

Doris Powledge, et al. v. Ronald Alton Powledge, et al.  
Stephen Richard Syson

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3/27/2009

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CAUSE NO. 07cv1040

DORIS POWLEDGE, INDIVIDUALLY § IN THE DISTRICT COURT  
AND AS THE REPRESENTATIVE §  
OF THE ESTATE OF ADAM POWLEDGE §  
DECEASED, THE ESTATE OF RACHEL §  
POWLEDGE, DECEASED, THE ESTATE §  
OF ISAAC POWLEDGE, DECEASED, §  
THE ESTATE OF CHRISTIAN §  
POWLEDGE, DECEASED, AND THE §  
ESTATE OF JACOB POWLEDGE, §  
DECEASED, AND AS NEXT FRIEND §  
TO AUSTIN POWLEDGE, A MINOR; §  
AND AMBER POWLEDGE, §  
INDIVIDUALLY, §

Plaintiffs, §

§ 10TH JUDICIAL DISTRICT

Vs. §

RONALD ALTON POWLEDGE, §

Intervenor, §

Vs. §

GENERAL MOTORS CORPORATION, §

Defendant. §

§ GALVESTON COUNTY, TEXAS

\*\*\*\*\*

ORAL DEPOSITION OF  
STEPHEN RICHARD SYSON  
March 27th, 2009

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CG COPY

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<p style="text-align: right;">Page 2</p> <p>1 ORAL DEPOSITION of STEPHEN RICHARD SYSON, 2 produced as a witness at the instance of the Defendant, 3 and duly sworn, was taken in the above-styled and 4 numbered cause on the 27th of March, 2009, from 9:59 5 a.m. to 2:29 p.m., before Daniel J. Skur, CSR, in and 6 for the State of Texas, reported by machine shorthand, 7 at the offices of The Tracy Law Firm, 5473 Blair Road, 8 Suite 200, Dallas, Texas, pursuant to the Texas Rules of 9 Civil Procedure and the provisions stated on the record 10 or attached hereto.</p> <p>11 12 APPEARANCES 13</p> <p>14 FOR THE PLAINTIFFS: 15 Mr. E. Todd Tracy 16 The Tracy Law Firm 17 5473 Blair Road 18 Suite 200 19 Dallas, Texas 75231 20 P (214) 324-9000   F (972) 387-2205</p> <p>21 FOR THE DEFENDANT GENERAL MOTORS CORPORATION: 22 Mr. Kent B. Hanson 23 Hanson, Marek, Bolcom, &amp; Greene, LTD 24 527 Marquette Avenue 25 Suite 2300 Minneapolis, Minnesota 55402 P (612) 342-2880   F (612) 342-2899 khanson@hmbglaw.com</p>	<p style="text-align: right;">Page 4</p> <p>1 talking at once. 2 A. I'll try and do that, too. 3 Q. And if I should ask you anything that is at 4 all vague or unclear to you, please say so so it can be 5 rephrased. All right? 6 A. Okay. 7 Q. I understand that you've got some time 8 constraints, want to catch a plane today, so do I, so 9 let's kind of get right to the heart of it, if we can. 10 A. Okay. 11 Q. Has your CV changed since what was provided 12 with your report? 13 A. I don't think so. I think it's current as of 14 2007. I don't think I've written anything new since 15 2007. 16 Q. All right. What, if anything, have you done 17 within the last ten years or so with respect to 18 electronic cruise control systems to understand how they 19 work; testing, analysis, anything of that nature? 20 A. Other than having had a few cases involving 21 stepper motor cruise controls and so therefore I've been 22 provided with the depositions of various GM employees on 23 the previous generation stepper motor cruise. I've also 24 spent some time reviewing the shop manual for the 25 subject vehicle, reviewing the subject vehicle and</p>
<p style="text-align: right;">Page 3</p> <p>1 PROCEEDINGS 2 STEPHEN RICHARD SYSON, 3 having been duly sworn, testified as follows: 4 (9:59 a.m.) 5 EXAMINATION 6 BY MR. HANSON: 7 Q. Morning. 8 A. Good morning. 9 Q. State your name and address, please, for the 10 record. 11 A. Stephen Richard Syson, 7394 Calle Real, 12 that's spelled capital C-a-l-l-e, capital R-e-a-l, Suite 13 F, Goleta, G-o-l-e-t-a, California. 93117. 14 Q. I know you've given deposition testimony many 15 times, so I'm not going to waste time on procedural 16 things other than just to remind you that if you need to 17 take a break at some time, just tell me that and we'll 18 do it. Okay? 19 A. Okay. 20 Q. Remember to use words rather than nods or 21 gestures. 22 A. I'll try and do that, too, yes, sir. 23 Q. Please make an effort to let me completely 24 finish a question before you start to answer so the 25 court reporter doesn't have to deal with both of us</p>	<p style="text-align: right;">Page 5</p> <p>1 exemplars of the subject vehicle. I've reviewed the 2 materials that were provided by General Motors in this 3 matter with regard to the cruise and also reviewed 4 materials that relate to the chip that's used in this 5 particular cruise control, so I understand, at least to 6 some extent, what the chip is and what its limitations 7 are. 8 Q. What specific material are you talking about 9 with respect to the chip used in the cruise control? 10 A. Well, the Philips brochure with regard to the 11 chip and then also I obtained some of the pages of a 12 book on the application of this chip and what its 13 internal workings are with regard to how it's programmed 14 and what some of the things that General Motors experts 15 are talking about, about how those things function. 16 Q. I have a lot of material that was provided 17 around the time of your report. Okay? It's an 18 extensive amount of stuff. We're going to spend all day 19 just identifying it if we choose to go at it that way, 20 so I would rather not go at it that way. I do need to 21 be sure that I understand what specifically you're 22 talking about with respect to this material from Philips 23 and these pages from a book. 24 A. Let me see if I can pull those out for you. 25 MR. HANSON: Off the record for a</p>

