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## **Center for Pet Safety 2015 Carrier Crashworthiness Study Summary Report**

Sponsored by Subaru of America

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Center for Pet Safety

### **Scope**

In 2015 Center for Pet Safety and Subaru of America renewed a partnership with the intent to study the crashworthiness of pet travel carriers that claimed “testing”, “crash testing” or “crash protection”. Additionally, other popular pet travel carriers were sampled and tested to help Center for Pet Safety educate pet owners about the performance differences of distraction prevention carriers and crash protection carriers.

### **Background**

In 2013 Subaru of America was a project sponsor of the Center for Pet Safety Harness Crashworthiness Study that raised travel safety awareness around the globe. In 2015 Subaru once again signed on as a project sponsor to help Center for Pet Safety educate pet owners about travel crate and carrier safety. This report details the study results for the Carrier Crashworthiness Study. The 2015 Crate Crashworthiness Study can be found here: <http://www.centerfopetsafety.org/test-results/crates/2015-crate-study-results/>

### **Purpose**

The purpose of the 2015 Carrier Study is:

- Independently evaluate the current-state travel carrier products and carrier connection products that claim “testing”, “crash testing” or “crash protection”.
- Examine the safety, structural integrity and crashworthiness of carriers where the manufacturer makes no claims of “testing”, “crash testing” or “crash protection”.
- Determine top performing carrier brand(s).

Pet travel carriers can offer distraction prevention, which is important to prevent accidents. However, proper pet passenger restraint is critical for successful crash protection. Carriers that are not structurally sound or have insufficient connection strength can directly affect the safety of the pet and place human vehicle occupants at risk of injury should an accident occur.



## **About our Team**

**Center for Pet Safety** – Center for Pet Safety (CPS) is a 501(c)(3) non-profit research and consumer advocacy organization dedicated to consumer and companion animal safety. Based in the Washington, D.C. Metropolitan area, the Center for Pet Safety’s mission is to have an enduring, positive impact on the survivability, health, safety and well-being of companion animals and the consumer through scientific research and product testing. For additional information visit [www.CenterforPetSafety.org](http://www.CenterforPetSafety.org).

**Chris Sherwood, Biocore, LLC.** – Chris Sherwood is a former senior research engineer for the Insurance Institute for Highway Safety (IIHS). He is currently employed by Biocore, LLC, a biomechanics consulting and research firm. Mr. Sherwood holds a Master’s Degree in Biomechanics and has been actively involved in the research and development of automotive child safety standards. Mr. Sherwood brings his years of passenger safety expertise to the Center for Pet Safety Crate and Carrier Studies as a passenger safety consultant. He was integral in the development of the CPS Harness Crashworthiness Test Protocol and Ratings Guidelines.

**MGA Research Corporation** – MGA Research Corporation, a National Highway Traffic Safety Administration (NHTSA) contracted test facility, located in Manassas, Virginia was hired to perform independent, third party testing of pet travel products. Center for Pet Safety Representatives were on-site to witness testing of all pet travel products.

## **Test Methodology**

At the time of this study, there are currently no performance or dynamic testing standards for pet travel carriers. Carrier manufacturers may claim that they “pass” crash testing of their product, however, CPS has concerns about the strategic marketing of these products that may leave the consumer or their pet at risk should an accident occur.

## **Federal Motor Vehicle Safety Standard 213**

Center for Pet Safety refers to the Federal Motor Vehicle Safety Standard (FMVSS) 213 crash conditions for child safety seats to establish our dynamic testing procedures for pet travel carriers. These conditions include but are not limited to: test pulse, standardized test bench, excursion flags, and the LATCH attachment points.

Many of the pet travel carrier manufacturers included in this study reference FMVSS 213 and illustrate those conditions on their websites, make comparison claims on product packaging or promote the testing of their products meeting that standard. Therefore CPS feels that these crash conditions have been widely adopted by many manufacturers in the pet products industry and it is reasonable to test these pet travel carriers using the 30 MPH crash condition of FMVSS 213.

Center for Pet Safety’s definition of a successful test outcome for a pet travel carrier:

- the carrier must fully contain the test dog before, during and after the crash test
- the carrier and all device connection points must remain wholly connected to the test bench for the entirety of the test

Because safety standards for pet travel carriers do not exist, this initial data collection will be used by Center for Pet Safety to develop a formal test protocol and ratings guideline for pet travel carriers. The definition of “successful test outcome” may change from this initial interpretation in the future.



