

REPORT NUMBER: 213-CAL-09-021

CHILD RESTRAINT SYSTEM TESTS - FMVSS NO. 213

Evenflo Company Inc.
Symphony, Model 3121925

Calspan
4455 Genesee Street
Buffalo, New York 14225



September 2009

FINAL REPORT

PREPARED FOR:

U. S. Department of Transportation
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

HS # 640948

021

Prepared for the United States Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-07-D-00067. This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturer's name or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

REPORT ACCEPTED BY:

Zachary R. Trase

Contract Technical Manager
Office of Vehicle Safety Compliance

3/1/10

Acceptance Date

TECHNICAL REPORT STANDARD TITLE PAGE

1. <i>Report No.</i> 213-CAL-09-021	2. <i>Government Accession No.</i>	3. <i>Recipient's Catalog No.</i>	
4. <i>Title and Subtitle</i> Child Restraint Systems Tests - FMVSS 213		5. <i>Report Date</i> September 2009	6. <i>Performing Organization Code</i>
7. <i>Author(s)</i> Robert Hathaway Jr. Francesco Chiarella		8. <i>Performing Organization Report No.</i> 8886-021	
9. <i>Performing Organization Name and Address</i> Calspan 4455 Genesee Street Buffalo, New York 14225		10. <i>Work Unit No.</i>	11. <i>Contract or Grant No.</i> DTNH22-07-D-00067
12. <i>Sponsoring Agency Name and Address</i> U.S. Department of Transportation National Highway Traffic Safety Administration 400 Seventh, S.W. Washington, D.C. 20590		13. <i>Type of Report and Period Covered</i> Final Report 14. <i>Sponsoring Agency Code</i>	
15. <i>Supplementary Notes</i> Reviewed by: <u>Robert F. Hathaway Jr.</u> Program Manager Approved by: <u>James D. [Signature]</u> Director, Transportation Research Group			
16. <i>Abstract</i> This report contains the results of tests performed in accordance with FMVSS 213, Child Restraint Systems, on the Evenflo Symphony child restraint. The child restraint appears to comply with all the requirements of FMVSS 213. Final determination of compliance is made by the National Highway Traffic Safety Administration.			
17. <i>Key Words</i> FMVSS 213 Child Restraint Systems Compliance Testing		18. <i>Distribution Statement</i>	
19. <i>Security Classif. (of this report)</i> UNCLASSIFIED	20. <i>Security Classif. (of this page)</i> UNCLASSIFIED	21. <i>No. of Pages</i>	22. <i>Price</i>

TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
I	PURPOSE AND TEST PROCEDURE	1-1
II	INTRODUCTION AND SUMMARY	2-1
III	INSPECTION AND TEST DATA	3-1
IV	AIRCRAFT PASSENGER SEAT INVERSION TEST CONDITIONS AND RESULTS	4-1
APPENDIX A	EQUIPMENT LIST AND CALIBRATION SCHEDULES	A-1
APPENDIX B	PHOTOGRAPHS OF EQUIPMENT	B-1

SECTION I
PURPOSE AND TEST PROCEDURE

Purpose: The purpose of the test was to determine if the production child restraint systems supplied by the National Highway Traffic Safety Administration met the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 213, Child Restraint Systems.

Test Procedure: The "Calspan Engineering Operating Test Procedure for FMVSS No. 213", submitted to and approved by the Office of Vehicle Safety Compliance, National Highway Traffic Safety Administration, contains the specific procedures used to conduct this test. This procedure shall not be interpreted to be in conflict with any portion of FMVSS No. 213 and amendments in effect as noted in the applicable contract.

SECTION II

INTRODUCTION AND SUMMARY

This report presents all of the FMVSS 213 compliance inspection and test data obtained on the Evenflo Symphony, model 3121925 child restraint system. This restraint was tested in the belt-positioning configuration utilizing a three year-old size dummy; a six-year-old size dummy, and a six year-old size dummy that was weighted to approximately 62 pounds. This restraint was also dynamically tested in the forward-facing upright and reclined (internal harness) configurations utilizing a three year-old size dummy; as well as in the rearward-facing, reclined configuration utilizing a twelve month-old size dummy. Inversion testing was performed in both the forward Y-axis rotation and in the lateral X-axis rotation for the following restraint configurations: twelve month-old size and three year-old size – forward-facing, upright. The results from all inspections and tests indicate that the Evenflo Symphony, model 3121925 child restraint complied with all of the requirements of FMVSS 213.

Restraint system inspection, dynamic sled testing and inversion testing were performed by Calspan's Transportation Research Group. Compliance test data sheets for all tests are found in Section III and IV of this report.

SECTION III
INSPECTION AND TEST DATA
FMVSS 213 – CHILD RESTRAINT SYSTEMS

Report No. 213-CAL-09-021

Child Restraint System Identification

Manufacturer:

Name Evenflo Company Inc.
Address 1801 Commerce Drive
Piqua, Ohio 45356-9960

Model No. 3121925
Group No. 3

- | | | | | | |
|----|---------------------|----------------------|----|---------------------|---------------------|
| 1. | Item Code | 021-E3121925-01-D6UW | 2. | Item Code | 021-E3121925-02-D6U |
| | Date of Manufacture | 2008/11/13 | | Date of Manufacture | 2008/11/13 |
| | Sled Test No. | 11-9-24A | | Sled Test No. | 11-9-24B |
| 3. | Item Code | 021-E3121925-03-D3R | 4. | Item Code | 021-E3121925-04-D3U |
| | Date of Manufacture | 2008/11/13 | | Date of Manufacture | 2008/11/13 |
| | Sled Test No. | 11-9-24B | | Sled Test No. | 12-9-32B |
| 5. | Item Code | 021-E3121925-05-D12I | 6. | Item Code | 021-E3121925-06-D3U |
| | Date of Manufacture | 2008/11/13 | | Date of Manufacture | 2008/11/13 |
| | Sled Test No. | 12-9-68B | | Sled Test No. | 12-9-75B |

COMPLIANCE TEST DATA: FMVSS 213

Labeling

(FMVSS 213, S5.5)

Report No.	213-CAL-09-021	Item Code	021-E3121925-01-D6UW
Date of Test	12/18/09		021-E3121925-02-D6U
			021-E3121925-03-D3R
			021-E3121925-04-D6U
			021-E3121925-05-D12I
			021-E3121925-06-D3U

Remarks:

- (1) The statement of item S5.5.2(n) appears to be in less than 10 point type.
- (2) The label states: "Made in/ Fabrique en: 2008/11/13".

Pass/Fail

S5.5 Any labels or written instructions provided in addition to those required by this section shall not obscure or confuse the meaning of the required information or be otherwise misleading to the customer. Any labels or written instructions other than in the English language shall be an accurate translation of English labels or written instructions.

Pass

S5.5.1 Each add-on child restraint system shall be permanently labeled with the information specified in S5.5.2 (a) through (m).

Pass

S5.5.2 The information specified in paragraphs (a) through (m) of this section shall be stated in English language and lettered in letters and numbers that are not smaller than 10 point type. Unless otherwise specified, the information shall be labeled on a white background with black text. Unless written in all capitals, the information shall be stated in sentence capitalization.

(1)

The following information is included:

(a) The model name or number of the system.

Pass

(b) The manufacturer's name. A distributor's name may be used instead if the distributor assumes responsibility for all duties and liabilities imposed on the manufacturer with respect to the system by the National Traffic and Motor Vehicle Safety Act, as amended.

Pass

(c) The statement: "Manufactured in _____," inserting the month and year of manufacture.

(2)

(d) The place of manufacture (city and State, or foreign country). However, if the manufacturer uses the name of the distributor, than it shall be then it shall state the location (city and State, or foreign country) of the principal offices of the distributor.

Pass

(e) The statement: "This child restraint system conforms to all applicable Federal motor vehicle safety standards."

Pass

COMPLIANCE TEST DATA: FMVSS 213

Labeling

(FMVSS 213, S5.5)

Remarks:

(3) The label states: “To use with smaller children Use only with children who weigh between 5 and 40 pounds (2.3 and 18kg) and whose height is 50 inches (127 cm) or less. To use as a booster: Use only with children who weigh between 30 and 100 pounds (13.6 and 45.3kg) and whose height is 57 inches (145 cm) or less, and whose ears are below the top of the vehicle seats headrests.”

(f) One of the following statements, as appropriate, inserting the manufacturer’s recommendations for the maximum mass of children who can safely occupy the system, except that booster seats shall not recommended for children whose masses are less than 13.6 kg. For seats that can only be used as belts positioning seats, manufacturers must include the maximum and minimum recommended height, but may delete the reference to weight.

(3)

(i) Use only with children who weigh _____ pounds (_____ kg) or less and whose height is _____ (*insert values in English and metric units; use of the word “mass” in label is optional*) or less; or

(ii) Use only with children who weigh between _____ and _____ pounds (*insert appropriate English and metric values; use of word “mass” is optional*) and whose height is (*insert appropriate values in English and metric units*) or less and who are capable of sitting upright alone; or

(iii) Use only with children who weigh between _____ and _____ pounds (*insert appropriate English and metric values; use of word “mass” is optional*) and whose height is (*insert appropriate values in English and units*) or less;

(iv) Use only with children who weigh between _____ and _____ pounds (*insert appropriate English and metric values; use of word “mass” is optional*) and whose height is between _____ and _____ (*insert appropriate values in English and metric units*).

(g) The statement specified in paragraphs (1) and (2)

(1) A heading as specified in S5.5.2(k)(3)(i), with the statement: **“WARNING! DEATH OR SERIOUS INJURY** can occur,” capitalized as written and followed by bulleted statements in the following order:

Pass

(i) As appropriate, the statements required by the following sections will be bulleted and place after the statement required by 5.5.2(g)(1) in the following order: 5.5.2(k)(1) or 5.5.2(k)(2), 5.5.2(f), 5.5.2(h), 5.5.2(j), and 5.5.2(i)

Pass

(ii) Secure this child restraint with the vehicle’s child restraint anchorage system if available or with a vehicle belt. [For car beds, harnesses, and belt positioning boosters, the first part of the statement regarding attachment by the child restraint anchorage system is optional.]

