# UNITED STATES DEPARTMENT OF TRANSPORTATION NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

1200 New Jersey Avenue SE Washington D.C. 20590

In re:	
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EA15-001	Ś
Air Bag Inflator Rupture	5
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### CONSENT ORDER

This Consent Order is issued pursuant to the authority of the National Highway Traffic Safety Administration ("NHTSA"), an operating administration of the U.S. Department of Transportation, and sets forth the requirements and performance obligations in connection with the determination by TK Holdings Inc. ("Takata") that a defect related to motor vehicle safety may arise in some of the air bag inflators that Takata manufactured for certain vehicles sold or registered in the United States (the "Takata Inflators"). This Consent Order, together with the Defect Information Reports filed by Takata with NHTSA on May 18, 2015, pursuant to the National Traffic and Motor Vehicle Safety Act of 1966 as amended and recodified, 49 U.S.C. § 30101 et seq. and 49 C.F.R. § 573.6(c), which are hereby incorporated by reference, contains Takata's obligations under the terms and conditions incorporated herein.

## I. NATURE OF THE ACTION.

1. On May 18, 2015, pursuant to its legal obligations under the National Traffic and Motor Vehicle Safety Act of 1966 as amended and recodified, 49 U.S.C. § 30101 *et seq.* (the "Safety Act") and 49 C.F.R. § 573.6(c), Takata filed four Defect Information Reports ("DIRs") with NHTSA. In the DIRs, Takata stated "that a defect related to motor vehicle safety may arise in some of the subject inflators."

- 2. Specifically, Takata's DIRs state, in part, "The propellant wafers in some of the subject inflators may experience an alteration over time, which could potentially lead to overaggressive combustion in the event of an air bag deployment. Depending on the circumstances, this potential condition could create excessive internal pressure when the air bag is deployed, which could result in the body of the inflator rupturing upon deployment. Based upon Takata's investigation to date, the potential for such ruptures may occur in some of the subject inflators after several years of exposure to persistent conditions of high absolute humidity. In addition, Takata's test results and investigation indicate that this potential for rupturing may also depend on other factors, including vehicle design factors and manufacturing variability. In the event of an inflator rupture, metal fragments could pass through the air bag cushion material, which may result in injury or death to vehicle occupants." Copies of Takata's DIRs are attached hereto as Exhibit A and are publicly available at NHTSA's website at <a href="https://www.safercar.gov.">www.safercar.gov.</a>
- 3. NHTSA issues this Consent Order pursuant to its authority under the Safety Act, 49 U.S.C. § 30101, et seq., as delegated by the Secretary of Transportation, 49 C.F.R. §§ 1.95, 501.2(a)(1), to inspect and investigate, 49 U.S.C. § 30166(b)(1), to ensure that defective vehicles and equipment are recalled, 49 U.S.C. §§ 30118-30119, to ensure the adequacy of recalls, 49 U.S.C. § 30120(c), and to require any person to file reports or answers to specific questions, 49 U.S.C. § 30166(g). It is AGREED by Takata and ORDERED by NHTSA as follows:
- 4. Takata shall continue to cooperate in all future regulatory actions and proceedings that are part of NHTSA's ongoing investigation and oversight of the Takata Inflators and accompanying remedial actions. This cooperation includes, but is not limited to, testing reasonably directed by NHTSA; the agency's evaluation of the adequacy of the remedy under 49 U.S.C. § 30120(c)(1); and the coordination of the recall and remedy programs, including the organization and prioritization of the remedy under 49 U.S.C. § 30120(c)(3) and 49 C.F.R. § 573.14, and if appropriate as indicated by the data received from any source in any proceeding, a phased

schedule for the implementation of the remedy. Takata's material refusal to reasonably cooperate in any way pursuant to the terms of this Consent Order may subject Takata to civil penalties pursuant to 49 U.S.C. § 30165(a)(3) and 49 C.F.R. § 578.6(a)(3).

- 5. NHTSA will not seek any civil penalties, as demanded in its letter dated February 20, 2015, beyond those that may be applicable before May 18, 2015.
- 6. NHTSA's investigation in EA15-001 shall remain open until such time as NHTSA reasonably concludes, in its sole discretion and determination, that all issues thereunder, including all science, engineering and legal issues, as well as issues related to the scope of the population of recalled inflators, geographic scope of the recalls and adequacy of the remedy have been satisfactorily resolved. Any and all subsequent actions taken by NHTSA involving the investigation into the Takata Inflators may be included as part of EA15-001.
- 7. Takata shall continue to cooperate with NHTSA in its ongoing investigation and oversight of the Takata Inflators. Takata shall meet its obligations under the Safety Act and all regulations thereunder to take all actions and do all things reasonably necessary to comply with this Consent Order. Takata's cooperation will include, but is not limited to, the following:
- (i) Upon receipt of additional Defect Information Reports submitted by a vehicle manufacturer pursuant to 49 C.F.R. § 573.6, the subject of which is a type of Takata air bag inflator not already covered by a previously existing DIR (submitted by Takata or any vehicle manufacturer), Takata shall meet with NHTSA, in an expedited manner and not less than five business days following NHTSA's receipt of the DIR, to discuss all issues related to the subject matter of that DIR. Upon written request of NHTSA, Takata shall file the required regulatory filing(s) if any.
- (ii) Upon receipt of a Notice of Deposition pursuant to 49 C.F.R. § 510.6,

  Takata will use its reasonable best efforts to produce its employees and corporate representatives,
  regardless of the location of their employment worldwide, to testify in administrative depositions

with respect to the subject matter of EA15-001 or any other related NHTSA investigation, under oath and subject to the penalty of perjury. Depositions will be conducted at the United States Department of Transportation Headquarters in Washington D.C., the Washington D.C. offices of Dechert LLP, or such other location as the parties hereto agree;

- (iii) Takata shall use its reasonable best efforts to continue to respond truthfully, completely, and in a timely fashion to all ongoing and future NHTSA requests for information, whether served via formal process or otherwise, pertaining to any issue in EA15-001, or any other NHTSA inquiry or investigation, formal or otherwise, regardless of whether Takata was the subject of the investigation. To the extent specifically requested by NHTSA going forward, Takata will continue to produce documents responsive to the Special Orders and General Order previously issued in this matter;
- (iv) Takata shall continue to provide to NHTSA on an ongoing and requested basis all test results and data relating to the Takata Inflators as well as any non-privileged information and documents that Takata reasonably believes to be relevant to NHTSA's investigation of the Takata Inflators; and
- (v) Takata shall provide prompt notice to NHTSA in the event any requirement of this Consent Order cannot be met or timely met.
- Nothing in this Consent Order releases Takata from any civil penalties pursuant to NHTSA's authority under the Safety Act or regulations thereunder in EA15-001 or any other investigation or inquiry, formal or informal, however, NHTSA, in its sole discretion, will take into account Takata's cooperation, including, but not limited to, its submission of the DIRs attached hereto as Exhibit A, in seeking civil penalties, if any, against Takata. Nothing in this Consent Order limits NHTSA's ability to pursue or utilize any and all of its powers under the Safety Act or regulations thereunder in any future proceeding or investigation of any type.

  Nothing in this Consent Order requires NHTSA to obtain Takata's consent before NHTSA takes

any future action concerning any other investigation, investigatory phase or other proceeding involving EA15-001 or any other formal or informal investigation or inquiry, concerning any potential past violation of the Safety Act by Takata. This Consent Order does not release Takata from potential civil or criminal liabilities that may be asserted by the United States, the Department of Transportation, NHTSA, or any other governmental entity. This Consent Order is not binding upon any other federal agencies, state or local law enforcement agencies, licensing authorities or any other regulatory authorities, local or federal.