## Product Selection for the 2015 Carrier Study

### Manufacturer claims Crash Testing:

- PetBuckle Auto Kennel Restraint (page 3)
- Pet Ego Jet Set Forma Frame Carrier (and ISOFIX-Latch Connection) (page 5)
- Sleepypod Mobile Pet Bed (page 6)
- Snoozer Roll Around Travel Dog Carrier Backpack 4-in-1 (page 9)

### Manufacturer does not specify testing, however product is marketed for use in a vehicle:

- Kurgo Wander Carrier (page 10)
- Pet Ego Pet Tube (page 11)
- Petmate Compass Dog Carrier (tested with PetBuckle Auto Kennel Restraint - page 3)
- Vari Kennel Plastic Carrier (page 12)

### PetBuckle Auto Kennel Restraint (Test V15583)

Developed by IMMI the following content was sourced directly from the PetBuckles.com website:

*“PetBuckle Kennel System Restraints are designed to provide automotive quality safety to almost any portable kennel, crate or carrier reducing the potential of the kennel system containing the pet to be launched during a collision. Each system features automotive quality adjusters for the ultimate in convenience and safety.”*

*“PetBuckle has been tested at the Center for Advanced Product Evaluation (CAPE). During development of all PetBuckle products, research and development engineers subjected restraints to impact tests to evaluate their crash performance. Successful impact testing earned PetBuckle products the stamp of “Secure with Confidence,” which provides pet parents with the assurance that their pets are secured when they travel.”*

Center for Pet Safety selected a commonly available carrier to test the PetBuckle Auto Kennel Restraint.

Center for Pet Safety purchased the PetBuckle Auto Kennel Restraint (for Kennels up to 36" x 25" x 26"). There was no weight limitation or guidance provided on PetBuckle's website, Amazon's website or included with the product packaging.

The marketing for the PetBuckle Kennel Restraint System on Amazon includes the following verbiage:

- Restraint belt secures portable kennels
- Also use with crates and carriers
- Crash tested; seat belt-quality straps
- Fits kennels up to 36-Inch by 25-Inch by 26-Inch
- Easy to adjust and release

Carrier/Kennel: **Petmate Compass Dog Carrier**, rated to contain a pet up to 50 lbs. with dimensions within the measurements specified by PetBuckle was purchased from the local PetSmart.



**Test Simulant:** The CPS 45 lb. Border Collie Crash Test Dog was selected as the simulant for this test.

The PetBuckle Restraint System was secured to the test bench. The Petmate Compass Dog Carrier was secured to the seat of the bench using the PetBuckle Restraint System. The 45 lb. Border Collie Crash Test Dog was placed centrally in the carrier. The door of the carrier was closed and secured.



*Pre-test images of PetBuckle Restraint System securing the Carrier/Kennel*



*During and Post-test images of PetBuckle Restraint System securing the Carrier/Kennel*

**Test Results:** The PetBuckle Auto Kennel Restraint remained intact for the entirety of the test, however, the plastic PetMate Carrier fractured. The 45 lb. simulant was caught by the PetBuckle Kennel Restraint System. Additionally, the excursion measurement of the both the kennel remnants and the test simulant indicates an increased risk of injury to the dog and the human passengers in the vehicle in the event of an accident.

While the PetBuckle Auto Kennel Restraint system may have been thoroughly tested by IMMI, the use of this product with a carrier not designed to withstand vehicle crashes may lead to less than desired results in the case of a sudden stop or accident.

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## Pet Ego Jet Set Forma Frame Carrier

### **Initial Test (Test V15584)**

Center for Pet Safety learned of Pet Ego's crash testing efforts at IMMI through social media postings by the manufacturer. Based on that evidence CPS ordered the Jet Set Forma Frame Carrier (size Medium).

A medium Jet Set Forma Frame carrier was mounted to the test bench using manufacturer's auto installation instructions. A backup tether was used to protect the test equipment from damage.