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<p>1 throttle, so I would have to agree with you. It's not 2 going to go on by itself. 3 Q. So we're going to get to talking about this 4 RFI, EMI possibility, but I hear you agreeing with me, 5 that RFI or any kind of radio frequency or electric 6 magnetic interference isn't going to turn the cruise 7 control on in the first place. 8 A. Right. Nothing, heat -- none of those things 9 are going to. The only possibility would be an 10 electrical short somewhere that would be, you know, due 11 to some other problem with the wiring, and, again, we 12 would have no way of knowing whether that occurred or 13 not. 14 Q. Frank is calling you there again. 15 (Phone interruption.) 16 Q. (BY MR. HANSON) So now that we got the Frank 17 Sinatra cell phone ring off, let's come back to the 18 subject matter we were on, and that is that I think you 19 added to an answer a moment or two ago that heat or 20 moisture is not going to turn the cruise control on 21 either. Did I hear you correctly? 22 A. Again, you know, it would have to be, if 23 anything, a short-circuit of some type. It would not be 24 heat or moisture or anything like that. It has to be on 25 in order for heat or moisture to affect it.</p>	<p>1 switch. So there are a lot of things that would have to 2 occur before the cruise control would have any influence 3 on the vehicle's speed even if there was a short that 4 turned it on. 5 Q. Sure, so a number of different conditions 6 have to be satisfied before the cruise control is even a 7 possibility to explain this event; isn't that right? 8 A. Indeed. Yes. I mean, it's got to be on. 9 Somebody has to have either set it or there has to be 10 something that influenced it to set it in order for it 11 to open the throttle or for it to maintain the speed 12 that the vehicle is at. 13 Q. Now, you touched upon this earlier. You do 14 know that there is at least one and apparently two 15 separate switches that will shut the cruise control off 16 if the brake pedal is applied, correct? 17 A. Correct. 18 Q. And that's not about whether the -- and 19 that's not dependent upon whether the brakes are 20 effective. That's just if the brake is applied; isn't 21 that right? 22 A. Yes. I mean, with sufficient force to 23 activate the switch, but as -- even with the vacuum 24 boost completed, that's still not a high force. 25 Q. Certainly well within the capability of a</p>
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<p>1 Q. You are aware, are you not, sir, that with 2 computer controlled systems in general, that typically, 3 they have programmed into them sets of conditions that 4 have to exist before their functions can work, before 5 that system's function will work, correct? 6 A. Yes. I know, based on my review of the 7 cruise control book and obviously the report, Mr. -- 8 Q. Stopchinski? 9 A. No. 10 Q. McKendry? Well, it doesn't matter. 11 A. Yeah, Mr. McKendry, I believe, he goes 12 through a list of the various conditions that are 13 required for the cruise control to activate. 14 Q. Right. 15 A. And so that at least appears to be consistent 16 with what I read when I was reading the stepper motor 17 cruise control book. 18 Q. What I'm getting at is even if you want to 19 theorize that some weird short happens that lets power 20 get to the system, you still need other conditions also 21 to happen before the thing can actually operate, don't 22 you? 23 A. Well, you got to be doing over 25, yeah, 24 there's got -- a lot of things need to happen before you 25 can get the cruise control. You have to push a set</p>	<p>1 man, you would think at least, of Mr. Powledge's age and 2 described physical condition, true? 3 A. True. 4 Q. And especially if we want to theorize that 5 he's pushing on the brake really hard, that would 6 certainly be enough to activate these cruise control 7 cutoff switches, wouldn't it? 8 A. The two switches on the brake, yes. 9 Q. So if we're going to theorize that the cruise 10 control accounted for this event and that Mr. Powledge 11 was -- was applying the brake, then we have to theorize 12 that both of those cutoff switches malfunctioned, don't 13 we? 14 A. Or we have to theorize that the -- there was 15 sufficient EMI or RFI to freeze the system, one or the 16 other. 17 Q. Well, by "freeze the system," you mean keep 18 the cruise control operating and disable two brake 19 switches? 20 A. Yes, and this -- this computer appears to be 21 susceptible to that based on the information on how to 22 program it. 23 Q. What information are you talking about? 24 A. The material that I provided to you from the 25 book.</p>

