



Takata's deadly air bags

BY BEN KLAYMAN, YOKO KUBOTA, MARI SAITO, EMI EMOTO,
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Deadly air bags backfire on firm that crossed 'dangerous bridge'

BY BEN KLAYMAN AND YOKO KUBOTA

JANUARY 14 DETROIT / TOKYO

At a New Year's party thrown by Honda in 1985, Juichiro Takada, heir to a family woven-cloth business that had branched into car seatbelts, divulged a decision. His company, Takata Corp, would steer clear of mass-producing automotive airbags.

The newest idea in car safety, cushions that inflated within thousandths of a second after an accident, was just too risky. One mistake could ruin the company he inherited from his father.

"We cannot cross a bridge that is so dangerous," Takada told Saburo Kobayashi at the party. In his 2012 memoirs, Kobayashi, who was leading Honda's new airbag program in the mid-1980s, wrote that he wanted Takata to make airbags from its sturdy textiles. Somehow, in a fateful gamble, Takada changed his mind and crossed that bridge.

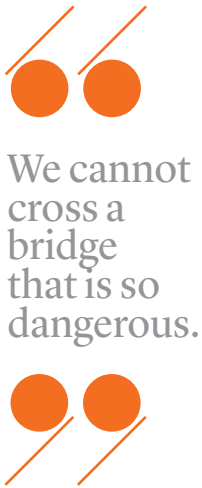
Within a few years his company was not only making airbags, it had branched out into making the high-explosive pyrotechnic devices that inflate them, employing technology that borrows from rocket engines and is worlds removed from woven cloth. The bet paid off spectacularly. Airbags evolved from a pricey option to standard equipment on millions of cars, and Takata became one of the top three manufacturers worldwide.

Nearly three decades later, Juichiro Takada's worries seem prescient. After a series of accidents and at least two deaths allegedly caused by faulty airbags, last year Takata's car-company clients ordered the largest airbag-related recall in history. Takata took a charge of \$300 million. Juichiro's son and heir, Shigehisa Takada, gave up family operating control of the company for the first time, ceding the president's post to a Swiss executive.

The tale that emerges from interviews with industry officials, chemical engineers, former U.S. safety officials and former Takata employees — as well as reviews of documents filed with U.S. regulators — is one of a company that lost its grip on quality. It's a classic case study in how a lapse in quality-control rigor can prove extraordinarily costly to even a well-regarded, successful company.

Takata has acknowledged to U.S. safety regulators that it improperly stored chemicals and botched the manufacture of the explosive propellants used to inflate airbags. It also has conceded to Reuters that, in at least one case, it kept inadequate quality-control records, which meant that hundreds of thousands of cars had to be recalled to find what might have been only a small number of faulty airbags, a decade after they were made.

The company says it has now resolved the



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quality issues, and its major customers, including Honda Motor Co and Nissan Motor Co, say they continue to use Takata airbags and stand behind the company. Takata's share price has rebounded after dropping almost 15 percent the day of the big recall announcement on April 11. It has gained 78.5 percent from its low on that day, as Takata's earnings expectations and Japan's broader stock market both improved. But the lasting impact on Takata remains unclear.

"Takata has been partnering in complete cooperation with our customers and will continue to do so with complete transparency," Takata spokesman Hideyuki Matsumoto told Reuters.

When the North American International Auto Show opens in Detroit this week, the hundreds of cars on display will contain thousands of airbags: up to 10 of them in some vehicles, mounted in the steering wheel, dashboard, doors and other places. They'll get scant attention compared to advanced styling, high-tech engines and other visible features, even though the sophistication of airbags rivals that of any other piece of automotive technology. Takata's troubles, and how they arose, shed light on the complexity of a key car component that millions of drivers now take for granted.

AIR BAG TYCOON

When he died at 74 in 2011, *Forbes* magazine listed Juichiro Takada as Japan's 29th richest person, worth some \$900 million. His airbags and seatbelts had made him wealthy and likely saved thousands of lives.

Ashley Parham, an Oklahoma all-state cheerleader who dreamed of becoming a schoolteacher, wasn't one of them.

In May 2009, days after she graduated from Carl Albert High School in Midwest City, the 18-year-old drove to pick up her younger brother from football practice. Her 2001 Honda Accord bumped another car in the school parking lot.

The car's eight-year-old Takata airbag exploded out of the steering wheel, in what

Honda later described as an "unusual deployment" in documents filed with NHTSA in August 2009. Parham bled to death after a piece of metal shrapnel sliced open her carotid artery, according to the autopsy report.

Police Chief Brandon Clabes told Reuters that emergency-room doctors who treated Parham initially "thought she might have been shot" before retrieving shards of metal from her neck and chest. Clabes said his department conducted "an in-depth accident and criminal investigation" and "matched those pieces of metal up with the airbag."

The parking-lot incident, he added, "was just a minor traffic accident ... that most people just walk away from with no injuries at all."

Honda had already informed American authorities it had a problem with some of its airbags, which were supplied by Takata. Just six months earlier, it had recalled in the United States 4,000 Accords and Civics, 2001 models, because degraded explosives in the airbag inflators could blow up more violently than expected, spewing metal parts into the car, according to documents provided by the auto-maker to NHTSA.

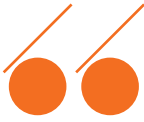
Parham's particular Accord wasn't included in the first recall. But two months after her death, Honda expanded the recall 100-fold, summoning back more than 500,000 cars globally. Parham's 2001 Accord was part of the larger recall.

