

BEHIND THE TROUBLES AT TOYOTA

By Bill Saporito With Michael Schuman/Toyota City & Joseph R. Szczyzny
Thursday, Feb. 11, 2010

WHAT'S WRONG WITH TOYOTA?

Not much. At least not from an engineering, mechanical or even a quality point of view. You don't reach the top gear in the global auto industry unless you make outstanding cars, which Toyota does — most of the time. Though cars are familiar machines, they are also highly complex ones. To create a modern car, a company has to design, engineer, build, buy and then assemble some 10,000 parts. Sell 7.8 million cars, as Toyota did worldwide in 2009 — a horrible year for the industry — and there are billions of new parts with the potential to go kerflooy. Inevitably, some do.

What makes the recall since November of nearly 9 million Toyotas that are susceptible to uncontrolled acceleration and balky brakes such a shocking story is not so much the company's manufacture of some shoddy cars or even its dreadful crisis management — though those are errors that will cost it more than \$2 billion in repairs and lost sales this year. It's something more pernicious: the vapor lock that seems to have seized Toyota's mythologized corporate culture and turned one of the most admired companies in the world into a bunch of flailing gearheads. Not only is Toyota producing more flawed cars than in the past, but an organization known for its unrivaled ability to suss out problems, fix them and turn them into advantages is looking clueless on all counts.

Although the recalls seemed sudden, the evidence has been piling up. Literally. According to a report from Massachusetts-based Safety Research & Strategies (SRS), a consumer-advocacy group, there was a spike in the number of unintended-acceleration incidents in some Toyota vehicles in 2002, about the same time that Toyota introduced its electronic throttle control. The problem was initially blamed on a floor mat or vehicle trim that, if it came loose, could jam the accelerator pedal in an open-throttle position. That was followed by the first of several National Highway Traffic Safety Administration (NHTSA) investigations, in 2003, and two small recalls in 2005 and 2007. But accidents mounted, and last November the company had to take back nearly 3.8 million U.S. Vehicles — its biggest-ever recall — to address the problem.

Modifying the floor mats, though, didn't fix things. Toyota at first refused to believe that there was a mechanical problem with its pedals, blaming customers for improperly installing the floor mats. But by the time Toyota got around to a second recall, on Jan. 21, this one of 2.3 million vehicles, its reputation was in tatters.

There was no place left to park the blame. The company backhandedly singled out a U.S. Parts maker — CTS Corp., of Elkhart, Ind. — as the supplier of defective pedals while exonerating a Japanese company, Denso, that makes the same part. But CTS CEO Vinod M. Khilnani wasn't about to take the fall. He says his company met Toyota's engineering specifications and notes that the recalls tied to unintended acceleration extend to vehicles built as long

ago as 2002. "CTS didn't become a Toyota supplier until 2005," he says.

There was more to come. In early February, Toyota managed to back over any remaining political goodwill it had when it voluntarily recalled more than 400,000 Prius and other hybrid cars — this time, to update software in the antilock brake system that could cause a glitch if the car traveled over a bumpy surface. The Lexus is Toyota's top-selling luxury model — bad enough — but the Prius is its darling, a car that demonstrated the company's ability to solve technical issues that kept other automakers from fielding gas-electric hybrids, at the same time clinching Toyota's green cred. Only last month at the Detroit Auto Show, executives described the Prius as the cornerstone of Toyota's future growth. Toyota planned to sell a million hybrids a year globally, most of them in North America.

As Toyota dithered, it lost hold of the wheel. Lawyers and politicians took charge. In Washington, Toyota executives are poised to replace bankers as populist targets before a congressional hearing. "Toyota drivers have gone from being customers of the company to being wards of the government," says Jim Cain, senior vice president of Quell Group, a marketing-communications firm in Detroit, and a former Ford media-relations executive. "It's absolutely the worst possible position to be in." Tort lawyers around the U.S. have filed class actions. SRS says it has identified 2,262 instances of unintended acceleration in Toyotas leading to at least 819 crashes and 26 deaths since 1999.

At Toyota dealerships, meanwhile, customers have had to haul their cars in to have the sticky gas pedals repaired. Loyal Toyota owners now have a reason to flirt with other brands, though switching could cost them: trade-in prices for Toyotas have

fallen. And at global headquarters in Toyota City, Japan, corporate officers belatedly grasped the seriousness of the situation and tried to make amends. "I apologize from the bottom of my heart for all the concern that we have given to so many of our customers," a chastened Akio Toyoda, grandson of the corporation's legendary founder, Sakichi Toyoda, told reporters in Nagoya, taking the requisite deep bow of the disgraced.



