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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ARIZONA

Allstate Insurance Company, an Illinois Corporation, as subrogee for Anthony and Haley Rogers, Plaintiff, vs. Ford Motor Company, a Delaware Corporation; John and Jane Does, I-X; Black and White Partnerships, I-X; and ABC Corporations, I-X, Defendants.	No. CV-08-2276-PHX-NVW **ORDER**

Plaintiff Allstate Insurance Company ("Allstate"), as subrogee for its insureds Anthony and Haley Rogers, seeks damages from Defendant Ford Motor Company ("Ford") in connection with a fire that occurred at the Rogers' residence on June 17, 2008. The resulting damage to the Rogers' home and personal property required Allstate to pay approximately $147,124.28 to cover the losses. Allstate alleges that the fire originated in the Rogers' 2003 Ford Expedition due to an unreasonably dangerous defect present when the vehicle left Ford's factory or, alternatively, as a result of Ford's negligence in manufacturing and assembling the vehicle.

Now pending before the Court are the parties' cross-motions to exclude expert testimony (doc. ## 98, 99), cross-motions for summary judgment (doc. ## 95, 97), and Ford's Motion to Strike (doc. # 123). In response to Ford's motion for summary

judgment, Allstate concedes that it has failed to produce sufficient evidence of negligence. Therefore, summary judgment will be granted in Ford's favor on the negligence claim. The only remaining claim is for strict product liability.

I. Allstate's Defect Theory

Allstate's defect theory has changed substantially over the course of the litigation. On April 23, 2009, after examining the scene of the fire and conducting a nondestructive electrical engineering examination of the Rogers' 2003 Ford Expedition, Allstate's expert George Hogge issued his first expert report. He eliminated the home's electrical system and any sources external to the 2003 Ford Expedition as potential causes of the fire, concluding that the fire originated in the engine compartment of the vehicle. He also opined that the cause was "some defect in the electrical system" of the vehicle "that would have been present when the vehicle left the Ford factory," but that "[a] comprehensive examination of the vehicle [would] be required to determine the failure mode . . . ."

Ford subsequently objected to Allstate's failure to either disclose a specific defect theory, predicated on direct evidence, or commit to a circumstantial theory of defect with respect to the strict product liability claim. (Doc. # 24.) Ford was concerned with its inability to respond adequately to Allstate's as-yet-undefined claim, with obtaining the appropriate expert, and with preventing spoliation of evidence during the upcoming destructive examination of the vehicle. During a May 14, 2009 hearing on the matter, Allstate indicated that Mr. Hogge had issued a destructive examination protocol in which he had limited his proposed examination to three components in the engine compartment of the vehicle. Those components included the battery, the powertrain control module, and the alternator.

On July 1, 2009, Mr. Hogge issued an amended protocol including the following three additional components for inspection: the ABS control module, the window regulator motors from the driver's side doors, and the transmission. Upon receiving the amended protocol, Ford informally objected to the expanded scope of the examination in

light of Allstate's limitation at the May 14, 2009 hearing, but neither party sought relief from the Court. The parties proceeded with the examination on July 8, 2009, in accordance with the amended protocol. Both Mr. Hogge and Ford's expert Jeff Colwell attended the examination and both extensively inspected the ABS control module and the other vehicle components identified in the protocol.

On July 27, 2009, Mr. Hogge issued a supplemental expert report opining that the ABS control module was defective. More specifically, he concluded that the fire was caused by a "failure of the ABS brake controller unit that allowed brake fluid to enter into the energized circuitry portion of the controller." He opined that the failure was due to "some defect that would have been present when the vehicle left the Ford factory." He based his conclusions on observations of "anomalies on the copper circuit traces consistent with pre-fire electrical failures" and damage on the lower portion of the ABS module circuit board "consistent with electrical activity and localized heating." On September 10, 2009, after examining an exemplar ABS control module for the first time, Mr. Hogge issued a rebuttal expert report reiterating his July 27, 2009 opinion.

To understand the specifics of Mr. Hogge's July 27 opinion, an understanding of the structure of the vehicle's ABS control module is required. The module consists of three major parts: a black metal hydraulic pump on one side, a metal box in the middle, and a black plastic box on the other. The pump and metal box are collectively referred to as the hydraulic control unit ("HCU"), while the plastic box is referred to as the electronic control unit ("ECU"). Six solenoid valve spools, which are entirely encased in metal, project from the metal box of the HCU into solenoid housings, which are attached to the ECU. The solenoid housing compartment, which has several holes at the bottom, is separated from the ECU's circuit board compartment by a rubber gasket. Mr. Hogge's theory, as developed in his deposition, was that brake fluid leaked from the HCU into the ECU through some manufacturing defect in the metal casing of one of the solenoid valves. The fluid then penetrated the ECU's rubber gasket, contacted the energized

circuit board in the ECU, caused a short circuit, and started a fire that burned through the ECU's plastic casing and eventually spread to the rest of the vehicle.

On September 17, 2009, Ford objected to Allstate's specific defect theory by filing a discovery dispute. (Doc. # 83.) Because a discovery dispute was an inappropriate vehicle in which to raise the objection, it was denied. (Doc. # 86.) Just a day later, Allstate moved to extend the discovery deadline to allow for additional discovery from Continental Teves, the nonparty manufacturer of the vehicle's ABS control module. (Doc. # 88.) At the hearing on that matter, Ford again objected to Allstate's pursuit of the new specific defect theory. The Court declined to extend the discovery deadline on other grounds and deferred any decision on the new theory until the parties had adequately briefed the issue. (Doc. # 106.) The parties' motions for summary judgment and motions in limine ensued. In addition, Allstate filed a motion to permit its specific defect theory. (Doc. # 118.)

Then, less than a week before the hearing on the pending motions, Allstate withdrew its specific defect theory altogether. (Doc. # 128.) However, at the hearing, Allstate conceded that because Mr. Hogge has ruled out all competent ignition sources other than the ABS control module, the ABS control module is the only ignition source capable of a defect inference. Therefore, while Allstate has withdrawn Mr. Hogge's opinion that one of the solenoid valves was defective, it still seeks to introduce Mr. Hogge's testimony that all ignition sources external to the vehicle's ABS control module have been eliminated as potential causes of the fire, that the source of the fire was electrical, that an examination of a circuit board in the ABS control module revealed anomalies and damage consistent with pre-fire electrical failure and localized heating, and that the fire was caused by "some defect" in the ABS control module that allowed brake fluid to contact the circuit board. In essence, Allstate seeks to present Mr. Hogge's opinions as circumstantial evidence from which a jury may infer the existence of a defect in the ABS control module.

II. Motions to Exclude Expert Testimony

A. Legal Standard

Rule 702 of the Federal Rules of Evidence, which governs the admissibility of expert testimony, provides:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

The first requirement of Rule 702 is that the purported testimony be helpful to the trier of fact in understanding the evidence or determining a fact in issue, which means the testimony must be relevant. *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 591 (1993). Evidence is relevant if it has "any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." Fed. R. Evid. 401.

