On the evening of April 3, 1993, Reverend Leon Manigault and his wife, Virginia, got into their 1987 Crown Victoria, preparing to leave the driveway of their modest home on the east side of Cleveland. Mr. Manigault was a strong, vigorous man with a spotless driving record who had always taken exquisite care of his vehicle. Immediately after he placed the car into drive, the terror began: the engine began to “roar like a jet,” and the car took off at full throttle out the driveway, across the street, onto a neighbor’s property, racing for roughly 300 feet before crashing into a building at 30 miles per hour. His son, John, observing the event from the front porch, noticed that the brake lights were on and that the rear wheels continued to spin after impact. Reverend Manigault received severe head injuries in the crash, rendering him permanently comatose.

What happened to Reverend Manigault has happened to thousands of other drivers in a remarkably similar way: the engine begins to race at almost the precise moment of gear engagement, and after a few seconds, the car accelerates at near wide-open throttle; the brakes do not seem to work; and, barring a crash, the only thing that can stop the car is turning off the ignition. This deadly phenomenon, known as sudden acceleration, has caused countless tragedies: a young girl dies when her mother’s car suddenly takes off in the driveway of their home; an Aerostar races out of control as a woman starts to move it into her garage, crushing her husband to death; a Lincoln Town Car plunges into a canal, and the driver slowly drowns, while her children helplessly watch in horror.

The auto manufacturers have uniformly blamed these tragedies upon the drivers, contending they must have inadvertently pushed the accelerator. As a result, drivers have been accuse (and convicted) of involuntary manslaughter; others are assumed to have committed suicide. As we know now, this story is perhaps the most reprehensible of corporate “blame the victim” strategies.

I. The History of Sudden Acceleration

The introduction of solid-state electronics into automobile design in the 1970s revolutionized the industry; electronics now control and monitor nearly every critical automotive function, radically transforming the relationship between man and machine. While these innovations may have
advanced the interests of fuel economy and cost containment, they have also created the possibility of sudden throttle activation upon the occurrence of random, intermittent electrical faults that can disappear without a trace—faults over which the driver has no control. In older, carbureted engines, defects were often mechanical in nature, easily replicated, and their presence or absence could usually be verified on physical inspection. Electronic defects, in contrast, can be random, intermittent, and virtually undetectable after the fact, just as there is no physical evidence that a light switch has been turned on and off.

There is now no doubt that the unintended completion of an electronic circuit to ground on the printed wire circuit board of the cruise control system can send a signal to the throttle, bypassing the controls operated by the driver. These shorts to ground can be effected in several discrete ways: by gross faults such as bare or nicked wires; through the injection of electrical interference from outside sources; or, most likely, by transient, spurious electrical signals generated from within the vehicle itself.

There are two basic design variations for those cruise control systems using a vacuum servo: the stand-alone and the integrated (or IVSC) models. The only functional difference between the two is that on the IVSC, the processor or “brains” of the system, is integrated into the larger electronic engine control module (EEC).

The possibility of electrical malfunctions is inherent in the cruise control design; although these faults can be minimized through careful planning, they cannot be eliminated. Given this inevitability, sound engineering principles dictate that a failsafe mode be provided, automatically bringing the throttle back to idle in the event of a malfunction, although most vehicles are not so equipped.

Consumer complaints, which started out as a trickle, expanded geometrically, and, by 1987, the National Highway Traffic Safety Administration (NHTSA) had received reports of about 6,000 incidents of sudden acceleration, involving at least 56 deaths and more than 2,000 injuries. Sales of the Audi 5000, perhaps the vehicle most notorious for sudden acceleration, plummeted by 62 percent from 1985 to 1986 alone.

The reaction of Ford and the other automakers to this growing crisis was to exploit the lack of physical evidence to claim that driver error is to blame in virtually all cases of sudden acceleration. As a December 13, 1987, article in the Detroit News points out, the complex fuel-injected systems placed the public at the automakers’ mercy, since almost no one outside the industry understand how they work. Thus, unfortunately, the story of sudden acceleration is also the story of the perfect crime.