It wouldn't end there. Six months later, on Christmas Eve, an airbag in another 2001 Honda Accord exploded after a collision with a mail truck in Virginia. Shrapnel from a ruptured airbag inflator allegedly severed blood vessels in 33-year-old Gurjit Rathore's neck, and she bled to death, according to a lawsuit filed by Rathore's family.

In both deaths, Honda and Takata settled with the families out of court and details were not disclosed.

THE BIG RECALL

Soon hundreds of thousands more cars were being recalled, then hundreds of thousands



The cases all had completely different causes that led to recalls. If you ask me whether there was a causal relationship between them, I can only say that there wasn't.



more. In addition to the two deaths, there were several other severe injuries allegedly linked to the airbags, including one woman who survived only by staunching a bleeding artery in her neck with her fingers. Several settlements took place.

The recalls would culminate in April of last year when 3.6 million Hondas, Nissans, Toyotas, BMWs and others from model years 2001-2004 were summoned back around the globe. In all, over the last five years, 6.5 million cars equipped with Takata airbags were recalled worldwide, more than half of them Hondas.

Takata and the automakers say the recalls were the result of a series of separate problems, and that they acted on each one as soon as they became aware of it.

Takata spokesman Matsumoto said the size of the recalls was set by the carmakers, based on Takata's records and analysis.

"The cases all had completely different causes that led to recalls," Matsumoto told Reuters. "If you ask me whether there was a causal relationship between them, I can only say that there wasn't."

As is common in automotive safety cases, many lawsuits have been settled confidentially and without trial. Thus the internal records of Takata, Honda and the other automakers have not been revealed in court, and engineers and executives were not summoned to testify. That makes it difficult to establish just how and when awareness of the faulty airbags unfolded inside the companies.

What no one disputes is that it took four years from Ashley Parham's death, and 12 years from when the car that her family claims killed her rolled off the assembly line, for the extent of Takata's quality woes to be revealed.

In August 2009, U.S. safety regulators at the National Highway Traffic Safety Administration asked Honda why the second, larger recall, announced weeks after Parham's accident, was not included in the smaller 2008 action. Three months later, NHTSA opened an inquiry into whether Honda and Takata recalled vehicles fast enough. By May 2010,

NHTSA closed the probe, saying the companies had handled the recalls appropriately. In a statement to Reuters, the safety agency said it was satisfied with the responses of Takata and its automaker customers.

AN "UNUSUAL DEPLOYMENT"

Changes had been made at Takata's factories as far back as 2002. According to Honda, in November 2002 Takata assigned a plant employee to ensure that propellant chemicals were placed in dry storage before non-business days like weekends, after one of Takata's other automaker clients questioned how exposure to moisture might affect the chemicals.

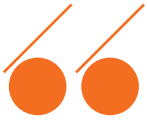
Honda acknowledged in U.S. recall documents that an "unusual airbag deployment" had occurred as early as May 2004. In September 2009, Honda said the problem was not rediscovered until after Ashley Parham's fatal accident.

Her death led to a frenzy of activity at Takata, which hired a German engineering firm to investigate, said a former Takata insider with access to senior management who spoke on condition of anonymity. The investigation turned up different problems, some involving the chemical propellant, but the results were inconclusive, the former insider said.

Takata spokesman Matsumoto said, "The cases all had completely different causes that led to recalls."

Honda, in a statement, said: "The causes of the recalls were identified (by Takata), and we confirmed implementation of preventive measures."

Automakers insist on higher standards from airbag suppliers than for any other part of the car. Honda normally demands fewer than one defect in a thousand over the lifetime of a typical car part, according to Kobayashi, the former Honda executive who first tapped Takata to make airbags. For critical parts like brakes, the standard is often higher: one defect in 10,000 to 100,000 parts. But for airbags, where any fault can be deadly, the expected standard is one defect in a million parts - a threshold so



Emergency-room doctors who treated Parham initially ‘thought she might have been shot’ before retrieving shards of metal from her neck and chest.



high that tests cannot be designed to measure it and human inspectors cannot be trusted to verify it, Kobayashi wrote in his memoirs.

Another complicating factor is that even building airbags is potentially deadly: handling the explosives used in their inflators is inherently dangerous.

Most manufacturers — including Takata and its competitors — have experienced explosions and fires at their plants. The most dangerous work is carried out by robots guided by cameras, with human operators shielded by thick walls. Employees wear special shoes to make sure they do not produce static electricity.

FORTIFIED FACTORIES

One spark can be catastrophic, said Doug Hansen, a former senior project engineer with Rocket Research, a firm that worked with Takata to develop airbag inflators in the 1990s.

“That’s why you build those plants out in the middle of nowhere,” he said. “You set it up and it’s got blast walls and concrete walls. You design around those things.”

Takata’s airbag plant in Moses Lake, Washington, is built on a remote former U.S. military air base where bomber pilots trained during World War II. The company’s other North American airbag plant is in Monclova, Mexico. It shut down a third airbag plant in LaGrange, Georgia, in July 2005.

Takata’s record on factory safety is generally supported by former employees and rivals. A former worker at the Moses Lake plant, who was highly critical of its management overall, said plant safety was “one thing they did well. They were always looking for safety suggestions.”

In such a dangerous industry, Takata developed a reputation for innovation, becoming a pioneer in “non-azide” inflators, which replaced toxic explosives called azides with other chemicals that posed fewer problems once released into a car.

According to Honda, the Takata airbags were propelled with a blend that included ammonium nitrate, a common explosive that

is also used to make fertilizer. Azides were phased out in the early 2000s, which meant Takata’s new inflators were in high demand.

An ammonium nitrate mix generates gas more efficiently than other chemicals used by some rivals, leaving behind a smaller quantity of potentially dangerous solid slag, according to chemists interviewed by Reuters. But it also can be unstable, particularly if exposed to moisture.

Machines at Takata’s factories packed the chemical propellant into wafers, which are then stacked inside the inflator, a device that shoots out hot gas to inflate an airbag within thousandths of a second after sensors detect a car crash. If the wafers crumble or break, they can burn too fast, creating a high-pressure explosion.

Where Takata now says it went wrong is in making those wafers. The company has acknowledged a list of problems to U.S. safety regulators. It failed to properly store propellant to shield it from moisture, which can cause wafers to crumble many years later. Some wafers were pressed together with too little force. In some cases, according to Honda, inflators were made with just six wafers, instead of the required seven.

A SURGE IN DEMAND

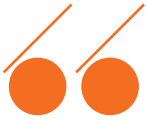
All the defective wafers were made between 2000 and 2002 at Takata factories in the U.S. and Mexico, the supplier and its carmaker customers say. It was a time when, according to the former Takata insider, the firm was under intense pressure from its customers to boost output to meet surging demand.

Takata said in a statement: “Production demands vary over time, but our company’s commitment to delivering quality products never varies.”


Honda did not address specifically the pressure that Takata was experiencing.

Honda spokeswoman Akemi Ando told Reuters: “Takata has been supplying airbags to fulfill Honda’s order quantity while guaranteeing the quality of their components.”

In the five years from 2000 to 2005,



Despite the deadly Takata accidents, airbags themselves do save lives — almost 35,000 in the United States alone since 1987.



Honda's global production grew 37 percent to 3.4 million vehicles.

"You've almost got this perfect storm of an increase in the volume of cars being sold and very, very rapid implementation of technology," said Mark Johnson, an expert on supply chain management at Britain's Warwick Business school.

In documents filed with NHTSA, Honda and Takata cited another issue in last year's huge recall: faulty record keeping. Factory devices designed to automatically reject substandard wafers had a manual override control that could be switched off while the production machines were tuned up. Because of "human error," Takata said, the control was flipped off, but there was no record of when, which meant there was no proof of which wafers had passed the test.

All those factors led to the recall of millions of cars, including many built by manufacturers that never experienced the deadly explosions that hit 2001-2002 Hondas.

ON THE HORIZON


One question facing Takata and its customers is whether more recalls may arise. A case in the NHTSA database, filed by a plaintiff's attorney in Jacksonville, Florida, describes an accident in a 2005 Honda Civic, a vehicle not covered under previous recalls. The attorney wrote that "the driver-side airbag inflator ruptured and propelled a one-inch piece of shrapnel into the driver's right eye" and caused severe cuts to the driver's nose, according to the report.

NHTSA officials said in a statement they are aware of the complaint, "are monitoring the situation and will take action as warranted." Honda said no further recalls were needed at this time. "If Honda obtains any information on defects, it will prioritize customer safety and take necessary steps such as analysis and investigating the cause," said spokeswoman Ando.

Takata said it is supporting customers with detailed technical analysis and replacement parts as needed. "Our joint objective is to do all that is possible to ensure the safety and

well-being of drivers and passengers," it said in a statement.

Exactly how the damage to its reputation might affect Takata's fortunes remains to be seen. Smaller makers of airbags and inflators in Japan, South Korea and China are challenging Takata and the other two airbag market leaders, Sweden's Autoliv and U.S. supplier TRW.

One thing is clear: Despite the deadly Takata accidents, airbags themselves do save lives — almost 35,000 in the United States alone since 1987, when they were phased in, according to NHTSA. 

Cover Photo by **Toru Hanai**
 Additional reporting by **Paul Lienert**
 Editing by **Peter Graff and Paul Ingrassia**

Car industry struggles to solve air bag explosions despite mass recalls

BY YOKO KUBOTA AND BEN KLAYMAN

JUNE 23 TOKYO / DETROIT

A year ago, Japan's Takata Corp, the world's second-largest maker of auto safety parts, believed it had finally contained a crisis more than a decade in the making.

It was wrong.

Japanese car makers including Honda Motor Co and Nissan Motor Co on Monday recalled 2.9 million vehicles globally over Takata air bags that are at risk of exploding and shooting shrapnel at passengers and drivers. That takes the

tally of Takata air bag recalls over the past five years to some 10.5 million vehicles.

Those vehicles carry air bags made between 2000-02 when, Takata says, it botched production of air bag inflators and lost related records.

And that total is likely to increase further after Takata said it is willing to replace more air bag inflators made between 2000-07 that it supplied to Honda, Toyota Motor Corp, Nissan, Mazda Motor Corp, BMW, Chrysler and Ford Motor Co for vehicles sold in the United States.

The deepening crisis comes at a time when General Motors is under scrutiny over why it took more than a decade to discover a faulty ignition switch linked to at least 13 deaths. As automakers promote over-the-horizon breakthroughs like self-driving cars, the industry's mass safety-related recalls underline how much can still go wrong with some of the cheapest, most established technologies.

Takata has asked multiple car makers to cooperate on investigations, and those companies could yet make follow-up announcements, said a person knowledgeable about the matter who declined to be named.


In April and May 2013, Takata's customers, led by Honda and Toyota, recalled more than 4 million vehicles due to the risk that defective air bag inflators could blow apart and shoot metal shards into vehicles in the event of an accident. Those 2013 recalls, which ranked as the largest ever for an air bag defect, contributed to a \$300 million charge for Takata.

Takata and Honda told U.S. safety regulators that the core of the problem was how the explosive material used to inflate Takata air bags had been handled and processed between 2000-02 at plants in the United States and Mexico.


The 2013 recalls involving Honda and four other car makers were intended to close the books on a problem that had emerged as early as 2007 and had already been linked to two deaths.

CASE NOT CLOSED

But just weeks after the 2013 recalls, on May 14, a 10-year-old Honda Fit was involved in an accident in western Japan that raised doubts



Investigators found the metal ejected by the air bag was so hot it set fire to the instrument panel and glove compartment.



about whether these recalls had gone far enough.

The Fit's passenger-side air bag exploded, according to Honda and Japan's transport ministry. There were no injuries in the accident, in Okayama, so police did not give details, but safety investigators found the metal ejected by the air bag was so hot it set fire to the instrument panel and glove compartment.

Honda was immediately concerned. The Fit had not been part of earlier recalls and it raised a doubt about whether more defective parts could be in circulation than previously identified. Honda engineers spent six months but failed to recreate the explosion, the company said.

In November, Honda told Japan's safety regulators it was still investigating a new air bag explosion case but did not see the need for another recall. A month later, it said in a statement to Reuters: "We have confirmed that (Takata) has conducted cause analysis and implemented counter measures, and that in the production process it is taking preventive measures."

Then, this month, Toyota recalled another 650,000 cars in Japan for defective Takata air bags and called back 1.6 million vehicles previously recalled overseas, an unusual step.

A complication, Toyota said, was that Takata's records had proven to be incomplete. Takata spokesman Toyohiro Hishikawa confirmed that the company had discovered a problem with records kept at its plant in Monclova, Mexico.

Short of replacement parts from Takata, Toyota has decided to turn off air bags in Japan as customers come to dealerships with recalled vehicles, judging an inoperable passenger-side air bag to be safer than a potentially defective one.

On Monday, Honda expanded its recalls and said it is calling back 2.03 million vehicles globally, including the 2003 Fit, over the passenger air bag inflator flaw. Nissan said it is recalling 755,000 vehicles worldwide, and Mazda 159,807 vehicles globally. A BMW spokesman based in Japan said the company

is checking whether it needs to take action. Honda, Nissan and Mazda said they will also turn off passenger air bags in Japan.

Takata said it is unclear what the financial impact of the recalls would be, and that it is working with safety regulators and car makers. "We will aim to further strengthen our quality control system and work united as a company to prevent problems from happening again," CEO Shigehisa Takada and Chief Operating Officer Stefan Stocker said in a statement on Monday.

HUMIDITY COULD BE A FACTOR

Yet more vehicles could be recalled if an ongoing U.S. safety investigation finds evidence of wider problems.

The National Highway Traffic Safety Administration (NHTSA) is examining whether Takata inflators made after 2002 are prone to fail and whether driving in high humidity contributes to the risk for air bag explosions.

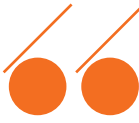
That would go beyond the manufacturing glitches that Takata and Honda previously identified.

Takata told the NHTSA in a letter, dated June 11 and posted recently on the NHTSA's website, that it will support replacements of certain driver-side air bag inflators made between Jan. 1, 2004 and June 30, 2007, as well as certain passenger side inflators made between June 2000 and July 2004.

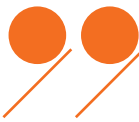
The company said it would support "regional campaigns" for these inflators, but it was not immediately clear what that meant.

But Takata did not admit that there were safety defects to these inflators, saying currently available information does not indicate that. "(N)either Takata nor the vehicle manufacturers conducting these field actions would be expected to admit that its product contain such a defect," the company said in the letter.

A Takata spokeswoman could not immediately comment on Monday on how many more vehicles could additionally become target of recalls.



In order to work, air bags need to inflate in less than half the time it takes to blink an eye.



Takada is the son of Juichiro Takada, who took his Tokyo-based family run business from seat belts into the production of air bags from the late 1980s.

Like other suppliers, Takata relies on auto manufacturers to make the final determination on the scope and timing of recalls and has typically left disclosure of defects to them.

EIGHT NEW CASES

Since the recalls in April and May last year, there have been at least six cases of Takata inflators exploding in the United States and two in Japan.

In August, an inflator ruptured in a 2005 Honda Civic in the United States, sending a “one-inch piece of shrapnel into the driver’s right eye”, according to a complaint filed with the NHTSA. In January, a 2002 Toyota Corolla in Shizuoka, Japan had its air bag explode, sending hot shrapnel into the car. The passenger seat was burned, Toyota has said.

The NHTSA said this month it was examining whether moisture from humidity could be seeping inside inflators designed to be airtight. That could make the volatile propellant inside the inflators unstable, experts have said.

The agency is also looking at Takata inflators supplied after 2002. Its probe includes an examination of air bag explosions in a 2005 Mazda 6, a 2006 Dodge Charger and a 2004 Nissan Sentra.

Chrysler, maker of the Dodge Charger, had not previously been involved in the Takata recall. The Sentra had previously only been recalled for the 2002 and 2003 model years.

BURNING TOO FAST

Air bags, including those made by Takata, have saved thousands of lives since their widespread adoption in the 1990s, automakers, regulators and safety advocates agree.

But in order to work, air bags need to inflate in less than half the time it takes to blink an eye, just 40 milliseconds on the passenger side, according to Takata. That requires the use of

powerful and potentially dangerous explosives in inflators which require careful handling and precise calibration.

In March 2006, Takata’s air bag plant in Monclova was rocked by a series of explosions that sent a fireball into the air.

Takata uses ammonium nitrate in its inflators, Honda has said. That explosive compound is volatile and highly sensitive to moisture. Other air bag makers, including Takata’s larger Swedish rival, Autoliv Inc, have kept their inflator designs a proprietary secret.

Takata identified several manufacturing problems with its inflators, including some at a plant in Moses Lake, Washington, and at Monclova, where the ammonium nitrate was exposed to too much moisture inside the air-conditioned plant.

The manufacturing glitches meant the inflator propellant could burn too fast and blow apart the metal casing surrounding it, sending out hot gas and shrapnel.

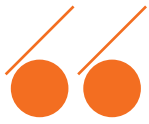
The recalls have been most costly for Honda. In May 2009, 18-year-old Ashley Parham was driving a 2001 Honda Accord when she bumped into a car in her high school parking lot outside Oklahoma City. The Accord’s air bag exploded and metal shrapnel sliced Parham’s carotid artery. She bled to death, one of two deaths linked to Takata air bags. Honda and Takata settled with Parham’s family out of court and details were not disclosed.

Sean Kane, president of Safety Research and Strategies and a researcher and consultant for plaintiffs’ lawyers, said it was clear past Takata recalls, which began in 2008, had fallen short. “What’s very troubling is that they haven’t resolved this thing once and for all,” he said.


In Japan, drivers who began to respond to recall notices this week were sent home from Toyota dealerships with a yellow warning label on the window visor.

“Warning: Passenger Air Bag Inoperative,” the warning reads. “We recommend you sit in the back seat. If you must sit in the front seat, push it all the way back and use a seatbelt.”

Tomoki Nakagawa, 52, said he was stunned to find his mechanic had turned off



We temporarily suspended the air bag function on vehicles in Japan until the parts are available.



the passenger air bag on his silver Noah minivan. He was told to avoid carrying passengers, advice that puzzled and frustrated him.

“I bought a minivan because I need to carry many people. If there is an accident and the injury gets more serious because there was no air bag, how is Toyota going to respond?” he said.

Toyota took the step of disabling passenger-side air bags after consulting with Japan’s transport ministry, which approved the action. The automaker has told regulators it expects to have replacement parts available around September.

“We temporarily suspended the air bag function on vehicles in Japan until the parts are available because (the ministry) requires a remedy at the time of recall filing,” Toyota spokesman Brian Lyons said. “We considered

the lead time of remedy parts preparation, and we prioritized the customer’s safety.” 

Additional reporting by **Maki Shiraki and Minami Funakoshi in Tokyo, Edward Taylor in Frankfurt and Paul Lienert and Bernie Woodall in Detroit**
 Editing by **Kevin Krolicki, Mark Bendeich and Ian Geoghegan**



As Takata air bag recall toll mounts, focus shifts to risks to family control

BY MARI SAITO AND EMIEMOTO

NOVEMBER 18 TOKYO

As Takata Corp comes under scrutiny for air bag defects, bankers are weighing up the potential fallout for the Japanese family behind the 81-year-old company, and the third-generation CEO who controls it.

As one reference for what Takata may face, Toyota Motor paid at least \$2.6 billion over a U.S. recall crisis four years ago linked to four deaths, all in one car. Defective Takata air bags have been linked to five deaths; four in the

United States and one in Malaysia of a pregnant woman.

Bankers with relationships with Takata are brainstorming financing proposals — though not yet with Takata directly — as recall costs increase and lawsuits loom. Raising new capital could threaten the control of the Takada family, potentially boosting governance and oversight.

The Takada family holds about 59 percent of the world's No. 2 air bag inflator maker, but a 60 percent drop in the company's share price this year - knocking \$750 million off the value of the family-controlled investment - means it would take just \$150 million of fresh equity to dilute that holding to below half.

"Some of my fund clients are calling to see whether we can arrange meetings with the company," said one investment banker, who asked not to be named. "They're willing to inject equity."

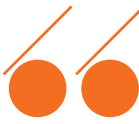
RENESAS-TYPE RESCUE?

A second senior banker said another long-term possibility may be to recapitalise Takata under new management with investment from auto-makers and a government fund — similar to the 2012 bailout at Renesas Electronics. He said that scenario had not been put to potential investors or Takata's board.


Takata's chief financial officer, Yoichiro Nomura, played down immediate financing concerns at a closed-door meeting with analysts last week, saying the company had not yet paid out most of the \$774 million it has set aside for recall-related costs, according to an account by one of those at that meeting.

"The company says it has set aside enough to cover much of the recalls, but it's uncertain how this crisis will end," said Tadashi Ono, a senior analyst at Japan Credit Rating Agency, which has put its single-A rating on Takata on negative watch.

More than 17 million cars have been recalled worldwide since 2008 for defects in Takata air bag inflators, which can explode with excessive force and shoot metal shards. Takata supplies



The company says it has set aside enough to cover much of the recalls, but it's uncertain how this crisis will end.



over a fifth of the world's air bags.

A U.S. Senate committee has scheduled a hearing on Thursday to solicit testimony from Takata on the defects and the company's response.

“THE SON” AND “BIG WIFE”

Employees and former employees of Tokyo-based Takata say the company retains the feel of a family-dominated firm.

CEO Shigehisa Takada's grandfather founded Takata in 1933 as a textile mill in western Japan. Shigehisa became president in 2007, aged 41, and moved to the top executive post after the death in 2011 of his father, Juichiro, who built the company into an auto safety giant. Shigehisa's 74-year-old mother, Akiko, a former Takata executive, heads the non-profit Takata Foundation but remains vocal in her role as a special adviser to Takata, people who have met her say.

Managers refer to Shigehisa as “the son” or “Shige-chan”, using a familiar, short form of his name and a suffix normally reserved for children. Some call Akiko “O-okusan”, or “big wife”, one source said, underscoring her influence at Takata.

Takata last year named Stefan Stocker, a Swiss national and former Bosch executive, as president and chief operating officer tasked with improving oversight of global operations. Neither he nor Takada has appeared in public since the annual shareholders' meeting in June, which was closed to media.

On that issue, Takata said: “We will take appropriate steps at the appropriate time.” The company added that it had no fundraising plans for now. Akiko, Shigehisa and Stocker could not be reached for comment at their offices or homes.

According to Thomson Reuters data, Shigehisa is Takata's top individual shareholder with 2.89 percent, while his mother holds 2.06 percent. About 52.1 percent is held by TKJ KK, an investment firm that lists the mother and son as board members.

Another 1.5 percent is held by ST KK,

represented by Shigehisa and established as an investment management firm in October 2013, a month after the third Takata-linked air bag death. Its address is registered at a Tokyo residential tower.

TKJ and Takata Foundation, along with several other Takata companies, share an address at a Tokyo office building with a single receptionist. Akiko and Shigehisa rarely come by, the receptionist said. 

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Plant with troubled past at center of Takata air bag probe

BY JOANNA ZUCKERMAN BERNSTEIN AND BEN KLAYMAN

NOVEMBER 20 CIUDAD FRONTERA, MEXICO / DETROIT

The dusty, industrial town of Ciudad Frontera, Mexico, has moved from the far reaches of the global auto supply chain to the front lines of an investigation into why air bags from Takata Corp are blowing up with lethal force in accidents.

The Takata plant there has been confirmed as the source of defective air bags made in 2001 and 2002 and again around 2012, according to recall records, automakers and regulators.

In 2006, the factory blew up, driving home for workers and residents the volatility and risk of the explosive compound at the core of Takata's air bags.

Now, the U.S. National Highway Traffic Safety Administration (NHTSA) has ordered Tokyo-based Takata Corp to submit a wide array of records, including those pertaining to manufacturing controls at the Mexican plant, as part of an investigation into why its air bags have shot shrapnel at drivers in five fatal accidents from Oklahoma to Malaysia.

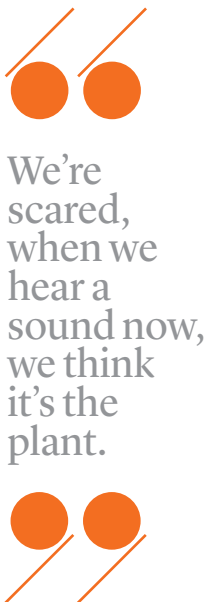
All five of the victims — including three in the last 14 months — were hit by shrapnel from air bags in Honda vehicles. At least another 160 injury claims involving cars from several auto-makers have been reported to NHTSA, according to a Reuters tally.

Interviews with 21 former and current Takata workers and consultants, along with company presentations and email reviewed by Reuters reveal the pressure inside the Japanese supplier to ramp up output and drive down costs for inflators - the mechanism that triggers air bags to deploy in a fraction of a second after a crash.

The accounts include the concerns of managers that workers broke quality rules to boost output. It isn't clear whether the productivity pressures and quality issues they describe led to specific accidents. But the portrait they draw suggests that top executives at the company were not fully aware of what was going on at the foreign factories that churned out millions of air bags. So far, the Takata problems have led to the recall of over 16 million vehicles worldwide.

"We are highly focused on cooperating with NHTSA and the (U.S.) government investigation," Takata's U.S. spokesman Alby Berman said in response to questions sent by email.

The NHTSA administrative order requires Takata to supply documents and answer questions under oath related to any problems in producing air bag inflators. The order was prompted in part by an Oct. 17 Reuters report detailing production and quality problems at the Mexico plant.. The company has until



We're
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plant.

Dec. 1 to comply. In addition to the regulatory probe, Takata faces a criminal investigation by U.S. prosecutors.

The investigations come as the Mexico plant gears up to make parts needed to replace millions of air bags in the ongoing vehicle recalls.

'WE'RE SCARED'

On the evening of March 30, 2006 Takata's Mexican air bag factory exploded a year into its run as the company's main inflator production point. The series of blasts blew out windows on houses a kilometer away and threw up fireballs as workers and residents fled to escape injury, witnesses say.

Remarkably, residents and workers say, there were no injuries. Hundreds of workers inside the factory that evening all managed to evacuate, some by climbing over a factory fence because a gate had been mistakenly left shut.

Takata, which accounts for about a fifth of global air bag production, never announced the exact cause of the 2006 explosion, workers there at the time said. An official at the fire department, where Takata has donated trucks, said he had no records from that time.

Some workers said the blast was fueled by bunkers of ammonium nitrate stored next to the plant. Takata air bags are inflated using ammonium nitrate, an explosive propellant that is encased in a canister to make an inflator.

Josefina Vargas lives next door to the Takata factory. She said the first sign of trouble from the factory was a thin line of smoke visible from the sidewalk in front of her house. Vargas, 52, who did not work at Takata, remembers her shock as explosions threw fiery debris almost to her feet as she sat outside her house. Vargas and others fled by foot and by car.

"We're scared," Vargas told Reuters in recounting the explosion from her home where she sells tortillas and cookies. "When we hear a sound now, we think it's the plant."

Takata's Berman said the company's safety training had "allowed for the successful evacuation of thousands of employees within a

few minutes of the discovery of the fire and prevented a possible loss of life." He said the company had put new safety policies in place after the accident.

Alejandro Perez, a former Takata facility manager, stayed at work for four days straight after the accident, taking short breaks to go home and nap or shower, he said.

The company offered workers who returned and stayed on the job special incentives, Perez and other workers say. Takata raffled off televisions, refrigerators and cars, and even held Easter services at the plant for workers on the job that April 16.

Takata managers were proud of the comeback. They marked the rebuilding with a commemorative in-house coffee table book with pictures of the blast, and baseball caps stitched with the exact date and time of the first explosion. The company took a \$21 million charge as it prepared for an IPO in November of that year.


Within a month, Takata had resumed production, fast enough so that customers such as Honda Motor Co, Ford Motor Co didn't have to shut down their own factories due to lack of parts. Rival Autoliv also stepped up its output to make up for what Takata could not supply, the companies said at the time.

UNRELENTING PRESSURE

But on the ground, the pressure to restart and make up for lost production was unrelenting, especially from American managers who had been flown to Mexico, said Perez, the former facility manager. He was laid off at the plant in 2008. Other workers also said pressure remained high.

Takata workers said they had to make a quota of inflators — sometimes more than 200 per hour. "If you didn't make it, you would be behind and they wouldn't pay you a productivity bonus," said Jose Sanchez, 42, a former worker who made inflators at Takata from 2004 to 2010.

In 2010 and 2011, the Monclova plant was consistently behind quota in making a new kind



If you didn't make it, you would be behind and they wouldn't pay you a productivity bonus.



of driver's-side air bag inflator. In an effort to crack down, supervisors used security cameras to catch workers on a line "fooling around," and apparently engaged in conversation rather than making inflators, an email circulated to staff that included still images from a camera shows. Takata's Berman said security cameras at the plant were there to prevent theft and not intended to monitor workers.

Around the same time, a worker was also cutting corners by trying to "rework" or fix defective parts on the inflator assembly line. That would have made it easier for them to meet output quotas. But Takata prohibited that practice in order to reduce the chances of bad parts being shipped to automakers, according to an email. Inflators identified as defective were supposed to be placed in a separate, red bin and then examined and repaired if possible by other workers, according to former workers.

Guillermo Apud, a supervisor at the plant, scolded other employees about this problem in a May 2011 email reviewed by Reuters. "Rework on the line is PROHIBITED!!!!" he said. "We can't have leaders/materials people/operators REWORKING material left and right without ANY control, this is why we have defect upon defect," his email, translated from Spanish, said. "We need to change NOW!"

Apud declined to comment. Berman said Apud was acting to reinforce company safety guidelines after finding an employee had improperly reworked an inflator. "The email is an example of the manager performing his supervisory responsibility and enforcing company quality controls," he said.

In 2012, Takata workers at the Mexico plant put the wrong part into inflators being readied for shipment, according to documents Takata and automakers filed with NHTSA. More than 350,000 vehicles from three different car makers were later recalled for that defect. The mistake was possible because parts bins were kept too close together, the company told regulators in Japan.

The mistake was not discovered until after a lawsuit was filed over an October 2013 accident when Brandi Owens, then 25, hit another car

in stop-and-go traffic while driving a new GM Chevrolet Cruze. The Cruze's air bag exploded and hit Owens so hard it blinded her in the left eye, she said in the lawsuit filed in April 2014. Her case prompted a recall two months later, in June. Owens settled with Takata and General Motors Co on undisclosed terms in August.

A fatal accident just after that June vehicle recall illustrates the complexity of the problem facing automakers and safety investigators. Takata said a defective inflator from its now-shuttered plant in the U.S. state of Georgia was installed in a 2003 Honda City assembled in Thailand and sold in Malaysia.

On July 27, Law Suk Leh was driving that car when she hit another vehicle in the Malaysian town of Sibuh on Borneo island. Law, who was in the final stages of pregnancy, was killed by a "severe puncture wound" to the neck when she was hit by a metal fragment after the car's air bag blew apart, Malaysian police said. Honda revealed details of the death last week in announcing a recall of another 170,000 vehicles to replace their air bags.

BOOMING DEMAND

For Takata, building the factory in Mexico in 2000 would enable it to help meet booming demand for air bags with cheaper labor, projections prepared for executives show.

By moving inflator production from two plants in the United States to Mexico, Takata saved \$70 million in labor costs over five years to 2006, an internal company presentation shows, dropping the labor cost for making an inflator from \$2 to about 75 cents. Takata's automaker customers benefited: the cost to them fell by more than 20 percent to less than \$20 each, according to the presentation.

By spring 2005, Takata's big bet on the Mexican factory appeared to be paying off. Workers at the Monclova plant, as it was known in the company, posed for a commemorative photo, raising both hands in the air in a banzai salute.

Soon afterward, Takata closed its factory in La Grange, Georgia, southwest of Atlanta.



The defect in Law's airbag in the Malaysian accident was caused by humid conditions at the Georgia plant.



Takata had been reducing inflator production there and at a second U.S. plant in remote Moses Lake, Washington for four years, records show.

Worker morale had suffered at the plant in Moses Lake, built on the site of a former U.S. military base, workers there told Reuters. By 2000, a new management team prioritised meeting output quotas and enforced overtime as demand for U.S. cars and SUVs soared, former workers say. "We just burned people out," said one former worker, who like others asked not to be named. In 2002, the plant laid off 100 workers and sent more production to Mexico, media reports at the time said.

A series of mistakes by workers in handling ammonium nitrate at the La Grange, Georgia and Mexico plants between 2000 and 2002 left the explosive compound exposed to dangerous levels of humidity, Takata told regulators in the United States and Japan.


Takata says inflators could be susceptible to rupture if exposed to moisture or extreme humidity. The defect in Law's airbag in the Malaysian accident was caused by humid conditions at the Georgia plant, Takata and Honda said.

It is unclear how much Takata's headquarters in Tokyo knew about the problems at its inflator plants. Takata did not dispatch permanent staff from headquarters to the Mexican plant as it ramped up output, workers say.

A Takata safety auditor dispatched from the United States inspected the Mexican inflator plant in May 2011 and found problems in handling the volatile ammonium nitrate. His audit report, seen by Reuters, faulted the plant for not closing bags of the compound tightly enough and for storing scrapped or contaminated propellant near good material, risking mix-ups. He said in his report he would not send the audit to Takata's headquarters in Tokyo.

Shigehisa Takada, the grandson of the founder, now chairman and chief executive, has said the company made a mistake by allowing too much autonomy to its local managers in North America during a period of rapid growth. Takata acquired at least six companies

in the United States and Germany between 1989 and 2012.

"Back then, the U.S. markets were expanding very rapidly, and we could not see everything that was happening there," according to a recording of Takada's speech to a closed shareholders meeting in June. It was his most recent public appearance. 

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Honda ran tests on fatal air bag flaw, frustrated by Takata reticence

BY NORIHIKO SHIROUZU

DECEMBER 17 TOKYO

Honda Motor Co was so concerned by mounting recalls for Takata air bags, and frustrated by its supplier's failure to explain why some have exploded, killing five people with shrapnel, that it bought used and scrapped cars in Japan to conduct its own tests.

Around 21 million vehicles have been recalled globally by automakers since 2008 for defective Takata inflators. Honda alone has recalled about 14 million cars, mostly in

the United States, where four of the deaths occurred. The fifth was in Malaysia.

Two senior Honda insiders, who asked not to be named, said the tests on 100-150 Takata air bags at Honda's quality centre near Utsunomiya, north of Tokyo, in the first half of this year indicated shortcomings in Takata's manufacturing quality and cast doubt on the competence of a company Honda considered part of its core group of suppliers, or 'keiretsu'.

"We doubted if Takata was producing air bags to the specifications we had mutually agreed on," one of the insiders said. "When we did not receive a clear analysis of what was happening, we decided to conduct our own tests ... and we found the quality of those inflators to be all over the map in term of key quality metrics."

Takata denied that Honda tested used air bags because it was dissatisfied with Takata's explanations and said it had not been told of any quality problems found.

A Takata spokesman said: "If Honda did the kind of quality tests on Takata inflators you're describing, wouldn't you assume Honda would communicate with us, to ask us about the quality lapses they supposedly found? As far as we know, and we looked into it extensively, there has been no such communication between us."

The Honda insiders said the tests did not identify the cause of the defect but led the company to believe manufacturing quality issues could have played a role.

Honda's chief spokesman Kaoru Tanaka confirmed that it conducts component quality tests at times when defects are suspected, but doesn't usually release the results or comment on specific tests.

"What's most important to us is our customer, and to take necessary action as quickly as possible for their safety ... and remove fears and worries felt by the customer as part of the air bag recalls," Tanaka said.

'EXTREMELY SLOPPY'

One of the Honda insiders said inflators from the used cars examined by Honda showed



We found the quality of those inflators to be all over the map in term of key quality metrics.



Takata was “extremely sloppy” in making the propellants that ignite to inflate the air bag in a fraction of a second in a collision.

He said the inflators contained varying amounts of the prescribed mix of ammonium nitrate and secondary ingredients, with many going beyond predetermined margins of error, and varying amounts of chemical compounds that strayed from Honda-approved recipes for inflators.

Some propellants that one of the individuals said he saw at the test centre showed colourings he attributed to damage from exposure to moisture, a leading theory for the fatal defect.

Honda CEO Takanobu Ito’s view on Takata, which supplies roughly a fifth of the world’s air bags and whose ties to Honda, its biggest customer, go back more than a quarter of a century, soured around mid-year, after the tests. He felt he wasn’t getting enough information from Takata on the cause of the defect, one of the insiders said.

The person said Ito felt “angry” and “betrayed” by Takata, and considered Honda a “victim” in the crisis.


It was not clear whether Ito ordered the tests.

Since the tests, the insiders said he had told people close to him that he had no sympathy for Takata and would not step in to rescue the

company if it slipped into financial trouble.

They added that Ito’s personal view did not necessarily reflect how Honda as a company might respond.

As the number of recalls has risen steadily, Honda has said it is looking to rival air bag inflator makers Autoliv Inc and Daicel Corp for replacement parts to carry out the Takata-related fixes.

It wasn’t immediately clear if Honda carried out similar random testing in the United States, but 10 automakers involved in the U.S. recall, led by Toyota Motor, are expected soon to hire an independent engineering firm to test Takata air bags. 

Editing by **Ian Geoghegan and Will Waterman**