The second requirement is that the witness be "qualified as an expert by knowledge, skill, experience, training, or education." Because the Rule "contemplates a *broad conception* of expert qualifications," only a "*minimal foundation* of knowledge, skill, and experience" is required. *Hangarter v. Provident Life & Accident Ins. Co.*, 373 F.3d 998, 1015-16 (9th Cir. 2004) (emphasis in original) (quoting *Thomas v. Newton Int'l Enters.*, 42 F.3d 1266, 1269 (9th Cir. 1994)). A lack of particularized expertise goes to the weight of the testimony, not its admissibility. *United States v. Garcia*, 7 F.3d 885, 890 (9th Cir. 1993).

The third and final requirement is that the testimony be reliable. A determination of reliability is a flexible inquiry that assesses "whether the reasoning or methodology underlying the testimony is scientifically valid and . . . can be applied to the facts in issue." *Daubert*, 509 U.S. at 592-93. To evaluate reliability, courts should consider the following nonexclusive factors: (1) whether the expert's method, theory, or technique is generally accepted within the relevant scientific community; (2) whether the method, theory, or technique can be (and has been) tested; (3) whether the method, theory, or

technique has been subjected to peer review and publication; and (4) the known or potential rate of error of the method, theory, or technique. *Daubert*, 509 U.S. at 593-94.

Rule 702 reflects a court's "gatekeeping" obligation to "make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999). However, "'the trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system.'" Fed. R. Evid. 702 advisory committee's note on 2000 amendments (citing *United States v. 14.38 Acres of Land Situated in Leflore County, Miss.*, 80 F.3d 1074, 1078 (5th Cir. 1996)). "'Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.'" *Id.* (citing *Daubert*, 590 U.S. at 595).

B. Analysis

1. Allstate's Expert George Hogge

As explained above, although Allstate has withdrawn Mr. Hogge's opinion that one of the solenoid valves in the ABS control module was defectively manufactured, it still seeks to introduce Mr. Hogge's testimony that the source of the fire was electrical, that the circuit board in the ABS control module exhibits anomalies and damage consistent with pre-fire electrical failure and localized heating, and that the fire was caused by "some defect" in the ABS control module that allowed brake fluid to contact the circuit board. Ford seeks to exclude any opinion from Mr. Hogge that the 2003 Ford Expedition, or any of its component parts, was defective.

a. Qualifications

Mr. Hogge has an educational and career background in electrical engineering. In 1982, he completed courses in National Electrical Code, Electrical Inspections, and Electronics at Gateway Community College, and in 1989, he graduated from Arizona State University with a Bachelor of Science in Electrical Engineering. Prior to graduating

from Arizona State University, he worked as an electrician for approximately seven years. Since then, he has worked in a number of capacities as an electrical engineer and is a Registered Professional Engineer in several states, including Arizona.

Mr. Hogge also has extensive experience as a forensic electrical engineer. In 1998, he began working part-time as an Adjunct Consulting Forensic Engineer for BTI Consultants. He became a full-time forensic electrical engineer in 2001 and he is currently President/Principal Forensic Electrical Engineer at Engineering Forensics Experts LLC. In his capacity as a forensic electrical engineer, he has observed tests and demonstrations of at least fifteen vehicle fires and has rendered his services in many cases involving vehicle fires. A number of those cases involved fires caused by contact between brake fluid and energized electrical components.

Ford nevertheless maintains that Mr. Hogge is not qualified to testify as to the existence of any defect in the Rogers' 2003 Ford Expedition for two reasons. First, he has no experience or expertise as an automotive or design engineer. Second, on a related note, he has little to no knowledge of, or experience with, the ABS control module he claims to be defective. In light of Mr. Hogge's experience with vehicle fires, and more specifically fires initiated by contact between brake fluid and energized electrical components, he is certainly qualified to testify that the fire in this case was caused by contact between brake fluid and the energized electrical circuitry in the ABS control module. Ford appears to be arguing only that he is unqualified to make the further deduction that the ABS control module, in which the electrical circuit was housed, was defective.

Mr. Hogge admits that he has no experience or expertise in automotive or design engineering, and more specifically no experience in the design or manufacture of an ABS control module. Moreover, while he has worked on other cases involving fires in Ford vehicles, they all involved an alleged defect in the speed control deactivation switch. None of them involved the ABS control module. His lack of experience and expertise with respect to the design and manufacture of an ABS control module raises serious doubt

as to whether he is qualified to testify that the ABS control module was defective. However, because that opinion is otherwise unreliable, whether he is qualified to give it need not be decided.

b. Reliability

Mr. Hogge purports to have applied the standards set forth in *NFPA 921: Guide for Fire and Explosion Investigations* (2004) ("NFPA 921"), a publication issued by the National Fire Protection Association. The parties agree that NFPA 921 delineates a recognized and reliable method of determining the cause of a fire. *See Fireman's Fund Ins. Co. v. Canon U.S.A., Inc.*, 394 F.3d 1054, 1057-58 (8th Cir. 2005) (acknowledging NFPA 921 as a reliable method under *Daubert* standards). Therefore, Mr. Hogge's testimony is reliable if he complied with either NFPA 921 or the general scientific method.

Provision 4.1 of NFPA 921 indicates that the "proper methodology for a fire or explosion investigation is to first determine and establish the origin(s), then investigate the cause . . . ." Provision 4.3 illustrates the scientific method, which involves defining a problem, collecting data, analyzing the data, developing a hypothesis, testing the hypothesis, and selecting a final hypothesis or conclusion. The following provisions describe how the method is applied to fire origin and cause investigations:

> 4.3.2 Define the Problem. Having determined that a problem exists, . . . a proper origin and cause investigation should be conducted. This is done by an examination of the scene and by a combination of other data collection methods, such as the review of previously conducted investigations of the incident, the interviewing of witnesses or other knowledgeable persons, and the results of scientific testing.
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> 4.3.3 Collect Data. Facts about the fire incident are now collected by observation, experiment, or other direct data-gathering means. . . .
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> 4.3.4 Analyze the Data (Inductive Reasoning). All of the collected and observed information is analyzed by inductive reasoning: the process in which the total body of empirical data collected is carefully examined in the light of the investigator's knowledge, training, experience, and expertise. . . .
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> 4.3.5 Develop a Hypothesis. Based on the data analysis, the investigator should now produce a hypothesis or group of hypotheses to explain the origin and cause of the fire or explosion incident. This hypothesis should be based solely on the empirical data . . . .

> 4.3.6 Test the Hypothesis. The investigator does not have a truly provable hypothesis unless it can stand the test of careful and serious challenge. Testing of the hypothesis is done by the principle of deductive reasoning, in which the investigator compares his or her hypothesis to all known facts. . . . This testing of the hypothesis may be either cognitive or experimental. . . . This process needs to be continued until all feasible hypotheses have been tested. Otherwise the fire cause should be listed as "undetermined."
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> 4.4.3.1 . . . A typical fire or explosion investigation may include all or some of the following: a scene inspection or review of previous scene documentation done by others; scene documentation through photography and diagramming; evidence recognition, documentation and preservation; witness interviews; review and analysis of the investigation of others; and identification and collection of data or information from other appropriate sources.