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1 Q. That we've already marked as an exhibit?  
 2 A. Yes, sir.  
 3 Q. What is it -- susceptible to what?  
 4 A. Well, the book indicates that if you don't  
 5 reset it within 50 milliseconds or so of there being a  
 6 RFI burst that freezes it, it will stay frozen, and so  
 7 it's susceptible to remaining in a condition, whatever  
 8 condition it's set at the time, if there is RFI, at  
 9 least based on the book on how to program it.  
 10 Q. So you interpret -- let's make sure we're  
 11 clear. Let's get the right exhibit so we can refer to  
 12 it by the correct number. Dig it out of this pile here.  
 13 Okay. Which one have you got in your hands now?  
 14 A. I've got 4.  
 15 Q. And then 3 is right here. Which one are you  
 16 talking about? Which document were you referring to  
 17 when you gave the answer you just did?  
 18 A. It says on first page of Exhibit 4, which is  
 19 page 149 of --  
 20 Q. Okay.  
 21 A. -- the book.  
 22 Q. Okay.  
 23 A. Says: Using the Watchdog would be good  
 24 industrial practice. Local electromagnetic  
 25 interference, EMI, could freeze the circuit operation

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1 and a Watchdog induced reset would automatically restart  
 2 the circuit. The Watchdog time delay, T sub D, as given  
 3 by -- there's an equation.  
 4 So the typical example of that results  
 5 in about a 51 millisecond time period within which you  
 6 have to reset it, otherwise it could be frozen by EMI.  
 7 Q. Well, how does that say that if you get  
 8 electromagnetic or radio frequency interference and you  
 9 don't reset it within whatever time you just said, that  
 10 the consequence is that the thing keeps operating and  
 11 won't shut off, where are you getting the latter part  
 12 from?  
 13 A. Well, that would be my interpretation of the  
 14 word "freeze," freeze means it stays in the condition  
 15 it's at. And so if that condition is to keep the  
 16 vehicle traveling at a certain set speed, then it would  
 17 stay in that condition unless you were to reset the  
 18 system within about 50 milliseconds, based on a  
 19 Deposition Exhibit 4.  
 20 Q. So you interpret that word "freeze" to mean  
 21 that the cruise control will keep powering the vehicle  
 22 and that the brake cutoff switches won't work; is that  
 23 right?  
 24 A. Well, at least one of the brake cutoff  
 25 switches should work, because one of them, I believe,