Pass

COMPLIANCE TEST DATA: FMVSS 213

Labeling

(FMVSS 213, S5.5)

<u>Remarks:</u>

- | | |
|---|------|
| (iii) Follow all instructions on this restraint and in the written instructions located (insert storage location on the restraint for the manufacturer’s installation instruction booklet or sheet). | Pass |
| (iv) Register your child restraint with the manufacturer. | Pass |
| (2) At the manufacturer’s option, the phrase “ DEATH OR SERIOUS INJURY can occur” in the heading can be on either a white or yellow background. | Pass |
| (3) More than one label may be used for the required bulleted statements. Multiple labels shall be placed one above the other unless that arrangement is precluded by insufficient space or shape of the child restraint. In that case, multiple labels shall be placed side-by-side. When using multiple labels, the mandated warnings must be in the correct order when read from top to bottom. If the labels are side-by-side, then the mandated warnings must appear top to bottom of the leftmost label, then top to bottom of the next label to it’s right, and so on. There shall be no intervening labels and the required heading shall only appear on the first label in the sequence. | N/A |
| (h) In the case of each child restraint system that has belts designed to restrain children using them and which do not adjust automatically to fit the child; the statement:

Snugly adjust the belts provided with this child restraint around your child. | Pass |
| (i) (1) For booster seat which is recommended for use with either a vehicle’s Type I or Type II seat belt assembly, one of the following statements, as appropriate:

(i) Use only the vehicle’s lap and shoulder belt system when restraining the child in this booster seat; or | Pass |
| (ii) Use only the vehicle’s lap belt system, or the lap belt part of a lap/shoulder belt system with the shoulder belt placed behind the child, when restraining the child in this seat. | N/A |

COMPLIANCE TEST DATA: FMVSS 213

Labeling

(FMVSS 213, S5.5)

Remarks:

- (2) (ii) Except as provided in paragraph (i)(2)(ii) of this section, for a booster seat which is recommended for use with both a vehicle's Type I and Type II seat belt assemblies, the following statement: N/A
- Use only the vehicle's lap system, or the lap belt part of a lap/shoulder system with the shoulder belt placed behind the child, when restraining the child with the *(insert description of the system element provided to restrain forward movement of the child's torso when used with a lap belt (e.g., shield))*, and only the vehicle's lap and shoulder belt system when using this booster without the *(insert above description)*.
- (ii) A booster seat which is recommended for use with both a vehicle's Type I and Type II seat belt assemblies is not subject to S5.5.2(i)(2)(i) if, when the booster is used with the shield or similar component, the booster will cause the shoulder belt to be located in a position other than in front of the child when the booster is installed. However, such a booster shall be labeled with a warning to use the booster with the vehicle's lap and shoulder belt system when using the booster without a shield. N/A
- (j) In the case of each child restraint system equipped with an anchorage strap, the statement: Pass
- Secure the top anchorage strap provided with this child restraint.
- (k) (1) In the case of each rear-facing child restraint system that is designed for infants only, the statement: N/A
- Use only in a rear-facing position when using it in the vehicle.
- (2) In the case of a child restraint system that is designed to be used rearward-facing for infants and forward-facing for older children, the statement: Pass
- Use only in a rear-facing position when using it with an infant weighing less than *(insert a recommended weight that is not less than 20 pounds)*.

COMPLIANCE TEST DATA: FMVSS 213

Labeling

(FMVSS 213, S5.5)

Remarks:

- (3) Except as provided in (k)(4) of this section, each child restraint system that can be used in a rear-facing position shall have a label that conforms in content to Figure 10 and to the requirements of S5.5.2(k)(3)(i) through S5.5.2(k)(3)(iii) of this standard are permanently affixed to the outer surface of the cushion or padding in or adjacent to the area where a child's head would rest, so that the label is plainly visible and easily readable. Pass
- The text of Figure 10 reads as follows:
- “WARNING. DO NOT** place rear-facing child seat on front seat with air bag. **DEATH OR SERIOUS INJURY** can occur. The back seat is the safest place for children 12 and under”.
- (i) The heading area is yellow with the word “WARNING” and the alert symbol in black. Pass
- (ii) The message area is white with black text. The message area is no less than 30 square cm. Pass
- (iii) The pictogram shall be black with a red circle and slash on a white background. The pictogram shall be no less than 30 mm (1.18 in.) in diameter Pass
- (4) If a child restraint system is equipped with a device that deactivates the passenger side air bag in a vehicle when and only when the child restraint is installed in the vehicle and provides a signal, for the least 60 seconds after deactivation, that the air bag is deactivated the label specified in Figure 10 may include the phrase: “unless air bag is off., after: “on front seat with air bag”. N/A
- (1) An installation diagram showing the child restraint system installed in:
- (i) A seating position equipped with a continuous-loop lap/shoulder belt; and Pass
- (ii) A seating position equipped with only a lap belt, as specified in the manufacturer's instructions; and Pass
- (iii) A seating position equipped with a child restraint anchorage system. Pass

COMPLIANCE TEST DATA: FMVSS 213

Labeling

(FMVSS 213, S5.5)

Remarks:

- (4) The label states: “When used with the harness: This restraint is certified for use in motor vehicles and aircraft.”
- (5) The label states: “When used without the harness: This restraint is not certified for aircraft use.”
- (6) Labels may be seen in photographs presented in Appendix B.

(m) One of the following statements, inserting an address and a U.S. telephone number. If a manufacturer opts to provide a Web site on the registration card as permitted in Figure 9a of this section, the manufacturer must include the statement in part (ii):

(i) “Child restraints could be recalled for safety reasons. You must register this restraint to be reached in a recall. Send your name, address, email address if available (preceding four words are optional) and the restraint’s model number and manufacturing date to *(insert address)* or call *(insert a U.S. telephone number)*. For recall information, call the U.S. Government’s Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.NHTSA.gov> .”

N/A

(ii) “Child restraints could be recalled for safety reasons. You must register this restraint to be reached in a recall. Send your name, address, email address if available (preceding four words are optional) and the restraint’s model number and manufacturing date to *(insert address)* or call *(insert a U.S. telephone number)* or register online at *(insert Web site for electronic registration form)*. For recall information, call the U.S. Government’s Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.NHTSA.gov> .”

Pass

(n) Child restraint systems, other than belt positioning seats, harnesses, and backless child restraints systems, may be certified as complying with the provisions of S8. Child restraints that are so certified shall be labeled with the statement:

“This Restraint is Certified for Use in Motor Vehicles and Aircraft.”

Pass (4)

Belt-positioning seats, harnesses, and backless child restraints systems shall be labeled with the statement:

“This Restraint is Not Certified for Use in Aircraft.”

N/A

The statement required by this paragraph shall be in red lettering, and shall be placed after the certification statement required by S5.5.2(e).

Pass (5)

S5.5.3 The information specified in S5.5.2(f) through (l), shall be located on the add-on child restraint system so that it is visible when the system is installed as specified in S5.6.1, except that for child restraints with a detachable base, the installation diagrams specified in S5.5.2(1) are required to be visible only when the base alone is installed.

Pass (6)

COMPLIANCE TEST DATA: FMVSS 213

Printed Instructions for Proper Use

(FMVSS 213, S5.6)

Report No.	213-CAL-09-021	Item Code	021-E3121925-01-D6UW
Date of Test	12/18/09		021-E3121925-02-D6U
			021-E3121925-03-D3R
			021-E3121925-04-D6U
			021-E3121925-05-D12I
			021-E3121925-06-D3U

Remarks:

- (1) The instructions state: “ONLY use this child restraint on forward-facing vehicle seats. DO NOT use this restraint with vehicle seats that face the rear or side. ONLY use this child restraint on vehicle seats with backs that lock into place.” However, there is no reference to the types of vehicles with which the restraint may or may not be used.

Pass/Fail

S5.6 Any labels or written instructions provided in addition to those required by this section shall not obscure or confuse the meaning of the required information or be otherwise misleading to the customer. Any labels or written instructions other than in the English language shall be an accurate translation of English labels or written instructions. Unless written in all capitals, the information required by S5.6.1 through S5.6.3 shall be stated in sentence capitalization.

Pass

S5.6.1 Each add-on child restraint system is accompanied by printed installation instructions in English that provide a step-by-step procedure, including diagrams, for installing the system in motor vehicles, securing the system in the vehicles, positioning a child in the system, and adjusting the system to fit the child. For each child restraint system that has components for attaching to a tether anchorage or child restraint anchorage system, in the installation instructions shall include a step-by-step procedure, including diagrams, for properly attaching to that anchorage or system.

Pass

S5.6.1.1 In a vehicle with rear designated seating positions, the instructions shall alert vehicle owners that, according to accident statistics, children are safer when properly restrained in the rear seating positions rather than in the front seating positions.

Pass

S5.6.1.2 The instructions specify in general terms the types of vehicles, the types of seating positions, and the types of vehicles safety belts with which the add-on child restraint system can or cannot be used.

(1)

S5.6.1.3 The instructions explain the primary consequences of not following the warning required to be labeled on the child restraint system in accordance with S5.5.2(g) through (k).

Pass

S5.6.1.4 The instructions for each car bed shall explain that the car bed should be positioned in such a way that the child’s head is near the center of the vehicle.

N/A

S5.6.1.5 The instructions shall state that add-on child restraints systems should be securely belted to the vehicle, even when they are not occupied, since in a crash an unsecured child restraint system may injure other occupants.

Pass

S5.6.1.6 Each add-on child restraint system shall have a location on the restraint for storing the manufacturer’s instructions.

Pass

COMPLIANCE TEST DATA: FMVSS 213

Printed Instructions for Proper Use

(FMVSS 213, S5.6)

Remarks:

S5.6.1.7 One of the following statements, inserting an address and a U.S. telephone number. If a manufacturer opts to provide a web site on the registration card as permitted in Figure 9a of this section (FMVSS 213), the manufacturer must include the statement in part (ii)

(i) “Child restraints could be recalled for safety reasons. You must register this restraint to be reached in a recall. Send your name, address, email address if available [preceding four words are optional] and the restraint’s model number and manufacturing date to (*insert address*) or call (*insert a U.S. telephone number*). For recall information, call the U.S. Government’s Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.NHTSA.gov> .” N/A

(ii) “Child restraints could be recalled for safety reasons. You must register this restraint to be reached in a recall. Send your name, address, email address if available [preceding four words are optional] and the restraint’s model number and manufacturing date to (*insert address*) or call (*insert a U.S. telephone number*) or register online at (*insert Web site for electronic registration form*). For recall information, call the U.S. Government’s Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.NHTSA.gov> .” Pass

S5.6.1.8 In the case of each child restraint system that can be used in a position so that it is facing the rear of the vehicle, the instructions provide a warning against using rear-facing restraint at seating positions equipped with airbags, and shall explain the reason for, and consequences of not following the warning. The instructions also include a statement that owners of vehicles with front passenger side airbags should refer to their owner’s manual for child restraint installation instructions. Pass

S5.6.1.9 In the case of each rear-facing child restraint system that has a means for repositioning the seating surface of the system that allows the system’s occupant to move from a reclined to an upright position during testing, the instructions shall include a warning against impeding the ability of the restraint to change adjustment position. N/A

COMPLIANCE TEST DATA: FMVSS 213

Printed Instructions for Proper Use

(FMVSS 213, S5.6)

Remarks:

S5.6.1.10

- (a) For instructions for a booster seat that is recommended for use with either a vehicle's Type I or Type II seat belt assembly one of the following statements as appropriate, and the reasons for the statement:
- (i) Warning! Use only the vehicle's lap and shoulder belt system when restraining the child in the booster seat; or Pass
 - (ii) Warning! Use only the vehicle's lap system, or the lap belt part of a lap/shoulder belt system with the shoulder belt placed behind the child, when restraining the child in the booster seat; or N/A
- (b) (i) Except as provided in S5.6.1.10(b)(ii), the instructions for a booster seat which is recommended for use with both a vehicle's Type I and Type II seat belt assemblies shall include the following statement and the reasons therefore:
- Warning! Use only the vehicle's lap belt system, or the lap belt part of a lap/shoulder belt system with the shoulder belt placed behind the child, when restraining the child with the *(insert description of the system element provided to restrain forward movement of the child's torso when used with a lap belt (e.g., shield))*, and only the vehicle's lap and shoulder belt system when using this booster without the *(insert above description)*. N/A
- (b) (ii) A booster seat which is recommended for use with both a vehicle's Type I and Type II seat belt assemblies is not subject to S5.6.1.10(b)(i) if, when the booster is used with the shield or similar component, the booster will cause the shoulder belt to be located in a position other than in front of the child when the booster is installed. However, the instructions for such a booster shall include a warning to use the booster with the vehicle's lap and shoulder belt system when using the booster without a shield. N/A
- (c) The instructions for belt positioning seats shall include the statement:
- "This restraint is not certified for aircraft use: and the reasons for this statement. Pass

S5.6.3 In the case of each child restraint system that has belts designed to restrain children using them and which do not adjust automatically to fit the child, the printed instructions shall include the following statement:

A snug strap should not allow any slack. It lies in a relatively straight line without sagging. It does not press on the child's flesh or push the child's body into an unnatural position. Pass