As it pertains to vehicle fires, provision 25.4.2 of NFPA 921 provides:

> 25.4.2 Electrical Sources. When the engine is not running, the primary source of electrical power in a motor vehicle is the battery. . . . A limited number of components remain electrically connected to the battery, even though the ignition switch is off and the engine is off. . . . The investigator should determine if the vehicle was running at the time of the fire. A vehicle that is running has many more potential sources of ignition. . . .

Here, consistent with the above provisions, Mr. Hogge used reliable data collection methods to establish the origin of the fire before ascertaining its cause. According to his April 23, 2009 expert report, "[a]ll eyewitness accounts and Fire Investigator findings indicate that this fire originated in the engine compartment of the 2003 Ford Expedition." Interviewing witnesses and relying on previous investigations are, pursuant to NFPA 921, acceptable methods of collecting and analyzing data. He also bolstered that determination by examining and eliminating the home's electrical system, and all other heat sources external to the vehicle, as possible sources of the fire.

Then, based on Mrs. Rogers testimony and the observation that the vehicle had not been running for 90 minutes prior to the fire, Mr. Hogge hypothesized in his April 23, 2009 report that the heat source was electrical. Because the opinion was reached by eliminating all heat sources external to the vehicle and latent heat from the engine, it is reliable. However, Ford takes issue with Mr. Hogge's addition conclusion that the electrical event was caused by some defect in the vehicle's electrical system. Ford characterizes this hypothesis as a premature, untested conclusion, but at such an early

stage in the investigation, prior to any destructive testing, it cannot reasonably be viewed as anything more than an untested general hypothesis. Indeed, Mr. Hogge clearly expressed in his April 23, 2009 report that "[a] comprehensive examination of the vehicle will be required to determine the failure mode that resulted in the cause of this fire."

As is evident from his July 27, 2009 report, Mr. Hogge subsequently refined his hypothesis by looking for evidence of electrical arcing and localized heating, thereby eliminating various potential electrical causes, including the battery and its associated cables, the alternator and nearby conductors, the powertrain control module and nearby conductors, and the window regulator motors from the driver's side doors. He eliminated the various components via cognitive testing, that is, by evaluating the evidence in light of his vast experience with electrical fires.

Then, when he examined a circuit board located in the ECU of the vehicle's ABS control module, he observed anomalies on the copper circuit traces and damage on the lower portion of the board consistent with pre-fire electrical activity and localized heating. Because the opinion is that the anomalies and damage are merely *consistent with* as opposed to *caused by* electrical activity and localized heating, it does not require the elimination of all other possibilities in order to be reliable. Up to this point, Mr. Hogge's opinions are sound because they are based on cognitive testing, that is, an evaluation of the physical evidence in light of his knowledge and experience with electrical fires.

However, his subsequent opinions regarding the vehicle's ABS control module are unreliable and must be excluded. Based on his observations of damage and anomalies on the circuit board, he deduced, without testing, that the fire originated in the ECU of the ABS control module. He also concluded that the fire was caused by contact between brake fluid and the energized circuit board and deduced that because the module is designed to prevent brake fluid from coming into contact with energized circuitry, it must have been defective.

The aforementioned deductions are unreliable because they are nothing more than untested hypotheses. Testing the hypothesis is an essential step in both the scientific

method and the NFPA 921 protocol. For Mr. Hogge's deductions to hold water, it must be at least possible, if not probable, that brake fluid penetrated the ECU far enough to come into contact with the energized circuitry. It must also be possible, if not probable, that any resulting fire lasted long enough to burn through the plastic casing of the ECU before being extinguished by a lack of oxygen. Mr. Hogge admits that the extent of his testing was an x-ray of the subject ABS control module and an examination of an exemplar ABS control module purchased at a salvage yard. The examination of the exemplar revealed the presence of silt residue between the rubber gasket and the wall of the ECU. Based on the amount of residue present, Mr. Hogge concluded that "the gasket and drain holes on the ECU are not particularly effective at preventing fluids from getting into the area behind the gasket." An immediate problem with the opinion is that Mr. Hogge cannot say whether the exemplar had been exposed to the elements during its time at the salvage yard. (Doc. # 137, at 50.) A second problem is that while the exemplar may demonstrate that silt and dirt particles can bypass the holes at the bottom of the ECU, it does not demonstrate that brake fluid can bypass the holes. It also fails to establish that the fire could last long enough to burn through the ECU's casing before being extinguished by a lack of oxygen.

Mr. Hogge is therefore precluded from offering the opinions that the fire originated in the ECU of the ABS control module and that it was caused by "some defect" that allowed brake fluid to come into contact with the circuit board in the ECU. He may testify only that the fire originated in the engine compartment of the vehicle, that the heat source of the fire was electrical, which ignition sources have been eliminated, and that the observed anomalies and damage on the circuit board in the ECU of the ABS control module are "consistent with" electrical activity and localized heating.

2. Ford's Expert Jeff Colwell

According to his August 21, 2009, expert report, Mr. Colwell's independent opinion is that "[t]he fire originated within the carport of the residence near, by or within

the front portion of the vehicle," that the burn damage and Mrs. Rogers' testimony is "consistent with external fire attack," and that "[t]he cause of the fire is undetermined." He also responded to Mr. Hogge's theory of causation, specifically opining that (1) the damage to the ABS control module in this case is generally consistent with an external fire attack, (2) if a solenoid valve were to leak, the fluid would simply drain out of the holes at the bottom of the solenoid coil housing in the ECU, and (3) any fire that originated in the ECU of the module would suffocate due to lack of oxygen before burning through the ECU housing.

Allstate seeks to exclude any testimony from Mr. Colwell that the origin of the fire was external to the vehicle and any evaluation of Mr. Hogge's specific defect theory. Though Allstate has withdrawn Mr. Hogge's specific defect theory, its current defect theory still assumes the fire began in the ABS control module. Therefore, Mr. Colwell's opinions regarding the ABS control module are still clearly relevant.

a. Qualifications

Mr. Colwell is amply qualified to give his opinions. He has a Bachelor of Science, Master of Science, and Ph.D. in Mechanical Engineering and is registered as a Professional Mechanical Engineer in both Arizona and California. He currently holds a position as a Principal Engineer at Exponent in Phoenix, Arizona. In that capacity, he specializes in analyzing thermal and combustion processes, with particular emphasis on the cause and origin of fires and explosions in vehicles and residential and commercial structures. Because his opinions with respect to the ABS control module address only the likelihood of a fire starting in the module, and not whether the module is defective, his lack of experience in automotive engineering does not render him unqualified.

b. Reliability

Allstate challenges the reliability of Mr. Colwell's opinions on the basis of his data collection and analysis methods and the extent of his testing. Although Mr. Colwell did not personally examine the scene of the fire, interview witnesses, or speak with other expert witnesses, his data collection and analysis methods are nonetheless reliable.