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1 activates the clutch, and so inherently one of those two  
 2 switches should open the cruise control clutch if  
 3 everything else is working properly. It should -- it  
 4 should cause the clutch to disengage, and that should  
 5 allow the throttle return springs to bring the throttle  
 6 back to a normal position.  
 7 Q. So even this theoretical freeze should not  
 8 cause the cruise control to keep propelling the vehicle  
 9 if the brake is applied; isn't that right?  
 10 A. If the brake is applied and the clutch  
 11 operates properly, then that should, at least  
 12 theoretically, disconnect the tape from the -- or allow  
 13 the tape to be disconnected from the drive, and that  
 14 should allow, then, the throttle return springs to  
 15 return the throttle to whatever position the gas pedal  
 16 is in.  
 17 Q. Speaking of throttle return springs, you  
 18 suggested that the design that uses a dual wound  
 19 throttle return spring is a violation of FMVSS 124,  
 20 correct?  
 21 A. I did, yes, sir.  
 22 Q. Do you know whether the NHTSA agrees with  
 23 you?  
 24 A. Well, according to GM, they do not. But  
 25 the -- at least the rule is pretty clear that any system

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1 that is susceptible to being defeated by a single  
 2 failure, which this system is, is not permitted, and so  
 3 I don't know why NHTSA would interpret something in a  
 4 way that's contrary to the rule, but that's the claim  
 5 of, I believe, again Mr. McKendry. I believe he claims  
 6 that NHTSA approves the dual counter wound springs.  
 7 Q. Have you ever bothered to look whether, I  
 8 don't care what kind of car you're talking about, pretty  
 9 much anything you can find on the road, uses that kind  
 10 of dual coil spring arrangement to comply with 124?  
 11 A. I don't know that, you know, just having two  
 12 coils is inherently a problem. I don't have a problem  
 13 with that. I have the problem that they're both  
 14 attached to something that can break, and if that  
 15 breaks, then neither coil is operational.  
 16 Q. Well, so you're assuming now not that the one  
 17 of the springs breaks, but that the thing that you  
 18 attach the spring to breaks off for some unexplained  
 19 reason?  
 20 A. Correct. Because that causes both springs to  
 21 fail so you don't have a dual spring situation, and  
 22 according to FMVSS 124, if a single failure can cause  
 23 the throttle return system to fail, then that's not  
 24 appropriate, and in this case, you know, the damage to  
 25 the vehicle certainly caused that failure.

