

Introduction: The Pinto Controversy

SUMMARY OF THE CASE

The Ford Pinto appeared on the market in 1970, and sales of the car were good for the first few years. There were problems, however, with the early Pintos leaking fuel and catching on fire after relatively low-speed, rear-end collisions. The Pinto's gasoline tank was located behind the rear axle. In a rear-end collision of about twenty-eight miles per hour or more, the rear of the car would be crushed and the tank would be driven against the differential housing. The differential housing covers the differential, which is the large gear that transfers force from the driveshaft to the rear axle. In a rear-end collision, the gas tank could strike the bolts on the differential housing, causing the tank to split open and fuel to leak out. In addition, the filler pipe, which carries the fuel from the opening in the side of the car to the gas tank, could be torn loose and additional gasoline might leak from this area. The leaked fuel sometimes started fires, which led to fatalities or serious burns. In a gasoline fire, the gasoline vapor burns. When fuel leaks from the gas tank, the evaporating fumes may enter

and surround the car. Any spark caused by the friction of metal hitting metal in the crash or from the electrical system can ignite the vapor and create an explosion.

Many victims of these Pinto fires or their relatives sued Ford in civil suits (tort cases), lawsuits where victims try to recover damages for the effects of wrongful or negligent actions. Ford tried to settle the cases out of court, but some of them led to trials that produced undesirable publicity for the company. The negative publicity connected to the Ford Pinto was greatly increased by the publication of an article in September of 1977 called "Pinto Madness." This essay, written by Mark Dowie, appeared in the magazine *Mother Jones*, and is the first selection in Part I. Dowie presents information about the case and offers a theory about why Ford did not respond quickly and effectively to the problems with the fuel system. Dowie's article helped bring the Pinto controversy to the general public. Ford Motor Company challenged the accuracy of "Pinto Madness," and Part I's second selection "Ford Rebuts Pinto Criticism and Says Article is Distorted" briefly presents Ford's response. In an eight-page statement, a company executive stated that the number of deaths and injuries resulting from Pinto fires was much lower than Dowie claimed and that the Pinto was not an unsafe car. (We were unable to obtain the original statement from Ford and therefore used this article from the *National Underwriter*.) After "Pinto Madness" was published, television and newspapers, especially the *Chicago Tribune*, took up the story and also criticized Ford. The accumulation of bad publicity led to a serious decline in the sales of the car.

The "Pinto Madness" article and the series by the *Chicago Tribune* were based, in part, on a set of internal Ford documents. These documents provided information on the design of the Pinto fuel system, on crash testing done to determine the safety of that system, on improvements suggested by Ford engineers, and on management's response to the fuel system problem. While we were not able to obtain permission to reprint these documents, we have included a selection discussing them from *Reckless Homicide?: Ford's Pinto Trial* by Lee Patrick Strobel. This selection, which is the third article in the book, provides the background to the controversy set out in "Pinto Madness" and Ford's response to it.

The fourth selection in the book, which we have titled "The Pinto Fuel System" is from *West's California Reporter* and provides two additional parts of the story: it describes the chain of command at Ford that supervised the development of the Pinto and summarizes

the view of Harley Copp, a former Ford engineer and executive who testified against Ford in many civil cases.

On September 1, 1976, the portion of the National Highway Traffic Safety Administration's (NHTSA) Standard 301 related to rear-impact went into effect. This safety regulation limited the amount of fuel that could leak out of a car. Earlier Pintos would not have met this standard, but the 1977 Pinto was in compliance with it. A copy of this standard and a couple of the amendments to it have been included in the book as the fifth selection in Part I. Sections S5.5 and S6.2 set the standard for the amount of fuel that may leak from the fuel tank following a rear-end collision. Section S5.5 designates the amount of fuel that is allowed to leak: one ounce from impact until the motion of the car has ceased and one ounce a minute for five minutes afterwards. Section S6.2 establishes that the car has to be struck by a barrier moving at 30 mph, thus approximating a 30 mph vehicle-to-vehicle crash. The diagrams, included in the standard, are of a moving barrier. We included two of the amendments since they give some insight into the way the automobile companies negotiate with the NHTSA about federal standards.

In 1978, the NHTSA announced that it had made an initial determination that a safety defect existed in the fuel systems of 1971–1976 Ford Pintos and that it had scheduled public hearings for June. The sixth selection in Part I is the report on the Pinto from the Office of Defects Investigation Enforcement of the NHTSA. It includes the crash test results that substantiated the agency's allegation of a safety defect. These tests demonstrated that the Pinto was not as safe in a rear-end collision as the General Motors subcompact, the Vega. On June 9, 1978, Ford announced the recall of approximately one and a half million Pintos (model years 1971–1976) and 30,000 Mercury Bobcats to end public debate and concern over the matter. Two plastic shields were added to prevent the gas tank from being punctured by the differential housing, an improved sealing cap went on the tank, and a longer fuel-tank filler pipe was added. The estimated cost was somewhere between twenty and forty million dollars.

The voluntary recall set in motion events which would eventually end Ford's problems with the Pinto. There were still the remaining civil suits, with any more that might follow, but Ford was prepared to handle these cases. On September 13, 1978, however, an Indiana Grand Jury indicted Ford Motor Company for three felony counts of reckless homicide, resulting from an accident in which a van rear-ended a Pinto and three girls were burned to death. Witnesses claimed

that it was a relatively low-speed collision. The prosecution charged that Ford had recklessly manufactured a lethal vehicle and kept it on the road despite obvious danger. The Indiana trial was a criminal trial, concerned with a violation of the law, instead of a civil trial. If Ford Motor Company were to have been found guilty, the corporation would have been fined up to \$10,000 for each case of reckless homicide. On March 13, 1980, Ford was found innocent on all charges. Ford lawyers convinced the jury that the Pinto involved in the accident was stopped when it was hit by the van. Therefore, it was not a low-speed collision and hence the deaths of the driver and passengers were not a result of reckless homicide. This important victory for Ford established that, while there might have been ethical questions about Ford's actions, the company did not violate any laws. Because of two excellent books on the trial, *Reckless Homicide?: Ford's Pinto Trial* by Lee Patrick Strobel, and *Corporate Crime Under Attack: The Ford Pinto Case and Beyond* by Francis T. Cullen, William J. Maakestad, and Gray Cavender, and because we are more interested in ethical rather than legal issues, we have not explored the trial in our book.¹

The last Ford Pinto was manufactured in 1980, and the car was phased out of the Ford line. Ford had manufactured about three million of these cars and a similar subcompact, the Mercury Bobcat. For most owners, the Pinto was economical transportation, but for some others it was instrumental in causing their deaths or serious injuries.

PINTO CONTROVERSIES: DESIGN AND PRODUCTION

There are a number of interesting and controversial issues connected to the Ford Pinto, which are made more difficult because of uncertainty about some of the facts of the case. The first controversy began around 1967 or 1968, and was whether or not Ford should build a subcompact. The president of Ford Motor Company, Semon Knudsen, opposed the idea of building a subcompact in the United States, but a Ford vice-president, Lee Iacocca, advised that they introduce a subcompact and build it domestically. Henry Ford II decided in favor of Iacocca, Knudsen resigned, and Iacocca later became president of Ford. Thus, from the very beginning, the building of a Ford subcompact was a very serious business decision with substantial consequences.

Lee Iacocca apparently took an active interest in the Pinto. According to Mark Dowie, Iacocca wanted the car on the market as soon as possible and ordered an accelerated production schedule. Dowie also claimed that Iacocca set rigid weight and price specifications

for the car: 2000 pounds and \$2000. Ford officials have denied that there were any strict limits set, and it is not possible to determine what was actually the case. While Iacocca was a member of Ford's product planning committee, it is unknown whether he had any direct effect on the the car's design. A *Chicago Tribune* article stated: "None of the documents obtained [internal Ford memos], however, shows any direct involvement by Iacocca in the design decision involving the car."²

The design work on the Pinto was begun in 1967. Dowie stated that the "normal" time frame for getting a car from the drawing board to the road is about 43 months. He believed that the Pinto schedule was set up for 25 months. Another source suggested that the total time was 38 months, but the actual figure cannot be determined from the available literature.³ In either case, it was obviously to Ford's economic advantage to get the car into the showrooms as soon as possible and on the market at an inexpensive price. If Ford delayed, the foreign car makers, and perhaps General Motors with their new subcompact, the Chevrolet Vega, would gain market share. If the price was too high, the car would not be an attractive alternative to the competition. Therefore, even if there were no rigid specifications, we can assume that the design work on the Pinto was done in an atmosphere where time and price were important factors.