Provision 4.4.3.1 of NFPA 921 makes clear that a review of prior investigations and scene documentation by others can be a reliable method of collecting and analyzing data during fire investigations. Mr. Colwell's opinions are based on his personal inspections of the vehicle, other evidence retained from the fire scene, an exemplar 2003 Ford Expedition, an exemplar ABS control module, and a review of various photographs, depositions, expert reports, and other documents relevant to the case. Therefore, Allstate's challenge to Mr. Colwell's data collection methods lacks merit.

The challenge to the extent of his testing is equally unconvincing. His opinion as to the area of origin requires no more than cognitive testing. Fire damage to both the surrounding carport and the vehicle precluded Mr. Colwell from narrowing his opinion to a particular point of origin. Therefore, he concluded that it began "near, by or within" the vehicle. His opinion that damage to the ABS control module is consistent with external fire attack was also tested cognitively, as allowed by provision 4.3.6 of NFPA 921. Just as Mr. Hogge could eliminate various components as the source of the fire by evaluating the evidence in light of his experience with electrical fires, Mr. Colwell could reach his conclusion by comparing the damage to that seen in other fires. The same applies to the opinion that any leaking brake fluid would simply drain out of the holes at the bottom of the solenoid coil housing in the ECU. No more than established principles of gravity are required to test that hypothesis. Finally, as is evident from his affidavit, Mr. Colwell has personally conducted experiments in which he extinguished fluid fires by suffocating them. Those experiments, together with accepted combustion principles, constitute sufficient testing of his opinion that any resulting fire in the ECU would suffocate from lack of oxygen before burning through the ECU housing.

3. Ford's Expert Mark Hoffman

Mr. Hoffman's proffered opinions, expressed in his August 18, 2009, report, are that (1) it is "virtually impossible" for brake fluid to leak from the HCU into the ECU of the ABS control module, (2) the design and manufacturing of the ABS control module met or exceeded all industry standards, was state-of-the-art, and not defective, (3) the

Rogers' 2003 Ford Expedition generally met or exceeded all federal motor vehicle and corporate safety standards, was safe for its intended use and not defective, and (4) Ford's methods and techniques of manufacturing, inspecting, testing, and labeling its vehicles conformed with the state of the art in 2002.

Allstate seeks to preclude Mr. Hoffman from offering any opinion pertaining to the design, manufacture, or fabrication of the ABS control module, and from offering any opinion as to the viability of Mr. Hogge's specific defect theory, which has since been withdrawn. Because Allstate concedes that the only remaining competent ignition source is the ABS control module, Mark Hoffman's opinion that the entire Ford vehicle is state of the art is irrelevant. The only opinion that need be evaluated is that the design and manufacturing of the ABS control module met or exceeded all industry standards, was state of the art, and not defective.

a. Qualifications

Mr. Hoffman has a Bachelor of Science in Electrical Engineering and approximately thirty years of experience as an electrical engineer in the automotive industry. He is currently employed by Ford Motor Company as a Design Analysis Engineer, where he specializes in electrical engineering, design, testing, and performance of motor vehicles. He has extensive experience with electronic and hydraulic components in automobiles.

Despite his general qualifications with respect to Ford vehicles, it is unclear whether Mr. Hoffman is qualified to testify that the ABS control module was manufactured in conformity with the state of the art. The module was manufactured by nonparty Continental Teves and sold to Ford as a complete unit ready to be incorporated into a Ford vehicle. Because Mr. Hoffman has never worked for Continental Teves, it is unlikely that he is familiar with the manufacturing methods and techniques used by Continental Teves. The issue need not be decided, however, because the opinion lacks foundation and is therefore unreliable.

b. Reliability

Mr. Hoffman opines that the ABS control module was state of the art because Continental Teves is a worldwide leader in the design and manufacture of ABS systems, is a Tier One supplier to Ford, and "follows Six Sigma manufacturing, ISO 9000, and Ford's supplier Qualify Operating System (QOS) procedures." The opinion is unreliable because no foundation has been laid. The state of the art is "the technical, mechanical and scientific knowledge of manufacturing, designing, testing or labeling the same or similar products that was in existence and reasonably feasible for use at the time of manufacture." A.R.S. § 12-681(10). Mr. Hoffman has not described or otherwise established the methods and techniques of manufacturing and testing ABS control modules as of 2002. Furthermore, no attempt has been made to show how compliance with Six Sigma manufacturing, ISO 9000, and Ford's supplier procedures is the equivalent of compliance with those methods and techniques. As Ford itself has recognized, an opinion amounting to no more than *ipse dixit* is not reliable. Therefore, the opinion will be excluded.

III. Motions for Summary Judgment

A. Legal Standard for Summary Judgment

Summary judgment is warranted if the evidence shows there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). The moving party must produce sufficient evidence to persuade the Court that there is no genuine issue of material fact. *Nissan Fire & Marine Ins. Co., Ltd. v. Fritz Cos., Inc.*, 210 F.3d 1099, 1102 (9th Cir. 2000). Conversely, to defeat a motion for summary judgment, the nonmoving party must show that there are genuine issues of material fact. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250 (1986). A material fact is one that might affect the outcome of the suit under the governing law, and a factual issue is genuine "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Id.* at 248.

The moving party bears the initial burden of identifying those portions of the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, which it believes demonstrate the absence of any genuine issue of material fact. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). If the nonmoving party would bear the burden of persuasion at trial, the moving party may carry its initial burden of production under Rule 56(c) by producing "evidence negating an essential element of the nonmoving party's case," or by showing, "after suitable discovery," that the "nonmoving party does not have enough evidence of an essential element of its claim or defense to carry its ultimate burden of persuasion at trial." *Nissan Fire*, 210 F.3d at 1105-06; *High Tech Gays v. Defense Indus. Sec. Clearance Office*, 895 F.2d 563, 574 (9th Cir. 1990).

When the moving party has carried its burden under Rule 56(c), the nonmoving party must produce evidence to support its claim or defense by more than simply showing "there is some metaphysical doubt as to the material facts." *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 (1986). Where the record, taken as a whole, could not lead a rational trier of fact to find for the nonmoving party, there is no genuine issue of material fact for trial. *Id.* The nonmoving party's evidence is presumed to be true and all inferences from the evidence are drawn in the light most favorable to the nonmoving party. *Eisenberg v. Ins. Co. of North America*, 815 F.2d 1285, 1289 (9th Cir. 1987). If the nonmoving party produces direct evidence of a genuine issue of material fact, the motion for summary judgment is denied. *Id.*

B. Motion to Strike

Ford argues that Allstate's Supplemental Statement of Facts (doc. # 113) and Allstate's Second Supplemental Statement of Facts (doc. # 122) should be stricken pursuant to LRCiv 56.1. Local Rule 56.1 permits a party moving for summary judgment to file only one separate statement of facts in support of its motion. The statement is to be filed along with the motion for summary judgment. LRCiv 56.1(a). While LRCiv 56.1(d) permits the moving party to file a "reply memorandum," it does not permit an

additional separate statement of facts. Any evidentiary objections to the nonmoving party's separate statement may be included in the reply memorandum. The nonmoving party, on the other hand, is permitted to file a separate statement of facts in which the nonmoving party responds to the moving party's statements of fact and sets forth any additional facts that establish a genuine issue of material fact or otherwise preclude judgment in favor of the moving party. LRCiv 56.1(b).