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<p>1 Q. Well --</p> <p>2 A. Whether it had failed prior to the impact</p> <p>3 with the pole or not is something I guess we'll never</p> <p>4 know.</p> <p>5 Q. So you got off into something a little bit</p> <p>6 different there. I want to follow that up before I</p> <p>7 return to where I was wanting to talk with you.</p> <p>8 We do know by looking at the throttle</p> <p>9 body of this car that after this crash it is held in an</p> <p>10 open position, correct?</p> <p>11 A. Correct.</p> <p>12 Q. So now, as is now, it won't close.</p> <p>13 A. I don't know. You might be able to close it</p> <p>14 if you forced it, but it doesn't want to close. It</p> <p>15 wants to stay open.</p> <p>16 Q. It won't close itself.</p> <p>17 A. Correct.</p> <p>18 Q. It's bent now, isn't it?</p> <p>19 A. The throttle shaft is bent.</p> <p>20 Q. That throttle shaft bent is why it won't</p> <p>21 close; don't you agree?</p> <p>22 A. Well, that and the springs are no longer</p> <p>23 operational.</p> <p>24 Q. Well, the springs are not able to overcome</p> <p>25 the resistance caused by a throttle blade mounted on a</p>	<p>1 Q. So what vehicles do you own --</p> <p>2 A. I have --</p> <p>3 Q. -- currently?</p> <p>4 A. -- a couple of Range Rovers, both of which</p> <p>5 have the BMW 4.4 liter engine, I believe.</p> <p>6 Q. Okay. Now, with respect to the throttle body</p> <p>7 of the type that's used in the Malibu that was involved</p> <p>8 in this crash, the throttle return springs that you're</p> <p>9 talking about are springs that are external to the</p> <p>10 throttle blade itself, correct?</p> <p>11 A. Correct.</p> <p>12 Q. Did you bother to look to see whether there's</p> <p>13 also a spring on the throttle blade pivot shaft?</p> <p>14 A. Inside the -- I guess I'd have to see a</p> <p>15 picture to see where you're talking about other than --</p> <p>16 because the dual concentric springs are on the shaft.</p> <p>17 Q. Well, let me put it to you this way. Do you</p> <p>18 know what would happen if we took an exemplar throttle</p> <p>19 body and simply removed the throttle return springs and</p> <p>20 then open the throttle and let it go, do you know</p> <p>21 whether it would still close?</p> <p>22 A. I don't think I tried that on -- I don't</p> <p>23 think I tried removing the springs on the exemplar</p> <p>24 throttle body. I don't know the answer to that without</p> <p>25 testing it.</p>
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<p>1 bent shaft; isn't that right?</p> <p>2 A. Well, they're definitely not able to overcome</p> <p>3 that, that's true.</p> <p>4 Q. So you would -- you would agree, would you</p> <p>5 not, that the condition in which we now find the</p> <p>6 throttle body could be as a result of the crash? That</p> <p>7 might fully account for why it doesn't close now.</p> <p>8 A. Correct.</p> <p>9 Q. Now, coming back to my question about the</p> <p>10 configurations of throttle return springs that do and do</p> <p>11 not comply with federal motor vehicle safety standard</p> <p>12 124. Do you know, as you sit here today, sir, whether</p> <p>13 the type of system that GM used on this car, namely a</p> <p>14 dual wound spring, where both of the -- of the dual</p> <p>15 springs are physically attached to -- to the same other</p> <p>16 parts of the vehicle, do you know, sir, whether that</p> <p>17 kind of configuration is not used in virtually every</p> <p>18 vehicle on the roads in the U.S.?</p> <p>19 A. I don't know whether it's used on virtually</p> <p>20 every vehicle, but I have seen it on other vehicles.</p> <p>21 Q. Have you looked at your own vehicles to see</p> <p>22 what they have?</p> <p>23 A. Not recently. I haven't looked underneath</p> <p>24 the covers on either of my vehicles to see how BMW</p> <p>25 engines are hooked up.</p>	<p>1 Q. But in any event, you agree that the reason</p> <p>2 that we find this one open on the Powledge car could</p> <p>3 simply be because of damage that happened from crashing</p> <p>4 into the pole?</p> <p>5 MR. TRACY: Objection, form.</p> <p>6 A. Well, part of that I agree with, and that is</p> <p>7 that it's held in place now because of the impact with</p> <p>8 the pole. I don't necessarily agree that an impact with</p> <p>9 the pole would open it.</p> <p>10 Q. I didn't mean to ask that, but my --</p> <p>11 A. You know, your question was ambiguous with</p> <p>12 regard to that issue. If you leave the -- if you're</p> <p>13 saying hypothetically is it jammed in place because of</p> <p>14 the throttle body hit the pole, I would say yes.</p> <p>15 Q. What you're not prepared to agree is that it</p> <p>16 could have been put into that open position as a result</p> <p>17 of the crash; is that right?</p> <p>18 A. Correct.</p> <p>19 Q. You're also not able to rule out that</p> <p>20 possibility, are you, sir?</p> <p>21 A. Well, given that the vehicle was traveling at</p> <p>22 a high rate of speed when it hit the pole, I am.</p> <p>23 Q. Which direction does the throttle cable apply</p> <p>24 force -- let me put it this way. The way that you open</p> <p>25 the throttle blade is by a cable pulling on something to</p>