COMPLIANCE TEST DATA: FMVSS 213

Registration Form

(FMVSS 213, S5.8)

Report No.	213-CAL-09-021	Item Code	021-E3121925-01-D6UW
Date of Test	12/18/09		021-E3121925-02-D6U
			021-E3121925-03-D3R
			021-E3121925-04-D6U
			021-E3121925-05-D12I
			021-E3121925-06-D3U

Remarks:

- (1) The form contains boxes where the consumer can fill-in the requested information

Pass/Fail

S5.8 INFORMATION REQUIREMENTS – ATTACHED REGISTRATION FORM AND ELECTRONIC REGISTRATION FOR

S5.8.1 Attached Registration Form

- | | |
|--|------|
| (a) Each child restraint system, except a factory installed built-in restraint system, shall have a registration form attached to any surface of the restraint that contacts the dummy when the dummy is positioned in the system in accordance with S6.1.2 of Standard 213 | Pass |
| (b) Each form shall: | |
| (1) Consist of a postcard that is attached at a perforation to an informational card; | Pass |
| (2) Conform in size, content and format to Figures 9A and 9b of this section (FMVSS 213); and | (1) |
| (3) Have a thickness of at least 0.007 inches and not more than 1.0095 inches. | Pass |
| (c) Each postcard shall provide the model name or number and date of manufacture (month, year) of the child restraint system to which the form is attached, shall contain space for the purchaser to record his or her name and mailing address, and the manufacturer's option, e-mail address, shall be addressed to the manufacturer, and shall be postage paid. No other information shall appear on the postcard, except identifying information that distinguishes a particular child restraint system from other system of that model name or number may be preprinted in the shaded area of the postcard, as shown in Figure 9a of FMVSS 213. | Pass |
| (d) Manufacturer's may voluntarily provide a web address on the informational card enabling owners to register child restraints online, provided that Web address is a direct link to the electronic registration form meeting the requirements of S5.8.2 of this section. | Pass |

COMPLIANCE TEST DATA: FMVSS 213

Registration Form

(FMVSS 213, S5.8)

Remarks:

S5.8.2 Information Requirements Electronic Registration Form

- (a) Each electronic registration form must meet the requirements of S5.8.2. Each form shall:
- (1) Contain the following statements at the top of the form:
 - (i) “FOR YOUR CHILD’S CONTINUED SAFETY” (Displayed in bold type face, caps and lower case, and minimum 12 point type.) Pass
 - (ii) “Although child restraint systems undergo testing and evaluation, it is possible that a child restraint could be recalled.” (Displayed in bold type face, caps and lower case, and minimum 12 point type.) Pass
 - (iii) “In case of a recall, we can reach you only if we have your name and address, so please fill in the registration form to be on our recall list.” (Displayed in bold type face, caps and lower case, and minimum 12 point type.) Pass
 - (iv) “In order to properly register your child restraint system, you will need to provide the model number, serial number and date of manufacture. This information is printed on the registration card and can also be found on a white label located on the back of the child restraint system.” (Displayed in bold type face, caps and lower case, and minimum 12 point type.) Pass
 - (v) “This registration is only applicable to child restraint systems purchased in the United States.” (Displayed in bold type face, caps and lower case, minimum 12 point type.) Pass
 - (2) Provide as required registration fields, space for the purchaser to record the model name or number and date of manufacture (month, year) of the child restraint system, and space for the purchaser to record his or her name and mailing address. At the manufacturer’s option, a space is provided for the purchaser to record his or her e-mail address. Pass
- (b) No other information shall appear on the electronic registration form, except for information identifying the manufacturer or a link to the manufacturer’s home page, a field to confirm submission, and prompt to indicate any incomplete or invalid fields prior to submission. Accessing the web page that contains the electronic registration shall not cause additional screens or banners to appear. Pass
- (c) The electronic registration form shall be accessed directly by the web address that the manufacturer printed on the attached registration form. The form must appear on the screen when the consumer has inputted the web address provided by the manufacturer, without any further keystrokes on the keyboard or clicks of the mouse Pass

COMPLIANCE TEST DATA: FMVSS 213

Attachment to Child Restraint Anchorage System

(FMVSS 213, S5.9)

Report No.	213-CAL-09-021	Item Code	021-E3121925-01-D6UW
Date of Test	12/18/09		021-E3121925-02-D6U
			021-E3121925-03-D3R
			021-E3121925-04-D6U
			021-E3121925-05-D12I
			021-E3121925-06-D3U

Remarks:

- (1) The end of the hook where the strap is threaded through is 24 cm, which is less than the dimension specified in Figure 11.

Pass/Fail

S5.9(a) Each add-on child restraint anchorage system manufactured on or after September 1, 2002, other than a car bed, harness, and belt positioning seat, shall have components permanently attached to the system that enable the restraint anchorage system specified in Section 225. The components must be attached by use of a tool such as a screwdriver. In the case of a rear-facing child restraints with detachable bases, only base is required to have the components.

Pass

(a) Child restraint system specified in S5.9(b) has a tether hook which conforms to the configuration and geometry specified in figure 11 of this standard.

(1)

(b) Child restraint system specified in S5.9(c) has adjustable components to tighten the child restraint to the vehicle.

Pass

(c) Each child restraint system with components that enable the restraint to be securely fastened to the lower anchorages of a child restraint anchorage system, other than a system with hooks for attaching to the lower anchorages shall provide either an indication when each attachment to the lower anchorages become fully latched or attached, or a visual indication that all attachments to the lower anchorages are fully latched or attached. Visual indications shall be detectable under normal daylight lighting conditions.

Pass

COMPLIANCE TEST DATA: FMVSS 213

Installation

(FMVSS 213, S5.3)

Report No.	213-CAL-09-021	Item Code	021-E3121925-01-D6UW
Date of Test	12/18/09		021-E3121925-02-D6U
			021-E3121925-03-D3R
			021-E3121925-04-D6U
			021-E3121925-05-D12I
			021-E3121925-06-D3U

Remarks:

S.5.3.1 Add-On child restraints shall meet either (a) or (b) as appropriate.

- | | |
|--|------|
| (a) No attachment to a vehicle seat cushion or vehicle seat back and any component (except belts) that is designed to be inserted the vehicle seat cushion and vehicle seat back. | Pass |
| (b) Harnesses manufactured for use on school bus seats must meet S.5.3.1(a) of this standard, unless a label that conforms to Figure 12 and to the requirements of S.5.3.1(b)(1) through S.5.3.1(b)(3) is permanently affixed to the part of the harness that attaches the system to a vehicle seat back. Harnesses that are not labeled as required by this paragraph must meet S.5.3.1(a). | N/A |

S5.3.2 Each add-on child restraints system shall be capable of meeting the requirements of this standard when installed solely by each of the means indicated in the following table. Pass

Capable of being installed by means of (Check all that apply)

- X Lap belt only
- X Lap belt and tether
- X Child restraint anchorage system
- X Lap/Shoulder combination

S5.3.3 Lateral installation for car beds. N/A

COMPLIANCE TEST DATA: FMVSS 213

Minimum Head Support Surface

(FMVSS 213, S5.2.1)

Report No.	213-CAL-09-021	Item Code	021-E3121925-01-D6UW
Date of Test	12/18/09		021-E3121925-02-D6U
			021-E3121925-03-D3R
			021-E3121925-04-D6U
			021-E3121925-05-D12I
			021-E3121925-06-D3U

Remarks:

- (1) The restraint is a combination restraint that can be used with the integral harness, or with the harness removed as a belt-positioning booster restraint.
- (2) Height measured with the adjustable head rest fully retracted.
- (3) Height measured with the adjustable head rest fully extended.

S5.2.1 MINIMUM HEAD SUPPORT SURFACE

S5.2.1.2 The child restraint system is low enough to be exempt from this requirement. No (1)
(yes,
no)

S5.2.1.1

Back Support Height

Maximum Child Weight kg (lbs.)	Required Minimum Height cm (in.)	Measured Height cm (in.)	Pass/Fail
≤ 18 Kg. (40 lbs.)	50 Cm. (19.7 in.)	N/A	N/A
> 18 Kg. (40 lbs.)	56 Cm. (22 in.)	57.2 Cm (22 1/2 in.) (2) 71.1 Cm (28 in.) (3)	Pass

Back Support Width

Required Minimum Width cm (in.)	Measured Width cm (in.)	Side Wing Depth cm (in.)	Pass/Fail
20.3 Cm. (8 in.)	22.9 Cm (9 in.)	6.4 Cm (2 1/2 in.)	Pass
15.6 Cm. (6 in.)*	N/A	N/A	N/A

* Sidewings at least 102 mm (4 inches) deep provided.

COMPLIANCE TEST DATA: FMVSS 213

Torso Impact Protection

(FMVSS 213, S5.2.2)

Report No. 213-CAL-09-021

Item Code 021-E3121925-01-D6UW

Date of Test 12/18/09

021-E3121925-02-D6U

021-E3121925-03-D3R

021-E3121925-04-D6U

021-E3121925-05-D12I

021-E3121925-06-D3U

Remarks:

S5.2.1.1 TORSO IMPACT PROTECTION

Test	Compliance Requirement	Test Result	Pass/Fail
Back Support Surface	Flat or concave	Flat	Pass
	Area 548 sq. cm (85 sq. in.)	> 548 sq. cm. (> 85 sq. in.)	Pass
Side Support Surface	Flat or concave	Concave	Pass
Max. weight > 20 lb.	Area 155 sq. cm (24 sq. in.)	> 155 sq. cm. (24 sq. in.)	Pass
Max. weight < 20lb.	Area 310 sq. cm. (48.sq. in.)	> 310 sq. cm. (48.sq. in.)	Pass
Forward Restraining Surface Horiz. Cross Section	Flat or concave	N/A	N/A
Vertical Longitudinal Cross Section	Flat or Convex	N/A	N/A
	Radius of curvature 5 cm (2 in.)	N/A	N/A

S5.2.2.2 Forward Fixed or Movable Surface

Yes/No

Pass/ Deferred

No

Pass

COMPLIANCE TEST DATA: FMVSS 213

Protrusion Limitation

(FMVSS 213, S5.2.4)

Report No. 213-CAL-09-021

Item Code 021-E3121925-01-D6UW

Date of Test 12/18/09

021-E3121925-02-D6U

021-E3121925-03-D3R

021-E3121925-04-D6U

021-E3121925-05-D12I

021-E3121925-06-D3U

Remarks:

- (1) There are several cut-outs on the seat back that create edges with radii of less than ¼ inch, however these areas are covered by the foam-backed seat cover.

S5.2.4 PROTRUSION LIMITATION

Test	Compliance Requirement Mm (in.)	Test Result Mm (in.)	Pass/Fail
Height	≤ 9.53 mm (≤ 3/8 in.)	≤ 9.53 mm (≤ 3/8 in.)	Pass
Edge Radius	≥ 6.35 mm (≥ ¼ in.)	≥ 6.35 mm (≥ ¼ in.)	(1)

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24A

Date of Test 11/20/09

Item Code 021-E3121925-01-D6UW

Remarks:

Pre- and post-test photographs are presented in Appendix C.

(1) Belt-positioning mode – Type II (3-point) restraint system.