Here Allstate's Second Supplemental Statement of Facts (doc. # 122) was filed along with Allstate's reply in support of its own motion for summary judgment. Because LRCiv 56.1 does not permit moving parties to file additional statements of fact along with their replies, Allstate's Second Supplemental Statement of Facts (doc. # 122) is unauthorized and will be stricken. Allstate's Supplemental Statement of Facts (doc. # 113), on the other hand, was filed along with Allstate's response to Ford's motion for summary judgment. Because nonmoving parties are permitted to file a separate statement setting forth additional facts, Allstate's Supplemental Statement of Facts (doc. # 113) is authorized to the extent the facts respond and pertain to Ford's motion for summary judgment. However, to the extent they are offered in support of Allstate's own motion for summary judgment or in response to Ford's motion to exclude, they are disregarded. Finally, to the extent Allstate's responses to Ford's statements of fact fail to cite to a specific admissible portion of the record to support the objection, they too are disregarded.

C. Facts

On December 24, 2002, Dan Rooney, Haley Rogers' father, purchased a brand new 2003 Ford Expedition from Berge Ford in Mesa, Arizona. Ford had tested the vehicle to ensure that it met or exceeded the Federal Motor Vehicle Safety Standards, promulgated by the National Highway Traffic Safety Administration ("NHTSA") to prevent accidents due to inadequate design, construction, and performance of motor vehicles. The Expedition, which was assembled entirely by Ford, consisted of numerous components, including a brake system designed and manufactured by Continental Teves,

a nonparty. Throughout their ownership, the Rooneys had the vehicle serviced primarily at Berge Ford, but may have had additional services performed at other garages. Only the Berge Ford service records are available.

Three years and more than 38,000 miles later, the Rooneys sold the Expedition to Anthony (Drew) and Haley Rogers. During the 18 months they owned the vehicle, the Rogers recall possibly replacing the battery, but have no service records to confirm. They also recall having the vehicle serviced at Wal-Mart and Kelly Automotive, but they only have service records for two visits to Kelly Automotive. The first record, dated August 20, 2007, indicates that the vehicle's brake pads and rotors were replaced, a tail lamp was replaced, and a fuel injection was conducted. The second record, dated February 21, 2008, shows the Rogers sought an estimate for repairs to a broken driver's side mirror, a broken rear seat belt, and a power window that would work intermittently, but the Rogers declined to have, and never did have, the repairs performed.

By June 17, 2008, the day of the fire, the Expedition had been in operation for at least five and a half years and registered more than 53,406 miles. That day, Haley Rogers and her mother, Evelyn Rooney, used the vehicle to run errands from approximately 11 am to 3 pm. While they were driving, they noticed for the first time an abnormal revving of the engine when Haley accelerated. Also for the first time, they noticed a "skunky" smell inside the vehicle while driving. Although the source of the smell was unknown, Evelyn Rooney maintains that it did not smell electrical. At around 3 pm, Haley Rogers drove the vehicle to her mother-in-law's house to pick up her children and returned home around 3:30 pm. She parked the Expedition in the Rogers' carport, turned off the ignition, and entered the house, at which point she wrote a note to her husband describing the smell and abnormal revving she had experienced in the Expedition.

For the next 90 minutes, the vehicle cooled to ambient temperatures. At around 5 pm, Haley Rogers detected the smell of smoke and heard the sound of breaking glass. When she checked the front bedroom adjacent to the carport, she saw flames inside the room by the window looking out on the carport. As Haley and her four children fled the

house through the front door in the carport, roughly 3-6 feet from the Expedition, she noticed that the carport was on fire, but does not recall seeing the Expedition on fire. Haley and her children ran to the neighbors' house and asked them to call 911. At 5:02 pm, two Mesa firefighters arrived on the scene to find a "working house fire" and a number of onlookers. Minutes later, a fire engine arrived. By the time the fire was extinguished, the Rogers' house was a near-total loss.

An alleged eyewitness, Mike Eaton, claims to have seen the fire in its early stages. He maintains that as he was pulling out of his driveway a few houses down from the Rogers' residence at around 5pm, he noticed smoke emanating from beneath the rear end of the Rogers' Expedition. Upon arriving at the Rogers' residence, he smelled burning electrical and noticed smoke and a flame coming from beneath the Expedition, causing him to surmise that the fire had started in the engine. He maintains that neither the house nor the carport was on fire at that point. As he attempted to approach the house on foot, a firefighter told him to leave the scene. At no point did he witness Haley Rogers and her children exiting the house.

The day after the fire, Troy Duncan, a Mesa Fire Department investigator, inspected the remains of the Rogers' house and vehicle. Duncan eliminated arson as a cause and concluded that the fire was accidental. He also determined that the fire originated in the engine compartment of the Expedition and was likely caused by a failure of the Expedition's speed control deactivation switch. At the time, he was unaware that the vehicle's engine compartment did not contain that mechanism.

The day after that, on June 19, 2008, James Hall, a certified fire investigator, inspected the scene on behalf of Allstate. He too determined that the fire originated in the vehicle's engine compartment and initially believed, erroneously, that it was caused by a failure of the speed control deactivation switch. Sometime in early July 2008, James Hall contacted George Hogge, an electrical engineer, and asked him to examine the scene and evaluate the cause of the fire. Mr. Hogge agreed and inspected the scene for the first time on July 10, 2008. Initially, he looked for evidence of a speed control deactivation switch,

but later realized the vehicle did not contain the mechanism. He also determined that the vehicle was not subject to any recalls.

Allstate filed its action against Ford on November 18, 2008. Since then, Allstate's experts, George Hogge and Patrick Donahue, and Ford's experts, Jeff Colwell and Mark Hoffman, have actively engaged in inspections, examinations, and analyses of evidence recovered from the scene of the fire in order to determine its origin and cause. Mr. Hogge's admissible opinions are as follows:

- The fire originated in the engine compartment of the 2003 Ford Expedition.
- The cause of the fire was electrical.
- The following components did not cause the fire: the home's electrical system, operational fuel leaks or latent operating heat, the battery and its associated cables, the alternator and nearby conductors, the powertrain control module and nearby conductors, and the window regulator motors from the driver's side doors.
- The circuit board in the ABS control module exhibits anomalies and damage "consistent with" pre-fire electrical activity and localized heating.

Mr. Donahue's opinions are as follows:

- It is unlikely that the services reflected in available service records from Berge Ford and Kelly Automotive damaged the vehicle's electrical system.
- It is unlikely, though not impossible, that improper repair, maintenance, alterations, or vehicle misuse caused the fire.
- The revving of the engine that Haley Rogers experienced on June 18, 2008, is consistent with an electrical or mechanical problem in the vehicle.

Mr. Colwell's admissible opinions are as follows:

- The fire originated "within the carport of the residence near, by or within the front portion of the vehicle."

