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SPINNING OUT OF CONTROL: FORD RECALLS AN ADDITIONAL 3.8 MILLION VEHICLES CONTAINING THE DEFECTIVELY DESIGNED SPEED CONTROL DEACTIVATION SWITCH

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It has been described as a ticking time bomb, a deadly defect, or a cruise down the road to disaster. It is Ford's speed control deactivation switch - a tiny component part, not much bigger than a sparkplug. For several years, it has been burning down homes across the country. And as of September 7, 2005, it is now the subject of the one of the largest recall campaigns in the history of the automotive industry.

What Is "It"?

The \$20.57 speed control deactivation switch turns off the cruise control automatically when the driver steps on the brakes. Indeed, Ford commonly refers to the switch as the "brake pressure switch". Five-to-ten pounds of pressure applied to the brakes sends a electrical current to the switch that turns off the cruise control.

Such a brake-pedal feature is required in any car that has a cruise control system. Cruise control is required to be turned off in one of three ways: (1) a manual switch on the steering wheel; (2) a switch that is connected to the rear brake light fuse; and (3) the brake pressure switch. The first two operate independently of the brake pressure switch. The brake pressure switch is required in case the rear brake light fuse

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blows, thereby rendering the manual switch or the brake light switch ineffective to turn off the cruise control. This is especially crucial in an emergency braking situation.

The switch is located on the driver's side of the engine compartment and sits right next to the brake master cylinder. In the latter half of the 1990s, Ford was faced with an abnormally high number of complaints arising from fires caused by these switches. Cars were catching fire while parked and with no key in the ignition. Unfortunately, the resulting fires not only destroyed the car itself, but homes and other property.

The First Recall Campaign

In May of 1999, Ford issued a recall on the switch in conjunction with the National Highway Traffic Safety Administration (NHTSA). However, the recall was limited to 1992-1993 Lincoln Town Cars, Mercury Grand Marquis, and Crown Victoria models - the "Panther Platform" series of vehicles. No recall was issued on any other model or year, even though the same switch had been installed in literally millions of Ford models. Indeed, Ford continued to install the same switch in future lines of vehicles all the way up through 2004.

The Second Recall Campaign

Then, in January of 2005, faced with additional complaints of fires in other Ford models, Ford issued another recall of the switch. This recall was for an entirely different line of vehicles, but again, Ford limited the recall to a small set of models and model years. The second recall included approximately 800,000 vehicles in the following categories:

- 2000 Ford F-150 trucks;
- 2000 Ford Expedition;
- 2000 Lincoln Navigator; and
- Some 2001 Ford F-Series Supercrew Trucks (built through August 7, 2000).



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The "Expanded Investigation"

Two months later, CNN broke the story that NHTSA was re-opening its investigation to include more models and more model years. In a March 23, 2005 report from CNN, it was revealed that NHTSA was investigating 1995-1999 and 2001-2002 F-150s and 1997-1999 and 2001-2002 Expeditions and Navigators. As of that date, the agency had identified at least 218 speed control deactivation switch failures and related engine-compartment fires. CNN's investigative producer Pia Malbran led the investigation and followed up with a series of additional reports - each further exposing the seriousness and breadth of the problem.

The Media Blitz

In a stunning report on June 17, 2005, CNN reported the discovery of a Ford document showing that the same or similar switch was installed in a total of **16 million** Ford vehicles. Those vehicles include:

- 1994-1998 Lincoln Mark VII/VIII;
- 1993-1995 Ford Taurus/Mercury Sable and Taurus SHO 2.3 L;
- 1992-2003 Ford Econoline vans;
- 1993-2003 Ford F-Series trucks;
- 1994-2003 Ford Windstar;
- 1995-2003 Ford Explorer without IVD;
- 2002-2003 Ford Explorer Sport/Sport Trac;
- 1997-2003 Ford Expedition; and
- 1995-2003 Ford Ranger.