Laboratory Ambient Conditions During Testing

Temperature Range 20 C (68 F) to 20 C (68 F) Degrees C (F)
Relative Humidity Range 40% to 40%

Test Configuration (I or))

I

Nominal Velocity (km/h) (mph) 48 (+0, -5) (30 (+0, 03))

Dummy Used: Weighted Hybrid III 6 year old S/N: 163

Child Restraint System

Installation mode Forward-facing (1)

Adjustment mode Upright

“Misuse” mode N/A

Test Results

Actual velocity 13.3 m/s m/s
(43.6 ft/s) (ft/s)
47.8 kmh km/h
(29.7 mph) (mph)

Integrated area of sled acceleration
deviation below the lower severity
boundary (m/s (ft/s)) 0.0 m/s
(ft/s)

Limits:

Configuration I – 0.13 m/s (0.44 ft/s)

Configuration II – 0.09 m/s (0.29 ft/s)

Includes pre- and post-test photographs and acceleration-time history plot.

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

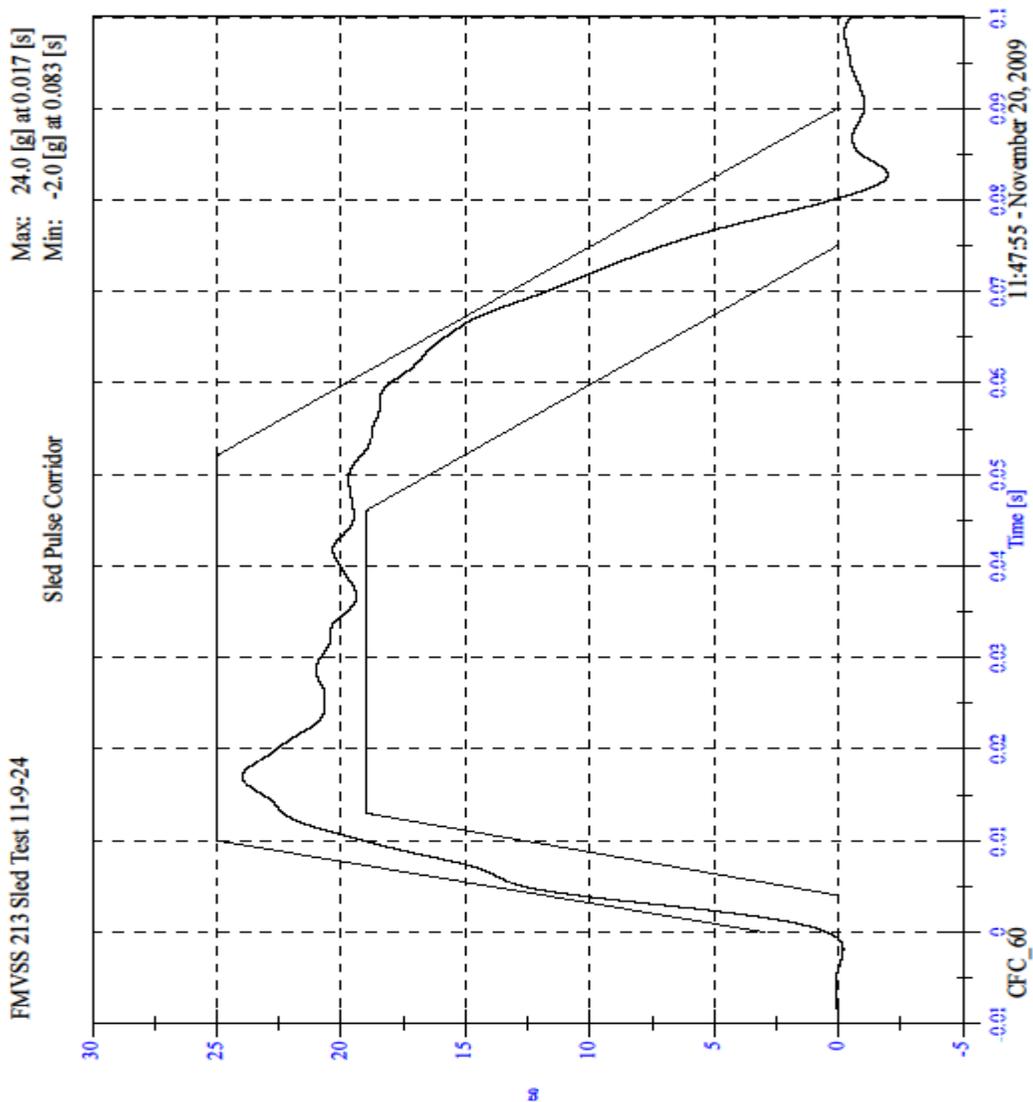
Report No. 213-CAL-09-021

Sled Test No. 11-9-24A

Date of Test 11/20/09

Item Code 021-E3121925-01-D6UW

FMVSS 213 30 MPH PULSE ENVELOPE



COMPLIANCE TEST DATA: FMVSS 213

Belt Restraint

(FMVSS 213, S5.4.3)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24A

Date of Test 11/20/09

Item Code 021-E3121925-01-D6UW

Remarks:

(1) The restraint was configured as a belt-positioning booster, and was not equipped with the harness system – the vehicle’s three point restraint system is the forward restraining surface.

Pass/Fail

S5.4.3.1 Snug Fit of Belts

N/A (1)

Extra Webbing

Dummy	Each Shoulder Belt cm (in.)	Each Lap Belt Side cm (in.)	Crotch Belt cm (in.)
Weighted 6 year old	N/A	N/A	N/A

S5.4.3.2 Direct Restraint Belts

Except for a child restraint system whose mass is less than 4.4 Kg (9.7 lbs)
Shall impose no loads on the child that result from the mass of the system

Pass

S5.4.3.2 Seating Systems

N/A

(a)(i)	Upper torso – belts	<u>N/A</u>
(ii)	Upper torso – shield	<u>N/A</u>
(b)(i)	Lower torso – belts	<u>N/A</u>
(b)(i)	Lower torso – shield	<u>N/A</u>
(c)(i)	Crotch restraint	<u>N/A</u>

S5.4.3.4 Harnesses

(1)	Upper torso	<u>N/A</u>
(2)	Lower torso	<u>N/A</u>
(3)	Prevent standing	<u>N/A</u>

N/A

COMPLIANCE TEST DATA: FMVSS 213

Buckle Release

(FMVSS 213, S5.4.3.5, S6.2)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24A

Date of Test 11/20/09

Item Code 021-E3121925-01-D6UW

Remarks:

(1) The restraint was configured as a belt-positioning booster, and was not equipped with the harness or buckle system.

Test	Compliance Requirement	Test Result	Pass / Fail
Buckle Minimum Surface Area	Area \geq 3.9 cm ² (\geq 0.6 in.) in. 2	N/A (1)	N/A (1)
Pre-Impact Release Force	Force range: 40 to 62 N (9 to 14 lbs.)	N/A	N/A
Buckle Integrity	Not release during test	N/A	N/A
Post – Impact Release Force	Force range: \leq 71 N (16 lbs.)	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Restraint System Integrity

(FMVSS 213, S5.1.1)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24A

Date of Test 11/20/09

Item Code 021-E3121925-01-D6UW

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Structural Integrity	No complete separation	None	Pass
	No partial separation with exposed edge radius < 6.35 mm (1/4 in.)	None	Pass
	No partial separation with protrusions > 9.53 mm (3/8 in.)	None	Pass
Adjustment Position	No change	No change	Pass
Exposed Opening Become Smaller During Testing	Exposed openings remain larger than 6.35 mm (1/4 in.)	N/A	N/A
Back Surface / Seating Surface Angle	Not < 45 degrees	➤ 45	Pass

COMPLIANCE TEST DATA: FMVSS 213

Injury Criteria

(FMVSS 213, S5.1.7, S5.1.2.1)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24A

Date of Test 11/20/09

Item Code 021-E3121925-01-D6UW

Remarks:

(1) The weighted dummy is a size and weight surrogate only, and is not instrumented.

Test	Compliance Requirement	Test Result	Pass / Fail
Head Injury Criterion	< 1000	N/A (1)	N/A (1)
Chest Injury Criterion	Cumulative duration over 60 g < 3 ms	N/A (1)	N/A (1)

COMPLIANCE TEST DATA: FMVSS 213

Occupant Excursion

(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No. 213-CAL-09-021

Sled Test No. 11-9-24A

Date of Test 11/20/09

Item Code 021-E3121925-01-D6UW

Remarks:

Forward-Facing Restraints

Test	Compliance Requirement	Test Result	Pass / Fail
Torso Retention (FMVSS 213, S5.1.3.1)	Retain within system	Retained	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 81.3 cm (32 in.)	44.4 cm (17.5 in.)	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 72.0 cm (28.4 in.)	N/A	N/A
Knee Target Excursion (FMVSS 213, S5.1.3.1)	≤ 91.5 cm (36 in.)	55.1 cm (21.7 in.)	Pass
Head – Torso Angle (FMVSS 213, S5.2.1.1 (c))	Rearward change < 45 degrees	< 45 deg.	Pass
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24B

Date of Test 11/20/09

Item Code 021-E3121925-02-D6U

Remarks:

Pre- and post-test photographs are presented in Appendix C.

- (1) Belt-positioning mode – Type II (3-point) restraint system.

Laboratory Ambient Conditions During Testing

Temperature Range 20.6 C (69 F) to 20.6 C (69 F) Degrees C (F)
Relative Humidity Range 39% to 39%

Test Configuration (I or))

I

Nominal Velocity (km/h) (mph) 48 (+0, -5) (30 (+0, 03))

Dummy Used: Hybrid II Six Year Old S/N: 220

Child Restraint System

Installation mode Forward-facing (1)

Adjustment mode Upright

“Misuse” mode N/A

Test Results

Actual velocity 13.3 m/s m/s
(43.6 ft/s) (ft/s)
47.8 kmh km/h
(29.7 mph) (mph)

Integrated area of sled acceleration deviation below the lower severity boundary (m/s (ft/s)) 0.0 m/s (ft/s)

Limits:

- Configuration I – 0.13 m/s (0.44 ft/s)
Configuration II – 0.09 m/s (0.29 ft/s)

Includes pre- and post-test photographs and acceleration-time history plot.

