EA02-025

FORD 10/27/03

APPENDIX N

BOOK 33 OF 61

PART 6 OF 6

Q. Okay. And Mr. Pease suggested this to your team; is that right?

A. Yes, he did.

Q. Okay. Did you and your team look into this?

A. Yes, we did.

Q. Okay. And what did you determine?

A. We determined that there wasn't a bushing the size that would be necessary to fit into the package of the Town Car, Crown Vic, Grand Marquis. It wasn't a material that was suitable for that and that this would also introduce a new leak path out of the brake system that would potentially cause a customer to lose his braking altogether.

Q. Explain that to me. How would it have a new leak path out of the brake system?

A. There's an additional joint that this would create in the plumbing of the brake system.

Q. You would screw the hex port into something that would then be screwed into something else?

A. Yes.

Q. And that would be an additional connection of the switch to the brake fluid in the line?

A. That would be an additional connection

that could be susceptible to leakage.

Q. And did you determine that the isolation would be sufficient to eliminate the risk of fire?

A. We did not go that far because, again, we couldn't even find a design that would fit into this that would work.

Q. And who on you team was responsible for tracking this down?

A. We actually went back to Mr. Pease and asked for that.

Q. You asked for what?

A. If he had any ideas of how he would do that.

Q. And --

A. Ideas are easy to come up with, but implementing them you are not necessarily so simple.

Q. Did you do that yourself --

A. Yes, I did.

Q. -- or did somebody on your team do that?

A. I did that.

Q. And did -- was Mr. Pease able to come with up with anything?

A. No, he was not.

Q.

MR. FEENEY: How about a little

break.

MR. MAYER: Absolutely.

THE VIDEOGRAPHER: Off the record, 2:47:22.

(Recess taken.)

(Exhibit No. 39 marked.)

THE VIDEOGRAPHER: Back on the record, 3:06:29.

Q. Mr. Porter, I hand you something that's been marked Exhibit 39. And it looks like a copy of a schematic that was faxed to you on March the 22nd. Do you recall receiving this?

A. Yes.

Q. Who was the sender?

A. A fellow named Gary Flohr.

Q. Okay. And this is Building SRL. Is this person with Ford?

A. Yes.

Q. And what is this document?

A. It looks to be a bypass, the brake pressure switch current -- What's he got here. Brake switch bypass control.

Q. And there's something at the bottom right: MicroSm Corporation, 20 Fairbanks, Irvine, California. Do you see that?

A. Yes.

Q. All right. Is -- Was that an outside company that you have assisting in this investigation?

A. No, it was not.

Q. Okay. Do you know what that -- why that's on the document.

A. I believe they're the ones who drew the schematic.

Q. Did Mr. Gary Flohr work for them?

A. No, he did not. We just said he worked for Ford.

Q. Oh, I'm sorry. Do you know how he got involved, how the MicroS Corporation got involved?

A. I don't know that they were involved.

Q. Is this a schematic for a vehicle that was in production by Ford Motor Company?

A. No, it is not.

Q. And what use did you make of the schematic when you received it?

A. I looked at it and I said, this is something these that's not trivial; we're not going to be able to just drop it into the brake pressure switch to resolve the issue.

Q. And what did you do with it after that?

A. Got filed.

Q. Did you provide it to anybody at Visteon?

A. No, we did not.

Q. Did you send it to Texas Instruments?

A. No, we did not.

Q. Did you send it to anybody at Ford in the electrical area?

A. I am in the electrical area.

Q. Did you send it to anybody other than your file cabinet.

A. No.

Q. Why did you just put it in your file cabinet and not pursue it any further?

A. Because the timing that would be involved in implementing this kind of circuitry was well beyond anything that could be considered to be a quick response to our customers so they could meet their desires to have safe vehicles that didn't catch fire and met the requirements that they were expecting.

Q. Was there anything about the diagram that you saw when you received it that you thought was not accurate?

A. I could not analyze this circuits without looking at it closely. Accuracy is not a point.

Q. And prior -- am I correct that you have not had an opportunity to look at it closely to analyze it?

A. Correct.

Q. When was the decision made by Ford to recall vehicles at issue in this case?

A. I don't recall the exact date.

Q. Was it in April or was it in May?

A. Can you tell me what date the recall was announced?

Q. I think it was announced like May 14th of the year 1999.

A. Then it would've been in May.

Q. Were you involved in that decision, Mr. Porter?

A. I was present at the -- the meeting where that was -- decision was made.

Q. Was that a Technical Review Committee meeting?

A. I don't know if that's the description of what that meeting was.

Q. Why don't you take your calendar out for the month of May, 1999 and identify the meeting where you believe the decision was made to recall the vehicles?

A. I believe that it would be identified on -- on my calendar as a technical review on Thursday, May 6th.

Q. Take that highlighter and just highlight it for us, if you will.

A. (Witness complies.)

(Exhibit No. 40 marked.)

Q. Let me hand you what's been marked as Exhibit 40 and ask you if this appears to you to be Mr. Donovan's signatures on the first page?

A. I don't know what that is.

Q. Okay. Have you ever seen his signature?

A. I can't say that I have.

Q. As Ford's representative here today, are you able to say whether or not that was something that was signed by Ford personnel?

A. I'm not sure that that's a signature.

Q. If you flip the page there's two other -- what appear to me to be signatures. Do you recognize either one of those signatures?

A. No, I don't.

Q. Now, this document is a draft of a Field Review Committee meeting -- I'm sorry -- Field Review Committee, a 14-D date with -- dated May 3rd, 1999; is that right?

A. Yes.

Q. Okay. Have you seen this document before today?

A. Yes, I have.

Q. And there are some handwriting on the document correcting various things. For example, if you look at Page 2 of the document -- Page 3, are those your edits?

A. I didn't write those in, no.

Q. Do you know whose that -- those are?

A. No, I do not.

Q. Did you at all edit this document in front of us, Exhibit -- I'm sorry. Would you flip back to the first page?

A. Exhibit 40?

Q. Exhibit 40.

A. I'm not sure exactly what you mean by, did I edits this document.

Q. Did you suggest any of the changes that are made to his documents?

A. I believe I did.

Q. Okay. Which are the ones that you suggested?

A. I believe I was in agreement with changing the name of the device that's referred to throughout

the documents from brake pressure switch to speed control deactivation switch.

Q. Okay. And who asked you whether you agreed with that change?

A. I'm not sure.

Q. Was it somebody else at Ford that was doing the editing and they called you to say, did you have a problem if they made these changes?

A. I don't recall if that's exactly what happened or not.

Q. Tell me what you do recall about how that --

A. I recall that there was a discussion along those lines. There was also a discussion that said -- such as the -- the header on these were all '92, '93 Town Cars -- where as a fact, we were also including the Crown Vic, Grand Marquis.

Q. Where did this discussion occur? Did it occur at a technical review meeting?

A. I don't recall.

Q. Let me hand you what's -- I will mark. This is Exhibit 41.

(Exhibit No. 41 marked.)

Q. Were there any other changes in the document that you believe that you either agreed

with or were consulted about?

A. Given that this -- the production of this document was part of the responsibility of my group, I would say that all of the changes were something that I was agreeing with and/or consulted on.

Q. Okay. Now, if you look at the second page of the exhibit at the bottom it says, Note: Both signatures are required prior to review by the Field Review Committee. Did I read that right?

A. Yes.

Q. Okay. And is the document that you have, Exhibit 40, second page of Exhibit 40, does it contain the signature of the Vehicle Line Director, the Vehicle Center Engineering Director, as far as you know?

A. That's what's represented there.

Q. And why -- why are both signatures required prior to review by the Field Review Committee, Mr. Porter?

A. I'm not sure why that is.

Q. Do you think one reason is so that when it goes to the Field Review Committee, they know that the Vehicle Line Director has signed off on it and the Vehicle Center Engineering Director has signed off on it?

A. I'm not sure why the procedure would be set that way.

Q. You don't -- No one's ever discussed that with you and you don't have any idea?

A. No one's ever discovered that with me.

Q. Do you have any idea?

A. I have no idea.

Q. Who is the person that actually authored Exhibit 40?

A. Can you define "authored"?

Q. Yeah. Who is the person that was responsible for putting this draft together and getting it signed off on by the Vehicle Line Director and the Vehicle Center Engineering Director in May of 1999?

A. Those are two difference questions.

Q. Okay.

A. I was responsible for having it authored.

Q. Okay.

A. I believe Joe Neme was taking it to the Vehicle Line Director.

Q. And Joe Neme was on your group? He was in your group?

A. Yes.

Q. You were responsible for the author of the

report, Joe Neme took it to the Vehicle Line Director. Who took it to the Vehicle Center Engineering Director?

A. I believe Joe Neme would've done that also.

Q. And Mr. Neme would've not taken this document to either one of those individuals unless he had full confidence in it, correct, sir?

A. I can't answer that question.

Q. Well, you wouldn't have let him, as a member of your team, take this to people and sign off on it unless you had full confidence in it, correct, Mr. Porter?

A. At the time that this was signed off, I did believe what was written here, yes.

Q. All right. And you felt that on May the 3rd of 1999, this was what you wanted; the Vehicle Line Director and the Vehicle Center Engineering Director to review and sign off on?

A. That's correct.

Q. And you represented to them that this was what -- based on your information, was your best opinions, analysis of the data that you had been spending months studying?

A. That's -- Based on the information we had

at the time, that's correct.

Q. Okay. Now, after the Vehicle Line Director and the Vehicle Center Engineering Director sign off on this report, does it then go to FCSD Vehicle and Service Programs Director?

A. I'm not sure what the process is.

Q. Do you know who brought it to the next level?

A. No, I do not.

Q. Okay. And is the way is Ford works, when those individuals sign off on it, it's out of your hands and then they take it from there?

A. I don't know. Well, it was out of my hands, yes.

Q. All right. And the next level -- If it went to the next level, that would be based on what those two individuals would do with the report?

A. Yes.

Q. Okay.

A. Or somebody else. But it was -- would not be in my hands.

Q. Now, who is the actual scribner for all the marks on this, the document that we have, Exhibit 40?

A. I'm not sure who that is.

Q. Do you -- Can you look at the -- the handwriting, for example, on Page 6 of 21 and see if that helps you at all?

A. No, it doesn't.

Q. And in this documents that was presented to your Vehicle Line Director and your Vehicle Center Engineering Director, the suggested solution for the problem that was being addressed by your group is set forth on Page 7 of 21. Am I correct? It begins on Page 7 of 21, Item 9.

A. That's correct.

Q. Okay. So as of May of -- well, May 5th or May 3rd -- It's not clear because the bottom says May 5th, but the top says May 3rd. But as of that date your recommendation to your management and approved by Ford management was to install relay; is that correct, sir?

A. On May 3rd our recommendation was to install a relay.

Q. All right. And it was signed off on by the Vehicle Line Director and the Vehicle Center Engineering Director, correct, sir?

A. That's correct.

Q. And it was presented on the chain at Ford?

A. That's correct.

Q. Do you know what happened, Mr. Porter, to change that solution that you had recommended to your management in early May of 1999?

A. Yes.

Q. Okay. And what happened?

A. In reviewing the solution that we had provided, I realized that one thing that we didn't do with the relay that we were about to put into the vehicle was take a close look at the in -- inside of the relay to understand if there was a possibility that what was going to happen with the relay is what was happening on the brake pressure switch. We opened up relays and started measuring the component differences between -- between where the ground and the plus of the battery were, because these relays were going to be powered at all times with the key off; and we found that these unsealed relays had battery voltage less than a millimeter apart. Placing it in an under hood environment by mechanics -- And it does say that a mechanic would have to cut into multiple wires under hood, which leaves a lot of room for failure for that to happen, in addition, with the problem that this relay now would become subject to under hood fires, it became clear that that was not a good idea.

Q. So is it your testimony that after you prepared this, had it signed off, you had a change of your opinion and you asked that the solution that you had recommended to Ford management on May 3rd be changed?

A. That's correct.

Q. And when did you make that decision?

A. That decision would've been made -- I believe, again, that was on May 6th.

Q. And how did you learn that what you had presented to management on May 3rd and they had signed off on was incorrect? How did you learn that?

A. I learned that by having the relay opened up by one of my engineers. We took out a ruler and measured the distance from where the battery contacts would be and found, like I said, there would be less than a millimeter apart, which is closer together than what's found in the brake pressure switch. And if you can create secret a short in the brake pressure switch, at the distance that's at, with contamination, you can certainly do it in a relay that's put in by hands by service.

Q. If you look at Page 8 of 21, Paragraph B of the solution that you presented to management

states: Assessment of procedure. Bullet No. 1: This modification procedure has been installed on a '92 Town Car and a '93 ask Crown Vic. The speed control system functioned normally. Was that accurate?

A. That was accurate.

Q. Next bullet: The 200 milli-amp current limit successfully prevented melting and ignition, as demonstrated in lab testing. Was that accurate?

A. That --

Q. To the best of your knowledge at the time Mr. Porter.

A. We were not -- We were not able to create fires with that 200 milli-amp --

Q. And you refer to a test in a -- in the attachment, correct?

A. That's correct.

Q. Now, the last bullet point says: The modification procedure was evaluated by FCSD. What is that?

A. That was Ford Customer Service Division. We've referred to that before.

Q. Okay. Using appropriate tools, equipment in a representative vehicle. Was that accurate?

A. Yes.

Q. Okay. Validation by way FMEA process for other vehicles is not applicable.

A. That's correct.

Q. And why was that?

A. Because it wasn't going to be applied to other vehicles. Because other vehicles were not experiencing fires caused by brake pressure switches that were also powered at all times.

Q. The modifi -- next bullet, third bullet: The modification effects the electrical distribution system by adding a 200 milli-amp load to the vehicle electrical system when the key is in the run or ACC position. There is no additional load and there is no power applied to the switch when the key is in the off position. Accurate description of the relay that you were proposing on May 3rd to your management?