- Although it cannot be said with a reasonable degree of scientific certainty that the source of the fire was external to the vehicle, the burn damage and Mrs. Rogers' testimony are "consistent with external fire attack."
- Improper repair, improper maintenance, vehicle alterations, operator misuse, and arson cannot be eliminated as causes of the fire.
- The damage to the ABS control module is generally consistent with an external fire attack.
- A fire originating in the ECU of the ABS control module would suffocate due to lack of oxygen before burning through the ECU housing.
- The cause of the fire is undetermined.

D. Analysis

A federal court sitting in diversity jurisdiction over a strict products liability claim must apply the substantive law of the forum state to determine the elements of the plaintiff's cause of action. *Neely v. St. Paul Fire & Marine Ins. Co.*, 584 F.2d 341, 345 (9th Cir. 1978). To establish a prima facie case of strict products liability under Arizona law, a plaintiff must demonstrate that (1) the product had an unreasonably dangerous defect, (2) the defect existed at the time the product left the defendant's control, and (3) the defect was the proximate cause of the plaintiff's injuries. *Gosewisch v. Am. Honda Motor Co.*, 153 Ariz. 400, 403, 737 P.2d 376, 379 (1987). Allstate seeks to rely on circumstantial evidence to establish that the vehicle's ABS control module was defective when the vehicle left Ford's control.

1. The Circumstantial Evidence Theory Survives in Arizona

In 1987, Arizona's Uniform Contribution Among Tortfeasors Act ("UCATA") was amended to abolish joint and several liability with a few exceptions. *See* A.R.S. § 12-2506; *Jimenez v. Sears, Roebuck & Co.*, 183 Ariz. 399, 404, 904 P.2d 861, 866 (1995). Its in place, the legislature adopted a system of pure comparative fault, under which each defendant is severally liable "only for the amount of damages allocated to that defendant in direct proportion to that defendant's percentage of fault . . . ." A.R.S. § 12-

2506(A). The fault of all tortfeasors is considered "regardless of whether the person was, or could have been, named as a party to the suit." A.R.S. § 12-2506(B). Therefore, named defendants may identify nonparties at fault for the purpose of reducing their own percentage of fault. *See id.*

In 2007, the Arizona Supreme Court confirmed that under Arizona's system of comparative fault, liability in strict products liability actions is several only and that fault is to be apportioned among tortfeasors in the chain of distribution. *State Farm Ins. Cos. v. Premier Manufactured Sys., Inc.*, 217 Ariz. 222, 224, 172 P.3d 410, 412 (2007); *see also* A.R.S. § 12-2506(F)(2) (defining "fault" to include strict products liability). In *Premier*, one of State Farm's insureds discovered a leak in a water filtration system that had damaged his home and personal property. *Id.* The filtration system, which consisted in part of plastic canisters, had been assembled, packaged, and sold to the insured by Premier Manufactured Systems, Inc. ("Premier"). *Id.* The leak was caused by a defect in one of the plastic canisters, which had been manufactured and sold to Premier by Worldwide Water Distributing, Ltd. ("Worldwide"). *Id.* As subrogee for its insured, State Farm sued both Premier and Worldwide, alleging strict products liability. *Id.* Because the liability of each was several only, and because Premier was only 25% at fault, State Farm could recover only 25% of its damages from Premier. *Id.*

Ford points out that if plaintiffs are generally permitted to prove a vehicle defect through circumstantial evidence without specifying which component part was defective, defendants are deprived of their opportunity to allocate fault to the nonparty manufacturer of that component part. Because such a result, Ford argues, is contrary to the spirit and intent of *Premier* and Arizona's comparative fault system, the circumstantial defect theory in strict products liability cases is no longer viable in Arizona. This argument reads too much into both *Premier* and Arizona's comparative fault system.

First and foremost, neither *Premier* nor any other Arizona case has expressly abrogated the circumstantial defect theory since UCATA was amended to abolish joint and several liability. To the contrary, in 1997, the Arizona Court of Appeals mentioned

the circumstantial defect theory with approval. *See Souza v. Fred Carries Contracts*, 191 Ariz. 247, 253, 955 P.2d 3, 9 (Ct. App. 1997). Although the viability of the circumstantial defect theory was not before the *Souza* court, the court's approving reference suggests the theory survives in Arizona or, at the very least, that it has not affirmatively been laid to rest.

Second, because the circumstantial defect theory was not at issue in *Premier*, that case cannot be read to have indirectly abolished the theory. The defendants in *Premier* stipulated to a defect in one of the canisters in the water filtration system. 217 Ariz. at 224, 172 P.3d at 412. There was no need to rely on circumstantial evidence to prove the existence of the defect. *Premier* may best be read to say that where the liability of two or more tortfeasors in the chain of distribution is conclusively established, liability must be apportioned between them such that each is severally liable only for its relative portion of fault. *See Parra v. Cont'l Tire N. Am., Inc.*, 222 Ariz. 212, ¶15 n.6, 213 P.3d 361, 365 n.6 (Ct. App. 2009) (citing *Premier* for the proposition that "under Arizona law, defendants' liability is reduced to the extent they prove the fault of a designated non-party at fault."). To the extent the manufacturer of a finished product is found strictly liable under a circumstantial defect theory that does not identify a specific defective component part, that tortfeasor is simply out of luck and must bear the full brunt of the damages. While the circumstantial evidence theory might not fully achieve the purpose of Arizona's comparative fault system, it is not entirely out of harmony with the system. Therefore, in the absence of express authority to the contrary, the circumstantial evidence theory of strict liability is still alive and well in Arizona.

2. Allstate May Rely on Circumstantial Evidence

After the hearing on these pending motions, the Court requested additional briefing from the parties as to whether Allstate may rely on circumstantial evidence to establish a defect in the ABS control module in this case. As explained, to establish a prima facie case of strict product liability in Arizona, a plaintiff must demonstrate that (1) the product had an unreasonably dangerous defect, (2) the defect existed at the time the product left

the defendant's control, and (3) the defect was the proximate cause of the plaintiff's injuries. *Gosewisch*, 153 Ariz. at 403, 737 P.2d at 379. Plaintiffs are generally charged with proving one of three types of defects: manufacturing defects, design defects, or informational/warning defects. *Id.*; *Brown v. Sears, Roebuck & Co.*, 136 Ariz. 556, 562, 667 P.2d 750, 756 (Ct. App. 1983); *see also* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (1998).

Recognizing that direct evidence of the second element, namely that an identified defect existed at the time the product left the defendant's control, is seldom available, Arizona courts have generally and unqualifiedly allowed plaintiffs to rely on circumstantial evidence to establish that element. *See Reader v. Gen. Motors Corp.*, 107 Ariz. 149, 154-55, 483 P.2d 1388, 1393-94 (1971) (where plaintiff had direct evidence that an incorrect clip had been installed to clamp the vehicle's speedometer cable but had no direct evidence that it was there when it left GMC's control, plaintiff was "entitled to establish the presale existence of the . . . clip by circumstantial evidence"); *Mineer v. Atlas Tire Co.*, 167 Ariz. 315, 316-17, 806 P.2d 904, 905-06 (Ct. App. 1990) (where plaintiff had direct evidence of a defect in a metal wire imbedded in a blown tire but no direct evidence that it existed when it left the defendant's control, plaintiff could rely on circumstantial evidence to establish the latter).

As for the defect itself, "no specific defect need be shown if the evidence, direct or circumstantial, permits the inference that the accident was caused by a defect." *Dietz v. Waller*, 141 Ariz. 107, 110-11, 685 P.2d 744, 747-48 (1984). However, a closer review of Arizona product liability law suggests that reliance on circumstantial evidence to prove a defect is permissible only when the product is unavailable or otherwise incapable of inspection. *See id*; *Rocky Mountain Fire & Cas. Co. v. Biddulph Oldsmobile*, 131 Ariz. 289, 640 P.2d 851 (1982). In *Rocky Mountain*, the plaintiff, as subrogee for its insureds, sued a motor home dealer on a theory of strict liability after a new motor home caught fire and "burned to the frame." *Id.* at 291, 640 P.2d at 853. Noting that "the plaintiff [was] limited to circumstantial evidence because the motor home [was] not available for

inspection," the court approved of submitting the claim to the jury on a circumstantial theory of defect. *Id.* at 292, 640 P.2d at 854.

In *Dietz*, the plaintiffs sued a boat retailer after their boat broke apart and sank while being operated on a lake. 141 Ariz. at 109, 685 P.2d at 746. Though the boat was later retrieved from the lake, it was disintegrated. *Id.* The court cited *Rocky Mountain* for the proposition that plaintiffs must be permitted to rely on circumstantial evidence, "especially . . . in cases such as this one where the product has disintegrated or burned up." *Id.* at 110, 685 P.2d at 747.[1]

The Restatement and decisions from other jurisdictions, some of which were cited by the *Dietz* court, support the notion that reliance on circumstantial evidence to prove the defect itself is limited to cases in which the product is unavailable or incapable of inspection. *See* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 3 cmt. b (1998) (plaintiffs should be permitted to establish a defect via circumstantial evidence "when the product unit involved in the harm-causing incident is lost or destroyed in the accident" such that "direct evidence of specific defect may not be available."); *Firestone Tire & Rubber Co. v. King*, 145 Ga. App. 840, 842, 244 S.E.2d 905, 909 (Ct. App. 1978) (allowing the plaintiff to prove a tire defect via circumstantial evidence where the tire material in the area of the blowout had been destroyed); *Graff v. Baja Marine Corp.*, 310 Fed. Appx. 298, 306 (11th Cir. 2009) (citing *King*, the court recognized that the case before it "differ[ed] in important respects from the typical case in which circumstantial evidence is used to prove a defect" where the plaintiffs had "ample opportunity" to examine and test the allegedly defective product but were unable to produce direct, admissible evidence of a defect); *Lindsay v. McDonnell Douglas Aircraft Corp.*, 460 F.2d 631, 638 (8th Cir. 1972) (allowing plaintiff to establish a defect in an aircraft via circumstantial evidence where the aircraft was unavailable because it had crashed into the

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[1]In *Dietz* there was already some direct evidence of a "defect" because it was undisputed that the boat suffered leaks that could not be stopped prior to the accident. 141 Ariz. at 110-11, 685 P.2d at 747-48.

ocean). As the Eighth Circuit explained in *Lindsay*, "[t]he proof required in a strict liability case must be realistically tailored to the circumstances which caused the form of action to be created." *Id.* at 639.

In this case, the Rogers' 2003 Ford Expedition was available and capable of inspection, as is evident from the parties' participation in the July 8, 2009 destructive examination in which several of the vehicle's components were removed and inspected. However, the relevant inquiry is whether the ABS control module was capable of inspection because, as Allstate concedes, Mr. Hogge has ruled out all potential ignition sources other than the ABS control module. Quite astonishingly, the condition of the inside of the module is unknown because neither party has taken it apart to examine the inner components. Allstate maintains, however, that "because of the amount of damage caused to the Ford Expedition, including its component parts, it is not likely possible for Allstate to identify a specific manufacturing and/or design defect . . . ." (Doc. # 143, at 15.) The photographic images of the vehicle and the exterior of the ABS control module certainly indicate extensive fire damage and melting. If the extent of damage to the interior of the module even approximates the extent of damage to the exterior, it would be very difficult if not impossible to identify a specific manufacturing defect if one existed. Therefore, in the absence of a clear indication as to the condition of the inside of the module, and in light of the extensive fire damage to the exterior of the module and the entire vehicle, Allstate will be permitted to rely on circumstantial evidence to establish that the vehicle was defective when it left Ford's control.

3. Sufficiency of the Circumstantial Evidence

In the absence of a specific defect theory, Allstate must produce sufficient circumstantial evidence to permit "an inference that the accident was caused by a defect." *Dietz*, 141 Ariz. at 111, 685 P.2d at 748. In proving a defect through circumstantial evidence, "a plaintiff is not required to eliminate with certainty all other possible causes of an accident . . . ." *Id.* at 111, 685 P.2d at 748. Rather, the plaintiff need only "present

evidence sufficient to allow the trier of facts to reasonably infer that it was more probable than not that the product was defective." *Id.*

a. Origin and Source of the Fire

Allstate, seeking to narrow the potential sources of the fire, moves for partial summary judgment that the fire originated in the engine compartment of the vehicle and that the ignition source was electrical. The evidence cuts both ways. On the one hand, Haley Rogers and her mother, Evelyn Rooney, noticed an abnormal revving of the engine and a "skunky" smell inside the vehicle hours before the fire. Furthermore, Mike Eaton, the eyewitness who allegedly saw the fire in its very early stages, noticed smoke and then fire emanating from beneath the rear end of the Rogers' Expedition. He claims to have smelled burning electrical, causing him to surmise that the fire had started in the engine. He also maintains that neither the house nor the carport was on fire at that point. Finally, the great majority of fire investigators and experts in the case, including Troy Duncan, James Hall, and George Hogge, are of the opinion that the fire originated in the engine compartment of the vehicle.

On the other hand, when Haley Rogers fled her home with her children, she noticed that the carport was on fire, but does not recall seeing the vehicle on fire. Furthermore, Jeff Colwell, Ford's expert, believes the fire originated "within the carport of the residence near, by or within the front portion of the vehicle." His area of origin includes, but is not limited to, the engine compartment. Although he cannot say with a reasonable degree of scientific certainty that the source of the fire was external to the vehicle, Mr. Colwell concluded that the burn damage to the vehicle and Mrs. Rogers' testimony is "consistent with external fire attack," which weighs against finding that the fire originated within the vehicle. At best, there is a genuine issue of material fact as to where the fire originated. It is for the jury to weigh the evidence and evaluate its credibility. Therefore, summary judgment as to the area of origin is denied. Without a factually undisputed area of origin, there can be no summary determination of whether the source of ignition was electrical.

b. Cause of the Fire

Ford maintains that even if the fire originated in the engine compartment of the vehicle, there is nevertheless insufficient evidence (a) that the fire was caused by a defect in the ABS control module and (b) that the defect existed when the vehicle left Ford's control. Assuming, in Allstate's favor, that the fire originated in the engine compartment and that the source of ignition was electrical, there is sufficient evidence to permit a reasonable inference that the fire was caused by a defect in the ABS control module. Mr. Hogge has eliminated all potential ignition sources in the engine compartment except the ABS control module. He can also offer testimony that certain anomalies and damage on the circuit board in the ECU of the module are consistent with pre-fire electrical activity and localized heating. Finally, Haley Rogers observed abnormal revving and a "skunky" smell emanating from the vehicle hours before the fire. Although Allstate has not eliminated pests and other non-vehicle-related nuisances as potential causes, it need not eliminate with certainty all other potential causes.