It is contemplated that NHTSA will convene one or more meetings with Takata and 9. the vehicle manufacturers affected by the DIRs in an attempt to organize and coordinate the safety recalls and remedy programs. It is contemplated that the meetings will include, but not be limited to, issues surrounding the organization and prioritization for remedying vehicles containing the Takata Inflators, and may also include the staging of remedies set forth in the DIRs. In addition, it is contemplated that NHTSA shall retain authority to issue orders addressing the potential geographic expansion of recalls for the PSPI and PSPI-L Takata Inflators covered by two of the DIRs attached hereto. Any order requiring the geographic expansion of such recalls shall be issued only after consultation with Takata and the affected vehicle manufacturers and shall be based on a finding by NHTSA that the then-current results of testing and analysis, from any source, of the relevant Takata Inflators as well as the consideration of the risk to safety that is presented necessitate the expansion of the recall. NHTSA will consider any relevant data, including, but not limited to test results showing performance failures that NHTSA deems to be significant and which involve the subject inflators from specific makes and models of vehicles in regions outside the States previously covered by the applicable recalls. It is contemplated that NHTSA will participate in all or some of these meetings, or parts thereof, to the extent it deems necessary, but has no obligation to do so. Takata will attend and take all reasonable steps to cooperate with

NHTSA and the affected vehicle manufacturers at any meeting convened by NHTSA pursuant to this paragraph.

- 10. No later than 60 days after the execution of this Consent Order, Takata shall submit a plan to NHTSA that outlines the steps Takata will take, both independently and in concert with the affected vehicle manufacturers, to achieve the objectives of the Safety Act and this Consent Order. This plan shall be comprised of the following two components:
  - a. After consulting with the relevant vehicle manufacturers, Takata shall propose a plan that, to the extent reasonably possible, maximizes recall completion rates for all recalls involving Takata frontal air bag inflators. This component of the plan shall specify the steps that Takata will take to assist the vehicle manufacturers in customer outreach, whether by engaging with vehicle owners through new and traditional media, direct contacts with vehicle owners, and other innovative means of bringing consumer attention to this safety issue. Takata will prepare the plan described above as it relates to each of the affected vehicle manufacturers without regard to the supplier of the remedy parts.
  - b. Takata will also propose a plan to provide NHTSA with test data NHTSA deems sufficient or other information regarding the service life and safety of the remedy inflators currently being manufactured by Takata.
- 11. This Consent Order shall remain in effect throughout the pendency EA15-001 and all related NHTSA proceedings thereunder, unless the NHTSA Administrator issues a written order providing notice of prior termination. Any breach of the obligations under this Consent Order may, at NHTSA's option, be immediately enforceable in any United States District Court. Takata agrees that it will not raise any objection as to venue.
- 12. This Consent Order shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Order.

- 13. This Consent Order cannot be modified, amended or waived except by an instrument in writing signed by all parties, and no provision may be modified, amended or waived other than by a writing setting forth such modification, amendment or waiver and signed by the party making the modification, amendment or waiver.
- 14. Nothing in this Consent Order shall be interpreted or construed in a manner inconsistent with, contravening, or waiving any federal law, rule, or regulation in effect at the time of the execution of this Consent Order, or as amended thereafter.
- 15. Nothing herein constitutes, and shall not be construed to be, a waiver of any right or defense and does not constitute, and shall not be construed to be, an admission of liability by Takata as to any claim, or an admission by Takata that any claim could properly be asserted against it, or that any claim brought against Takata would have any basis in law or fact.
- 16. Should any condition or other provision contained herein be held invalid, void or illegal by any court of competent jurisdiction, it shall be deemed severable from the remainder of this Consent Order and shall in no way affect, impair or invalidate any other provision of this Consent Order.
- Order by electronic mail to NHTSA's Acting Associate Administrator for Enforcement (currently Frank Borris, <a href="mailto:Frank.Borris@dot.gov">Frank.Borris@dot.gov</a>), and with a copy to NHTSA's Assistant Chief Counsel for Litigation and Enforcement (currently Timothy H. Goodman, <a href="mailto:TimoGoodman@dot.gov">Tim.Goodman@dot.gov</a>). NHTSA will provide notice to Takata if the individuals holding these positions or their e-mail addresses change.
- 18. The parties who are the signatories to this Consent Order have the legal authority to enter into this Consent Order, and each party has authorized its undersigned to execute this Consent Order on its behalf.

- 19. This Consent Order may be executed in counterparts, each of which shall be considered effective as an original signature.
- 20. This Consent Order is a fully integrated agreement and shall in all respects be interpreted, enforced and governed under the federal law of the United States. This Consent Order and the DIRs appended hereto as Exhibit A, set forth the entire agreement between the parties with regard to the subject matter hereof. There are no promises, agreements or conditions, expressed or implied, other than those set forth in this Consent Order and the DIRs in Exhibit A hereto.

## APPROVED AND SO ORDERED:

## NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Dated: May 18, 2015 By: //ORIGINAL SIGNED BY//

Mark R. Rosekind, Ph.D.

Administrator

Dated: May 18, 2015 By: \_\_\_\_\_\_

Timothy H. Goodman Assistant Chief Counsel

for Litigation & Enforcement

Dated: May 18, 2015 By: Christian Reunalto

Christie L. Iannetta Senior Trial Attorney AGREED:

Dated: May 18, 2015

TK HOLDINGS INC.

Shunkichi Shimizu

President

Ву: \_

Andrew J. Levander

Dechert LLP

Counsel for TK Holdings Inc. Approved as to Form

## **CONSENT ORDER - EXHIBIT A**

- 1. Defect Information Report, TK Holdings Inc. PSDI, PSDI-4 and PSDI-4K Driver Air Bag Inflators.
- 2. Defect Information Report, TK Holdings Inc. SPI Passenger Air Bag Inflators.
- 3. Defect Information Report, TK Holdings Inc. -PSPI-L Passenger Air Bag Inflators.
- 4. Defect Information Report, TK Holdings Inc. PSPI Passenger Air Bag Inflators.

### May 18, 2015

#### DEFECT INFORMATION REPORT

### TK HOLDINGS INC.

### PSDI, PSDI-4, and PSDI-4K DRIVER AIR BAG INFLATORS

### 1. Manufacturer's name:

TK Holdings Inc. ("Takata").

### 2. Items of equipment potentially affected:

All PSDI, PSDI-4, and PSDI-4K air bag inflators installed in frontal driver air bag modules in vehicles in the United States. This Report contemplates a national recall of the subject inflators. The subject inflators include all years of production, from start of production to end of production.

In accordance with the proposed staging of the remedy program described in section 7 below, the scope of the recall contemplated by this Report includes vehicles containing the subject inflators that were previously recalled and remedied by the affected vehicle manufacturers, including under recall numbers 08V-593, 09V-259, 10V-041, 11V-260, 14V-351, 14V-343, 14V-344, 14V-348, 14V-817, 14V-802, and 15V-153.

The inflators covered by this determination have been installed as original equipment or remedy parts in vehicles sold or registered in the United States and manufactured by the following five vehicle manufacturers (listed alphabetically):

American Honda Motor Co. 1919 Torrance Blvd. Torrance, CA 90501-2746 Phone: 310-783-2000

BMW of North America P.O. Box 1227 Woodcliff Lake, NJ 07677-7731

Phone: 201-307-4000

Chrysler Group LLC 800 Chrysler Drive Auburn Hills, MI 48326-2757 Phone: 1-800-853-1403 Ford Motor Company 330 Town Center Drive Dearborn, MI 48126-2738

Phone: 1-866-436-7332

Mazda North American Operations 46976 Magellan Drive Wixom, MI 48393 Phone: 248-295-7859

## 3. Total number of items of equipment potentially affected:

Takata estimates that a combined total of approximately 17.6 million subject inflators have been installed in vehicles in the United States as both original equipment and remedy parts. Of that number, Takata estimates that approximately 4.7 million are PSDI inflators and approximately 12.9 million are PSDI-4 and PSDI-4K inflators. Included within these estimates are approximately 9.7 million inflators that were subject to previous recalls or safety campaigns.