A. That's accurate.

Q. Did anybody that you presented this say to you that they were unhappy with the relay that you had suggested?

A. With the relay?

Q. Yes, sir.

A. Yes.

Q. Okay. Who was it that said that they were

unhappy?

A. I don't remember look they were. It was in -- in a -- in a general meeting.

Q. Was it in a tech review meeting?

A. I believe it was.

Q. All right. And was it held after May 3rd?

A. Yes.

Q. After you had presented this to The Vehicle Line Director and the Vehicle Center Engineering Director?

A. Yes.

Q. Okay. And who was it, as best you can recall, that said they were not happy with your proposed solution?

A. I -- Again, there were -- there were several people involved in the meeting and they very quickly agreed that they didn't like that solution.

Q. Okay. And what did you say when they said they didn't like the solution?

A. Given that I was presenting to them that I didn't like the solution any more, I said, Good, I'm glad to hear that.

Q. Okay. And was there a decision then made for alternate solution?

A. At that point the decision was made to go

with ultimately what the recall was, which was replacing brake pressure switches, because we were not experiencing problems with brake pressure switches built after 1992, '93.

Q. Did the use of a relay, did that require an approval of the Office of General Counsel?

A. Any of the functions that would be involved with a -- with a recall would be reviewed by the Office of the General Counsel.

Q. Were there --

A. But to use -- to use a relay, you know, I think -- I don't know whether that -- whether we would've had to go through that or not.

Q. Were there members of the Ford Office of General Counsel present at the meeting where it was discussed that the relay may not be the best solution?

A. Yes.

Q. Do you remember who those individuals were?

A. I believe it was J. Lobel.

Q. Anybody else?

A. No.

Q. Had Mr. Lobel been involved in the investigation from its inception?

A. Mr. Lobel had been involved in management meetings, yes. He had be involved with tech reviews along the way.

Q. Did you believe he was acting as an attorney in those meetings or as a technical advisor?

A. I believe that he was acting as a representative of Office of the General Counsel.

Q. Okay. Were there any other Ford attorneys involved in the investigation besides Mr. Lobel?

A. Not that I'm aware of.

Q. Were the Vehicle Line Director and the Vehicle Center Engineering Director present at the meeting as well?

A. I'm not sure who -- what those signatures are, so I'm not sure. I can't say whether they were there or not.

Q. Uh-huh. When did you cut open a switch -- I'm sorry. When did you cut open a relay and measure the distance between the terminals?

A. It would've been sometime between May 3rd and May 6th.

Q. And who did that with you?

A. I believe Steve Reimers did it with me.

Q. Where did you do it?

A. In our office.
Q. In your -- In your office or in the lab?
A. It was probably cut open in the lab and brought to the office.
Q. What -- After this relay had been -- Well, when was the relay installed on the '92 Town Car and the '93 Crown Vic that's referenced on Page 8 of 21?
A. I'm not sure exactly when that was. It would've been sometime before that.
Q. Right. I mean, you had it running for some time before you would make that recommendation to your management, correct?
A. That's correct.
Q. And you had not experienced any problems in those relays installed in the vehicles, correct?
A. Not in those few weeks, no.
Q. Okay. And as far as you can recall, sometime between May 3rd and May 6th you and Mr. Reimers cut open one of the relays?
A. That's correct.
Q. Was anyone else present?
A. There were other people around? I don't know who else would've looked at it.
Q. Whose idea was it to cut open the relay?
A. Mine.

Q. And what had caused you to -- to think about going to look at that relay at that time?

A. Because I realized that we might be walking into the same problem that we had just ex -- we were trying to solve with the brake pressure switch; that I didn't want to install another component that was having battery and ground to it that was going to potentially catch fire. That would not be a very suitable solution for a recall, I don't think.

Q. Did this relay design meet Ford's requirements discussed earlier for how the switch needed to be hooked up electrically, even though in design the switch does not receive the continuous power?

A. I don't understand that question again.

Q. It's easy. Did this relay design meet Ford's requirements discussed earlier in this deposition for how the switch needed to be hooked up electro (sic.) -- electrically, even though in this design the switch does not receive continuous power?

MR. FEENEY: I'll object to the form of that. It's compound.

A. I'm not sure.

Q. Well, you wouldn't have proposed a relay

design and had approval from the Vehicle Line Director and the head of engineering at Ford if it didn't, did you?

A. I would not have knowingly done that, no.

Q. Right. Okay. So we can assume this relay that you presented in your best opinion and was approved by your management obviously met Ford's requirements; it was approved by both you and Ford?

A. I don't know that it met all of Ford's requirements.

Q. Well, it was approved by your management meant and you certainly wouldn't recommend something that you didn't think met Ford's requirements?

A. I don't understand all of Ford's requirements.

Q. Did anyone tell you, Mr. Porter, any of the people on your team or anybody that saw your 14-D that's been marked as Exhibit 40, that this relay design, this proposal that you made to management and it was accepted did not meet Ford's requirements?

A. Yes.

Q. Who told you that?

A. The wiring people.

Q. When did they tell you that?

A. They told us that on May 6th.
Q. And who is the wiring people?
A. I believe that it was probably Rob English.
Q. Had Mr. English been involved in your 14-D meeting before this points in time?
A. No he'd not.
Q. And how did he learn of the proposed relay that you were suggesting to management?
A. We were presenting it at the technical review.
Q. And did Mr. English voice some objections?
A. Yes.
Q. What do you recall that he said?
A. He said that they strongly objected to this solution.
Q. Why?
A. Because it would require cutting into the wires of the vehicle.
Q. Had you discussed with Mr. English or anybody on his staff prior to making this proposal to management your relay solution?
A. We had discussed this solution with people in wiring, but nobody had brought that up as an issue because they aren't familiar with the

processes that go on at FCSD and in service.

Q. All right. Anybody else besides Mr. English voice an objection to your 14-D on May the 6th, 1999?

A. Actually, after I presented the information that I had, everybody objected to it.

Q. Everybody thought it wasn't a good idea and you should go to Plan B?

A. That's correct.

Q. And did you already have Plan B? I Mean, did you tell the group that if this wasn't acceptable you had something you thought would work?

A. The only thing we had as Plan B was replacing the switches with switches that had been built in 1999 and we were starting to be confident that those switches were going to be good because we did not experience problems in other vehicle lines and that information was coming together over and over again; that not only the Town Car and Crown Vic, Grand Marquis in subsequent years were not experiencing fires, but other vehicles lines were not experiencing fires with their brake pressure switches either.

Q. Did anyone at the meeting say that they did not think this was a good recall solution

because doing this implicate other Ford vehicle lines that were not contained in the recall; or words to that effect?

A. No, they did not.

Q. Did you think that?

A. No, I did not.

Q. This was purely a 300 -- 180-degree change that you made between May 3rd and May 6th?

A. That's correct.

Q. Nothing else?

A. Nothing else..

MR. MAYER: Pass the witness.

THE VIDEOGRAPHER: It appears that we have ten minutes left on the video tape. Should I change it real quick?

MR. JOLLY: Yeah.

THE VIDEOGRAPHER: Off the record, 3:33:23. End of Tape 2.

MR. MANSKE: We're going to take a short break and then we'll be ready to go.

(Recess taken.)

THE VIDEOGRAPHER: Back on the record, 3:41:14. Beginning of Tape 3.

MR. JOLLY: Do you want --

MR. MAYER: Who's up?

MR. FEENEY: Well, I guess I am unless you -- I mean -- may have questions.

MR. JOLLY: I just had a couple of short questions, if you want to until I finish.

MR. FEENEY: That's okay if you want to do that, Mike. Go ahead.

MR. JOLLY: Okay. I appreciate that.

F U R T H E R E X A M I N A T I O N

Q. (BY MR. JOLLY) Just -- Just in summary, did you identify the informations and/or documents that Ford complains that T.I. should've provided it to effectively investigate the fires?

A. The documents in particular that we found from the materials that were produced were a group of documents labeled Highlights. They were offered -- authored by a Texas Instrument engineer named Stephen Offiler. They appear to be a diary of the development of the switch from prior to production into production and beyond.

Q. Anything else besides the Highlights?

A. There were a variety of -- of E-Mails and notes that were exchanged by Texas Instrument engineers while we were doing the investigation that identified some of the problems that they were having in bringing these into production in 1991 and

'92 that was not brought to Ford's attention.

Q. All right. And when did -- when did Ford receive the documents, the Highlights and the E-Mails that you're talking about?

A. It was a result as -- to -- of the discovery from the Gonzales case which would've been, I believe, in late 1999.

Q. Do you believe that Ford would've done something differently during its investigation of the fires if it had received the Highlights and/or E-Mails?

A. I believe that if I had known that T.I. had been concerned during the development and -- and early production of this process, that the life of the Kapton diaphragm was, at best, questionable and in probable -- and in all probability having problems. Rather than trying to identify alternate modes of increasing the -- the specification or -- or looking at what the relays were, we would've focused very clearly on the brake pressure switch and implemented the -- the -- the recall earlier.

Q. Okay. And if you could somehow give us an estimation of -- if -- if things would've gone Ford's way at the beginning of this investigation into the fires, when would you have expected T.I. to

provide the Highlights and E-Mails that you're talking about?

A. I guess I would've expected those to have been provided in late December of 1998 or January of 1999.

Q. All right. And can you tell us, would this have mattered, the information that's in the documents in the Highlights and E-Mails, would it -- would it have changed anything with regard to what Ford included in any responses it made to NHTSA?

A. I believe it would have, but I'm not exactly sure that was included in the NHTSA responses.

Q. But you believe that that information would have resulted in some different submission to NHTSA?

A. It certainly would've helped in the investigation of the -- the problem that we were having and it wouldn't have diluted our efforts into looking into a lot of different areas. I believe that the timing of what the recall eventually came out to be would've been significantly changed.

Q. And do you have an estimation about when the recall may have occurred if you had this information from T.I.?

A. It would be purely speculation. However, I believe that if the -- if the information had been provided in -- in January, that there were issues with the production method that reduced the Kapton life, that -- that we would've been looking at some kind of announcement, possibly, in -- well, I'll just pick February as a possibility. But that's pure speculation.

Q. Okay. And would the recall then basically be the same as what was ultimately done?

A. I believe the recall would've been the same because we would've been confident at that point that -- that the process that had improved the brake pressure switches was in place and that that would've been a good fix.

MR. JOLLY: Pass the witness.

MR. FEENEY: Okay. Thanks.

E X A M I N A T I O N

Q. (BY MR. FEENEY) Mr. Porter, let me ask you some questions. I know you've been here for almost two days, but I've got some questions I'd like to go over with you. All right?

A. Okay.

Q. Let me begin by -- if I will, by just getting some background. As -- As I understand your

testimony, at sometime in the fall -- late fall of 1998 -- And I guess the date I have is around November 24th of 1998 -- Ford received a letter from the National Highway Traffic Safety Administration advising Ford of certain actions that the agency was taking; is that right.

MR. MAYER: Objection to form.

A. That's my understanding.

MR. FEENEY: Just for the record, I can lead the witness on any matter that's been covered in the deposition. So if that's the objection, you can have that throughout this entire examination. Okay?

MR. MAYER: Okay.

MR. FEENEY: Is that the basis for your objection?

MR. MAYER: My objection is was form --

MR. FEENEY: Yeah.

MR. MAYER: -- leading, yeah.

MR. FEENEY: Okay. I'll stipulate to a continuing objection with respect to that.

Q. And -- And what was it that the -- the agency was asking Ford at that time, if you recall, sir?

A. The agency was asking Ford to investigate a higher occurrence of fire -- under hood fires in Lincoln Town Cars, model years of 1992 and 1993 that possibly could've been caused by four components.

Q. And before Ford received that notification from the agency, was Ford in the process of or had Ford itself identified a -- a problem with the 1992, '93 Town Cars?

A. I'm not aware that they had.

Q. And you mentioned that -- that the National Highway Traffic Safety Administration identified four components that were involved or they believed were involved in these fires. Do you recall what the components were?

A. One was the brake pressure switch for the speed control system. The other three, I recall seeing one of the documents earlier. There was a relay box in EEC module. And I believe there was a wiring harness.

Q. And was there any information provided to Ford at that time as to the location of the fires that had been identified that had occurred in the field?

A. They were located under hood in -- in the driver's side of the engine compartment.

Q. Was there any indication in the information provided by the agency at that time that the fires were originating in the right or passenger front quadrant of the engine compartment that they were investigating?

A. I don't believe that that was the case, no.

Q. During the course of the dealings with the National Highway Traffic Safety Administration on this issue, did the agency ever expand the scope of the investigation to include any allegation of fire starting in the right front corner or the driver -- the passenger front corner of the engine compartment?

A. I'm not aware of anything that they would've done? I really only reviewed and read their initial letter.

Q. Are you aware of the fact that the independent fire investigator that's investigated the incident involving -- involved in this lawsuit has offered the opinion under oath that the fire originated in the driver -- in the passenger front corner of the engine compartment of the vehicle?

A. No, I'm not aware of that.

Q. Would a fire originating in that location

of the vehicle, would that be a fire that was of the type identified by the agency in November of 1998 as under investigation that led to this recall?

A. I'm not a fire analyst lift and wouldn't be able to answer that question, although I'm not sure that something starting on the right-hand side of the vehicle would be a fire that was caused by something on the left-hand side of the vehicle.

Q. Well, were any of the components that they asked you to identify located on the passenger side of the vehicle?

A. No, they were not.

Q. When you began the investigation in response to the inquiry from the National Highway Traffic Safety Administration, did you become aware that there were three different groups at Ford that would've been involved in the design of the speed control system?

A. Yes, I did.

Q. What were those three groups?

A. There would've been the Speed Control Systems Group in the Electronics Division, there would've been the Car Engineering Group for -- for the car lines and a Truck Engineering Group for the truck lines.

Q. Now, taking those one at a time, the -- the Electronics Division Group, we've seen in the documents a reference to a group sometimes referred to as ELD. Was that that group?

A. That would be the acronym for Electronics Division, yes.

Q. And that's the group that I think Mr. Mayer or Mr. Jolly asked you about that ultimately became part of Visteon and at least those people are now part of Visteon?