II. Ford’s Knowledge of the Causes of Sudden Acceleration

Although sudden acceleration has been reported in all car models, the number of reports involving Ford vehicles is greater than that for any other domestic car maker. According to Alan N. Updegrove, a recently retired middle manager in Ford’s Customer Service Division, reports of sudden acceleration in Ford cars averaged 1 or 2 a month through the early 1980s, but by the end...
of the decade, the company had begun to receive roughly 20 to 40 reports month, a figure estimated by Ford to reflect 10 to 15 percent of the universe of events.

Because Ford concedes that the cruise control system is the only vehicle component capable of causing a vehicle to rapidly accelerate without driver input, it is clear that the event was either caused by a faulty car, or by a faulty driver. If so, why are events clustered in certain models? If drivers were actually the cause of these events, one would expect a more even distribution across model lines. After all, people were driving cars for decades before the institution of electronic engine controls, yet there were no significant reports of sudden acceleration.

Over the past few years, plaintiffs’ attorneys have acquired internal Ford documents that demonstrate, contrary to the company’s public pronouncements, how Ford has long been aware of the cause of sudden acceleration.

1. At least two patents owned by Ford and a subsidiary describe how an electrical malfunction in the cruise control circuitry can cause sudden, unintended acceleration.¹

2. In the 1980s, Ford engineers developed a Fault Tree Analysis, a type of Failure Mode and Effects Analysis that diagnosed electrical interference on the printed wire circuit board as a cause of unintended wide-open throttle.

3. In several of Ford’s CQIS Detail Reports, the company’s engineers dispense diagnostic advice to dealers pinpointing the cruise control as the locus of the malfunction.²

4. Ford’s Powertrain Research Division conducted two substantial internal investigations into sudden acceleration in the mid 1980s, resulting in a draft report criticized by the head of Ford’s Automotive Safety Office as being “quite harmful if left unchallenged.”

Thus, by the late 1980s, Ford was faced with the following: a dramatic upramp in the number of sudden acceleration events; increased pressure due to stepped-up NHTSA investigations; and the specter of a market plunge similar to that experienced by Audi. Ford knew then that it had a very serious problem on its hands. It was against this backdrop that Ford commenced another internal investigation.

¹Specifically, U.S. patent number 3,937,980, issued in 1977, proposes a failsafe mechanism to address “excessive accelerations of the vehicle” caused by the creation of “conductive paths [in the cruise control circuitry] where none are desired.” Similarly, U.S. patent number 4,472,777, issued in 1984, describes an invention for a safeguard “against uncontrolled vehicle acceleration due to a faulty speed control system.”

²The following are excerpts from sample CQIS Detail reports: (1) “Advise dealer that the only thing that will cause the accelerator pedal to move down by itself is the speed control system . . . . If it did, recheck the speed control wiring . . . .”; (2) “Concern has to be speed control related since accelerator pedal is allegedly moving”; (3) “Advise customer to disconnect cruise control”; and (4) “Did the accelerator pedal move down by itself during the concern? If so, check the speed control wiring . . . .”
The Updegrove investigation

The Updegrove investigation was one of the most extensive studies ever conducted by the company. This project was instituted in 1988 specifically as a response to the dramatic increase in reports of sudden acceleration in the 1988 and 1989 Thunderbird/Cougar lines. Ford charged Alan N. Updegrove, who had worked primarily in customer service, with the duty of ascertaining all the cause or causes of the phenomenon. He immediately centralized investigatory functions at Ford headquarters in Dearborn, Michigan, ordering the local district technicians not even to “look at” the phenomenon. Despite his considerable responsibility, Mr. Updegrove acknowledges he had minimal technical expertise and had “always been trained” by Ford that sudden acceleration in a stationary car was impossible, in direct contradiction to what Ford’s engineers had been saying for years.

Updegrove’s investigation, 4 years in duration and costing $10 million, involved an analysis of 2,877 cases of sudden acceleration. According to Updegrove, these cars were “tossed upside down, literally,” supposedly in Ford’s zeal to get to the bottom of the matter. For each vehicle, field personnel conducted a road test, completed an extensive questionnaire, visually inspected the car, and interviewed the drivers and other witnesses. At the end of the study in 1992, Updegrove concluded that the events were caused by driver error except for a handful of cases where mechanical problems were found, based on the rather unscientific premise that if an event could not be replicated, defect could be ruled out. However, since electrical transients leave no physical manifestations, Updegrove’s study actually confirms that the majority of the incidents could only have been caused by an electrical malfunction. Tellingly, a draft of a 1992 internal memorandum proposed that dealers be advised that “owners of pre-1990 vehicles alleging unintended acceleration events [are] usually traceable to a vehicle concern. Their efforts should be to find these incidents and make necessary repairs.” If sudden acceleration were always due to driver error, one must ask, why were the dealers exhorted to “find and fix”?