# 4. Approximate percentage of items of equipment estimated to actually contain the defect:

The number of field incidents known to Takata involving ruptures of PSDI subject inflators in the United States is fifty-nine (59). Fifty-four (54) of those field incidents occurred in vehicles that were subject to previous recalls. The number of field incidents known to Takata involving ruptures of PSDI-4 and PSDI-4K subject inflators in the United States is four (4). For comparison purposes, Takata estimates that there have been approximately 258,500 total field deployments of PSDI subject inflators and approximately 516,000 total field deployments of PSDI-4 and PSDI-4K subject inflators in the United States. Those estimates are based on the numbers of subject inflators described in section 3, estimates of the average age of the subject inflators in the field (11 vears for PSDI and 8 years for PSDI-4 and PSDI-4K), and an estimate (used by NHTSA in its data analyses) that an average of 0.5 percent of frontal air bags deploy in the field each year. In addition, as described below, since September 2014, Takata has conducted ballistic testing of a selected population of subject inflators returned by vehicle manufacturers, including a disproportionate number of subject inflators returned from areas of high absolute humidity; that ballistic testing to date has resulted in no (zero) ruptures of PSDI subject inflators tested and has resulted in nine (9) ruptures (approximately 0.0722 percent) of PSDI-4 and PSDI-4K subject inflators tested, all from high absolute humidity States.

## 5. Description of the defect:

As a result of the developments and circumstances described below and in section 4 above, Takata has determined that a defect related to motor vehicle safety may arise in some of the subject inflators.

The batwing-shaped propellant wafers in some of the subject inflators may experience an alteration over time, which could potentially lead to over-aggressive combustion in the event of an air bag deployment. Depending on the circumstances, this potential condition could create excessive internal pressure when the air bag is deployed, which could result in the body of the inflator rupturing upon deployment. Based upon Takata's investigation to date, the potential for such ruptures may occur in some of the subject inflators after several years of exposure to persistent conditions of high absolute humidity. In addition, this potential for rupturing may also depend on other factors, including manufacturing variability.

In the event of an inflator rupture, metal fragments could pass through the air bag cushion material, which may result in injury or death to vehicle occupants.

## 6. Chronological summary of events leading to this determination:

May 2003 – A PSDI-4 inflator ruptured in a BMW vehicle in Switzerland. After Takata was notified, the investigation determined that the 17-month-old inflator ruptured due to an overloading of propellant in the assembly of the inflator at issue. Takata introduced additional quality control measures designed to avoid such overloading.

May 2004 – A PSDI inflator manufactured in October 2001 ruptured in a Honda vehicle in Alabama. Takata was first notified of the event a year later in May 2005 and received only photographs for analysis. Takata tentatively concluded that the incident may have involved a potentially compromised tape seal on this inflator or possibly an overloading of propellant in the inflator at issue.

2007–2011 – After Takata was notified in late 2007 of a rupture of a PSDI inflator in a Honda vehicle, Takata promptly began an investigation. Following that investigation, in October 2008, Takata recommended that Honda conduct a safety recall to replace certain PSDI inflators, and Honda did so. Based on further investigation and additional information developed by Takata, Honda expanded its initial recall on several occasions to cover all vehicles containing PSDI inflators manufactured prior to December 1, 2001.

2010–Present – Beginning in 2010 and at different periods thereafter, in connection with its investigation into reports of inflator ruptures, Takata has consulted with the Fraunhofer Institute for Chemical Technology ("Fraunhofer ICT") to provide an independent research investigation of the root cause of the inflator ruptures. Fraunhofer ICT conducts research for government and industry and its core competencies include

energetic materials and energetic systems. Fraunhofer ICT is considered the leading research organization within the pyrotechnic gas generator and airbag system industry.

September 2013 – Takata became aware of a rupture of a PSDI driver inflator in a Honda vehicle in Florida that was not covered by the prior Honda recalls. Takata immediately commenced an additional investigation.

December 2013 – April 2015 – Takata was informed of eight additional incidents in which PSDI and PSDI-4 driver inflators not covered by the prior Honda recalls had ruptured. These eight additional field incidents occurred in the following States: Florida (6), California (1), and North Carolina (1).

June 11, 2014 – Takata sent a letter to NHTSA stating that, consistent with the fact that Takata's highest priority is safety, and in light of the Company's desire to address potential safety concerns promptly and thoroughly, Takata would support NHTSA's request for regional field actions to replace PSDI and PSDI-4 inflators manufactured between January 1, 2004 and June 30, 2007, that were installed in vehicles sold in or registered in Puerto Rico, Florida, Hawaii, and the U.S. Virgin Islands, based on the high levels of absolute humidity in those areas. (Those regional field actions also covered certain passenger inflators.) The five vehicle manufacturers that had installed these driver inflators promptly agreed to conduct the requested regional field actions and to send the replaced inflators to Takata for testing.

June 11, 2014 – Based on six field ruptures of Takata inflators (three driver inflators and three passenger inflators), NHTSA opened a defect investigation, PE14-016. On March 2, 2015, that investigation was upgraded to EA15-001.

September 2014 – May 2015 – As part of its continuing investigation, Takata has conducted extensive testing of inflators returned by the vehicle manufacturers. This testing has included (but has not been limited to) ballistic tests, live dissections, propellant analysis for moisture, chemical analysis, air and helium leak testing, and CT scanning. As of May 1, 2015, Takata has ballistically tested 174 PSDI inflators and 12,464 PSDI-4 and PSDI-4K inflators. None (zero) of the PSDI inflators ruptured during this testing, and nine (9) of the PSDI-4 and PSDI-4K inflators ruptured during this testing, yielding a rupture rate for the PSDI-4 and PSDI-4K inflators of 0.0722 percent. Six (6) of the ruptured inflators were returned from Florida, two (2) from Puerto Rico, and one (1) from non-coastal Georgia.

Although the Company's testing and investigation is ongoing, with the aid of the independent research performed by Fraunhofer ICT, Takata has reached some preliminary conclusions. It appears that the inflator ruptures have a multi-factor root cause that includes the slow-acting effects of a persistent and long term exposure to climates with high temperatures and high absolute humidity. Exposure over a period of several years to persistent levels of high absolute humidity outside the inflator, combined with the effects of thermal cycling, may lead to moisture intrusion in some inflators by

means of diffusion or permeation. Fraunhofer ICT has identified the possibility in these climates for moisture intrusion into the inflator over time and a process by which the moisture may slowly increase the porosity of the propellant within the inflator. Fraunhofer ICT's analysis also indicates that the design of the inflator and the grain (shape) of the propellant can affect the likelihood that the porosity change will occur. In addition, the analysis to date suggests that the potential for this long-term phenomenon to occur was not within the scope of the testing specifications prescribed by the vehicle manufacturers to Takata for the validation and production of the subject inflators as original equipment.

The results of the Fraunhofer ICT research and the Takata testing to date are consistent with the location and age of the inflators that have ruptured in the field and in Takata's testing.

May 2015 – Based upon the results of its investigation and the preliminary conclusions identified above, as well as NHTSA's insistence that action be taken to mitigate the risk posed to safety by these inflators, Takata decided to submit this Defect Information Report.

## 7. Description of the remedy program:

Consistent with the Consent Order issued by NHTSA on or about May 18, 2015, Takata shall cooperate with NHTSA in all future regulatory actions and proceedings pursuant to NHTSA's authority under the National Traffic and Motor Vehicle Safety Act, or any regulations thereunder, including 49 U.S.C. § 30120(c)(3), regarding the organization and prioritization of replacement air bag inflators.

At the present time, Takata continues to produce a small number of PSDI-4 inflators for use as remedy parts. Takata intends to cease production of the subject inflators, including for use as remedy parts.

Consistent with the above, including Takata's discussions with NHTSA, Takata's preliminary recommendation for the remedy program for the subject inflators is to use a phased customer notification and remedy approach. Under this approach, Takata plans to work with the manufacturers of the vehicles in which the subject inflators were installed to implement appropriate recalls to replace the subject inflators in four stages over time, as outlined here:

First, vehicles sold in or ever registered in any part of Florida, Puerto Rico, the
U.S. Virgin Islands, Hawaii, the Outlying U.S. Territories, Texas, Louisiana,
Georgia, South Carolina, Alabama, Mississippi, California, Oklahoma, North
Carolina, Virginia, Arkansas, Kentucky, Tennessee, Illinois, Delaware, Maryland,
and Missouri, and containing subject inflators manufactured between the start of
production and December 31, 2007;

- Second, vehicles sold in or ever registered in any part of Florida, Puerto Rico, the
  U.S. Virgin Islands, Hawaii, the Outlying U.S. Territories, Texas, Louisiana,
  Georgia, South Carolina, Alabama, Mississippi, California, Oklahoma, North
  Carolina, Virginia, Arkansas, Kentucky, Tennessee, Illinois, Delaware, Maryland,
  and Missouri, and containing subject inflators manufactured between the start of
  production and December 31, 2011;
- Third, vehicles sold in or ever registered in any other States not listed above and containing subject inflators manufactured between the start of production and December 31, 2007; and
- Fourth, any remaining vehicles not listed above that contain the subject inflators, including subject inflators previously installed as remedy parts.

### May 18, 2015

### **DEFECT INFORMATION REPORT**

### TK HOLDINGS INC.

### SPI PASSENGER AIR BAG INFLATORS

### 1. Manufacturer's name:

TK Holdings Inc. ("Takata").

## 2. Items of equipment potentially affected:

All SPI air bag inflators manufactured by Takata between April 2000 (start of production) and the end of inflator production for vehicle Model Year 2008 that were installed as original equipment in frontal passenger air bag modules in vehicles sold in the United States. This Report contemplates a nationwide recall of the subject inflators.

The scope of the recall contemplated by this Report includes vehicles that were previously recalled under prior recalls, including recall numbers 13V-133, 13V-136, 14V-361, 14V-312, 14V-399, 14V-340, 14V-343, 14V-350, 14V-421, 14V-471, 14V-655, 14V-701, 14V-752, 14V-763, 14V-770, 14V-787, and 15V-226. The inflators described in this Report may have previously been covered under two Defect Information Reports filed by Takata: 13E-017 and 14E-073.

Takata continues to conduct engineering analyses of SPI inflators produced after the end of production for Model Year 2008.

The inflators covered by this determination were installed in vehicles manufactured by the following vehicle manufacturers (listed alphabetically):

Chrysler Group LLC 800 Chrysler Drive Auburn Hills, MI 48326-2757 Phone: (800) 853-1403

Daimler Trucks North America LLC 4747 N. Channel Avenue Portland, OR 97217-3849 Phone: (503) 745-8000 Ford Motor Company 330 Town Center Drive Dearborn, MI 48126-2738 Phone: (866) 436-7332

General Motors LLC 3001 Van Dyke Road Warren, MI 48090-9020 Phone: (313) 556-5000

Mitsubishi Motors North America, Inc. 6400 Katella Avenue Cypress CA 90630 Phone: (714) 372-6000

Nissan North America, Inc. One Nissan Way Franklin, TN 37068 Phone: (615) 725-1000

Subaru of America, Inc. P.O. Box 6000 Cherry Hill, NJ 08034-6000 Phone: (856) 488-8500

Toyota Motor Engineering & Manufacturing 19001 South Western Ave.
Torrance, CA 90501
Phone: (800) 331-4331

## 3. Total number of items of equipment potentially affected:

Takata manufactured approximately 7.7 million SPI inflators for the North American market during the date range covered by this Report. Of that number, Takata estimates that approximately 2.8 million were subject to previous recalls and safety campaigns. Although Takata knows how many subject inflators it sold to each of the vehicle manufacturers identified above during the relevant period, it does not know precisely how many of those inflators were installed in vehicles that were sold in or registered in the United States. More precise information can be supplied by the vehicle manufacturers.

# 4. Approximate percentage of items of equipment estimated to actually contain the defect:

The number of field incidents known to Takata involving ruptures of the subject inflators in the United States is eight (8). Of those field incidents, four (4) involved inflators that were subject to previous recalls. For comparison purposes, Takata estimates that there have been approximately 202,125 total field deployments of SPI subject inflators in the United States. That estimate is based on the number of subject inflators described in section 3, an estimate of the average age of the subject inflators in the field (10.5 years), and an estimate that an average of 0.25 percent of passenger air bags deploy in the field each year. In addition, as described below, since September 2014, Takata has conducted ballistic testing of a selected population of subject inflators returned by vehicle manufacturers, including a disproportionate number of subject inflators returned from areas of high absolute humidity; that ballistic testing to date has resulted in fifty-six (56) ruptures (approximately 0.9 percent) of the subject inflators tested.

## 5. Description of the defect:

As a result of the developments and circumstances described below and in section 4 above, Takata has determined that a defect related to motor vehicle safety may arise in some of the subject inflators.

The propellant wafers in some of the subject inflators may experience an alteration over time, which could potentially lead to over-aggressive combustion in the event of an air bag deployment. Depending on the circumstances, this potential condition could create excessive internal pressure when the air bag is deployed, which could result in the body of the inflator rupturing upon deployment. Based upon Takata's investigation to date, the potential for such ruptures may occur in some of the subject inflators after several years of exposure to persistent conditions of high absolute humidity. In addition, Takata's test results and investigation indicate that this potential for rupturing may also depend on other factors, including vehicle design factors and manufacturing variability.

Takata is also aware of a potential issue associated with the inflator body internal tape seals on some SPI inflators. During its investigation, Takata observed a small number of tape seal leaks in SPI inflators manufactured prior to 2007. These leaks were discovered during leak testing in 2014, as part of the Takata returned-inflator evaluation program. Leaks have been found in SPI inflators returned from several of the vehicle manufacturers listed in section 2. Such a leak can increase the potential for moisture to reach the main propellant wafers, possibly in areas outside of the highest absolute humidity States.

In the event of an inflator rupture, metal fragments could pass through the air bag cushion material, which may result in injury or death to vehicle occupants.

## 6. Chronological summary of events leading to this determination:

May 2009–March 2010 – Four SPI inflators ruptured in auto recycling centers in Japan.

October 2011 – Takata was first notified of a reported field rupture involving an SPI inflator in a Toyota vehicle in Japan.

October or November 2011 – Takata was notified of a rupture of a PSPI passenger inflator in a model year 2001 Honda Civic vehicle located in Puerto Rico. Takata promptly began an investigation.

2010–Present – Beginning in 2010 and at different periods thereafter, in connection with its investigation, Takata has consulted with the Fraunhofer Institute for Chemical Technology ("Fraunhofer ICT") to provide an independent research investigation of the root cause of the inflator ruptures. Fraunhofer ICT conducts research for government and industry and its core competencies include energetic materials and energetic systems. Fraunhofer ICT is considered the leading research organization within the pyrotechnic gas generator and airbag system industry.

August 2012 – November 2012 – Takata was informed of three additional field rupture incidents in the United States, two in Puerto Rico and one in Maryland (the Maryland vehicle had previously been operated in Florida for eight years). These incidents all occurred in Toyota Corolla vehicles and involved PSPI-L inflators.

April 2013 – Based on its investigation, Takata submitted a defect information report ("DIR"), identified by NHTSA as 13E-017, which covered certain passenger inflators containing propellant wafers manufactured at Takata's Moses Lake, Washington plant during the period from April 13, 2000 through September 11, 2002, and certain air bag inflators manufactured at Takata's Monclova, Mexico plant during the period from October 4, 2001 through October 31, 2002. Promptly thereafter, the five manufacturers of vehicles in which those inflators had been installed submitted corresponding DIRs and recalled those vehicles: 13V-130 (Mazda); 13V-132 (Honda); 13V-133 (Toyota); 13V-136 (Nissan); and 13V-172 (BMW).

June 2014 – Takata notified the vehicle manufacturers that some of its traceability records were incomplete (*i.e.*, Takata could not identify with absolute certainty the propellant lots from which the propellant wafers in a specific inflator were taken), and that it was possible for propellant wafers to have been stored at its Monclova plant for up to three months before being used in an inflator. Based on those findings, and to assure that all potentially affected inflators were covered, Takata recommended that all PSPI, PSPI-L, and SPI inflators built through the end of 2002 should be recalled. Based on that recommendation, the five vehicle manufacturers identified above decided to expand their 2013 recalls: 14V-312 (Toyota); 14V-349 (Honda); 14V-361 (Nissan); 14V-362 (Mazda); and 14V-428 (BMW). In addition, based on the expanded date range for the covered inflators, Fuji Heavy Industries (Subaru) submitted a similar DIR covering a

relatively small number of vehicles (14V-399). Subaru was not affected by the original date range in 13E-017.

June 11, 2014 – Takata sent a letter to NHTSA stating that, consistent with the fact that Takata's highest priority is safety, and in light of the Company's desire to address potential safety concerns promptly and thoroughly, Takata would support NHTSA's request for regional field actions to replace PSPI, PSPI-L, and SPI passenger inflators manufactured between the start of production in April 2000 and July 31, 2004 that were installed in vehicles sold in or registered in Puerto Rico, Florida, Hawaii, and the U.S. Virgin Islands, based on the high levels of absolute humidity in those areas. (Those regional field actions also covered certain driver inflators.) The 10 vehicle manufacturers that had installed these passenger inflators in their vehicles promptly agreed to conduct the requested regional field actions and to send the replaced inflators to Takata for testing.

June 11, 2014 – Based on six field ruptures of Takata inflators (three driver inflators and three passenger inflators), NHTSA opened a defect investigation, PE14-016. On March 2, 2015, that investigation was upgraded to EA15-001.

April 2014 – April 2015 – Takata was informed of seven additional incidents in which passenger inflators not covered by the prior recalls had ruptured. Three of these involved SPI inflators installed in Nissan Sentra vehicles. Two of these incidents occurred in Florida and the remaining incident occurred in Louisiana.

October – December 2014 – At the request of NHTSA, Toyota, Honda, and Nissan submitted DIRs covering vehicles with the passenger inflators covered by the regional field actions identified above that had been sold in or registered in a wider geographical area, including Puerto Rico, Hawaii, the U.S. Virgin Islands, Guam, Saipan, American Samoa, Florida and adjacent counties in southern Georgia, as well as the coastal areas of Alabama, Louisiana, Mississippi and Texas. On November 17, 2014, Takata submitted DIR 14E-073. Subsequently, in December 2014, several other vehicle manufacturers submitted DIRs with respect to regional recalls covering vehicles with the identified inflators that had been sold in or registered in those areas.

September 2014 – May 2015 – As part of its continuing investigation, Takata has conducted extensive testing of inflators returned by the vehicle manufacturers. This testing includes (but is not limited to) ballistic tests, live dissections, propellant analysis for moisture, chemical analysis, air and helium leak testing, and CT scanning. As of May 1, 2015, Takata has ballistically tested 5,911 SPI passenger inflators. Of those inflators, 56 ruptured during this testing, yielding a rupture rate of 0.9 percent. All of these test ruptures involved inflators returned from the States identified in the prior paragraph, except two (one returned from Oregon and one from Pennsylvania) that were subject to previous recalls.

Although the Company's testing and investigation is ongoing, with the aid of the independent research performed by Fraunhofer ICT, Takata has reached some preliminary conclusions. It appears that the inflator ruptures have a multi-factor root cause that includes the slow-acting effects of a persistent and long term exposure to climates with high temperatures and high absolute humidity. Exposure over a period of several years to persistent levels of high absolute humidity outside the inflator, combined with the effects of thermal cycling, may lead to moisture intrusion in some inflators by means of diffusion or permeation. Fraunhofer ICT has identified the possibility in these climates for moisture intrusion into the inflator over time and a process by which the moisture may slowly increase the porosity of the propellant within the inflator. Fraunhofer ICT's analysis also indicates that the design of the inflator and the grain (shape) of the propellant can affect the likelihood that the porosity change will occur, as can manufacturing variability. The results of the Fraunhofer ICT research to date are consistent with the geographic location and age of the inflators that have ruptured in the field and in Takata's testing. Takata's testing also indicates that the design of the vehicle and the design of the air bag module are associated with differences in outcomes.

In addition, the analysis to date suggests that the potential for this long-term phenomenon to occur was not within the scope of the testing specifications prescribed by the vehicle manufacturers for the validation and production of the subject inflators as original equipment.

In addition, as part of its investigation, Takata conducted air leak tests and helium leak tests on certain inflators. Leak testing started in November 2014 as part of Takata's returned-inflator evaluation program. Through May 1, 2015, Takata has identified a high leak rate in 28 out of 1027 SPI inflators tested. The cause of these leaks is still under investigation, but it appears to be due, in part, to an adhesion failure of the tape seal that occurs after long-term environmental exposure. No leaks have been observed in any inflators manufactured after 2004.

May 2015 – Based upon the results of its investigation and the preliminary conclusions identified above, as well as NHTSA's insistence that action be taken to mitigate the risk posed to safety by these inflators, Takata decided to submit this Defect Information Report. In particular, in an abundance of caution and to address practical considerations relating to the administration of the remedy program for the United States, Takata agreed to extend the scope of the present Report through inflator production for Model Year 2008 at the insistence of NHTSA.

## 7. Description of the remedy program:

Consistent with the Consent Order issued by NHTSA on or about May 18, 2015, Takata shall cooperate with NHTSA in all future regulatory actions and proceedings pursuant to NHTSA's authority under the National Traffic and Motor Vehicle Safety Act, or any regulations thereunder, including 49 U.S.C. § 30120(c)(3), regarding the organization and prioritization of replacement air bag inflators.

At this time and consistent with the above, including Takata's discussions with NHTSA, Takata's preliminary recommendation for the remedy program for the subject inflators is to use a phased customer notification and remedy approach. Under this approach, Takata plans to work with the manufacturers of the vehicles in which the subject inflators were installed to implement appropriate recalls to replace the subject inflators in four stages, based on the order of production with the oldest inflators being remedied first.

### May 18, 2015

#### DEFECT INFORMATION REPORT

### TK HOLDINGS INC.

#### PSPI-L PASSENGER AIR BAG INFLATORS

### 1. Manufacturer's name:

TK Holdings Inc. ("Takata").

### 2. Items of equipment potentially affected:

All PSPI-L air bag inflators installed as original equipment in frontal passenger air bag modules in specific vehicle models sold in the United States, as follows:

Model Years 2004-2007 Honda Accord vehicles Model Years 2003-2007 Toyota Corolla vehicles Model Years 2003-2007 Toyota Matrix vehicles Model Years 2003-2007 Pontiac Vibe vehicles

This Report contemplates the potential for a national recall, subject to the determinations of NHTSA and consultations with the affected vehicle manufacturers, as described in section 7 below. The recall contemplated in this Report would be in addition to the previous recalls and safety campaigns involving these inflators, including recall numbers 13V-132, 13V-133, 14V-312, 14V-349, 14V-353, 14V-655, and 14V-700. Takata previously filed Defect Information Reports 13E-017 and 14E-073 relating to the subject inflators.

Takata continues to conduct engineering analyses of other PSPI-L inflators, including those produced after the end of production for Model Year 2007.

The inflators covered by this determination were installed as original equipment in vehicles manufactured by the following vehicle manufacturers (listed alphabetically):

American Honda Motor Co. 1919 Torrance Blvd. Torrance, CA 90501-2746 Phone: (310) 783-2000

General Motors LLC 30001 Van Dyke Road Warren, MI 48090-9020 Phone: (313) 556-5000 Toyota Motor Engineering & Manufacturing 19001 South Western Ave.
Torrance, CA 90501

Phone: (800) 331-4331

## 3. Total number of items of equipment potentially affected:

The total number of subject inflators potentially affected on a national basis in the vehicle models identified above is approximately 5.2 million. Of that number, Takata estimates that approximately 1.1 million are subject to previous recalls and safety campaigns.

# 4. Approximate percentage of items of equipment estimated to actually contain the defect:

The number of field incidents known to Takata involving ruptures of the subject inflators in the United States is ten (10). Of those field ruptures, four (4) involved inflators that were subject to previous recalls. For comparison purposes, Takata estimates that there have been approximately 143,000 total field deployments of the subject inflators in the United States. That estimate is based on the number of subject inflators described in section 3, an estimate of the average age of the subject inflators in the field (11 years), and an estimate that an average of 0.25 percent of passenger air bags deploy in the field each year. In addition, as described below, since September 2014, Takata has conducted ballistic testing of a selected population of subject inflators returned by the vehicle manufacturers, including a disproportionate number of subject inflators returned from areas of high absolute humidity; that ballistic testing to date has resulted in 180 ruptures (approximately 2.16 percent) of the subject inflators tested.

### 5. Description of the defect:

As a result of the developments and circumstances described below and in section 4 above, Takata has determined that a defect related to motor vehicle safety may arise in some of the subject inflators.

The propellant wafers in some of the subject inflators may experience an alteration over time, which could potentially lead to over-aggressive combustion in the event of an air bag deployment. Depending on the circumstances, this potential condition could create excessive internal pressure when the air bag is deployed, which could result in the body of the inflator rupturing upon deployment. Based upon Takata's investigation to date, the potential for such ruptures may occur in some of the subject inflators after several years of exposure to persistent conditions of high absolute humidity. In addition, Takata's test results indicate that even with identical inflator designs, the likelihood of a potential rupture is greater in certain vehicle models, including the models identified above, due to factors that have not yet been identified. The potential for rupture may also be influenced by other factors, including manufacturing variability.

In the event of an inflator rupture, metal fragments could pass through the air bag cushion material, which may result in injury or death to vehicle occupants.

## 6. Chronological summary of events leading to this determination:

October or November 2011 – Takata was notified of a rupture of a PSPI passenger inflator in a model year 2001 Honda Civic vehicle located in Puerto Rico. Takata promptly began an investigation.

2010–Present – Beginning in 2010 and at different periods thereafter, in connection with its investigation, Takata has consulted with the Fraunhofer Institute for Chemical Technology ("Fraunhofer ICT") to provide an independent research investigation of the root cause of the inflator ruptures. Fraunhofer ICT conducts research for government and industry and its core competencies include energetic materials and energetic systems. Fraunhofer ICT is considered the leading research organization within the pyrotechnic gas generator and airbag system industry.

August 2012 – November 2012 – Takata was informed of three additional incidents in the United States (two in Puerto Rico and one in Maryland (the Maryland vehicle had previously been operated in Florida for eight years)). These incidents all occurred in Honda Civic or Toyota Corolla vehicles.

April 2013 – Based on its investigation, Takata submitted a defect information report ("DIR"), identified by NHTSA as 13E-017, which covered certain passenger inflators containing propellant wafers manufactured at Takata's Moses Lake, Washington plant during the period from April 13, 2000 through September 11, 2002, and certain air bag inflators manufactured at Takata's Monclova, Mexico plant during the period from October 4, 2001 through October 31, 2002. Promptly thereafter, the five manufacturers of vehicles in which those inflators had been installed submitted corresponding DIRs and recalled those vehicles: 13V-130 (Mazda); 13V-132 (Honda); 13V-133 (Toyota); 13V-136 (Nissan); and 13V-172 (BMW).

June 2014 – Takata notified the vehicle manufacturers that some of its traceability records were incomplete (*i.e.*, Takata could not identify with absolute certainty the propellant lots from which the propellant wafers in a specific inflator were taken), and that it was possible for propellant wafers to have been stored at its Monclova plant for up to three months before being used in an inflator. Based on those findings, and to assure that all potentially affected inflators were covered, Takata recommended that all PSPI, PSPI-L, and SPI inflators built through the end of 2002 should be recalled. Based on that recommendation, the five vehicle manufacturers identified above decided to expand their 2013 recalls: 14V-312 (Toyota); 14V-349 (Honda); 14V-361 (Nissan); 14V-362 (Mazda); and 14V-428 (BMW). In addition, based on the expanded date range for the covered inflators, Fuji Heavy Industries (Subaru) submitted a similar DIR covering a

relatively small number of vehicles (14V-399). Subaru was not affected by the original date range in 13E-017.

June 11, 2014 – Takata sent a letter to NHTSA stating that, consistent with the fact that Takata's highest priority is safety, and in light of the Company's desire to address potential safety concerns promptly and thoroughly, Takata would support NHTSA's request for regional field actions to replace PSPI, PSPI-L, and SPI passenger inflators manufactured between the start of production in April 2000 and July 31, 2004 that were installed in vehicles sold in or registered in Puerto Rico, Florida, Hawaii, and the U.S. Virgin Islands, based on the high levels of absolute humidity in those areas. (Those regional field actions also covered certain driver inflators.) The 10 vehicle manufacturers that had installed these passenger inflators in their vehicles promptly agreed to conduct the requested regional field actions and to send the replaced inflators to Takata for testing.

June 11, 2014 – Based on six field ruptures of Takata inflators (three driver inflators and three passenger inflators), NHTSA opened a defect investigation, PE14-016. On March 2, 2015, that investigation was upgraded to EA15-001.

April 2014 – April 2015 – Takata was informed of seven additional incidents in which passenger inflators not covered by the prior recalls had ruptured. Four of these involved PSPI-L inflators installed in Toyota Corolla vehicles. Three of these incidents occurred in Puerto Rico and the remaining incident occurred in Texas.

October – December 2014 – At the request of NHTSA, Toyota, Honda, and Nissan submitted DIRs covering vehicles with the passenger inflators covered by the regional field actions identified above that had been sold in or registered in a wider geographical area, including Puerto Rico, Hawaii, the U.S. Virgin Islands, Guam, Saipan, American Samoa, Florida and adjacent counties in southern Georgia, as well as the coastal areas of Alabama, Louisiana, Mississippi and Texas. On November 17, 2014, Takata submitted DIR 14E-073. Subsequently, in December 2014, several other vehicle manufacturers submitted DIRs with respect to regional recalls covering vehicles with the identified inflators that had been sold in or registered in those areas.

September 2014 – May 2015 – As part of its continuing investigation, Takata has conducted extensive testing of inflators returned by the vehicle manufacturers. This testing has included (but has not been limited to) ballistic tests, live dissections, propellant analysis for moisture, chemical analysis, air and helium leak testing, and CT scanning. As of May 1, 2015, Takata has ballistically tested 8,320 PSPI-L inflators from the affected vehicle manufacturers, including inflators installed in vehicle models not covered by this report. Of those inflators, 180 ruptured during this testing, yielding a rupture rate of 2.16 percent. All but three of these test ruptures involved inflators returned from the high absolute humidity States listed in the first stage of the remedy program described in section 7 below. The remaining three test ruptures involved inflators returned from Illinois (2) and Kentucky (1), but the information available to

Takata indicates that these three inflators were removed from vehicles that had been registered for several years in Florida or coastal Texas.

Although the Company's testing and investigation is ongoing, with the aid of the independent research performed by Fraunhofer ICT, Takata has reached some preliminary conclusions. It appears that the inflator ruptures have a multi-factor root cause that includes the slow-acting effects of a persistent and long-term exposure to climates with high temperatures and high absolute humidity. Exposure over a period of several years to persistent levels of high absolute humidity outside the inflator, combined with the effects of thermal cycling, may lead to moisture intrusion in some inflators by means of diffusion or permeation. Fraunhofer ICT has identified the possibility in these climates for moisture intrusion into the inflator over time and a process by which the moisture may slowly increase the porosity of the propellant within the inflator. Fraunhofer ICT's analysis also indicates that the design of the inflator and the grain (shape) of the propellant can affect the likelihood that the porosity change will occur, as can manufacturing variability. The results of the Fraunhofer ICT research date are consistent with the geographic location and age of the inflators that have ruptured in the field and in Takata's testing.

Takata's testing indicates that vehicle and model design differences are associated with differences in outcomes. Significantly, Takata's test results indicate that the likelihood of a potential rupture is greater in the vehicle models identified in this report, due to as-yet unidentified factors.

In addition, the analysis to date suggests that the potential for this long-term phenomenon to occur was not within the scope of the testing specifications prescribed by the vehicle manufacturers for the validation and production of the subject inflators as original equipment.

May 2015 – Based upon the results of its investigation and the preliminary conclusions identified above, as well as NHTSA's insistence that action be taken to mitigate the risk posed to safety by these inflators, Takata decided to submit this Report.

### 7. Description of the remedy program:

Consistent with the Consent Order issued by NHTSA on or about May 18, 2015 (the "Consent Order"), Takata shall cooperate with NHTSA in all future regulatory actions and proceedings pursuant to NHTSA's authority under the National Traffic and Motor Vehicle Safety Act, or any regulations thereunder, including 49 U.S.C. § 30120(c)(3), regarding the organization and prioritization of replacement air bag inflators.

Pursuant to the Consent Order, Takata will continue to test the subject inflator type in all makes, models, and model years of vehicles that are covered by a safety campaign or otherwise made available or obtained by Takata for testing, and Takata will report those results to NHTSA.

Consistent with paragraphs 4 and 9 of the Consent Order, this Report recommends and contemplates that the remedy program for the subject inflators is to use a phased customer notification and remedy approach. Under that approach, Takata plans to work with the manufacturers of the vehicles in which the subject inflators were installed to implement appropriate recalls to replace the subject inflators first in high absolute humidity States, with any further expansion of the remedy program to proceed by geographic zones, contingent on subsequent orders that may be issued by NHTSA based on the results of further testing and engineering analysis of the subject inflators and following consultation with Takata and the affected vehicle manufacturers, as follows:

- The initial recall contemplated by this Report and the Consent Order would include the vehicle models listed in section 2 that were sold in or ever registered in any part of Florida, Puerto Rico, the U.S. Virgin Islands, Hawaii, the Outlying U.S. Territories, Texas, Louisiana, Georgia, South Carolina, Alabama, and Mississippi;
- Pursuant to the Consent Order, if ordered by NHTSA based on the results of
  further testing and engineering analysis of the subject inflators and following
  consultation with Takata and the affected vehicle manufacturers, the recall
  contemplated by this Report and the Consent Order would expand to include the
  vehicle models listed in section 2 that were sold in or ever registered in any part
  of California, Oklahoma, North Carolina, Virginia, Arkansas, Kentucky,
  Tennessee, Illinois, Delaware, Maryland, and Missouri;
- Pursuant to the Consent Order, if ordered by NHTSA based on the results of
  further testing and engineering analysis of the subject inflators and following
  consultation with Takata and the affected vehicle manufacturers, the recall
  contemplated by this Report and the Consent Order would expand to include the
  vehicle models listed in section 2 that were sold in or ever registered in any part
  of Ohio, Indiana, New Jersey, West Virginia, the District of Columbia, Kansas,
  Pennsylvania, Washington, Massachusetts, Connecticut, Michigan, New York,
  Rhode Island, Oregon, Iowa, and Nebraska; and
- Pursuant to the Consent Order, if ordered by NHTSA based on the results of further testing and engineering analysis of the subject inflators and following consultation with Takata and the affected vehicle manufacturers, the recall contemplated by this Report and the Consent Order would expand to include the vehicle models listed in section 2 that were sold in or ever registered in any of the remaining States.

### May 18, 2015

### **DEFECT INFORMATION REPORT**

### TK HOLDINGS INC.

### PSPI PASSENGER AIR BAG INFLATORS

### 1. Manufacturer's name:

TK Holdings Inc. ("Takata").

### 2. Items of equipment potentially affected:

All PSPI air bag inflators installed as original equipment in frontal passenger air bag modules in specific vehicle models sold in the United States, as follows:

Model Year 2003 Honda Accord vehicles Model Years 2001-2006 Honda Civic vehicles

The above represents all Model Years of the listed vehicle makes and models that contain PSPI inflators.

This Report contemplates the potential for a national recall, subject to the determinations of NHTSA and consultations with the vehicle manufacturer, as described in section 7 below. The recall contemplated in this Report would be in addition to the previous recalls and safety campaigns involving these inflators, including recall numbers 13V-132, 14V-349, 14V-353, and 14V-700. Takata previously filed Defect Information Reports 13E-017 and 14E-073 relating to the subject inflators.

The inflators covered by this determination were installed as original equipment in vehicles manufactured by the following vehicle manufacturer:

American Honda Motor Co. 1919 Torrance Blvd. Torrance, CA 90501-2746 Phone: (310) 783-2000

### 3. Total number of items of equipment potentially affected:

The total number of subject inflators potentially affected on a national basis in the vehicle models identified above is approximately 3.3 million. Of that number, Takata estimates that approximately 2.1 million are subject to previous recalls and safety campaigns.

# 4. Approximate percentage of items of equipment estimated to actually contain the defect:

The number of field incidents known to Takata involving ruptures of the subject inflators in the United States is three (3), all of which involved inflators that were subject to previous recalls. For comparison purposes, Takata estimates that there have been approximately 94,875 total field deployments of the subject inflators in the United States. That estimate is based on the number of subject inflators described in section 3, an estimate of the average age of the subject inflators in the field (11.5 years), and an estimate that an average of 0.25 percent of passenger air bags deploy in the field each year. In addition, as described below, since September 2014, Takata has conducted ballistic testing of a selected population of subject inflators returned by Honda, including a disproportionate number of subject inflators returned from areas of high absolute humidity; that ballistic testing to date has resulted in twenty (20) ruptures (approximately 0.51 percent) of the subject inflators tested.

## 5. Description of the defect:

As a result of the developments and circumstances described below and in section 4 above, Takata has determined that a defect related to motor vehicle safety may arise in some of the subject inflators.

The propellant wafers in some of the subject inflators may experience an alteration over time, which could potentially lead to over-aggressive combustion in the event of an air bag deployment. Depending on the circumstances, this potential condition could create excessive internal pressure when the air bag is deployed, which could result in the body of the inflator rupturing upon deployment. Based upon Takata's investigation to date, the potential for such ruptures may occur in some of the subject inflators after several years of exposure to persistent conditions of high absolute humidity. In addition, Takata's test results indicate that even with identical inflator designs, the likelihood of a potential rupture is greater in certain vehicle models, including the models identified above, due to factors that have not yet been identified. The potential for rupture may also be influenced by other factors, including manufacturing variability.

In the event of an inflator rupture, metal fragments could pass through the air bag cushion material, which may result in injury or death to vehicle occupants.

## 6. Chronological summary of events leading to this determination:

October or November 2011 – Takata was notified of a rupture of a PSPI passenger inflator in a model year 2001 Honda Civic vehicle located in Puerto Rico. Takata promptly began an investigation.

2010-Present – Beginning in 2010 and at different periods thereafter, in connection with its investigation, Takata has consulted with the Fraunhofer Institute for Chemical

Technology ("Fraunhofer ICT") to provide an independent research investigation of the root cause of the inflator ruptures. Fraunhofer ICT conducts research for government and industry and its core competencies include energetic materials and energetic systems. Fraunhofer ICT is considered the leading research organization within the pyrotechnic gas generator and airbag system industry.

August 2012 – November 2012 – Takata was informed of three additional incidents in the United States (two in Puerto Rico and one in Maryland (the Maryland vehicle had previously been operated in Florida for eight years)). These incidents all occurred in Honda Civic or Toyota Corolla vehicles.

April 2013 – Based on its investigation, Takata submitted a defect information report ("DIR"), identified by NHTSA as 13E-017, which covered certain passenger inflators containing propellant wafers manufactured at Takata's Moses Lake, Washington plant during the period from April 13, 2000 through September 11, 2002, and certain air bag inflators manufactured at Takata's Monclova, Mexico plant during the period from October 4, 2001 through October 31, 2002. Promptly thereafter, the five manufacturers of vehicles in which those inflators had been installed submitted corresponding DIRs and recalled those vehicles: 13V-130 (Mazda); 13V-132 (Honda); 13V-133 (Toyota); 13V-136 (Nissan); and 13V-172 (BMW).

June 2014 – Takata notified the vehicle manufacturers that some of its traceability records were incomplete (*i.e.*, Takata could not identify with absolute certainty the propellant lots from which the propellant wafers in a specific inflator were taken), and that it was possible for propellant wafers to have been stored at its Monclova plant for up to three months before being used in an inflator. Based on those findings, and to assure that all potentially affected inflators were covered, Takata recommended that all PSPI, PSPI-L, and SPI inflators built through the end of 2002 should be recalled. Based on that recommendation, the five vehicle manufacturers identified above decided to expand their 2013 recalls: 14V-312 (Toyota); 14V-349 (Honda); 14V-361 (Nissan); 14V-362 (Mazda); and 14V-428 (BMW). In addition, based on the expanded date range for the covered inflators, Fuji Heavy Industries (Subaru) submitted a similar DIR covering a relatively small number of vehicles (14V-399). Subaru was not affected by the original date range in 13E-017.

June 11, 2014 – Takata sent a letter to NHTSA stating that, consistent with the fact that Takata's highest priority is safety, and in light of the Company's desire to address potential safety concerns promptly and thoroughly, Takata would support NHTSA's request for regional field actions to replace PSPI, PSPI-L, and SPI passenger inflators manufactured between the start of production in April 2000 and July 31, 2004 that were installed in vehicles sold in or registered in Puerto Rico, Florida, Hawaii, and the U.S. Virgin Islands, based on the high levels of absolute humidity in those areas. (Those regional field actions also covered certain driver inflators.) The 10 vehicle manufacturers that had installed these passenger inflators in their vehicles promptly agreed to conduct

the requested regional field actions and to send the replaced inflators to Takata for testing.

June 11, 2014 – Based on six field ruptures of Takata inflators (three driver inflators and three passenger inflators), NHTSA opened a defect investigation, PE14-016. On March 2, 2015, that investigation was upgraded to EA15-001.

April 2014 – April 2015 – Takata was informed of seven additional incidents in which passenger inflators not covered by the prior recalls had ruptured. Four of these involved PSPI-L inflators installed in Toyota Corolla vehicles. Three of these incidents occurred in Puerto Rico and the remaining incident occurred in Texas.

October – December 2014 – At the request of NHTSA, Toyota, Honda, and Nissan submitted DIRs covering vehicles with the passenger inflators covered by the regional field actions identified above that had been sold in or registered in a wider geographical area, including Puerto Rico, Hawaii, the U.S. Virgin Islands, Guam, Saipan, American Samoa, Florida and adjacent counties in southern Georgia, as well as the coastal areas of Alabama, Louisiana, Mississippi and Texas. On November 17, 2014, Takata submitted DIR 14E-073. Subsequently, in December 2014, several other vehicle manufacturers submitted DIRs with respect to regional recalls covering vehicles with the identified inflators that had been sold in or registered in those areas.

September 2014 – May 2015 – As part of its continuing investigation, Takata has conducted extensive testing of inflators returned by the vehicle manufacturers. This testing has included (but has not been limited to) ballistic tests, live dissections, propellant analysis for moisture, chemical analysis, air and helium leak testing, and CT scanning. As of May 1, 2015, Takata has ballistically tested 3,932 Honda PSPI inflators. Of those inflators, 20 ruptured during this testing, yielding a rupture rate of 0.51 percent. All of these test ruptures involved inflators returned from the high absolute humidity States listed in the first stage of the remedy program described in section 7 below.

Although the Company's testing and investigation is ongoing, with the aid of the independent research performed by Fraunhofer ICT, Takata has reached some preliminary conclusions. It appears that the inflator ruptures have a multi-factor root cause that includes the slow-acting effects of a persistent and long-term exposure to climates with high temperatures and high absolute humidity. Exposure over a period of several years to persistent levels of high absolute humidity outside the inflator, combined with the effects of thermal cycling, may lead to moisture intrusion in some inflators by means of diffusion or permeation. Fraunhofer ICT has identified the possibility in these climates for moisture intrusion into the inflator over time and a process by which the moisture may slowly increase the porosity of the propellant within the inflator. Fraunhofer ICT's analysis also indicates that the design of the inflator and the grain (shape) of the propellant can affect the likelihood that the porosity change will occur, as can manufacturing variability. The results of the Fraunhofer ICT research to date are

consistent with the geographic location and age of the inflators that have ruptured in the field and in Takata's testing.

Takata's testing indicates that vehicle and model design differences are associated with differences in outcomes. Significantly, Takata's test results indicate that the likelihood of a potential rupture is greater in the vehicle models identified in this report, due to as-yet unidentified factors.

In addition, the analysis to date suggests that the potential for this long-term phenomenon to occur was not within the scope of the testing specifications prescribed by the vehicle manufacturers for the validation and production of the subject inflators as original equipment.

May 2015 – Based upon the results of its investigation and the preliminary conclusions identified above, as well as NHTSA's insistence that action be taken to mitigate the risk posed to safety by these inflators, Takata decided to submit this Report.

## 7. Description of the remedy program:

Consistent with the Consent Order issued by NHTSA on or about May 18, 2015 (the "Consent Order"), Takata shall cooperate with NHTSA in all future regulatory actions and proceedings pursuant to NHTSA's authority under the National Traffic and Motor Vehicle Safety Act, or any regulations thereunder, including 49 U.S.C. § 30120(c)(3), regarding the organization and prioritization of replacement air bag inflators.

Pursuant to the Consent Order, Takata will continue to test the subject inflator type in all makes, models, and model years of vehicles that are covered by a safety campaign or otherwise made available or obtained by Takata for testing, and Takata will report those results to NHTSA.

Consistent with paragraphs 4 and 9 of the Consent Order, this Report recommends and contemplates that the remedy program for the subject inflators is to use a phased customer notification and remedy approach. Under that approach, Takata plans to work with the manufacturer of the vehicles in which the subject inflators were installed (Honda) to implement an appropriate recall to replace the subject inflators first in high absolute humidity States, with any further expansion of the remedy program to proceed by geographic zones, contingent on subsequent orders that may be issued by NHTSA based on the results of further testing and engineering analysis of the subject inflators and following consultation with Takata and the affected vehicle manufacturers, as follows:

• The initial recall contemplated by this Report and the Consent Order would include the vehicle models listed in section 2 that were sold in or ever registered in any part of Florida, Puerto Rico, the U.S. Virgin Islands, Hawaii, the Outlying U.S. Territories, Texas, Louisiana, Georgia, South Carolina, Alabama, and Mississippi;

- Pursuant to the Consent Order, if ordered by NHTSA based on the results of
  further testing and engineering analysis of the subject inflators and following
  consultation with Takata and the affected vehicle manufacturer, the recall
  contemplated by this Report and the Consent Order would expand to include the
  vehicle models listed in section 2 that were sold in or ever registered in any part
  of California, Oklahoma, North Carolina, Virginia, Arkansas, Kentucky,
  Tennessee, Illinois, Delaware, Maryland, and Missouri;
- Pursuant to the Consent Order, if ordered by NHTSA based on the results of further testing and engineering analysis of the subject inflators and following consultation with Takata and the affected vehicle manufacturer, the recall contemplated by this Report and the Consent Order would expand to include the vehicle models listed in section 2 that were sold in or ever registered in any part of Ohio, Indiana, New Jersey, West Virginia, the District of Columbia, Kansas, Pennsylvania, Washington, Massachusetts, Connecticut, Michigan, New York, Rhode Island, Oregon, Iowa, and Nebraska; and
- Pursuant to the Consent Order, if ordered by NHTSA based on the results of further testing and engineering analysis of the subject inflators and following consultation with Takata and the affected vehicle manufacturer, the recall contemplated by this Report and the consent Order would expand to include the vehicle models listed in section 2 that were sold in or ever registered in any of the remaining States.