There is also sufficient circumstantial evidence to reach the jury on whether the defect existed when the vehicle left Ford's control. Ford argues that in light of the vehicle's age and incompletely-documented service history, Allstate cannot eliminate general wear-and-tear, neglect, and incompetent servicing as causes of any existing defect. The fact that the vehicle is five and a half years old certainly weighs against finding that any defect in the ABS control module was present when the vehicle left Ford's control. Although the applicability of the circumstantial defect theory is not per se limited to new products under Arizona law, in many cases where plaintiffs have reached the jury on a circumstantial defect theory, none of the products alleged to be defective were more than six months old.[2] *See Dietz*, 141 Ariz. 107, 685 P.2d 744 (boat was purchased from defendant two months before the accident and had been operated for

[2]Allstate's reliance on *Longenecker v. Gen. Motors Corp.*, 594 F.2d 1283 (9th Cir. 1979) is misplaced because it involved Oregon law rather than Arizona law.

fewer than ten hours); *Rocky Mountain*, 131 Ariz. 289, 640 P.2d 851 (motor home was purchased from defendant six months before the accident and registered fewer than 10,000 miles); *Reader*, 107 Ariz. 149, 483 P.2d 1388 (vehicle was six months old at the time of the accident); *Mineer*, 167 Ariz. 315, 806 P.2d 904 (tire was brand new when it blew). It requires a substantial leap to conclude that a fire in a vehicle with over 50,000 miles on it was caused by a defect present when the vehicle left the factory five and a half years earlier.

On the other hand, the fact that the ABS control module is a black box component entirely manufactured and enclosed prior to installation in Ford vehicles weighs in favor of finding that any existing defect was present when the vehicle left Ford's control. First of all, none of the vehicle's existing services records reflect services or repairs involving the ABS control module. Furthermore, though documentation of the vehicle's service history is less than complete, a reasonable jury could find it very unlikely that a black box component such as the ABS control module was tampered with or damaged during the course of a servicing. Finally, in expert Patrick Donahue's opinion, it is unlikely that the services reflected in available service records damaged the vehicle's electrical system. A reasonable jury, relying on the aforementioned evidence, could find that a defect in the ABS control module existed when it left the Ford factory. Therefore, summary judgment is denied.

4. Ford's Affirmative Defenses

a. Modification and Misuse

Arizona law permits defendants to assert affirmative defenses of product modification and misuse in any product liability action, including a strict liability action. *See* A.R.S. § 12-683(2), (3); *see also id.* § 12-681(5) (defining "product liability action" to include "any action brought against a manufacturer or seller of a product for bodily injury, death or property damage caused by . . . the manufacture, construction, design . . . of any product . . . ."). A defendant is not liable if it can prove that the proximate cause of the incident was "an alteration or modification of the product that was

not reasonably foreseeable" or "a use or consumption of the product that was for a purpose, in a manner or in an activity other than that which was reasonably foreseeable or was contrary to any express and adequate instructions or warnings . . . if the intended consumer knew or . . . should have known of such instructions or warnings." *Id.* § 12-683(2), (3).

Allstate argues, and Ford concedes, that there is insufficient evidence to support the affirmative defenses of product modification and misuse under A.R.S. § 12-683. However, Ford argues that it may nevertheless offer evidence of vehicle modifications and neglect to negate Allstate's circumstantial evidence that the ABS control module was defective when it left Ford's control. While Ford bears the burden of proving modifications and misuse as complete defenses, Allstate bears the burden of proving that the product was defective when it left Ford's control. There is a distinction between using evidence to satisfy one's own burden of proof and using it to demonstrate that the opposing party has failed to satisfy its burden of proof. Ford seeks to do only the latter, which is permissible.

b. Nonparties at Fault

As Allstate conceded at the hearing on these motions, if Allstate prevails on its claim that the vehicle's ABS control module was defective, Ford may designate Continental Teves, the manufacturer of the ABS control module, as a nonparty at fault. Ford does not dispute that it has failed to establish the fault of any other nonparties. Therefore, to the extent Allstate seeks to preclude Ford from apportioning fault to other nonparties, the motion is granted.

c. State of the Art

In any product liability action in Arizona, including strict products liability actions, a defendant is not liable for a manufacturing defect if "the methods and techniques of manufacturing, inspecting, testing and labeling the product conformed with the state of the art at the time the product was first sold by the defendant." A.R.S. § 12-683(1). The state of the art is "the technical, mechanical and scientific knowledge of manufacturing,

designing, testing or labeling the same or similar products that was in existence and reasonably feasible for use at the time of manufacture." *Id.* § 12-681(10). The defendant bears the burden of raising and proving this affirmative defense. In light of the exclusion of Mark Hoffman's testimony that the ABS control module was manufactured in conformity with the state of the art in 2002, Ford has insufficient evidence to support the defense.

IV. Reopening Discovery

Allstate's defect theory is the product of its decision to examine the ABS control module without seeking relief from its own May 14, 2009 stipulation that the destructive examination of the vehicle would be limited to the battery, the powertrain control module, and the alternator. Ford had every right to rely on Allstate's stipulation, and presumably did in declining to pursue discovery from Continental Teves, the nonparty manufacturer of the vehicle's ABS control module. Therefore, to the extent Ford concludes that it would benefit from additional discovery from Continental Teves regarding the ABS control module, the Court will consider a prompt motion to reopen discovery for that limited purpose.

IT IS THEREFORE ORDERED that Plaintiff's Motion to Exclude Expert Opinions of Jeff Colwell and Mark Hoffman (doc. # 99) is granted as to Mark Hoffman and denied as to Jeff Colwell.

IT IS FURTHER ORDERED that Defendant's Motion to Exclude Expert Opinion of George Hogge (doc. # 98) is granted as to the following opinions:

(1) The fire originated in the ECU of the ABS control module.

(2) The fire was caused by "some defect" in the ABS control module that allowed brake fluid to contact the circuit board in the ECU.

IT IS FURTHER ORDERED that Defendant's Motion to Strike (doc. # 123) is granted to the extent provided for in the order.

IT IS FURTHER ORDERED that Plaintiff's Motion for Partial Summary Judgment (doc. # 97) is granted as to Ford's affirmative defenses of modification, misuse,

and allocation of fault to nonparties other than Continental Teves, but denied as to the fire's area of origin and source of ignition.

IT IS FURTHER ORDERED that Defendant's Motion for Summary Judgment (doc. # 95) is granted as to the negligence claim and denied as to the strict product liability claim.

DATED this 20th day of April, 2010.

Neil V. Wake
United States District Judge