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

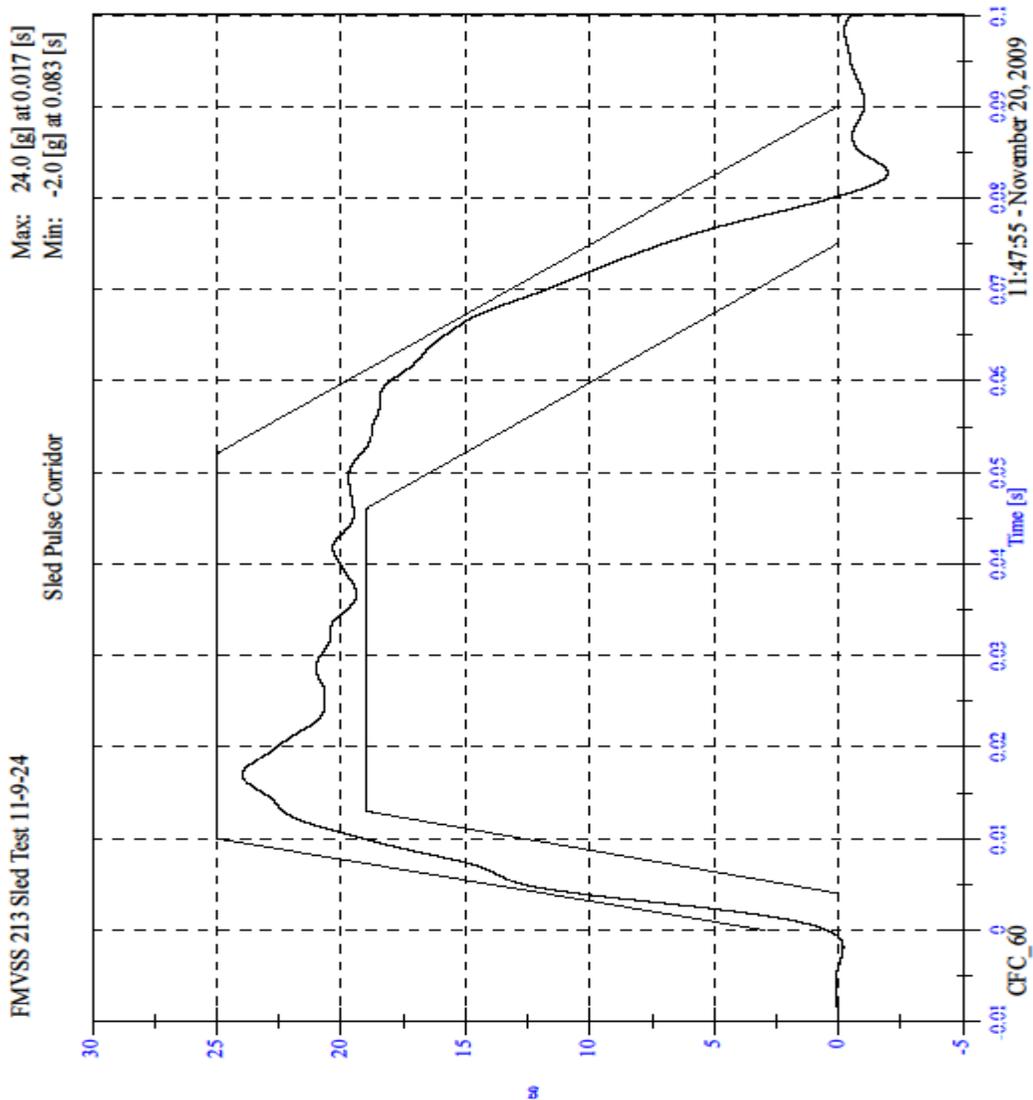
Report No. 213-CAL-09-021

Sled Test No. 11-9-24B

Date of Test 11/20/09

Item Code 021-E3121925-02-D6U

FMVSS 213 30 MPH PULSE ENVELOPE



COMPLIANCE TEST DATA: FMVSS 213

Belt Restraint

(FMVSS 213, S5.4.3)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24B

Date of Test 11/20/09

Item Code 021-E3121925-02-D6U

Remarks:

(1) The restraint was configured as a belt-positioning booster, and was not equipped with the harness system – the vehicle’s three point restraint system is the forward restraining surface.

Pass/Fail

S5.4.3.1 Snug Fit of Belts

N/A (1)

Extra Webbing

Dummy	Each Shoulder Belt cm (in.)	Each Lap Belt Side cm (in.)	Crotch Belt cm (in.)
Hybrid II 6 year old	N/A	N/A	N/A

S5.4.3.2 Direct Restraint Belts

Except for a child restraint system whose mass is less than 4.4 Kg (9.7 lbs)
Shall impose no loads on the child that result from the mass of the system

Pass

S5.4.3.2 Seating Systems

N/A

- (a)(i) Upper torso – belts N/A
- (ii) Upper torso – shield N/A
- (b)(i) Lower torso – belts N/A
- (b)(i) Lower torso – shield N/A
- (c)(i) Crotch restraint N/A

S5.4.3.4 Harnesses

- (1) Upper torso N/A
- (2) Lower torso N/A
- (3) Prevent standing N/A

N/A

COMPLIANCE TEST DATA: FMVSS 213

Buckle Release

(FMVSS 213, S5.4.3.5, S6.2)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24B

Date of Test 11/20/09

Item Code 021-E3121925-02-D6U

Remarks:

(2) The restraint was configured as a belt-positioning booster, and was not equipped with the harness or buckle system.

Test	Compliance Requirement	Test Result	Pass / Fail
Buckle Minimum Surface Area	Area \geq 3.9 cm ² (\geq 0.6 in.) in. 2	N/A (1)	N/A (1)
Pre-Impact Release Force	Force range: 40 to 62 N (9 to 14 lbs.)	N/A	N/A
Buckle Integrity	Not release during test	N/A	N/A
Post – Impact Release Force	Force range: \leq 71 N (16 lbs.)	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Restraint System Integrity

(FMVSS 213, S5.1.1)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24B

Date of Test 11/20/09

Item Code 021-E3121925-02-D6U

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Structural Integrity	No complete separation	None	Pass
	No partial separation with exposed edge radius < 6.35 mm (1/4 in.)	None	Pass
	No partial separation with protrusions > 9.53 mm (3/8 in.)	None	Pass
Adjustment Position	No change	No change	Pass
Exposed Opening Become Smaller During Testing	Exposed openings remain larger than 6.35 mm (1/4 in.)	N/A	N/A
Back Surface / Seating Surface Angle	Not < 45 degrees	➤ 45	Pass

COMPLIANCE TEST DATA: FMVSS 213

Injury Criteria

(FMVSS 213, S5.1.7, S5.1.2.1)

Report No. 213-CAL-09-021

Sled Test No. 11-9-24B

Date of Test 11/20/09

Item Code 021-E3121925-02-D6U

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Head Injury Criterion	< 1000	545	Pass
Chest Injury Criterion	Cumulative duration over 60 g < 3 ms	Peak g = <u>43.5</u> Duration exceeding 60 g = <u>0.0</u>	Pass

COMPLIANCE TEST DATA: FMVSS 213

Occupant Excursion

(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No. 213-CAL-09-021

Sled Test No. 11-9-24B

Date of Test 11/20/09

Item Code 021-E3121925-02-D6U

Remarks:

Forward-Facing Restraints

Test	Compliance Requirement	Test Result	Pass / Fail
Torso Retention (FMVSS 213, S5.1.3.1)	Retain within system	Retained	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 81.3 cm (32 in.)	50.3 cm (19.8 in.)	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 72.0 cm (28.4 in.)	N/A	N/A
Knee Target Excursion (FMVSS 213, S5.1.3.1)	≤ 91.5 cm (36 in.)	57.2 cm (22.5 in.)	Pass
Head – Torso Angle (FMVSS 213, S5.2.1.1 (c))	Rearward change < 45 degrees	< 45 deg.	Pass
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32A

Date of Test 12/3/09

Item Code 021-E3121925-03-D3R

Remarks:

Pre- and post-test photographs are presented in Appendix C.

- (1) LATCH restraint system with tether.
- (2) The belts are self-positioning in tracks on the seat back; rear crotch position.

Laboratory Ambient Conditions During Testing

Temperature Range	<u>20.6 C (69 F)</u>	to	<u>20.6 C (69 F)</u>	Degrees C (F)
Relative Humidity Range	<u>39%</u>	to	<u>39%</u>	

Test Configuration (I or))

I

Nominal Velocity (km/h) (mph) 48 (+0, -5) (30 (+0, 03))

Dummy Used: Hybrid III 3 year old S/N: 038

Child Restraint System

Installation mode	Forward-facing (1)
Adjustment mode	Recline #2 (2)
“Misuse” mode	N/A

Test Results

Actual velocity	<u>12.8 m/s</u>	m/s
	<u>(42.1 ft/s)</u>	(ft/s)
	<u>46.2 kmh</u>	km/h
	<u>(28.7 mph)</u>	(mph)

Integrated area of sled acceleration deviation below the lower severity boundary (m/s (ft/s))	<u>0.0</u>	m/s (ft/s)
---	------------	------------

Limits:

- Configuration I – 0.13 m/s (0.44 ft/s)
- Configuration II – 0.09 m/s (0.29 ft/s)

Includes pre- and post-test photographs and acceleration-time history plot.

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

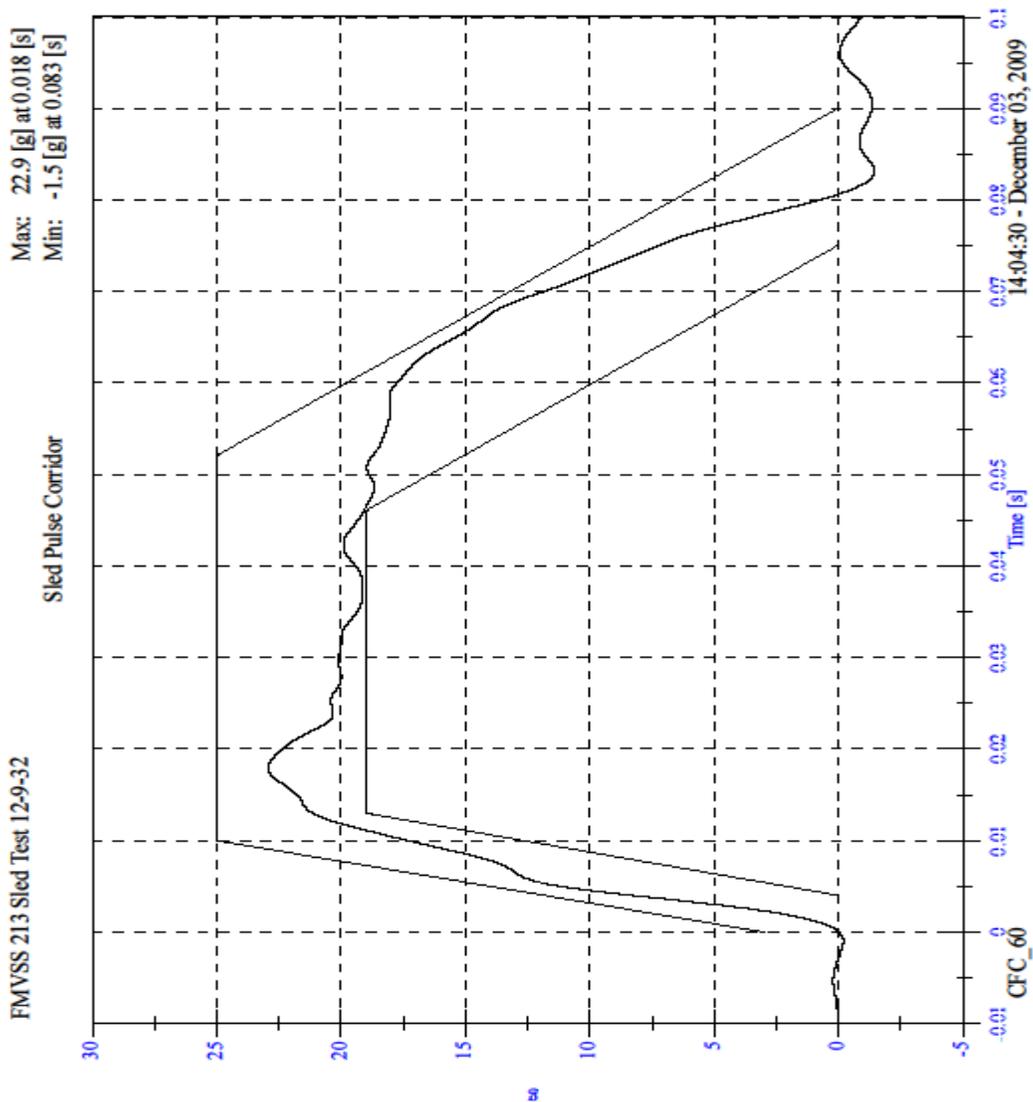
Report No. 213-CAL-09-021

Sled Test No. 12-9-32A

Date of Test 12/3/09

Item Code 021-E3121925-03-D3R

FMVSS 213 30 MPH PULSE ENVELOPE



COMPLIANCE TEST DATA: FMVSS 213

Belt Restraint

(FMVSS 213, S5.4.3)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32A

Date of Test 12/3/09

Item Code 021-E3121925-03-D3R

Remarks:

- (1) The shoulder and lap belts are a continuous strap that also provides crotch restraint by connecting to a buckle, centrally located near the front edge of the restraint.
- (2) The crotch belt is not adjustable in terms on length.
- (3) Harness is adjustable by means of a take-up reel.