**Test Simulant:** The CPS 15 lb. Dachshund Crash Test Dog was selected as the simulant for this test.



*Pre-test*

*Straps separating*

*Unrestrained*

**Test Results:** The Jet Set Forma Frame carrier connections failed and released the product from the test bench.

Center for Pet Safety was concerned with the test results and reached out to Pet Ego with questions. The manufacturer's representative responded within 4 hours, and scheduled a follow-up call for the following week. CPS was informed that the new attachment point, the ISOFIX-Latch Connection was in production and the manufacturer arranged for Center for Pet Safety to purchase a new carrier and the crash tested connection for examination in this study.

### **Retest: (Test 15638) Pet Ego Jet Set Forma Frame Carrier (and ISOFIX-Latch Connection)**

A medium Jet Set Forma Frame carrier was mounted to the test bench using manufacturer's ISOFIX-Latch Connection system. Directions were not included with the product, however, CPS confirmed the connection setup with the Pet Ego Representative.

**Test Simulant:** The CPS 15 lb. Dachshund Crash Test Dog was selected as the simulant for this test.



*Pre-test*

*Maximum forward excursion, full containment*

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**Test Results:** The Pet Ego Jet Set Forma Frame Carrier with ISOFIX-Latch Connection successfully met Center for Pet Safety’s criteria for a successful product performance. The test dog remained fully contained, and the connection system remained wholly connected to the test bench throughout the testing.



- **The Pet Ego Jet Set Forma Frame Carrier with ISOFIX-Latch Connection has been named a 2015 Top Performer by Center for Pet Safety.**

### **Sleepypod Mobile Pet Bed**

Sleepypod’s Mobile Pet Bed was selected due to the test evidence published by the manufacturer and claims of “passing” crash testing.

The following statement was sourced directly from the manufacturer’s website.

Source: <http://www.Sleepypod.com>

*Crash-Test*

*PASS*

*Sleepypod Mobile Pet Bed was the first of many crash-tested safety products designed by Sleepypod. Check out Sleepypod’s crash test videos along with more information on our Sleepypod Safety Test Program.*

### **Initial Test: (Test V15586):**

A Sleepypod Mobile Pet Bed was secured to the test bench following manufacturer instructions.

**Test Simulant:** The CPS 15 lb. Crash Test Kitty was selected as the simulant for this test.



*Pre-test*

*Top Velcro strap releases*

*Top Velcro Connection Released*

**Test Results:** Upon impact the top Velcro connection of the Sleepypod Mobile Pet Bed released and while the lower anchor point remained intact, the product flipped off of the test bench. The test simulant was fully contained.

The Center for Pet Safety team reviewed Sleepypod's published test evidence and contacted the manufacturer to discuss the test result. Sleepypod's representative arrived at the MGA Research Corporation within 3 hours of notification of the problem to inspect the test evidence.

#### **Retest: (Test V15592) Sleepypod Mobile Pet Bed**

A new Sleepypod Mobile Pet Bed was secured to the test bench following manufacturer instructions. The manufacturer's representative inspected the setup.

**Test Simulant:** The CPS 15 lb. Crash Test Kitty was selected as the simulant for this test.



*Pre-test*



*Post-test*

**Test Results:** A repeat test was performed with identical results.

Manufacturer opted to perform additional due diligence with their contracted test facility. Center for Pet Safety agreed to evaluate the test evidence collected from the manufacturer's test facility. Additionally, the manufacturer tested a remediation device (PPRS Handilock) to prevent the Velcro from detaching.

The manufacturer's testing did not return the same result as Center for Pet Safety's testing.

The Center for Pet Safety's Analysis of the manufacturer's test evidence determined variations in the test bench design, including D Ring placement, as well as test simulant size differences and Velcro texture that could have accounted for the performance variations.

Manufacturer arrived at MGA Research to witness a tandem test of two new Sleepypod Mobile Pet Beds, one with the PPRS Handilock device and one without. Center for Pet Safety's team conducted the test using two CPS 15 lb. simulants.

**Test V15639 Front (without PPRS Handilock device) and V15639 Rear (with PPRS Handilock)**

Two new Sleepypod Mobile Pet Beds were secured to the test bench front and rear seats (tandem test setup) following manufacturer instructions. The manufacturer’s representative inspected the setup.

**Test Simulant:** The CPS 15 lb. Crash Test Kitty and the 15 lb. Crash Test Dachshund were selected as the simulants for this test.