A. That's correct. They're parts of Visteon.

Q. But in 1991 or 1990 when the system was designed they were Ford employees?

A. That's correct.

Q. Who did you learn, based on your investigation, was in charge of the activities, the speed control system activities for ELD back in the relevant time period when the system was designed?

A. Gary Klingler was the supervisors for that group.

Q. And did you in the course of your investigation have discussions Mr. Klingler about what he did, what his group did, what he knew or what he didn't know throughout this process?

A. I asked him if he could provide us

information on the speed control system and he had referred me to the present speed control system people.

Q. And have you since the investigation was could concluded had an opportunity to talk to Mr. Klingler?

A. Yes, I have.

Q. And has he provided you with some information on those --

A. Yes, he has.

Q. Now, with regard to the Passenger Car Group, who was in charge of the Passenger Car Group that was involved in the design and development of the speed control system?

A. I believe -- And I guess I -- I'm recalling off of one of the documents I saw earlier, I think there was a name, Frank Genosi.

Q. All right. Where did Mr. Pease fit into the picture?

A. I believe he worked for Mr. Genosi.

Q. All right. And you also mentioned -- Did you mention the Light Truck Group was one of them?

A. Yes, I did.

Q. And did, in the course of your investigation ascertain who was involved in the

design and development of the speeds control system so far as the Light Truck Group was concerned?

A. Yes, I did.

Q. And who was that person?

A. Niru Modi.

Q. Have you spoken with Mr. Modi about his recollection of the events during the relevant time?

A. Yes, I have.

Q. Have you spoken with Mr. Pease concerning his events --

A. Yes, I have.

Q. -- his recollections? And I think you've told us in general terms what the recollections of all three of those people are and I'm not going to go into that again? My question to you is this: Were there any other groups at Ford other than these three that were principally or primarily involved in the development of the systems, the speed control system from Ford's point of view?

A. Those would be the three primary groups.

Q. Now, at any time during the course of the investigation and the inquiry -- By the way, do you remember what the actual inquiry was that was opened by NHTSA? Do you know what they called it?

A. I think there was a letter and number

designation. It would be off of memory and you could --

Q. Okay.

A. -- correct me.

Q. Well, I've seen the number -- I've seen the letter designation, PE. Do you know what that stands for?

A. No, I don't.

Q. Do you know whether the investigation or the inquiry from NHTSA was ever changed from a PE number to a different number?

A. I don't know that.

Q. Did NHTSA ever, during the course of its investigation, indicate that as far as they were concerned the air suspension compressor motors and the vent solenoid was involved in these fires?

MR. MAYER: Objection, form.

A. Again, reading the letter that -- that they had provided originally, they did not mention those. Subsequently I was told that they were satisfied with Ford's recall decision and considered the case closed based on that. They also said that if there was any other -- other information that came to light after the recall that they would be sure to bring that to Ford's attention. And as far

as I know, that hasn't happened, there's been nothing else.

Q. Well, has --

MR. MAYER: Objection, move to strike, hearsay.

Q. Has NHTSA -- Has NHTSA ever -- Did NHTSA, during the course of the investigation at any time, indicate to Ford that the air suspension compressor motor and vent solenoid was one of the components under investigation by them?

MR. MAYER: Objection, form, lack of foundation?

A. Not that I'm aware of.

Q. You mentioned that you were aware that there had been a recall in 1984 involving the air suspension compressor or -- or some part of that --

A. Yes.

Q. -- on a Mark VII --

A. Yes.

Q. -- is that right? And there had actually been a recall involving that part?

A. There had been.

Q. And it actually had been related to some kind of a fire issue?

A. Yes, it had.

Q. Do you suppose NHTSA was aware of the fact that there was a recall in the air --

MR. MAYER: Objection, form.

Q. -- suspension compressor motor and solenoid --

MR. MAYER: Objection, form.

Q. -- in 1984?

MR. MAYER: Objection, form.

A. I would expect that they would know that.

Q. And armed with that knowledge, did they identify that as a potential component involved in these under hood fires that they were investigating?

A. That was not listed in their letter.

Q. Did the NHTSA ever communicate with Ford so far as you are their reason or reasons why they believed that the brake pressure switch -- And by the way, if I say brake pressure switch, is that the same as a speed control deactivation switch?

A. Yes, it is.

Q. So they -- these terms are used interchangeably?

A. Yes, they were.

Q. Did NHTSA ever indicate at any time that they had ruled out the brake pressure switch as the -- as one of the components that was involved in

these fires?

A. No, they did not. In fact, what I had heard from Bill Abramczyk was that they were particularly interested in that component.

Q. You, during the course of your responses to Mr. Mayer's questions, frequently said, as I recall, that your concern or your focus was the brake pressure switch in explaining why you may have done or not done certain things. My question to you, sir, is: Why was your focus the brake pressure switch in the investigation that you had undertaken?

A. In discussing the NHTSA letter management decided to split up the task of looking at the different parts rather than trying to have one group look at the details of all of the parts and it was decided that I should take the lead on brake pressure switch.

Q. Were the other parts -- And I realize you were not responsible for the investigation, but you are here on behalf of -- of Ford providing information. Were the other components that NHTSA identified as those that they wanted Ford to look at as possibly involved in these fires, were those other components eventually ruled out by other teams like your team?

A. Not only those components were ruled out, but all of the other components that were hot at all times in the left-hand engine compartment.

Q. At the end of the day when all was said and done after all the investigations were completed, what was the component or components left that were identified as the components involved in the fires occurring on the driver's side in the areas identified by NHTSA?

A. The brake pressure switch.

Q. And who supplied the brake pressure switch for the 1992, '93 Town Car, Crown Vic and Grand Marquis?

A. Texas Instruments.

Q. And is it true that the principal fix that T.I. favored throughout this investigation was to cut off power to a switch that Ford believed was leaking?

A. Yes, it was.

Q. Did T.I. ever come forward with a feasible fix that would assure that they could go into these switches that were out on the road and fix the leaks?

A. Can you restate that question?

Q. Yeah. Did they ever propose a means of

going out in the field, taking the switches out, opening them up, determining which ones were leaking and fixing them?

A. No, they did not.

Q. Was that feasible?

A. No, it was not.

Q. Could T.I. tell you how many leakers there were in the field?

A. No, they did not.

Q. Did every leak result in a fire?

A. No.

Q. Did -- Did T.I. ever deny that brake fluid leaked through a Kapton membrane, let's say, by January of 1999? After the Memphis incident, did T.I. -- Let me rephrase the question. After the Memphis switch was presented to T.I., the one that's been marked -- some of which has been marked here as an exhibit -- and the events involving that -- that incident were discussed with T.I., did anyone at T.I. ever deny that brake fluid could, in fact, leak through a Kapton membrane while a vehicle was in the field before the vehicle's life end?

A. T.I. did not deny that.

Q. Did they ever deny, after the Memphis switch -- I guess, well, you've answered that

question. By the time the recall was announced, was T.I. denying that a brake pressure switch could be ignited by current if there was brake fluid in the electrical side of the connector?

A. T.I. was focusing on brake pressure switches being able to start fires using saltwater.

Q. Well, let me ask you this: Was it -- Was there anything at all in the specifications, the engineering specification -- You investigated this -- In the investigation -- Let me start over. In the investigation you did, you identified the engineering specification that pertained to this fire?

A. Yes, we did.

MR. MAYER: Objection, form.

Q. Was there anything in the eng -- engineering specification that permitted T.I. to supply brake pressure switches to Ford that -- whereby the Kapton membrane who allow brake fluid to leak into the electrical side of the connector during normal operation?

A. No, it did not.

Q. Was there anything at all in the engineering specification that allowed T.I. to supply a switch where the Kapton membrane would

simply wear out over time?

A. No, there is not.

Q. I mean, without some kind of manufacturing anomaly or design anomaly or some problem that was specifically identifiable?

A. The brake pressure switch was expected to hold break fluid for the entire life of the vehicle.

Q. Did T.I. ever take the position in any of the meetings that you conducted with them that it was okay for a Kapton membrane to leak brake fluid at -- with a vehicle had a mileage on it 51,500 miles?

A. No, they did not.

Q. Or 56,802 miles?

A. No, they did not.

Q. Did that come as a surprise to you, that a Kapton membrane would allow brake fluid to leak into an electrical side of the switch at 51,500 miles or 56,802 miles?

MR. MAYER: Objection, form.

A. I -- I was surprised that we would have failures that early in the life of a vehicle.

Q. As a matter of fact, sir, in the early stages of your investigation, isn't it true that you just didn't believe it?

A. I didn't know.

Q. And could you offer to yourself -- I mean, satisfactory to yourself, could you offer any explanation satisfactory to yourself in any of these documents that could explain how it could be that a vehicle with a switch operating at 50,000 miles would have a membrane in a condition that would permit brake fluid to leak through it into the electrical side of the connector?

A. During the investigation I couldn't understand how that would be.

Q. As a matter of fact, is it true that the impulse testing -- What's an impulse test, by the way?

A. An impulse tests is a durability test that's run on -- on the switches that we've talked about before. It takes a switch from zero -- approximately zero psi to 1450 psi at 135 degrees C and cycles that switch. The specification calls for that to pass 500,000 cycles.

Q. Okay. I don't understand what that means, 500,000 cycles. What -- What does that mean?

A. I --

Q. Where you hit the switch 500,000 times?

A. What this -- What this test basically

simulates is 500,000 panic cycle -- panic stops -- It's 500,000 panic stops, probably in the -- in the desert southern California.

Q. Pretty severe test?

A. Pretty severe test.

Q. As a matter of fact, is it true that Mr. Beringhause, this gentleman sitting right over here across from you -- He's been here for days, hasn't he?

A. He has.

Q. Is it true this gentleman informed you during the investigation that his own -- the testing that T.I had done showed that -- that Kapton, normal life was over a million cycles of this?

A. There was something to that effect. Some of the tests that T.I. did do for us on parts built in 1999 passed 750,000 tests.

Q. And a million cycles would be twice the testing that was actually subjected, this -- this material and the switch was subject to?

A. That's correct.

Q. And is it also true that the documents that you've reviewed show that it was understood by both Ford and T.I. that this test, basically, was intended to simulate a -- a condition that was at

least equal to, if not greater than or beyond, the life of the vehicle?

A.

MR. MAYER: Objection foundation, hearsay.

A. Yes.

Q. We'll get into the documents that says that. Is there a T.I. document that says that?

A. I believe so.

Q. And, in fact, Mr. Porter, is it also true that there were no service recommendations made for the replacement of brake pressure switches at, let's say, 25,000 miles or 30,000 miles?

A. No, there were not.

Q. Is this basically considered a life of the vehicle type switch?

A. Yes, it is.

Q. I mean, I know that it's possible, I guess that anything could be subject to a service item. But is this the type of item that is supposed to or expected to be replaced over time during the life of the vehicle?

A. This item would be expected to live the life of the vehicle.

Q. And it -- would it be expected to live the

life of the vehicle without permitting leakage through the Kapton membrane?

A. Yes, it would.

Q. And, in fact, is it true that the engineering specification that pertained to this part prohibited leaks?

A. Yes, it did.

Q. I mean, there are some automotive tests out there that do allow a certain amount of leakage or crush or whatever. I mean, there are lots of different tests. But the tests that pertained to this particular brake pressure switch, could it be considered a pass if any test that this -- this pressure switch was subjected to if there was a leak?

A. The -- The wording of the requirement is that no leakage is allowed.

Q. And, in fact, sir, since all of this was over and done with and this Gonzales occurred and you got your hands on some of these T.I. documents, you got that information, did you find out that -- that actually back in the relevant time period T.I. was -- was apparently able to get some switches to pass even though they knew they had leaks?

A. Yes.

Q. Now, do you consider that be a pass? And apparently they thought was a pass. Do you consider it be the a pass?

MR. MAYER: Objection, form.

A. No, I do not.

Q. If a switch is reported as leaking, but passes the 500,000 cycle test, do you consider that to be a pass of the engineering specification impulse test?

A. No, I do not.

Q. Why not?

A. Because the requirements for the impulse test is that there's no evidence of leakage of the switch on completion of the test.

Q. Did you receive any information during the course of the investigation that you made into this potential problem that T.I. had ever informed Ford in the 1991, '92 time frame that they were getting switches to pass the impulse test, but yet they were still nevertheless leaking?

MR. MAYER: Objection, form.

A. No, I did not.

Q. Did you ever get any information that indicated that T.I. informed Ford in the 1991, '92 time frame that T.I. considered such switches to be

imminent failures or pre-imminent failures.

MR. MAYER: Objection, form.

A. No, I did not.

Q. Would you consider it to be a failure waiting to happen?

A. I would consider it to be a failure.

Q. Okay. Exhibit 10, sir, is the engineering specification that Mr. Mayer showed you. Is that the document that refers to the fact that no leaks are permitted?

A. Yes, it is.

Q. Would you refer to that part of the specification that says that?

A. If first of all we look at the impulse test, if the impulse test --

Q. Just indicate for the record what page you're referring to.

A. This is Page 7 of 18.

Q. Uh-huh.

A. The acceptance criteria. After impulse test, check to Sections A, B, C and D using the procedure established in each section. Nonconformance is defined as any switch not meeting the criteria in Sections A, B, C and D. Samples used for this test must be destroyed after testing

is complete.

If you go back to Sections A, B, C. and D, which is on Page 6 of 18, Section B is the proof test. Part 2 of the proof test says: Acceptance criteria. And Part A of that says: No evidence of fluid leakage, seepage or drop in test pressure greater than 430 KPA, 62 psi is permitted.

Q. And is that what you were referring to when I asked those questions earlier?

A. Yes, it is.

Q. Now, let's go back and just cover kind of the formation of the group that investigated this in -- these fires and then we'll -- we'll take -- we'll just kind of go through this. You were shown -- If you get the exhibits in front of you, I'm going to go through some of the exhibits in the order in which they were shown to you, Mr. Porter, so, if you'd just get them in numerical order. I think the court reporter's already done that so it will be easy to follow. Would you turn to Exhibit 12, please.

A. (Witness complies)

Q. Exhibit 12 were some handwritten notes, Mr. Porter, that you were asked some questions about. I think you've indicated that some of this

stuff, you really -- the handwriting itself, you couldn't identify, but you recognized as being prepared at least in the early stages of your investigation; is that right.?

MR. MAYER: Objection, misstates the testimony.

A. I believe that I identified the handwriting on the first sheet as possibly being mine.

Q. And I think, on the second sheet, the -- the printing was possibly yours as well?

A. That's correct.

Q. Okay. So some of the handwriting, you could identify and some of it you couldn't?

A. That's correct.

Q. In any event, is it -- am I correct in stating that these notes were prepared at a time when you were basically just getting underway in the investigation?

A. Yes, they were.

Q. And you were identifying some of the thoughts that were occurring to you as someone sort of taking a fresh look at this question, not having had any involvement at all in the design and development of this brake pressure switch?

A. That's correct.

Q. And one of the questions that you asked, apparently, in connection with this activity in the first early few days was whether or not brake fluid could be ignited?

A. Yes.

Q. And was that something that occurred to you early on?

A. In December of 1998.

Q. Just for the ladies and gentlemen of the jury, would you please explain to them the proximity of brake fluid to the electrical side of the switch that T.I. was supplying?

A. The brake fluid on the immediated other side of the diaphragm that's been perforated.

Q. Did you develop any information during the course of your investigation that indicated that it was hidden from T.I. that there was brake fluid -- hydraulic brake fluid on the other side of the Kapton membrane of the switch that they were supplying to Ford?

A. No, I do not.

Q. Did you find this to be one of the basic early questions that you felt was important to get an answer to: Can brake fluid be ignited?

A. Yes.

Q. Now, why were you interested in that question, sir?

A. Because it would provide a -- a fuel for a fire.

Q. Where?

A. Under hood at the brake pressure switch.

Q. Well, on the electrical sides of the brake pressure switch?

A. It would need to be on the electrical side.

Q. And the impulse testing that was laid out in the engineering specification, was that intended to evaluate, among others things, the durability of the switch inso -- insofar as -- insofar as its propensity to permit leakage to occur --

MR. MAYER: Objection, lack of foundation.

Q. -- during normal life?

A. Yes, it would be.

Q. And would that be a bad thing, leakage of brake fluid?

A. Yes, it would be.

Q. And based upon your investigation into these fires, why do you think leakage of --

through -- of brake fluid would be a bad thing to happen?

A. There are multiple reasons. First being that brake fluid can cause corrosion, which would allow an electrical path to develop heat that would eventually ignite the brake fluid.

Q. And you also apparently wanted to know whether or not the brake -- the brake pressure switch was wired hot on all of the vehicles --

A. Yes.

Q. -- across the Ford lines? Why were you interested in knowing that?

A. Because that would be a requirement to have something start fire with the ignition off.

Q. You indicated in response to Mr. Mayer's questions that you actually first learned about that from Charlie Douglas; is that right?

A. That's correct.

Q. Had you thought about that question at all before asking it in connection with the investigation?

A. No, I had not.

Q. Is the brake pressure switch on the 1992, '93 Town Car wired hot?

A. Yes, sir.

Q. And by that you mean to that current is available to the switch at all times?

A. That does means that it's a circuit to the battery at all times, yes.

Q. Whether if engine's on or off?

A. Whether the -- Yes.

Q. Now, is -- is that some -- some unique animal? Is that the only switch in the 1992 Town Car that is wired hot all the time?

A. No.

Q. Could you just estimate for the ladies and gentlemen of the jury how many switches are wired hot -- or devises are wired hot in that vehicle?

A. In that vehicle, I don't know the exact number; but it may be 20 to 30.

Q. And is that unique to the Town Car?

A. No, it is not.

Q. How many vehicles has the North American industry typically produced where there are switches wired hot?

A. Virtually all switches in North America have switches and other components wired hot at all times.

Q. Does T.I. holds itself out as an expert electrical component supplier to the automobile

industry?

A. Yes, they do.

MR. MAYER: Objection, form.

Q. Are they a Q-1 supplier?

A. Yes, they are.

Q. Is one of the responsibilities of a Q-1 supplier to become familiar with the customs and practices of the North American industry, sir?

A. It would be --

MR. MAYER: Objection, form.

A. For a Q-1 supplier, it could be the customs and practices of Ford Motor Company.

Q. All right. And is it part of their responsibility to become -- to become knowledgeable and familiar with the customs and practices of Ford Motor Company insofar as the systems are concerned for which they are supplying components?

A. That would be something that would be expected of a Q-1 supplier.

Q. And does a Q-1 supplier do that by attending meetings with Ford as one means of doing that?

A. Yes, they do.

Q. Asking questions at the meetings?

A. Yes, they do.

Q. Going to SAE meetings?
A. Yes, they do.
Q. Reading technical papers?
A. I would expect so.
Q. Reading Crane's Automotive News?
A. I would expect that to happen.
Q. And probably a zillion other thins that I haven't identified?
A. Probably a zillion other.
Q. Now, if I were to suggest to you that T.I. has asserted that it was astonished to learn in 1999 or 1998 that this switch was wired hot, what would you have to say about that?
A. That would be a surprise to me, that Texas Instrument, who had been considered to be a good supplier to Ford Motor company, would leave something like that un -- un -- un -- not understood.
Q. What do we know about what they would have to have known at a minimum? For example, let's talk about that 15-amp fuse. What does that mean?
A. The 15-amp fuse is a fuse in the speed control circuit that's placed there to protect the wiring of the system.
Q. Uh-huh. And do you need 15 amps to run

the -- the servo clutch, speed control?

A. No, you don't need 15 amps for the servo clutch. You'd only need three-quarters of an amp.

Q. And is that all the amperage that you need for that function?

A. For that particular function, yes.

Q. And the switch itself, is it designed to withstand or take only 15 amps of current?

A. There was concern expressed early in the program as to what the switch could take as far as current and Texas Instrument ran some tests that showed it could take 28 amps?

MR. MAYER: Objection, nonresponsive.

Q. And so what do you understand to be the -- the design capacity, so to speak, of the switch from an amperage standpoint?

A. In excess of 15 amps.

Q. Uh-huh. Well, why do you suppose T.I. designed a switch in excess of 15 amps?

A. Because they -- I -- I guess I really don't know why they would've done that, except that it would be applicable to more applications than just speed control.

Q. And in any of these meetings -- I know you first learned about this Charlie Douglas. But in

any of the meetings that you had with the T.I. people, did -- did any of the T.I. people ever say to you or in your presence that -- And I'm talking now about people that would have been involved in the design and development back in '92 and '92 -- Did any of those folks ever say to that they did not know back in that time frame that the switch was wired hot.

MR. MAYER: Objection, form.

A. Just to understand the question, you're under wondering if anybody from T.I. had told me that they didn't know that the switches were wired hot at all times back in the 1991, '92 time frame?

Q. Uh-huh.

A. I don't recall that.

Q. T.I. supplied this switch to Ford starting in 1992 through 1997 on the Town Car, correct, or '96, I think?

A. I think it was '96.

Q. All right. So they supplied it for 1992, '93, '94, '95, '96, five model years?

A. That's correct.

Q. Did anyone in the course of the investigation that you did -- Check that. Was the switch wired hot for all the five model years?

A. Yes, it was.

Q. Do you know how many vehicles were sold from 1992 to 1996 Town Cars that had this switch wired hot?

A. All of them.

Q. What is that number?

A. I don't know.

Q. A million vehicles?

A. I don't know the exact number, but in five years, somewhere, you know, probably near a million vehicles.

Q. And did anyone from T.I. during the course of this investigation -- How about that Aziz Rahman plan guy, he was the resident engineer, wasn't he?

A. He was with us for three.

Q. On site at Ford?

A. Yes.

Q. Did Aziz ever tell you that it was -- it was astonishing to T.I. to learn that that five-year period when those million switches that were sold, that they didn't know that they were wired hot?

A. No, he did not.

Q. Truthfully, Mr. Porter, in light of the fact that T.I. was supposed to supply a switch that never, ever, ever leaked, did it make a difference?

MR. MAYER: Objection, form.

A. Can you restate that question?

Q. Given the fact that T.I. was supposed to a switch that never, ever, ever leaked, did it make a difference whether it was wired hot or not?

A. Oh, whether it was wired hot or not? No, it would not.

Q. Why not?

A. Because if the switch never leaked, there would be no possibility for a short to develop between the electrical components and the grounded case.

Q. And is there any possibility under any of this paper that we've been exposed to in the last two days, is there anything in there that gives T.I. some sort of wiggle room or out that it's okay for them to supply switches that leak brake fluid?

A. No, it does not.

Q. Is it true that insofar as the fires were concerned, there was no way that T.I. could come up with a fix that would basically put the Genie back in the bottle?

A. That's correct.

Q. And given that fact, they were Gung Ho to cut off power to the switch?

A. Yes, they were.

Q. Because they couldn't figure out a way to put the fluid back into the hydraulic side of the switch?

A. There wouldn't be a way to cause that to go back.

Q. Not just T.I. Could anyone?

A. No, no one could.

Q. And I don't suppose there was a little window or anything that was supplied with these switches that would allow you to look in there and see if a switch was leaking?

A. There was no method of checking the interior of their switch.

Q. It was -- I mean, that's -- you're being factitious. That -- That really was not a practical thing to do, was it?

A. I don't know if it would be practical or not.

Q. Because nobody thought the switches would leak?

A. That's correct.

Q. Okay. Go to Exhibit 14. Exhibit 14 references some warranty information in the middle of the page. Specifically, it mentions two

particular under hood fire incidents in connection with the brake pressure switch, one that occurred at 51,500 miles and one that occurred at 56,802 miles. Did I -- Do you see that information?

A. Yes.

Q. Is this the type of information that was of concern to you when you got involved in this investigation?

A. Yes, it was.

Q. Could you conceive of any explanation as to how a fire could develop in a brake pressure switch as a result of leaking brake fluid at these kinds of mileages?

MR. MAYER: Object, form.

Q. At the time, I mean.

A. No, not at the time.

Q. And at that time, is -- Was this information shared with T.I., this warranty information?

A. I -- I don't know if this information was shared with them or not.

Q. Okay. Well, did T.I. ever explain to you how it might be that one of their brake pressure switches could leak brake fluid at 51,500 miles?

A. Just that the Kapton must have leaked.

Q. Did they ever tell you -- gave you -- give you an explanation as to why that might've happened?

A. No, they did not.

Q. There was some discussion in response -- in connection with this particular exhibit about fault codes. My question to you: Was -- Was the presence or absence of fault codes, does that have anything to do with the cause of the leaks or the cause of the fires?

A. No, it would not. That would only help provide information after the fact.

Q. Is it common and customary to have a diagnostic codes on every components in the vehicle?

A. No, it's not.

Q. I once read that there were something like 14,000 parts, separate parts in a vehicle. Does that sound about right?

A. It wouldn't surprise me.

Q. Does every one of them have a diagnostic code tied into the little black box in the cockpit?

A. No, they do not.

Q. Exhibits 15, go to that one. This particular document, sir, you were asked some questions about this. This talks about the burned -- a burned connector. And I think you were

asked about this. But are you satisfied that in the bags that you've identified, you have whatever remains of that connector?

A. Yes, I -- Yeah.

Q. Could you just explain. You said that there was some sharing of this -- of these parts with T.I. or some material. I'm -- I'm sure I followed that. Could you just explain that and clarify that?

A. On -- When we first received this part back, Norm LaPointe, I believe, went to Texas Instrument where the -- the part was opened up. As the part was opened up materials that were found in the part were collected and T.I. was -- left some of that material for their chemical analysis.

Q. And did they get back to you with the results of that chemical analysis?

A. Yes, they did.

Q. Okay. And do you remember what they were?

A. It was, by and large, the same as the chemical analysis that Central Labs had -- had performed.

Q. And this -- this switch, this Memphis switch that we -- we talked about -- And I -- I know you referred to this a little bit as a -- and it

looked like a candle flame burning. But would you describe what your understanding exactly was of what happened at this particular dealership and how this came to your attention?

MR. MAYER: Objection, form.

A. What -- What was reported to us was that the customer had brought the vehicle into the dealership for service. While it was in the parking lot a service technician noticed smoke coming out from underneath the hood. He opened up the hood, saw a small candlelight flame coming from the brake pressure switch, got a fire extinguisher and put it out.

Q. So it was a mechanic at the dealership that identified the source of the flame as coming from the brake pressure switch; that's what you understand?

A. That's what I understand.

Q. And did this particular incident happen after Ford had received this letter from NHTSA asking for it to investigate under hood fires and identifying the brake pressure switch as a potential component involved with it?

A. I'm not exact sure of the exact date, but I think it was afterwards, yes.

Q. Fairly close in timing anyway?
A. Yes.
Q. And so the matter received some pretty significant attention, I assume --
A. Yes, it did.
Q. -- in light of the investigation? But when you became aware of this, the investigation was ongoing, obviously?
A. When I -- Of the switch?
Q. Of the -- Of the Memphis switch.
A. Yes.
Q. Now, what -- In terms of the overall significance of the -- to you, to the investigation, what was the significance of that information concerning that switch in Memphis?
A. The Memphis switch was the first switch that we had an eyewitness that could say the brake pressure switch was flaming. It was constrained enough that there were no other components that were -- that were involved other than that in the brake pressure switch area. The -- The part was opened up and it indeed had cracks in the Kapton with -- that allowed brake fluid in and brake fluid had gotten into the electrical connection area and there was corrosion that Central Labs identified as

being the result of corrosion with brake fluid.

Q. Okay. Let me -- Let me understand this. When -- When NHTSA sent the letter to you in November of 1998 -- or Ford saying, you know, we've had some reports, identified some components; we want you to look into this, was there any -- with regard to those incidents that they identified in the letter, was there any specific hard evidence, eyewitness evidence, for example, that someone actually saw a brake pressure switch flaming or on fire?

A. I believe, in the evidence -- or in the documentation that came with the NHTSA letter, it was all investigation type of information. So there was not a -- a direct eyewitness of the brake pressure switch, per se.

Q. So there were some earlier incidents, there were some suspicions, some theories; but the Memphis switch was one where somebody actually saw the switch on fire?

A. That's correct.

Q. And did the fact of that event have any effect on your beliefs or conclusions that such a thing was possible?

A. It -- It confirmed that such a thing was

possible.

Q. And when you opened up the switch, you said you found cracks or something in the Kapton; is that right?

A. That's correct.

Q. And you found residue, brake fluid residue?

A. Yes.

Q. And at that time, did you have an explanation for why there were cracks in the Kapton?

A. We didn't have a very good explanation. What we did see looking in looking at the -- at the Kapton, I think I described earlier, teardrops in the Kapton that looked to me as though they could be areas where stress concentration would've -- would've helped cause the Kapton to -- to be stressed and cracked.

Q. One of these documents that Mr. Mayer showed you refer to -- In fact, I think it might be -- I can -- I want to take them out of order because we're talking about this now. But there is an exhibit that he showed you, Exhibit 24, I believe -- Yeah, Exhibit 24. Do you want to turn to that?

A. Okay.

Q. Exhibit 24 is a -- this E-Mail that he went over -- Mr. Mayer went over pretty carefully with you?

A. Yes.

Q. In fact, I think he -- he read every line of this E-Mail to you during the course of his questioning except for the section on Page 2, which is labeled: Questions for T.I. Do you remember that?

MR. MAYER: Object to form.

A. Yes, I do.

Q. I believe that was the only part of the E-Mail that he didn't read to you in the course of his questioning. Do you remember that?

A. Yes.

Q. Well, one of the questions that are identified there, there are -- Let's see -- one, two, three, four, five, six, seven, eight, nine, ten questions that are listed there. Do you see that?

A. Yes.

Q. And there are a number of questions. We can talk about them later. But one of the questions, I believe, was: What are -- Where are the answers/feedback to the many questions asked during the analysis at T.I. Tech Lab's (Stated many

questions were asked, primary was in regards to the cause of the crease mark found on the Kapton). Did I read that right?

A. That's correct.

Q. Now, is the crease mark that's found on the Kapton that's referred to in that document, the teardrop that you just described in the -- that was observed on the Memphis switch?

A. Yes.

Q. So it's one and the same?

A. That's correct.

Q. Now, have you seen other people refer to such creases as Mickey Mouse ears?

A. During the investigation or since?

Q. Since.

A. Yes.

Q. Or I don't know. Somebody said Texas Longhorns. I don't know if that's -- I don't know. Have you ever seen that?

A. No.

Q. Okay. I've seen Mickey Mouse ears and I've seen creases and I've seen teardrops.

A. That's correct.

Q. Do all of those terms basically mean the same thing to you?

A. They're different levels of -- of the same thing. A teardrop would kind of be a -- or Mickey Mouse ears would be a double teardrop. A crease would be -- could be either with the Mickey Mouse ears or a teardrop.

Q. And at the time that the information came in about the Memphis switch, Mr. Porter, were you attempting to gain an understanding of how it came to be that this Kapton membrane in this switch had developed this crease or this Mickey Mouse ear or this increase -- this teardrop?

A. Yes, I was.

Q. And what did you do to try to find that out, to find out the answer to that question?

A. We asked Texas Instrument what they could tell us about that.

Q. Now, why in the world would you ask Texas Instruments?

A. Because it was their part, they designed the part, they designed the process to build the part. They had the control systems in place for building the part, they would understand the details of the part better than anybody else.

Q. Now -- Now, hold on, Mr. Porter. Mr. Mayer pointed out and he's right, you know;

those guys at Wixom, they pull a vacuum on these break lines, don't they?

A. Yes, they do.

Q. And, you know, pulling that vacuum, that could cause that crease or that Mickey Mouse ear or that teardrop, couldn't it?

A. I don't know that it could.

Q. Well, I mean, that's a possibility, right?

A. Well, the problem with that is that that vacuum is being drawn not only on Town Cars since the '92, '93 model year, but on all the other vehicle lines also.

Q. Did T.I. ever acknowledge to you during the course of the investigation that they knew where did crease came from?

A. No, they did not.

Q. You're familiar with that old rock and roll song: Who put the bop in the bop shebop?

A. Yes.

Q. Did they ever tell you who put the bop in the bop shebop?

A. No, they did not.

Q. Did they ever tell you who put the crease in the Kapton?

A. No, they did not.

Q. Did they tell you that they had actually put creases in Kaptons in the manufacturing of switches back in 1991, '92?

A. Not until after the recall.

Q. Did they tell you they had written documents back in that time frame that actually described these things as Mickey Mouse ears?

A. No, they did not.

Q. When did you first find out all of that?

A. Reviewing the Highlights that T.I. had produced for the Gonzales case.

Q. When -- When you were trying to find out in December of 1998 what the cause of the crease mark was in the Kapton on the Memphis switch, would you have liked to know that in 1991, '92, those -- that creases had been found in Kapton in the manufacturing processes that were being used by T.I. at that time?

A. Yes.

Q. Why?

A. Because it would've related these parts back to what was going on at Texas Instrument at the time. What we were being told over and over again was that all parts that T.I. had shipped met specification, but we -- that all the parts had met

specification and that there had been no changes to the process since they had started producing the parts.

Q. Uh-huh. And did -- Did T.I. ever tell you in -- in the ensuing next couple of months -- In no case, they didn't tell you in December, but I'm sure they answered all these questions at one time or another. Did they ever tell you -- You know, there's that February -- Here, this one that Mr. Mayer said he didn't want to ask any questions about, he wanted to speed it up, so he just skipped right over it, Exhibit 27.

MR. MAYER: Object, sidebar.

Q. I think he said, I want -- I -- Do you recall him saying to you, I'm not going to ask any questions about this, I want to speed this up, Exhibit 27?

A. Yes.

Q. And he showed you this document, this overview, 77 PS overview 2-10-99?

A. Yes.

Q. And in here there's all kinds of information supplied to Ford, correct?

A. That's correct.

Q. I mean, pretty good stuff, right?

A. Yeah.

Q. I mean, very detailed, very ariadite (sic.), quite informative?

A. Uh-huh.

Q. In fact, for example, Mr. Beringhause reports in here on Page -- on the second page of this document when he talks about the Kapton diaphragms, he talks about the fact that the life expectancy of the T.I. brake pressure switch can vary, but typically it's around one million cycles, which is well above the 500,000 cycles specified in the Ford specification. Do you see that?

A. That's correct.

Q. So basically, what T.I. is saying is that they just don't expect Kapton to wear out, do they?

MR. MAYER: Object, form.

A. That's correct.

Q. There's no pre -- There's no concept of premature wear or wearing out of this part, I mean, this is there for the life of the vehicle?

A. That's right.

Q. And that's what you would've expected when Ford bought this part, isn't it?

A. That's right.

Q. And so that's in here, that's information

in here, right?

A. Uh-huh.

Q. And I mean, did you follow any of those questions that were being asked of you as to what constitutes just, you know, Kapton wearing out versus premature wearing out?

A. It was very to confusing.

Q. Did you have any understanding before Mr. Mayer asked those questions that apparently somebody thinks Kapton can actually wear out during the course of a vehicle life?

A. That wasn't anything that had been presented to us.

Q. In this particular documents, did Mr. Beringhause address the basic issue of that Tennessee switch and what had happened in that particular event.

A. I'm not sure if he did or not.

Q. In this Exhibit 27?

A. No, it's not.

Q. Did you see it someplace in a draft of the documents, however?

A. Yes, I did.

Q. Something that was maybe produced during the course of litigation at somewhere along the way?

A. Yes.

MR. FEENEY: Can I just have one -- one minute? Why don't we just take one --

MR. MAYER: Sure.

MR. FEENEY: -- minute while I'm --

MR. MAYER: Do you want to take a --

MR. FEENEY: Yeah. Why don't we take five minutes and take a rest room break.

THE VIDEOGRAPHER: Off the record, 4:44:14.

MR. FEENEY: We'll quit at 5:00, Eric.

(Recess taken.)

(Exhibit No. 41 marked.)

MR. FEENEY: Okay.

MR. MAYER: Do I have a continuing objection as well? Thank you.

MR. FEENEY: On the -- On form? Sure. Yeah.

Q. We thank you for the indulgence, Mr. Porter. I was able to find in the short break the document I was looking for.

MR. FEENEY: I've marked Exhibit 41. Mr. Mayer, I've got Exhibit 41 --

MR. MAYER: Thank you.

MR. FEENEY: -- there for you.

Q. Would you take a look at Exhibit 41, Mr. Porter?

A. Yes.

Q. What is that document.

A. It appears to be a draft of what was part of Exhibit 27 written the day before Exhibit 27 was.

Q. And at the top of the document, I mean, just to read it for identification purposes, it says: From Andy McGuirk, sent Thursday, February 11, 1999, 8:52 a.m., to Baumann Russ, Dague Bryan. Did I read that correctly?

A. That's correct.

Q. And carbon copy to Beringhause, Steven and Rowland Thomas -- Rowland, Thomas?

A. That's correct.

Q. Okay. And it says, Subject: 77PS overview. Mr.McGuirk writes: "Just some minor points and drop out tenn line", spelled t-e-n-n line. Did I read that correctly?

A. That's correct.

Q. Now, when did you first come across Exhibit 41, Mr. Porter?

A. In reviewing documents produced for the Gonzales case.

Q. Exhibit 27 which we've referred to earlier, does that contain a so-called 77PS overview dated 2-10-99?

A. Yes, it does.

Q. And was the 77PS overview dated 2-10-99 that is the subject of Exhibit 27, was that document provided to you during the course of the investigation and your work with T.I.?

A. The document, Exhibit 27, was provided to us, yes.

Q. Was the version of this documents that is included in Exhibit 41 provided to you during the course of your investigation?

A. No, it was not.

Q. Have you had an occasion -- Have you had the opportunity to compare 41 to 27?

A. Yes, I have.

Q. And have you been able to figure out what the reference is to drop out the tenn line?

A. I believe I have.

Q. Would you please go to the third page of Exhibit 41, sir?

A. (Witness complies.)

Q. And have I highlighted a sentence in that document?

A. Yes, you have.

Q. And did that sentence appear in the document bold and it Italics?

A. Yes, it did.

Q. Would you read that sentence into the record, please?

A. "Results of the analysis of the pressure switch from Tennessee showed curve marks on the diaphragm that may have been caused by a pinched Kapton, TM.

Q. And did -- Was that information provided to you by T.I. in 1999 as part of this document?

A. No, it was not.

Q. Do you know why Mr. McGuirk ordered that that reference be dropped from this version of the document that was given to Ford?

A. I don't know why he would do that.

Q. Would that have been information that would have been useful to you in your investigation at that time?

A. Not only would it have been useful to me, but I'm a little bit surprised, given it's correlation to the part from Memphis, that this paragraph would've shown up deep into the document.

Q. Well, what -- what is the significance of

this? I mean, we're all sitting here. I'm not a chemist, I'm not an engineer. I mean, what's -- what's the significance, Kapton, Kriptonite? I mean, it doesn't -- It's all the to me. What's the significande of this thing to you?

A. Well, this is the diaphragm material that T.I. Uses in their brake pressure switch to keep the -- the brake fluid on the fluid side away from the electrical components.

Q. All right. So what's this saying to you? If this information had been provided to you, what would this be telling you?

A. This is telling us that a manufacturing and PV anomaly such as a pinched Kapton, which is apparently something that T.I. was familiar could result in the crease that we had been asking about.

Q. So the -- Now, they did talk about pinched Kapton in Exhibit 27, if you look Page -- the second page of that document. They did talk about the fact that, you know, manufacturing anomaly such as pinched Kapton can affect the Kapton diaphragm. Do you see that?

A. That's -- That's correct. But they did not correlate it to the part that we had gotten back from Memphis.

Q. Did T.I. ever, in the course of the investigation that you were conducting, knowledge to you that the Memphis switch may well have contained a manufacturing defect?

A. No, they did not.

Q. And, in fact, sir, is it true that throughout the course of the investigation T.I. -- T.I.'s posture to you as Ford's representative was that all of the T.I. switches had passed the impulse testing?

A. That's correct.

Q. And, therefore, how could they possibly be leaking?

A. That's correct.

Q. And you believed it?

A. And I believed it.

Q. And is that one reason why you spent so much time and effort trying to come up with some alternative solution that would be efficient and effective as a recall and a fix in the field that would eliminate the risk of fire to your customers?

A. That is correct.

Q. Because you believed the switch was not defective; that the membrane was fine and that there weren't any manufacturing problems?

A. That's correct.

Q. Okay. Let's go back and pick up the story. Going back to Exhibit 17, I think that's where I was. Now, you told us about Charlie Douglas being the guy that informed you that the switches were hot wired and you were asked some questions about Exhibit 17. Actually, what he says is -- In the -- In the next to the last paragraph he says -- And this is an E-Mail to you, right?

A. That's correct.

Q. Okay. So he writes to you as follows: "One additional note: During our discussion yesterday you talked about the switch being hot on the Town Car. I think I misunderstood the context of your statement. At the time of our discussion I was thinking thermal hot, but upon further reflection believe you may have meant wired hot." Now, let me just stop right there. What's the difference?

A. Thermal hot would be something that was hot to the touch. Wired hot is kind of an electrical term which means that electricity is available to the device.

Q. Okay. Now, did he respond back when you had this conversation that the switch was not

thermal hot?

A. I'm not sure.

Q. Hot to the touch?

A. I -- I -- I believe that he said he didn't believe it was hot to the touch.

Q. Okay. So he's clarifying maybe some information that he had previously given you?

A. That's correct.

Q. And he goes on to say: "If this is the case --" Meaning if you were actually talking about whether it was wired hot -- "I am pretty sure the switch is wired hot in virtually all of the above applications." Now, the "above applications" are -- is that a reference to every one of these vehicles in every one of these model years?

A. I believe that it is.

Q. Are these all vehicles and model years that T.I. is supplying switches for?

A. Yes.

Q. So it wasn't just in December of 1998 that Charlie Douglas apparently knew that the Town Car was wired hot. Is it true that you understood this to mean that he knew that all of these applications were wired hot?

A. That's correct.

Q. Now, that's not surprising to you at all; is it?

A. No, it's not.

Q. You would expect a Q-1 supplier to know that, wouldn't you?

A. That's right.

Q. Go to the next exhibit. That's exhibit what?

A. 18.

Q. Exhibit 18. Just a question on Exhibit 18. This is this memo that sort of documents the fact that -- that there was a trip taken to Attleboro and the reference here is: Can some -- Can some find out the type of material used in the extinguisher. You're talking about here the -- the continuing investigation into the Memphis switch, right?

A. That's correct.

Q. And did I understand you to say that there was some consideration at some point in time about the weather?

A. I believe that weather was -- was considered a possible question.

Q. And I mean, is that normal in an investigation of that type, whether you want to look

at, environmentally, was -- was there some unique pattern of -- that applies in a -- you know, like in a given region or given weather conditions?

A. If it's possible to kinds out that kind of information, sometimes it can be helpful, you know, if it happens at a particular heat waive or maybe a flood or a hail storm or some unusual factor.

Q. During the course of this investigation, did you ever ascertain that there was a -- that there was some environmental factor that was going on here --

A. No, we did not.

Q. -- according to the phenomenon of brake fluid leaking through a Kapton membrane?

A. No, we didn't.

Q. I mean, for example, did you determine that if -- if someone bought a Town Car in Florida and kept it there for four or five years, that that made it somehow more susceptible to brake fluid leakage than through the Kapton membrane, than if they pulled it around in Montana?

A. The only -- They only thing that we've learned from that was that there are a lot more Town Cars in Florida than there are in Montana.

Q. Okay. All right. Other than that, that's

about it?

A. That's correct.

Q. A lot of those people are driving those Town Cars to their -- to Palm Beach right now to continue the hand count.

Let's go on to the next exhibit, 19. This is this documents that dealt with this -- this information that Mr. Gribble provided. And were you under any continuing obligation to report back to Mr. Gribble and inform him of events as they evolved and developed?

A. No, I was not.

Q. I mean, if we were to go to Ford and ask for the -- Well, strike that. I mean, do you know where Mr. Gribble is today.

A. No, I don't.

Q. Is there any action that you took based upon the information provided in Exhibit 19?

A. No, there's not.

Q. And does anyone that you know of seriously dispute the fact that brake fluid can be corrosive --

A. No.

Q. -- if it's permitted to leak through the Kapton membrane?

A. No.

Q. Was the subject of --

MR. FEENEY: Eric, it's 5:00 o'clock and I'd just soon quit. I mean, we quit at 5:00 yesterday so let's quit today. I'm not done and I'm not going to get done in a half hour or so.

MR. MAYER: I figured as much. That's fine. You wanted to stop.

A.

MR. FEENEY: May -- Might just as well stop.

THE VIDEOGRAPHER: The deposition is concluded for today, 5:02:42.

* * *

CHANGES AND SIGNATURE

PAGE	LINE	CHANGE	REASON

I, FREDERICK JAMES PORTER, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

_____
FREDERICK JAMES PORTER

THE STATE OF _____)

COUNTY OF _____)

Before me, _____, on this day personally appeared FREDERICK JAMES PORTER, known to me (or proved to me on the oath of _____ or through _____ (description of identity card or other document)) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

(Seal) Given under my hand and seal of office this _____ day of _____, _____.

_____
NOTARY PUBLIC IN AND FOR
THE STATE OF _____

D

D962-825-A 12788

DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) Thru:	2019
Schedule Number:	27.03

L. W. Camp
Director
Automotive Safety Office
Environmental And Safety Engineering

Ford Motor Company
330 Town Center Drive
Dearborn, Michigan 48126 USA

March 11, 1999

Mr. Thomas Z. Cooper, Chief
Vehicle Integrity Division
Office of Defects Investigations
National Highway Traffic
Safety Administration
400 Seventh Street, S. W.
Washington, DC 20590

Dear Mr. Cooper:

Subject: PE98-055:NSA12jfa

This letter completes Ford's response to the agency's November 24, 1998 letter concerning the subject investigation by providing additional information in response to Request No. 1. As the agency is aware, Ford is conducting an extensive investigation into this issue. We will keep the agency informed as that investigation progresses.

If you have any questions concerning this response please contact me.

Very truly yours,

L W Camp

Attachment

Porter
EXHIBIT NO. 9

ATTACHMENT
March 11, 1999

FORD'S RESPONSE TO PE98-055 Request No. 1

Ford's response to this Preliminary Evaluation inquiry was prepared pursuant to a diligent and good faith search for the information requested. While we have employed our best good faith efforts to provide responsive information, the breadth of the Agency's request and the requirement that information be provided on an expedited basis makes this a difficult task. We nevertheless have made every effort to provide thorough and accurate information and we would be pleased to meet with Agency personnel to discuss any aspect of this inquiry.

The scope of Ford's investigation conducted to locate responsive information focused on Ford employees most likely to be knowledgeable about the subject matter of this inquiry, and to reviewing Ford files in which responsive information ordinarily would be expected to be found and to which Ford ordinarily would refer, as more fully described in this response. To the extent that the Agency's definition of Ford includes suppliers, contractors and affiliated enterprises for which Ford does not exercise day-to-day operational control, we note that information belonging to such entities ordinarily is not in Ford's possession, custody or control. Ford has construed this request as pertaining to vehicles manufactured for sale in the United States.

Responses to your specific numbered requests follow. As requested, after each numeric designation, we have set forth verbatim the request for information, followed by our response to it.

Request No. 2

State the number incidents, known to Ford, in which the alleged defect has been reported to have occurred in the subject vehicles. Furnish copies of all documents, from any and all sources, including documents which may not originally have been submitted to Ford, which are in Ford's possession or control, or of which it is otherwise aware, that pertain, in any way, to any of these incidents. This should include, but is not limited to, all documents possessed by Ford, or of which it is otherwise aware, pertaining to the reports included with this letter. Furnish all documents whether or not Ford has verified the validity of each document. For each incident in this response please provide the vehicle owner' s name, address, and telephone number; and identify all vehicles by vehicle identification number, model year, date of manufacture, date of, retail sale, date of incident, mileage at the time of the incident, and problem description. For all incidents involving lawsuits please identify the caption, court, docket number, and filing date of each lawsuit and a copy of the complaint document initiating the lawsuit. Sort all incidents by cause and area or component of origin.

Request No. 1

State the total number vehicles sold in the United States by model name and model year that have engine compart (sic) configurations (i.e., components and component location, wiring harnesses and harness location) the same as the subject vehicles. Provide a response to question number two for all vehicles identified in your answer to this question.

Answer

In accordance with the agency's January 11, 1999 letter and a January 21, 1999 telephone discussion between Ford Automotive Safety Office personnel and Messrs. Cooper and Abbott of NHTSA, Ford and the agency identified four components located in left side under hood of the subject vehicles which are of interest to the agency. The components identified were as follows:

1. Switch - speed control deactivation
2. Relay center
3. 12A581 wiring harness which connects to the EEC
4. EDIS ignition module.

Additional study of these components was conducted by Ford to determine their usage, package location, and design level. In a follow up telephone discussion on February 9 between Ford Automotive Safety Office personnel and Messrs. Cooper and Abbott of NHTSA, Ford and the agency agreed that vehicles using the speed control deactivation switch with a part number of F2VC-9F924-**, vehicles with a 12A581 wiring harness that functions with a 60 pin EEC connector and has the relay center integrated as a part in assembly, and vehicles using an EDIS-8 the Electronic Distributorless Ignition System module (EQIS-8 12K072) are to be considered those vehicles as having "specific components identified" as described in the agency's January 11 letter. Therefore, Ford's response to Request Nos..2 and 3 focuses on the vehicles with the "specific components...identified...following examination of vehicles."

A matrix of vehicles with the above identified components and the production volumes, as agreed to in the February 9, conversation with the agency, was provided in Appendix I to our February 15, 1999 response. Subsequent to our February 15, 1999 response we learned that a speed control deactivation switch with a part number F2AC-9F924-** was also used in 1992-1993 model year Lincoln Town Cars and the vehicles already identified in Appendix I to our February 15 letter. The F2AC switch was used interchangeably with the F2VC switch; the vehicles identified in the matrix are correct and no other Ford vehicles use the F2AC or F2VC switch.

The following contains additional information that relates to the second part of Request No. 3, "Provide a response to question number two for all vehicles identified in your answer to this question."

For purposes of identifying reports of incidents potentially involving the alleged defect and any related documents, Ford has gathered "owner reports" and "field reports" maintained by Ford Customer Service Division ("FCSD"), and claim and lawsuit information maintained by Ford's Office of the General Counsel ("OGC").

Owner Reports. As the agency is aware, within FCSD's North American Customer Service Operations, there is a Customer Assistance Center ("CAC") that is responsible for facilitating communication between customers, dealerships and Ford Motor Company. Among other things, the CAC handles telephonic, electronic (via the Internet), and written inquiries, suggestions, informational requests, and concerns ("contacts") from Ford and Lincoln-Mercury vehicle owners about their vehicles or sales and service processes. The contacts are handled by CAC customer service representatives, who enter a summary of the customer contact into a database known as MORS (Master Owner Relations System). Certain contacts, such as letters from customers, are entered into the MORS database and also are copied to microfilm, or more recently, imaged and stored electronically.

The CAC assigns to each vehicle-related contact report a "symptom code" or category that generally reflects the nature of the customer contact or vehicle concern, as described by the owner. The CAC does not undertake to confirm the accuracy of the description provided by the owner; they simply record what is reported. Therefore, given the complexity of the modern motor vehicle, it is Ford's experience that a significant percentage of owner contacts do not contain sufficient information to make a technical assessment of the condition of the vehicle or the cause of the event reported. Accordingly, although MORS contact reports may be useful in identifying potential problems and trends, the records are not the empirical equivalent of confirmed incidents and/or dealership's diagnosis. The MORS database maintains customer contact information for five years.

In responding to this information request, Ford electronically searched MORS contact reports dated through February 17, 1999 for 1994-1997 model year Crown Victoria and Grand Marquis, 1996-1997 model year Lincoln Town Car, and 1993-1995 model year Lincoln Mark VIII vehicles with symptom codes 203*** (Electrical/Charging System-Low Charge, High Charge, Inoperative, Noise, Indicator, Wiring/Basic- Attachment, Routing, Trailer, Starting System-Drive Engage, Slow Crank, Ignition Switch, Inoperative, Noise, Battery-Low Fluid, Broken Terminal, Case Cracked, Leaks, Won't Hold Charge, Auxiliary (Dual), Circuit Protection-Fuse Box Internal, Distribution Box (External)); 301*** (Chassis/Service Brake System-ABS

Indicator, Noisy-Front, Rear, Front and Rear, Drag-Front, Rear, Front and Rear, Pull-Left, Right, Left or Right, Lock-Up/Grab-Front, Rear, Front and Rear, Pedal-Appearance, Attachment, ABS Self Actuating, High Efforts, Soft/Spongy, Pulsates, Low Pedal, Noise, Inoperative/Ineffective-Front, Rear, Front and Rear, Excessive Wear-Front, Rear, Front and Rear, Leaks-Air Pressure, Fluid); 304*** (Chassis/Suspension System/Suspension Ride Quality-Harsh, Soft/Float, Bottoming, Lean/Sag/Height-Both Ends Low, Both Ends High, Front Low, Front High, Leans Left, Leans Right, Suspension Dog Tracking, Suspension Leaks, Suspension Noise-Front, Rear, Both, Suspension Indicator, Suspension Shocks/Struts- Leaks); 403** (Exhaust System Visual Smoke-Blue, Black, White); 404*** (Exhaust System/Fuel System/Leaks-Filter Area, Tank/Seams area, Filler Neck, Gas Cap Area, Pump/Seal Area, Lines, Tank Selector, Fuel System Odor-Engine Compartment, Passenger Compartment, Truck, Exterior, Fuel System Noise-Pump Assembly, Tank Area, Engine Compartment, Passenger Compartment, Trunk Area, Exterior, Fuel System Slow Fill, Fuel System Attachment- Filter, Tank, Filler Neck/Cap, Injector, Fuel System Routing-Filter, Tank, Filler Neck/Cap, Injector, Fuel System Expulsion/Press-When Refueling, When Running, When Turned Off, Fuel System Indicator-Low Fuel); 499*** (Engine Noise/Basic Engine/Engine General Concern, Appearance, Appearance Corrosion, Attach/Mounting, Missing Comps., Misassembly, Mechanical Failure, Indicator Check Engine); 704*** (Unknown Source/Fire Smoke/Visible Flame-Coll. Related, Trunk, Cargo/Bed Area, Passenger Area, Underhood, Under Vehicle, Fire/Smoke/Smoke-Coll. Related, Trunk, Cargo/Bed Area, Passenger Area, Underhood, Under Vehicle, Fire/Smoke Scorched/Burnt-Coll. Related, Trunk, Cargo/Bed Area, Passenger Area, Underhood, Under Vehicle); 705*** (Unknown Source/Odor/ Underhood, Trunk Area, Passenger Compartment, Under Vehicle, Cargo/Bed Area). The electronic search was performed with Concordance full-text information retrieval software, using the following search terms: smoke*, fire, flam*, burn*, melt*, thermal, underhood, smolder*, hot, overheat*, smell*, odor* and computer generated variations of those words. Contact reports obtained from the electronic search were reviewed for allegations concerning all under hood fires or other "thermal anomalies," from any source or origin, of any description, level, degree, or magnitude, occurring in the left, or drivers side, of the engine compartment, including fires in the area of the left front wheel, or left front fender. To the extent that the above records reflect reports or allegations of under hood fires or "thermal anomalies" occurring in the left, or the driver side which may relate to the "specific components," one report is contained in Appendix I-A for the 1994-1997 model year Crown Victoria and Grand Marquis. No similar owner reports were located for the 1996-1997 model year Lincoln Town Car and 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included owner reports which describe under hood fires but are ambiguous as to the cause or origin of the fire or whether they may relate to the above-mentioned components. Nineteen such owner reports are contained in Appendix I-B for the 1994-1997 model year Crown Victoria and Grand Marquis, two such owner reports are contained in Appendix II-B for the 1996-1997 model year Lincoln Town Car Vehicles and one such owner report is contained in Appendix III-B for the 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included owner reports which described full vehicle fires but are ambiguous as to the alleged cause or origin of the fire or whether they may relate to the above-mentioned components. Thirty-three such owner reports are contained in Appendix I-C for the 1994-1997 model year Crown Victoria and Grand Marquis and two such owner reports are contained in Appendix II-C for the 1996-1997 model year Lincoln Town Car vehicles. No similar owner reports were located for the 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included owner reports of other fires or "thermal anomalies," of any description, level, degree, or magnitude, occurring under hood in which it is alleged that the source of the fire was other than one of the "specific components." We have provided these owner reports in Appendix I-D for the 1994-1997 model year Crown Victoria and Grand Marquis and in Appendix II-D for the 1996-1997 model year Lincoln Town Car and in Appendix III-D for the 1993-1995 model year Lincoln Mark VIII vehicles as "non-specific allegations" for your review because of the broad scope of the request. Based on our judgment, the information in the reports in Appendices I-B, II-B, III-B, I-C, II-C, III-C, I-D, II-D, and III-D is insufficient to support a determination that they pertain to the alleged defect. We have not provided reports with specific allegations of smoke or burnt front brakes, brake rotors, calipers, etc. that initiate in a wheel well and not under hood.