Pass/Fail

S5.4.3.1 Snug Fit of Belts

Pass

Dummy	Extra Webbing		
	Each Shoulder Belt cm (in.)	Each Lap Belt Side cm (in.)	Crotch Belt cm (in.)
Hybrid III 3 year old	(3)	(1)	(2)

S5.4.3.2 Direct Restraint Belts

Except for a child restraint system whose mass is less than 4.4 Kg (9.7 lbs)
Shall impose no loads on the child that result from the mass of the system

Pass

S5.4.3.2 Seating Systems

Pass

(a)(i)	Upper torso – belts	<u>Pass</u>
(ii)	Upper torso – shield	<u>N/A</u>
(b)(i)	Lower torso – belts	<u>Pass</u>
(b)(i)	Lower torso – shield	<u>N/A</u>
(c)(i)	Crotch restraint	<u>Pass</u>

S5.4.3.4 Harnesses

(1)	Upper torso	<u>N/A</u>
(2)	Lower torso	<u>N/A</u>
(3)	Prevent standing	<u>N/A</u>

N/A

COMPLIANCE TEST DATA: FMVSS 213

Buckle Release

(FMVSS 213, S5.4.3.5, S6.2)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32A

Date of Test 12/3/09

Item Code 021-E3121925-03-D3R

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Buckle Minimum Surface Area	Area \geq 3.9 cm ² (\geq 0.6 in.) in. 2	10.4 cm cm ² (.1.6 in ²) (in.2)	Pass
Pre-Impact Release Force	Force range: 40 to 62 N (9 to 14 lbs.)	48.2 N (11.8) (lbs.)	Pass
Buckle Integrity	Not release during test	No Release	Pass
Post – Impact Release Force	Force range: \leq 71 N (16 lbs.)	42.9 N (10.5) (lbs.)	Pass

COMPLIANCE TEST DATA: FMVSS 213

Restraint System Integrity

(FMVSS 213, S5.1.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32A

Date of Test 12/3/09

Item Code 021-E3121925-03-D3R

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Structural Integrity	No complete separation	None	Pass
	No partial separation with exposed edge radius < 6.35 mm (1/4 in.)	None	Pass
	No partial separation with protrusions > 9.53 mm (3/8 in.)	None	Pass
Adjustment Position	No change	No change	Pass
Exposed Opening Become Smaller During Testing	Exposed openings remain larger than 6.35 mm (1/4 in.)	N/A	N/A
Back Surface / Seating Surface Angle	Not < 45 degrees	➤ 45	Pass

COMPLIANCE TEST DATA: FMVSS 213

Injury Criteria

(FMVSS 213, S5.1.7, S5.1.2.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32A

Date of Test 12/3/09

Item Code 021-E3121925-03-D3R

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Head Injury Criterion	< 1000	360	Pass
Chest Injury Criterion	Cumulative duration over 60 g < 3 ms	Peak g = <u>43.3</u> Duration exceeding 60 g = <u>0.0</u>	Pass

COMPLIANCE TEST DATA: FMVSS 213

Occupant Excursion

(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No. 213-CAL-09-021

Sled Test No. 12-9-32A

Date of Test 12/3/09

Item Code 021-E3121925-03-D3R

Remarks:

Forward-Facing Restraints

Test	Compliance Requirement	Test Result	Pass / Fail
Torso Retention (FMVSS 213, S5.1.3.1)	Retain within system	Retained	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 81.3 cm (32 in.)	N/A	N/A
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 72.0 cm (28.4 in.)	62.7 cm (24.7 in.)	Pass
Knee Target Excursion (FMVSS 213, S5.1.3.1)	≤ 91.5 cm (36 in.)	77.5 cm (30.5 in.)	Pass
Head – Torso Angle (FMVSS 213, S5.2.1.1 (c))	Rearward change < 45 degrees	< 45 deg.	Pass
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32B

Date of Test 12/3/09

Item Code 021-E3121925-04-D3U

Remarks:

Pre- and post-test photographs are presented in Appendix C.

- (1) Type I (lap belt) restraint system.
- (2) The belts are self-positioning in tracks on the seat back; rear crotch position.

Laboratory Ambient Conditions During Testing

Temperature Range 20.6 C (69 F) to 20.6 C (69 F) Degrees C (F)
Relative Humidity Range 39% to 39%

Test Configuration (I or))

I

Nominal Velocity (km/h) (mph) 48 (+0, -5) (30 (+0, 03))

Dummy Used: Hybrid III Three Year Old S/N: 036

Child Restraint System

Installation mode Forward-facing (1)
Adjustment mode Upright (2)
"Misuse" mode N/A

Test Results

Actual velocity 12.8 m/s m/s
(42.1 ft/s) (ft/s)
46.2 kmh km/h
(28.7 mph) (mph)

Integrated area of sled acceleration deviation below the lower severity boundary (m/s (ft/s)) 0.0 m/s (ft/s)

Limits:

Configuration I – 0.13 m/s (0.44 ft/s)
Configuration II – 0.09 m/s (0.29 ft/s)

Includes pre- and post-test photographs and acceleration-time history plot.

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

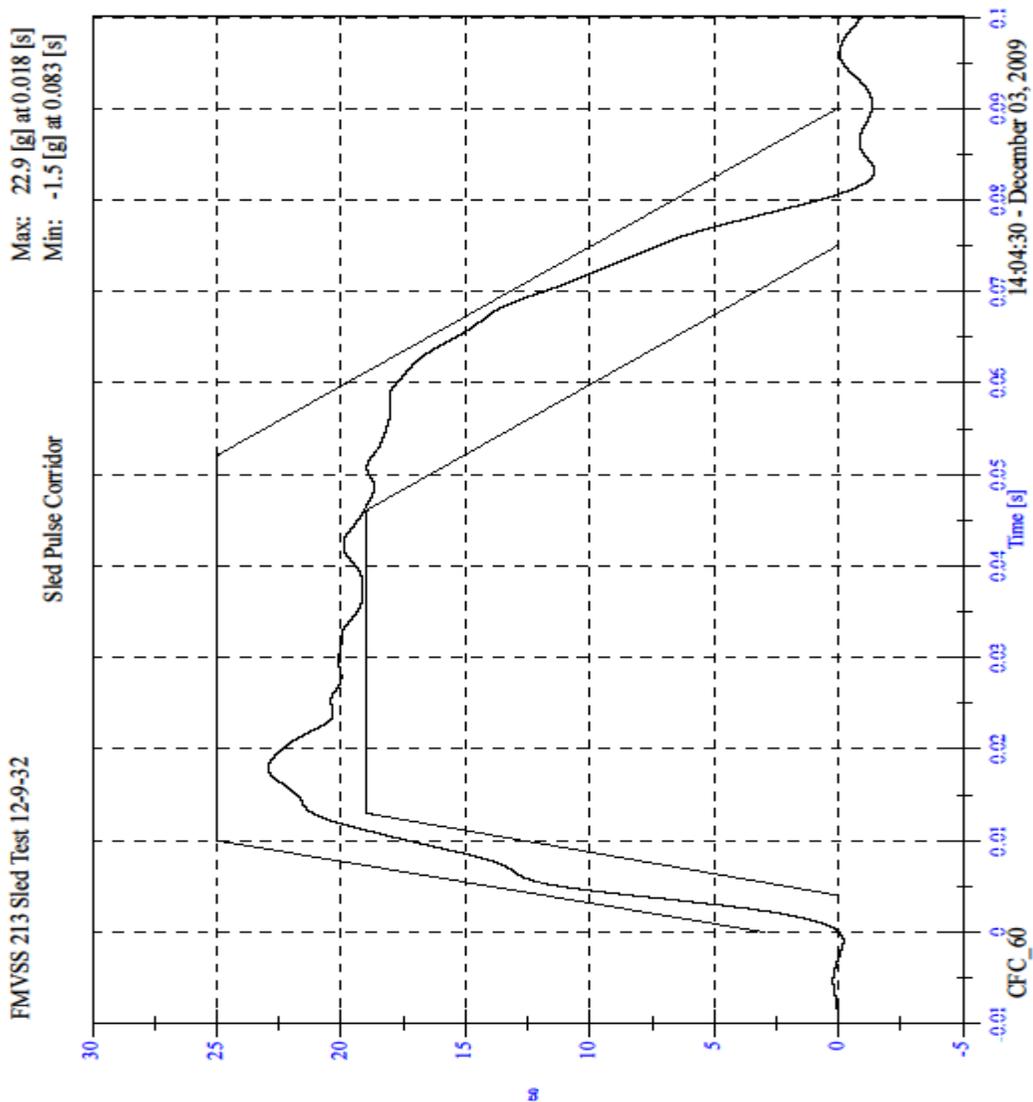
Report No. 213-CAL-09-021

Sled Test No. 12-9-32B

Date of Test 12/3/09

Item Code 021-E3121925-04-D3U

FMVSS 213 30 MPH PULSE ENVELOPE



COMPLIANCE TEST DATA: FMVSS 213

Belt Restraint

(FMVSS 213, S5.4.3)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32B

Date of Test 12/3/09

Item Code 021-E3121925-04-D3U

Remarks:

- (1) The shoulder and lap belts are a continuous strap that also provides crotch restraint by connecting to a buckle, centrally located near the front edge of the restraint.
- (2) The crotch belt is not adjustable in terms on length.
- (3) Harness is adjustable by means of a take-up reel.

Pass/Fail

S5.4.3.1 Snug Fit of Belts

Pass

Extra Webbing

Dummy	Each Shoulder Belt cm (in.)	Each Lap Belt Side cm (in.)	Crotch Belt cm (in.)
Hybrid III 3 year old	(3)	(1)	(2)

S5.4.3.2 Direct Restraint Belts

Except for a child restraint system whose mass is less than 4.4 Kg (9.7 lbs)
Shall impose no loads on the child that result from the mass of the system

Pass

S5.4.3.2 Seating Systems

Pass

- (a)(i) Upper torso – belts Pass
- (ii) Upper torso – shield N/A
- (b)(i) Lower torso – belts Pass
- (b)(i) Lower torso – shield N/A
- (c)(i) Crotch restraint Pass

S5.4.3.4 Harnesses

- (1) Upper torso N/A
- (2) Lower torso N/A
- (3) Prevent standing N/A

N/A

COMPLIANCE TEST DATA: FMVSS 213

Buckle Release

(FMVSS 213, S5.4.3.5, S6.2)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32B

Date of Test 12/3/09

Item Code 021-E3121925-04-D3U

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Buckle Minimum Surface Area	Area \geq 3.9 cm ² (\geq 0.6 in.) in. 2	10.4 cm cm ² (.1.6 in ²) (in.2)	Pass
Pre-Impact Release Force	Force range: 40 to 62 N (9 to 14 lbs.)	47.4 N (11.6 lbs.)	Pass
Buckle Integrity	Not release during test	No Release	Pass
Post – Impact Release Force	Force range: \leq 71 N (16 lbs.)	40.9 N (10.0 lbs.)	Pass

COMPLIANCE TEST DATA: FMVSS 213

Restraint System Integrity

(FMVSS 213, S5.1.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32B

Date of Test 12/3/09

Item Code 021-E3121925-04-D3U

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Structural Integrity	No complete separation	None	Pass
	No partial separation with exposed edge radius < 6.35 mm (1/4 in.)	None	Pass
	No partial separation with protrusions > 9.53 mm (3/8 in.)	None	Pass
Adjustment Position	No change	No change	Pass
Exposed Opening Become Smaller During Testing	Exposed openings remain larger than 6.35 mm (1/4 in.)	N/A	N/A
Back Surface / Seating Surface Angle	Not < 45 degrees	➤ 45	Pass

COMPLIANCE TEST DATA: FMVSS 213

Injury Criteria

(FMVSS 213, S5.1.7, S5.1.2.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-32B

Date of Test 12/3/09

Item Code 021-E3121925-04-D3U

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Head Injury Criterion	< 1000	529	Pass
Chest Injury Criterion	Cumulative duration over 60 g < 3 ms	Peak g = <u>59.7</u> Duration exceeding 60 g = <u>2.9</u>	Pass

COMPLIANCE TEST DATA: FMVSS 213

Occupant Excursion

(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No. 213-CAL-09-021

Sled Test No. 12-9-32B

Date of Test 12/3/09

Item Code 021-E3121925-04-D3U

Remarks:

Forward-Facing Restraints

Test	Compliance Requirement	Test Result	Pass / Fail
Torso Retention (FMVSS 213, S5.1.3.1)	Retain within system	Retained	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 81.3 cm (32 in.)	77.7 cm (30.6 in.)	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 72.0 cm (28.4 in.)	N/A	N/A
Knee Target Excursion (FMVSS 213, S5.1.3.1)	≤ 91.5 cm (36 in.)	85.6 cm (33.7 in.)	Pass
Head – Torso Angle (FMVSS 213, S5.2.1.1 (c))	Rearward change < 45 degrees	< 45 deg.	Pass
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-68B

Date of Test 12/23/09

Item Code 021-E3121925-05-D12I

Remarks:

Pre- and post-test photographs are presented in Appendix C.

- (1) LATCH restraint system.
- (2) The belts are self-positioning in tracks on the seat back; rear crotch position.

Laboratory Ambient Conditions During Testing

Temperature Range	<u>19.4 C (67 F)</u>	to	<u>19.4 C (67 F)</u>	Degrees C (F)
Relative Humidity Range	<u>26%</u>	to	<u>26%</u>	

Test Configuration (I or))

I

Nominal Velocity (km/h) (mph) 48 (+0, -5) (30 (+0, 03))

Dummy Used: CRABI 12 month-old S/N: 094

Child Restraint System

Installation mode	Rearward-facing (1)
Adjustment mode	Reclined (2)
“Misuse” mode	N/A

Test Results

Actual velocity	13.2 m/s	m/s
	<u>(43.4 ft/s)</u>	(ft/s)
	47.7 kmh	km/h
	<u>(29.6 mph)</u>	(mph)

Integrated area of sled acceleration deviation below the lower severity boundary (m/s (ft/s))	<u>0.0</u>	m/s (ft/s)
---	------------	------------

Limits:

- Configuration I – 0.13 m/s (0.44 ft/s)
- Configuration II – 0.09 m/s (0.29 ft/s)

Includes pre- and post-test photographs and acceleration-time history plot.

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

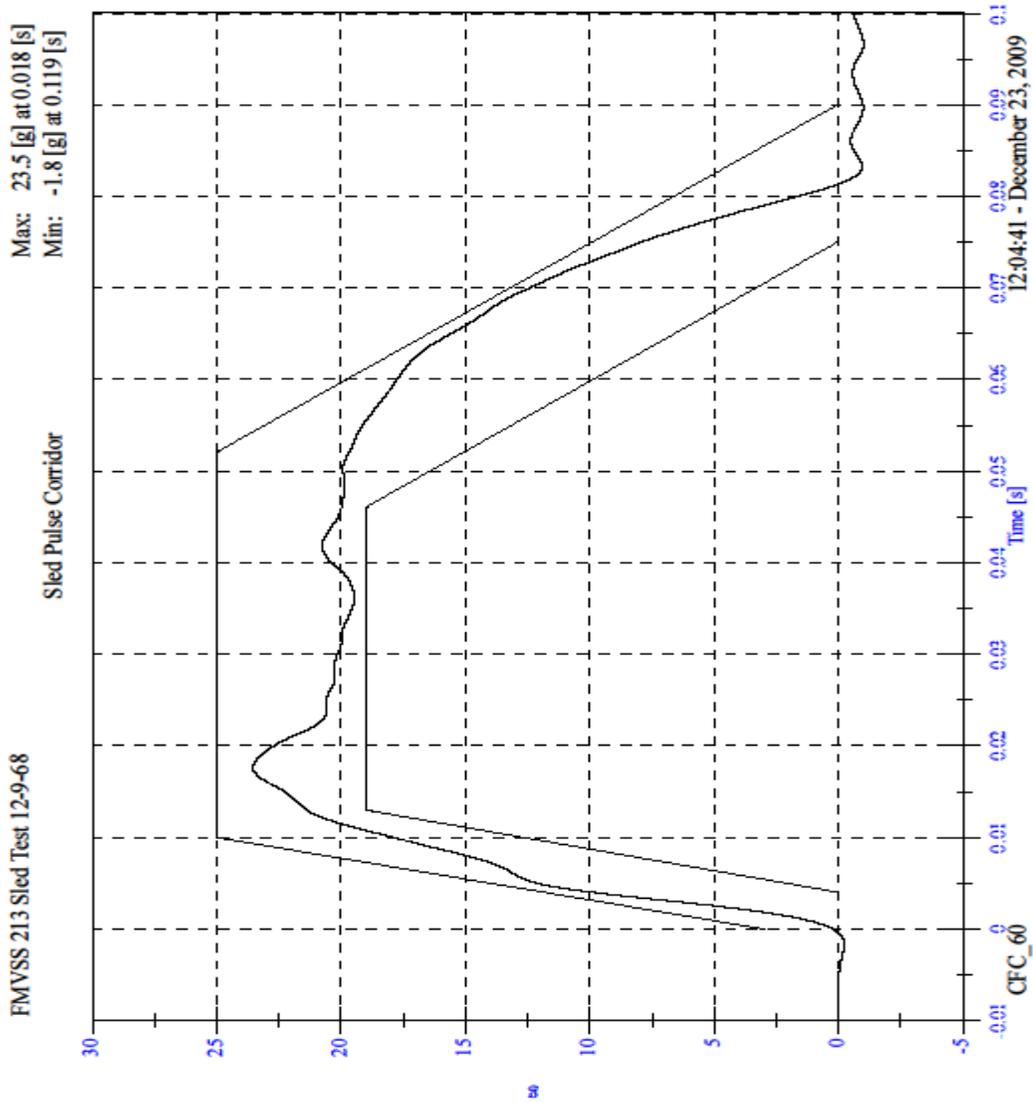
Report No. 213-CAL-09-021

Sled Test No. 12-9-68B

Date of Test 12/23/09

Item Code 021-E3121925-05-D12I

FMVSS 213 30 MPH PULSE ENVELOPE



COMPLIANCE TEST DATA: FMVSS 213

Belt Restraint

(FMVSS 213, S5.4.3)

Report No. 213-CAL-09-021

Sled Test No. 12-9-68B

Date of Test 12/23/09

Item Code 021-E3121925-05-D12I

Remarks:

- (1) The shoulder and lap belts are a continuous strap that also provides crotch restraint by connecting to a buckle, centrally located near the front edge of the restraint.
- (2) The crotch belt is not adjustable in terms on length.
- (3) Harness is adjustable by means of a take-up reel.

Pass/Fail

S5.4.3.1 Snug Fit of Belts

Pass

Dummy	Extra Webbing		
	Each Shoulder Belt cm (in.)	Each Lap Belt Side cm (in.)	Crotch Belt cm (in.)
12 month old	(3)	(1)	(2)

S5.4.3.2 Direct Restraint Belts

Except for a child restraint system whose mass is less than 4.4 Kg (9.7 lbs)
Shall impose no loads on the child that result from the mass of the system

Pass

S5.4.3.2 Seating Systems

Pass

- (a)(i) Upper torso – belts Pass
- (ii) Upper torso – shield N/A
- (b)(i) Lower torso – belts Pass
- (b)(i) Lower torso – shield N/A
- (c)(i) Crotch restraint Pass

S5.4.3.4 Harnesses

- (1) Upper torso N/A
- (2) Lower torso N/A
- (3) Prevent standing N/A

N/A

COMPLIANCE TEST DATA: FMVSS 213

Buckle Release

(FMVSS 213, S5.4.3.5, S6.2)

Report No. 213-CAL-09-021

Sled Test No. 12-9-68B

Date of Test 12/23/09

Item Code 021-E3121925-05-D12I

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Buckle Minimum Surface Area	Area \geq 3.9 cm ² (\geq 0.6 in.) in. 2	10.4 cm cm ² (.1.6 in ²) (in.2)	Pass
Pre-Impact Release Force	Force range: 40 to 62 N (9 to 14 lbs.)	44.1 N (10.8 lbs.)	Pass
Buckle Integrity	Not release during test	No Release	Pass
Post – Impact Release Force	Force range: \leq 71 N (16 lbs.)	48.2 N (11.8 lbs.)	Pass

COMPLIANCE TEST DATA: FMVSS 213

Restraint System Integrity

(FMVSS 213, S5.1.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-68B

Date of Test 12/23/09

Item Code 021-E3121925-05-D12I

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Structural Integrity	No complete separation	None	Pass
	No partial separation with exposed edge radius < 6.35 mm (1/4 in.)	None	Pass
	No partial separation with protrusions > 9.53 mm (3/8 in.)	None	Pass
Adjustment Position	No change	No change	Pass
Exposed Opening Become Smaller During Testing	Exposed openings remain larger than 6.35 mm (1/4 in.)	N/A	N/A
Back Surface / Seating Surface Angle	Not < 45 degrees	➤ 45	Pass

COMPLIANCE TEST DATA: FMVSS 213

Injury Criteria

(FMVSS 213, S5.1.7, S5.1.2.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-68B

Date of Test 12/23/09

Item Code 021-E3121925-05-D12I

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Head Injury Criterion	< 1000	588	Pass
Chest Injury Criterion	Cumulative duration over 60 g < 3 ms	Peak g = <u>46.8</u> Duration exceeding 60 g = <u>0.0</u>	Pass

COMPLIANCE TEST DATA: FMVSS 213

Occupant Excursion

(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No. 213-CAL-09-021

Sled Test No. 12-9-68B

Date of Test 12/23/09

Item Code 021-E3121925-05-D12I

<u>Remarks:</u>

Rear-Facing Restraints

Test	Compliance Requirement	Test Result	Pass / Fail
Torso Retention (FMVSS 213, S5.1.3.2)	Retain within system	Retained	Pass
Head Target Excursion (FMVSS 213, S5.1.3.2)	Not beyond restraint's top and forward edge	None	Pass
Back Support Angle (FMVSS 213, S5.1.3.4)	≤ 70 degrees	62 deg.	Pass
Head – Torso Angle (FMVSS 213, S5.2.1.1 (c))	Rearward change ≤ 45 degree	< 45 deg.	Pass

Car Bed Restraints

Test	Compliance Requirement	Test Result	Pass / Fail
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-75B

Date of Test 12/28/09

Item Code 021-E3121925-06-D3U

Remarks:

Pre- and post-test photographs are presented in Appendix C.

(1) Belt-positioning mode – Type II (3-point) restraint system.