V15639 Rear (with PPRS Handilock device) Pre-test



V15639 Rear: Max. forward excursion, full containment

**Test Result:** Both Sleepypod Mobile Pet Beds successfully met Center for Pet Safety’s criteria for a successful product performance. The simulants were fully contained and the carriers remained wholly connected to the test bench for the duration of the test.

While the manufacturer believes that “tufting” the Velcro (opening and closing the connection several times) will fully resolve the adhesion issues of the Velcro and successfully secure the carrier, Center for Pet Safety feels it is in the consumer interest to recommend the use of the PPRS Handilock with the Sleepypod Mobile Pet Bed.



- **Sleepypod Mobile Pet Bed with PPRS Handilock has been named a 2015 Top Performer by Center for Pet Safety.**





### **Snoozer Roll Around Travel Dog Carrier Backpack 4-in-1**

Center for Pet Safety confirmed Snoozer's claims of crash testing the Roll Around Travel Dog Carrier Backpack 4-in-1 on the manufacturer's website, and on Amazon.com. The manufacturer claims that this carrier has been crash tested at 30 lbs. x 30 mph. The manufacturer has not published test evidence.

Source: Snoozer Website: <http://snoozerpetsproducts.com/product/roll-around-travel-pet-carrier-backpack-p-325/>

#### *Snoozer Roll Around Pet Dog Carrier Features:*

- *Car seat position (with all zippers closed) crash tested 30 lbs at 30 mph*
- *Multi-stage telescope handle*
- *Mesh on three sides*
- *Converts into a dog backpack carrier, dog car seat, and pet bed*
- *Available in Red, Khaki and Black*
- *Great for traveling with Dogs and Cats*

A size Large Snoozer Roll Around Travel Dog Carrier Backpack 4-in-1 was ordered.

Upon inspection of the product packaging the size limitation of the carrier (21 lbs.) differed from the manufacturer claimed crash tested weight (30 lbs). Center for Pet Safety opted to test this product using a 20 lb. test simulant to be under the maximum weight claimed on the product packaging.

#### **Initial Test (Test V15587)**

The carrier was secured to the test bench per manufacturer auto installation instructions. The test dog was placed centrally in the carrier and all zippers were closed.

**Test Simulant:** The CPS 20 lb. Dachshund was selected as the simulant for this test.



*Pre-test*



*Front of carrier completely tears*



*Unrestrained*

**Test Result:** Upon impact the test simulant launched out of the carrier. The stitching failed around the front mesh panel of the carrier.

With the claims of crash testing by the manufacturer, Center for Pet Safety reached out to Snoozer (via email and via phone call) to request test evidence. The manufacturer did not respond to either the email or the phone message left on the company president's voicemail system. Test evidence was not received from the manufacturer.

## Distraction Prevention Carrier Testing

In an effort to further educate pet owners regarding the difference between Distraction Prevention Carriers and Crash Protection Carriers, Center for Pet Safety opted to test other popular pet travel carriers currently available on the market.

None of the manufacturers listed below make claims of “Testing”, “Crash Testing” or “Crash Protection” of their carrier product, however each of these products are advertised for use in an automobile. Pet owners are encouraged to review the test evidence provided for these products and compare the performance to the 2015 Top Performing Carriers highlighted in this study. While all carriers can provide distraction prevention and help to prevent accidents, if pet owners are looking for a product to hold up in a sudden stop or accident, a “crash protection” carrier should be selected.

### Kurgo Wander Carrier (Test V15588)

Kurgo markets their Wander Carrier primarily as an “Airline Approved” carrier. They also provide guidance that the product can be used on car trips and secured with a vehicle seatbelt. The weight limit stipulated by the manufacturer is 18 lbs. The manufacturer does not claim “Testing”, “Crash Testing” or “Crash Protection”.

**Test Simulant:** The CPS 15 lb. Crash Test Kitty was selected as the simulant for this test.

The Kurgo Wander Carrier was attached to the test bench seatbelt system following the manufacturer’s connection instructions. The 15 lb. test simulant was placed centrally in the carrier.



*Pre-test*

*Stitching and straps begin to tear*

*Unrestrained*

**Test Result:** Upon impact, the connection point released producing a complete failure.



### **Pet Ego Pet Tube Car Kennel w/ Pet Tube Comfort Pillow (Test V15589)**

Pet Tube is a popular collapsible travel device manufactured by Pet Ego. Center for Pet Safety has received numerous questions about this product from pet owners. The manufacturer stipulates that the product is for use in a vehicle, however, does not claim “Testing”, “Crash Testing”, or “Crash Protection”.

