTOBER 3, 2002
9:00 A.M.
—oOo—

RICHARD CLARKE, witness herein, having been first duly sworn on oath, was examined and testified as follows:

EXAMINATION

BY MR. PEENEY:

Q. Good morning.
A. Good morning.
Q. My name is Jim Peeney and I represent Ford. I'm going to be asking you some questions about this case and the work you have done. Have you been hired by the plaintiff in this case?
A. Yes.
Q. Who hired you?
A. Tom Dunford.
Q. And can you tell me what you were asked to do?
A. To form an opinion on the vehicle fire that was in the Seattle area.
Q. And have you done that?
A. Yes.
Q. And when you say "form an opinion," are you

meaning to suggest that you have arrived at an opinion as to the cause and origin of the fire?
A. Correct.
Q. And is your work complete?
A. Yes.
Q. Have you brought your entire file with you?
A. Yes, I have.
Q. I'm going to get into your file in a minute and ask you some questions about it.
You've prepared a report in the case?
A. Correct.
Q. Your report is complete; is that right?
A. Correct.
Q. And the report sets forth your opinions?
A. Correct.
Q. In preparing for this deposition and looking at your report, and kind of getting everything straight in your head, is there anything that occurred to you that you left out of the report that given an opportunity you'd like to supplement or add?
A. If there was an opportunity to disassemble the oil pressure transducer, that's the only thing I would have done.
Q. But nothing else?
A. That's correct.

Q. Mr. Clarke, I've never taken your deposition before so I don't know very much about your background. I know you've given depositions but I haven't read any transcripts, so I don't really know anything about you other than what appears in the CV. So if you would just bear with me I'd like to ask you some questions about your background if that's okay with you?
A. That's fine.
Q. Now you were born and grew up and spent some professional time in England?
A. Correct.
Q. And I think your educational background in your CV indicates that you've got listed Yarmouth Technical College, London, England?
A. Correct.
Q. What is that?
A. It's a college that's based in Yarmouth that has a main operating area of London, so they have wings like areas around the UK that you can attend instead of trying to get to England, that kind of thing.
Q. So we would think of this as perhaps a branch. But you went to the branch of Yarmouth College in London?
A. No. It's the branch of the technical college in Yarmouth that's in England.
Q. And that's where you went to school?

A. That's where I done my college, yes.
Q. Now you list 1978 to 1982?
A. Yes.
Q. Was that a four-year program?
A. Yes, it was.
Q. And what was the degree that you got?
A. It would be the equivalent I would think of a B.S. or a B.A. over here. The educational system in England is a different situation than what you have here in the U.S.
Q. But it's a four-year degree?
A. Correct.
Q. And you list it as automotive engineering degree?
A. Correct.
Q. Is that what it was called officially?
A. I believe it was, yes.
Q. Is there a particular area of automotive engineering that would be the subject of that degree?
A. We studied many, many aspects of the automotive field from the technical standpoint and training. So I specialized really in -- for my area where I wanted to go was to work for General Motors. That was my goal was to work for that company. So I specialized my way of working to being in high performance vehicles. So the stuff I really wanted to be involved in and what interested me was the area of suspension handling.

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Q. And you were able to basically pick courses in the areas of interest?
A. There is different courses that you could take, yes, from dynamometer testing and set-ups.
Q. Was there a major?
A. Yeah, there is a major. But I mean it's not the same as you have like the people major here I guess.
Q. Well, what was your major?
A. My major was automobile engineering is what it was majored under or mechanical. So automobile mechanical engineering that kind of thing.
Q. Can the engineers sit for professional examinations in England as they do in the United States?
A. I believe so, yes.
Q. Have you ever done that?
A. No, I didn't.
Q. Now your resume also indicates something about Department of Transportation Testers Certificate?
A. Correct.
Q. What's that?
A. The United Kingdom has a strict Ministry of Transport ruling where all vehicles have to pass a certain test to be allowed on the road. And that's a yearly test after I think now two years. So they have different facilities around the country where you sit for an exam and

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a test, and it's required to inspect vehicles for safety defects or problems that could relate in a safety problem that could cause an accident.
Q. And you took the exam and the test and you became certified to conduct this mandated test on vehicles?
A. Yes.
Q. Now what is the Road & Transport Industry Training Board Certificate?
A. It's the RTIB. It's a standard test that's done in the UK where you periodically go and get tested and maintain a certain level of qualifications and work.
Q. In your particular field is that how it works?
A. It was. I done that as a part of the work I was doing in general repair actually.
Q. Is that a test that you repeat or you do it once and then you've got your certificate?
A. If I remember correctly it's done as what you would call in every semester or every six or seven weeks or nine weeks, every time you get to the end of that course. You go in, they usually are on a mobile system where they come in and they test you.
Q. And these would be in particular systems or applications in a given automobile; is that correct?
A. That's correct.
Q. Like the electrical system or suspension or the

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hydraulic system or something like that?
A. That's correct.
Q. And that was for a specific automobile?
A. It was for -- it was general, could be any automobile.
Q. Right. And National Craft Certificates, what's that?
A. It's a training certificate where you can -- when you pass that you are qualified to be able to -- National Craft Certificates allows you to become an instructor. And that's a part really of the RTIB where you are allowed to be tested on a given time against the clock on certain aspects of diagnostic and repairs and that helps you further the line of work in becoming a teacher.
Q. And then finally it says Motor Vehicle Technology?
A. Right.
Q. Was that a course or a certificate?
A. It's another certificate based on the general practices of automobiles, and, you know, whatever the courses we are relying on.
Q. Did you attain all of these certificates between 1978 and 1982?
A. Yes, I did.
Q. Did you attain any certificates after 1982 of the type that we are describing?

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A. I have to rephrase that. The government test was done after 1982, I believe.
Q. That's the only one?
A. Yeah, I think that was the only one I did when I was in England.
Q. Now the next thing listed in terms of education on your resume is 20 years later you indicated that you went to Eastern Kentucky University in Richmond, Kentucky, and it says certified fire and explosion investigator course. Is that a course taught by Pat Kennedy?
A. It is. I believe yes, he was there.
Q. And how long did that course last?
A. Nearly a week, I think four or five days.
Q. Did you attend for the entire week?
A. Yes.
Q. Now was there a test given at the end of that course?
A. Yes.
Q. Did you take the test?
A. Yes.
Q. Did you pass the test?
A. Yes.
Q. And what does the test -- what does that mean?
A. There is two tests that you take. The first part is an instructor's test that gives you, allows, I guess --

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well, it tells you that you can instruct and teach at fire seminars and be invited back to teach at those specific courses. And at the end of the week, four or five days, whatever it was, you sit down for a table of questions that if you pass qualifies you to hold the title of CFEI.
Q. And you took both of those tests?
A. Yes.
Q. And passed both of those tests?
A. Yes.
Q. And when was it? It says 2002. When was that that you did that?
A. I don't remember which month it was. It may have been May, maybe earlier than that.
Q. Sometime in --
A. The early part of 2002, I think.
Q. After your work in this case?
A. No, I don't think so.
Q. When were you hired?
A. It looks like the first telephone contact was 5-22, the fifth month, 22nd day.
Q. Of 2002?
A. Correct.
Q. So you may have completed the course or you may not have completed the course when you were retained in this case; is that right?

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A. I believe it may be very close because I didn't actually -- between all the phone tag and getting everything set up, I didn't get to see the vehicle until 7-30-2002.
Q. So what's the answer to my question?
A. I'm not sure exactly when it was.
Q. And is it true that you had not received any instruction, formal instruction in fire investigation prior to taking this course?
A. As in formal fire instruction I don't understand. What do you mean?
Q. Well, I mean like this course?
A. That was the first course I had taken.
Q. I mean I assume when you created this resume you put down all the relevant pertinent education and experience that you had that bears on your credentials and qualifications; is that right?
A. That's correct.
Q. And the only thing you listed was this. So I'm simply confirming that there isn't anything else?
A. No college or anything like that in the U.S.
Q. Well, this isn't college. This is just a 40-hour class that's taught at a campus. It's not college level. You don't even need a high school degree to take the course, do you?
A. I don't know.

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Q. I mean anybody can sign up to take the course?
A. I don't know.
Q. Well, did you have to submit any credentials in order to take the course?
A. I think I did have to submit --
Q. Besides a check?
A. -- education, and I think they may have asked for deposition time and trial testimony. My office handles that kind of stuff. I didn't actually handle the application.
Q. Did you attend a seminar in Cody, Wyoming last week?
A. Yes.
Q. Who taught the seminar?
A. Ralph Newell and Mark Hoffman, people from Ford Motor Company.
Q. Who is Ralph Newell?
A. He's a friend and foe from Gainsville, Georgia. He's a CNO guy who I believe is continuing to work for the Ford Motor Company.
Q. And you attended the seminar that he put on and taught at?
A. He opened up the seminar for about two hours. And then I think Ford guys came in and ran the rest of it from what I can remember. And the medical examiner came in.
Q. Okay. But you attended the seminar?

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A. Yes.
Q. Did you pay to attend the seminar or was it free?
A. I don't know.
Q. Why did you go?
A. It's from -- in the last sort of four years I've been working with Ralph and Mark Hoffman and Larry, and people like that. They said you need to go to one of these. They are real fun. They are interesting. They are educational. And it's a good group of guys. Usually my time restraints don't allow me to pursue that. It's kind of a fun thing more than anything else. But at this particular time we had kind of a lull or break and I made a point of going out there.
Q. Were there any tests given during the course of the seminar?
A. I think there was a test one afternoon. It was meant to be done on a Saturday. I think they gave it on a Friday.
Q. Did you take the test?
A. No, I did not. I stepped out. I kind of messed up I guess.
Q. Is that the only other fire, I'll call it fire seminar, fire investigation seminar that you have ever attended in person?
A. We had performed different things when I was with

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General Motors in Dearborn, where they had vehicle fires where they were doing testing where we were asked to participate in the sitting and that kind of stuff when I was up there. It was part of my work when I was at General Motors for Lotus.

But as an independent and consultant that's it.

Q. Well, let me ask you about that. When you were employed by Lotus and General Motors, I want to ask you about that relationship. When you were employed by them, are you saying that you on their time attended a formal course or seminar in fire investigation?

A. I don't know if it was a full fire investigation course because we were up there doing some evaluation and testing on some brakes. And we were asked to sit in and see what was going on. And we spent about maybe a half a day to three quarters of a day.

Q. In a formal course?

A. It was a proofing grounds. I don't know exactly what they were, the basis of it. There was a lot of people in there wearing suits and ties and they were talking about fires and fire patents and electricals and 12 volts, 24 volts, references to --

Q. This sounds like some sort of a corporate meeting that might have been useful to you in connection with the

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work you were then doing?

A. It was very informational because we were dealing with a lot of future electrical components. We were testing like I say some components for a brake system up there I think at Black Lake is what it's called.

Q. You are talking about Milford?

A. Yes.

Q. You mentioned Dearborn. I just wondered are you talking about Milford proofing grounds?

A. It's where the Black Lake is, huge place where we were testing. I don't know if it was in Milford. It was somewhere up there where it was told.

Q. So you've attended informational sessions in connection with your past employment. But, again, getting back to the question of seminars, courses, formal education in the specific subject of fire investigation cause and origin of fires, have we covered the two that you have attended?

A. Yes.

Q. Do you have any formal experience, educational experience as a fire fighter?

A. No.

Q. Did you ever serve in the military?

A. Yes.

Q. Did you do any work in connection with putting out

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fires in the military?

A. Not putting them out, no.

Q. Did you have any responsibilities in the military for investigating the cause of fires?

A. No.

Q. Do I gather from the shade that you put on your answer that you may have intentionally set fires in the military?

A. I think most people's goal was to have fun when you were in the military when it's not in a combat situation. So doing explosives and that kind of thing, blowing things up was something that we had to do, yeah.

Q. And you did that?

A. Yeah.

Q. Now is this the first time you have ever been hired by anybody to determine the cause and origin of a fire involving a 1992 or '93 or '94 for that matter Lincoln Town Car?

A. No.

Q. I was given a book before this deposition. This white notebook that I've got in front of me. It's called Ford OSI's, re: SCDS. It's a lot of initials. What is that?

A. It's reference to speed control deactivation switch.

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Q. What does OSI apostrophe S mean?

A. Other similar instances seen or investigated.

MR. MAYER: I didn't get that.

A. Other similar instances, other cases involving the speed control deactivation switch.

Q. Is that supposed to be plural or is that supposed to be possessive?

A. It's meant to be plural.

Q. Did your staff put that together?

A. They put the outside together. I put together all the stuff on the inside.

Q. You have got 48 tabs in this book. Do you know what the contents of this book are?

A. Yes.

Q. What is in here?

A. It's cases that we have investigated, cases that Ford Motor Company settled that we have been involved in where we have investigated the claim of the speed control deactivation switch and documented it. If the cases have settled prior to a disassembly of the switch then we would have taken the switch after the case had settled and cut it open and documented it. Some of those were documented with Ford Motor Company and TI present at a meeting that was had between myself and Mark Hoffman. And some have been documented with a member of NHTSA.

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Q. And when you say "we," who is the we that you are talking about?
A. Myself, Mark Hoffman, Bill Hamilton, Frank Borris I think his name is from NHTSA, and a Mr. Miller has been around when we have been doing some of the work, too.
Q. Well, you are identifying people that may have been present and participated but don't work for you or work with you, they represent the interests of other parties. Are you the only person that makes up Clarke Automotive Consultants?
A. No.
Q. Of the people you just identified is there anybody that is also an employee or representative of Clarke Automotive Consultants?
A. No.
Q. So is it fair to say that all the work that's been done by Clarke has been done by you, Mr. Clarke?
A. Yes.
Q. And so if I backtrack then are these 48 cases that you personally were retained in that you were involved in and that you investigated?
A. The majority of the cases in there, yes. But some of them are actually exemplars. Like some F-Series pickup trucks, 1997's, that we are documenting and removing components and investigating as a continued investigation

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process.
Q. What I'm trying to understand is whether I need to spend 20 minutes or 20 hours with this book. So I see that there is a lot of material in here that aren't individual instances of cases. You've got stuff in here like Item No. 47 it says Chemical Analysis Report. I have no idea what that is. Do you?
A. Yes.
Q. Does that have something to do with this case?
A. That's work product is how we formed this opinion in this case or I have understood the failure of mechanisms with the switches. And I was asked to bring my entire file and that's a part of my file.
Q. Okay. So this really wasn't anything that was created for this specific case. This just represents sort of a collection of your ongoing work that you've been doing?
A. We compiled that for this case.
Q. Are there some instances that you have investigated that you didn't include in this book?
A. Ones that are still ongoing and have not -- we have not been identified as an expert in it, at this point are not in there.
Q. Are there any other omissions?
A. Only the ones, current cases where I wouldn't want to compromise the investigation at this point.

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Q. Where is the [redacted] case?
A. The [redacted] case?
Q. Yeah. Why isn't that in here?
A. I think it is in there. There are some pictures of the [redacted] switches in there.
Q. I don't see the name [redacted]ll. That's why I'm --
A. It may not be in there maybe. Is that the one out of Mississippi?
Q. Right.
A. We were just retained to do the disassembly on that by the plaintiff's counsel. Mr. Miller was the expert.
Q. Wasn't there a test done at your shop?
A. A test on the [redacted]switch?
Q. Not on th[redacted] switch, on an exemplar switch. Wasn't there a test done at your shop?
A. Yes, there was.
Q. Wasn't that done by Charlie Miller and you?
A. It was done by Charlie Miller and myself, yes.
Q. Wasn't that done for the [redacted]ase?
A. No.
Q. Who paid you to do it?
A. I think it would have been billed to any referenced cases that we were involved in and prorated to the Lincoln Town Car cases at that time.
Q. You mean to the lawyers that were involved in the

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[redacted] case that were involved in other cases?
A. Any cases that we were involved in at that time received a copy of the test video and a prorated bill of our time.
Q. You are not disputing the fact that you did work on the [redacted] case?
A. No.
Q. But it's not in here. So what others aren't in here and how did you go about deciding what was not going to be in the book?
A. Can I see that?
Q. Sure. It may be in there under a different name. All I know is looking at the index, Mr. Clarke, I don't see [redacted]n the index.
A. It's No. 45. It's called Closeups of Speed Control Deactivation Test.
Q. Okay. Is that the same video that is this thing or is this a different test (indicating)?
A. It's the same video as here.
Q. Well, I assume this is a copy of what you -- I got a copy of what you brought?
A. I assume. I don't know what there is in there. Is it labeled?
Q. Well, I don't know. It is what it is.
A. If that's the one that Mr. Dunford made a copy for

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you then it's the same one.
Q. Okay. So the date is -- it says Ford Test No. 1, 1-12-00. And then it says Ford Test No. 2, 1-12-00?
A. That's correct.
Q. Is this the test that you did at your shop with Charles Miller for the [redacted] case?
A. I didn't do it for the [redacted] case. I did the test because I had a number of these vehicles that were in fires, and the claim or the potential claim was the speed control deactivation switch, so it is a part of our ongoing investigation. And we may have run that in with the [redacted] inspection or a day after the [redacted] inspection. Or Charlie may have come up and billed his time to that [redacted] inspection, I don't know. But I only billed my time I believe for doing the disassembly of the switch.
Q. Okay. Well, that's fine. But if it's the test that was done that I think of that was done for the [redacted] case then I know what the test is, and we don't have to spend a lot of time on it.
A. That's the only test.
Q. This is the only test?
A. Right.
MR. FEENEY: All right. We may as well mark those as one and two. Okay. And those are the two tests that we have just been talking about.

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(Exhibit Nos. 1-2 marked for identification.)
Q. Now so getting back to this list. Is this every incident that you have looked at that isn't currently active where you've actually done an inspection?
A. I've either done the inspection of the vehicle or inspected the switch and documentation is in there.
Q. Have you ever investigated an incident where you believed that the switch did not cause the fire?
A. Yes.
Q. Are those in here?
A. No.
Q. So it's not every incident where you have done an inspection and you've been retained to do that; is that right?
A. Am I not being clear? But I thought you were referring to any incident that revolved around the 1992, 1993, '94 Lincoln Town Car fire where the cruise control switch was the allegation.
But to answer your question, my other 300 cases that I have settled in the past three years are not in here because they are not to do with Lincolns and they are not on switches.
Q. Let me see if I can understand it, though. Have you ever investigated a 1992 to 1993 Lincoln Town Car fire

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where the issue was whether or not the speed control deactivation switch caused the fire and you determined that it didn't?
A. Yeah, I have.
Q. Okay. Is that in here?
A. No.
Q. How many of those are we talking about?
A. I didn't research that material to bring it with me. I mean it's mostly in the last couple of years there has been at least four or five where we have investigated it and we found what could have been a suspicious circumstance or it being after-market telephone inside the vehicle, and that kind of stuff, where you couldn't rule out the origin of the fire being inside the vehicle and not in the engine compartment.
Q. Did you tear down the [redacted] switch?
A. The Mississippi case?
Q. Yes.
A. Yeah.
Q. Did you come to a conclusion in that case?
A. I was asked to tear it down, cut it open, and they wanted to use my facility to document the switch.
Q. So you were not asked to determine whether or not it caused the fire?
A. I wasn't asked to render an opinion in that case.

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Q. Did you have an opinion?
A. Yes.
Q. What was your opinion?
A. My opinion in that the seals had failed, had cracked and let hydraulic fluid into the base of the switch causing a corrosion necessitating the fire.
Q. So that was an example of a case where you believe that the switch had caused the fire?
A. It was a case that we were asked to do some evaluation and cutting open for somebody where my thoughts were in that mind, yes.
Q. Okay. In other words, you believe the switch caused the fire in the [redacted]! case?
A. Yes.
Q. Did you include your photographs of the [redacted] switch and the [redacted] vehicle in this notebook?
A. I don't remember. I can go through it but I don't think so. I mean it wasn't really my case. We were asked to do an analysis of a switch. The only one that I laid in there where I hadn't seen the vehicle per se was the one that the gentleman from NHTSA brought to us to inspect.
Q. Well, let's get back to this list then. Because I have to say I'm still a little bit confused about exactly if -- you know, 1 through 15 all appear to be cases with names on them, so these would have been I guess filed lawsuits at

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some point in time. Some of these names I recognize. Some of them I don't. That's neither here nor there.

But tell me again why you selected those first 15, let's just say?

MR. DUNFORD: Asked and answered. You can go ahead.

A. We have a closed file room that we basically have dedicated to Ford, so we can keep all manufacturers in one room in our building.

And when I was asked to form an opinion in this case it shows my work and methodology and my experience at looking at these particular vehicles and the switch. So I went through every one of the closed file cases. And they may not be in dated order, but they are in the order that I picked them out and gave them to my staff to copy the relevant photographs.

Q. That explains to me the method you used. But it really doesn't tell me the criteria that you used to select the cases.

You went through your closed files. You selected certain cases. You didn't select others. Let's take the Taffe versus Ford case.

A. Okay.

Q. That happens to be one that I know something about. That's why I'm choosing that one. Is this the

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Florida incident?

A. It's No. 16? Taffe, no, I thought Taffe was -- it may have been Florida, I don't remember the state it was in. The name rings a bell to me. It's No. 7.

Q. You are looking at those photographs now. I wonder if you could just tell me why you chose that particular incident to include it in this book?

A. It's a panther platform. It's a Lincoln Town Car. It's one where we disassembled the switch, found the cracked seals. And it's a case that's closed and most probably settled.

Q. Is there anything more specific than what you have just described?

A. It shows the switch in disassembly. It shows the -- one of the main reasons I wanted to try to -- if I had a case that had settled and the switch had been disassembled and documented, and the seals were similar to the failing mechanisms as the ones in this case, shows seals that are burned.

Q. Okay. Now we are getting somewhere. Did you include the photograph -- are you saying that you included this incident because the photographs of the disassembled switch shows the seals, the Capton seals reveal something that is substantially similar to what you see in this incident?

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A. Yes. I mean that's one part of it, yeah.

Q. Is there anything else?

A. The fact that it's one that I have worked on, one that is closed. One that I can put in this book and show the jury that this is another similar case, the same style switch and a failing mechanism that resulted around the switch.

Q. If permitted, then, you would want to show photographs from the Taffe incident, for example, and compare them to the incident involved here?

A. Yes.

Q. Okay. [redacted]

A. Yes.

Q. Well, you've got a photograph here. Well, let me strike that. Let me move on. Would this be the same sort of reasoning that would apply to every one of these incidents, the first 15, for example?

A. The first 15 is just the way that they were in the room when I pulled them out of the file.

Q. But what you have done is you have kind of zeroed in on the disassembled switch showing the Capton, in your words, the failure of the Capton seal?

A. Correct.

Q. Is that what is significant to you about the photographic record in the other 14 cases?

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A. I think the majority of the pictures in here either show the failure, show the seals, show the similarities. In some respect they are more severe or not as bad as the [redacted]. They show the electrical connectors. They are all references in areas that we have looked at to compare. It gives us a guideline of what we are looking at.

Q. But it's the torn-down switch that is what is of significance to you?

A. Well, like on No. 1 you have got the base of the switch is visible with the two wires hanging out is virtually identical to the one in this case. I mean there is lots of similar incidences in there. And that's why it's an OSI where we document and we show our work and methodology.

Q. Well, certainly, I'm sure there are photographs of a lot of heat damage and burns to the switches that are in there. I'll grant you that.

I guess there is just not going to be any real easy way to do this other than just go through the photographs and have you compare them to your photographs in this case, and make you tell me exactly what you think the relationship is. Can you think of any other way to do this?

A. If that's the way you want to handle it.

MR. DUNFORD: Object to the form of the

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question. He can't read your mind of what your objective is, Jim.

MR. FEENEY: I would hope he couldn't. I'd be in deep trouble if he could.

Q. Okay. Where are your photographs for your investigation in this case?

A. (Witness handing documents to counsel).

Q. Now do you have your own photographs, Mr. Clarke, or did you -- do you also have someone else's like Topinka's?

A. The ones in the folders are my own. And Alan's are in the back from his CD Rom that he gave us of the inspection.

Q. Okay. So these are all yours and this is Topinka's?

A. That's the CD Rom of Mr. Topinka.

Q. And you printed them out?

A. Yes.

Q. So the ones in the sleeves or the folders I should say, these are your photographs?

A. Correct.

Q. And, you know, again I'm kind of new to the case. Did you look at the vehicle in storage here in Seattle?

A. Yes.

Q. And when did you do that? You said July 30th or

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something like that; is that right? Is that when you did it?

A. July 30th, yeah.

Q. And it was one day; is that right?

A. Yes, it was.

Q. It goes without saying you never saw the vehicle obviously at the premises?

A. Correct.

Q. So what you know about what everything looked like you gleaned from the photographs that were taken at the premises?

A. I was just asked to inspect the vehicle, look at the components that were removed from the premises as in the vehicle components and form an opinion on those.

Q. What about the structure itself, for example, the condition of the concrete floor? Did you consider the implications of the condition of the concrete floor in the photographs and what bearing that might have on what the cause and origin of the fire was?

A. I've seen the surface break up like that many, many times on concrete floors.

Q. Let's get back to my question. Did you consider it?

A. Consider it as what?

Q. Did you consider it as part of your assessment of

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what the cause and origin of the fire was?

A. I looked at the pictures and concluded that it's common to what I have seen in other vehicle fires.

Q. As long as we are talking about that, what is the condition that's revealed in the pictures that we see of the concrete floor?

A. Well, the concrete is bubbled up due to heat. And that's a common situation to have when fluids soak into the concrete or where vehicles are resting and stuff burns.

Q. Is that called spalling?

A. Yes.

Q. What's the definition of spalling?

A. It's where fluids in the concrete are heated up and they start to evaporate and they start to come up to the surface and push chunks of the concrete up.

Q. And in order for spalling to occur, is it necessary for some sort of external heat source to be applied to the concrete?

A. It's normally seen where there has been a fire in a building or a structure.

Q. And what can cause spalling in concrete?

MR. DUNFORD: Asked and answered.

A. I just answered that question.

Q. What causes the liquids in the concrete to heat up, bubble up?

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A. The fire, the heat from the fire.

Q. Just the heat?

A. The intensity of the fire.

Q. But just the heat?

A. Yeah.

Q. That's it?

A. (Witness nods head.)

Q. Nothing else?

A. Not to my knowledge, no.

Q. No liquids penetrating the surface of the concrete? You don't need that?

A. I just answered that question and said that.

Q. Penetrating the surface, you said that the liquids in the concrete were bubbling up. I'm asking a different question. I'm asking whether it's necessary for something to attack the surface of the concrete? Concrete is porous, is it not?

MR. DUNFORD: I'm going to object to the form of the question. It's been asked and answered.

Q. Is concrete porous?

A. Yes.

Q. Can liquid enter concrete?

A. Oil, engine oil can leak into concrete. And as I just said it heats up, boils and comes out.

Q. So is it necessary for liquid in a heated form to

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enter concrete and attack it through its porous structure in order for spalling to occur?
A. I would say it's the normal way I have interpreted it is the fluid is already in the concrete and moisture is already in there. It heads on the outside. It's boiling whatever is in the porous part of the concrete and it has to come out.
Q. So it's not necessary for liquid to enter concrete externally. It's simply spalling can occur strictly as a result of an application of an external heat source?
A. If you've got fluid that's already entered the concrete or the concrete is still green, it's still fresh concrete where it has waterbase to it.
Q. Let's talk about that. Was this green concrete in the house?
A. I never saw it.
Q. Do you know?
A. I don't know.
Q. Would you expect it to be green, say, after ten years?
A. It's usually green up until about two, three years.
Q. Let's assume it wasn't green. So does that mean – what does that mean in terms of how then spalling occurs?
A. Well, you get spalling where the vehicle wheels

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are. And you usually get it where the fuel tank could be. Or you could get it where the engine is. And that's normally from fluids that either come off the wheels or drop from the engine or the underside of the vehicle and soak into the concrete. And if there is a fire within the building that stuff then boils and then your spalling takes place.
Q. What fluids are dropping off the tires?
A. Off the road, you've got oil, soaks off the tires, moisture off the tires, if the road was wet when you've driven in.
Q. Does that explain all the spalling that you see in all the pictures that you have looked at?
A. I don't know if it explains everything, but it's an observation that I would make.
Q. Well, is it or is it not an explanation for the spalling that is observable in the photographs of the concrete floor of the garage? You've looked at them. Please tell me whether it is.
A. I viewed them this morning for the first time. So I would defer that to Mr. Topinka because he does the vehicle or structure inspection.
Q. You formed an opinion as to the cause and origin of this fire when?
A. 7-30 is when I first saw the vehicle.

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Q. Is that when you formed your opinion?
A. It would have been about – after reviewing the photographs and going through some of our data, it would have been within the beginning of the next month maybe.
Q. So it's fair to say that you formed an opinion concerning the cause and origin of the fire without looking at the photographs of the structure at least the concrete floor?
A. I had done, had a meeting with [redacted] that morning of the inspection and he'd gone through what he had seen in the building and that kind of stuff. And I was leaving the structure fire and any components that are outside the vehicle to him.
Q. I don't think that really answered my question, Mr. Clarke. Did you or did you not see the photographs of the concrete floor showing the spalling before you formed your opinion as to the cause and origin of the fire?
MR. DUNFORD: I object. It's been asked and answered.
A. I already answered it.
Q. No, you didn't. Now just answer the question. Please just give me a simple yes or no or I don't remember.
A. Did I form an opinion prior to seeing the spalling on the concrete; is that what you are asking me?
Q. Yes?

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A. Yes.
Q. Is it also true that you formed an opinion concerning the cause and origin of the fire before you saw any photographs of the structure of the house?
MR. DUNFORD: Asked and answered.
A. I saw pictures of the house at Schaefer Engineering or the structure of the garage, but I never saw them actually in there until this morning.
Q. So you saw a couple exterior shots like the one I'm holding up right now (indicating)?
MR. DUNFORD: Object to the form of the question.
A. I saw more than just a couple.
Q. In a fire investigation is it true that the three basic principals of fire investigation are, and I'm paraphrasing, that either something is a cause, it is not a cause or it's undeterminable?
A. Correct.
Q. Is it true that as part of any prudent fire investigator's approach to a fire, one has to rule out or rule in or call it undetermined anything that can reasonably be possibly a cause of the fire?
A. That's true.
Q. And is it true that in arriving at the conclusion that you reached that the cause of the fire was in the

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engine compartment of the Lincoln Town Car, you had not before you did that ruled out the possibility that an accelerant had been placed in the concrete or somewhere in the garage which had precipitated the fire?
A. From my conversations with Alan Topinka that had done the scene investigation who was doing the actual cause and origin, where we had been retained to look at the vehicle as it's been placed in the vehicle, he had indicated to me that there was no suspicious circumstances.
Q. Did you even know that there was spalling of the concrete?
MR. DUNFORD: At what point in time?
MR. FEENEY: Before he looked at the pictures this morning.
A. I think -- I think Alan had mentioned it to me that there was some spalling of the concrete. But it wasn't anything to be, as he put it, it wasn't a suspicious situation to be involved in.
MR. DUNFORD: I believe it's also in Mark Hoffman's report that Richard has read.
MR. FEENEY: When I want to take your deposition I'll swear you in. But I would appreciate it if you would just stick to the rules.
MR. DUNFORD: I am, sir.
Q. Mr. Clarke, when did you consider the sworn

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testimony and statements of [redacted]
A. When I reviewed the depositions, I don't know when they were actually sent to me.
Q. Now if given an opportunity you would say that the fire originated in the engine compartment of the Lincoln Town Car on the driver's side in the area near or adjacent to the bulkhead, correct?
A. Correct.
Q. Now [redacted] described seeing a flame which I think you would agree sounds like some sort of a natural gas or propane gas flame, would you not?
MR. DUNFORD: I object to the form.
A. I don't know what combustible materials there was adjacent to the vehicle.
Q. Wait a minute. Let's just talk about what [redacted] says and then we'll get into the rest of it.
Do you understand what he says he saw?
A. Yes.
Q. Would you agree with me that what he saw is not a flame in the engine compartment near the bulkhead on the driver's side? In other words, that is not what he's describing, would you agree with that?
A. He's describing a flame at the front of the vehicle. He's not knowing exactly what time frame that flame came out of the vehicle either.

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Q. Would you agree with me that he is not describing a flame in the area of the engine compartment on the driver's side in the area of the speed control deactivation switch?
A. He cannot see that area of the vehicle from where he was standing.
Q. Right you are. But, nevertheless, he saw a flame in the front of the vehicle, correct?
A. Exactly the same as the owners of the vehicle did.
Q. So can we reasonably assume since he cannot see where you say the fire started, what he saw was a flame in an area different from where you say the fire started? Can we agree with that?
A. He's seeing a flame in the front of the vehicle.
Q. In front of the vehicle?
A. In the front of the vehicle.
Q. Could be in front of the vehicle, could be in the front part of the vehicle up by the front wheel well, but it's not where you say the fire started. Can we agree on that?
A. I mean, I can agree with the fact that he's saying he cannot see the flame on the bulkhead near the speed control deactivation switch.
Q. Well, he doesn't acknowledge that he saw such a flame. What I'm asking you is whatever he saw, do you and I

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understand each other that what he's describing is a flame somewhere different from where you say the fire started?
A. It's a flame somewhere else in the garage.
Q. So it is someplace different from where you say the fire started?
A. Well, once the fire has progressed it comes out of the wheel arches.
Q. Not my question. Is it someplace different from where you say the fire started?
A. The flame that he is saying he saw is at the front of the vehicle.
Q. So it's not where the fire started according to you?
A. I think the fire started by the bulkhead.
Q. Now do you have an explanation for the flame that he saw?
A. Could be anything that's combustible within the vehicle or around the vehicle.
Q. Well, did you see the description that he gave of the flame?
A. Yes.
Q. And did you see how he described it?
A. Yes.
Q. Did you see that he described it as if it was a natural gas type flame?

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A. Yes.
Q. That's why I said earlier would you agree with me that what he is describing in his mind's eye was a natural gas or propane type gas flame, a constant sort of blue, orange flame, quite distinct. Would you agree that's what he saw?
A. That's what he said.
MR. DUNFORD: Object to the form of the question.
Q. All right. Now do you think he saw that?
A. He said he saw it. He saw it.
Q. As a fire investigator do you have to accept that that's what he saw?
A. Yes, you do. You get statements from anybody that's around and you look at them and you interpret them.
Q. By the way, of all the various Town Car incidents that you have been involved in, is this the first and only one that you had a steel hood on the vehicle?
A. Yes.
Q. All the other ones have aluminum hoods, don't they?
A. That's correct.
Q. And I suppose some of them the fire was put out right away or shortly after it started, others not before the hood was consumed?

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A. Correct.
Q. This is the first one where you had extensive fire damage where the hood survived the fire, isn't it?
A. That's correct.
Q. And are you assuming that the hood was in place throughout the fire?
A. Yes.
Q. Now what investigation did you do into the question of what was up near the front of the vehicle or the front part of the garage in the area where [redacted] says he observed an orangeish bluish flame that he described as similar to a blow torch or a natural gas or propane gas type flame?
A. I've left, as I said, the furnace and any items within the building structure to Alan because he had removed them prior to me even seeing the fire scene. So all I could do is see the stuff in the look up when I inspected the vehicle.
Q. What does that mean? What does that mean in response to my question?
A. Well, I mean, it appears from what I saw that there was outside burning or there is a burn pattern to the outside of the furnace from the observations and things that I have read was to the left front of the vehicle.
Q. What explains the flame that [redacted] saw?

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A. I don't know what could explain it with 100 percent certainty.
Q. I didn't ask you about 100 percent certainty. I asked you -- I guess, I don't know, maybe, do you need it to be 100 percent certainty?
A. No. You can speculate as to what the flame was.
Q. Are those the two choices? I'm using your words: 100 percent certainty and speculation?
A. I mean I'm not sure what he saw. I can guess of what he was seeing.
Q. Well, do you have an opinion as to what he saw?
A. It could be something coming out of the wheel arch or the vehicle under pressure. Air conditioning pipes that ruptured blowing out. And with the fire and material that's burning around it and the extra heat could have looked like and appeared to be like a blow torch.
Q. The wheel arch of the vehicle?
A. The left front corner.
Q. What is the wheel arch? Is that the wheel well?
A. The fender wheel arch is where the wheel is situated.
Q. What do you think is there that would produce a constant blue orangeish flame in appearance like a blow torch?
A. I mean there is plastics, consumable liquids.

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There is all sorts of stuff that can burn. And then when you add the air coming out of the tire, the oxygen coming out of the tire, it could increase it to look like a blow torch. There is certain things around there that can cause that.
Q. So you are saying that when a tire burns you think that it burns in a way that the flame coming off the burning tire looks like a blow torch?
A. It could be depending on the venting through the garage and whatever else is in the way burning.
Q. You said the tire and the wheel arch. Have you done any testing, have you burned tires to see how they burn?
A. I've been present for and burned vehicles. And like we were last week in Wyoming. There's virtually a number of things that can cause things to look like a flame being pushed out under pressure and give you the roaring noise.
Q. Let's get back to what you have done. Have you actually burned a vehicle yourself?
A. Yes.
Q. How many?
A. Three, I think.
Q. Town Cars?
A. One was a panther platform or a portion of it.

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Q. A speed control deactivation switch case?
A. No.
Q. Have you ever burned one inside a structure?
A. No.
Q. Anyway, what you are saying is it could be a fire; is that right?
A. Could be.
Q. Would the fire be burning from the inside out if the fire started in the engine compartment?
A. From the inside out? Yes.
Q. And would the rims be burning from the inside out if the fire started from the engine compartment?
A. The inside portions of the rim should show more melting if the hottest point was in the engine compartment, yes.
Q. And if the fire started in the speed control deactivation switch, would you expect that the consumable materials around the switch to be consumed since that was the hottest part of the fire?
A. In the majority of the ones that we have seen it is. But as you said earlier that this vehicle is kind of unusual that it has a steel hood and it's closed. So instead of burning a hole in the hood and the heat rising and getting out within a few minutes of the fire starting it's going to want to deflect out of other areas like the

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wheel arches, out the front of the vehicle and through where the headlights go.
Q. You are saying that with an aluminum hood the fire is trapped in the engine compartment and doesn't deflect out around the hood and into the wheel wells before the aluminum hood melts?
A. No, I didn't say that.
Q. Okay. In both cases the fire is trapped inside the engine compartment, is it not?
A. Initially it's going to be wherever the origin is. And as the heat rises it's going to burn a hole in the alloy hood and that's going to be your oxygen source and it's going to propagate out.
Q. Wouldn't you expect there would even be more thermal damage in the area of the speed control deactivation switch with a steel hood on there?
A. Like I said earlier it's a whole different scenario when the hood is closed and it's made out of steel. This is the first one I have ever seen with a steel hood. If I was to compare it to other vehicles, then the differences -- there is slightly different areas in there that are not the same as say the other 20 or 30 ones I have reviewed in the past.
Q. Have you investigated any automotive fire where you had a steel hood?

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A. Yes.
Q. Where the fire started in the engine compartment?
A. Yes.
Q. In a switch?
A. What type of switch are you talking about?
Q. Any electrical switch.
A. In the electric connector, yes.
Q. Okay. So you have some familiarity with what happens at least in those cases?
A. Yes.
Q. And basically what is happening in this fire with the steel hood if it started in the engine compartment?
A. I think the heat is rising and is trying to get out and it will come back down and find any part it can.
Q. What is the flame doing?
A. It's going back to the ground, it's burning down.
Q. And what's happening to the combustibles around the speed control deactivation switch where you say the fire started?
A. They are combusting.
Q. Are there any belts left in the area of the speed control deactivation switch?
A. I didn't see any.
Q. Are there any rubber materials left in the area of the speed control deactivation switch?

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A. There may have been some charred remains of some of the insulation at some point.
Q. Anything else?
A. It looks like a part of the rubber grommet on the booster side and the electric connector.
Q. How far is that from the speed control deactivation switch?
A. Twelve inches, maybe 14 inches.
Q. Did that survive the fire?
A. Well, I wouldn't say survived. It's burned crispy. I mean the remains of it are there.
Q. Anything else?
A. That survived? Portions of the left cam cover is still there but showing heat damage. The coil pack on that side is gone or severely damaged compared to the other side.
Q. Let me ask you this, Mr. Clarke, before we get into the photographs. Is it true that your examination of the wreck in this case, you focus on the electrical, the evidence of electrical arcing in the switch?
A. In this particular instance where somebody has placed the origin in the vehicle and the switch is switched off, and is appearing to be on the left front side of the vehicle there is only a certain number of areas to focus on.
Q. When you say someone has placed the origin in the vehicle, who is the someone?

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A. I think Alan Topinka has got it in the vehicle in the left front corner. And there is testimony of the owners of the vehicle when they looked out of their door they see the flames in the front of the vehicle, not on the walls but they say in the front of the vehicle. So you have got to look at what you have in the front of the vehicle.
Q. Do you think that – you are interpreting the comments of the owners as meaning that the fire originated in the vehicle?
A. They are saying they saw flames and smoke at the front of the vehicle.
Q. And that's, you are construing that to mean that they saw something burning inside the vehicle?
A. They saw it around the front of the vehicle.
Q. Well, I guess I don't mean to – you know, I don't want to fence with you. But when I say the word "inside" you don't use that word in your answer. And I'm just trying to understand what you are assuming here in your investigation. It's okay for you to assume anything that you want to assume.
Are you assuming that the owners, [redacted] and [redacted] said that they saw fire inside the vehicle?
A. No.
Q. Meaning the engine, let's say the front engine compartment?

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A. You said inside the vehicle.
Q. Yes.
A. Inside the vehicle means inside the vehicle where you said. So I am not going to say inside when you ask me the question because you are going to say it started in the vehicle and not in the engine compartment.
Q. Let's use the words engine compartment. Do you think that they say that they saw fire in the engine compartment when they first observed the fire?
A. I think they saw it at the front of the vehicle. That could be coming out of the wheel arches because it can't get out of the hood. Because a number of other eye witnesses said that they –
Q. See you add all of that stuff. And what I'm trying to get is an understanding of what you are assuming they are saying. Are you assuming that they are saying that they saw fire you said in the front of the vehicle, do you think that means they saw it inside the engine compartment?
A. Possibly.
Q. Okay. Is that what you've assumed?
A. I've assumed that they have seen it at the front of the vehicle.
Q. Could be outside the vehicle?
A. Could be outside the vehicle, I guess.
Q. Could be either one?

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A. I don't think it would be outside the vehicle.
Q. Well, wait a minute. You just said that.
A. You are saying assuming.
Q. Yes. I'm asking you what you have assumed?
A. It could be either one.
Q. All right. So we have now established that for purposes of your analysis what they said they saw could be describing flames outside the vehicle or it could be describing flames somewhere within the vehicle, the engine compartment, the wheel wells, something?
A. Assuming, yes.
Q. Now is there any other eye witness testimony that you have considered with regard to this?
A. I mean the guy that saw it when he looked out of his bedroom window saw the flames.
Q. Have you considered the fact that [redacted] has written to the insurance commissioner of the State of Washington saying she doesn't think the fire started in the vehicle?
MR. DUNFORD: Object to the form.
A. I wasn't aware of that.
Q. Would that be something that would be of interest to you to know?
A. I didn't know that had been done so it would be interesting, yes.

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Q. Let's assume that she said that. Let's assume that she has said recently within the last six months since you were hired that she doesn't think the fire started in the Town Car.
MR. DUNFORD: Object to the form.
Q. Now as a fire investigator do you have to take that into account?
A. Well, I think you have to take that into account but you have got physical evidence that remains in the vehicle.
Q. Oh, sure. But does that mean that what she has to say you would just disregard in the face of the physical evidence?
A. I would look at the physical evidence and that's what I have got to go on as well as eye witness' statements and the physical evidence is highly supportive of the fire being in the engine bay rather than being outside the engine bay.
Q. Okay. So really when you get right down to it, if she has recently said that she didn't think the fire started in the Town Car, I would assume her observations are not much of a significance to you?
A. From what I can see in the vehicle that's wrong. It did start in the vehicle.
Q. Now as far as [redacted] is concerned is there

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some specific observation that you are counting on or relying on, or again is that kind of secondary to your own work on physical evidence?
A. I think it was either him or her who opened the door first and they saw the smoke or maybe both of them saw smoke and flames.
Q. Now let's get to Dale Wicse. You have read his deposition testimony. Have you picked up the phone and called him?
A. No.
Q. Why not?
A. I don't know his phone number.
Q. Okay. Any other reason?
A. I've never been in communication with eye witnesses like that when I have been working.
Q. Must be completely satisfied of what he is saying under oath?
A. I think he's got his own opinions. If he feels he's qualified to identify a blue flame a hundred feet away and smell gas and say it's propane or petrol, let him make that assumption. I mean it's a free world. He can make any guess he wants.
Q. Do you think he said that, that he smelled gas?
A. No.
Q. Well, you just said that he is free to say that he

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smells gas from a hundred feet away. Do you think that's what he said?
A. I don't think that's what he said, no.
Q. Why did you say that, Mr. Clarke?
A. I'm just using it as a reference, from a hundred feet away I don't think you can determine what the flame --
Q. Do you think he was a hundred feet away when he was closest to the fire?
A. Or 50 feet away.
Q. Or less?
A. I don't know.
Q. Well, you have no idea how far away he was?
A. No, I don't.
Q. So why did you say a hundred feet away?
A. I'm using it as a reference.
Q. You don't need to throw out any references for me.
A. Okay.
Q. Do you know where [redacted] was at any point in time when he made these observations?
A. No.
Q. And did he ever once say that he saw a tire on fire in the front of that vehicle and that's the flame that he saw? He saw a tire on fire?
A. I don't believe so.
Q. Do you have any reason to believe that [redacted]

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was incapable of distinguishing between a burning tire and a blow torch like blue and orange flame on the night of this incident?
A. He saw what he saw.
Q. And do I understand that you have not investigated that part of the case, you are leaving that to Topinka?
A. Correct.
Q. So you are assuming basically that Topinka has got an answer for that, and as long as his answer holds up then you have got an explanation for where the fire started?
A. I have looked at the vehicle and I've put my observations as the fire being in the right -- left driver's side front engine compartment.
Q. Well, but in order to get there -- I mean, you have taken these courses. Don't you have to when you have got all this stuff burning like this, a garage fire, and you've cars in there, and you've got all these other possibilities, if you are actually going to come to a conclusion as to what caused this fire, you just can't ignore the other possibilities?
A. Fortunately in this particular case you have the vehicle that was documented in the structure. A lot of cases, myself and people from Ford Motor Company they just see them in the salvage yard, so you are relying on other people's --

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Q. Can you ignore the structure and what could have caused this fire or not?
A. Can I ignore it as in?
Q. Arriving at an opinion as to the cause of the fire?
A. I think from the physical aspects of what I have seen in the vehicle you can rule out the structure.
Q. So you really don't need Topinka at all?
A. If everybody agrees that the fire didn't get caused in the house, then you look at the house, you look at the car as being the source of the fire, and then you can look at the --
Q. You don't need Mr. Topinka's assessment of these other possibilities in order to arrive at your own opinion?
A. I think I did because I never saw them and he did.
Q. All right. Fine. So if Topinka's opinion doesn't hold up with regard to this, then you are really not in a position to give an opinion, are you?
MR. DUNFORD: Object to the form.
A. Yes, I am.
Q. Well, you are assuming that he's going to rule out these other sources and causes.
MR. DUNFORD: Object to the form.
Q. Or are you not?
A. I've looked at some of the components that were

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removed from the garage.
Q. Well, tell me what your explanation is for Dale Wiese's testimony about a blow torch like flame, and don't tell me about a hundred feet away, and don't tell me about smelling gas, and don't give me any references, just tell me what your explanation is for how you have ruled out his observations on the night of the incident?
MR. DUNFORD: I object to the form and it's also been asked and answered several times.
A. I think it's just something that is burning from inside the engine compartment and it's escaping out of the wheel arches because it can't get out of the hood.
Q. In the front of the vehicle?
A. Yes.
Q. What would that be, sir?
A. Could be anything from the engine compartment. It could be plastics around the wheel arch. It could be the master cylinder. It could be the power steering fluid. It could be anything leaking out.
Q. Name one test that you have done that would support the conclusion that when a fire starts in the engine compartment of a Lincoln Town Car in the speed control deactivation switch it progresses to the front of the vehicle and spits flame out the wheel well that has the appearance of a blow torch?

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A. I haven't tested that.
Q. You are just speculating about that, aren't you?
MR. DUNFORD: Object to the form.
A. About?
Q. About what I just said. It's total speculation on your part?
A. No. I think I'm pretty confident that a number of things can cause that in the vehicle. And if you have got a fire in the vehicle that escapes out of the front fender headlights and there are shelves around it and there is a can of paint, an aerosol can, anything can let go and cause a blue flame.
Q. Okay. So now we are not talking about what was inside the vehicle. Now we are talking about some kind of aerosol can or something else that was outside the vehicle?
A. Well, there is lots of things that could have been outside the vehicle that could have been burning that this gentleman saw.
Q. But, Mr. Clarke, do you agree, you understand you have now moved from offering some kind of an explanation of some combustible in the vehicle. Now you are telling me that it could be some kind of combustible outside the vehicle?
A. It could be either or.
Q. Total speculation, you don't know which one?

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A. I wasn't there so I can't tell you.
Q. And you haven't done anything to investigate it and it's pure speculation on your part of what it was?
A. I was asked to look at the speed control deactivation switch and offer an opinion on that.
MR. MAYER: I Object as nonresponsive.
Q. Would you agree with me that you are totally speculating with respect to the potential sources of this flame that Mr. Wiese saw?
A. I don't know where the flame come from.
Q. So any explanation you would give would be speculation?
A. Yes.
MR. FEENEY: Okay. This would be a good time to take a break. Thank you, Mr. Clarke. We'll resume in a few minutes.
(A short break was taken.)
MR. FEENEY: Go back on the record.
(Exhibit No. 3 was marked for identification.)
Q. Mr. Clarke, we have marked as Exhibit 3 during the break a white notebook. What is that notebook?
A. That's all my file material on this particular investigation.
Q. And since we had talked earlier about another

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notebook, we may as well go ahead and mark this, but this is your Ford Fire OSI notebook; is that right?
A. Correct.
MR. FEENEY: And I understand that last night at the hotel I was provided with, I guess, I assume what is probably a copy of this thing; is that right, Tom?
MR. DUNFORD: That's correct.
(Exhibit No. 4 was marked for identification.)
MR. FEENEY: So I'm not going to ask the court reporter to make a copy of this Exhibit 4, that will be Exhibit 4 and that's your OSI notebook. We each have that and I'm just going to mark my own copy as Exhibit 4. Okay. So she doesn't need to do anything with that.
And I guess I've marked my copies of Exhibits 1 and 2, and I'll just retain those because I think Texas Instruments and Tom you have got a copy of this as well.
MR. DUNFORD: They were reproduced for you.
MR. FEENEY: So you're not going to need Exhibits 1, 2 and 4. Having said that, Exhibit 3 is something we are going to ask you do something with.
Q. Would you open that notebook to the first item. I think it says Report; is that right?
A. It is.
Q. All right. And that's the report that you had

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filed in this case, correct?
A. Correct.
Q. I want to ask you some questions about the report itself. But let me just find out what the rest of the material is and then we'll come back to the report. And we'll call the report Exhibit 3A and we'll come back to it.
Now what's the next tab, Mr. Clarke?
A. Correspondence.
Q. And is this all the correspondence that you had on the case?
A. Yes. This is between Mr. Dunford and his office.
Q. Anything been removed?
A. No.
Q. All right. We'll call that Exhibit 3B. What's the next tab?
A. Notes.
Q. All right. And these are notes that you have made specifically for this case?
A. Yeah, these are some notes and some handwriting notes, some schematics of the speed control deactivation switch and some wiring schematics.
Q. Do you mind if I come around and take a look at what you've got there?
A. No.
Q. Okay. That would be, we'll call that 3C. And the

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first page is one page of handwritten notes which appear to be your inspection notes from July 30th?
A. Correct.
Q. Okay. And then --
A. This is a receipt.
Q. For the x-ray that you did?
A. Yes.
Q. And then what's this next page?
A. This was the notes that we had done on the 1-12-00 reference to the tapes.
Q. These are notes that pertain then to the test that we talked about?
A. Correct.
Q. These were done on January 12th, 2000 in your shop, correct?
A. Correct.
Q. And then you've got a Ford schematic of the speed control deactivation switch is the next page?
A. Yes, it is.
Q. And another one a cut-away view, right?
A. That's correct.
Q. And another one, right?
A. Right.
Q. Are these all the same?
A. Yes, it is. That's why I put them in the file I

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was going to hand them out if somebody needed them.
Q. And then we've got a wiring diagram again that you have obtained from Ford. Now this is for a '97 Ford Econoline V-150; is that right?
A. That's correct.
Q. And this one is for the Lincoln Town Car?
A. That's right.
Q. So you've got both in here, right?
A. There is an Econoline, yes.
Q. And you've got one in here for a Ford Explorer '96?
A. Yes.
Q. And you've got one for the '97 Ford Explorer, right?
A. Yes.
Q. And the '95?
A. Yes.
Q. And then what's this next page?
A. This is a document that was supplied by Ford to us that shows the different serial numbers of the switches that pertained to the codes.
Q. This just helps you with your reference information?
A. It is, yes.
Q. And then next you've got document produced 3713,

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4218, what's that?
A. It was another one that we were using just a part of the information that you can read on there that they have x-ray meetings with representatives of TI, what they are saying about the standard control of the Town Car, '92, '93 and what vehicles it was on when it was used.
Q. Where is this from?
A. From you guys.
Q. Well, I know. But do you have an understanding as to, is this one page of a larger document?
A. I think it was -- we had about ten bankers boxes full of them. And for the case I was working on in Texas I copied a number of them that I thought were relevant to what we needed and just left them in the file.
Q. So as you sit here today you really can't say other than the fact that it was a Ford document produced by Ford at some point in time, you don't really know where that thing came from, whether it was part of a larger document, and if so, what was the larger document?
A. I don't know what document it come from, no.
Q. And what is it about this particular document that you find of interest?
A. It's for my reference. It just shows you the family years of where this switch is used.
Q. Okay. That's it?

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A. Yes.
Q. What's the next -- the next page is document number 37135898, what's this?
A. It's an internal document again that we found during our review of the documents that was supplied to us. And there's a comment in there from a guy called [redacted] (phonetic) where he says he wouldn't cry if the 9F924 went away.
Q. Well, what do you take from that?
A. It says it wasn't very good and he wishes it would be deleted from the system.
Q. Have you ever talked to [redacted]
A. No.
Q. Do you know what he's referring to?
A. He's referring to the switch.
Q. Do you know what the reason was that he said that?
A. Possibly due to the problems that they were having with it and he wanted it to disappear.
Q. Now you see, when I say do you know and you say possibly, it would be helpful if you just said I don't know because you really don't know, do you?
A. Well, I can read it.
Q. Okay. Well read it.
A. I just did.
Q. And from that --

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A. I interpret from that that he would not cry if the 9F924 went away, thanks.
Q. This was done when?
A. It looks like it was done around about 5-3-99.
Q. Do you know when the switch was recalled or actually the vehicles were recalled?
A. '92 and a half to '93 and a half model year?
Q. Yes, when was that recalled?
A. I probably have a document here somewhere.
Q. Was it before or after that?
A. I think it was -- I don't remember if it was after that. I don't remember the dates.
Q. This was in the midst of the investigation, wasn't it?
A. It was.
Q. And then ultimately there was a recall?
A. Yes, there was.
Q. Okay. Anything else about this particular document that you find of interest?
A. No, that's it.
Q. Now next it says Fire Report, the tab, and we'll mark this as Exhibit 3D. What is this, Mr. Clarke?
A. It's a Federal Way Fire Department Police Reports that were forwarded to me from Mr. Dunford's office.
Q. When were they forwarded?

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A. It looks like on a hard copy was about August 20th.
Q. Okay. When did you get them? Did you get them before August 20th?
A. It looks like about the 26th is when we received them.
Q. August 26th. So you received them August 26th?
A. Correct.
Q. So that would have been almost a month after you inspected the vehicle?
A. Yes.
Q. Did you tell me that you had arrived at an opinion concerning the cause of the fire around July 30th when you inspected the vehicle?
A. Yes.
Q. So you arrived at an opinion as to the cause of the fire some 27 days before you got the official fire department's investigative report on the fire?
A. Before we received the report in my office.
Q. Okay. Well, did you get it from some other means before then?
A. I read a copy of it at Schaefer Engineering.
Q. When?
A. The day of the inspection.
Q. Okay. So you read the report and formed your

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opinion on July 30th and then 27 days later you actually got a copy of the report?
A. Yeah. I went through the file and I realized we hadn't received -- usually get what we call a care package from our clients. That's a fire report, vehicle history, service documentation, this kind of stuff. And it may have not been sent or in the confusion it was just missed out in the initial contact.
Q. And what did the Federal Way Fire Department conclude with regard to the cause of the fire?
A. I don't remember exactly what they come up with. I know they were looking at the suspicious circumstances at one point.
Q. But you don't remember what their determination was?
A. I think they put it down -- in the end they closed the file, so obviously they ruled out the suspicious circumstances.
Q. What they said was that the cause of this fire is undetermined?
A. That's right.
Q. So they didn't rule out anything?
A. Well, it's undetermined.
Q. Doesn't that mean they didn't rule out anything?
A. Well, if they -- in my observations if they was

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going to pursue the arson or suspicious circumstances by somebody else they would have pursued it instead of calling it undetermined.
Q. Well, is it your understanding that that's what happens in all arson situations, that the fire and the police department actually figure out and get a case together and a conviction actually occurs?
A. No.
Q. Do you think that there are some arsons that are committed out there that never do get investigated to the point where somebody can make that determination?
A. In some of the reports that we have reviewed where they have concluded that it was arson and they found extraneous circumstances and this kind of thing that was done in the fire report and the supplemental reports to that.
Q. But can't we agree that the government officials that investigated this came to the conclusion that the cause of this fire was undetermined?
A. That's what it says there, yes.
Q. Which means that they did not rule out, unless you can point to something in here, tells me they didn't rule out anything?
A. It says it's undetermined, it's undetermined.
Q. What do you make of this hose that was on fire adjacent to the north side of the wall of the garage?

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A. From reading in the depositions I believe it was like a garden hose. That should have been up on the wall and it may have fallen down.
Q. Do you have any theory as to how that caught on fire?
A. The hose?
Q. Yes.
A. It was on the wall and it fell down, fell in front of the vehicle where the fire started and it would have got caught up in the fire.
Q. Do you think that all the hose was on the ground?
A. I don't know how much was on the ground.
Q. Did anybody say that they saw the hose burning back to some collection material on the wall?
A. I don't remember reading that.
Q. Is there anything in the Federal Way Fire Department report that you are relying upon for your conclusion that the fire originated in the driver's side of the engine compartment near the bulkhead?
A. One of the areas that I highlighted was that they put in there that it started appears to be the left front corner of the vehicle of the Town Car.
Q. That's not where the speed control deactivation switch is, is it?
A. No, it's not.

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Q. So that's different from the area that you placed the origin of the fire?
A. Well, you are dealing with observations from eye witnesses that are looking at the fire after it started, after it progressed, and after the people had got out of the house from the smoke being in the house. So we know that the fire was already going when they exited the house and then the garage door was open. So you could have 10, 15 minutes or whatever the time frame between that particular point and when the eye witness observes it, so you don't know.
MR. MAYER: Object, nonresponsive.
Q. I don't remember what I asked you but I know I didn't ask you for that.
MR. MAYER: You asked him that's not the spot where the speed control deactivation switch is yes or no.
A. That's not the spot where the switch is.
MR. MAYER: Thank you.
Q. So the only official government report on the cause of this fire which they said was undetermined, at least the area of the origin of the fire they placed at the front of the vehicle, right?
A. Yes.
Q. Now there are kind of two parts to the analysis, right? We have got the cause of the fire and the origin of

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the fire, right?
A. Right.
Q. And one of those relates to the area where the fire starts. And the other one says, okay, given that it started within this area what was the actual cause of the fire within that area, right?
A. Right.
Q. So what these official fire investigators are concluding is that the origin of the fire, the area where the fire started, was up in the right front corner of the car, the garage, up in there, different from the area that you place the origin of the fire to be?
A. Yeah, I place it on the left side. They say the right. That's wrong.
Q. And they are saying that -- well, and they place it in the front. And you place it back on the bulkhead of the engine compartment?
A. Yes.
MR. DUNFORD: Can we stop for just a second. I'm sorry to interrupt your line of questioning. I saw a motion for you to be admitted pro hoc vice and it has not been signed. I got it yesterday. And it's our position it's inappropriate for you to be making comments on the record or making objections because you are not admitted to practice law in this jurisdiction.

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MR. MAYER: Okay. I hear your position.
MR. DUNFORD: Your reaction?
MR. MAYER: I'll discuss it with my Washington attorney on a break.
MR. DUNFORD: In anticipation that the motion would be granted, you are obviously with the court's permission free to participate. But it's our position until that motion has been granted that it's inappropriate for you to make comments on the record. You have a Washington attorney here present to do that, if you need. Otherwise it's an unauthorized practice of law. That's my statement.
Sorry to interrupt you.
MR. FEENEY: That's okay. Can that be waived by you?
MR. DUNFORD: I don't know.
MR. FEENEY: Well, as a courtesy to Mr. Mayer would you waive it?
MR. DUNFORD: Jim, as you know, we have had a lawsuit pending for a year and a half, I believe, and this deposition has been scheduled for a long period of time. And I don't know if the court would allow me to waive it, and I would be reluctant to do so while that motion is pending.
MR. FEENEY: Okay. I mean, you may not be able to waive it.

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MR. DUNFORD: And I'm reluctant to do that. Given the time frames there has been ample opportunity for Mr. Mayer to be admitted pro hoc vice, if that was his intent to participate in the deposition or other proceedings.
MR. FEENEY: Okay. Well, I kind of lost my train of thought there.
MR. DUNFORD: That was not my intent. I apologize.
MR. FEENEY: No, I know. It's just, you know, being a senior citizen it's kind of hard to remember where I was.
Q. Just so that the record is clear the fire investigators for Federal Way called the cause of the fire undetermined. You say it started in the speed control deactivation switch, right?
A. Correct.
Q. But they didn't call the origin of the fire undetermined. They determined the origin of the fire and that's not within the area where the speed control deactivation switch is, right?
A. They are saying it's the left front.
Q. Okay. So your opinion is in disagreement with the official Federal Way Fire Investigative Report on that point?

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A. That's correct.
Q. Is there anything in the Federal Way Fire Investigative report that you are relying upon to support your opinion as to the cause of the fire?
A. From what I have interpreted they have got it in the left front side of the vehicle. They may not be automotively qualified to look at the car as a whole. They are just looking at the fire scene and putting it in the area. And that happens 90 percent of the time with fire people. They put it close to it. And then we are called in to do an analysis to see if we can put it closer to the point. Sometimes it's in the vehicle and sometimes it's out.
MR. FEENEY: Well, I'll object and move to strike that as nonresponsive.
Q. Can you point to something specific in the report that you think supports your opinion as to the cause of the fire?
A. No.
Q. All right. Can you point to anything specific in the report that supports your opinion as to the origin of the fire?
A. They have got in there left front corner of the vehicle.
Q. Would you describe the location of the speed

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control deactivation switch as being in the left front corner of the vehicle?
A. I would say that the speed control deactivation switch is under the brake booster by the bulkhead.
Q. Would you say it's in the left front corner of the vehicle?
A. No.
Q. And you are suggesting that either the fire investigators for Federal Way are incompetent and not capable of describing properly the origin of the fire or maybe they got it right and they really don't think that it happened back at the bulkhead?
MR. DUNFORD: Object to the form.
A. I don't know if they are qualified to investigate a vehicle and come to a determination with the vehicle components in their operations of how a fire can progress and then come out of the vehicle where you have got a lot more flammable components on the front of the vehicle.
Q. So you are questioning the qualifications and credentials of the Federal Way fire investigators whose job it is to investigate the cause and origin of fires within their jurisdiction?
A. I'm saying that they may not have experience investigating automobile fires.
Q. So you are saying that Federal Way sent out an

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inexperienced investigator to call the cause and origin of this fire?
A. No, I'm not.
Q. But they might have?
A. I don't think -- I think they got the origin right where it should be in the front of the vehicle. You just have to pinpoint it a little bit closer if you want to know the exact cause.
Q. When you say they got it right at the same time you also say you would never describe the origin of this fire as being the left front corner of the vehicle, right?
A. I would -- with the burn pattern that's under the hood would indicate to me that it's in the left front corner just in front of the bulkhead.
Q. Now wait a minute. Wait a minute. How far is it from the bulkhead to the left front corner of the engine compartment?
A. A couple of feet.
Q. And the speed control deactivation switch is right underneath the brake booster basically, right?
A. Correct.
Q. And right by the bulkhead?
A. Yes.
Q. How far is it from the bulkhead?
A. About six inches maybe.

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Q. And how far is it from the left front corner of the vehicle, two feet?
A. Maybe.
Q. And you think that describing a part that is six inches from the bulkhead as being in the left front corner of the vehicle is an accurate and appropriate description?
A. I think they are looking at the heat transfer and combustible components in that immediate area and they are coming to that assumption and that's quite a normal thing for them to do.
Q. Have you talked to the Federal Way fire investigators?
A. No.
Q. Have you asked them if that's what they meant when they said left front corner if they were actually talking about the left rear adjacent to the bulkhead?
A. No, I haven't.
Q. Okay. Now let's see. In here is the vehicle history?
A. Correct.
Q. Now was that part of the official fire department report?
A. It was sent to me at the same time.
Q. As the fire department report?
A. That's correct.

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Q. In your report that you filed in the reference line you said ODO, NA, not applicable, miles trip, not applicable. What does that mean?
A. It means that the speedometer was burned so you could not determine how many miles are on it at the time of the inspection.
Q. Were you given information that showed you what the miles were on the speedometer or the odometer?
A. I was given a vehicle history report that shows there was 280,000 miles on it, 1-12-01.
Q. 280,000 miles. Now when you do your reports don't you normally identify the mileage on a vehicle?
A. If it's readable on the vehicle, yes.
Q. Well, this vehicle history, doesn't that say -- it says January 12th, 2001. Isn't that the date of the fire?
A. I don't think so. Pretty close, January 20th.
Q. Eight days before?
A. Right, yes.
Q. So regardless of what it said on the vehicle I mean you were given information that specifically said there were over 280,000 miles on the vehicle eight days before the incident?
A. Yes.
Q. But you didn't note that in your report?
A. When I do my base reports the front cover is

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usually the information that we get off the vehicle.
Q. Have you ever investigated a Lincoln Town Car incident involving an allegation that the speed control deactivation switch caused a fire where the mileage on the vehicle was 280,000 miles?
A. We have investigated some that had high mileage. I don't recall the mileages on them.
Q. Do you remember a single incident where you have ever investigated one where there was more than 100,000 on the vehicle?
A. I don't remember.
Q. 200,000 miles? You have got all these incidents in Exhibit 4. Wouldn't you agree with me that not one of those incidents involves mileage at the level that we are talking about here?
A. I don't remember. Honestly I don't.
Q. Did you investigate what the usage pattern was for the speed control deactivation switch in this case?
A. The usage pattern?
Q. Yes.
A. I'm not familiar.
Q. Was it used?
A. In the vehicle?
Q. Yes.
A. From the driver he said he used it for a lot of

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around town and he didn't very often use cruise control.
Q. Actually he said he never used it?
A. He may have.
Q. He didn't say not very often. He said he never used the speed control deactivation switch. So, in other words, we have got a situation, and let me just see if I've got this right. He bought the vehicle, did he say there were 30,000 miles on the vehicle when he bought it?
A. Something like that, yes.
Q. How long had he owned it?
A. I don't remember the actual date.
Q. A couple years?
A. Possibly.
Q. Maybe three years, three, four years. He put 230,000 miles on the vehicle?
A. 50,000 miles a year.
Q. Never used the speed control deactivation switch. Never had a problem with the vehicle in terms of any of the things that occur or can occur that have been associated with a malfunctioning speed control deactivation switch. You agree with that, don't you?
A. I don't remember him ever saying that he had the fuses blown or anything like that.
Q. He had nothing. He didn't have a horn honking. He never used the switch so he had no idea whether it worked

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or doesn't work. He never used the switch, right?
A. Right.
Q. He didn't have taillights out, right?
A. Right.
Q. He didn't have any problems that he was aware of with circuitry or fuses blowing, right?
A. That's correct.
Q. You realize that Ford in its assessment of this going back to the recall days, associated a whole bunch of malfunction or reported problems that oftentimes were associated with a nonfunctioning switch?
A. Correct.
Q. And he didn't have any of those?
A. I don't believe so.
Q. Notwithstanding the fact that he's driving the vehicle 50,000 miles a year?
A. Right.
Q. So you'd sort of think if he had a problem this is one guy that probably would have encountered some indication before this event of a problem?
A. He didn't, though.
Q. But he didn't, okay. And for all we know the switch had been inoperative for years?
A. I haven't -- you know, if the switch was in that kind of condition and inoperative, he would have had at

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least brake fluids leaking for years because they leak fluid out with seals in that condition so you have brake fluid leaking out, too.
Q. Well, you are assuming the seals were cracked and we'll get into that. But what's the basis for that statement?
A. What's that?
Q. What's the basis for the statement that if he had had a cracked Capton seals for years that he would have had brake fluid leaking that he would have been aware of?
A. Well, you said he hadn't had any problems for years.
Q. He said he didn't?
A. So if he didn't have any problems then the cracks in the switch weren't there for years or he would have had fluid loss because cracks in the seal are associated with fluid loss.
Q. How long does it take Capton to crack in a bad switch?
MR. DUNFORD: I object. It's an incomplete hypothetical.
A. Some of the vehicles we have seen have been in the range of around 80,000 miles.
Q. And do all switches start a fire when the Capton leaks?

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A. No.
Q. Which ones do and which ones don't?
A. Depends on the circumstances pertaining to the switch whether the resistance stays in there. The heat and resistance builds up enough to where the hole blows in the side of the base of the switch and it catches on to something under the engine compartment, as in this case, and anything combustible around it is going to be ignited.
Q. How many times do you think he stopped and started that vehicle in those four years where he put 230,000 miles on it?
A. A lot.
Q. Thousands?
A. I don't know.
Q. All those miles, all those starts, all those stops, all that parking in the garage, and you say that on January 20th magically mystically out of the blue for some set of unknown reasons the speed control deactivation switch on that occasion starts a fire?
MR. DUNFORD: Object to the form of the question.
Q. Have I got this right?
A. My interpretation of what I have seen is the switch is the cause of the fire, yes.
Q. Okay. The Federal Way Fire Department does not

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agree with you, do they?
MR. DUNFORD: Objection as asked and answered.
Q. Do they agree with you?
MR. DUNFORD: Asked and answered.
A. They have got it in the front of the vehicle but not at the location where I have it.
Q. They don't have it in the origin and the cause is undetermined?
A. Right.
MR. DUNFORD: Objection as asked and answered.
Q. So they don't agree with you?
MR. DUNFORD: You know, Jim --
MR. FEENEY: Why doesn't he just say yes.
MR. DUNFORD: He has answered the question several times already. He went through the fire department several times.
MR. FEENEY: Listen, I don't want to argue with you but I want to tell you something. Mr. Clarke is not answering questions. And all I can say is that he has choices that he can make, yes, no, I don't know, yes, but I'd like to explain. That would be a good answer. But this business of just prattling on without answering a question is what's happening and that's what is leading to the

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confusion.
MR. DUNFORD: No, it's not confusion. It's you going back and reasking questions that you already asked.
MR. FEENEY: I have to until I get a straight answer.
MR. DUNFORD: Well, why did you leave the fire department report of origin if you felt like you had a straight answer? Because he answered the questions and then you moved on. And now you're going back.
MR. FEENEY: With all due respect, I don't think I have to share my questioning strategy with you. If you ask me why I left the report and came back to it that would be understanding what's in my mind, and I thought we already went over that. He can't read my mind and I don't want you to either.
MR. DUNFORD: The point is, Jim, you've gone through that already and he's answered the question about the Federal Way Fire Department conclusions.
Q. Okay. Let's move on. In any event I gather there is just no significance that you attach to the fact that the Town Car had 280,000 plus miles on it at the time of this incident?
A. I don't know if you can always say that they are going to go at a certain mileage. Some go at early miles

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and some go late.
Q. Any that you know of that went 280,000 miles?
A. I don't recollect the miles on the high mileage ones.
Q. Any of them that you know that went 200,000 miles?
MR. DUNFORD: Asked and answered.
MR. FEENEY: What was his answer to that? That he doesn't know.
MR. DUNFORD: He said I honestly don't recall and I specifically recall the answer that he gave.
Q. The next thing you've got in here is your billing; is that right?
A. Right.
Q. And is this like through the end of September or something?
A. Yeah, last month.
Q. What are your total bills to date?
A. I don't know.
Q. Okay. Have you been paid?
A. Yes.
Q. Well, that's good. Now the next one is 3G. This is clearly a database run that you went and got off the NHTSA website, correct?
A. Right.
Q. What did you do?

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A. We do that with every new case that we get.
Q. You just pulled all the recalls on this particular vehicle?
A. For that model year, I think 1992 model year but it's the Lincoln Town Car.
Q. I see. And is there anything in there that you are basing your opinion on?
A. No.
MR. DUNFORD: That was easy.
MR. FEENEY: Yep.
Q. Then we come to your photographs. And I guess we don't know whether or not we have these so we are probably going to have to get a set of these photographs.
MR. DUNFORD: Would you like prints?
MR. FEENEY: You know, I'll tell you that at the end based upon what happens with the photographs and how he's using them, okay? But we will want a copy.
Q. And then the other ones are bank here, we have already talked about these. These are Topinka's photographs; is that right?
A. That's correct.
Q. Now those look kind of interesting. I'm not sure I've seen -- I've seen Topinka's photographs but those look different to me. Are those unusual photographs? I don't mean that. That's a stupid question. How about x-rays.

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Did you take x-rays?
A. Mr. Topinka took those prior to the inspection.
Q. Did you take photographs through any kind of a fancy microscope or anything like that?
A. Mr. Topinka was running the microscope at the inspection and that's what this CD Rom is.
Q. I'm not sure we have got those. We might.
MR. DUNFORD: Can we go off the record for a second.
(Discussion off the record.)
Q. Why don't you go back to the front of your notebook now, Mr. Clarke, and go to your report.
A. (Witness complies).
Q. And if you will go to page 3 of your report. In item one you say the thermal damage pattern indicates the fire originated in the left front side rear of the engine compartment. Is that true?
A. Yes. Yes.
Q. And then if I go into the report to page 6 you say in the second paragraph, the first paragraph under Interpretation, you say the area of fire origin was to the left side rear of the engine compartment. Did I read that correctly?
A. Yes.
Q. Now if I – and I don't want to put words in your

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mouth, but if I am reading your report correctly your findings identify three, I'll say, separate subjects that taken together form the basis of your opinion. One is the thermal damage patterns. And one is the electrical activity in the base of the switch?
A. Correct.
Q. And the other is the presence of the cracks in the Capton once you took the switch apart?
A. Correct.
Q. Am I following this right?
A. That's right.
Q. What I want to talk about is for starters, I want to talk about the evidence that you say supports the statement regarding the thermal damage patterns.
In other words, for now I don't want you to tell me about the electrical activity in the switch. I don't want you to tell me about the cracks in the Capton.
I want to talk about what you say the evidence is in the thermal damage patterns, the burn patterns, that supports your conclusion that the area of the fire is on the left rear – the origin of the fire is in the left rear of the engine compartment. Okay?
A. Okay.
Q. Now I assume you have photographs of some of these things?

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A. They should be attached to the report.
Q. Yes. So if we could go into whatever part of the report you want to go to. If it's vehicle examination, you know, Paragraph F, if that's where you would like to start on page 4 that would be fine with me. I mean, that was my interpretation of your report. In other words, that seemed like that's where you talked about what I want to discuss with you, but if that's not where you started doing it then get me to the right spot.
A. I think Figure 9 and Figure 10 show that.
Q. Well, if that's right then why don't we go to Figure 7 and 8 and page 4 of the report because that seems like I assume you must have had a reason why you put it in the sequence you did?
A. It was, I think it might have been the way that I took them.
Q. I mean under Subparagraph F you start by saying the most visible fire and heat damage is to the left front section of the engine compartment. Okay?
A. Yes.
Q. Then you say Figure 7 shows the burn pattern to the radiator?
A. Correct.
Q. And then you go to the radiator, correct?
A. Right.

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Q. Now unfortunately here is where this is going to get a little bit confusing. Because, first of all, I've got this black and white picture. And if I have got your photographs then I just want to mark one of those. But I know you've got them in there. Can you pull out Figure 7 from your photographs?
A. It's right here.
Q. Can you take that particular photograph out is what I'm asking you to do?
A. Okay. (Handing picture to counsel).
Q. Okay. Now the most visible fire and heat damage is to the left front section of the engine compartment. Now would you mind telling me what the left front section of the engine compartment is?
A. It's the portion directly in front of the driver is the left front.
Q. Okay. So is that shown in Figure 7?
A. Figure 7 shows the radiator and the burn pattern.
Q. That would be what?
A. Left front.
Q. I'm not following you. I mean everything is in front of the driver. The whole engine compartment is in front of the driver. So when you say left front section of the engine compartment, and then you just said it's immediately in front of the driver that strikes me as you

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are saying the bulkhead?
A. But you asked me what was the left front.
Q. You use it here, you say left front section of the engine compartment?
A. Correct.
Q. You say the most visible fire and heat damage is in the front left section of the engine compartment?
A. Right.
Q. And that is the area by the bulkhead?
A. Yes.
Q. Well, but then the next sentence is Figure 7 shows the burn pattern to the radiator?
A. That's correct.
Q. Okay. Are you indicating that the burn pattern to the radiator somehow explains the preceding sentence?
A. It shows that there is more damage to the left side of the radiator than there is to the right. So it's giving you more heat on the left side of the engine compartment.
Q. But that's not the area directly in front of the driver?
A. No, it's not.
Q. Okay. I apologize. I'm just -- I'm just an Irish Catholic product of public schools so it takes me a while to follow this stuff.

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MR. DUNFORD: Move to strike.
MR. FEENEY: Well, I don't agree to that. I am an Irish Catholic product of public schools. That's absolutely correct. That's accurate.
I'm going to call this Exhibit 5. Okay.
(Exhibit No. 5 was marked for identification.)
Q. And this is Figure 7 in your report, right?
A. Yes.
Q. And you referenced this photograph to show the burn pattern to the radiator indicating that more of the radiator is consumed on the driver's side of the radiator than on the passenger side?
A. Correct.
Q. But you would not describe the radiator as being in the area of the engine compartment adjacent to the bulkhead?
A. No.
Q. In fact, it's as far away from the bulkhead as you can be?
A. It's at the front of the car.
Q. And I know I asked you this, but when you said right here in this report, when you say left front section of the engine compartment, there you are using front to mean the area right next to the bulkhead?

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A. Well, from the bulkhead forward. You are looking at any consumable components that are in that V is the way I interpret that.
Q. Well, wait a minute. Just a minute. I'm confused and I apologize. But I'm confused by your use of the word front. We have had a couple different references using front, and I'm not trying to go over anything here, but I'm confused. Are we talking about the front of the car?
A. No.
Q. All right. And we are not talking about the area of the engine compartment adjacent to the radiator?
A. You are talking about the left front section of the engine compartment.
Q. Well, what is that? That's what I'm trying to understand.
A. Draw a line down the center of the vehicle and anything to the left on the driver's side is the left front section.
Q. Well, that's the whole left side of the engine compartment?
A. The left front, yes.
Q. Here, would you take my red pen and draw a line down the center line of the engine compartment in Exhibit 5?
A. Well, I don't want to draw on my photographs. That's my original copies right here.

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Q. Well, I'll buy them from you. I mean what difference does it make? You have got the negative. You can make another one. What's the big deal? It's not the Mona Lisa, is it?
MR. DUNFORD: Not until he draws on it.
Q. Okay. So I am not following this. Is there a back of the engine compartment?
A. The bulkhead is the back of the engine compartment.
Q. Okay. That's the back of the engine compartment?
A. Yes.
Q. If I said show me something in the left back section of the engine compartment where would you point me to?
A. To this picture (indicating).
Q. Right by the speed control deactivation switch?
A. Yes.
Q. Okay. Now we are getting somewhere.
(Exhibit No. 6 was marked for identification.)
Q. So Exhibit 6 is a picture of the left back section of the engine compartment?
A. Correct.
Q. Right. And Exhibit 5 is a picture of the left front section of the engine compartment, correct?

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A. Correct.
Q. And just tell me if I am reading this correctly from your report, the most visible fire and heat damage is to the left front section of the engine compartment. Did I read that correctly?
A. Correct.
Q. Now Figure 8 you say shows the manufacturer's VIN stamp on the SV. Is there any significance to Figure 8 other than the fact that you are just showing the VIN?
A. That's correct.
Q. I mean that's not burn patterns or anything. If we don't have to mark it I don't want to mark it.
A. It's just identifying that it's a 1993 vehicle.
Q. So let's go on to the next paragraph. You say the fire damaged engine compartment can be seen in Figure 9 as seen from the front of the SV. Also noticeable is the burn pattern to the driver's side bulkhead. Figure 10 is a view of the driver's side bulkhead. So could you get out your prints of Figures 9 and 10. In fact, is Exhibit 6 --
A. Should be No. 10.
Q. Is that Figure 10?
A. Yes.
Q. Okay. So why don't you get out Figure 9 for me.
A. (Witness complies).
Q. So we'll mark that Exhibit 7.

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(Exhibit No. 7 was marked for identification.)
Q. And Exhibit 7 shows the fire damaged engine compartment. So this just shows it's kind of a nice overhead shot looking down at the top of the engine compartment; is that right?
A. It shows the shadiness of the bulkhead to the left being darker than it is to the right.
Q. Yes.
A. Yes.
Q. Yep. And that's significant to you?
A. Yes.
Q. Good. Very good.
Now we go to Figure 10 which is the burn pattern to the driver's side bulkhead. Okay. And the arrow in this photograph highlights the distinctive hot spot to the bulkhead on the driver's side. Now there are two arrows here?
A. Right.
Q. Would this be the distinctive hot spot (indicating ?
A. Number one is showing the main definition (indicating).
Q. Okay. This one right over here is -- by this one I want to think about this.

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There are two arrows in this photograph. One is basically in the middle top of the photograph, Exhibit 6. And, Mr. Clarke, you are indicating that that arrow is pointing to the area which is the distinctive hot spot?
A. Give me -- the V is what I'm looking for. The V line is what you are seeing with the arrow coming down, and then obviously from the fenders because it is escaping out of the wheel here. But it's giving you a line that's coming down to about here (indicating).
Q. Oh, you are looking for the distinctive V pattern?
A. Yes.
Q. That sort of surrounds the brake booster?
A. Yes.
Q. And you are saying that that V pattern starts right at the -- is shown with that arrow?
A. Showing the most heat I think and the most corrosion. So there was more heat right here than there was anywhere else.
Q. Corrosion is oxidation?
A. Correct.
Q. And what is oxidation evidence of?
A. Oxidation is rust.
Q. And what's that got to do with your analysis?
A. Well, it shows that there was more heat here and bare metal is exposed, and you've got two different

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temperatures and you've got oxidation forming. There is obviously more here than there is on the right side because it's black.
Q. Why do we have this arrow over here?
A. It was just -- well, I'm showing the edge of the engine compartment with the fender well where the top of the fender would be.
Q. So you are just indicating a boundary so to speak?
A. Well, it's the edge of the vehicle. As soon as it breaches the wheel arch it's going to keep going out. It's going to want to escape out this way is the way I foresee it moving.
Q. What is this darkened area in here (indicating)?
A. That's the material underneath where the -- above where the weather seal goes, I think.
Q. What kind of material is that?
A. Steel.
Q. And is it as dark, is it darker than the other?
A. It's not as dark as the center section. It could be interpreted as sooting or darker discoloration.
Q. Do you have any pictures of the underside of the hood?
A. (Heading picture to counsel).
MR. SARGENT: Apparently there was some sort of administrative mistake with the pro hoc vice for Eric.

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It's been corrected. He's now been admitted.
MR. DUNFORD: Then I don't have to be judge today. And did you bring that with you? Thanks.
(Exhibit Nos. 8-9 were marked for identification.)
Q. I'm going to show you Exhibit 8. That's the underside of the hood?
A. Correct.
Q. First of all, in your report did you single out a picture of the underside of the hood as evidencing the thermal burn patterns?
A. No, I didn't.
Q. Have you considered what the condition of the underside of that hood suggests with respect to the source of the heat in this fire in this photograph?
A. It would suggest that it was towards the bulkhead on the driver's side.
Q. And would you please tell me what in that photograph supports that conclusion?
A. The corrosion or the rusting that's on the left rear corner of the hood.
Q. And would you mind using my red pen there to circle the area that you are talking about there on Exhibit 8?
A. (Witness complies).

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Q. And what is it about that area which has lots of different colors in it from dark to red to tan, what is it about that area that tells you that the fire originated in the left rear corner of the engine compartment?
A. There is certainly a lot more heat that's been transmitted to the hood in that area. And there is obviously some heavier corrosion on that part of the hood there that's not further forward of that.
Q. What's the black stuff, is that soot?
A. It could be soot. I don't know. I haven't analyzed it.
Q. Is it paint?
A. I don't think it's paint.
Q. Do you know?
A. It may be a part of some coating. I don't know if there has been sort of, some sort of like an anti-corrosion that was done on the hoods before they were put on the vehicle.
Q. Do you know what part of the hood would be directly above the speed control deactivation switch when the hood was in place?
A. Not exactly, no.
Q. It wouldn't be the corner of the hood that you marked, would it?
A. It mostly is going to be right on the edge of that

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where the hull is.
Q. Of the red line?
A. No where that -- somewhere close to where that hull maybe to the left, somewhere close right there.
Q. And this triangular area here you see all that oxidation there?
A. Yes.
Q. And do you see that oxidation below it in this sort of trapezoidal area?
A. Yes.
Q. And also in this trapezoidal area?
A. Yes.
Q. What does that indicate to you?
A. That could be quite possibly due to heat from the outside because it's protected due to the reinforcement of the hood. And there is thicker metal there obviously.
Q. All of this oxidation I just pointed to may well be an indication of heat from externally being applied to that hood, right?
A. Well, it's gone through a heat source, yes.
Q. But meaning that the source of the heat is from the outside not the inside?
A. Of those three areas, yes.
Q. Yet you say the fire started in the engine compartment directly below those areas?

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A. Yes. No, I didn't say below those three areas. That's not what I said.
Q. Well, this trapezoid here is pretty darn close to the area where you said the fire started. It's a matter of a few inches?
A. A few inches away but it's not directly there, no.
Q. But yet you are saying that this oxidation comes from an external heat source?
A. Possibly, I said.
Q. Maybe I agree with you. So maybe it's not possibly, maybe it's probably, maybe it's definitely. Doesn't that pattern show you that that oxidation is the result of heat moving from the outside of the vehicle in?
A. No.
Q. But that was your first instinct when I talked to you about that?
A. What's that?
Q. That the oxidation that we see here in those three little triangular areas, the triangle and the two trapezoids, appears to be oxidation as a result of heat from an external source traveling basically externally through the steel hood and creating that condition, right?
A. I said it's possible.
Q. Okay. You can't rule it out?
A. Well, you have got stuff falling down after the

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car caught the building on fire and it's going to fall down on the hood and burn. So you are going to have more heat to the skin, but you are not going to get it to the reinforcements underneath because they are separate.
Q. You don't know what, if anything, fell on this vehicle, do you?
A. I've seen a lot of fires in houses with vehicles and there is always stuff falling on them. I don't know what fell on this one.
Q. You've seen vehicles that -- was the hood caved at all in this vehicle?
A. I only saw it with the hood up. I never saw it --
Q. I'm sorry, the roof. Was the roof of the vehicle caved?
A. Yes. It had some damage to it. To the right side here (indicating).
Q. I'm sorry. How does that damage that you see there -- well, strike that.
Let me ask you this question: Have you investigated speed control deactivation switch fires maybe even where no one has really disputed it, where the Town Car's hood, literally, the roof of the vehicle had sort of caved in the middle of the vehicle from the heat?
A. I've seen it.
Q. I don't mean from structures dropping on it. I

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mean just having caved?
A. I think normally that effect -- I forget what you want to call it now -- is usually associated with something falling on the vehicle when it's hot.
Q. You've never seen that happen just from heat?
A. I don't -- the ones I've seen that are in houses have had stuff on them. When I have seen them out of the houses in the salvage yard and doing our inspections the evidence that fell on it would have been removed.
Q. Okay. If this is a coating, that black stuff, if that's a coating, you think that was a coating that was on that hood?
A. I don't know what it is. I'm just saying it's an explanation as to why it's darker than the rest of it.
Q. You saw the vehicle. I mean wouldn't it be important for you to know whether that's soot or a coating?
A. It was -- I don't know if it was soot or a coating. All I can tell you is that it's a different color, it's darker, and it doesn't have the corrosion in some of the areas where there is --
Q. Which means it doesn't have heat?
A. It doesn't have the heat going towards the center of the vehicle, yeah.
Q. Would it be significant to you to take accurate measurements, put the hood exactly where in place and

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determine exactly where the underside of that hood is in relation to the speed control deactivation switch?
A. I think with that area of burning right in that corner there is where the most heat is in the corner of that hood.
Q. Well, we know that it's not within that area precisely. I mean have you done this? Can you place it exactly?
A. No, I haven't done that.
Q. If you did that and the area directly above the speed control deactivation switch was dark, black, if you drew a plumb bob down from that precise point would that be of significance to you?
A. I think that you are looking at the burn pattern on the bulkhead matches up to the burn pattern on the hood when it was closed. I don't know how the heat was being transmitted directly from the speed control deactivation switch to the hood. There is a lot more flammable material there that's going to allow the heat to build up from the bulkhead and go out that corner of the hood. It's a natural progression.
Q. Where is the V pattern on the hood?
A. There isn't.
Q. Where is the hot spot on the hood?
A. My indication of the hot spot is right on this

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corner here (indicating).
Q. Which corner?
A. The left rear.
Q. Okay. I mean down here and here (indicating), or just down here or where?
A. It's across that radius right there where I have just drawn on the picture.
Q. Through the black?
A. Well, this is around the outside of the black but where that rust is.
Q. Okay. I want you to specifically circle exactly, be more precise, and you tell me exactly where you say the hot spot on the hood is? And don't circle any black stuff because I assume you would say that that's not part of the hot spot.
A. (Witness complies).
Q. Okay. Now Figure 11 is a view looking across the engine compartment from the passenger side front? Do you have Figure 11?
A. Yes.
Q. Can you get that out for me.
(Exhibit No. 10 was marked for identification.)
Q. This is Exhibit 10. And what are you showing here?

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A. A view looking across from the left side passenger side of the engine compartment.
Q. And is there any significance to that view?
A. It's just documentation showing the front of the vehicle.
Q. Is there any particular burn pattern in this photograph that is of significance to you?
A. Again, I'll mark it with the pen. Is that all right with you?
Q. Sure.
A. On the side of those red lines is the most oxidation.
Q. Mr. Clarke has put two red marks on the photograph that I assume would establish the boundaries of what you are saying is the most oxidation shown in the photograph; is that right?
A. To the bulkhead, yes.
Q. Then let's go to Figure 12. You may as well get Figure 13 out, too, if it's easy to do that. Okay.
(Exhibit Nos. 11-12 were marked for identification.)
Q. That's Figure 12 which is Exhibit 11.
A. (Handing photograph to counsel).
Q. And this is Exhibit 12 which is Figure 13. Now you say Figure 12 is a view from the left front with the

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remains of the left front head assembly, the front headlamp assembly. What's the significance of this?
A. Just documenting the front of the vehicle with some of the combustible materials on that left front corner still visible.
Q. Has the vehicle's condition changed in any way since it was removed from the garage? I mean has stuff dropped off?
A. I don't know.
Q. Has it been stored inside or outside since the incident?
A. All I know is when I inspected it it was inside.
Q. I assume there is way more rust on the vehicle than there was immediately after the accident?
A. They rust a couple of days after the fire; it changes completely.
Q. Okay. Anybody take any pictures before it rusted?
A. I don't know if anybody did or not. I'm not sure if some of the investigators did.
Q. Any burn patterns in Exhibit 11 that you want to point out?
A. I think the only thing you can see in Exhibit 11 is the severe damage to the inner portion of the left front alloy wheel. It's just visible in there. You can see the brake rotor.

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Q. There are better pictures of the wheels, though?
A. Yes.
Q. Okay. Now Exhibit 12 which is Figure 13 shows the brake booster with the remains of the -- I'm sorry. The arrow shows the remains of the rubber grommet in the right-hand top side. Okay?
A. Right.
Q. Why are you pointing that out?
A. Just showing the remains of it. In some of the vehicles that we have inspected before it's gone. Sometimes it's there. It's just sometimes you can go inside with a scope and find the pieces in there.
Q. What is the function of this rubber grommet?
A. It's a seal that holds the tube that supplies vacuum to the canister.
Q. How far is that rubber grommet from the speed control deactivation switch?
A. I would say about 12, 14 inches maybe.
Q. Do you think it's that far?
A. Maybe.
Q. Maybe less?
A. I haven't measured it.
Q. Is it above or below the switch?
A. It's above the switch.
Q. Are there other components or seals made of rubber

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that are farther away from the switch that are completely consumed in the fire?
A. I didn't -- I think there are things further away that are more visible that are not as consumed.
Q. Now you know that doesn't answer my question.
A. Well, I don't know.
Q. You are just looking at me knowing it does not answer my question. And what do you want me to do with that? Are you just going to make me ask the question again?
MR. DUNFORD: Move to strike.
A. I don't know whether there are more components farther away that are made out of rubber.
Q. Okay. What is your explanation as to why this rubber grommet was not consumed in the fire if it started in the speed control deactivation switch?
A. From my review of this in many of them sometimes they are and sometime they are not.
Q. And you brought your OSI book with you. You made a point of, you know, directing this arrow right to this rubber grommet in this particular photograph. So this would probably be a good time for you to haul out the OSI that's in that book where the rubber grommet remains and everybody agreed the speed control deactivation switch case had caused the fire?
A. I may not have one in there of that grummet.

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Q. Excuse me?
A. There may not be one in there of that grommet.
Q. You went through all the trouble of putting that arrow in there. You have got this seven-inch book there. Surely you must have known I was going to ask you this question.
A. I'll look through it. That's fine.
Q. I don't want you to take an hour to do this. But surely you must have a photograph in there that you want to share with me.
A. (Witness complies).
Q. What is this one, where they put the fire out within a matter of 30 seconds?
A. You asked me if there are any pictures in this book that show the grommet, did you not?
Q. I did. I absolutely did.
A. I'm going to show you those pictures.
Q. Let me amend my question. I have a right to do that, and I'm going to. Show me one where there is as much fire damage on a rubber grommet as in this picture that would be of more interest to me than one where the paint is still on the vehicle.
(Off the record.)
MR. FEENEY: Back on the record.
Q. What tab do you want to point me to?

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A. Tab 9.
Q. Okay.
A. It's going to be negative number two.
Q. Got it. Negative number two.
A. Rubber grommet remains in the brake booster. If you go to negative 14, the next page over, there is a slightly better view of it.
Q. Oh, okay. You are talking about that little item right there (indicating)?
A. That's the same thing that I arrowed on the other picture.
Q. Okay. Why don't you just, since I've got --
A. Do you want me to put an arrow on yours?
Q. Yes, that would be good.
A. (Witness complies).
Q. Okay. What else?
A. You just said you wanted one or do you want them all?
Q. You've got them listed. Let's go through them.
A. Okay.
Q. Tab?
A. Tab 14. That's negative 37, third page I think.
Q. Got it.
A. Do you see the hole there in the booster right there (indicating).

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Q. Well, I see the booster. Why don't you just point to me where you think the rubber is?
A. (Witness complies).
Q. Okay.
MR. FEENEY: Do you want to conform yours, Eric? Do you see where he's --
MR. MAYER: Okay. Got it.
Q. What's next?
A. We are going to go to Tab 21, negative one.
Q. You see a rubber grommet in that circle?
A. Yeah. I can get you that picture if you want. I've got the main file back at the office where we take pictures.
Q. I'm just asking you if you in that picture see a rubber grommet?
A. Yes.
Q. You are not thinking of some other picture you have seen of this vehicle. You actually see a rubber grommet in that picture?
A. I see a dark silhouette right around where that hole is on the brake booster.
Q. I see a lot of darkness in that picture.
Okay. What's next?
A. Figure 31, or should I say Tab 31, Figure 10. (Indicating).

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Q. That's fine.
A. And that vehicle there in that particular picture has had the whole wheel melted off and the grommet still remains.
Q. Um-hmm.
A. If you go to the next page is Figure 18, gives you sort of a front view, still shows the grommet is still in there.
Q. I'm sorry. What's the --
A. Next page over is Figure 18.
Q. Oh, okay. Got it. Excellent. And that --
A. And then Figure 19 is again another view of it.
Q. Are we done?
A. I'm done.
Q. Okay. So now which of those, just out of curiosity since you've worked with these guys, which of these did -- in which of the ones you have just identified did Texas Instruments and/or Ford Motor Company agree that the speed control deactivation switch caused the fire?
A. I would think out of the ones that we pointed to I think you guys settled them all from my recollection. I don't know the actual outcomes of everything.
Q. Okay. But that really doesn't answer my question.
A. I would say all of them.
Q. Well, is that because you have got a report from

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somebody or --
A. No. They were happy with our findings and the case has settled and please dispose of the vehicle. That means the case is over. So if it's settled that means somebody has paid in my observation.
Q. Okay. Forgetting about all of that, in any of these do you know what the opinion was of either the Ford or the Texas Instruments' representatives concerning the cause of the fire?
A. I don't know.
Q. If you just don't know, tell me you don't know.
A. I don't know as I am sitting there.
MR. DUNFORD: Can we take a break?
MR. FEENEY: Do you want to take a break for lunch?
MR. DUNFORD: Sure.
(A luncheon recess was taken from 12:15 p.m. to 1:00 p.m.)
(Exhibit No. 13 was marked for identification.)
AFTERNOON SESSION
BY MR. FEENEY:
Q. I'd like to show you Exhibit 13. I took it out of your notebook. I think you have a duplicate right in front

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of you?
A. Yes, I do.
Q. So I'll just keep this in front of me and you can refer to the one in front of you. What is this?
A. It's a pressure switch.
Q. Would it be your view that this is a diagram of the pressure switch of the type that was in the Lincoln Town Car involved in this incident?
A. Yes.
Q. And you are familiar with all these parts?
A. Fairly familiar with them, yes.
Q. That are identified on the diagram?
A. Yes.
Q. You know what they are made out of?
A. Yes.
Q. Is this the way the switch sits in the automobile?
A. No.
Q. Okay. Would you show me how the switch sits in the automobile?
A. It would be like kind of at an angle, this being the bulkhead. And then this is screwed into the propulsion valve (indicating).
Q. So if I drew a line here and put an arrow and say "up", that's the way -- I'm not saying it sits vertically straight up but it's like this (indicating)?

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A. Yes.
Q. I mean the thing that is labeled terminals on the diagram, that is, if you will, at the top of the way that it sits in the vehicle?
A. Correct.
Q. And the bottom is, well, the last thing on there is called hexport but that's not the very bottom. It wouldn't be the very bottom of this switch as it sits in the vehicle?
A. The threaded portion of the hexport.
Q. Okay. Now you've examined the switch. You have removed it from the vehicle, right?
A. No.
Q. Is it still in the vehicle?
A. No.
Q. You didn't remove it but you've looked at it?
A. Yes.
Q. And as the switch sits in the vehicle if we look at -- you see where the Capton is?
A. Yes.
Q. The Capton is, is that above or below the contacts?
A. It's below the electrical portion of the switch.
Q. And the contacts would be, or the electrical portion of the switch would be where?

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A. It's labeled as the M&S contact on that diagram.
Q. The M&S contact are the electrical portion. So you have the Capton. I know it's upside down but it's the best I can do. The Capton is where I'm pointing to on Exhibit 13. And then above that is the M&S contacts right here; is that right?
A. Correct.
Q. Is any part of the switch made of plastic?
A. The base I believe is of some kind of a plastic configuration.
Q. Is that above or below the Capton?
A. It's above the Capton.
Q. Can you show me where on the switch that is?
A. This is what they call the base, this hatched area right here (indicating).
Q. So the hatched area that looks like sort of a top hat would be the top of the switch that's made of plastic?
A. That's correct.
Q. And then is there any portion of the switch made of steel?
A. Of the switch itself?
Q. Well, of the housing?
A. The hexport is made of steel. That whole section there that the Capton is encapsulated in.
Q. And so as it sits in the housing, I mean, as it

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sits in the vehicle, the bexport, this housing is all made of steel. The Capton is inside a part of the switch made of – the housing is made of steel?
A. Right.
Q. And then moving up the switch you get to the contacts. And the area where the contacts are that's made of plastic?
A. Yes.
Q. That would be the top half of the switch?
A. Yeah, well they label it as the base.
Q. All right. Now did the plastic portion of the switch survive the fire?
A. A portion of it did, yes.
Q. What does plastic melt at?
A. Offhand I don't remember.
Q. What does this plastic melt at?
A. I don't know.
Q. How far is the plastic housing from the – well, I didn't ask you this. Where exactly do you say the fire started within the switch?
A. Where does it start?
Q. Yes.
A. What you have is you have a moveable contact, the arm corrodes, it drops down and shorts out against the base of the switch that causes a resistance heating and

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eventually it will overheat the plastic, put a blow hole in the side that we have in this particular case. And we have two blow holes in the base of the switch that allows oxygen in and it carries on down.
Q. Would you say that there is more damage to the – well, strike that.
So the fire, you say the fire started within and underneath the plastic housing?
A. Yes.
Q. But a lot of the plastic housing survived the fire?
A. It does in some of the cases we have looked at, it does, that's correct.
Q. Did most of the housing survive in this case?
A. I would say maybe 70 percent.
Q. 70 percent of the plastic housing survives. Do you know what the temperature is that plastic melts at?
MR. DUNFORD: Asked and answered.
A. I have already answered that.
Q. You don't know?
A. I don't recollect as I sit here today.
Q. Did you ever know?
A. I've seen it in some of the documentation that I've read over the last couple of years.
Q. Let me ask you something: Do you consider

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yourself to be an expert in the area of cause and origin of fire?
A. Yes.
Q. And you don't know what the melting temperature is of plastic?
MR. DUNFORD: Asked and answered.
A. Like I said, I do know but I don't remember as I sit here today.
Q. Are you able to estimate it?
A. I don't estimate things like that.
Q. Do you know what brass melts at?
A. As I sit here I can't remember.
Q. Do you know what copper melts at?
A. I think it's – I want to say somewhere around about 1700.
Q. I don't mean to be impertinent. But most fire investigators that I have encountered that call themselves fire investigators do know the temperatures at which these various materials melts at.
MR. DUNFORD: Move to strike.
Q. I'm just a little bit surprised about that, Mr. Clarke. Now are you at all embarrassed by the fact that you don't know the temperature at which plastic melts?
A. That I don't remember?
Q. Yeah, that you don't remember.

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A. I don't know what plastic you are talking about.
Q. Are you embarrassed by the fact that you don't remember what temperature plastic melts at?
A. No.
Q. Would you say that there is more or less damage to the switch below the contacts?
A. I would say there is more damage in the area of where the contacts are situated but everything is moved.
Q. But is there more damage below the area of the contacts than there is above?
A. There would have been more burning around that edge where it mounts onto the base or the base mounts to the bexport.
Q. Would you say there is more damage within the switch below the area of contacts or the area where the contacts are than there is directly above the area of the contacts of the plastics or the metal?
A. Well, the plastic is gone directly below the contacts.
Q. But it's not above them?
A. It's remaining above them, that's correct.
Q. In fact most of it is remaining above them?
A. Yes, it is.
Q. Now which way does heat or flame normally travel, up or down?

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A. Up.
Q. In your analysis of the fire in this case did you consider the fact that there was more damage below the contacts than there was above the contacts? More of the switch remains above the area where you say the fire started than below?
A. It's consistent with other bases that we have reviewed where the switch has been the cause of the situation.
Q. Well, laying aside this, you know, other instances that you have seen, I'm just asking you whether you considered as a matter of scientific and fire science principals the fact that this switch is more damaged below the area where you say the fire occurred than it is above where you say the fire occurred?
A. When I saw it it was consistent with what I have seen before. Because that is where a lot of the residue builds up, and what I would call, it's like a green vaseline gel, when we're testing a switch, it lays right in there, and that's going to add to the burning around that area so it's going to depart from the hexport.
Q. Is this damage pattern also consistent with a fire emanating from somewhere below the switch and moving up?
A. No, I don't think so.
Q. You don't think that more damage below the

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contacts than above is consistent with a fire emanating from some source below the switch?
MR. DUNFORD: Asked and answered.
A. No, I don't. I think it's consistent with it being in the switch.
Q. In analyzing burn patterns do you try to look at where on a particular component or an automobile there is more heat damage and then move away from there to see which way the fire is progressing from top to bottom or side to side?
A. Yes.
Q. Did you do that in this case with respect to the damage specifically to the switch?
A. To the area where the switch is located, yes.
Q. Is the Capton seal basically gone?
A. It still remains. It's in places.
Q. Was it substantially consumed in the fire?
A. It's damaged. Whether it was consumed in the fire I don't think so. It's just cracked up and discolored.
Q. Does the Capton sit in a brass housing?
A. No.
Q. How close is the nearest component made of brass to the Capton?
A. Maybe a quarter of an inch, maybe the thickness of the transfer pin.

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Q. Okay. Is the brass component that you have just described still there?
A. No. It's corroded away with electrical activity as well on it.
Q. Is there any portion of the brass component that remains?
A. Yes.
Q. Do you know what temperature brass melts at?
MR. DUNFORD: Asked and answered.
A. I think I said somewhere around 1700 to 2,000. I don't know the exact figure.
Q. You think it melts at a temperature higher or less than plastic?
A. Higher.
Q. In the testimony list that you provided to us of the -- there are two trials that you identified. In the one case which I think is the [redacted] case; is that correct?
A. Correct.
Q. There you gave testimony about the design of a bug guard?
A. Stone guard or bug guard, yes.
Q. And you testified that the guard was too sharp or the edges were too sharp?
A. That's correct.
Q. So there you gave expert testimony on a design

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defect in a component that was added onto a truck or something?
A. I think it was a manufacturing design defect.
Q. Which was it? Was it manufacturing or was it design?
A. I don't remember.
Q. And in the other case, that was a rollover case, the other case you testified at trial?
A. Yes, that's correct.
Q. And did you give expert testimony there concerning seat belts?
A. Yeah, it was a seat belt release case.
Q. What, an inertial unlatch case?
A. I think it was either a partial engagement or false latch.
Q. Okay. And of the cases that you have identified that you have attached to your CV, the depositions, would you just quickly look at those and just tell me -- if you have got one in front of you, you can look at those, just tell me which of those involved fire?
A. Have you seen my report? There is a gray one that's bound up.
Q. Oh, I don't know. I can't help you. You were looking at that one.
A. I'm sorry. It's in this book.

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MR. FEENEY: My fingerprints will not be on that. I haven't touched it.
MR. DUNFORD: I thought I saw it go over to that side.
A. What was your question again?
Q. My question is of the cases where you have identified that you gave depositions are there any of them that involve fires and if so which ones?
A. R 103 is a fire case.
MR. MAYER: What's the name?
A. [redacted] against Boto Plating (phonetic).
Q. What is this? Is there some meaning to this alphanumeric filing system that you have? R 103, EFW 1, you have got all of these monikers. What's up with that?
A. In the early days I ran them by client being -- depending on which one you want to look at, if you want to look at my Miller 1, that's my first case with Mr. Miller. And the RC 01 is my initials and 01. If we had a second case with him it would be Miller 1 RC 02. As in [redacted], if you look at [redacted] that would be quite self explanatory. Pugh 1, Pugh 3.
Q. That would h[redacted]
A. Yes.
Q. What's the R stand for on [redacted]
A. [redacted]

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Q. So you quit doing it at some point?
A. Once we got way too many cases. There is too many Millers and there are too many Smiths in this world, and it's very hard for people to keep names separately. So we decided to go by an R number and 100, 200, 300, 400 and so on.
Q. And the[redacted] is because there is other people working for you that work on these cases?
A. No. It could be C 101. I just decided to call them R.
Q. Okay. Now this[redacted] case, that involved a fire?
A. Yes.
Q. And your role was to testify as to the cause and origin of the fire, among other things?
A. The cause and origin and the failure mode of the component.
Q. And was that component on some kind of piece of machinery?
A. Yes, it is.
Q. What was the component?
A. It's a Caterpillar scraper.
Q. And were you rendering an opinion as to a design defect there or were you simply saying that this particular component caused a fire that led to an injury?

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A. A particular component caused a fire that led to a fatality.
Q. Okay. And then are there any others?
A. That's the only one I've been asked to testify and give a deposition.
Q. That case has not been tried?
A. Not yet, no.
Q. Now where there is an automotive company that's named as a defendant in these cases, in your depositions, would they pretty much -- would I be correct in assuming that these are all restraint or air bag cases?
A. No.
Q. Let me get a feel for this. Let's just go down the list. The[redacted] case?
A. Seat belt.
Q. And did you give opinion testimony in that case that a particular seat belt was defective?
A. Yes.
Q. The Porter case? I'm sorry. The[redacted] case?
A. It was an installation. The part I played in the case was electrical control components within an automobile.
Q. You were rendering an opinion they were defective?
A. No. We designed and installed an alternative system.
Q. Okay. The[redacted] case?

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A. That's the one I have in Galveston.
Q. Oh, right. And your role there was to testify about a seat belt defect?
A. It was testing and -- evaluation and testing of the restraint system.
Q. Were you qualified as an expert in seat belts in that case?
A. Yes, I was.
Q. The[redacted]case?
A. It was a retractor restraint case again but due to retractors.
Q. The[redacted]case?
A. That was a suspension failure. That is a seat belt buckle problem.
Q. The[redacted]case. T[redacted] (phonetic) case?
A. Lap belt.
Q. [redacted]case?
A. Seat belt buckle.
Q. The Lewis case?
A. That is an entrapment case.
Q. The occupant couldn't get out of the belt system?
A. Correct and drowned.
Q. [redacted]phonetic)?
A. I think it was a seat belt buckle case.
Q. [redacted]

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A. Seat belt buckle.
Q. Are these type three buckles or --
A. No.
Q. They are all different kinds? What are they? All the same type of buckle?
A. No.
Q. [redacted]?
A. Seat belt buckle.
Q. [redacted]?
A. Did you miss 140? That's the next one on my list.
Q. I didn't see an automotive company here.
A. No. I'm sorry.
Q. I mean I was -- what's that one as long as you brought it up?
A. That's a transmission.
Q. Okay. [redacted]?
A. Seat belt buckle.
Q. [redacted] (phonetic)?
A. Seat belt buckle.
Q. [redacted]?
A. Seat belt buckle.
Q. [redacted]?
A. Seat belt buckle.
Q. You said in your resume that -- by the way on this Yarmouth Technical College is that the name that the school

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goes by?
A. I believe it did. I don't know if it's still there today. It used to be. When I was there it was going by that name.
Q. What was the address of that joint?
A. I don't remember.
Q. Do you remember the street?
A. No.
Q. Do you remember what part of London it was in?
A. It's not in London.
Q. It was in Yarmouth?
A. It's in Yarmouth.
Q. Does the name Great Yarmouth Technical College or Greater Yarmouth Technical College or School have any meaning to you?
A. Great Yarmouth Technical Institute or whatever, I forget what it used to go by.
Q. Well, does that have any connection with where you went to school?
A. Yes.
Q. I mean, well, what's the connection?
A. I think it's the same building, same campus of what we used to call it today.
Q. If you look at your degree from that joint it says Yarmouth Technical College?

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A. Right.
Q. So maybe it has had a name change?
A. It possibly has. Things are growing very fast.
Q. Great Yarmouth College of Further Education?
A. That could be what it's going under now, I don't know.
Q. You don't belong to the alumni association?
A. No.
Q. You don't get any mailings from this place?
A. Sorry, no.
Q. Don't they do that in England?
A. They have never done it to me.
Q. Don't they ever ask you for money?
A. I don't know why they would.
Q. Well, you didn't go to school in the United States of America, I guess.
You advertise in the American Trial Lawyers Association Magazine, right, or you exhibit?
A. I don't know if I do, no.
Q. You have been an exhibitor?
A. Have I?
Q. Yes.
A. Maybe the storage facility.
Q. Yeah, okay.
A. My wife runs a side business.

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Q. And those lawyers are among other things in the business of suing car companies?
A. I would presume they are, yeah.
Q. Now it says here that while you were going to school, I guess, you were an apprentice motor vehicle technician at HE Averal Ltd BMW dealer in Norfolk, England?
A. That's correct.
Q. So that was what a part-time job while you were going to school or a full-time job while you were going to school?
A. I had to have money to pay for the education so I had to work.
Q. Yeah, me too. I'm asking you a question, though. Did you have a part-time job or a full-time job while you were going to school?
A. I guess it would be considered part time because of the amount of time that I spent afternoons and evenings at the college.
Q. And an apprentice motor vehicle technician, is that like a mechanic?
A. Yeah. You would be considered that, yes.
Q. And so then from there you were a mechanic at a Mercedes Benz dealership?
A. I was actually, what I suppose you would call it here, is like a foreman, in charge over the repair facility.

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Q. Like a service manager?
A. Yes, with a group of technicians under me.
Q. And you were helping in diagnosing when someone comes in and says: I've got this and this and this, and you would help in writing that up?
A. Normally I used to get involved in the area if it's a diagnostic problem where the line technician doesn't have the time because he's only paid by the hour, say come over here, you need to look at this, and we'd let them get on so they could carry on with the day-to-day stuff.
Q. And then you worked for that dealership for about a year and a half in this type of capacity; is that right?
A. Correct.
Q. Then you went to work for a year as it says motor engineer technician for Norfolk Motor Company. First of all what is Norfolk Motor Company?
A. It's just a large dealership.
Q. So were you performing a similar kind of function, service manager type thing or what?
A. It was service manager and liaison between Lotus and the dealership.
Q. Were you working for Lotus at the time?
A. No, I wasn't.
Q. Well, when you say "liaison," does that mean that you answered the phone when the Lotus guy called? What does

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that mean?
A. Lotus was a small sports car manufacturer.
Q. Right, right.
A. So they didn't have what about 600 people I would think on the production line. And this was one of the biggest dealerships for Lotus. So we used to handle the PDI's and any particular problems that started to get back to the factory. So I was liaison between that dealership and sort of after sales of Lotus.
Q. In '84, '85 was Lotus independently owned? They have gone through so many different iterations, I was just wondering.
A. I would think that they had a -- Toyota had about a 45, 50 percent stake in them, I think. I'm not sure.
Q. So you were working at a Lotus and Mercedes Benz dealership and you've described basically what you were doing, right?
A. Correct.
Q. Okay. Then you got a job with Lotus?
A. Yes.
Q. And that was in as you say development engineering. You were a development engineer, right?
A. Correct.
Q. Now it says that you were automotive performance testing construction design and development. Now that's

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quite a lot of different areas. Were you involved in all those areas?
A. In the actual area of the product that we were working on, yes.
Q. You mean you were only there in that capacity for, what, two-plus years?
A. Correct.
Q. You know, in the American automobile industry it wouldn't be uncommon for an engineer to have one specific job for an 18 month to 24-month period, not covering testing construction, design and development, there is a lot of stuff going. What exactly were you doing during that two-year period?
A. We were adapting a suspension system to production or preproduction vehicles for manufacturers outside Lotus and GM.
Q. Okay. What was the GM connection?
A. GM owned us at the time. So we worked on the GM products and we also worked for Ford, Chrysler.
Q. What was your job specifically with regard to that effort?
A. I was -- we were in the actual active suspension department, and that was the area where we would design fixtures and bracketry and components, check the drawings, assemble the components, measure the components, assemble

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them, test them, and then eventually put them onto a vehicle. And once it passed that kind of a test, we would then what we'd call give it a bench test in the vehicle connected to an umbilical cord, as we called it. Once the system was proved to be stable then we took it out on a test drive.
Q. And this was all in connection with active suspension type concepts of systems?
A. Yes.
Q. And what was the idea here to come up with some sort of an active suspension system that then could be incorporated in production vehicles?
A. Yeah. We did the preliminary stuff. It wasn't agricultural, so to speak. But it was a lot bigger in its construction or the AP, active production, as we called it. Its goal was to get it into production.
Q. Did that happen?
A. I believe that Toyota came up with a system on their Lexus, and I think Citiron did, too. But it may have been on reactive rather than active. Because active suspension was a trademark for Lotus and General Motors at the time.
Q. So did you incorporate what you were working on into a General Motor's production vehicle?
A. Oh, yes.

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Q. Like what?
A. Corvette had it, Buick.
Q. Okay. Then you came to the United States?
A. Yes.
Q. Or actually I guess you came to the United States at some point before then. So I'm not clear on this. It says November 1987 to April '96, were you in the United States during that period of time, Mr. Clarke?
A. From '87 to '96, yes.
Q. And so you came to the United States working for Lotus cars, and it says automotive hardware failure analysis to determine defects covered by warranties and manufacturer's defects. Tell me about that job.
A. It was an after-sales position where we would be -- well, I would be directly in contact with the dealerships, the supervisors at the dealerships, and determine failure mechanism or a problem resulted around one of our vehicles. Failing to resolve it by phone then we used to have to go out and personally look at the vehicle and walk the technician through fixing the problem.
Q. Now these were Lotus vehicles?
A. Lotus and Bugatei (phonetic). I don't think Bugatei made it into the dealership but we had two of them in the country at one time.
Q. How many units were there let's say during that

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time period in North America in the United States?
A. Maybe 5,000.
Q. And so your job was kind of a technical troubleshooter sort of?
A. It was dealer training, overseeing all the warranty, organizing all the training schools, backwards and forwards to England, analyzing defects here in the U.S., going back to England. So it was only one of me.
Q. I was going to say were you Lotus in North America?
A. It was myself and the president basically of the company.
Q. So he was sort of the sales guy and you were the technical guy?
A. No. We had a sales manager that was based out of Florida.
Q. Where were you located when you were doing this job?
A. Originally in Norwood, New Jersey, and then we relocated to Lawrenceville, Georgia.
Q. One of the things it says here is vehicle fire analysis?
A. Yes.
Q. Were Lotus vehicles burning up?
A. No. They were prone to some thermal incidents in

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some of the cases.
Q. Were these post-collision fires or were these fires that were occurring that didn't involve a collision?
A. It didn't involve a collision.
Q. How many were there that you investigated during that ten-year period?
A. I don't know how many. I mean I never really kept track of them. More than ten, less than a hundred. I don't know exactly how many.
Q. Were there a variety of reasons for the thermal incidents?
A. A variety of them, yeah.
Q. Did Lotus have sort of a common electrical problem that you were aware of during this period of time that led to thermal events?
A. I would say not a thermal event related problem but they had problems with their electrical connectors that could become loose, could become a loose connection giving you high resistance heating and then a thermal event could take place.
Q. Was there ever a recall of any of the Lotus vehicles during the period of time you were doing this?
A. In 1986 I came over and worked for about three months doing just what you said, recalls.
Q. In other words, you were involved in a recall

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investigation?
A. It was a -- how was it worded?
Q. Was it a voluntary recall?
A. It was a tech bulletin that was released and based on that --
Q. Technical service bulletin?
A. -- two guys were sent over, myself and another guy to assist me. And we went through and done the --
Q. The fix?
A. Yeah, the adaptment, I would say of the new components to the vehicles that were already in production. We stopped that in production and changed it in production vehicles in the UK. And the ones on the water we met. And the ones that were in dealers and used had to be updated.
Q. Is that how you kind of got into the North American job?
A. That was one of the connections and then working with [redacted] (phonetic. That was kind of another deal.
Q. And who was [redacted]
A. He's a guy out of North Carolina that has a Nascar.
Q. When you did come over to the United States in the first instance you were basically involved in a technical service bulletin retrofitting and upgrading and fixing

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existing Lotus vehicles because they had had a series of connector thermal events or potentially could?
A. Well, we had to check every vehicle regardless if we think they have got a problem or not. The vehicle had to be scheduled into the dealership for us to look at.
Q. Okay. And so when you say that you had vehicle fire analysis experience, is this what you are talking about?
A. No.
Q. Okay. Well, what was the -- this sounds to me like that was a problem that sort of had a beginning, middle and end, and you finished it, you fixed it in the field and that was the end of that, right?
A. We spent about three months reworking those vehicles.
Q. And that's not where you got involved in vehicle fire analysis?
A. I saw some during that stint. I don't remember how many we actually saw that had some kind of thermal incident.
Q. You saw them, but basically your job was to replace the components and upgrade them so that they were consistent with new production requirements?
A. Yes, it was.
Q. Now are you saying that you did something else in

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the way of investigating fire separate and apart from that early work?
A. After that, once I was brought over here for the engineering job, they were having some thermal incidents with the vehicles, involved around electrics or fuel depending on the area of the vehicles.
Q. Well, let's talk about fuel for a minute. Are you talking about fuel leaks in crashes or are you just talking about fuel systems that were leaking fuel and that represented a potential fire hazard?
A. It was fuel systems that were leaking.
Q. In the engine compartment?
A. Yes.
Q. Bad connectors?
A. Bad technicians I think would be the way to rephrase it. It wasn't a problem with the product more than a service problem after it had been worked on.
Q. It's technicians in the dealerships over in the United States?
A. Yes. We were dealing with a copper washer on the other side of the banjo fitting that had to be replaced or removed to do some service work, and A, they weren't replacing it and they weren't torquing it properly.
Q. So you had improper connections that potentially let fuel leak and there may have been fires and you'd get

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involved in that?
A. We had that, yes.
Q. And anything else in the fuel system area?
A. One of the vehicles that we were working on had what we call a frequency valve that controls the duty cycle for the fuel injection system, and that valve had to be replaced with two, what we called them -- First Inertia makes it; it's a rollover switch. We had to put fuel rollover switches in because of the fuel systems that we used.
Q. And that led to a fire?
A. I don't think it led to a physical fire on a production vehicle. But it led to some problems during a test that we found or they found and we had to redo.
Q. Any other fire incidents that you have investigated?
A. There were numerous harness-related fires.
Q. You had wiring harness problems with Lotus?
A. We had a few.
Q. And you investigated the wiring harness fires?
A. Yes.
Q. And what was your role, to determine that the wiring harness had incinerated as a result of a Lotus-related problem and authorized repair at Lotus' expense? I mean is that about the gist of it?

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A. Yeah. We were looking at -- when you are in the production side or the manufacturing side of a component you have got to deal with most aspects of people. Consequently you could have one of these things that went into an after-market stereo-plex, put big speakers in it. There's also wood screws. I mean anything they can get their hands on to put these things together. So you've got to, you know, look at the vehicle. You may have a short in this end but it could be related to the screw in a wiring harness somewhere else, and this is in an after-market device or something like that. So we spent a lot of time trying to diagnose this.
Q. Just for the benefit of some people that may not be familiar with Lotus, are we talking about inexpensive automobiles here?
A. Inexpensive?
Q. Yes.
A. Depends on what end of the pay bracket you are in.
Q. Well, the vehicles you were working on?
A. 100-, 90-, 95-, $100,000 a piece.
Q. Now did you have anything to do with any of the Lotus -- during this period of time did Lotus supply chassis or vehicles or engines to race teams?
A. Yes.
Q. And were you involved in that as well?

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A. Yes.
Q. Was that part of your job in North America?
A. It was a part of my job in North America, yes.
Q. Does Lotus still participate in, what do they call it, Formula One Racing?
A. They don't participate in the Formula One anymore. But they do the I would say the production saloon car. They use the Alise (phonetic) at the moment I think over here.
Q. And some of these people, these customers that you sold Lotus vehicles to, would they actually race them?
A. Not the road-going version you couldn't. Because of problems that arose with the engines if you tried to put them in a tracking environment they are just not -- they are designed to go fast in a straight line.
Q. But some of them were racetrack certified?
A. We made -- we developed four vehicles that were the X180Rs for a racing series that we competed in for I think three years.
Q. Were the switches on the Lotus vehicles designed to last 280,000 miles without repair or replacement?
A. I don't think a Lotus is designed to even last no where near that long, the whole car.
Q. Nothing on the Lotus is designed to last 280,000 miles?
A. They are not the kind of cars that get driven

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that. High mileage on one of those is 15- to 20,000 miles.
Q. 15- to 20,000.
A. They are the kind of things that people cherish and polish, drive on sunny days, keep inside.
Q. So would I be correct in assuming that none of your Lotus experience involved the care and feeding of high mileage vehicles?
A. Not on the -- we had high mileage vehicles that we had but they weren't out there in the field for retail customers.
Q. Well, you recognize that there are parts that do have useful lives, no part lasts forever?
A. No part lasts forever, no.
Q. And that would be true of electrical switches?
A. It would be true depending on the switch and what you are dealing with and what it was for.
Q. Do you know how long -- well, strike that.
Do you think it's reasonable for an electrical switch to give 280,000 miles of trouble-free service on a vehicle?
A. Well, I think it's reasonable if it's designed as a window switch where it's used daily. It's an annoyance to a customer if it fails on a regular basis. So that kind of thing needs to be designed to withstand daily use or weather conditions, that kind of thing.

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Q. A lot of switches on an automobile, though, customers and no one is going to know whether they have exceeded their useful life unless they use them?
A. They wouldn't know if the life was exceeded. But I think if -- the way I see a switch, if it could fail in the safe position, then if it fails you just have a problem, you go in and get it fixed.
But if it fails in a dangerous condition, then, you know, you are left with possible fire sequences happening like you got with these.
Q. Is there a useful life to a speed control deactivation switch that you -- I mean, is it infinite?
A. I don't know if it's infinite. But it should -- it's going to fail but it should fail in a failsafe situation.
Q. Will all speed control deactivation switches fail at some point in time?
A. I think the later ones possibly will last longer.
Q. Did you know anything at all about speed control deactivation switches on Lincoln Town Cars before you were hired to investigate the fire?
A. I first got involved with them, I would say about four or five years ago maybe, four years, I forget.
Q. And who got you involved, Norm Donnelly (phonetic)?

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A. I think the first one I looked at, the first vehicle I looked at that was a Lincoln was from [redacted]
Q. Okay. So a lawyer representing an insurance company?
A. That was the first Lincoln fire case, yes.
Q. So is it fair to say that the first time you got involved in any of this or knew anything about it was when you were hired by someone who was considering suing Ford Motor Company to recover an insurance loss?
A. Yes.
Q. Now before that happened, did you have any ideas or understandings about how long a speed control deactivation switch would last?
A. No, I didn't.
Q. Were you familiar in any way with the actual design of the system on the Town Car?
A. I wasn't familiar -- I wasn't familiar with the design on the Town Car, no.
Q. In your work at Lotus where you were -- you said your testing and evaluation work I guess consisted of work on an active suspension system?
A. Yes.
Q. Did you have any responsibility for designing electrical components at Lotus?
A. Not the design of the electrical components, no.

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Packaging would be the word that I would say.
Q. Kind of figuring out where they would fit within a –
A. And whether they would live.
Q. And have you ever had any design responsibility for an electrical switch that was installed in an automobile?
A. I've designed an electrical system that was installed in an automobile for a consulting.
Q. That was, what, that case you were telling me about?
A. Yes.
MR. MAYER: Martin.
Q. Right. And what was that?
A. It was an automatic door lock system for an automobile.
Q. And that was an alternative design to what was in the Saturn; is that right?
A. Saturn had manual door locks and we had to put in a full automated system.
Q. Other than, you know, what you have done in connection with your work as a paid representative of the plaintiff in a lawsuit suing an automobile company, have you ever had any responsibility for designing an electrical switch?
A. No.

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Q. Have you ever designed an electrical switch other than your work as a paid representative of a plaintiff suing an automobile company?
A. No.
Q. Is it true that the only testing that you have done of electrical switches has been – well, first of all, take speed control deactivation switches. Is your testing of speed control deactivation switches confined to the work you have done in various investigations of incidents?
A. Yes.
Q. You've sort of made a cottage industry out of this, haven't you?
A. I'm not familiar with that term.
Q. Well, you've kind of become the go-to guy for Allstate, lawyers that want to try to recover for insurance losses with these switches, haven't you?
A. I don't know if I am the go-to guy. I mean we get a number of requests to investigate fire losses regardless if it's the Town Car or if it's a BMW. I mean it's – my name is in the phone book. It's just as easy for Ford to call me as [redacted]
Q. Well, is there any one of those instances in that book of yours there that you conclude that the speed control deactivation switch didn't cause the fire?
A. This book was purely compiled in reference to this

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case so it would have no meaning.
Q. Okay. Is the answer that there aren't any in there that didn't – the speed control deactivation switch didn't cause the fire?
A. There is none in there that it did not, that's correct.
Q. Your publications, is this complete, these four publications you have got there? That's up to date?
A. No. I just put another one in there in Maryland I think last month.
Q. Have you published in the area of fire cause and origin investigation?
A. No.
Q. Or automotive fire investigation?
A. No.
Q. Is it true that these memberships that you list here that there is nothing other than writing the check that is a requirement for becoming a member in those organizations?
A. I never wrote a check to the Ministry of Transport of England.
Q. What makes you a member?
A. What makes you a member?
Q. Yes.
A. Because you go through the school and you pass.

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Q. Okay.
A. I guess, the rest of them you become a member of them when you pay or get nominated I guess.
Q. Well, that's what I'm asking you. You think you get nominated to the Society of Automotive Engineers?
A. I don't think so. That's more of a defendants-oriented group so you'd have to pay to get into that.
Q. You think that most of the people that belong to the Society of Automotive Engineers are what again?
A. I think there's a lot of defendants, people that work in that society.
Q. You view that as a litigation-based organization?
A. A what?
Q. A litigation-based organization. You used the term "defendant." That suggests a party to a lawsuit, which suggests that you are somehow implying that the Society of Automotive Engineers is kind of a litigation-based organization, and I'm asking if that's what you really meant to imply?
A. I didn't mean to imply as a litigation area, but I meant that the defendants I work against is widely represented within that organization, Ford, General Motors, Chrysler.
Q. You mean the experts that are retained by

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corporations that are being sued happen to be members of the Society of Automotive Engineers?
A. I think a number of them or a lot of people that are employed by the big three are members, too.
Q. Correct.
A. And they are on the boards.
Q. So are you suggesting there is something wrong or improper about that?
A. No.
Q. Or the organization is biased or slandered?
A. No, there is no problem with that.
Q. Let's get back to my question. Isn't it true that all you have to do to become a member of the Society of Automotive Engineers is to write the check?
A. If you put it in that way, I guess you do.
Q. I mean, there is no education requirement. There's no testing requirement. There's no certification requirement. You can join the Society of Automotive Engineers by just writing the check, whatever the annual dues are, true?
A. I believe you are right, yes.
Q. Isn't it also true that you can do the same thing for the National Society of Fire Fighters?
A. Yes.
Q. And the same thing for the International Society

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of Arson Investigators?
A. I believe so.
Q. National Fire Protection Association?
A. I don't know, I believe --
Q. American Society for Testing Materials?
A. Yes.
Q. None of these organizations as far as you are aware have any certification requirements or eligibility requirements, all you need to do is get an application, fill it out and send in your money?
A. I presume that's one way of doing it, yes.
Q. Do you go to their meetings?
A. I go to SAE.
Q. Did you go to the annual meeting, the annual SAE meeting?
A. Yes.
Q. Do you go every year?
A. I don't think I've been the last two years because there were conflicts at presenting papers at other conventions.
Q. How about the other ones, do you go to those meetings?
A. Which ones?
Q. The National Association of Fire Investigators, The International Society of Arson Investigators?

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A. Yes.
Q. The National Fire Protection Association?
A. Yes,
Q. Are you on any committees?
A. No.
Q. Have you been asked to be on any committees?
A. Yes.
Q. Turned them down?
A. When you are on your own doing this kind of work it's hard to fit in that kind of thing.
Q. What's the American Academy of Forensic Sciences?
A. It's an organization that's made up of doctors, engineers, scientists, have meetings every year.
Q. Any other professionals represented?
A. I'm sure there is a lot.
Q. Doctors, lawyers, scientists, I mean --
A. No, no, no.
Q. I said lawyers, I didn't mean to say lawyers. You didn't say lawyers and I didn't mean to say lawyers. You said doctors, scientists?
A. Um-hmm.
Q. Okay. Do you go to their meetings?
A. Yes.
Q. Do they publish?
A. Yes, they do.

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Q. What's the name of the journal?
A. I don't know the name of the journal.
Q. Have you ever published anything in any of these journals?
A. Yes.
Q. You've published three things in these journals. Are you sure that lawyers don't belong to the American Academy of Forensic Sciences?
A. I don't know if they do or not.
Q. Have you ever met a lawyer at one of those meetings?
A. No. I'm sure there are.
Q. I mean the consequences of design material selection on restraint system failure, 52nd meeting of the American Academy of Forensic Science, who would have interest in that particular topic? Is it an automotive industry organization?
A. I don't believe so, no. There are automotive representatives there, though.
Q. Are they widely represented?
A. I mean I have had a number of comments from people who have sat in on my presentations that work for Chrysler and Ford and that kind of thing.
Q. Who are these people? Are they mainly experts that are being retained in litigation?

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A. No, they were -- one of the -- they were engineers of some sort working for the manufacturer.
Q. No. I'm talking about the members of the organization like you. Are they mainly experts being retained by people to testify in lawsuits?
A. I don't know the answer to that question.
Q. Well, have you met other experts at these organizations?
A. Yes.
Q. Like yourself? I mean like in the business you are in?
A. I met a lot of doctors, yes. That's the people who have been interested in listening to me.
Q. Medical doctors?
A. Yeah.
Q. Because of your work on seat belts and restraint systems?
A. I would have thought so, yeah.
Q. It makes sense?
A. It would.
Q. Okay. I want to go back now to -- we have covered all those questions. I don't need to ask you anything more about that.
Now I want to go back to the report. I'm happy to continue to plow ahead but if you want to take a

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short break we can do that.
MR. MAYER: Let's take a break.
(A short break was taken.)
Q. Mr. Clarke, would you turn to page 5 in your report. I think we were on Figure 14. Would you find Figure 14 for me, and would you find the photograph, which is going to be Exhibit 14.
A. (Witness complies).
(Exhibit No. 14 was marked for identification.)
Q. Okay. Your report says the right-hand coil pack can be seen in Figure 14. The arrow in this photograph highlights the remains of spark plug lead. What's a coil pack?
A. It's a device that's mounted on the right front or the left front of the engine. It's controlled by the ignition system and supplies spark to the plug.
Q. Let's see. Can you see it in Exhibit 7?
A. Yes.
Q. Point it out to me.
A. (Indicating).
Q. Okay. Was that the one you've got highlighted or is there more than one coil pack?
A. There is one for the left bank and one for the right bank.

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Q. Which one are you showing in Exhibit 14?
A. The right bank.
Q. Is that shown in that photograph, Exhibit 7, that I gave you? And if it is just put a circle around it.
A. (Witness complies).
Q. Okay. And what is the significance of your pointing out in your report the presence of the right-hand coil pack and the remains of the spark plug lead?
A. It shows that there is more remains on that pack than there is on the one on the left side.
Q. Why don't you use this pen to circle the coil pack on the driver's side?
A. (Witness complies).
Q. Both of these are in the front section of the engine compartment; is that right?
A. Correct.
Q. And you are indicating that the coil pack on the driver's side is showing more consumption from the fire, if you will, than the coil pack on the passenger side?
A. Correct.
Q. Neither one of these is in the rear section of the engine compartment?
A. That's correct.
Q. Now Figure 15 you say is a view of the left-hand coil pack. Why don't we get that out.

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A. (Handing photograph to counsel).
Q. And that's Exhibit 15.
(Exhibit No. 15 was marked for identification.)
Q. And all you are doing presumably is just indicating in a close-up manner the fact that there is more consumption of the left-hand coil pack than the right-hand coil pack?
A. That's correct. It follows the pattern on the radiator.
Q. Right. More damage on the driver's side than on the passenger's side?
A. Right.
Q. Do you know of anyone that has investigated this fire, either government official or an expert retained by any party, that contends that there is more damage, more fire damage on the passenger side of the engine compartment than the driver's side?
A. Not that I know of, no.
Q. Do you know of anyone that doesn't agree that there is extensive fire damage on the driver's side in the front section of the engine compartment?
A. No. I think most of the people on the reports that I have read like Hoffman agree that there is more damage on the left side.

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Q. In fact, you, yourself, say that the most visible fire and heat damage is to the left front section of the engine compartment?
A. Yes.
Q. But you place the origin of the fire in the left side rear of the engine compartment?
A. Because the consumables remaining are on the way out of the engine compartment. That's the way the fire went forward and tried to get out from under the grill through the headlights, so it's going to work its way through this way. It can't go through the bulkhead. It's steel. It's either going to go out the wheel arch or the front. It can't go out the top because it's got a steel hood.
Q. But you say that the area of the origin is the left side rear of the engine compartment, but the most visible damage is the left front section of the engine compartment.
MR. DUNFORD: Asked and answered. We have been through this.
Q. Right?
A. That's correct. Because the combustibles that are remaining show that pattern. There is no more combustibles left underneath where the speed control deactivation switch was.
Q. Oh, I see. Well, why wouldn't it be then that the

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most visible heat damage is in the rear section of the engine compartment?
MR. DUNFORD: Asked and answered. He's explained what he wrote in his report previously in his deposition.
A. Because this is the way that, when you look at the vehicle you see the way the radiator is mounted, the way the coil pack has lost some of its components on that side, the way the rim has got more damage on the inboard side closest to the speed control deactivation switch. It's right in that area. So as it's going forward it's causing damage until it escapes out.
Q. Okay. Now let's go to Figure 16. In fact, why don't you just get out, if you can do it, Mr. Clarke, maybe you can get out 16, 17 and 18.
A. Here is No. 16 (indicating).
Q. Figure 16 is Exhibit 7?
A. Yes.
Q. And what's Figure 17?
A. Here is 17.
Q. Okay.
(Exhibit No. 16 was marked for identification.)
Q. You know, I'm not sure, Mr. Clarke, that Exhibit 16 is Figure 17 because you say in your report Figure 17,

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the arrows in this photograph highlight the close-up damage to the alloy rim.
A. Right here (indicating).
Q. It's not on the photograph?
A. It's in the book, in the report.
Q. Okay. And Figure 18, did you get that?
(Exhibit No. 17 was marked for identification.)
Q. Let's take all three of these together because -- now start with Exhibit 7 which is your Figure 16. Your report says this is a view from the front overhead and the arrow shows the most severe damage being to the left front alloy wheel. And I suppose you are comparing that to the right front alloy wheel?
A. Yes.
Q. At least in this Exhibit 7?
A. Yes.
Q. And I think it's pretty clear in the photograph where that wheel is, where both wheels are, so I don't think we need to circle those or mark those.
And you are saying there is more severe damage to the driver's side front wheel than there is to the passenger side front wheel, true?
A. True.
Q. Are there remnants of the steel bands from the

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tire wrapped around those wheels?
A. There is some steel or bands wrapped around the left front wheel. I don't know if it's the tire remnants or not. It could possibly be the bands that actually hold the wheel and the tire onto the rim rather than the cords of the tire.
Q. And is there any significance to the location of those bands as shown in Figure 7 or Exhibit 7, Figure 16?
A. Just goes to show that the whole tire was consumed on that side.
Q. But the manner in which they are wrapped around the wheel doesn't tell us anything at all about the burn pattern?
A. No, I mean they most likely have been dragged on the floor as it was pulled out of the garage.
Q. Have you looked at any of the photographs that were taken at the scene?
A. I looked at them this morning, some of them. And I think I looked at some of them when I was at the Schaefer Engineering.
Q. Did you note how the bands were laying around those wheels?
A. I don't remember.
Q. Is there something that one can tell from the way in which the bands are wrapped around the wheels in fire

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investigation, post fire?
A. If the band is falling out in my interpretation that means the heat was in the inside, and as it heats up the fire went that way and it pushed everything to the right side or the left side of the rim.
Q. So if the band is falling in, what does that mean?
A. It could indicate that the tire fell in as it melted.
Q. So the fire was coming from the outside?
A. It could indicate that it fell in. Or it could indicate that it was coming in from the outside.
Q. Well, wait a minute, you flipped. When you first answered this question you said, well, your understanding is that when the bands are laying out that means that the fire came from the inside out.
So then I asked you, well, what happens if the bands are laying in. And you said, well, it could mean -- why isn't the answer, well, that means that the fire came from the outside?
A. Well, they could have been on the outside and then when they put the fire hose on it, the high pressured hose pushed them in all the way. And you don't know that unless you saw it as if it burned and melted before they put the water on it.
Q. Okay. So any time you get a vehicle fire if the

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high pressure hose was used you can't make heads or tails out of which way the bands are laying around the wheels. Is that what you are telling me?
A. No. I'm not saying that.
Q. So they can be significant?
A. They can be.
Q. You understand that because you learned that in some of these courses you took, didn't you?
A. Well, I understand that from those courses and I understand it from preservation of evidence that we specialize in.
Q. Didn't you hear [redacted] say that last week?
A. He may have.
Q. And didn't he say in the seminar last week, totally unrelated to this case, that if the bands are laying in that is an indicator that the fire came from the outside?
A. I don't know if he said it was an indicator or it could possibly be that. But you have to take into consideration what devices were used to extinguish the fire.
Q. Well, you also have to take into consideration in fire investigations all the indicators, right? You just don't look on to one thing?
A. That's correct.
Q. So I'm just saying that would you agree with me that if the bands are laying in is that an indicator that

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the fire came from the outside of the vehicle in?
A. It could be an indicator.
Q. Now which ways are the bands laying in Exhibit 7, in or out?
A. Out.
Q. Circle the bands.
A. (Witness complies).
Q. Exhibit 17 is a close-up view of the wheel?
A. The right front wheel and the tire assembly, yes.
Q. Which way are the bands laying?
A. They appear to be neutral or evenly spaced on the rim in that particular instance.
Q. Neutral or evenly spaced?
A. I mean they are either side of the portion of the rim, so inwards.
Q. Exhibit 16, which way are the bands lying?
A. They are on the outside of the rim. In fact, the outboard band is near enough over the top portion of the rim and that's in the most area where the rim is damaged, too.
Q. So the bands in Exhibit 16 support your opinion?
A. Well, they support the opinion that the band is over there and that's another indication that the heat was traveling that way.
Q. Circle the bands in Exhibit 16 that you say support your opinion in terms of your position?

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A. This being 16?
Q. I think so. You've got them. Yes, that's 16. The one in your left hand is 16.
A. Okay. (Witness complies).
Q. Okay. Good. Thank you very much.
Now same thing with regard to that other one, 17. Which wheel are you looking at in 17?
A. Right front.
Q. Okay. Right front meaning?
A. The right front.
Q. Well, right is relative, driver or passenger?
A. Passenger.
Q. Okay. Is that the one you said the bands were neutral?
A. They appear to be evenly spaced on the rim, yes.
Q. Let me see. I may need you to diagram those. Okay. Exhibit 17 you are saying the bands are evenly spaced on the rim; is that right?
A. Yes.
Q. Okay. Circle the bands.
A. (Witness complies).
Q. Now let's go back to Exhibit 16. How many bands have you circled on Exhibit 16?
A. Two.
Q. And they are in the position they are shown? I

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mean they're not –
A. I'm not going to change them.
Q. I know you are not. But I guess what I meant was they are two distinct bands. That's not just one band. That's two distinct bands?
A. The inside and the outside.
Q. The inside and outside band?
A. (Witness nods head.)
Q. On the tire?
A. From the tire, yes.
Q. From the tire. Now, do you know which of those is the inside band and which is the outside band?
A. No, I don't.
Q. Same question with respect to Exhibit 17?
A. No, I don't.
Q. Can you tell from Exhibit 7?
A. On Exhibit 7, the way they are on the rim you could mostly say that the inboard is the inboard band, the closest to the brake caliper, and the outboard side is closest to the outside of the wheel.
Q. Okay.
A. Can't see exactly.
Q. That would be your judgment based upon that exhibit?
A. Yes.

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Q. Now on July 30th did you look at the undercarriage of the vehicle?
A. No.
Q. Have you ever looked at the underside of the vehicle?
A. No, I haven't.
Q. And specifically the underside of the vehicle in the area of the engine compartment?
A. No, I haven't.
Q. Did you want to look at the underside of the vehicle when you inspected the vehicle?
A. It's always nice to be able to see the underside of the vehicle. But at certain times the vehicle may be in a position where it's hard to get at. It's not practical to move it at that time.
Q. So is the answer yes, you did want to see the underside of the vehicle on July 30th?
A. I never made the comment to look at it. But I would have liked to have if it was raised up.
Q. Did you ask anybody to raise up the vehicle on July 30th?
A. No.
Q. Had you talked about that with [redacted] or [redacted] I don't know [redacted] or [redacted] or anyone else that was there?

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A. I remember some of the guys talking about getting it raised up, but I don't know who it was.
Q. And what is your understanding as to why the vehicle was not raised up?
A. I don't know.
Q. Was there something physically that was preventing it from being raised up?
A. You'd have to take it all the way out of the garage or the storage space, back it out or pull it out, and maybe they just don't want to keep dragging it and causing more damage to it. I don't know.
Q. Well, did you come to some professional judgment that you couldn't raise it up because there would be too much damage done to the vehicle by taking it out of the garage?
A. No.
Q. Well, let me just get this straight. You definitely would have liked to have seen the undercarriage of the vehicle?
A. I try to make a point of seeing all of them when we can, when it permits.
Q. And the reason for that is that there may be vital important physical evidence that could be confirmatory of your opinions by looking at the underside of the vehicle?
A. You can get a pretty good fire or flame pattern by

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looking at the underside of the vehicle.
Q. In an incident like this, if the fire starts in the engine compartment, does the fire travel up and over the engine basically as opposed to down and under?
A. Normally –
MR. DUNFORD: Object to the form.
A. Normally the ones I have seen there are remains of all the electrical connections on the side of the transmission when you raise them up. Sometimes nearly all the body mounts are still intact. The underneath looks pretty much like new in some cases.
Q. So what you are saying is that normally in your experience what you see is if you get a fire starting in the speed control deactivation switch the fire goes up and over the engine not down and under it?
A. Yeah, with an alloy hood. Obviously with a steel hood it changes all the fire progression because it cannot escape out the top so it has to go back down and over.
Q. What about from around the sides of the hood?
A. Well, it's going to come out there but it's not going to be as easy as it would be with an alloy hood.
Q. But you have not burned a vehicle with a steel hood?
A. This is the first one I've seen with a steel hood.
Q. And you have not burned one?

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MR. DUNFORD: Asked and answered.
MR. FEENEY: He didn't respond.
MR. DUNFORD: You asked him that earlier this morning.
MR. FEENEY: He's burned three vehicles. I've never asked him whether he burned one with a steel hood.
A. No, I haven't.
Q. So when you talk about what happens with a steel hood with a fire you've never investigated a Lincoln Town Car where there was a steel hood and you've never burned a vehicle with a steel hood?
A. This is the first one I have investigated, yes, sir.
Q. All right. Well, have you seen videos of what happens with a vehicle fire with a steel hood?
A. I've seen vehicle fires with steel hoods, yes.
Q. Well, you are sitting here making statements about what happens with vehicle fires with steel hoods. You have never investigated a Town Car -- you never burned one with a steel hood. This is the only one you have ever seen as far as I can tell with a Town Car, right?
A. I think mostly one of the first things most people have seen with a steel hood --
Q. As far as fires are concerned with steel hoods, I

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mean, I don't know how many you have investigated but I know of one case that you have given a deposition in involving a fire and that didn't involve an automobile. It involved some kind of heavy duty equipment. That's the paving company case, right?
A. Yes.
Q. Okay. So I know of no case in which you have ever given testimony where you had a fire with a vehicle with a steel hood. Am I right so far?
A. That's correct.
Q. And there isn't one incident report, I don't care for what you may have been involved in -- there isn't one incident report in that six-inch book that involves some incident that you investigated at some point in time in your 20 year career with a vehicle fire where you had a steel hood, is there?
A. No. These are all Lincolns.
Q. I don't care what they are. You went through your files. You told us that you put together all the relevant material. There isn't one incident is there involving a fire with a steel hood, right?
A. That's correct.
Q. But you are sitting here making comments about what would happen with a fire in an engine compartment when it has a steel hood?

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MR. DUNFORD: Object to the form. It's asked and answered as well.
A. They are my observations.
Q. It's your speculation is what it is?
MR. DUNFORD: Move to strike.
A. My observations.
Q. Well, one man's observation might be another man's speculation?
MR. DUNFORD: Move to strike.
Q. Let's look at No. 19, positive and negative battery terminals can be seen in Figure 19. And the AC condenser as seen in Figure 20. Why don't you get both of those out, Figure 19 and 20.
A. (Witness complies).
Q. Okay. So that's Exhibit 18 and that's Exhibit 19.
(Exhibit No. 18 was marked for identification.)
Q. Okay. So we go back to the report and the report says Figure 18 shows the remains of the right front wheel and tire assembly. The positive and negative battery terminals can be seen in Figure 19. So you are pointing that out to us for what reason?
A. That's just observation, seeing more damage to the left side of the battery than you can the right.
Q. Is that battery up in the passenger's front

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corner? Where is the battery on this thing? I've forgotten.
A. Do you want me to tell you where it is?
Q. Yes.
A. I believe it's right front.
Q. Is it right front?
A. Um-hmm.
Q. Here is Exhibit 5. I can't see it on there. Well, I got it up -- is this it (indicating)?
A. Yes.
Q. Well, that's the passenger side?
A. Right front.
Q. You keep flipping around on me constantly on right and left.
MR. DUNFORD: Move to strike. You keep making gratuitous statements on the record and they are inappropriate.
MR. FEENEY: I don't.
Q. Okay. Well, didn't I say it was on the passenger side?
A. You said you didn't know.
Q. I thought I said it was on the passenger side. Anyway, what is the point of the photograph is what I want to know?
MR. DUNFORD: Asked and answered. Go ahead.

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A. It shows the condition again of the battery and the way that there is more damage on the left side, closest to the left side of the vehicle than the right.
Q. Well, aren't there certain components on the passenger side of the vehicle that show more heat damage and more fire damage than components do on the driver's side of the vehicle?
A. I think there is more damage on the driver's side of the vehicle.
Q. That's not the question I asked you. Aren't there components that, relatively speaking, nevertheless show more damage on the passenger side than on the driver's side?
A. I don't believe so, no.
Q. There is no component on the passenger side that is more damaged than any component on the driver's side, if you drew a center line right down the engine?
A. Outside predominantly to the driver's side more than to the passenger's side.
Q. Can you answer my question? I know you've said predominantly. And I know you've said majority. And I've heard all of that. What I'm asking you is are you saying that there is no component in the engine compartment on the passenger side of the vehicle that shows more damage than on the driver's side?
A. From when I inspected it it appeared to be all on

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the driver's side.
Q. Okay. Thank you.
Is that important to your assessment of the thermal patterns in this case?
A. Yes.
Q. And let's see, No. 20, did you give me Figure 20?
A. Yes.
Q. I didn't mark it. Here we go.
(Exhibit No. 19 was marked for identification.)
Q. Is that Figure 20?
A. That's right.
Q. That's Exhibit 19. Okay. What are we looking at here?
A. You are looking at the AC matrix, the condenser.
Q. Where is that located?
A. Right front passenger side near the bulkhead.
Q. And what is this intending to show?
A. It just shows that it's made out of alloy and the left top corner of it is melted off, as you are looking at it from the inside of the vehicle, the left side.
Q. And this is an indication of what?
A. The heat was coming from the left side to the right.
Q. From the driver's side to the passenger side?

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A. Correct.
Q. So, generally speaking, would you say that all these photographs that we have gone through in general show that the burn pattern is from the driver's side towards the passenger side?
A. Yes.
Q. Directing your attention to Exhibit 16, that is a picture of the driver's side front wheel?
A. Yes.
Q. And what is the camera position for that picture? Are we looking at that from the front of the vehicle or the back of the vehicle?
A. From the front of the vehicle.
Q. And is there stuff remaining on that wheel, rubber?
A. I think there is some pieces, maybe little pieces, little black stuff, could be considered to be burnt rubber.
Q. Can that wheel be moved?
A. I don't know.
Q. As we look at it from the front, where is the greatest heat damage to the driver's side front wheel?
A. Inboard.
Q. The front of the wheel as we look at it or the back of the wheel?
A. It's towards the front of the wheel.

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Q. Now you say the fire moved from the bulkhead to the front of the vehicle?
A. Yes.
Q. On the driver's side?
A. Yes.
Q. But if we look at Exhibit 16 there is more damage to the front of this wheel than there is to the back of the wheel?
A. Correct.
Q. So the fire skipped the back of the wheel, hopped over it and damaged the front?
A. I would interpret that that was towards the back of the wheel and the wheel moved forward or was turned forward as the vehicle was dragged out.
Q. You would pretty much have to say that in order to be right, wouldn't you?
A. It's my interpretation of what I have seen in other vehicles, they do move.
Q. But if you are wrong about that then you are wrong about the propagation path, aren't you?
A. No. I'm pretty sure that the wheel turned when it was pulled out of the building. They raise it up in the back and drag it out.
Q. But you took the time to make this picture and we see what we see. And unless you can come up with some on

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the spot explanation about the wheel turning and flipping and moving, this piece of evidence here, this Exhibit 16, casts serious doubt on your interpretation of the burn patterns, just the burn patterns, I'm not talking about the switch or any of that other stuff, just the burn patterns?

MR. DUNFORD: Object to the form.

A. My impression and interpretation to that, that it was mostly at twelve o'clock or a little bit before and it rolled when the vehicle was pulled out.

Q. That's pretty convenient, isn't it, that it rolled?

MR. DUNFORD: Object to the form.

A. It's not convenient, Mr. Feeney. I've seen it before.

Q. Did you note that in your report? Did you say, well, you know, I want everyone to look at Figure 16 but I want you to understand that actually what you are seeing is the back of the wheel as the fire progressed not the front of the wheel? Did you make that notation in your report, sir?

A. No, sir.

Q. The eye witnesses have the fire on the driver's side, let's start with this, on the driver's side of the garage, on the driver's side of the vehicle near the front, do they not?

A. Yes.

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Q. The burn patterns that we have gone through which have the fire moving from the driver's side to the passenger side are wholly consistent with those observations, are they not?

A. Yes.

Q. And if, let's just say for purposes of just a conversation between you and me, that wheel did not spin and move and flip and go from front to back or sideways, and we see it the way we see it in the position that it was in at the time of the fire, that wheel, the damage to the front of that wheel would also be entirely consistent with the observations of the eye witnesses who placed the fire in the front of the vehicle at the start not at the bulkhead, wouldn't that be true?

A. Hypothetically speaking?

Q. Yes, just hypothetically speaking.

A. If the man that's looking at it from across the street, full of smoke and all of that, can see the wheel or see the flame coming out of there, if he can.

Q. Okay. And hypothetically speaking, just strictly hypothetically, if hypothetically speaking the fire did originate in that northeast corner in front of the vehicle, then hypothetically speaking you would expect that the front of the wheel would be more extensively burned and damaged than the back of the wheel, wouldn't you?

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A. Hypothetically speaking I would like to say yes. If there was more damage to the exterior of the wheel. But the outside of the rim is nearly virtually completely intact, so there is hardly any of the outside of the rim missing, so there would have to have been more heat on the inside of the rim to start with. Hypothetically, it would be a pretty good theory if the rest of it matched up.

Q. I'm not going to get into that debate with you. I'll just save that.

And did you take note, to the extent you could observe it, of the extent to which there was fire damage to the vehicle down below in the front? I mean, like, you know, the bumpers and that sort of thing?

A. Yeah, I noticed that the bumper covers had melted off, the headlights that surrounds especially on the left and right was still intact.

Q. Okay. What is that condenser made of, the one that you show in that photograph?

A. Aluminum.

Q. What does that melt at?

A. I think about 1200 degrees.

Q. And just so we orient that, isn't that somewhere near the bulkhead on the passenger side?

A. Well, it's in that area. There is a box that it sits in.

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Q. Do you have any good picture -- do you have an overhead picture that shows where that condenser is, Mr. Clarke? I mean I know we have got this picture that shows it more close up, but can you spot it?

A. (Indicating).

Q. It's right over there, correct?

A. Correct.

Q. I'm just going to put a blue circle around it. Did I do that?

A. Yes.

Q. Okay. I'm not trying to trick you here. That's on Exhibit 7 I put a blue circle around the condenser. That's made of aluminum?

A. Yes.

Q. And that melts at 1200 degrees?

A. Approximately.

Q. And except for a little bit of melting on the top it's pretty much intact, is it not?

A. That's correct.

Q. Now don't you think that is an indicator that this fire attacked this vehicle in this engine compartment from outside the vehicle rather than starting inside the engine compartment?

A. No.

Q. What's the radiator made of? Is that steel or

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aluminum?
A. Aluminum.
Q. And that has, you know, a little bit of degradation but it's pretty much intact?
A. Yeah, if the fire started outside the front like the witnesses said, it would come through and migrate through the radiator and have consumed the engine compartment but it didn't.
Q. There you go again. You know, you just don't know how to stop speculating, will you? You just don't want to stop.
MR. DUNFORD: Again, I object to the gratuitous comment.
Q. Again, you are telling me -- now you are telling me that if there had been let's say a natural gas leak from whatever source producing a blow torch like flame in the northeast corner of the garage in the vicinity of the right front corner of the vehicle, you are telling me, based upon your experience, no testing, that it would have consumed the radiator?
A. You mean the driver's side front corner?
Q. Right.
A. Yeah, I would think it would take the radiator or the rim away.
Q. Is there a textbook I can go to that just confirms

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that or is that just your point of view?
A. It's my analysis of many, many vehicle fires predominantly in Lincoln Town Cars.
Q. I think we know what the sum total of your experience is, sir. I'm not debating that at the moment.
I'm simply wanting to confirm that there has been no test and no study and no forensic analysis that you have done other than just kind of throwing it out there that a natural gas driven blue flame of the type that [redacted] described would in all cases consume the radiator?
A. I don't know if [redacted] is qualified to make that statement that it is natural gas unless he's a gas engineer and he's seen natural gas flames many, many times. I mean I don't know what a natural gas flame looks like underneath a car coming out of a wheel arch. I've seen many vehicle fires and I know what a blow torch looks like.
Q. So I will ask you directly. Wouldn't you expect an AC condenser made of aluminum, as the type that we see in Exhibit 19, wouldn't you expect that condenser to be essentially consumed if the fire originated in the engine compartment and there was a steel hood trapping the fire so that the fire had no place to go for however long you claim that it existed, don't you think that a 1200 degree melting aluminum AC condenser would have melted in such a fire?
A. It's probable. But again with that particular

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design of vehicle and with plastic fender wells it probably got out somewhere else.
Q. Okay. But it is probable?
A. Could be. I've seen them melt in other Lincoln Town Car fires and I've also seen them survive and the radiators.
Q. Okay. By probable I gather you are saying that in fact you would expect it to melt?
A. It depends on the circumstances surrounding the fire.
Q. In this circumstance would you have expected that condenser to have been consumed in this fire given the fact that you believe that the fire started in the engine compartment?
A. It all depends on the circumstances. I mean --
Q. Well, we are talking about these circumstances, Mr. Clarke. You've already told me that it's a steel hood. The fire has got no place to go. It starts in the engine compartment. How far away is the condenser, 12 inches?
A. From where?
Q. From the speed control deactivation switch, 18 inches?
A. It's got to be at least the width of the engine and some more, so it could be as much as three feet, two and a half feet. I don't know.

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Q. Do you know what it is?
A. No.
Q. Okay. So you don't know how far the condenser is away from the speed control deactivation switch?
A. Right.
Q. In any event, regardless of how far it is, wouldn't you, sir, have expected that condenser to be essentially consumed under these circumstances?
A. I don't think so.
Q. Don't you find it odd that it wasn't consumed?
A. I've seen them very similar with the alloy hoods.
Q. So you don't find it odd that it wasn't consumed?
A. Not really. I think every fire is slightly different. They always throw something at you when you're looking at them.
Q. Every fire is slightly different so the burn patterns are unique from fire to fire?
A. Well, a burn pattern is a burn pattern.
Q. Well, you just said every fire is different. And you used that as an explanation for why it's not odd at all that the condenser didn't melt?
A. Right.
Q. It's not odd that the plastic directly above where the fire started didn't melt?
A. Plastic?

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Q. Yes.
A. I don't know what plastic.
Q. Wasn't consumed -- 70 percent of the plastic, the housing, the top half?
A. Oh, on the cruise control switch?
Q. Not odd at all that that didn't melt?
A. Again, that is not unusual when you look at this scenario.
Q. Not odd that the rubber grommet directly above where you say the fire started didn't melt?
A. As we showed earlier they do exist.
Q. Not odd at all that there is more fire damage to the wheel in front of the wheel than there is behind the wheel, that's not odd either?
A. If it doesn't rotate -- I mean I would think it's going to turn when the vehicle is raised up.
Q. Not odd that the aluminum radiator didn't melt?
A. Portions of it did.
Q. Yes, just the top portion of it. But not odd at all that it wasn't consumed by this fire that supposedly started in the engine compartment with a steel hood on top, no place to go? Do you know how long this fire burned before the fire department got there?
A. I think it was about 10, 15 from when the fire started.

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Q. Well, we don't know exactly when the fire started. But do you know how long it burned that we know of for sure before the fire department got there?
A. I don't know offhand. I'd have to go back through and see if it's in the fire report.
Q. Have you come to an opinion as to what time the fire actually started?
A. It had to have been after 8:15 I think, within two and a half hours the car had been sitting and it ignited.
Q. Okay. So get back to the fire department. It burned pretty good for 15 minutes before the fire department got there?
A. Quite possibly.
Q. And then what did the fire department do when they got there? Did they haul the cars out of the garage and start dousing the fire in the garage?
A. I don't know.
Q. Well, according to the fire department report they took out a water canon and they blasted it at the house.
A. Okay.
Q. So how long do you think the fire went in the vehicle from the time it was first discovered until anybody put it out, 30 minutes?
A. I don't know.
Q. 40 minutes?

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A. (Witness shakes head.)
Q. During this time with the steel hood in place this aluminum condenser a couple feet from where the fire started doesn't melt?
MR. DUNFORD: Is that a question.
Q. And you find that odd?
A. No, I mean, it's not odd.
MR. DUNFORD: It's also been asked and answered.
MR. FEENEY: Well, not with all those additional facts it hasn't been asked, but it has been answered. I agree with that.
I know we are not in Texas but they say there pass the witness so I'm going to pass the witness.
THE WITNESS: I would like to take a bathroom break.

EXAMINATION

BY MR. MAYER:
Q. Mr. Clarke, my name is Eric Mayer. I'm one of the lawyers representing Texas Instruments. I'll try not to ask you anything that was covered earlier and I'll try to move fairly quickly through the material.
We know from the earlier testimony that the vehicle had a steel hood, right?
A. Correct.

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Q. That's not original equipment on this '93 Town Car, is it?
A. No.
Q. What other things, Mr. Clarke, in your investigation did you notice were not original equipment to the vehicle?
A. The only thing else I noticed is one additional wire on the right side, right front passenger side in the engine compartment.
Q. An after-market wire?
A. It's an additional wire I didn't recognize.
Q. Did not appear to be standard factory wiring?
A. Correct.
Q. Did you inquire where the wiring came from?
A. No, I didn't. I left that to Alan because he was going to go back and investigate that.
Q. In your determination of placing the cause and origin of this fire, did you get an answer to what that after-market wiring was?
A. Alan relayed to me that it mostly would have been connected to a positive feed and was cut off.
Q. So the answer to my question is you relied on someone else to get that information for you?
A. Yes.
Q. And that someone else was Alan Topinka?
A. That's correct.

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Q. And what analysis did you do of the wire itself?
A. I wasn't present when the wire was inspected the last time I believe.
Q. So the answer is none?
A. No.
Q. Am I right about that?
A. That's correct.
Q. Was there any other equipment in the engine compartment that was not original equipment other than this wire and the steel hood?
A. Not that I could identify.
Q. Did you look at the headlights?
A. The remains of them had dropped down on some of the bumper guards.
Q. Did you know that the vehicle had been involved in at least two accidents?
A. Yes.
Q. And how did you learn that?
A. Per the depositions, I reviewed the depositions.
Q. And did you know whether any equipment was replaced on the vehicle after those accidents other than the steel hood?
A. I'm presuming if it was a frontal kind of an impact there is a possibility maybe a bumper, headlight, fender or hood.

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Q. Do you know the extent of the damage that was involved in any of those collisions?
A. No, I don't.
Q. Did you make any investigation to find out what the extent of the damage was in any of those collisions?
A. I believe I'd asked about if we could get body repairs and that kind of stuff from the insurance company, if they'd gone through the insurance company, but I don't know if we ever got it.
Q. Did you ask that of Mr. Topinka or someone else?
A. I think I mentioned it to Alan, if we could get it it would be helpful.
Q. Did you ever get that information?
A. No, not to my knowledge.
Q. The time you spent at Yarmouth Technical College in England, did you receive some kind of degree from that institution?
A. Yeah. I got a certificate when I left there, yes.
Q. And in England what is that called? What's the name of that certificate?
A. It's a diploma.
Q. Did you put it on your wall at your shop in Georgia?
A. No. Between moves I cannot find it to be honest. I've looked and looked and I haven't been able to locate it.

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Q. Don't have a copy anymore?
A. No.
Q. What were the courses that you took at Yarmouth Technical College to get the diploma?
A. We took basic vehicle design, dynamometer testing, setting up dynos, electrical, principles of electrical circuitry, charging, physics, Newton's laws, and all this kind of stuff they went through.
Q. Am I correct that you are not an engineer in any of the 50 states in the United States of America?
A. No. I am not a PE in this country, that's correct.
Q. You don't have a license to practice engineering in any of the United States; is that right?
A. No, I don't.
Q. And do you have a license to practice engineering in the United Kingdom?
A. I don't think so.
Q. I've heard something about chartered engineer. Am I correct you are not a chartered engineer in England?
A. I'm not familiar with the term of chartered engineer. I'm not familiar with that term.
Q. You are not an electrical engineer, are you?
A. No, I'm not an electrical engineer.
Q. And you are not a chemical engineer?

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A. That's correct.
Q. Now you gave us a list of some cases that you testified in. This first one [redacted] versus General Motors Corporation, that's listed as a deposition. Were you, in fact, challenged? Was your qualifications challenged in that case as an expert?
A. No, not the qualifications.
Q. Was there any challenge made to your testimony in that case that you are aware of?
A. There was a challenge against the amount of testing that we did not do.
Q. And did that challenge result in you being in some way restricted in what testimony you could present?
A. Yeah. We weren't allowed in some of the areas if I remember correctly.
Q. Now you also testified that you -- you've testified twice in courts of law in this country; is that right?
A. Correct.
Q. And am I correct in neither of those cases were you ever qualified as a fire cause and origin expert?
A. That's correct.
Q. So if the court certifies you in this case this would be the very first time that you have been certified as a fire cause and origin expert, am I right?

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A. That's correct.
Q. And in the case, the [redacted] did that case, in fact, go to a jury verdict?
A. Yes, it did.
Q. Did the jury find in favor of General Motors?
A. I believe they did.
Q. Did the [redacted] case go to a jury verdict?
A. Yes, it did.
Q. And what was the jury's finding in that case?
A. I believe they split the blame between the two parties that were involved. I'm not 100 percent sure on that.
Q. Now as I understand your testimony that this document Ford OSPs which we marked as Exhibit 4, these are cases that you have been involved in that you believe involved the brake pressure switch issue; is that right?
A. Correct.
Q. I don't want to go over the various categories that you went over with Mr. Feeney, but there are some tabs that I need to ask you about. Look at Tab 41 if you would. It has, 41 says Frank Borris. Do you see that?
A. Yes.
Q. Can you tell me what this tab represents?
A. It represents -- Frank works for NHTSA, and he was at my facility where we done a series I think it was a day

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or two days of investigational work on switches that are outside the recall population.
Q. Did you contact Mr. Borris or did he contact you?
A. I don't remember. I don't remember whether we contacted him or somebody told him about us. I don't remember the ins and outs.
Q. And when was it that Mr. Borris came to your facility in Georgia?
A. Somewhere around 7-17, I think, '02.
Q. And you are dating that from the date of the pictures?
A. Yes. It was either 7-17 or 7-18.
Q. Who else was present besides yourself and Mr. Borris?
A. Charlie Miller.
Q. Anyone else?
A. I don't believe anybody else was there.
Q. And how long did the session last with Mr. Borris?
A. I think it lasted at least one whole day. He may have got there the afternoon before. I'm a little bit cloudy exactly when he arrived.
Q. And was anyone present besides you and Mr. Miller during the time he spent at your facility?
A. I think my wife was out there some of the time.
Q. Other than your wife was anyone else present?

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A. There may have been another guy that works for me in the warehouse was there.
Q. And what would that person's name be?
A. Michael Hunter.
Q. Is Mr. Hunter a technician of some type?
A. Yeah, he's what we class as called an evidence collection specialist.
Q. Okay. And did you know Mr. Borris before he came to your facility?
A. No.
Q. Had you ever spoken to him before?
A. I don't believe so.
Q. Do you have any correspondence with him?
A. Do we?
Q. Yes.
A. Yes, we do.
Q. Has that been produced?
A. My correspondence with him?
Q. Yes.
A. No.
Q. I didn't see any in this tab and that's why I'm asking.
A. No.
MR. MAYER: Well, we would request that that be produced.

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A. Well, all the latest stuff that's in this book has been produced to you and that's what's been produced to him.
Q. Had you spoken with Mr. Borris before he visited your facility?
A. Yes.
Q. Did you give Mr. Borris a copy of this book, for example?
A. No, he doesn't have a copy of this book.
Q. How did you speak to him before he came to your facility? Did you contact him?
A. It may have been by phone or e-mail or something like that.
Q. Did you contact him?
MR. DUNFORD: It's asked and answered.
A. As I said before I don't remember. I don't recollect. It may have been -- just don't remember.
Q. Let's go through these pictures that you have here under his tab. Tell me why you included them in this tab?
A. This is a on what I would consider a continued investigation analysis to this phenomenon of the fires that are happening on the Ford products that have the speed control deactivation switch that has full-time voltage to it.
Q. And the first pictures -- by the way, did you take more pictures than are contained in this tab when he was

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present?
A. I believe we did, yes.
Q. And why is it that you put some in and excluded others?
A. Just the ones that I thought would be interesting, just shows where the problem is, where the cracks are, this kind of stuff.
Q. On this first picture, role 4794, negative one, what is interesting about that first picture?
A. You have got fluid between the layers of Capton. And it's hard to see but there is cracking around the outside of that.
Q. There is an arrow that's on the photo that I have. Is that something that you put on?
A. Yes. That's what I did when I was under the microscope.
Q. Is this a brake pressure switch that you removed from a vehicle?
A. It was one that was sent to NHTSA by an individual that was complaining of the problem. And then Frank, when he was in contact with me, I told him what we were doing and he said: Well, I've got some we can bring out and investigate, so that's what happened.
Q. Did he say who had sent it to NHTSA?
A. He did tell me the name and he had a serial number

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and everything there. I think it's on the rest of the photographs.
Q. I didn't see it.
A. They are on the other ones. I didn't put it on here.
Q. Well, do you know what kind of vehicle it came out of?
A. Yeah, it's a 1994 Town Car.
Q. Okay. And you know that because you are looking at the first page of the exhibit here?
A. That's correct. And that's what the label identified it as when he brought it in.
Q. And do you know how many miles were on this vehicle?
A. I saw the mileage but I don't have it with me. I don't remember.
Q. Would that be something that's at your shop?
A. Yes.
Q. Because you made a practice of recording the mileage on the switches that you looked at, didn't you?
A. Well, the ones where the mileage was available and was on the paperwork, yes.
Q. Do you know if this switch had more than a hundred thousand miles on it?
A. I don't remember.

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Q. Is there anything more you can tell me about what vehicle it came from or how many miles it had experienced other than a 1994 Lincoln Town Car?
A. That's it.
Q. Okay. And did you do the photographs here in your facility in Georgia?
A. Yes, we did.
Q. Okay. And the negative one and negative four, those are pictures of the fluid that you say is between the Capton layers?
A. Yes; that's correct.
Q. And you mentioned something about some kind of cracking. Is there a picture in this group that depicts that better?
A. I don't know if it's copied that well. It's kind of like an alligatoring or like a saw-tooth affect around one of the sides here (indicating).
Q. You have to tell me what negative.
A. Well, this is negative 11 but it's not really -- you can't really see it.
Q. So is the answer in at least the pictures that you have here we really don't have a good picture of the cracking?
A. You are not going to see it that well in these I don't think.

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Q. Okay. What's significant about the negatives five and seven?
A. They are just taken around the radius of the teardrop area, that's how we take them. We start at 12 o'clock and go around clockwise.
Q. You used the term "teardrop". What does that mean?
A. It's a terminology that we read in some discovery documents that relates to the swelling of the Capton when it's activated in the switch.
Q. Most of the switches that you have looked at have teardrops in them?
A. Some of them have. Some of them have the similar damage to what we see in this particular vehicle where they are brown and crispy.
Q. Does the presence of a teardrop to you have any significance?
A. In some of them it's more visible than in some of the other ones. It may be that they are loose when they are crimped together. There is more slop in the seals. I don't know why its -- it's there from operational.
Q. You have also seen switches where there is teardrops and there is no anomaly, correct?
A. Yeah, I have seen teardrops where there is no anomaly. I've seen teardrops where one layer is cracked and the other one hasn't. Different sorts.

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Q. What I'm getting at is you really can't conclude anything with the presence of a teardrop one way or the other. Fair statement?
A. It's hard if you don't have all the seal there as a whole, yes.
Q. Okay. When Mr. Borris was present in your facility did you do anything other than photograph this switch that's identified here in this tape?
A. We looked at about I would say 10 or 15 switches that day.
Q. All these switches brought by him?
A. No.
Q. Some of them supplied by you?
A. Some by me and some by Mr. Miller that he has collected from his end.
Q. And do you know how many switches you supplied?
A. I don't remember.
Q. More than five?
A. I just don't remember. Because we have been, you know, trying to work this out and get as much data between us as we can and relaying it back to Mr. Borris so.
Q. You are still in communication with Mr. Borris?
A. Oh, yeah.
Q. And is NHTSA, are you being compensated for your work by NHTSA?

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A. They have asked us to possibly do some research for them that would be compensated if we decided to take on that testing.
Q. And did you explain to Mr. Borris that you had been engaged as a consultant by people suing Ford and Texas Instruments?
A. Oh, yeah, he was aware of our position and what we do.
Q. By the way, each one of these cases that are identified in here as a tab where we have a named case, would it be fair to say that you were retained on those cases by someone, some attorney?
A. Not all the ones that have tabs I was retained on.
Q. Yes, I know that. But the ones that have names on it, Floyd, Castellani?
A. The majority of them, yes.
Q. And did you have some minimum retainer that you required during this time period?
A. I usually work on a base retainer. It's in my CV, I think.
Q. How much is that?
A. It's $4,000.
Q. So we have 48 tabs but we know they are not all cases. But on the ones that do have names, would it be fair to say that you received at least $4,000, your minimum

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retainer on those?
A. Yes.
Q. And did you disclose that to Mr. Borris?
A. Oh, yes.
Q. Did you have a specific discussion with him about how much money you had earned in this consulting field?
A. I don't know if he asked me how much I earned. That's kind of a personal kind of thing, you know.
Q. Okay. You mentioned that you may be compensated by NHTSA. But at least the work that's depicted in tab 41, is it fair to say that you have not been compensated by NHTSA?
A. It's true to say that I done that on my own, sort of spare time.
Q. Did you ask to be compensated for this and were turned down? Or did you just decide not to ask for it?
A. No, I just made a point of trying to get things together so that we could at least get an outside party looking at it, and then maybe put another PA out or whatever they want to do.
Q. Has Mr. Borris been to your facility other than July 17th, 2002?
A. I don't know. I think he may have been down but I was on the road. I think he popped in to see me when he was in Clark County looking at some other vehicles.

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Q. Do you know when that was?
A. I don't remember.
Q. Do you know if he has met with Charlie Miller?
A. Charlie Miller?
Q. Yes.
A. Yeah, he met Mr. Miller.
Q. At Mr. Miller's facility?
A. No.
Q. At your facility?
A. Yes.
Q. Other than the date you gave me of July 17th?
A. I don't know if he's — I haven't asked Mr. Miller if he has met with him since that day.
Q. All right. Take a look at the negatives 12 and 14 and tell me why you included those in here.
A. They show the internal heating of the base of the switch where the connectors are.
Q. Now is this all the same switch?
A. Yes.
Q. So this is the Capton on the switch, and then as we progress this is a different view of the switch, different parts of the switch?
A. Yeah, we actually disassembled the switch. Mr. Borris photographed it heavily and then we dissected it piece by piece. And I think the later pictures in there

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will show you that there were cracks in the seals.
Q. Okay. Look at negative 2 and just tell me what that is again. Negative 12, I'm sorry.
A. That's the internal view of the base of the switch.
Q. On your schematics show me where that's taken?
A. Well, if you take the top of this off, it's looking up inside the contacts.
Q. So it's looking on the electrical side?
A. Yes, it's looking up into the electrical cavity from the base, from the hexport.
Q. From right there (indicating)?
A. No. It's looking from where the transfer pin touches the moveable contact.
Q. And what about that picture do you find remarkable?
A. It just shows that there has been a heavy electrical activity inside the switch it's outside the recore campaign, it's that green substance in there that we have seen and that's been seen in the other documentation through research from TI and Ford.
Q. What is that green substance?
A. It's a sort of a zinc, mixture of zinc, copper, brake fluid. It's like a green vaseline is what it looks like.

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Q. Okay. This is the switch that Mr. Borris brought, correct?
A. Yes.
Q. Negative 14, what does this depict?
A. It shows a close-up of the moveable -- the portion of the moveable contact and the transfer pin.
Q. Which of the two contacts, moveable or stationary is the one that's energized?
A. The stationary one.
Q. Okay. Negative 19 and 20, what are those?
A. They are just different views of the base of the switch.
Q. Okay. Same thing trying to depict some of the electrical activity?
A. That's correct.
Q. All right. And your negative 24 and 23?
A. They just show the pressure side of the seal, of the first seal closest to the pressure board, and it just shows the three little cracks in it.
Q. Show me where those cracks are?
A. On negative 24 there are three of them. And I think they are the same on negative 23. It's just a closer view of it.
Q. I've heard a reference to a shape like an anchor. Have you ever used that terminology?

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A. No.
Q. Is there some particular pattern that you have seen in the cracking that you described?
A. I guess you could consider it to be an anchor or sort of like a quarter moon or a sawtooth. I've seen the sawtooth around the outside, too.
Q. Why don't you take out the negative 24 and let's mark that as an exhibit, and I'll let you circle the anchor or sawtooth that you are referring to so we have that clear.
A. (Witness complies).
(Exhibit No. 20 was marked for identification.)
Q. Now was this switch, did this switch burn?
A. Yes.
Q. Did it have some type of heating anomaly on it before you dissected it?
A. Yes.
Q. Describe where the heating anomaly was on this switch?
A. I believe it was on the outside, discoloration, and there may have been one or two blow holes to the outside of it.
Q. And is that depicted in the pictures that you brought us in tab 41?
A. I don't think we put those ones in here.

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Q. Why not?
A. I was just really looking at the internal portion of the switch and the seals.
Q. Well, the internal portion of the switch that we have in this case, according to you, has blow holes in it, doesn't it?
A. I believe it does.
Q. But you didn't think it was important to put the blow holes from this one in your binder?
A. It doesn't have anywhere near the damage of what's in this case. And I was using this purely as an indication of our ongoing analysis.
Q. What about these anchors? Did you see the anchor pattern on the Capton in the case, on the switch involved in this case?
A. No, because it was breaking up as we disassembled it.
Q. Do you have pictures with you of the Capton that you saw when you disassembled the switch in the Mejhanian case?
A. Yes.
Q. Why don't you leave that out because that's been marked as an exhibit.
Why don't you take out the photographs that you believe best depict the Capton in the state you found it

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when you disassembled the switch in the [redacted] case and let's mark it.
A. (Witness handing photograph to counsel).
Q. Any others?
A. (Witness handing photograph to counsel).
Q. That's a picture that Mr. Topinka took?
A. Yes.
(Exhibit Nos. 21-23 marked for identification.)
Q. Let's work with your pictures first. On Exhibits 21 and 22, were you able to determine the presence of any type of cracks that you believe existed prior to the event?
A. The cracks that you see, the webbing out from the sides, very similar to the ones that we have seen in other switches that we have disassembled where they have been the source of the fire and they have fallen down and sort of reheated on the floor under the vehicle during the sequence of events.
Q. I'm going to go back to my original question. Is there any evidence in Exhibits 22 and 23 that you believe indicates that the Capton in the [redacted] case was cracked before the fire, or can you simply not tell because it's burned beyond the ability to tell anything?
A. These cracks here would be a good indication, I think (indicating).

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Q. Why don't you circle those?
A. (Witness complies).
Q. And what about those two shapes that you have drawn on each one of these exhibits, what about those indicate to you that the break, tear existed in the Capton seal prior to going through the thermal event?
A. The ones we have reviewed prior to this switch being disassembled, this is a close resemblance to other cracks that we have seen. And this one here is going around in a radius that is consistent to where that teardrop area forms.
Q. Are you saying that you have -- well, obviously in this switch you never saw it before the fire, right?
A. Correct.
Q. So you don't know exactly what state it was in from first-hand knowledge, am I right?
A. What part of the switch?
Q. The Capton seal because nobody opened it up before the fire?
A. Correct.
Q. So, as I understand your testimony, you are saying that the shapes that you see on these two exhibits are similar to shapes you have seen in other switches?
A. Correct.
Q. Okay. In those other switches, switches that also

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went through a fire?
A. Yes.
Q. And did you look at those switches both before and after the fire?
A. We don't get to see them before the fire.
Q. This one you clearly saw before the fire, Exhibit --
A. Well, that's an investigation that's going on with NHTSA. There has been no loss of the vehicle I don't believe. It's just a heating of the switch.
Q. What training have you had in materials that allows you to opine that the shapes you see in this material existed prior to the fire? Have you had any formal education in materials related to Capton, for example?
A. No.
Q. Do you have a chemistry degree?
A. No.
Q. Have you ever been qualified as an expert as a chemist?
A. No.
Q. Have you ever been qualified as an automotive materials expert?
A. I don't think so.
Q. What is it about the shape of this crack that you believe indicates that there was some cracking prior to the

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fire?
A. The vehicles that we have removed switches from have not burned and there has been cracks in there and there has been damage to the switches, are in very similar locations. Apart from this one cracking up as we took it apart, most of that cracking took place when we separated it.
Q. So when you look at a switch that's leaking and you examined it similar to the one we have marked here as Exhibit 20 you've seen cracks that form in an area around the center of the Capton?
A. Yes, around the radius there or some that are spiralling out.
Q. But none of the switches that are depicted, for example, Exhibit 20 have burned completely, right?
A. I don't know how far they have burned. We have got them logged in this book.
Q. Well, the one you looked at with Mr. Harris didn't burn completely. You said there was one blow hole.
A. I believe there was one or two blow holes, yes.
Q. And the Capton looks different than the Capton does in the Mejlumian case?
A. Yes.
Q. And there is also another layer of Capton in these switches, isn't there?

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A. Yes.
Q. When you disassembled this switch you did not look at that layer of Capton, did you?
A. Everybody agreed that they didn't want to disturb it anymore.
Q. You didn't look at it, right?
A. No. Nobody wanted to disturb it any further; that's correct.
Q. So you can't compare that level of Capton with the pictures that we have here in Exhibit 22 and 23 to determine whether the Capton looks the same, can you?
A. Not as I sit here today, no.
Q. Okay. Tell me what this picture is, the one that Mr. Topinka took? Is this a picture of the Capton?
A. It's a picture of the Capton. There's a spiderwebbing again leading out to one of the starbursts.
Q. It looks kind of like shattered glass. Would you say that that's a fair description?
A. In some respects they do, yes.
Q. And would you say that's a fair description for these photographs 22 and 23, it looks like shattered glass?
A. Could be, yes.
Q. And you've made no study to see what effect heat has on Capton, have you?
A. I've burnt some Capton.

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Q. But you haven't done a study to determine the chemical effects on Capton when it's exposed to heat; am I right about that?
A. Not the chemical side.
Q. And you are not qualified to do that, are you, sir?
A. No, sir.
Q. You have a tab in here, Franks, Tab 4. It says [redacted]1, RC 11. Does that mean that was the first case that [redacted] contacted you on?
A. No, that's the 11th case.
Q. Okay. I didn't understand your terminology.
A. It'[redacted]. If we had another [redacted] would be [redacted] 2 in the old system.
Q. So the Franks case was a case where [redacted] who is a plaintiff's counsel in Texas retained you on?
A. Correct.
Q. Tell me a little bit about this vehicle. Why did you include it in here?
A. It's a Town Car that had gone through a thermal incident where we were retained but I don't know how far we got with this case. I don't know whether it settled prior to us tearing the switch down or not. I don't remember.
Q. The reason why I asked you is you have some pictures obviously of the vehicle and the engine

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compartment. But you also have some close-ups, negatives 25 and 14, and I want to get an understanding of what is significant of those pictures why you put them in the book?
A. It's just documentation really when we were looking at the vehicle out there in Texas on 5-16-00.
Q. What is picture, negative 14? What does that show?
A. It shows the speed control deactivation switch screwed into the prop valve.
Q. And what about negative 25?
A. It's a view further away of the same area but just a further distance away.
Q. Did you examine the switch in this incident?
A. I don't remember if we did or not. We had a number of these switches where we were involved in, and we had done the basic analysis of the vehicle and documentation, and then I believe they settled.
Q. You don't know what the Capton looked like in that case, am I right?
A. I don't know if we had torn it down -- tore it down or not unless it's just on our shelf. If it was removed and we haven't torn it down it's just on our shelf as evidence.
Q. I would like to pick another one. How about this one, Tab 10, R 121 [redacted] versus Ford, Cauchin

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(phonetic). Who is [redacted]
A. That's [redacted] of Texas.
Q. And tell me what is it about this vehicle that you wanted to include in this book?
A. This is just another vehicle that we looked at, another Town Car.
Q. Speed control deactivation switch fire?
A. Yes.
Q. Am I right you established with Mr. Feeney everything in this book is a speed control deactivation switch file?
A. Yes, that's correct.
Q. And, again, you had some closeups I wanted to ask you about. Look at negatives 15 and 21 and tell me what those are and why those are significant if they are.
A. They are close-ups. One of them is a bracket that holds the prop valves. And the other one is just a portion of the wiring harness and connectors with some of the insulation wrapped around it.
Q. Your comment about the wiring harness got me focused on something else. I want you to take me through your theory on how the fire in this [redacted] car began and propagated. Okay. So start off, tell me where in the switch do we have a problem, and take me from that point to the complete consumption of the vehicle, everything, the way

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you see it happening.
A. The way I see it happening, you have a seal failure within the switch.
Q. Okay. Skip there. I want you to show me where on this document the seal failure occurred. And I'm talking about Exhibit 13.
A. Right here (indicating).
Q. Why don't you put a big X -- no, no, on the seal where you think it failed.
A. I don't know where it failed inside the seal.
Q. So put an X up here. And just put, you know, seal failed. When do you believe the seal failed?
A. Prior to the fire.
Q. When prior to the fire?
A. I don't know that.
Q. Well, can you give me a -- I mean is it days, weeks, months, hours?
A. From the research that I have seen from the analysis of the vehicles that haven't totally burned and where the owners have actually communicated with me, for instance, you can leave in the morning get back in the afternoon and two hours later the vehicle is on fire. So I mean it could be between ten hours and two hours. It just depends on the fire starting in there and how long the fluid was leaking causing the corrosion of the connectors.

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Q. Let me try and shortcut this. Have you done any scientific study to determine how long corrosion takes in your opinion?
A. Of actual switches?
Q. Yes, sir.
A. We have got some that are on a corrosion test.
Q. Back to my question. Have you done some testing to determine how long corrosion takes?
A. Yes.
Q. You have. Okay. What is your conclusion based on?
A. We haven't finished the test.
Q. How many hours do you have to go on it?
A. 15 to 20.
Q. And that's testing that's being done currently at your facility in Georgia?
A. Yes.
Q. And on whose behalf are you doing the testing?
A. On mine and Mr. Miller's.
Q. We'll get to that in a moment.
Okay. So you believe that the Capton seal failed at some point. You don't know exactly when because you haven't done the testing to determine how long it may take for fluid to corrode, am I correct?
A. Correct.

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Q. All right. Now assume the fluid gets into the electrical side. Tell me what happened next on the McJunkin case in your opinion:
A. Fluid got into the electrical side and started an electrolysis or corrosion in this area where the terminal starts to erode and eventually, whether or not you get that buildup of what I would call that green vaseline, that is conductive onto the positive side where it overheats so you get resistance heating. Eventually that gets so hot in there that the outside, the plastic starts to degrade and discolor. And if it gets to a point where a blow hole appears oxygen gets in.
Q. I heard earlier in the testimony that there was a moving or stationary contact you believe corrodes off; is that right?
A. Yeah.
Q. Circle the one that you think in the [redacted] case corroded?
A. I think it's that one (indicating).
Q. And where did it fall?
A. I don't know exactly on this picture. But it fell down because we haven't disassembled or taken this apart.
Q. In your experience if it would create a fire where would it have fallen?
A. Fallen off the side of the transfer pin and come

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in contact with the base and still made some continuity.
Q. With an arrow tell me where you believe after it corroded it fell.
A. Has to fall on this side (indicating).
Q. You told me it's the moveable contact that falls?
A. Yes.
Q. The moveable contact falls and you believe it falls in the position that you have marked with an arrow there?
A. Right.
Q. And then tell me what happens next?
A. Once this resistance heating starts to build up, if the fuse doesn't pop --
Q. Did you look at the fuse in the [redacted] case to see if it popped?
A. I don't know if we even got the door opened in the [redacted] case.
Q. Do you think that was important to look and see what the fuses did in this case?
A. If they were available. But in 99 percent of them they're not. They melt out and drop on the floor.
Q. Did you look to see what the fuse situation was on this vehicle?
A. No.
Q. Do you know whether the fuse is a 12 or 15 or 20

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amp fuse?
A. I don't know. I didn't see it.
Q. What should it be?
A. 15 amp.
Q. All right. So the moveable contact falls in the area you have indicated there. You said there is some heating. Does the fuse need to blow in order to have a fire the way you saw it in the [redacted] case?
A. I think the fuse needs to have continuity through the ground and shorting with 12 volts to it for it to build up enough heat.
Q. So the answer to the question is the fuse does need to blow?
A. No, it doesn't need to blow.
Q. It does not?
A. No, it does not.
Q. Is there then going to be some arcing event that creates the heat source to burn a hole through that plastic?
A. Yeah.
Q. Okay.
A. In this particular case I saw some arcing on the terminals.
Q. Great. I want you to mark that in yellow. Show me where you saw arcing on the terminals. Use the yellow pen.

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A. It's in about this area up here (indicating).
Q. Now in your experience if the stationary or the moveable contact falls here, isn't it grounded through the hexport?
A. Yes.
Q. And wouldn't you expect to see arcing on the base of the hexport?
A. It depends on how much of that, well, I would say conductive jelly is there on the surface of this.
Q. So is the answer you don't expect to see arcing on the hexport?
A. I have seen arcing on the hexport.
Q. In fact, most of the fires you think were caused by speed control deactivation switches you've seen clear evidence of arcing on the hexport, haven't you, Mr. Clarke?
A. I have seen in some cases arcing, yes.
Q. But in this case, the vehicle in the [redacted] case, there is no arcing on the hexport, is there, sir?
A. I think what happened -- no, you are right, there isn't.
Q. Now you have a different theory but you answered my question there is no arcing on the hexport in this vehicle?
A. Not in this particular one.
Q. And you looked for it, didn't you?

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A. Yes, we did.
Q. Now you drew a highlighted portion up here where the terminals are, and you indicated that you saw some evidence of arcing there, right?
A. Yes.
Q. I want you to look in your book, your OSI's, and I want you to show me of all the vehicles you brought me which ones had arcing in this area that you believe were a speed control deactivation switch fire and no mark on the hexport?
A. I haven't brought any of the x-rays with me.
Q. Can you look at the names of the cases and tell me if any of those cases in your opinion you have only arc evidence up here on the terminals, none on the hexport, and you concluded that it was a speed control deactivation switch?
A. I believe this is one of the first ones that we saw with arcing up here.
Q. Okay.
A. Sometimes we just get two little nubs with the female and male is connected, just the two wires. Sometimes you just get the male portion and the stationary contact with a portion of it melted off.
Q. So truth in fact this is one that's kind of unusual. We have got a steel hood. It's the first time we've ever seen a steel hood; is that right?

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A. That's correct.
Q. We don't have arcing on the hexport, right?
A. It's not evident.
Q. And you looked for it?
A. I don't know how far we did clean it off but we didn't -- I don't know how far we did clean it off.
Q. And this is the first time you have seen arcing up there on the terminals?
A. Yes, it is.
Q. Let me ask you something. You know, I represent Texas Instruments, right?
A. Right.
Q. And you understand Texas Instruments manufactured one component that went in the speed control deactivation switch system?
A. I don't know how much you actually produced or manufactured.
Q. Well, we manufactured the part that's in this schematic here in Exhibit 13, right?
A. Which part?
Q. The speed control deactivation switch.
A. The whole thing?
Q. This switch. We didn't make the connector, you understand?
A. Right.

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Q. It's undisputed in this case that this switch was manufactured I believe sometime in 1992, towards the end of 1992, right?
A. November, I think.
Q. And the fire in this case was when?
A. I've got it here somewhere, 1-20-2001.
Q. So at least nine years from when the switch was manufactured, right?
A. Yes.
Q. And you know that the vehicle has over 280,000 miles on it?
A. Yes.
Q. You are not suggesting to anyone on the jury that the switch is defective, are you?
A. I'm coming in here showing you or telling them that this was the source of the fire.
Q. You believed it was the source of the fire.
Back to my question. This switch that lasted eight, nine plus years and 280,000 miles, you are not suggesting to this jury that there is anything defective about that switch when it left our facility back in 1992, are you, sir?
A. No, sir.
Q. Look at Pugh, Tab 10. You have pictures 26 and 29. Can you tell me what those pictures are?

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A. They are of molten aluminum.
Q. And where is this molten aluminum coming from?
A. It was from the frame rail directly below where the switch is located.
Q. And it melted, right?
A. It was melted, yes.
Q. And what was the temperature you said you believe aluminum melts at?
A. At 1200 degrees.
Q. That's Centigrade or Fahrenheit.
A. Centigrade.
Q. Look at the next pictures. You have a series of artifacts, it looks to me like they had fallen off and someone had lined them up for a photograph. Is that a fair depiction?
A. Yes.
Q. Okay. What about these artifacts did you believe were significant in this [redacted] case?
A. It was documentation of the components and artifacts that we found during our inspection.
Q. Are any of the components here that are depicted in negatives 33 or 34 components that were recovered at the [redacted] fire?
A. At this fire, in this case?
Q. Yes, sir.

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A. No, sir.
Q. Look at negatives 36 and 6, the next two pages.?
A. Right.
Q. What is the item depicted in the top picture?
A. It's another piece of molted alloy. I think it could be a crimp ring.
Q. That would be this portion here (indicating)?
A. That's correct.
Q. And in this case that you believe was a brake pressure switch fire that crimp ring is completely deformed and melted, correct?
A. Correct.
Q. In the [redacted] case that wasn't the fact, was it?
A. It was partially melted, I think.
Q. But it wasn't deformed anywhere near to the degree of that, was it?
A. No.
Q. Turn the page, if you will. Look at negative 10. Is that a picture of the hexport?
A. No.
Q. What is that?
A. It may be one of the valves at the ABS system.
Q. And why did you think that was significant?
A. It was just stuff that was recovered from the

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vehicle.
Q. All right. In the [redacted] case did you recover this component?
A. I don't think it was available. I think it was still intact.
Q. Let's go to this Tab 26 where it says Exemplar Switches, Lincoln Town Car, Ford Fire. Do you see that?
A. What number, sir?
Q. That's Tab 26. I'm going to it because it's one that we don't have a name of a case. Okay. Tell me why you included this tab in your book?
A. This is one of the switches that was removed off one of our prior cases where we didn't disassemble it.
Q. Which case does this relate to?
A. I would have to go back and check the VIN numbers. It's obviously a 1992 vehicle.
Q. By the way, you mentioned that the very first Lincoln Town Car you ever looked at Mr. Dunford retained you on; is that right?
A. Yes.
Q. Is that in this book?
A. No, sir.
Q. Why not?
A. Because it wasn't a speed control deactivation switch fire.

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Q. What kind of fire was it?
A. It was a block heater by a cat that had shorted inside the connector.
Q. What model and year was it?
A. I believe it was a '92. Gentleman had plugged his block heater in and a few minutes later it started on fire in Fargo, I think, North Dakota.
Q. Did you look at the speed control deactivation switch?
A. That wasn't the source. The block heater was wired into around the front of the vehicle.
Q. Have you looked at cars that are Lincoln Town Cars, 1992 to 1993 Lincoln Town Car cars that never burned?
A. Yes.
Q. Have you looked at cars that had over 100,000 miles on them that are still operating properly, Lincoln Town Cars 1992, 1993?
A. I have seen some, yes.
Q. Do you have some view that this vehicle has to last so many miles?
A. Well, I think you asked me earlier do I think the switch is defective when it left your facility. If you have got a switch that you're installing in a vehicle that's part of a safety style switch, you know, you've got to have some perceived values. If it's a safety switch and it's wired up

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to 12 volts, and it's a potential for something to happen to it or it can happen to it, it should be designed or wired in a failsafe scenario where if it does fail like this it doesn't leave it lying and smoldering.
Q. Now that's a different answer than you gave me before.
MR. FEENEY: I think the record should reflect that since the first time he admitted that he wasn't saying the switch was defective he and counsel for the plaintiff have had two whispering conversations in front of all of us and now he has volunteered this. I just want the record to reflect that.
A. I just didn't want to get put into a yes or no answer situation.
Q. Well, back to my question now, and your answer is what it is. It's in the record.
A. Yes.
Q. I'm asking you now this vehicle in the [redacted] case has 280,000 miles on it which you conveniently left off your report?
A. I didn't conveniently leave it off.
Q. Well, do you think the mileage is available to you in your own Exhibit 3?
A. I don't put the mileage from a service record on a report. I only put mileages on there when I document on the

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vehicle.
Q. You would agree with me that the mileage is very important in doing a fire analysis on this vehicle, would you not?
A. Mileage?
Q. Yes, sir, how many miles this car has seen.
A. Well, I mean, I've got vehicles that are two years old and roughly have got 200,000 on them and they are not burning.
Q. Well, you have the mileage right in this document?
A. Right.
Q. Okay. And you don't dispute that it's in excess of 280,000 miles, do you?
A. I don't dispute that. They are designed to be driven, are they not? Is there a mileage limitation?
Q. Yes. That's what I'm asking you. When do you think -- I mean, well, you sold Lotus. What was the warranty on the Lotus? You said you monitored warranty. How many miles do you all warranty on the vehicles?
A. 36,000 miles.
Q. If someone comes in with a problem and they have 280,000 miles on it and the part is worn out is that a defective product?
A. If it's worn out, depends on the failure mode. My area of expertise when I worked for Lotus and General

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Motors, failure analysis was a prime part of that. We used to have to look at that and we interpreted that in all the ways when we looked at a component that has failed. If it was a foreseeable problem that, A, whoever it was that made it, whether it be Delco, the clutch people, or whatever, if that problem is a record that we have seen before, yes, I'd like to get away with not paying for it and stick it with the customer. But, you know, when you are dealing with a small company like that we used to goodwill that stuff.
Q. Did you ever look at a vehicle that had 280,000 miles on it and say that a part that had worn out was a warranty item?
A. Not mileage, mileage wasn't a consideration with Lotus. It's usually time because they don't get driven as much. So you look at a vehicle that's ten years old and only has got 5,000 miles on it and you have a major problem with it, should it have failed at 5,000?
Q. You said one of the things you do is you look at failure mode. Do you remember that?
A. Yes.
Q. In this switch when it wears out, what's the failure mode, Mr. Clarke?
A. The failure mode is the seal has failed.
Q. There is nothing defective about that, is there, sir? They are going to fail?

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A. They could fail.
Q. They are going to fail at end of life, aren't they, sir?
A. I don't know what the end of life is.
Q. Because you've never tested to see?
A. I mean, does the owner know the end of life so he knows when to have it changed?
Q. Have you ever tested the switch to its end of life?
A. No.
Q. You believe that if the switch wears out that one of the failure modes is that the seals would fail, right?
A. Correct.
Q. If that part wears out, you are not here suggesting that it's defective, are you, sir? Because you know all parts will eventually wear out, correct, sir?
A. They are going to wear out eventually. But if they wear out and they are in a safety situation they should have failed safe.
Q. Now Texas Instruments sells the parts, don't they?
A. Yes.
Q. Do you know who they sold it to in this instance?
A. I'm presuming they sold it to Ford Motor Company or a supplier to Ford Motor Company.
Q. Do you know?

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A. No, sir.
Q. Do you know what testing is done on the switch by Texas Instruments prior to its leaving its facility?
A. I've read the documentation that you've done on testing the switch in the early days, the cycle tests.
Q. Do you have any knowledge of what tests were done on production line switches that were released in 1992?
A. I've read all the documentation that's been supplied to us but I don't recollect it.
Q. You don't have any knowledge one way or the other?
A. No, sir.
Q. Do you know what testing was done when the switch went to a tier one supplier after it left Texas Instruments?
A. No, sir.
Q. Do you know what testing was done at Ford on the switch when it received it from the tier one supplier and installed it in the vehicle?
A. I'm presuming they installed it on the vehicle and test to see if it's functioning properly and then it goes on.
Q. But the answer to my question is you don't know, you haven't investigated it, have you, sir?
A. No, sir.
Q. Did you have the mileage on the vehicles that you have examined that are contained in this book?

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A. If the speedos were available we would have had it documented in the file.
Q. Okay. Back to this binder, 26 exemplar switches on Lincoln Town Cars. The first two pictures negative 1 and negative 2, you said you believe they are switches from some other case but you could not recall what other case; is that correct?
A. I don't recollect the case number right now, no.
Q. What is that NX[redacted] What is that?
A. They have the VIN number of that vehicle where it came from. So yes, I can get that number and I can get the information but I don't have it with me today.
Q. And tell me what's depicted in negatives 1 and 2.
A. It's a picture of the prop valves from an ABS vehicle from 1992 showing the portions of the brake pipes where they were cut and the remainder of the base of the switch.
Q. How do you know it's 1992 because the tab only says Lincoln Town Car, Ford Fires?
A. The end of the date is 1992 from the VIN number.
Q. And why did you include these pictures of the ABS system?
A. The ABS system, that's how it was removed from the vehicle.
Q. Did this vehicle th[redacted] vehicle have ABS?

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A. Yes.
Q. Negatives 5 and 6, can you tell me what this is?
A. Same portion of the switch but removed from the prop valve.
Q. And negatives 9 and 10?
A. That's when we took the top of the -- or the base of the switch away from the hexport portion and separated it and got the little beads out.
Q. What are those beads?
A. They are the remains of the removable contacts.
Q. You are not a metallurgist, am I correct?
A. No, sir.
Q. You have had no formal training in the thermodynamics of valves, am I correct?
A. That's correct.
Q. You are not offering any opinions on that, sir?
A. I can identify beading of brass or copper. I'm not offering an opinion as a specialist.
Q. Because you are not qualified to determine the properties of molten metals, are you, sir?
A. That's correct.
Q. Tell me what's depicted in pictures 21 and 30 in this binder.
A. It's the hexport. Once the switch has been disassembled shows the seal is stuck down to the hexport,

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the base of the hexport.
Q. This is a switch that went through a fire?
A. Yes, it did. But it didn't fall out and go on the floor. It stayed connected to the prop valve.
Q. Is it your testimony that the fact that this switch failed and went on the floor is what explains the condition of the Capton in Exhibits 22 and 23?
A. Yes.
Q. 21 and 22. I'm sorry.
A. If it's those pictures that you have got right there, yes.
Q. And had it not fallen on the floor you believe the Capton would look like it looks in Exhibit 30?
A. I think it could have been very similar.
Q. Have you done some testing where you have burned Capton and then dropped it on the floor to see if, in fact, it looks like that?
A. I've done the testing where you burn it and see if it self extinguishes.
Q. Back to my question. Have you burned a switch, dropped it on the floor, and then opened it to see whether, in fact, it looks like shattered glass?
A. Not yet we haven't, no.
Q. So the testimony you are giving me that you think dropping caused that cracking, that's really speculation?

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That's based on your hunch?
A. Dropping caused the cracking?
Q. No. Caused the shattering of the Capton?
A. I don't think the dropping caused the shattering.
Q. What do you think caused it?
A. I think it's the super heating of it laying under the vehicle being consumed in the fire.
Q. I'm sorry. I misunderstood you. I thought you meant when it drops to the floor it shatters the Capton?
A. No.
Q. You are not saying that?
A. No.
Q. You are saying that the heating, when the Capton is exposed to extensive heat shatters the Capton?
A. Yeah. Or we couldn't get into the switch without taking it apart. There were cracks in the Capton when we looked into it. We looked at the other vehicles that we dissected and the switch had cracked, and when we take them apart the seals break up too.
Q. What is it about the cracking that you conclude is the cause and not the effect of the heating? Anything?
A. The cracking, the way -- the cracks that I see in the spidering, this is consistent with -- not the cracking but the split tear around the circumference here is consistent with other switch failures we have seen.

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Q. Well, there is plenty of tear down here (indicating), isn't there?
A. Not that stuff. That's stuff that's fallen down. This line that's around the seal right here (indicating) that's consistent with seal failure in other switches that haven't gone through that sort of a thermal incident.
Q. Is that the only thing that you can point to which you believe distinguishes the cause versus the effect from the heat?
A. I believe that is.
Q. Okay. Nothing else?
A. That's right.
Q. And we have already established you have no experience working with Capton as a chemist or a materials person; am I right?
A. I'm not a material analysis person.
Q. And you are not offering any opinions on that, are you, sir?
A. No, sir.
Q. What is depicted in if you go two pictures down, negative 5 and 9 there?
A. They are the reverse side of the -- that's where the plunger goes through into the base of the switch.
Q. Okay. And what's significant --

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A. That's the spacer. And that's where the other portion of the Capton is usually located (indicating).
Q. This is the other portion of the Capton in the [redacted] case that you did not open up and examine?
A. That's correct.
Q. Now in this picture, Exhibit 9, it looks pretty shattered to me, doesn't it?
A. It does. That's right.
Q. It looks just like this, doesn't it, Exhibit 22 (indicating)?
A. It's very similar.
Q. Is it your testimony there were cracks in that prior to the thermal event?
A. No. I think that that was heated up during the thermal event.
MR. MAYER: Let's go ahead and mark this one separately. Would you take that out and I'll stamp it.
(Exhibit No. 24 was marked for identification.)
Q. What I have marked as Exhibit 24 are two photos from Exhibit 3. And the bottom photo depicts another Capton piece that's contained within the brake pressure switch. Is that a fair statement?
A. That's correct.
Q. And we have just been talking about it?

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MR. DUNFORD: I think you misstated it. It's not from Exhibit 3.

MR. MAYER: I'm sorry. Exhibit 4. Thank you.

Q. And your testimony is that the bottom picture on Exhibit 24 you do not believe was cracked prior to the fire?

A. No, sir.

Q. Okay. Although its appearance, would you agree with me, is shattered and fragmented?

A. I think the shattering and fragment is caused by the disassembly of it. In the early protocols by Ford Motor Company and I guess by you guys you were trying to put them on a lathe. And the ones we tried to dissect that way just spun them around and just twisted them into nothing. So that's when we came up with the protocol to use the dremmel (phonetic).

Q. What is it about Exhibit 24 that tells you you know how you disassembled it?

A. Just by the cutting around the outside here (indicating). That's where we just usually hold the hexport and cut around the circumference in the area of the crimp ring.

Q. And you agree that if you expose Capton to heat it will break and fragment as depicted in Exhibits 21 and 22; there is no question about that?

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A. It can do that.

Q. You have seen that many times?

A. I have seen it in other vehicle fires where the switch is the cause of the fire and the Capton looks very similar to that, yes.

Q. Have you opened up any switches that you knew were not the cause of the fire and looked at the Capton to see what condition it's in after the car experienced a fire?

A. Yes.

Q. And when did you do that?

A. Between sort of 2000 and I don't know exactly what date we looked at them. I believe Mr. Miller has got those if you want.

Q. That's in the book?

A. No.

Q. Why not?

A. Because they weren't a part of a switch fire.

Q. What does the Capton look like in those?

A. It was a dark orange color puriescent.

Q. Have you produced those in this case?

A. No.

Q. I'd make a request that we see the results of the materials that you have just described when you and Mr. Miller burned switches that were burned in a car that you know is not a brake pressure switch and then you

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disassembled it.

A. Okay.

Q. I want to get back to the propagation and how you believe this fire began in this vehicle, the [redacted] case. Where we last left off I think you pointed to where the moveable contact would have fallen and you believe there would have been some electrical incident.

Could you explain to me what exactly has to happen to create enough heat so that you have some type of a fire?

A. You have to have a resistance heating and that means that the current is going through it to ground causing a resistance and building up of temperature inside that cavity.

Q. Now you are not an electrician or electrical engineer, right?

A. That's correct.

Q. Do you know what Oldam's law is?

A. Yes.

Q. Can you tell me what it is?

A. I forget the actual -- let me think.

Q. I'll tell you what, we'll move on. If you think of it you tell me.

Now corrosion, have you taken any formal courses in the chemistry of corrosion?

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A. No.

Q. You do not hold yourself out to be an expert in corrosion?

A. No, I don't.

Q. Nor are you offering any opinions on corrosion, am I correct?

A. Only the corrosion that's on to the vehicle body that shows a pattern.

Q. But you don't know the chemistry of corrosion formation because you have never been trained about that?

A. Correct.

Q. And you are not offering any opinions on that?

A. Correct.

Q. Now you mentioned that there would be some, did you use the term electrolysis for the portion that you circled with the yellow highlighter?

A. I saw some electrical activity or erosion. But during the x-rays you can see one side has withered away, something was eating it.

Q. You think it's electrolysis?

A. I don't know that for sure.

Q. Would it be fair to say that because you are not an electrical engineer this is an area that you are not trained in nor are you offering an opinion on exactly what happened on that part that you have circled in yellow?

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A. I don't know what happened.
Q. Because you don't have the background and training to opine on that, do you, sir?
A. I can tell you it's not standard and it shouldn't happen.
Q. Right. Beyond that you can't really say?
A. Unless you are pulling it apart and can see it a bit more.
Q. If the vehicle was consumed in a fire, if the vehicle was burning from some other source, can you completely rule out the fact some anomaly in the spots that you circled or could it be a result of the fire attacking the car?
A. I don't think it's a result. I think it's a by-product of the failure of the components inside the switch.
Q. What is it that you believe makes it clearly something that is not a result of fire attacking the car?
A. What makes it --
Q. What's your basis for that?
A. Well, in the switches -- and all I can testify to is all the other switches we have ever disassembled and I've seen activity on the edge of this, and this one has some more up here (indicating).
Q. You pointed to a specific area down by the

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bexport?
A. That's correct.
Q. I'm asking you a different question. We have that the electrical anomaly that you have noticed in this case that we are here on today isn't a part that you've never seen it before. We have established that.
And what I'm trying to get at is what is your scientific basis for saying that anomaly in your opinion is as a result of this switch failing and not something happening to the car that's engulfed in a fire?
A. I think you'll find that there is enough material around this to protect it from the outside fire. One explanation is that something flowed down from above, brake fluid or something was in there causing maybe some resistance heating.
Q. What if the battery was consumed in a fire and shorted, could that explain the anomaly that you have circled there?
A. No, I don't think so because they are not connected.
Q. So the scientific basis for your conclusion that the anomaly that you observed had to be something other than fire consuming the car is that there is sheets of protection around this portion that you believe is still intact?
A. Yes, from the x-rays at least.

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Q. Okay. And did you do some -- well, I would be correct, would I not, that you have never taken a vehicle with the switch in it and exposed that vehicle to a fire, and then opened up the brake pressure switch to see what happened to that switch after the vehicle was engulfed in a fire? Am I correct about that? You have never done that test?
A. I haven't personally tested it. But I've disassembled vehicles where they have been in fires, Lincolns, where the switch isn't a cause of it and we have taken the switches apart.
Q. But back to what I was asking before. Have you ever taken a vehicle, subjected it to a fire, then gone and examined the brake pressure switch to see what electrical anomalies may or may not have resulted from that incident?
A. No.
Q. You have never done that?
A. No.
Q. Let's go back. I want to understand. So there is an electrical anomaly on the area in Exhibit 13 that is circled in yellow. Does this anomaly create enough heat in this case under your theory to create a fire?
A. It could do.
Q. Did it in this case?
A. I don't think it did. No, I think the anomaly

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started in here because that's where the blow holes are (indicating).
Q. So the anomalies -- I want you to go ahead and put in blue pen where you believe the electrical anomaly that led to the blow holes -- well, where is the heat source? Point on this switch where the heat source was?
A. The heat source?
Q. Yes.
A. In this area (indicating).
Q. Okay. Can you be any more specific than that?
A. No.
Q. And you believe that the electrical anomaly here that you have circled in yellow caused the heat source in this area that's circled in blue; is that right?
A. Correct.
Q. And what is it that happened up here that caused that heat source?
A. What happened?
Q. Yes. Tell me what happened here that caused that heat source that you believe occurred?
A. I think the heat source here was caused by the seal failure and corrosion taking place within this cavity. Whether or not fluid was pushed up through here, it's quite probable. I've seen that in a number of switches where fluid can get up to this electric point where the connector

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is.
Q. And you believe that heating occurred in the area circled in blue but you have also admitted there is no arc evidence down at the hexport?
A. Not that was visible.
Q. So there is some heating that occurs in this area here (indicating). What happens next? What actually -- where does the flame come out and what does it do?
A. From my testing, you're going to get a blow hole on either side or on one side or the other. And then you get a flame that comes out the side.
Q. Okay. Draw the flame like you've just done.
A. (Witness complies).
Q. So you believe in the [redacted] case that there was some heating incident that occurred here which is a result of some type of corrosion, right?
A. Correct.
Q. But you can't be any more specific than that?
A. That's what I said.
Q. And a blow hole was created on this side and you have drawn that. And a flame exited the switch?
A. Correct.
Q. Okay. Now what is the fuel that is going to supply this flame?
A. There is various wiring harnesses and combustible

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plastics. If it's flaming long enough it can get up to the reservoir for the brake fluid and that can carry on from there.
Q. Now I know you produced some video tapes in this case, right?
A. Yes.
Q. I think Mr. Feeney talked briefly about them. I quickly glanced at them. But they appear to me to be a switch that is outside of a vehicle mounted in some form or fashion. Is that a fair statement?
A. Yes.
Q. Okay. In order for this flame that you have drawn here -- because it burns like a little candle, doesn't it?
A. I think the one in ours came out more like a blow torch actually in the video that we documented.
Q. But there is not a whole lot of fuel in the switch itself to propel this, is there?
A. Well, there is going to be a certain amount of fluid, brake fluid. And I don't know how much residual pressure there is in the system once you got this opening, how much fluid is continually fed up through the port.
Q. Because you have not done the testing with the switch in the vehicle, am I right about that?
A. We tried to do the test similar to the one I believe you guys did in your videos.

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Q. Back to my question. Did you do the testing with a switch in the vehicle to see, for example, whether your theory about brake fluid coming into the switch is, in fact, valid?
A. No.
Q. You have never done that test, am I right about that?
MR. DUNFORD: Asked and answered.
A. I haven't done the test in the vehicle but I know brake fluid can get in there.
Q. We are talking about the flame propagating, right?
A. Yes.
Q. And you mentioned that you thought a possible source was brake fluid coming through, right?
A. It can add fuel to it, yes.
Q. There are other sources you mentioned. You said that there is some wiring in the vicinity?
A. There is wiring. There is plastics.
Q. In this fire, in this case, based on what you have seen, I want you to take me from that flame exiting the blow hole to the next step where it propagates. Tell me what happens.
A. It's going to contact some combustible material in the engine compartment, and that's going to propagate to the rest of the engine compartment and spread.

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Q. In the book that you have brought us, do you have a picture of a 1992 engine compartment as an exemplar that you can show me, for example, where the switch is, how it's oriented, what you think the sources of flame were and fire in this case we are on here today?
A. I don't have an exemplary picture, no, I don't.
Q. Okay. So in the [redacted] case there is a flame that's exiting this blow hole. What next catches on fire?
A. Some combustibles in the engine compartment in close proximity to the switch.
Q. Would it be some combustibles that are above the flame as you have depicted since we know fire burns up?
A. It's possibly going to be above the flame. It could be a wiring harness. There is a harness from the brake level device, in the reservoir -- there is a number of combustibles in the area.
Q. Would it be correct to say that you have not done any actual testing of a Lincoln to see what combustibles will catch fire and how long they will burn?
A. That's true, we have not.
Q. Okay.
A. As I sit here today one hasn't been done.
Q. So you don't know exactly what combustible will burn next and how long that combustible will burn. Is that a fair statement?

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A. That's a fair statement.
Q. Okay. And obviously in the [redacted] case that we are here on today, we know what the vehicle looked like from the pictures that you brought in here, and there is fire damage to the vehicle, right?
A. Right.
Q. Would it be fair to say that you cannot take me beyond that flame coming out of the blow hole to how the rest of that vehicle became engaged in that fire?
A. I can't tell you definitively how it happened.
Q. Do you have a theory on how it happened, Mr. Clarke?
A. Yes.
Q. Okay. Take me through the next step. The blow hole flame ignites. What burns next?
MR. DUNFORD: Asked and answered.
A. Combustibles in close proximity, the wiring harness that comes out of the top depending on which it's looped over. Then there is the main harness that that goes into it, that's directly above it.
Q. And what are those made out of?
A. Plastics, they do burn.
Q. Easily.
A. And then it can get to the reservoir where there is six or eight ounces of brake fluid in there and it's

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going to go up, too.
Q. And so you believe in the [redacted] case those are the things that happened next after the blow hole flame exited that blow hole?
A. Right.
Q. We have wiring harness, main harness and we have the brake fluid reservoir?
A. Correct.
Q. Anything else?
A. If there is any soundproofing under the engine compartment, hood compartment there, that's going to start to heat up and smolder.
Q. Well, is it standard on a steel hood?
A. A steel hood isn't standard.
Q. Is the sound deafening material standard on a steel hood or you do not know?
A. I don't know what was on it from a standard.
Q. Okay. In the [redacted] case then we have those harnesses catching fire. You say they are made of plastics, correct?
A. The outside covering, the sheaths are made of plastic, like the corrugated.
Q. Step back. You are not an expert in plastics nor have you had any studies in the chemical makeup and the flammability of plastics. Am I correct on that?

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A. Correct.
Q. And the fact that you see a plastic that has been burned or melted to you, you don't have the expertise to tell me what temperature that plastic melted at; is that correct?
A. Not without testing it, no.
Q. And you haven't done that testing?
A. No, we haven't.
Q. So if we see melted plastic we don't know what temperature that plastic melted at. Fair enough?
A. I would say it would depend on the makeup of the plastic. I'm sure they have all different ranges.
Q. Did you do any analysis of what the makeup of the plastics were that you believe were consumed in the next step in this fire propagation that you believe happened in the [redacted] case?
A. No.
Q. And would it also be fair to say that you are not here offering opinions on the fire properties of plastics?
A. That's correct.
Q. You don't have that training nor are you capable of opining on plastic thermal properties. Am I right on that?
A. That's correct.
Q. And the fact that you see plastics that has been

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burned or melted, you don't have the ability to tell me what part of that plastic was hotter and what part of that plastic was cooler, do you?
A. It depends on how black it is. I mean you can tell from the finishing. I can't say how long or what temperature but you can visually observe melted plastic.
Q. I can visually observe melted plastic, too. I'm asking you a different question. You are not here as an expert in the thermal dynamics of plastics to look at melted plastic and say to the jury, ladies and gentlemen of the jury, I have the experience and training in plastics, I can tell you that the right corner of this portion melted at 1650, the left 1250, therefore, it's cooler on the left-hand side. That's not your specialty and you are not offering opinions on that, are you?
A. That's right.
Q. So these portions of the harnesses then ignite at some temperature and they begin to burn. And you think that the brake pressure reservoir is affected and it begins to burn as well?
A. Correct.
Q. Then where does the flame go? We have got a steel hood on top of it, right?
A. Right.
Q. And I assume that those combustibles would burn

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for some amount of time, but you don't know how much?
A. No.
Q. What happens next?
A. The plastic wheel arch line area, that can be consumed and once that gets going.
Q. How does the flame get down to that plastic wheel arch; do you know?
A. I don't know how it got to that part of the vehicle but it obviously got there.
Q. It got there because you've seen evidence there of burning on it, right?
A. Of the switch?
Q. Yes. And you have seen evidence of burning on the wheel well?
A. Well, there is evidence of burning to the rim. The wheel well, the plastic liner is gone.
Q. How does the flame get from engaged in the wiring harness and the brake reservoir, how does it get beyond that? Is there some other fuel that permits it to expand so it would engulf an entire vehicle, house and garage?
A. There is a lot of combustibles in the engine compartment that can be taken into consideration.
Q. In this case I want you to tell me what you think burned next and give me the sequence of the fuels that then fed this fire to make the damage that you see?

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A. Well, you've got power steering lines, oil cooler lines, other electrical connectors on the side of the engine.
Q. On the side where the brake pressure switch is?
A. Yes.
Q. Are they below or above it?
A. I think they're below and above. There is a number of connectors in there and a number of harnesses running down the side.
Q. Which ones do you think burned after the wiring harnesses and the brake pressure reservoir? What is the next thing you think burned?
A. I'm just -- all I can say is they consumed various combustibles in the area and it propagates through the engine bay.
Q. I'm not trying to hound you. What I'm trying to establish is you're really guessing these things burned next because you have not done the testing to actually film and watch the way a flame propagates. Is that a fair statement?
A. That's correct.
Q. So it's clear, these are things you think are going to happen next but you don't have any scientific basis for that because you've not done the testing?
A. That's correct.
Q. Okay. So there is some fuel lines in the

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vicinity?
A. Yes.
Q. And you said there is a power steering line. Where is that in relation to the brake pressure switch?
A. There is a reservoir in there, it's forward of the brake pressure switch.
Q. Is brake fluid flammable?
A. It is at the right temperature.
Q. What temperature does it need to ignite, Mr. Clarke?
A. I would say about 650 maybe degrees.
Q. Centigrade, Fahrenheit?
A. Centigrade.
Q. And what is the basis of that? What testing have you done to determine that?
A. We have done a number of fluid tests in our facility where we have done hot surfaces and tried to ignite fluids and sprayed them on hot surfaces, too.
Q. Power steering fluid, what temperature will that ignite at?
A. It's going to be about the same depending on its age and what properties it has in it. Some of the fluids are older, newer seem to change a bit, so they may smoke longer before they will ignite. It just depends.
Q. Do you have any explanation for the next step or

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stage in the fire that you are guessing propagated from the switch to engage the entire vehicle?
MR. DUNFORD: Object to the form.
A. I mean the guess is, the assumption is once it starts to get into that main harness that has 12 volts to it and there is also a power distribution block on that side that's live with relays in it, can also start to get heat into them and start to short.
Q. Stop there. Explain to me what you mean. The main harness you say has 12 volts in it running from where to where?
A. The main harness is going to have 12 volts supplied directly from the battery to the power distribution block.
Q. Which is where on this vehicle?
A. It's on the left side fender wheel.
Q. Left meaning driver's side?
A. Driver's side, yes.
Q. Is it in front of the speed control deactivation switch, behind it, above it or below it?
A. It's in front of it.
Q. How far in front of it?
A. I haven't measured it. But I would say approximately 10 inches maybe. It's just above the wheel well or the wheel arch.

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Q. So it's 10 inches in front but is it above or –
A. Right.
Q. Is it above the speed control deactivation switch or below it?
A. It's above it and in front of it.
Q. How much above it is it?
A. I don't know. I haven't measured it. I'd estimate two to three inches high.
Q. Is the entire harness, is that made of a combustible material?
A. It will burn, yes.
Q. At what temperature?
A. I haven't researched that.
Q. It's plastic?
A. Yes.
Q. And we talked about your qualifications on plastic?
A. Right.
Q. You mentioned that there would be some shorting when the fire, you believe when the fire got into the harness. Explain to me how that would happen.
A. Well, you've got various wires in that harness. Some are live. Some are not. There is grounding wires in there. And once those wires start to touch together they are going to start to short and therefore heat, more

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resistance heat.
Q. When you examined the vehicle did you find those wires in different parts of the vehicle that had shorted?
A. They don't normally survive when you have a major fire like this. They are very brittle and they fall off especially if somebody hits it with a water cannon like was done in this case.
Q. So the answer to my question is you did not find that evidence?
A. The evidence was not there.
Q. And you believe it's because those wires burned off?
A. They're very brittle, yes.
Q. At what temperature does the wires ignite and burn?
A. I'm not sure of the temperature.
Q. And you have done no testing to determine at what temperature they vaporize or disappear, am I right?
A. No, I haven't.
Q. All right. But we know one thing. We know when you went into the car and looked at it months after the fire, you were not able to find evidence of these shorts in different parts of the vehicles that were caused by fire getting into the wiring harness. Am I right on that?
A. I didn't see evidence on that.

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Q. Do you know if Mr. Topinka did?
A. I believe the harnesses are gone. They have been destroyed or fallen off.
Q. You did not see any. What about that, over on the battery? There was some additional wiring in the battery area. Did you notice that?
A. Yes.
Q. Did that have evidence of shorting?
A. I didn't see any evidence on it. It was at the very end of our inspection. I spoke to Alan about it and he said what we are going to do is we'll get it pulled out and we'll have another inspection done on it. So I left that to him.
Q. Why wouldn't that have shorted when this fire got into the wiring harness like other relays?
A. It may have done it if the battery was still energized. But we don't know what time the battery was de-energized due to the fire. Once it loses its energy the 12 volts are no longer –
Q. How do we know the battery was de-energized at some point?
A. It had to have been de-energized at some point. I mean, I have found vehicles that have gone through fires that weren't as severe as this one and there is still some residual voltage in the battery and the tops have burned

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off.
Q. Was there any testing done here to determine when the battery became de-energized, to your knowledge?
A. Not to my knowledge.
Q. So anything you say on that would be speculation?
A. Correct.
Q. So the fire gets into this wiring harness. You believe that that would create some electrical shorting in other parts of the vehicle evidence of which we do not have. Then what happens next so that the fire consumes the vehicle, the house and the garage?
A. Once it's gone into the wheel arches, the back of the headlights and the flammable materials that are around there, and then you've got the radiator shroud that's plastic, gets on the front of the engine, the tires are there. And once the tires start to go there is a tremendous amount of heat it's going to get out.
Q. It's going to get out into the garage?
A. Yes.
Q. And do you believe at that point there is enough fuel source for this flame, for this heat to ignite more than just the vehicle?
A. Yes.
Q. And am I correct that you have not done any testing of a vehicle inside a garage to determine at what

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point the heat needs to be in order to ignite the surroundings?
A. Correct.
Q. Is there anything else that you want to add that relates to how you believe the fire began in the [redacted] vehicle that you have not already put on the record for us?
A. I brought some exemplary switches from later products, one of them started to have a thermal incident, I was just going to bring to show, and its x-ray does shows the corrosion inside.
Q. Let's take them out.
A. (Witness complies).
(Exhibit No. 25 was marked for identification.)
Q. You brought 25, and there are really two parts to 25; am I right?
A. Correct.
Q. There is 25 which is a sheet of paper and then there is 25 which is a switch and we need to mark both of them. Do you have some kind of label that we can stick on here?
A. It's got a serial number on the side of it.
Q. Okay. Tell me what it is about Exhibit 25 that you believe relates to the [redacted] fire that we are here on today?

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A. Oh, you can see on the side of this one where the short obviously has taken place inside, and the terminal is missing, and you've got a hollow piece sticking out the side where it started to heat up (indicating).
Q. What vehicle did this switch you brought me come off it?
A. It came off of a 1995 F-150 pickup truck.
Q. Okay. Do you mind if I write that on here? 1995 F-150 pickup truck.
And do you have the part number for the part that's involved in this vehicle?
A. The part number on this?
Q. On the [redacted]use.
A. It's in my notes somewhere. Well, I don't know the actual part number from the crimp ring but I've got the year and the date.
Q. Do you know that this is a different switch?
A. Yes. It's got a different prefix at the beginning. It's for an F-series truck.
Q. It's a truck switch as opposed to a car switch?
A. That's correct.
Q. And you are aware that there are differences in the two switches, aren't there?
A. Yes, there are some differences.
Q. Have you done any analysis to see what the

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differences are in the two switches?
A. We have just started getting exemplary switches that are like this to carry out with our analysis.
Q. So the answer is to date you have not?
A. Not to date, no.
Q. How many miles did this F-150 truck have on it?
A. I didn't bring all of that, the VIN number. I just brought it to show you of our continuing analysis on the switch.
Q. Do you have that information?
A. I believe we can get it. I'm not sure if I have it in the office or it's in Mississippi.
Q. Is this a switch that you got or is this from Mr. Miller?
A. It came from Mr. Miller that we are going to use for testing.
Q. So you don't know the pedigree of this switch because really Mr. Miller is the one that knows that?
A. It came out of the Ford dealership, fluid leak and I believe the fuse is blown.
Q. Okay. Now in this case we have a switch that you say has a fluid in it, and you say had some thermal event, right?
A. Correct.
Q. But the vehicle didn't burn, did it?

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A. They don't all burn.
Q. Well, there was a fire out of this blow hole but the vehicle didn't burn, did it, Mr. Clarke?
A. I don't think that's an actual fire more than maybe the heat of the elements has pushed through the plastic.
Q. The vehicle didn't burn in this case, did it, Mr. Clarke?
A. No.
Q. Whatever flame occurred from this part didn't propagate and burn this vehicle?
A. I don't believe the flame come out of it, sir.
Q. But you don't know?
A. We haven't fully documented it yet. That's one of the ones that NHTSA is going to be looking at.
Q. But you don't know whether there was flame from this part because you weren't present. Am I right about that?
A. I was not present, no, sir.
Q. Okay. And we know this vehicle that was brought in and the switch was removed didn't go through a fire?
A. No, sir, it didn't.
Q. All right. And you believe this relates to the Mejlumian switch why?
A. Well, it just shows the failure mode within this

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switch. And I believe this is the sequence of events of what took place within the [redacted] switch but unfortunately to that degree it got out and carried on burning. Some of them, you know, are less -- there is less damage to some of the vehicles and there is more damage.

Q. What got out and carried on burning?

A. Once the oxygen is admitted into the cavity then it increases.

Q. And what does the x-ray depict in your view?

A. It shows the stationary contact and a portion of the moveable contact melted and beaded up inside there.

Q. Do you know if the contacts are the same in the truck part as they are in the Lincoln?

A. I believe they are the same contacts. But I don't know that from that particular one you have in your hand.

Q. Do you believe they are the same shape?

A. They are very similar in shape, yes.

Q. But you don't know exactly if they are the same?

A. They resemble each other.

Q. And what is it in this x-ray that you believe indicates that the failure mode was similar to what you think happened in the [redacted] case? Just that there is some corrosion?

A. Obviously this fluid has got in here and started up a corrosion and a short in there and the high resistance

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heating, and that is the sequence of events that happened in the Mejlumian case due to a failed switch.

Q. And you diagrammed it for me?

A. Correct.

Q. You are not trying to back away from that are you?

A. Right.

Q. And you have brought another one.

A. Yes. It's just an exemplar.

Q. We are going to have to mark this as an exhibit.

A. You can mark the box.

Q. We need to mark the switch.

A. You can if you want.

Q. Now you brought another one do you have also another x-ray?

A. Yes.

Q. Okay. Let's take that and mark it.

(Exhibit No. 26 was marked for identification.)

Q. And then we have a part that corresponds with Exhibit 26?

A. It's in the box.

Q. And what kind of vehicle did this come off?

A. It came off a 2001 F-series truck.

Q. Do you know what series?

A. No, I don't know.

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Q. F-series truck?

A. Okay.

Q. And do you know the model?

A. I offhand don't know.

Q. Again, is this a switch that came from Mr. Miller?

A. It came from the Ford dealership in Mississippi.

Q. You obtained it through Mr. Miller?

A. Yes.

Q. The pedigree Mr. Miller knows that?

A. It will be documented.

Q. In your files?

A. Yes, it will be eventually.

Q. So we would request the documentation of both of these parts that are contained in your file.

What is it about this switch that you believe is similar? Why did you bring it?

A. I just x-rayed a known good switch to compare them to the style of this one. And it shows that kind of substance on the metal portion of the switch that I feel could be that green sort of jelly stuff that's in there.

Q. So is Exhibit 26 is this a switch that you believe has already undergone some type of corrosion?

A. No, it's not gone through any corrosion.

Q. You believe it's a switch that is working properly and there is no fluid?

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A. It was a functioning switch that was removed from my understanding.

Q. By the way, have you ever heard of fluid entering the switch cavity through this end?

A. I've read about it from testing from the environmental seal failing.

Q. Based on your work at Lotus do you that it's possible?

A. If the brake fluid is allowed, fluid can get down the wires.

Q. And it's fluid that drives the corrosion inside that electrical switch, right?

A. Yes, it is.

Q. What testing did you do to determine that the fluid you believe existed in the [redacted] switch was in fact brake fluid?

A. I don't think we have done a chemical analysis.

Q. So you don't know whether it was water in that switch or brake fluid if in fact fluid was in it, am I correct?

A. The white crystally stuff I have seen in other switches that we have disassembled that caused the fires.

Q. Back to my question. You have done no testing on the [redacted] switch to determine whether whatever fluid is in that electric cavity was in fact brake fluid, am I

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correct, sir?
A. I don't think you can do that test.
Q. You haven't done that?
A. No.
Q. You don't know how to do it?
A. I would send it to a lab.
Q. And is there some reason why you haven't done it?
A. It's not really in my control. It's in Alan's control if he chooses to do it.
Q. You are not offering any opinions that what was in fact in the electrical side of the [redacted] switch was brake fluid because you don't know; am I correct?
A. The seal failed.
Q. You have done no testing as to what fluid was in that electric side, correct, sir?
MR. DUNFORD: Asked and answered.
A. I haven't done any testing, no.
Q. Anything else about Exhibit 26 other than what you have told me which is that it is a switch that appears to be in good working order?
A. That's it.
Q. For comparison purposes, fair enough?
A. Fair enough.
Q. Again, it's a truck part?
A. Yes.

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Q. If you look at Tab 48 in your binder, it has no title page on 48 but I'm looking at the index and it says Protocol SCDS?
A. Yes.
Q. What is that?
A. It was going to be the Ford protocol and my protocol that we used when we did the disassembly of these switches.
Q. Is this something that you prepared at Clarke Automotive?
A. Yes.
Q. And at the top of this it says, fire loss protocol and then blank versus Ford Motor Company. Did I read that right?
A. Yes.
Q. Okay. And is this a document that you drafted, you or somebody in your office?
A. I did.
Q. You did, okay. And what was the purpose of this protocol?
A. It's a disassembly protocol of the cruise control deactivation switch.
Q. Okay. And was this in fact a protocol that you used?
A. I've used it a number of times, yes.

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Q. Have you used it on any of the files that you brought us here in the book?
A. Yes.
Q. Can you identify which ones?
A. Any switch that we have torn down with Ford counsel and your counsel present or experts that protocol was used.
Q. You're positive about that?
A. If I have done the tear down. Except for the Campbell case I believe that Charlie Miller done his own protocol.
Q. Where is the suspension leveling pump? Where is that?
A. On?
Q. On a 1992 Lincoln Town Car.
A. It's in the front left area, in the wheel arch area.
Q. How far is it from the speed control deactivation switch?
A. It's mostly about I would think 20, 24 inches away.
Q. Do you also have a protocol for that?
A. For a suspension leveling pump?
Q. Yes.
A. In the [redacted] vehicle, no.

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Q. Do you have it for any vehicle?
A. I have, yes.
Q. Take a look at what you have marked as Tab 48 and let's go through it.
A. I don't have a copy in my book. It was taken out.
Q. It was taken out?
A. Yeah, because I was going to put the Ford one in there and I forgot to do it.
Q. We'll take mine out. What's the one we have marked? Have we marked that as an exhibit?
A. This is Exhibit 4.
Q. And turn to Tab 48.
A. I have a Tab 48, but like I said earlier I took it out.
Q. Why did you take it out for some reason?
A. The girls were copying it in the office and they asked me to get them a copy of my Hoffman's protocol and I didn't have time to do that.
(Exhibit No. 27 was marked for identification.)
Q. I think this is Exhibit 27. That was what was in my book under Tab 48?
A. Right.
Q. Okay. It appears to me to be talking about a suspension leveling pump.

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A. Somebody has put the wrong protocol in there.
Q. So this is not the speed control deactivation switch protocol but it is another protocol that you and your company use?
A. It should have been the speed control deactivation switch protocol that was sent to you.
Q. This is a protocol you use?
A. It's another protocol, yes.
Q. And you use it for vehicle fires?
A. Yes.
Q. What is the very first thing you say should be done, Item A?
A. This one was written for a vehicle that's in our facility that we have transported and it says place the subject vehicle on vehicle hoist in our inspection bay.
Q. So the very first thing in your protocol says put it up on a hoist so you can look at the bottom of it; is that right?
A. Of that particular vehicle that was made for because it's in our custody.
Q. But the very first thing in your protocol says to put it up on a hoist so that you can look at the bottom of it, am I right?
A. That's to give defendant's experts a chance to document the as-is condition as well.

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Q. You also have in here the name of the person who is suing Ford Motor Company and then fire loss protocol, then blank Lincoln Town Car. So I take it you just plug in the year that the Lincoln Town Car is, right?
A. Right.
Q. You have a spot for a VIN number. And this one you have says manufactured 1993 which happens to be the same as th[redacted] vehicle?
A. That's true.
Q. And you have odometer, N/A miles, and you have trip N/A miles?
A. Yeah. Usually it's N/A. I can supply you with a number of protocols where the vehicles have burned out you have to put non-applicable because you can't read it out.
Q. It says, "A. Place the subject vehicle on a vehicle hoist in the inspection bay; B. Photodocument the subject vehicle from top and underside of subject vehicle; C. Photodocument suspension leveling pump and document by videography." What does that mean?
A. We usually videotape our inspection.
Q. "D. Perform x-ray of suspension leveling pump; E. Disassemble suspension leveling pump to reveal internal components and photodocument."
Did you inspect the suspension leveling pump in the [redacted] vehicle?

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A. It wasn't there. Once that wheel arch melts that whole system drops down.
Q. When you saw the vehicle was a suspension leveling pump present?
MR. DUNFORD: Asked and answered.
A. I didn't notice it.
Q. Do you think it burned out of the vehicle?
A. It most probably was dragged out or ripped out during removal.
Q. And I don't want to get into what you were doing with Mr. Feeney, but that air suspension leveling pump is in the front of the engine compartment on the driver's side, isn't it?
A. Oh, yeah.
Q. And in an area where there was a lot of heat on this vehicle, right?
A. It's a form -- It's one of the forms that could be an ignition form, yes.
Q. And we know at least from what you say when you got to the vehicle it had burned away, right?
A. Well, the pump wasn't there. I don't know whether it burned away. I didn't detect that the pump was there.
Q. When you say it wasn't there, you don't know whether it burned away because you weren't present at the fire scene?

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A. That's correct.
Q. And that would be true about every statement that you've given in this deposition when you say you think something happened you can only speak as to what you saw when you got there?
A. When I inspected the vehicle?
Q. Correct, sir.
A. Correct.
Q. So we have established that there is a mistake, Exhibit 27 really should be your protocol for the speed control deactivation switch not the air suspension leveling pump, right?
A. Right.
Q. Okay. So can we get a copy of the correct one?
A. Yes.
Q. Did you rule out the air suspension leveling pump as a source of this fire?
A. I couldn't rule it out because I couldn't find it.
Q. Undetermined, right?
A. Undetermined, yes.
Q. Okay. Now, Mr. Clarke, you have also seen cases, have you not, where you believe the fire may have occurred in the speed control deactivation switch where there is no vehicle left, correct?
A. I don't know. Offhand I don't remember.

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Q. Well, have you ever taken the position that you can determine where that fire originated simply by reading the records, the service records of a car?
A. I may have reviewed the vehicle service records where there had been statements of fuses blowing and difficulties getting the vehicle out of park, this kind of stuff, that would lead us to believe that there is an area of concern with that particular component, yes.
Q. Let's make sure we are clear. When the car is not available and the switch is not available for your inspection, for whatever reason, it's impossible to determine whether or not that fire originated in the speed control deactivation switch, isn't it, sir?
A. I would think it would be highly unlikely to be able to identify that.
Q. Now let's talk about those symptoms because you said, you know, fuses blown, you can't get the car out of park. Sometimes there are some symptoms that have been associated with failed brake activation switches, right?
A. In some cases, yes.
Q. Okay. And those are, one of them is you have trouble with the car getting it out of park?
A. Correct.
Q. What is that caused by?
A. The fuse for the brake system, the park lock fuse

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feed is de-energized and you can't get it out.
Q. Why does the fuse de-energize?
A. Because there is a resistance short in that switch and it's enough to pop the fuse.
Q. And that resistance short would be what you described to me in this diagram Exhibit 13 where the moveable contact falls off and corrosion begins?
A. Yes.
Q. Okay. Now in th[redacted] case you are aware, are you not, there are no reported brake pressure symptoms?
A. I didn't read anything about them having any difficulty.
Q. You are not aware of any?
A. That's correct.
Q. Mr. Clarke, I want to spend the last few minutes talking about these tapes that you brought that you have delivered to us. First of all, there are two tapes and they say on them, they are Exhibit 1 and 2. If you open it up it says Clarke Automotive Consultants, the date is January 12th, the year 2000, Ford Test 1. And then there is another one that says the same thing, same date and it says Ford Test 2.
A. Right.
Q. First question, are test one and two the same test?

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A. Yes.
Q. Okay. What was the power supply that you used in this test?
A. A 12-volt Motorcraft battery.
Q. Did you have a fuse in place?
A. Yes.
Q. All right. What was the fuse circuitry that you set up?
A. It was a 15 amp fuse from a Lincoln Town Car.
Q. So you had a 12 volt battery, right?
A. Yes.
Q. And take me from the 12 volt battery to the switch?
A. We had a 12 volt battery, and we had a power supply leading from the positive side of the battery going to the positive portion of the switch with a 15 amp fuse in it. And then the other side, the negative side of the battery was grounded to the test apparatus.
Q. Okay. Did the 15 amp fuse blow?
A. I believe it blew in the first test, yes. And the wire came loose, if I remember correctly. It got overheated. We used crocodile clips that were like a Radio Shack deal and they were a lot thinner gauge wire so on the other side that insulation started to heat.
Q. How much current flowed?

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A. Well, it had to have 15 amps.
Q. How about when the fuse blew?
A. Well, then it went up over 15 amps because it popped the fuse.
Q. What was the voltage?
A. It was 12 point something, 12.1 volts maybe 12.2.
Q. I haven't watched these tapes in a while. My recollection is there is no measuring device to determine the current or the voltage, am I right?
A. We had a volt meter on it.
Q. You did?
A. Yeah.
Q. Was it on continuously?
A. It was on the battery on the floor next to the test.
Q. Why do you have two tapes that shows the same test?
A. It shows two different views from one side to the other.
Q. In other words, you had two cameras set up?
A. Yeah. We didn't know what was going to happen with the volts coming out. We presumed from our observations of Ford's testing and your testing of the switch and the way you guys set it up, you know, when you were injecting that stuff down there in the cavity, that it

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quite possibly could combust. So we had two regular video cameras located either side of the switch. And then the switch was mounted to a prop valve as it was installed in the vehicle.
Q. How long was the test running before the camera was turned on?
A. Well, the test wasn't run until the camera was switched on.
Q. Are there any gaps in the tape where you shut the camera off?
A. I think we switched the camera off while we remade the wire connection.
Q. Why did you need to remake the wire connection?
A. As I said earlier it was a cheap, you know, like Radio Shack wire with the crocodile clips on it, and the heating in the wire got to a point where it drooped and came off.
Q. It was different wiring than would be in the Lincoln Town Car?
A. We used about four or five inches of connector wire and the plug that's factory on the switch and then we connected our wires from it. In hindsight we should have just used factory wire. But we didn't know what was going to happen with the switch.
Q. So one thing we know about the testing is that the

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wiring is different then you would find in a natural Lincoln?
A. It's smaller, yes.
Q. Tell me the pedigree of the switch.
A. The pedigree of the switch came from a dealership in Mississippi and it came from a recalled vehicle.
Q. What's the name of that dealership?
A. I don't know.
Q. What city is it in?
A. I would say it may be in Cleveland maybe but I'm not sure.
Q. Do you know how many miles the switch had on it?
A. I don't remember.
Q. What, if anything, did you do to prep the switch?
A. We didn't do any manipulation with the switch as in the test that you guys did with the syringe like or stuff. We just put a connector on it, 12 volts to it and let it go.
Q. What about brake fluid, did you pressurize it?
A. No, no. We thought about that afterwards that may have assisted in burning but.
Q. So it was dry, if you will? There was no active source of brake fluid?
A. The switch had been removed and we put a bore scope down there I think to check inside it.

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Q. So you did some preparation?
A. We looked down inside just to check to see what was in it.
Q. Had the switch already had some fluid in the cavity?
A. Yes.
Q. Okay. Did you do some type of chemical analysis to determine what it was?
A. Yeah. I believe we took some of the fluid out. We sent that to the lab in Norcross that done the chemical analysis. And then after the test we disassembled the switch and gave it to him in pieces in the box with that green jelly.
Q. Is that testing result in the binder that you brought?
A. Yeah, there is an analysis sheet in there from those guys.
Q. Tell me which one it is, which tab that is?
A. It's Tab 47.
Q. 47 Chemical Analysis Report. This is the analysis of the materials that were tested in the videotape?
A. Yes.
Q. And had the switch, had there been a thermal event on that switch before you tested it?
A. The outside of the switch had slight discoloration

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in one area but that's all there was.
Q. Similar to one of the ones we saw?
A. No. If it was just light brown, it was a darker shade like a dark brown right in one area like you could anticipate that there was some heating from the inside.
Q. That would have come, that testing would have come from a 1992 or '93 Lincoln, which one?
A. 1992.
Q. So when you tested it, you tested it in the year 2000 the switch you were testing was at least eight years old, correct?
A. Correct.
Q. And in fact did you get a Julian date off that switch to tell when it was in fact manufactured by TI?
A. Yeah, it was manufactured in late '91.
Q. So it was at least nine years, almost ten years from date of manufacture?
A. I believe so.
Q. And you hooked it up to this power source. And in one of the -- I remember seeing that the wires had to be jiggled or shaken. Why did you all do that?
A. That is where we were either -- we were either taking the connectors off to remake the connector and that's when the video is on and you are reconnecting the battery. That's what you are seeing.

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Q. And that was because you didn't use the --
A. We used too thin gauge of wire.
Q. Okay. All right. And did you have to do any type of manipulation other than rewire the stuff before you completed your test?
A. I think what we ended up doing was putting in a 15 amp thermal circuit breaker in there that will reset after a certain amount of time.
Q. Say that again. What did you put back in there?
A. One of those little Ford, I think it's a fuel pump relay maybe, it's a little 15 amp relay.
Q. And it resets?
A. It resets itself.
Q. Why did you use that?
A. We didn't have another 15 amp fuse like the one we were using and I had that one laying there.
Q. Does the 15 amp fuse in a Lincoln Town Car reset?
A. No.
Q. You are not suggesting to us that the testing you did in those tapes is related to what happened in the Mejlumian car, are you?
A. I think the video as you see heating it up and the flame coming out is exactly what happened in th[redacted] vehicle.
Q. Okay. But the mechanisms to get the switch in the

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place it was, obviously you are not suggesting it's similar to th[redacted] switch because you don't know?
A. I don't know what the switch looked like prior to the fire.
Q. You don't know how many miles it had on it?
A. On which one?
Q. Either one?
A. Well, we know that the [redacted] switch had over 200 and some odd miles.
Q. Over 280,000 miles. But you don't know what the mileage is on the switches, correct?
A. I don't remember it, no.
Q. And we know that there is no propagation in this video that you brought us, is there?
A. Propagation?
Q. Fire didn't propagate?
A. Well, it -- actually once that circuit breaker opened and started continuity and we got that flame we stopped the test, and then we decided to document the switch and take it apart.
Q. But you believe that the flame in there is similar to the flame that would have happened in the [redacted] case, right?
A. Yes, I do.
Q. About the same size?

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A. Quite probably, yes.
Q. Is this all the data that you have from that test? Is this it?
A. Yeah, we sent that to the chemical analysis of what we found in there that green paste.
Q. But I mean do you keep a little lab book like I'm holding here when you did the test?
A. Yeah, we did. I've got a lab book I think it's back at the shop.
Q. Has that been produced?
A. To?
Q. Anyone?
A. It may have been produced in Mr. Miller's last deposition, but I don't know
Q. I don't believe it was. So we'd request whatever lab book you have or any documentation that you have that relates to Exhibit 2 we'd make a request for that.
How many switches did you in fact test?
A. When?
Q. When you were doing Exhibit 2?
A. There is just one switch.
Q. Only one switch?
A. Yes, sir.
Q. Have you run that test again?
A. No, not like you see it there.

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Q. Have you run a similar test?
A. We are in the middle of conducting one.
Q. Tell me what's the power source in what you are doing now?
A. It's going to be 12 volt supply.
Q. Is it set up or its not set up?
A. It depends on how you define set up. Is the vehicle ready to go? Not exactly. Is the components ready? Yes, we have got most of whatever we need.
Q. You are going to test it in a vehicle this time?
A. Yes.
Q. What kind of vehicle?
A. It's a Ford product.
Q. What kind?
A. It's going to be an F-150.
Q. Where did you get it?
A. The truck?
Q. Yes, sir.
A. I own an F-150.
Q. What other vehicles do you drive?
A. I've got a 2001 Excursion.
Q. Does that have a brake pressure switch in it?
A. Yes, it does.
Q. Does your Ford F-150 have a brake pressure switch in it?

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A. Both of them have the -- both of the F-150s have brake pressure switches in them.
Q. What other vehicle do you drive?
A. That's it. My Excursion is my sole form of transportation.
Q. Okay. You are going to test a F-150 and what are you going to do? What switch are you going to use?
A. A F-150 switch.
Q. The switch that's in the vehicle from the manufacturer?
A. A switch that was supplied on a F-150 from the manufacturer, yes.
Q. But it's not the original switch that's in the vehicle?
A. No, I don't think so.
Q. Okay. When are you going to conduct this test?
A. I don't know.
Q. And did I understand you earlier you are doing it on behalf of NHTSA?
A. Quite possibly, yes.
Q. And you are working on the financial arrangements?
A. Not really, no. We are going to do the test regardless. But I believe that they may want to be present for that test.
Q. Quickly. Did you x-ray the switch depicted in

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Exhibit 2 either before or after the test?
A. No, we did not.
Q. Did you open up the switch after the test?
A. Yes.
Q. And what did you find?
A. We found the seals were cracked and there was electrical, heavy electrical activity into the base of the switch.
Q. Heavy what? I didn't understand you.
A. Electrical activity in the base of the switch, arcing.
Q. Do you have pictures of that?
A. Yes, I do. They are in here.
Q. They are in this book?
A. I think so.
Q. Show me which binder, which tab.
A. Tab 45.
Q. Is there every picture or did you hairy pick?
MR. DUNFORD: Object to the form.
A. This would be a fair assessment of the switches, the photos that we took, yes.
Q. Do you have some back at the ranch that you didn't put in here?
A. I may have.
Q. We'd request all of the photos that you took.

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A. Okay.
Q. And the Cepton is depicted in the last picture, am I right?
A. It's in the last.
Q. This is?
A. From a localized switch fire above it, but obviously we didn't go all the way around and take out the crimp rings so there was a lot less heat.
Q. What do you believe my client Texas Instruments did wrong, if anything?
A. I think the defect is in the fact that you allowed the switch to be produced and installed in a non-failsafe condition, if you had prevented it --
Q. Anything else?
A. You could have put a smaller amp fuse in line like there are now on a number of vehicles, so if this resistance starts it pops the fuse prior to giving you too much heat down there.
Q. Did Texas Instruments install the fuse, Mr. Clarke?
A. No.
Q. Anything else you believe my client did wrong?
A. I think the fact that the switch can fail and when it fails it fails in a dangerous situation where fires can arise. That was the main situation is a failure -- I think

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is a failure to warn the people that own the vehicles. You could have warned these guys.
Q. Did you have any involvement at all with Texas Instruments, in its manufacturing process during the time the switch was made in the [redacted]case?
A. No, sir.
Q. You don't know what information was or was not provided to anyone, do you?
A. I have read all the documents that's been supplied to me under discovery.
Q. But you don't know what conversations were had between TI and Ford?
A. Some of them obviously are pertinent they have been released to us, as well as your videos that you both have done and the testing that you have done.
Q. Did Texas Instruments design the system in this vehicle, the system, the speed control system?
A. I would think Ford designed the vehicle but under direction from you guys or conferring with each other.
Q. You think, right? You don't know because you weren't involved at the time; is that correct, Mr. Clarke?
A. I think the documents that I read said that the specification was so many cycles and the switch was designed to that specification.
Q. And you are not giving an opinion that the

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specification was improper, are you, sir?
A. I don't know how many cycles the switch had.
Q. You are not qualified to give that opinion, are you, sir?
A. Not qualified?
Q. Right.
A. Well, I mean I can look at a switch and tell you what's failed in it. So I think that I'm qualified to determine what's failed in it.
Q. You are not qualified to tell us whether the specification that was provided to Texas Instruments was in fact correct or not? That's not your area of expertise, is it, Mr. Clarke?
A. Not really.
Q. And you are not offering any opinions in this case on that, are you?
A. Only what I just said.
Q. And you know that eventually a switch is going to fail, Mr. Clarke?
A. I think eventually it can fail but if it's known to be in a failure situation where it's produced and it can cause a fire, it should be installed or designed or wired so it's not full time 12 volts. So it's only voltage when the key is on. And I don't believe I found a vehicle yet that has had a fire once the key is on. It's only once the key

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is off and it's parked.
MR. MAYER: Object, nonresponsive.
A. If the voltage is removed when the key is off like on the later vehicles that Ford is building this problem shouldn't be an issue.
Q. Anything else?
A. I think that's it.
MR. MAYER: Pass the witness.
FURTHER EXAMINATION
BY MR. FEENEY:
Q. On the Ford 150 test that you talked about, Mr. Clarke, do you intend to terminate that test after you get a flame if you get a flame?
A. I think I'm going to -- depending on the parameters that we decide to do it on I'm just going to let it keep going just like we did on the Excursion.
Q. So your intention is to burn your vehicle to the greatest extent that it will burn?
A. And just let it burn, yes, sir.
Q. You haven't done that test and you don't know when you are going to do it?
A. It's in the works.
Q. On the test that we have that's Exhibit 2 you terminated that test as soon as you got a flame, didn't you?
A. As soon as the second, the actual resettable

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breaker broke we ended up stopping the test at that point, yes.
Q. So that was an opportunity for you to actually see what and in what way a fire would propagate at least in consuming a switch but you chose to terminate the test?
A. We chose to terminate it because we didn't know what was going on internally and we couldn't get it open and get it put back together again. In hindsight we should have just let it keep burning or reset the fuse and let it reset. But we decided that it will be just time to investigate it and look at it.
Q. And you haven't tried to do that test again or allow it to go to completion since January of 2000?
A. We just disassembled that switch directly after that test and sent it out for investigation.
Q. You haven't done another test, you haven't done that?
A. No, we haven't done it since January.
MR. FEENEY: Okay. Thank you.
MR. MAYER: One question.
FURTHER EXAMINATION
BY MR. MAYER:
Q. A car battery, component part to a vehicle?
A. Is a car battery a component part?
Q. Yes.

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A. Yes.
Q. If it fails what's going to happen? Is it going to catch on fire? Can it?
A. If it fails?
Q. Yes, sir.
A. I haven't seen one fail and catch on fire. I've seen one go flat or I've seen somebody try and charge one.
Q. Never seen one go on fire?
A. No, I haven't seen one. I've heard of it but I haven't seen one.
MR. MAYER: That's all the questions I have.
(The deposition concluded at 6:20 p.m.)
(By agreement between counsel and the witness, signature was reserved.)