This exposure sent Ford into damage-control mode. In a highly unusual move, Ford released its own media campaign in the form of a public video announcement. It can still be viewed on the internet at <http://www.ford.com/en/innovation/safety/cruiseControl.htm>. The clip is of Ford's in-house engineer, Ray Nevi, dressed in suit and tie and reading from a script. Mr. Nevi begins by claiming that news agencies are disseminating "misinformation." He does not, however, identify any incorrect stories or incorrect facts from these stories. Further, he does not attempt to correct any "incorrect" facts. He merely focuses on percentages: "Underhood fires are occurring at a very low percentage. That percentage in fact is point zero,



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zero five (.005) or, put another way five one-thousands of one percent. That's out of a population of nearly four million vehicles." Notably, Mr. Nevi does not state how many fires occurred or were included to calculate that percentage. Mr. Nevi goes on to explain the lack of an expanded recall by stating: "We have been asked why we have not expanded the recall. The last thing we want to do is make an important safety decision on incorrect or incomplete information." Again, Mr. Nevi fails to identify the incorrect or incomplete information.

CNN and other news organizations did not relent. In a nationally televised report of June 27, 2005, CNN reported that NHTSA had "received 559 complaints of spontaneous fires, 253 of them in unrecalled models, and its latest investigation includes the 1995 model years of the F-150, Expedition and Lincoln Navigator vehicles." The report quoted Ford spokeswoman, Kristen Kinley, repeating the Nevi script: "We have been asked why we have not expanded the recall. The last thing we want to do is make an important safety decision on incorrect or incomplete information." Ms. Kinley also stated: "In those populations with an increasing fire report rate, we stopped using the switch through the recall process. . . . The switch has performed well in many models for many years." In other words, Ford pulls the switch only when enough fires have occurred, but not before.

Despite the admitted problem with the recalled switch, Ms. Kinley went on to state: "We have not determined at this time that there is a defect with the switch, but for reasons we still do not understand the switch is failing . . . and we are trying to understand why."

The Recall of September 2005

On September 7, 2005, CNN again broke the story. Ford would be recalling 3.8 million vehicles with the speed control deactivation switch - the fifth largest vehicle recall in the history of America. The latest recall includes:

- 1994-2002 F-150 pickup trucks;
- 1997-2002 Ford Expedition;
- 1998-2002 Lincoln Navigator; and
- 1994-1996 Bronco.



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Again Mr. Nevi spoke on behalf of Ford and stated that "[o]ur investigation was complex because the root cause turned out to be a system interaction rather than a single component and we had very few confirmed incidents to analyze. Despite this complexity, our solution effectively addresses the cause." Ford also made the following limited admission: "In rare cases, the corrosion in the electrical components can lead to increasing resistance and higher electrical current flow through the system. Together, these conditions could lead to overheating and, possibly, a fire at the switch. This system interaction is the result of the close proximity and orientation of the speed control components in the recalled vehicles." Ford's proposed fix: Install a "fused wiring harness between the speed control deactivation switch and the speed control mechanism of the affected vehicles." This, Ford reported, "will act as a circuit breaker, eliminating the electrical current to the switch in the rare event of increased current flow through the switch."

The "Root Cause"

Even with the latest recall, Ford does not explicitly discuss the "complex" nature of switch problem. Our investigation shows that the problem has to do with the positioning of the switch, its particular component parts, and the fact that it is constantly energized - or "hot". The switch, which is manufactured by Texas Instruments, is positioned very close to the brake master cylinder and within proximity to dripping brake pressure fluid. Its exterior consists of a plastic housing. Inside the switch is an intricate series of tiny working parts including a pin, disc, gasket, washer, converter, movable terminal, stationary contact, and tiny sheets of plastic to separate the exterior brake pressure fluid from these components. The tiny sheets are supposed to seal off the switch cavity from the brake fluid and other corrosive agents, such as grease, oil and water, that are all around it. However, if cracks develop in the seal that is between the gasket and the washer, these agents can enter the switch cavity through what is called the "Hexport area," and then corrode the components of the switch.

This seal is made of Kapton and Teflon - materials developed and manufactured by DuPont. The seal, known interchangeably as a connector seal or Kapton seal, is composed of three square pieces of what looks like cellophane-type material. These three pieces are crimped into position to form the seal.

The Kapton material only has a certain longevity before it degrades. Once the connector seal or Kapton seal degrades to the point of perforation, contamination enters the switch cavity. Because the movable terminal



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and the stationary contact are always energized - even when the vehicle is turned off and there is no key in the ignition - corrosion inside the switch is a danger. Corrosion builds up on the movable terminal and the stationary contact to the point where the two items come into constant contact with a constant flow of energy. As the material builds up, the current increases. This generates increasing heat. When it gets hot enough, the plastic housing of the switch cavity begins to melt. The melting opens the switch to external air causing ignition of the switch housing and connector. The fire then attacks the wiring harness located above the switch and spreads throughout the engine compartment.

In summary, the switch has the following problems: (1) all the contacts in the switch cavity are constantly energized; (2) the switch is oriented in such a way that brake fluid can drip downward through the Hexport area into the switch cavity; (3) the connector seal is degradable; (4) the Hexport is grounded; and (5) the container of the switch is made of plastic as opposed to ceramic or some other non-combustible material. Other factors that lead to the degradation and eventual fire are heat and humidity, which explains the predominance of fires during the summer months in the South and Southeast and other states with high heat and/or humidity.

The Symptoms

In Ford's first recall of the Panther Platform series in May of 1999, it identified certain "vehicle symptoms" and other signs indicative of a switch problem:

[S]uch as: speed control not functioning, could not shift out of park, battery loses charge, brake lights not functioning, brake warning lamp illuminated, blown fuse number 12 and/or improper fuse in number 12 position. Laboratory analysis of switches returned from service found internal brake fluid leaks. Laboratory experiments demonstrated that internal leaks could result in internal corrosion in the switch which could create a conductive path to ground, ultimately resulting in sufficient internal heat to result in a fire. Some of the reports indicate visible flames were observed at the speed control deactivation switch while the vehicles were in for repair.

In addition, witness accounts of the fires indicate that the fire first appears in the front driver's side wheel assembly. The fire spreads to belts and hoses and eventually consumes the hood insulation and combustible material surrounding the car.



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Judicially Declared Defect

Despite issuing three sets of recalls, Ford has continued to deny in the media and in litigation that the switch is defective. In at least one lawsuit, however, the court held as a matter of law that the switch was defective. In *State Farm Mutual Automobile Insurance Company v. Ford Motor Company*, the Louisiana Court of Appeals held that:

[t]he trial court found that a defectively designed and manufactured speed control deactivation switch, utilized in the vehicle's cruise control system, had caused the vehicle fire and resultant damage. We affirm on the basis that the switch is unreasonably dangerous in design.

This case arose out of a fire in September 1999 involving a 1992 Lincoln Town Car owned by Emery Stephens. The car had been driven approximately 91,000 miles by the time of the fire. Even though the damages were under \$10,000, both State Farm (Stephens' subrogated insurer) and Ford treated this as a test case with much at stake in its outcome. The case was hotly litigated. The lengthy opinion details a classic "battle of the experts" between State Farm's expert, Ted Kaplon, and Ford's in-house electrical engineering expert, Mark Hoffman. The court accepted both Mr. Kaplon and Mr. Hoffman as experts in the field of electrical engineering and fire origination and cause. Mr. Kaplon testified that the switch caused the fire. Mr. Hoffman testified that the switch did not cause the fire, but that an after-market alarm system caused the fire. After a lengthy discussion of the two experts' opinions, the court affirmed the trial court's view that Mr. Hoffman was unconvincing while Mr. Kaplon was convincing "beyond any doubt" - a devastating blow to Ford.

The court's discussion of why the switch is defectively designed was even more devastating:

Kaplon testified that Ford had designed the electrical system in the 1992 Town Cars such that the vehicle's battery provided twelve volts of power to the speed control deactivation switch whether the ignition switch was turned "on" or "off." He explained that the Stephens' Town Car fire would not have occurred if the switch had not been energized, and that the switch could "most definitely" have been designed so that it did not remain constantly energized when not in use.



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Kaplon described the speed control deactivation switch as an exemplar switch with two sides, one side being hydraulic and one side being electrical. He explained that Ford's investigation of the underhood fires revealed there was a crimping problem in the band that secured the two portions of the switch together. The design was susceptible to brake fluid leaking from the hydraulic side into the electrical side of the switch, which contaminated the electrical side of the switch and caused a corrosive ground fault and a conductive path within the switch. Kaplon explained that over a period of time, the switch generated sufficient heat to ignite the switch enclosure and the wiring harness surrounding it. Because the switch failure occurred over time, he explained that the mileage and age of the car were significant factors. Kaplon explained that the switch design was inherently dangerous due to its potential leakage problem and because it was constantly energized. He explained that the constant energization expedited the switch failure.

Kaplon further opined that a speed control deactivation switch should be designed such that it will last safely for the life of the vehicle. Alternatively, he stated that the switch should have been designed to fail in such a way that would not cause a fire. He further testified that a mechanical switch, used subsequently by Ford, presented a safer alternative. He explained that Ford's more recent design does not allow for brake fluid leakage; it is a mechanical switch activated by the brake pedal, which activates an electrical switch.

According to Hoffman, prior to using the hydraulic/electrical switch, Ford had used a vacuum-actuated speed control system in its Town Cars that preceded the 1992 model line. He explained that that speed deactivation in this previous system was accomplished by opening a valve, and the system did not involve electricity. He described it as being "very unlikely" to have caused a fire.

The record before us establishes that the constantly-energized hydraulic/electrical switch presented a risk of fire that Ford could have easily prevented. At the time Stephens' 1992 Town Car left Ford's control, there existed one or more safer, alternative designs for the speed control deactivation switch which were available and could have been implemented by Ford and which would have prevented the risk of fire. Hoffman, Ford's own expert, testified that a vacuum-actuated speed control system, which had been previously implemented in earlier model Town Cars, did not present a risk of fire. The danger of the risk of fire and the serious damages that might result clearly outweighed any benefit any



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benefit that may have resulted from the use of the constantly energized, hydraulic/electrical switch in the vehicle's speed control system. The evidence revealed no adverse effects that might have resulted from the use of an alternative design. Accordingly, we find that the trial court reasonably concluded that Ford should have employed an alternative design for the switch and that the switch was unreasonably dangerous in design.

The Switch Task Force

With a judicially declared defect, the task of proving the defect would now seem easy. But such is not the case. Strangely, this comprehensive, methodical opinion is now deemed "unpublished" in the law books. The only published reference to the case is found in volume 904 of the Southern Reporter at page 93, which simply refers to the opinion in a table of decisions that shall remain unpublished and "shall not be cited, quoted or referred to by any counsel, or in any argument, brief, or other materials presented to any court, except in continuing or related litigation."¹ In addition, Ford's "Switch Team" has taken the position that each case must stand or fall on its own merit. Thus, proving each claim will require thorough and diligent effort, preparation, coordination and determination.

To meet the likes of the Ford "Switch Team," Cozen O'Connor has developed its own specialized team: The Switch Task Force. This Task Force consists of a select group of attorneys armed with specialized knowledge from having investigated, settled and litigated numerous car fire cases - including against Ford.

The current recall campaigns may only be the tip of the iceberg, or the black smoke before the fire. The switch is substantially similar in millions of vehicles, yet Ford has now only recalled just over one quarter of those vehicles. The claims may roll in for years to come. Cozen O'Connor stands ready to assist you in proving these claims and perfecting recoveries for your resulting losses.

1. Cozen O'Connor maintains a copy of the written opinion from the Clerk of Court.



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