For consistency, the four categories, Appendix *-A through *-D, used for classifying documents as they may relate to Request No. 2 will be used for all types of reports (owner, field, lawsuit, and claim) addressed in this response. When no documents have been identified, the appendix will exist, but contain only a statement that there are no responsive reports.

In the interest of responding promptly to this inquiry, Ford has not undertaken to gather the microfilm or electronic images related to these contacts because of the largely duplicative nature of the information contained in the microfilm and images, as well as the time and the burden associated with locating and producing those documents. The pertinent information related to those contacts generally would be included in the contact reports obtained from the MORS system. To the extent that those documents exist, they are reflected in the "Micro Nbr:" field of the MORS contact reports. Upon request, Ford will attempt to locate any specific items that are of interest to the agency.

Field Reports. Within PCSD, there is a Vehicle Service & Programs Office that has overall responsibility for vehicle service and technical support activities, including the administration of field actions. That Office is the primary source within Ford of vehicle concern information originating from Ford and Lincoln-Mercury dealerships, field personnel, and other sources. The information is maintained in a database known as the Common Quality Indicator System ("CQIS"). The CQIS database includes reports compiled from more than 40 Company sources (e.g., Company-owned vehicle surveys, service technicians, field service and quality engineers, and technical hot line reports, etc.) providing what is intended to be a comprehensive concern identification resource. As with MORS contact reports, CQIS reports are assigned a "symptom code" or category that generally reflects the nature of the concern. The CQIS database maintains information for five years.

In responding to this information request, Ford electronically searched CQIS reports dated through February 11, 1999 for 1994-1997 model year Crown Victoria and Grand Marquis, 1996-1997 model year Lincoln Town Car, and 1993-1995 model year Lincoln Mark VIII vehicles with the following symptom codes: Electrical/Start/Charge/Charging System-Other, Low Charge, High Charge, Inoperative, Noise, Indicator, Not Listed; Wiring-Basic-Other, Attachment, Routing, Insul/Shielding, Trailer, Not Listed; Starting System-Other, Drive Engage, Slow Crank, Ignition Switch, Air Systems, Inoperative, Noise, Not Listed; Battery-Other, Low Fluid, Broken Terminal, Case Cracked, Leaks, Won't Hold Charge, Auxiliary (Dual), Not Listed; Circuit Protection-Other, Fuse Box (Interior), Distribution Box (Exterior), In-Line Fuse, In-Line Breaker, Fuse Link, Diode, Relay, Resistor, Not Listed); 301*** (Chassis/Service Brake/Indicator-Other, Red Only, Amber Only, Red/Amber Only, Not Listed; Other-Other; Noisy-Other, Front, Rear, Front and Rear; Drag-Other, Front, Rear, Front and Rear; Pull-Other, Left, Right, Left or Right; Lock-Up/Grab-Other, Front, Rear, Front and Rear, Not Listed; Pedal-Other, Appearance, Attachment, ABS Self Act., High Efforts, Soft/Spongy, Pulsates, Low Pedal, Noise, Not Listed; Inoperative/Ineffective-Other, Front, Rear, Front and Rear, Not Listed; Excessive Wear-Other, Front, Rear, Front and Rear; Leaks-Other Air Pressure-Vacuum, Fluid, Not Listed; Not Listed Service Brake-Other, Not Listed); 304*** chassis/Suspension/Other-Other; Ride Quality-Other, Harsh, Soft/Float, Bottoming, Not Listed; Lean/Sag/Height-Other, Both Ends Low, Both Ends High, Front Low, Front High, Leans Left, Leans Right; Dog Tracking-Other, Rear Tracks Left, Rear Tracks Right; Leaks-Other, Not Listed; Noise-Other, Front, Rear, Both, Not Listed; Indicator-Other, Not Listed; Shocks/Struts-Other, Leaks, Not Listed; Not Listed Suspension-Other, Not Listed); 403*** Engine/Exhaust System/Visual Smoke-Other, Blue, Black, White, Not Listed); 404*** Engine/Fuel System/Other-Other; Leaks-Other, Filter Area, Tank/Seams Area, Filler Neck, Gas Cap Area, Rail/ Injector, Carburetor Area, Pump Seal Area, Lines, Tank Selector, Evaporative System, Not Listed; Odor-Other, Engine Compartment, Passenger Compartment, Trunk, Exterior, Not Listed; Noise-Other, Pump Assembly, Lines, Tank Area, Engine

Compartment, Passenger Compartment, Trunk Area, Exterior, Not Listed; Slow Fill-Other, Not Listed; Attachment-Other, Not Listed, Filter, Tank, Filler, Neck/Cap, Fuel Rail/Regulator, Injector Carburetor, Pump Assembly, Lines; Routing-Other, Not Listed, Filter, Tank, Filler Neck/Cap; Fuel Rail/Regulator, Injector, Carburetor, Pump Assembly, Lines; Expulsion/Press-Other, When Refueling, When Running, When Turned Off, Not Listed; Indicator-Other, Low Fuel, Not Listed; Not Listed Fuel System-Other, Not Listed); 409*** Engine/Power Components/ Other-Other; Block-Other, Not Listed; Head-Other, Not Listed; Crank-Other, Not Listed; Cam-Other, Not concern; Rod-Other, Not Listed; Piston-Other, Not Listed, Ring-Other, Not Listed; Oil Pump-Other, Not Listed; Power Components-Other, Not Listed); 499*** (Engine/General Concern/Other-Other; Appearance-Other, Corrosion, Not Listed; Attach/Mounting-Other, Concern Not Listed; Misassembly-Other, Mounts/Dampers, Not Listed; Mechanical Failure-Other, Concern Not Listed; Other-Other, Not Listed); 704*** (Unknown Source/Fire/Smoke/Other-Other; Visible Flame-Other, Coil. Related, Trunk, Cargo/Bed Area, Passenger Area, Under Hood, Under Vehicle, Not Listed; Smoke-Other, Coil. Related, Trunk, Cargo/Bed Area, Passenger Area, Under hood, Under Vehicle, Not Listed; Not Listed Fire/Smoke-Other, Listed); 705*** (Unknown Source/Odor/Other-Other, Under hood-Other, Not Listed; Trunk Area-Other, Not Listed; Passenger Compartment-Other, Not Listed, Under Vehicle-Other, Not Listed; Cargo/Bed Area-Other, Not Listed); and containing the computer search terms: smoke, fire, flame, burn, melt, thermal, and computerized variations of those words. Reports were reviewed for allegations concerning all under hood fires or other thermal anomalies, from any source or origin, of any description, level, degree, or magnitude, occurring in the left, or drivers side, of the engine compartment, including fires in the area of the left front wheel, or left front fender. To the extent that the above records reflect reports or allegations of under hood fires or thermal anomalies occurring in the left, or the driver side which may relate to the "specific components," one field report is contained in Appendix IV-A for the 1994-1997 model year Crown Victoria and Grand Marquis vehicles. No similar field reports were located for the 1996-1997 model year Lincoln Town Car or 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included field reports which describe under hood fires but are ambiguous as to the cause or origin of the fire or whether they may relate to the above-mentioned components. Seven such field reports are contained in Appendix IV-B for the 1994-1997 model year Crown Victoria and Grand Marquis and one such field report is contained in Appendix V-B for the 1996-1997 model year Lincoln Town Car vehicles. No similar field reports were located for the 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included field reports which describe under hood fires but are ambiguous as to the cause or origin of the fire or whether they may relate to the above-mentioned components. Five such field reports are contained in Appendix IV-C for the 1994-1997 model year Crown Victoria and Grand Marquis and two such field reports are contained in Appendix V-C for the 1996-1997 model year Lincoln Town Car vehicles. No similar field reports were located for the 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included field reports of other fires or "thermal anomalies," of any description, level, degree, or magnitude, occurring under hood in which it is alleged that the source of the fire was other than one of the "specific components." We have provided these reports in Appendix IV-D for the 1994-1997 model year Crown Victoria and Grand Marquis and in Appendix V-D for the 1996-1997 model year Lincoln Town Car, and in Appendix VI-D for the 1993-1995 model year Lincoln Mark VIII vehicles as "non-specific allegations" for your review because of the broad scope of the request. Based on our judgment, the information in the reports in Appendices IV-B, V-B, VI-B, IV-C, V-C, VI-C, IV-D, V-D, and VI-D is insufficient to support a determination that they pertain to the alleged defect. We have not provided reports with specific allegations of smoke or burnt front brakes, brake rotors, calipers, etc. that reside in the wheel well and not under hood.

As requested, a listing of the above identified reports has been prepared and is provided in Appendix VII.

Lawsuits and Claims. Ford's Office of the General Counsel ("OGC") is responsible for handling product liability lawsuits and claims and consumer breach of warranty lawsuits against the Company.

Ford understands this request to only seek a copy of the complaint for these lawsuits. Therefore, Ford is providing, to the extent available, a copy of the complaint. Upon request, Ford also would be glad to produce to the agency Ford's answer to the complaint, Plaintiff's responses to Ford's and/or other parties' discovery requests, Ford's responses to Plaintiff's discovery requests, documents produced in discovery, Plaintiff's medical records, police/fire department/emergency medical service reports, vehicle recall history, vehicle warranty history, owner communications with Ford, photographs, and/or non-privileged vehicle inspections and expert reports.

Based on a reasonable and diligent search, no lawsuits, two claims, and no consumer breach of warranty lawsuits potentially related to the alleged defect in the "specific components" were located in the search.

To the extent that the lawsuit records reflect reports or allegations of under hood fires or "thermal anomalies" occurring in the left, or the driver side which may relate to the "specific components identified," no lawsuit complaints were located for the 1994-1997 model year Crown Victoria and Grand Marquis, 1996-1997 model year Lincoln Town Car, or 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included lawsuit complaints which describe under hood fires but are ambiguous as to the cause or origin of the fire or whether they may relate to the above-mentioned components. One such lawsuit complaint is contained in Appendix VIII-B for the 1994-1997 model year Crown Victoria and Grand Marquis. No similar lawsuit complaints were located for the 1996-1997 model year Lincoln Town Car or 1993-1995 model year Lincoln Mark VIII vehicles.

No lawsuit complaints which described full vehicle fires but are ambiguous as to the alleged cause or origin of the fire or whether they may relate to the above- mentioned components were located for the 1994-1997 model year Crown Victoria and Grand Marquis, 1996-1997 model year Lincoln Town Car, or 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included lawsuit complaints of other fires or "thermal anomalies," of any description, level, degree, or magnitude, occurring under hood in which it is alleged that the source of the fire was other than one of the "specific components." We have provided these reports in Appendix VIII-D for the 1994-1997 model year Crown Victoria and Grand Marquis vehicles. No such complaints were located for 1996-1997 model year Lincoln Town Car or 1993-1995 model year Lincoln Mark VIII vehicles. Based on our judgment, the information in these Appendices VIII-B, VIII-C, and VIII-D is insufficient to support a determination that they pertain to the alleged defect. We have not provided reports with specific allegations of smoke or burnt front brakes, brake rotors, calipers, etc. that initiate in the wheel well and not under hood.

For each claim, Ford is providing, to the extent available, the claimant's medical records, police/fire department/emergency medical service reports, vehicle recall history, vehicle warranty repair history, owner communications with Ford, photographs, claim disposition notification, Ford requests for information to claimant, non-privileged vehicle inspections and expert reports, and the owner or his/her attorney's description of incident/claim and accompanying information.

To the extent that the above records reflect reports or allegations of under hood fires or "thermal anomalies" occurring in the left, or the driver side which may relate to the "specific components," two claims are contained in Appendix IX-A for the 1996-1997 model year Lincoln Town Car vehicles. No such claims were located for the 1994-1997 model year Crown Victoria and Grand Marquis or the 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included claims which described under hood fires but are ambiguous as to the cause or origin of the fire or whether they may relate to the above-mentioned components. One such claim is contained in Appendix IX-B for the 1994-1997 model year Crown Victoria and Grand Marquis and one claim is contained in Appendix IX-B for the 1996-1997 model year Lincoln Town Car vehicles. No such claims were located for the 1993-1995 model year Lincoln Mark VIII vehicles.

Ford has also included claims which describe full vehicle fires but are ambiguous as to the alleged cause or origin of the fire or whether they may relate to the above-mentioned components. Two such claims are contained in Appendix IX-C for the 1994-1997 model year Crown Victoria and Grand Marquis and one claim is contained in Appendix IX-C for the 1993-1995 model year Lincoln Mark VIII vehicles. No such claims were located for the 1996-1997 model year Lincoln Town Car vehicles.

Ford has also included claims of other fires or "thermal anomalies," of any description, level, degree, or magnitude, occurring under hood in which it is alleged that the source of the fire was other than one of the "specific components." We have provided these reports in Appendix IX-D for the 1994-1997 model year Crown Victoria and Grand Marquis, 1996-1997 Lincoln Town Car, and 1993-1995 model year Lincoln Mark VIII vehicles as "non-specific allegations" for your review because of the broad scope of the request. Based on our judgment, the information in Appendices IX-B, IX-C, and IX-D is insufficient to support a determination that they pertain to the alleged defect. We have not provided claims with specific allegations of smoke or burnt front brakes, brake rotors, calipers, etc. that reside in the wheel well and not under hood.

A listing of the identified lawsuits and claims has been provided in Appendix X.

Responsive documents that are privileged or attorney work product are reflected on the Privilege Log contained in Appendix X.

We note that the Agency's definition of Ford includes Ford's outside law firms. However, to the extent that Ford retained law firms in connection with the claims and lawsuits identified above, any files maintained by Ford's law firms ordinarily would contain voluminous duplicative documentation and take months to gather and process. Nevertheless, in the interest of ensuring the thoroughness of our production, we have contacted the law firms which handled the claims identified and asked them to provide, to the extent available, copies of documents produced in discovery and non-privileged reports of vehicle inspections and experts. As a result of this search, no additional documents were located. Ford understands this request to only seek a copy of the complaint for the lawsuits identified above, so Ford has not included similar information from its law firms' files related to those lawsuits.

A search of Ford's litigation prevention files located five files relating to a specific owner reports and has been provided in Appendix I-B.

Ford is providing additional information in Appendix XI which relates to lawsuit claims information previously provided in our January 22 and February 15 submissions to the agency.

SWITCH ASSEMBLY - SPEED CONTROL, DEACTIVATE

I. General

This specification covers the test requirements for the speed control deactivate switch -9F924- [illegible]. Design changes on the switch assembly or its components shall not be made without compliance to Section V of this specification and written approval from the releasing Production Engineering Office.

This engineering specification is a supplement to the released drawing on the above part, and all requirements herein must be met in addition to all other requirements of the part drawing. Minimum measures necessary for demonstrating compliance to these requirements are given in each section.

The engineering tests, sample sizes, and test frequencies contained within this engineering specification reflect the minimum requirements established to provide a regular evaluation of conformance to design intent. The engineering test program is intended as a supplement to normal material inspections, dimensional checking and in-process controls, and should in no way adversely influence other inspection operations.

QI suppliers may implement different test sample sizes and frequencies providing these changes have been included in an alternate Control Plan approved by the design responsible Product Engineering Office and concurred in by SQA.

II. PRODUCTION VALIDATION AND IN-PROCESS TESTS

- Production Validation (PV) Tests must be completed satisfactorily with parts from production tooling (and processes where possible) before ESIR approval and authorization for shipment of production parts can be effected. Parts must be revalidated completely, or per Section V whenever any change is made which could possibly affect part function or performance.

- In-Process Test Phase 1 (IP-1) - IP-1 tests are used to demonstrate process capability and must be completed using initial production parts from production tooling and processes prior to first production shipment approval. IP-1 tests are to continue in effect until process capability is demonstrated.

- In-Process Tests Phase 2 (IP-2) - IP-2 test program may be implemented only after process capability has been established. Tests must be completed with production parts on a continuing basis. Samples for these tests must be selected on a random basis to represent the entire production population as much as possible. In the event that any of the requirements in these tests is not met, the reaction plan specified in Ford Q101 Sect. 3.5, "Engineering Specification (ES) Test Performance Requirements" shall be invoked.

Porter
EXHIBIT NO. 10

TI-00368

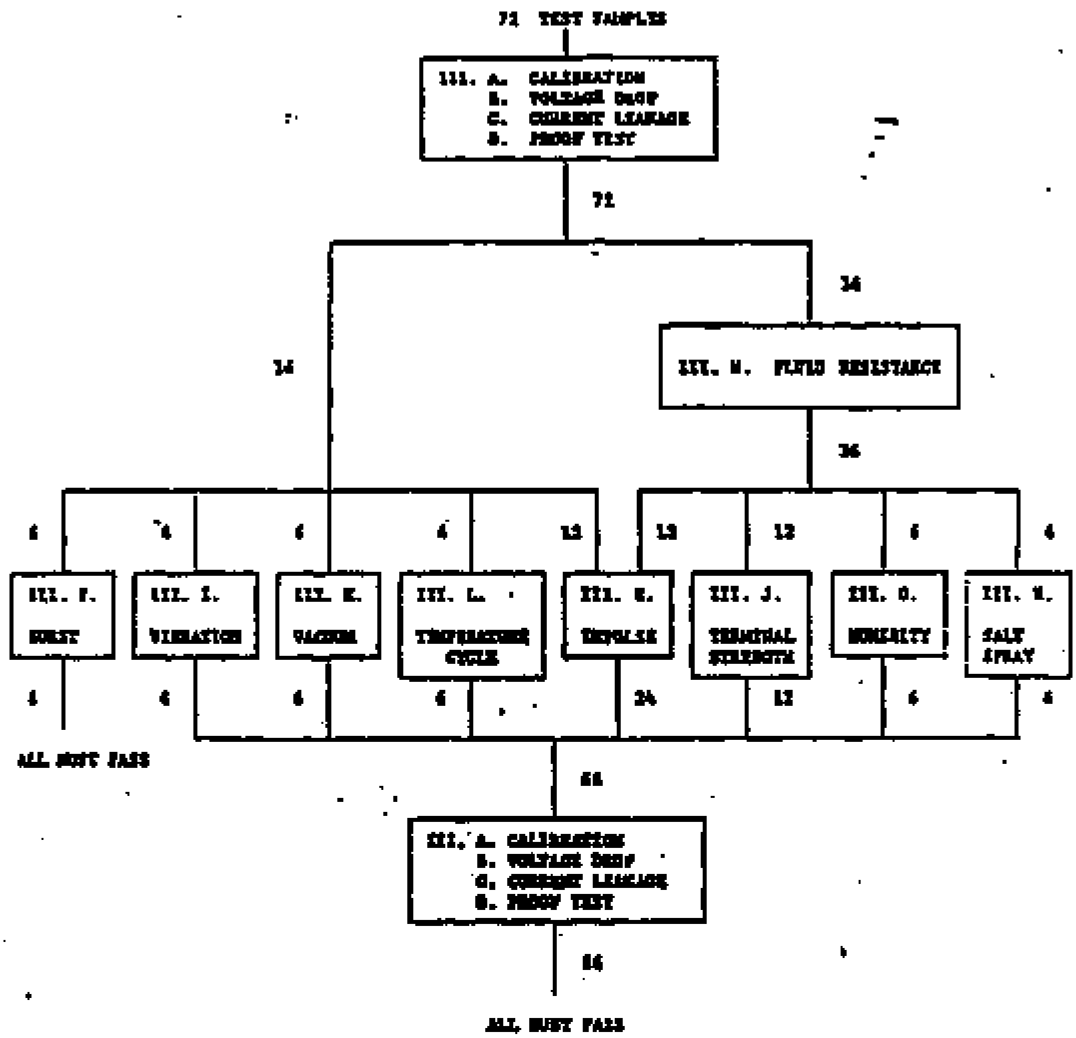
SECTION III. TABLE OF TESTS

Item	Task Name Functional Tests	Production Validation: Minimum Sample Size	Production Validation: Statistical Test Acceptance Criteria	In-Process IP-1: Minimum Sample Size	In-Process IP-1: Statistical Test Acceptance Criteria	In-Process IP-2: Minimum Sample Size	In-Process IP-2: Statistical Test Acceptance Criteria
III.							
▽ A	Calibration	72	P90-.96	100%	All Must Pass	100%	All Must Pass
B	Voltage Drop	72	P90-.96	12/Mo.	P90-.84	4/Lot	" " "
C	Current Leakage	72	P90-.96	3/Mo.	P90-.56	4/Lot	" " "
D	Proof Test	72	P90-.96	12/Mo.	P90-.84	4/Lot	" " "
F	Burst	6	P90-.72	3/Mo.	P90-.56	4/Lot	" " "
I	Vibration	6	P90-.72	3/Mo.	P90-.56	6/6 Mo.	P90-.72
J	Terminal Strength	12	P90-.84	6/Mo.	P90-.72	4/Lot	All Must Pass
K	Vacuum	6	P90-.72	3/Mo.	P90-.56	6/6 Mo.	P90-.72
L	Temperature Cycle	6	P90-.72	3/Mo.	P90-.56	6/6 Mo.	P90-.72
M	Fluid Resistance	36	P90-.94	36/12Mo	P90-.94	36/12Mo.	P90-.94

Durability Tests

Item	Task Name	Production Validation: Minimum Sample Size	Production Validation: Statistical Test Acceptance Criteria	In-Process IP-1: Minimum Sample Size	In-Process IP-1: Statistical Test Acceptance Criteria	In-Process IP-2: Minimum Sample Size	In-Process IP-2: Statistical Test Acceptance Criteria
III.							
E	Impulse	24	P90-.90	12/Mo.	P90-.84	3/3 Mo.	P90-.56
G	Humidity	6	P90-.72	3/Mo.	P90-.56	6/6 Mo.	P90-.72
H	Salt Spray	6	P90-.72	3/Mo.	P90-.56	6/6 Mo.	P90-.72

PRODUCTION VALIDATION FLOW CHART



4 FRAME	18 OF	REVISED	NUMBER

PD 3947-a2

III. TEST PROCEDURES AND REQUIREMENTS

▽ A. Calibration

1. Test Requirements

   a. Switch calibration is to be checked at room temperature (16°C-32°C) using ambient air or equivalent.

   b. Calibration settings shall be specified on the part drawing with the settings checked after 2 or more pressure cycles with ambient air, or equivalent. Pressure cycle range is to be determined by the manufacturer to insure switch calibration stability. The cut-in and differential set points are to be measured while conducting 750 ± 50 milliamperes while 13.0 ± 1.0 volts D.C. is applied. The cut-in point is to be checked with increasing pressure.

   c. The cut-out point is to be checked with decreasing pressure, and the differential set point is to be calculated using the cut-in pressure minus the cut-out pressure.

2. Acceptance Requirements

   a. Nonconformance is defined as any switch point which falls outside the tolerance band specified on the part drawing.

B. Voltage Drop

1. Test Requirements

   a. Voltage drop is to be measured after 2 or more cycles with ambient air or equivalent from 0 to 10,000 ± 172 KPa (1450 ± 25 PSI) while conducting 750 ± 50 milliamps and 13.0 ± 1.0 volts D.C. is applied to the switch. Under these conditions with the switch closed the voltage drop is to be measured. Millivolt connection interface to terminals to be less than 10 millivolts.

2. Acceptance Requirements

   a. Nonconformance is defined as a voltage drop in excess of 200 millivolts.

III. TEST PROCEDURES AND REQUIREMENTS (cont'd)

C. Current Leakage

1. Test Requirements

a. Current leakage is to be checked with 500 volts, 60 Hz alternating current.

b. Current leakage is to be checked:

(1) Between the switch leads with the contacts open.
(2) Between the lead and the switch housing with contacts closed.
(3) Between either lead and switch housing with the contacts open.

2. Acceptance Requirements

a. Nonconformance is defined as any leakage current in excess of one hundred (100) microamperes.

D. Proof Test

1. Test Requirements

a. Subject sample switches to Section A to establish their initial switching pressures.

b. Proof test is to be conducted using brake fluid or equivalent as the pressure medium. Test pressure shall be as specified on the part drawing. Test pressure shall be isolated from pressure source and held for not less than 30 seconds.

3000 psig
4000 psig
Pass Car
Truck

c. Recheck the switches to Section A.

2. Acceptance Requirements

a. No evidence of fluid leakage, seepage, or drop in test pressure greater than 430 KPa.(62 PSI) is permitted.

b. A change in cut-in and cut-out pressures greater than ± 5% from the initial value is not permitted.

c. The test samples must be destroyed after testing.

III. TEST PROCEDURES AND REQUIREMENTS (cont'd)

E. Impulse

1. Test Requirements

a. Test the switch for a total of 500,000 cycles. Cycle pressure between (low) 0-274 KPa (0-40 psi) and (high) 10,000 ± 345 KPa (1450 ± 50 psi).

1) 0 - 475,00 cycles: 13 ± 1 volts, trace current to monitor function.

2) 475,001 - 500,000 cycles: 13 ± 1 volts D.C., 750 ± 50 ma., per figure 4.

b. Brake fluid temperature to be 135 ± 14°C and ambient temperature to be 107°C min.

c. Cycle rate is to be 110-130 cycles per minute.

d. Switch must open and close each cycle.

2. Acceptance Requirements

a. After impulse test check to sections A, B, C, & D using the procedure established in each section.

b. Nonconformance is defined as any switch not meeting the criteria in sections A, B, C, & D.

c. Samples used for this test must be destroyed after all testing is completed.

F. Burst

1. Test Requirement

a. Burst strength is to be checked using brake fluid or equivalent as the pressure medium.

b. Pressurize the switch to 48.3 MPa (7000 PSI) minimum and held for 10 seconds minimum.

2. Acceptance Requirements

a. Nonconformance is defined as any evidence of fluid leakage or seepage from the switch or threads. Samples used for this test must be destroyed after testing is completed.

TI-003586