How often does sudden acceleration occur?

No one outside Ford Motor Company knows precisely how many cases of sudden acceleration have been reported to the company; we only know that this number exceeds 10,000. It is perhaps because the figures are so staggering that Ford dodges every discovery request seeking its databases, reflecting, as they do, the dramatic scope of this defect.

Sudden acceleration reports reach Ford Motor Company at several official entry points and are collected within the following discrete files.

1. The Master Owner Relation System (MORS)

This database contains information on incidents involving a wide variety of malfunctions, including sudden acceleration, from the mid-1980s to the present. There are three separate MORS files—MORS I, MORS II, and MORS III.
2. The Online Automotive Service Information System (OASIS)

These files reflect inquiries from dealers as to a variety of malfunctions, including sudden acceleration, and contain diagnoses from Ford’s engineers.

3. The Hotline/Corporate Quality Indication System (CQIS) detail reports

These documents similarly reflect dealer inquiries regarding unintended acceleration and the Ford engineers’ diagnostics.

4. Consumer Appeals Board inquiries and determinations

5. The “Incident” database

This computerized file documents roughly 10,000 incidents of sudden acceleration, overlapping to a degree with other data collections.

6. The Updegrove survey

In addition to the hundreds of thousands of pages of hard copy questionnaires and reports, Updegrove prepared an electronic summary capturing all “key” data pertaining to the roughly 3,000 incidents studied by his team.

7. Lawsuits

8. The Automotive Safety Office/Office of General Counsel safety file search reports

There is no complete overlap between and among these sources of information, and it appears that the OASIS, MORI, safety file search reports, Hotline/CQIS reports, and Updegrove summary exist in computerized formats from which incidents could be culled by inputting universal symptom codes for sudden acceleration. Accordingly, Ford can hardly complain that the production of these data would be unduly burdensome.\(^1\)

It is ironic that during the recent publicity over the Ford/Firestone tire-tread separations last year, Ford CEO Jacques Nasser testified before Congress that Ford is a “data-driven company” and pointed the finger of blame at Firestone for failing to turn over reliable data from which the problem could have been detected. Indeed, Nasser claimed Ford had to “pry” the information out of its long-time business partner. Once the company obtained the data, according to Ford, it assigned 440 engineers and other officials to crunch the numbers and, within a week, “cracked the case”—compelling Ford to support NHTSA in pressuring Firestone for a recall. According

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\(^1\) A number of cases have held that production of computerized information is proper and preferred due to its accuracy and relative inexpensiveness. Adams v. Dan River Mills, Inc., 54 F.R.D. 220 (W.D. Va. 1992) (even if hard copy printouts of the computerized data have previously been provided). U.S. v. Davey, 404 F. Supp. 1283 (S.D.N.Y. 1975). The court in Nat’l Union Elec. Corp. v. Matsushita Elec. Indus. Co., 494 F. Supp. 1257 (E.D. Pa. 1980), took this principle one step further and ordered a party to supply not only a computerized disk containing the information, but also to program the disk in a particular format so the data could be read by the opponent’s computer.
to Nasser, “If I had one single regret, it’s that we did not ask Firestone the right questions sooner.” It is difficult to reconcile these public pronouncements extolling Ford’s concern for public safety with its refusal to reveal the sudden acceleration figures to injured plaintiffs.

III. Ford’s Misrepresentations to the Government, Its Customers, and the Courts: The Case for Punitive Damages

Ford’s public pronouncements were, and are, vastly different from what its managers were discussing internally. Although the Motor Vehicle Traffic Safety Act,4 requires an auto maker to notify NHTSA and its customers if it determines “in good faith” that a safety defect in any of its vehicles exists, Ford has never acknowledged that sudden acceleration is a reality: “Ford is unaware of any speed control malfunctions that could result in unwanted engine power when a vehicle is at rest or moving slowly.”5 How could Ford honestly make this statement in the face of the contradictory facts in the Fault Tree Analysis, the patents, and the CQIS reports, and numerous other internal documents?

Ford has taken a similar position in litigation. Ford’s in-house experts have told juries in several personal injury cases that it is literally “impossible” for the cruise control to malfunction in a way that would cause a stationary car to suddenly accelerate on its own, echoing Ford’s representation to its customers and to the United States government. This is not surprising given how Ford has shielded these experts from important facts. For example, in a January 2000 deposition, Ford’s premier cruise control expert, Victor Declercq, described how he sought information on the Updegrove study from Ford’s Office of General Counsel because, as he explained, “Mr. Updegrove’s name kept coming up more frequently . . . and I wanted to have an idea of . . . what the whole thing entailed.” Twice, Declercq was rebuffed in these efforts and told “not to get into statistics” but concern himself with only the specific cars involved in the litigation.

Finally, Ford misrepresents the manner in which the brakes are affected by sudden acceleration. Virtually all drivers of cars experiencing sudden acceleration report that the brakes either do not work or are severely impeded in their effectiveness. Brakes are simply not designed to operate while the throttle is simultaneously being held wide open. Under normal conditions, when the driver has taken his or her foot off the accelerator pedal and is attempting to stop, there is sufficient vacuum in the booster to assist the brakes. During wide-open throttle, in contrast, this vacuum is depleted by the engine, leaving the driver with only manual brakes that can require up to 175 lbs. of pedal effort to stop the car. This increased effort has been confirmed by Ford itself, yet the company persists in representing that runaway cars can be stopped with pedal forces available only with full vacuum assist.

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4 44 U.S.C. § 30101 et seq.
5 Letter from Ford to NHTSA dated April 30, 1993.
NHTSA's investigation into sudden acceleration in Ford products

In a letter dated February 8, 1988, in response to an inquiry from NHTSA as to the cause or causes of sudden acceleration, Ford's Automotive Safety Office claimed uncategorically that a malfunction in the cruise control system could never cause a stationary vehicle to suddenly accelerate. This denial was repeated in a March 8, 1988, letter in which Ford told the government it was "unable to identify any vehicle defect which could cause a Ford vehicle to accelerate unexpectedly at wide-open throttle without driver input." An earlier draft of this letter reveals that the company knew full well this representation was not true:

As you know, Ford has been unable to identify any vehicle defect, other than multiple cruise control malfunctions ... which could cause a Ford vehicle to accelerate unexpectedly at wide open throttle without driver input."

The government unfortunately accepted Ford's representations and, being misled, closed all investigations into sudden acceleration with a finding of no defect or, indeed, even of any defect trend.

On January 29, 1988, NHTSA informed the various automakers it was undertaking a global study of sudden acceleration and required them to furnish copies of "all test reports, studies, or analysis" pertaining to the phenomenon. Although Ford turned over only one irrelevant report involving brake testing, an earlier draft contains penciled notes indicating that the Office of General Counsel had instructed the writer to deny that Ford had conducted "the study." (Ford's Powertrain Division had earlier completed a study whose draft report was deemed "harmful.") Unfortunately, the government accepted Ford's representation that since the cruise control will not engage below 30 miles per hour, sudden acceleration is impossible in a stationary vehicle. Consequently, the final 1989 report, *An Examination of Sudden Acceleration*, concluded that such malfunctions are "virtually impossible."

In response to a 1999 petition to reopen the government's investigation into sudden acceleration, NHTSA filed a lengthy decision in April 2000, essentially affirming its earlier conclusion. While there is inadequate space to catalogue the numerous particulars in which the government's hypotheses and conclusions are wrong, what stands out from a review of the ODI decision is the *ad hominem* tone and the unscientific, hyperbolic language. In a nutshell, this decision is based upon the wrong science (it accepts Ford's claim that the potential for sudden acceleration has been "designed out" of the integrated (IVSC) units) and a flawed statistical analysis (it fails to control for the fact the installation of the brake shift interlock coincided with the installation of a substantially different cruise control system); it fails to acknowledge Ford's engineering...

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4(Emphasis added.)

5This decision was issued by the Office of Defects Investigation (ODI) and specifically concentrated upon one particular Ford vehicle that is the subject of pending litigation.
documents showing how this malfunction occurs; and it uncritically accepts the industry’s definition of “sudden acceleration” that fails to recognize incidents that occur in close quarters.\(^5\)

Doubtless Ford will attempt to use both the 1989 global report and the April 2000 ODI decision as the centerpiece of its defense in any sudden acceleration case. As such, counsel must be armed with the facts demonstrating the inherent unreliability of these reports. Although opinions in governmental reports are prima facie admissible under the public records exception to the hearsay rule, these reports will nonetheless be excluded if “the sources of information or other circumstances indicate lack of trustworthiness.”\(^6\) Even if such a document is admitted, the opposing party has the absolute right to present evidence “tending to contradict or diminish the weight of [the report’s] conclusions.”\(^7\)

**IV. Litigation Strategy**

*Dealing with discovery abuse*

Ford attempts to avoid disclosing inculpatory evidence by the following tactics: unilaterally defining relevance to suit its own purposes; feigning inability to understand common terminology; completely ignoring certain requests; and affirmatively concealing the existence of documents. Several overarching discovery themes prevail. In virtually every request seeking information on vehicle design, testing protocols, or other similar incidents, for example, Ford confines its response to the particular vehicle involved in the accident, even when the request is framed in unambiguously generic terms.

As another example, Ford initially directs plaintiffs seeking discovery to its so-called “Sudden Acceleration Reading Room” in Dearborn, Michigan, claiming this collection contains all materials “reasonably related” to the phenomenon of sudden acceleration generated from 1962 to 1989.\(^1\) Unfortunately, there is no meaningful index to the Reading Room, and it is virtually impossible for plaintiffs to locate discrete documents, such as failure mode and effects analyses. Such “dump truck” discovery is universally disfavored.

There are several responses to Ford’s recalcitrance. Ford cannot invoke the Reading Room option unless the documents are produced as kept in the ordinary course of business.\(^12\) Since the Sudden Acceleration Reading Room was created specifically with reference to litigation and thus

\(^5\)Specifically, the agency does not recognize a cruise control-induced sudden acceleration to be a defect unless the brakes also prove to be ineffective. Thus, the government in effect gives automakers a pass for the first two.

\(^6\)Fed. R. Evid. 803(8)(C).


\(^1\)Ford’s description of the time frame varies. Other Ford employees put the cutoff date at 1992.

\(^12\)See, e.g., Fed. R. Civ. P. 34(b).
contains only those documents Ford’s General Counsel is willing to let plaintiffs see, it cannot meet this test unless litigation is Ford’s business. To compound the inequity, Ford has refused to produce a log describing all responsive documents held back from the Reading Room under a claim of privilege, making it impossible for plaintiffs (and the courts) to ascertain whether items were withheld without justification.

Ford’s response in sudden acceleration cases is not unique, but is a well-documented pattern and practice of discovery abuse.\(^{13}\)

*Securing the admissibility of other similar incidents*

Evidence of other similar incidents (OSIs) is perhaps the plaintiff’s most powerful tool in proving design defect. In sudden acceleration cases, this evidence includes both live testimony from witnesses who experienced sudden acceleration in Ford products and documentary evidence of the thousands of sudden acceleration events that have been reported. Admissibility is essentially a question of relevance and, thus, in the federal courts, is governed by Federal Rule of Evidence 401.

OSIs are admissible in most jurisdictions to establish both the existence of the defect and the manufacturer’s notice of that defect, so long as the incidents are substantially similar to the subject event. Unlike the common law cases from which the “substantial similarity” test developed, courts have traditionally treated it as a liberal rule of inclusion in products liability cases.\(^{14}\) Here, given Ford’s admission that the cruise control system is the only component capable of substantially opening the throttle, it is unimportant what kind of vehicle happened to be involved in the other incident, so long as its speed control system is functionally similar.


Ford nonetheless tries to defeat admissibility by claiming that only vehicles of the same model and year have the requisite similarity and of those incidents, only those that occurred prior to the date of the subject incident are relevant. From an engineering standpoint, there is no basis for this claim; in vacuum-operated cruise systems, both stand alone and integrated, unintended acceleration is induced the same way. As to the timing of the OSI, most jurisdictions recognize that the dangerousness of a product may be proved by events that occurred at *any* time prior to trial.

*Testimony from company executives*

There is simply no way the facts can be brought to light unless Ford executives answer fundamental questions. People in upper management, even those whose names are on the building, are not exempt from answering “annoying” and “embarrassing” questions about a serious safety defect merely because of their positions. The following individuals have substantial personal knowledge of sudden acceleration.

1. Helen Petrauskas

   Mrs. Helen Petrauskas, Ford’s Vice President of Automotive Safety and Environmental Engineering, oversees Ford’s Automotive Safety Office and is responsible for Ford’s compliance with federal safety standards and the mandates of the Federal Motor Vehicle and Traffic and Safety Act. She is aware of the issues surrounding sudden acceleration, and her name has surfaced on several internal memoranda on this topic.

2. William Clay Ford, Sr.

   William Clay Ford, Sr., the father of Ford’s current president and chair of the board, has personal knowledge of the sudden acceleration phenomenon and Ford’s responses to it. He held substantial policy-making positions in the 1980s when reports reached epidemic proportions, serving as vice president from 1980 through 1989 and as chair of the Finance Committee from 1987 to 1995. In the latter position, Mr. Ford was characterized as the second most powerful person within the company. He still sits on the board of directors.

   On May 24, 1989, Mr. Ford’s wife, Martha Firestone Ford, was a passenger in a 1989 Lincoln Town Car when it suddenly accelerated after her chauffeur put it into gear. The Lincoln advanced full throttle, striking several objects, and Mrs. Ford suffered an injury as a result. Mr. Ford specifically directed that a closing report on his wife’s incident be

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15 Ford embraces a “sliding scale” approach to substantial similarity and is perfectly willing to find similarity when it suits its purposes. For example, the 1989 NHTSA report analyzed only one Ford vehicle with a stand-alone system (a 1984 Grand Marquis); if Ford’s substantial similarity arguments were applied consistently, this report would be inadmissible in all cases involving integrated systems.

16 See, e.g., Jackson v. Firestone Tire & Rubber Co., 488 F.2d 1070, 1084 (5th Cir. 1986).

17 Mrs. Petrauskas is scheduled to retire in 2001.
prepared, detailing how sudden acceleration cases were “handled” by the company and whether Ford had a “sudden acceleration program.”

3. Robert Donnellan

Robert Donnellan holds a senior position within Ford’s Office of General Counsel and has played a role in the company’s response to the sudden acceleration phenomenon since the 1980s. In fact, he currently oversees Ford’s discovery responses and litigation strategy in sudden acceleration cases, controlling what information gets divulged. Mr. Donnellan helped devise the methodology for the Updegrove investigation, and it was he who rebuffed Ford’s cruise control expert, Victor Declercq, when Declercq asked to review the results of the Updegrove data. Attempts to question in-house counsel will, of course, trigger a claim of privilege, but courts are becoming more receptive to permitting such depositions under the crime-fraud exception to the attorney-client privilege. To invoke this exception, one must show both that (1) Ford was either engaging in or planning to engage in a fraud at the time counsel’s advice was sought, or that a fraud was committed after the advice was given, and (2) the legal advice was rendered in furtherance of the fraud.18

4. Ford’s experts

Ford typically uses carefully groomed in-house “engineers” (most are not P.E.s) to testify against injured plaintiffs in sudden acceleration cases. Ford has seldom proffered a cruise control expert who is not either an employee or former employee of Ford Motor Company. These witnesses are detailed to Ford’s so-called Design Analysis Engineering Group and work almost exclusively with the Office of General Counsel. Of these, Victor Declercq stands out as “the person who knows more about the cruise control system than anyone at Ford Motor Company.” Nonetheless, Mr. Declercq never tested the system for the impact of electrical signals on the output transistors of the cruise control module and admits he has been kept ignorant of the Updegrove study. Now retired, Mr. Declercq still appears regularly as a witness for Ford in sudden acceleration cases.

V. Conclusion

In the mid-1980s, there suddenly appeared a deadly automotive defect—sudden acceleration—for which no engineering explanation could be found. By the next decade, the phenomenon had reached epidemic proportions and involved virtually all car models. Though the auto manufacturers still deny that the fault lies with the cars, after three decades, the truth has begun to emerge.

18See, e.g., In re Grand Jury Investigation (Schroeder), 842 F.2d 1223, 1226 (11th Cir. 1987).