Center for Pet Safety sampled the large size Pet Tube Car Kennel and the Pet Tube Comfort Pillows. There was no weight limit stipulated by the manufacturer, however, there was an image on the product packaging showing a Labrador Retriever relaxing in this product while positioned on the backseat of a vehicle. Labrador Retrievers can easily reach 75 lbs, so Center for Pet Safety chose a large simulant for this test.

**Test Simulant:** The CPS 75 lb. Weimaraner was selected as the simulant for this test.

The Pet Tube Car Kennel was attached to the test bench per manufacturer vehicle installation instructions. The Pet Tube Comfort Pillows were inserted into the Pet Tube. The 75 lb. test simulant was centrally located within the Pet Tube and the kennel opening was zipped closed.



*Pre-test*



*Straps Fail*



*Unrestrained*

**Test Result:** Upon impact, the connection points released producing a complete failure.

### **PetMate Vari Kennel (Test V15585)**

Vari Kennels (and other similar plastic carriers) are exceptionally popular travel options for small dogs and cats. This product is marketed by the manufacturer as appropriate for auto travel, however, they do not claim “Testing”, “Crash Testing” or “Crash Protection”.

There is no weight limit specified for this product by the manufacturer, nor are there vehicle connection instructions. Center for Pet Safety opted to use the seatbelt system to secure the carrier to the test bench to simulate the connection options chosen by many pet owners.

**Test Simulant:** The CPS 15 lb. Crash Test Dachshund was selected as the simulant for this test.

The Vari Kennel was placed on the test bench and secured using the seat belt system. To ensure the best possible performance, Center for Pet Safety chose to secure the seatbelts above the kennel fastener ridge. The test simulant was placed centrally in the carrier.



*Pre-test*



*Plastic fractures, simulant fully released*



*Post-test*

**Test Result:** Upon impact the test simulant struck the side of the carrier and the plastic fractured. The carrier remained on the seat, however, the test simulant was fully released (ie: projectile) from the carrier opening producing a complete failure.





## Center for Pet Safety 2015 Carrier Crashworthiness Study Report Summary

Upon completion of scientific testing of pet carrier products that claim “testing”, “crash testing” or “crash protection” CPS has named:

Pet Ego Jet Set Forma Frame Carrier with ISOFIX-Latch Connection as a 2015 Top Performing Pet Carrier

*and*

Sleepypod Mobile Pet Bed with PPRS Handilock as a 2015 Top Performing Pet Carrier

Both carrier products successfully contained the weighted test simulant and wholly remained attached to the test bench for the duration of the test thus providing the pet with the best possible chance of survival in the case of an accident.

CPS has also determined that some manufacturer claims of “testing”, “crash testing” or “crash protection” may be misleading to the consumer.

There is a distinct difference in performance between Distraction Prevention Carriers and Crash Protection Carriers. Many pet owners make the assumption of crash protection, or believe that because a carrier looks strong, and is specified by the manufacturer for use in an automobile it will provide protection beyond that intended by the manufacturer. It is the opinion of the Center for Pet Safety that a performance standard and formal testing protocol is needed to ensure consistent and uniform performance of these safety devices to reduce the risk to consumers and their companion animals in the event of a sudden stop or accident.

### **About the Sponsor: Subaru of America**

Center for Pet Safety is grateful to Subaru of America for their sponsorship of this important effort to educate pet owners on pet passenger safety and select the top performing carriers on the market.

### **About Center for Pet Safety**

Center for Pet Safety (CPS) is a registered 501(c)(3) non-profit research and advocacy organization dedicated to companion animal and consumer safety. Our mission is to have an enduring, positive impact on the survivability, health, safety and well-being of companion animals and the consumer through scientific research and product testing.

CPS is an independent safety science entity leading a unique mission for companion animals and their owners. Through the scientific study of pet products, we establish criteria to ensure acceptable product performance.

- CPS does not use live animals in our crash testing.
- CPS is not affiliated with the pet products industry.
- CPS does not endorse products.



**Revision History**

Date:	Revision:	By: