

Part 573 Safety Recall Report

17C-003

Manufacturer Name : Diono (formerly SUNSHINE KIDS JUVENILE)

Submission Date : OCT 06, 2017

NHTSA Recall No. : 17C-003

Manufacturer Recall No. : NR



Manufacturer Information :

Manufacturer Name : Diono (formerly SUNSHINE KIDS JUVENILE)

Address : 14810 Puyallup Street East
Suite 200 Sumner WA 98390

Company phone : 2532569939

Population :

Number of potentially involved : 519,052

Estimated percentage with defect : 100 %

Child Restraint Information :

Make 1 : Diono

Model : Radian R100

Seat Type : OTHER

Model No. : 16600 or 16000

Platform Name / No. : Radian

Brand Name : Diono

Descriptive Information : Radian R100 is a convertible child restraint and booster.

Production Dates : JAN 03, 2014 - SEP 05, 2017

Make 2 : Diono

Model : Radian R120

Seat Type : NR

Model No. : 16800 or 16000

Platform Name / No. : Radian

Brand Name : Diono

Descriptive Information : Radian R120 is a convertible child restraint and booster.

Production Dates : JAN 03, 2014 - AUG 30, 2017

Make 3 : Diono
Model : Radian RXT
Seat Type : NR
Model No. : 16900 or 16000
Platform Name / No. : Radian
Brand Name : Diono
Descriptive Information : Radian RXT is a convertible child restraint and booster.
Production Dates : NOV 25, 2013 - SEP 05, 2017

Make 4 : Diono
Model : Olympia
Seat Type : NR
Model No. : 30100
Platform Name / No. : Radian
Brand Name : Diono
Descriptive Information : Olympia is a convertible child restraint and booster
Production Dates : APR 12, 2014 - MAR 31, 2015

Make 5 : Diono
Model : Pacifica
Seat Type : NR
Model No. : 30400 or 300000
Platform Name / No. : Radian
Brand Name : Diono
Descriptive Information : Pacifica is a convertible child restraint and booster
Production Dates : APR 12, 2014 - MAY 13, 2016

Make 6 : Diono
Model : Rainier
Seat Type : OTHER
Model No. : 30300 or 300000
Platform Name / No. : Radian
Brand Name : Diono
Descriptive Information : Rainier is a convertible child restraint and booster.
Production Dates : APR 12, 2014 - SEP 05, 2017

Description of Noncompliance :

Description of the Noncompliance : Description of Noncompliance:
1. FMVSS 213 S5.1.2(b) Limit the resultant acceleration at the location of the accelerometer mounted in the test dummy upper thorax as specified in part 572 to no more than 60 g's, except for intervals whose cumulative duration is not more than 3 milliseconds.
Type 1 (lap belt only) testing with 3 year old dummy exceeds the 60 g limit.
2. FMVSS 213 S5.1.3.1.a.1 Occupant excursion. No portion of the test dummy's head shall pass through a vertical transverse plane that is 720 mm or 813 mm (as specified in the table in this S5.1.3.1) forward of point Z on the standard seat assembly, measured along the center SORL .
Type 1 (lap belt only) testing with 10 year old dummy has head excursion exceeding 813mm (32 inch) limit.

FMVSS 1 : 213 - Child restraint systems

FMVSS 2 : NR

Description of the Safety Risk : An occupant restrained using Type 1 (lap belt only) without top tether could be at increased risk of chest injury in an accident. Occupants over 65 pounds using the harness could be at increased risk of striking the vehicle interior during a crash. Radian child restraints have a long history of excellent performance in the field with no reported injuries or deaths associated with these use modes. Diono believes relatively few occupants will be harnessed over 65 pounds.

Description of the Cause : Unknown. Most likely due to factory move, with resulting new forming dies and plastic injection molds.

Identification of Any Warning that can Occur : N/A

Supplier Identification :

Component Manufacturer

Name : Diono

Address : 14810 Puyallup Street East
Suite 200 Sumner WASHINGTON 98390

Country : United States

Chronology :

7 June: Diono conducted testing as a check on production and found excessive chest acceleration for 2 tests using the 3 year old dummy in the type 1 (lap belt only) configuration using a CMVSS pulse.

11 July: Testing was conducted which confirmed excessive chest-g's for 3 year old ATD using type 1 only belts. Excessive head excursion for the 10 year old ATD using the same type 1 only belts was discovered at this time.

Mitigation research tests were performed. Results pointed to the addition of a foam seating pad as means to reduce excessive 3 yr old chest g's. A shift to the upright position was studied as a means of reducing the 10 year old head excursion. 19 July: A telephone conversation was had with Zack Fraser indicating that 2 problems with current production were found. Additional time was requested for study of data and further testing to find solutions to the problems identified.

8-11 August: Additional research runs were conducted.

18 August: Preliminary part 573 report was emailed to Zack Fraser acknowledging the problem.

A study of past testing indicated challenges with chest g's dating back to 2014 coinciding with relocation of the Radian line to a new factory – which used new tooling. Past testing with 10 year old dummy over that same time period resulted in head excursions that sometimes exceeded but also sometimes met the requirements.

31 August: 9 tests were conducted for 3 year ATD, type 1 only, using extra 25mm EPP foam seating pad.

Average chest g's were 52.6g's with no excessive readings.

9 tests were conducted for 10 year ATD, type 1 only, using IMMI chest clips in upright position. Single chest clip results yielded 30.9" average head excursion, and double chest clips yielded 30.6" average excursion with no failures. 1 double chest clip run had 31.8" head excursion where it was noted that a different technician performed the installation. The difference in result due to test technician is noteworthy.

Description of Remedy :

Description of Remedy Program : 1. Diono will make a running change to future production to update the instructions and incorporate the additional energy absorbing pad, specified to be used for forward facing, type 1 (lap belt only) installations for children up to 65 pounds who otherwise meet the specifications of use. Maximum harnessed weight will be reduced to 65 pounds for future production. Chest clip will be changed to IMMI design and will be used for all modes. Diono will notify existing owners that top tether must be used for installations above 65 pounds or otherwise belt positioning booster mode must be used.

2. Diono will issue a public recall announcement. Recall notices will be mailed out to registered owners. Owners will be offered a free kit with updated instruction manual, labels, an energy absorbing pad to be used in the harness mode for type 1 (lap belt only) installations up to 65 pounds, and a new IMMI chest clip.

How Remedy Component Differs from Recalled Component : n/a

Identify How/When Recall Condition was Corrected in Production : Diono has stopped production of the affected products. Upon NHTSA approval, future production will use an updated instruction manual and labels, a new energy absorbing seat pad, and a new IMMI chest clip.

Recall Schedule :

Description of Recall Schedule : Diono is preparing for the recall and will begin efforts to manufacture the new energy absorbing foam pad, instruction manuals, labels and to

procure the IMMI chest clips. Diono will move forward with its recall announcement once it's supply of replacement parts have been manufactured.

Planned Dealer Notification Date : NOV 22, 2017 - DEC 06, 2017

Planned Owner Notification Date : NOV 22, 2017 - DEC 06, 2017

Purchaser Information :

The following manufacturers purchased this defective/noncompliant equipment for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name : NR

Address : NR

NR

Country : NR

Company Phone : NR

* NR - Not Reported