A row of 2010 Toyota Priuses at a dealership in Daly City, Calif.

THE LITTLE COMPANY THAT COULD

So what happened? What went awry at the car company whose widely admired Toyota Production System (TPS) had made it the paragon of the art of manufacturing?

The reputation for quality that Toyota has damaged in just a few months took decades to build. Though Toyota was founded in the 1930s, its climb to global prominence started after World War II as the company became one of the exemplars of Japan's miracle — the creation of a successful, technologically advanced economy out of the ashes of war. In the 1950s, the company experimented with ways to manufacture cars more efficiently. Ironically, Japan's awful postwar poverty acted as a spur. The production techniques of American car

companies — with heaps of stored components awaiting assembly, and ample machinery to do it — was just too wasteful and expensive for Japan. Toyota had to learn to do more with less. The result was TPS — or, more generically, lean manufacturing. Inventories were all but eliminated by employing just-in-time delivery techniques, in which suppliers brought components to the assembly line only when needed.

One organizing philosophy behind TPS is popularly ascribed to a concept called *kaizen* — Japanese for "continuous improvement." In practice, it's the idea of empowering those people closest to a work process so they can participate in designing and improving it, rather than, say, spending every shift merely whacking four bolts to secure the front seat as each car moves down the line. Continuous improvement constantly squeezes excess labor and material out of the manufacturing process: people and parts meet at the optimal moment. *Kaizen* is also about spreading what you've learned throughout the system. And then repeating it. It's the reason, for instance, that when Toyota assumed full control of the New United Motor Manufacturing plant in Fremont, Calif., which it had co-owned with GM, it got way more productivity and quality out of it than GM could with essentially the same workforce and equipment.

Sakichi Toyoda developed another concept, *jidoka*, or "automation with a human touch." Think of it as built-in stress detection. At Toyota, that means work stops whenever and wherever a problem occurs. (Any employee can pull a cord to shut down the line if there is a problem.) That way, says Steven Spear of MIT, author of *Chasing the Rabbit: How Market Leaders Outdistance the Competition* and an expert in the dynamics of high-performance companies,

"When I see something that's not perfect, I call it out, figure out what it is that I don't know and convert ignorance to knowledge."

That was the idea. But the fact that Toyota has produced so many imperfect cars is evidence that its system developed faults. Management experts like John Paul MacDuffie, a co-director of the International Motor Vehicle Program (IMVP) at the University of Pennsylvania's Wharton School, place the blame on the company's headlong growth in the past 10 years. In 2000, Toyota produced 5.2 million cars; last year it had the capacity to make 10 million. Since 2000, when Toyota had 58 production sites, it has added 17. In that time, in other words, Toyota has added the capacity of a company virtually the size of Chrysler in a stated ambition to become the world's No. 1 auto company.

But rapid expansion puts enormous pressure on any company's ability to transmit know-how and technology, especially over long distances and across national cultures. When Toyota opened its Georgetown, Ky., plant in 1988, hundreds of work-team specialists and other experts were transplanted from Japan for several years to make sure the new plant fully absorbed the Toyota way. That kind of hand-holding may still be possible, but it isn't as easy. How can that be fixed? Says Spear: "The big deal is this question, Does an organization know how to hear and respond to weak signals, which are the problems, or does it have to hear strong signals? You have to listen to weak signals. By the time you get to strong signals, it's too late."

When weak signals started coming out in 2002, Toyota's top management wasn't listening. By then, the heroic stage of Japan Inc. was over; parts of its business culture had become sclerotic. Compared with the

nimbleness seen in Silicon Valley, Japan's manufacturers and their systems began to be seen as inflexible, too removed from a changing global economy to adapt. Analysts describe a Toyota management team that had fallen in love with itself and become too insular to properly handle something like the current crisis. "The reaction to [the situation] is a very Japanese thing," says Kenneth Grossberg, a marketing professor at Waseda University's business school in Tokyo. Jeffrey Kingston, director of Asian studies at Temple University Japan, says Toyota's managers don't understand how sensitive the American public is to auto-safety issues. "Their focus on the customer has been nonexistent," he says. "Toyota is famous for having an arrogant culture. They're so used to dealing with successes that when they have a problem, they're not sure how to respond."

Kingston puts his finger on one failing in modern Japanese corporations like Toyota: those lower in the organization find it difficult to deliver bad news to managers. Nearly every company faces this issue from time to time. "But this is a brand-threatening, life-endangering crisis," he says. Changing the way Toyota works won't be easy, says Grossberg. "Management cannot turn on a dime. They have so much invested in doing things the Toyota way," he says.

HOW TO LOSE INFLUENTIAL FRIENDS

The recalls came at time when Toyota was regaining momentum after losing \$4.9 billion in its latest fiscal year, as recession-racked consumers parked their money. For much of the past year, hundreds of Toyota employees in the U.S. didn't build cars at all, instead attending classes or doing "maintenance" work on half-built vehicles at

idled factories in Texas and Indiana. Toyota kept the workers on in anticipation of better times ahead. Now the company is looking at another year of losses and significant overcapacity in North America.

On top of criticism that it has been slow to fix its vehicles, Toyota has wrecked its political cover. Although the company had artfully balanced both U.S. political parties by designing green cars and building them in red states, its goodwill was strained in recent weeks by the decision to close its manufacturing plant in Fremont, just across the bay from Democratic House Speaker Nancy Pelosi's home base in San Francisco. The shutdown of the plant in March will wipe out 5,400 jobs and hit hard the more than 1,000 suppliers that work with the factory. "I think they offended the Democratic delegation in California," says Sean McAlinden, executive vice president of research at the Center for Automotive Research in Ann Arbor, Mich. The fact that Toyota had to deny persistent reports it was planning to move its U.S. headquarters out of Southern California didn't help. Then came the airing of a horrifying 911 call from a passenger in a Lexus ES 350 in California with a jammed accelerator. Four people were killed in the ensuing crash. "No politician is going to stand up and defend Toyota after that," says Jesse Toprak, vice president of industry trends and insights at TrueCar.

The NHTSA, part of the U.S. Department of Transportation (DOT), did Toyota no favors either. Although there have been some rumblings that the DOT was coming down too hard on the top competitor of the federally controlled General Motors — a.k.a. Government Motors — the agency actually fumbled no fewer than six separate inquiries into possible safety problems with Toyotas since 2003. In each case, the DOT

ended the probes with little or no further action. That changed as the tragic evidence mounted. And when Transportation Secretary Ray LaHood blurted out advice to Toyota owners to avoid driving their cars — advice he hastily withdrew — he more or less forced the issue.

In Detroit, which has had its own problems with quality, there is no outright rejoicing over Toyota's troubles. But there is a sense of an opening to win some business, and a certain pleasure in seeing the spotlight of criticism focus on a foreign carmaker. "There was always this assumption in the mainstream media that Toyota was better," says a senior GM executive. "Hopefully this will help even things out a little bit. Maybe from now on, Toyota will be treated as just another car company."

That, it certainly isn't. Toyota is still an extraordinary outfit, one likely to set the pace in the automotive industry for years. But it can't do so without addressing its shortfalls. Complexity is the enemy of any manufacturer, and rapid growth increases it. "Toyota faced excessive or overwhelming complexity that even its strong capability could not handle adequately," notes University of Tokyo professor Takahiro Fujimoto, who is affiliated with the Wharton School's IMVP.

Toyota's bosses are desperately hoping the worst is behind it. The company has resumed production at five factories in North America after shutting down sales of eight key models to repair the sticky accelerator pedals. Dealers will be able to sell existing inventory once the pedals are repaired, says Jim Lentz, Toyota's top U.S. sales executive. The faulty pedal has been redesigned, and new models coming off the assembly lines are getting new pedal assemblies.

The company has also been trying to repair its relationship with consumers. "We have not lived up to the high standards you have come to expect from us. I am deeply disappointed by that and apologize. As the president of Toyota, I take personal responsibility," Akio Toyoda wrote in the *Washington Post*.

Lentz, who defended Toyota recently at the Detroit Auto Show, said that while the recall is embarrassing, "it doesn't necessarily mean we've lost our edge on quality." It's way too early, he insists, to tell what kind of impact the multiple recalls will have on Toyota's sales.

It's not too early to say that consumers have not seen the last of massive, worldwide recalls of cars — in part because car companies have adopted the Toyota approach. Ford's new and highly praised strategy is to build "world cars" the way Toyota does, reducing the cost of manufacturing by making sure that more of its models share common parts on a relatively small number of platforms, built at plants around the world. That sounds like the epitome of manufacturing efficiency in our globalized economies. But it also explains why the brakes that caused the Prius' recall are found on Toyota's luxury Lexus 300 too. It's a system that all but guarantees that there are no small problems when a part goes bad, only big ones. In fact, global ones.

There's no sense in reinventing the wheel — going back to an industry in which every car demands a factory full of specific parts. But as the world's most famous automobile company has just demonstrated, if you're in the business of making cars, you'd better make sure your wheel works.