The major significance of a shorter production time is related to a manufacturing process called tooling, the building of the machines that will produce the car parts. Tooling normally begins after design, product development, and quality control are completed. The company usually builds and tests prototypes to make sure that all the parts work well together and that the car itself is satisfactory before starting to build the machines to make the car. Dowie charged that although Ford crash tests revealed the susceptibility of the fuel system to damage, the company did not alter the design before the car went into production because tooling had already begun, and therefore the design changes would have been too expensive.

PINTO CONTROVERSIES: PLACEMENT OF THE FUEL TANK

Another dispute concerns the placement of the fuel tank. Ford had two options to choose from: an over-the-axle tank, which had been used on the Ford Capri, and a behind-the-axle tank. (See Figures 1 and 2.) Placing the tank behind the axle was standard for the industry in regular sized cars and was also the standard for the Japanese subcompacts. Crash tests on the Ford Capri, however, had

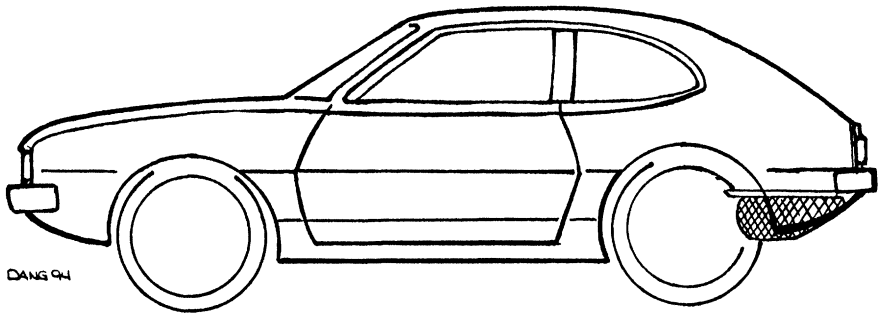


FIGURE 1

This diagram shows the placement of the fuel tank in the Ford Pinto.

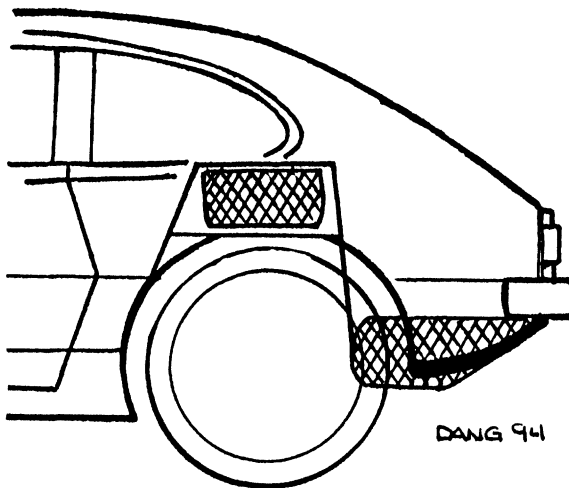


FIGURE 2

This diagram shows the actual placement of the fuel tank, as well as the alternative placement above the rear axle.

shown that the over-the-axle tank performed very well in rear-end collisions. There were some drawbacks to the design, though, since it required a circuitous filler pipe, which was more likely to be dislodged in an accident. The tank also was closer to the passenger compartment and therefore might increase the threat of fire to the passengers. In addition, the higher placement of the tank raised the center of gravity of the car and might have adversely affected handling. Finally, the design led to reduced trunk space and could not be used on a hatchback or station wagon model. The behind-the-axle model was not as safe in rear-end collisions, but it did provide more trunk space and could be utilized in a hatchback or wagon. Ford decided to build the Pinto with the behind-the-axle gas tank. One claim is that the over-the-axle tank was rejected because of undesirable luggage space. Ford representatives later argued that this claim oversimplified the issue. There were also safety considerations in favor of the behind-the-axle model, and it was the industry standard. While Dowie considers the placement of the gas tank unethical, this matter is highly debatable. We should not forget that improvements to the behind-the-axle tank, mandated by Standard 301, led to a tank with this design, that people considered adequately safe.

PINTO CONTROVERSIES: FATALITIES

Another dispute in this case involves the number of people who were actually killed in low-speed, rear-end collisions involving Pintos. Dowie charged that there were somewhere between 500 and 900 fire-related deaths. Prior to the recall in 1978, Ford claimed that Pintos had been involved in 35 cases of rear-impact, fuel leakage fires; producing 23 burn injuries and 21 non-impact fatalities. Of the 29 resulting lawsuits, 8 cases had been settled out of court, 19 were pending, and 2 trials had been decided in favor of Ford. (These statistics are included in the NHTSA report in Part I.) The NHTSA's Investigation Report noted that the agency was aware of 38 cases of rear-end collisions and fires in Pintos that resulted in 27 fatalities and 24 cases of non-fatal burns. These 27 fatalities presumably included the 17 fatalities documented by the NHTSA's Fatal Accident Reporting System (FARS) over a two and a half year period from 1975 to the middle of 1977. Based on these FARS statistics, it would mean that there were about seven unnecessary deaths a year during that period. If the Ford numbers were accurate, there would have been an average of about three and one half. It is probable that both of these

numbers are too low. Ford's count presumably is derived from lawsuits and it is possible that there were some cases where people did not sue. It also is possible that Ford under-reported the numbers for publicity reasons. The NHTSA's FARS numbers were based on police accident reports, which often did not report fires, or burn deaths that occurred after the crash, and which also did not always distinguish between impact and fire fatalities. Therefore, some fire deaths that were not specifically reported as such might not have been included. It is likely that the number of unnecessary deaths exceeded seven a year, but it is impossible to determine accurately how many deaths there were. Dowie's number of 500 to 900 fire-related deaths is too high, and Ford's number of 23 is too low.⁴

PINTO CONTROVERSIES: CRASH TESTING

It has been charged that Ford knew the fuel system design was defective because it had crash tested Ford Pintos in 1969, before the car was put into production and even before the tooling had begun. Ford denied crash testing Pintos prior to production. The reason for this dispute seems to be that, although subcompact cars were crash tested in 1969, these cars were not Pintos, but other subcompact models set up with Pinto-type fuel systems. In these tests, all the cars leaked fuel when crashed into a wall at 20 mph. The tests were fixed barrier tests, where the car crashes into a stationary wall, rather than moving barrier tests, where a barrier is towed into a stationary car. The moving barrier test causes less damage since the stationary car moves in the same direction as the wall when impacted, transferring some of the crash force into the motion of the car. In the fixed barrier test the car is moving into a fixed wall, and hence more force is absorbed by the car, causing more damage. If this 1969 crash test information is accurate, Ford had adequate knowledge to make design changes in the Pinto fuel system prior to tooling.

There were other crash tests performed on actual Pintos. A 1970 confidential Ford document "Final Test Report" provides the results from the crash test of a 1971 Pinto two-door sedan. The car impacted a fixed barrier at 21.5 mph (equivalent to a 28.3 mph moving barrier crash). The filler pipe was pulled out of the tank, causing fluid to leak. Also, a bolt on the differential housing punctured the gas tank, causing additional leakage.⁵ Thus, in 1970, Ford knew that the Pinto represented a serious fire hazard following a low-speed, rear-end collision. Another Ford document written in 1972 shows six additional

fixed barrier crash tests of 1971–1972 Pintos. The first test of a station wagon at 16.8 mph (equivalent to a 21.8 mph moving barrier crash) showed slight leakage from the tank, and the filler pipe was pulled out. The second test of a three-door or hatchback model at 15.5 mph (20 mph moving barrier crash) showed only slight leakage from the filler pipe at the tank inlet. The third test of a two-door model was done at 26.3 mph (34.7 mph moving barrier crash). The tank leaked from the filler pipe and was severely deformed, but did not leak further because a rubber bladder had been installed in the steel tank. The fourth test vehicle, also a two-door model, was crashed at 20.8 mph (27.4 mph moving barrier crash). It showed no leakage, but the car had been modified by the addition of two longitudinal side rails in the rear of the car. The fifth car, another two-door model, was crashed at 21 mph (27.9 mph moving barrier crash). Once again, a rubber bladder had been installed and only slight leakage occurred. Finally, the last test was an unmodified Pinto crashed at 21.5 mph (28.3 mph moving barrier crash). The filler pipe was pulled out of the tank, and the tank was punctured by the axle housing bolt. Consequently, the tests showed that the car was potentially unsafe following relatively low-speed, rear-end collisions.⁶

PINTO CONTROVERSIES: SAFETY AND THE FUEL SYSTEM

These crash tests provided the Ford engineers with sufficient information to have informed management that the car was potentially dangerous under certain conditions and that the car's safety could be significantly upgraded by the installation of a rubber bladder or longitudinal side rails. If Ford engineers had sufficient data to document the fuel system problem with the car, and if they had informed management of this problem, why did Ford choose not to upgrade the integrity of the fuel system prior to 1978? This question is the biggest controversy concerning the vehicle. Dowie charged that Ford did not recall the car because it used a cost-benefit analysis to determine that it was more profitable to pay the civil suits than to pay for the cost of fixing the automobile. A cost-benefit analysis is a management decision-making technique that weighs the economic costs and benefits of alternatives to provide a justification for carrying out the one that offers the greatest net benefit. The cost-benefit controversy is discussed in Part II of the book.

The final selection in Part I "Pinto Fires and Personal Ethics: A Script Analysis of Missed Opportunities" offers the view of a former

Ford employee concerning why the Pinto was not recalled at an earlier date to upgrade the fuel system. Dennis Gioia discusses his involvement in the early stages of the Pinto case, providing an account of the “. . .context and decision environment within which he failed to initiate an early recall of the defective vehicles.” He also offers an analysis of his missed opportunity in terms of the “script schema” or specialized cognitive framework that imposed a structure on the Pinto affair and led him to overlook key features of the case.

Presumably, there were Ford engineers working on the Pinto who thought that the integrity of the fuel system was inadequate and that the car was dangerous. We may assume that they had informed management of their concern, at least through the results of the crash testing. If management refused to order an upgrade of the fuel system, the engineers may have considered informing someone outside the company of the problem with the Pinto. Such an action would be an example of whistle blowing. Another controversy, discussed in Part III of the book, is whether the Pinto engineers should have blown the whistle on Ford Motor Company about the Pinto fuel system.

PINTO CONTROVERSIES: PRODUCT LIABILITY

The Ford Pinto case is usually labeled a product liability case. There are two controversies connected to the Ford Pinto and product liability. The first debate concerns the proper way to understand product liability. One view is that companies should be liable for injuries and deaths if there is improper conduct on the part of the company. Another view, called strict liability, claims that companies should be liable if the product is defective and unreasonably dangerous. The second view makes it easier for injured people or the relatives of those who have been killed to collect damages from the manufacturer. The second controversy relates to Ford and the Pinto specifically. Should Ford be held liable for the deaths and injuries caused by fuel fires and rear-end collisions involving Pintos? Part IV discusses both of these product liability controversies.

PINTO CONTROVERSIES: GOVERNMENT REGULATION

A final controversy connected to the Ford Pinto case involves government regulation. The NHTSA enacted Standard 301 to save lives, yet Ford and presumably the other automobile companies lobbied against government regulation because it would necessitate

improvements and make the cars more expensive. Is it ethical for companies to lobby against regulations that would save lives? There are also interesting ethical questions connected to the priority that automobile companies give to safety. Is it unethical to put profits ahead of safety? The articles in Part V explore these controversies and other questions related to government regulation.

CONCLUSION

The selections in Part I provide the reader with a great deal of information about the case, including some essential documents. They also present a framework for the controversies connected to the Ford Pinto. An understanding of the material in Part I is important to get the most out of the other parts of the book. The incidents connected to the Ford Pinto involve the whole spectrum of business: engineering tests and decisions, management decision making, government regulation, civil court cases, a criminal court case, an enormous amount of money, satisfied customers, and other customers who died as a result of the way a product was designed. The articles in this book will provide many insights into the history of the car and the controversies mentioned earlier. By the end of the book, you should be able to draw your own conclusions about the various disputes. One thing to keep in mind as you read is that real-life business cases are enormously complicated, and there are rarely clear-cut villains or heroes.

NOTES

1. Lee Patrick Strobel, *Reckless Homicide?: Ford's Pinto Trial* (South Bend, Indiana: And Books, 1980) and Francis T. Cullen, William J. Maakestad, and Gray Cavender, *Corporate Crime Under Attack: The Ford Pinto Trial and Beyond* (Cincinnati, Ohio: Anderson Publishing Co., 1987).

2. *Chicago Tribune*, October 14, 1979, p. 18.

3. Lee Patrick Strobel, *Reckless Homicide*, p. 81.

4. In a phone conversation with one of the authors, Mark Dowie said that he derived his estimate of the fire related deaths from his interpretation of information received from "The President's Fire Commission." Based on the greater amount of information available today, he admitted that his number might be high, but insisted that Ford's number was too low. He agreed with our claim that no one will ever know exactly how many people died in Pinto fires caused by low-speed, rear-end collisions.

5. Lee Patrick Strobel, *Reckless Homicide*, p. 276.

6. *Ibid.*, p. 278.

7. Dennis Gioia, "Pinto Fires and Personal Ethics: A Script Analysis of Missed Opportunities," *Journal of Business Ethics*, 11, (1992): 379.