Laboratory Ambient Conditions During Testing

Temperature Range	<u>19.4 C (67 F)</u>	to	<u>19.4 C (67 F)</u>	Degrees C (F)
Relative Humidity Range	<u>28%</u>	to	<u>28%</u>	

Test Configuration (I or))

I

Nominal Velocity (km/h) (mph) 48 (+0, -5) (30 (+0, 03))

Dummy Used: Hybrid III Three Year Old S/N: 038

Child Restraint System

Installation mode Forward-facing (1)

Adjustment mode Upright (2)

“Misuse” mode N/A

Test Results

Actual velocity	<u>13.1 m/s</u>	m/s
	<u>(43.0 ft/s)</u>	(ft/s)

<u>47.2 kmh</u>	km/h
<u>(29.3 mph)</u>	(mph)

Integrated area of sled acceleration deviation below the lower severity boundary (m/s (ft/s))	<u>0.0</u>	m/s (ft/s)
---	------------	------------

Limits:

Configuration I – 0.13 m/s (0.44 ft/s)

Configuration II – 0.09 m/s (0.29 ft/s)

Includes pre- and post-test photographs and acceleration-time history plot.

COMPLIANCE TEST DATA: FMVSS 213

Dynamic Impact Test Conditions

(FMVSS 213, S6.1)

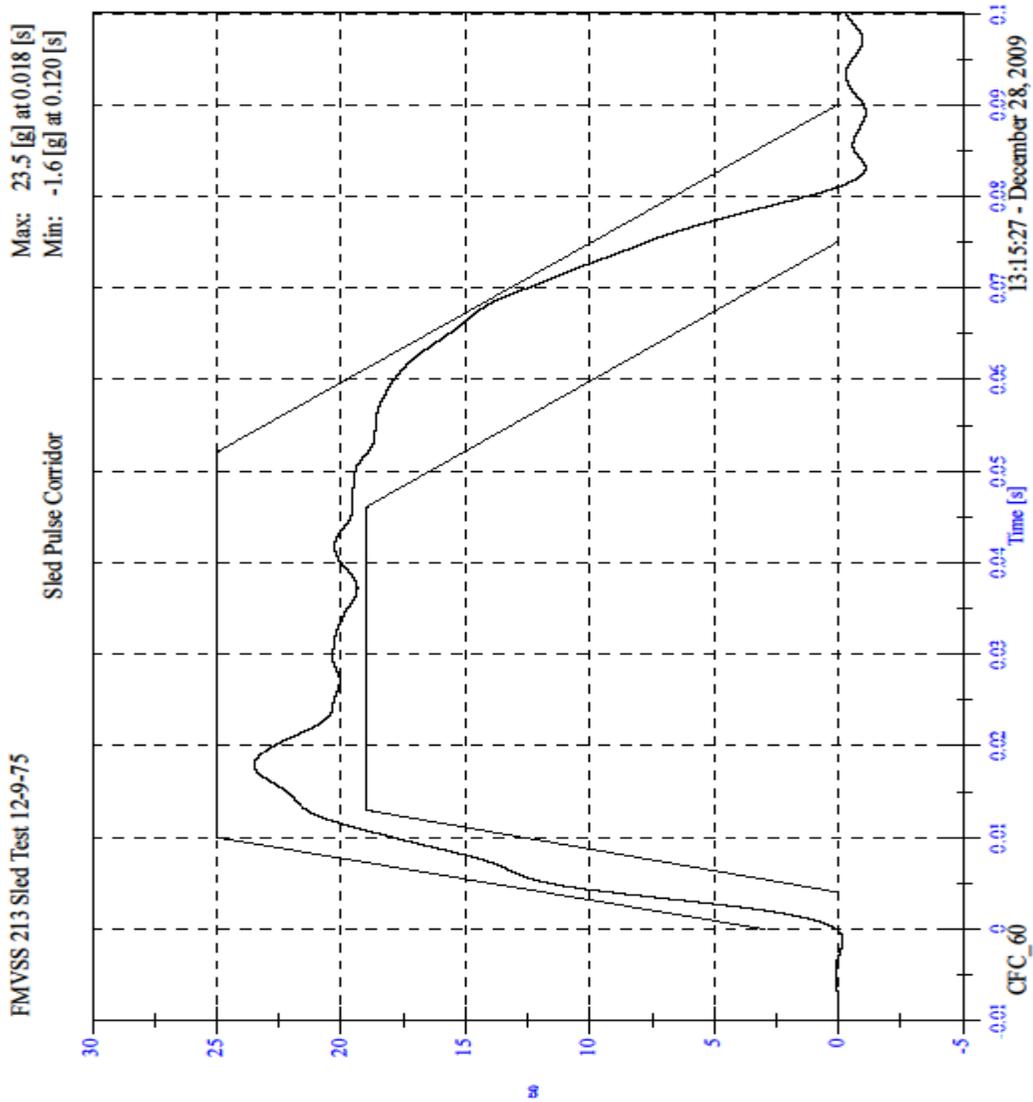
Report No. 213-CAL-09-021

Sled Test No. 12-9-75B

Date of Test 12/28/09

Item Code 021-E3121925-06-D3U

FMVSS 213 30 MPH PULSE ENVELOPE



COMPLIANCE TEST DATA: FMVSS 213

Belt Restraint

(FMVSS 213, S5.4.3)

Report No. 213-CAL-09-021

Sled Test No. 12-9-75B

Date of Test 12/28/09

Item Code 021-E3121925-06-D3U

Remarks:

- (1) The restraint was configured as a belt-positioning booster, and was not equipped with the harness system – the vehicle’s three point restraint system is the forward restraining surface.

Pass/Fail

S5.4.3.1 Snug Fit of Belts

N/A (1)

Extra Webbing

Dummy	Each Shoulder Belt cm (in.)	Each Lap Belt Side cm (in.)	Crotch Belt cm (in.)
Hybrid III 3 year old	N/A	N/A	N/A

S5.4.3.2 Direct Restraint Belts

Except for a child restraint system whose mass is less than 4.4 Kg (9.7 lbs) Shall impose no loads on the child that result from the mass of the system

Pass

S5.4.3.2 Seating Systems

N/A

- (a)(i) Upper torso – belts N/A
- (ii) Upper torso – shield N/A
- (b)(i) Lower torso – belts N/A
- (b)(i) Lower torso – shield N/A
- (c)(i) Crotch restraint N/A

S5.4.3.4 Harnesses

- (1) Upper torso N/A
- (2) Lower torso N/A
- (3) Prevent standing N/A

N/A

COMPLIANCE TEST DATA: FMVSS 213

Buckle Release

(FMVSS 213, S5.4.3.5, S6.2)

Report No. 213-CAL-09-021

Sled Test No. 12-9-75B

Date of Test 12/28/09

Item Code 021-E3121925-06-D3U

Remarks:

(1) The restraint was configured as a belt-positioning booster, and was not equipped with the harness or buckle system.

Test	Compliance Requirement	Test Result	Pass / Fail
Buckle Minimum Surface Area	Area \geq 3.9 cm ² (\geq 0.6 in.) in. 2	N/A (1)	N/A (1)
Pre-Impact Release Force	Force range: 40 to 62 N (9 to 14 lbs.)	N/A	N/A
Buckle Integrity	Not release during test	N/A	N/A
Post – Impact Release Force	Force range: \leq 71 N (16 lbs.)	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Restraint System Integrity

(FMVSS 213, S5.1.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-350B

Date of Test 12/28/09

Item Code 021-E3121925-06-D3U

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Structural Integrity	No complete separation	None	Pass
	No partial separation with exposed edge radius < 6.35 mm (1/4 in.)	None	Pass
	No partial separation with protrusions > 9.53 mm (3/8 in.)	None	Pass
Adjustment Position	No change	No change	Pass
Exposed Opening Become Smaller During Testing	Exposed openings remain larger than 6.35 mm (1/4 in.)	N/A	N/A
Back Surface / Seating Surface Angle	Not < 45 degrees	➤ 45	Pass

COMPLIANCE TEST DATA: FMVSS 213

Injury Criteria

(FMVSS 213, S5.1.7, S5.1.2.1)

Report No. 213-CAL-09-021

Sled Test No. 12-9-75B

Date of Test 12/28/09

Item Code 021-E3121925-06-D3U

Remarks:

Test	Compliance Requirement	Test Result	Pass / Fail
Head Injury Criterion	< 1000	739	Pass
Chest Injury Criterion	Cumulative duration over 60 g < 3 ms	Peak g = <u>47.0</u> Duration exceeding 60 g = <u>0.0</u>	Pass

COMPLIANCE TEST DATA: FMVSS 213

Occupant Excursion

(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No. 213-CAL-09-021

Sled Test No. 12-9-75B

Date of Test 12/28/09

Item Code 021-E3121925-06-D3U

Remarks:

Forward-Facing Restraints

Test	Compliance Requirement	Test Result	Pass / Fail
Torso Retention (FMVSS 213, S5.1.3.1)	Retain within system	Retained	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 81.3 cm (32 in.)	54.6 cm (21.5 in.)	Pass
Head Excursion (FMVSS 213, S5.1.3.1)	≤ 72.0 cm (28.4 in.)	N/A	N/A
Knee Target Excursion (FMVSS 213, S5.1.3.1)	≤ 91.5 cm (36 in.)	67.3 cm (26.5 in.)	Pass
Head – Torso Angle (FMVSS 213, S5.2.1.1 (c))	Rearward change < 45 degrees	< 45 deg.	Pass
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

COMPLIANCE TEST DATA: FMVSS 213

Aircraft Passenger Seat Inversion Test
Conditions and Results

(FMVSS 213, S8.1, S8.2, S8.2.5, S8.2.6)

Report No.	213-CAL-09-021	Sled Test No.	N/A
Date of Test	12/18/09	Item Code	021-E3121925-01-D6UW 021-E3121925-02-D6U 021-E3121925-03-D3R 021-E3121925-04-D3U 021-E3121925-05-D12I 021-E3121925-06-D3U

Remarks:

- (1) The instructions State: “When used with the 5-point harness system: This restraint is certified for use in motor vehicles and aircraft. When used without the 5-point harness system as a Booster: This booster seat is NOT certified for aircraft use. A belt-positioning booster seat requires the use of a lap/shoulder belt system, which is not available on aircraft.” However, there are no diagrams included with this section.

Pass/Fail

S8.1 Each child restraint system manufactured for use in aircraft shall be accompanied by printed instructions in English that provide a step-by-step procedure, including diagrams, for installing the system in aircraft passenger seats, securing a child in the system when it is installed in aircraft, and adjusting the system to fit the child.

(1)

COMPLIANCE TEST DATA: FMVSS 213

Aircraft Passenger Seat Inversion Test
Conditions and Results

(FMVSS 213, S8.1, S8.2, S8.2.5, S8.2.6)

Report No. 213-CAL-09-021

Test No. 11

Date of Test 12/18/09

Item Code 021-E3121925-D12U

Date of Manufacture 2008/11/13

Remarks:

Laboratory Ambient Conditions During Testing Temperature Range

Temperature Range 20 C (68 F) to 20 C (68 F) Degrees C (F)

Relative Humidity Range 20% to 20%

Inversion Test

Dummy Used CRABI 12 month old S/N 094

Child Restraint System

Installation Mode Forward-facing

Adjustment Mode Upright

Rotation About Y-Axis (Forward)

Test	Compliance Requirement	Test Result	Pass / Fail
Dummy Retention (FMVSS 213, S8.2.5)	Retained within system	Retained	Pass
Child Restraint Retention (FMVSS 213, S8.2.5)	Retained within aircraft seat	Retained	Pass

Rotation About X-Axis (Lateral)

Test	Compliance Requirement	Test Result	Pass / Fail
Dummy Retention (FMVSS 213, S8.2.6)	Retained within system	Retained	Pass
Child Restraint Retention (FMVSS 213, S8.2.6)	Retained within aircraft seat	Retained	Pass

COMPLIANCE TEST DATA: FMVSS 213

Aircraft Passenger Seat Inversion Test
Conditions and Results

(FMVSS 213, S8.1, S8.2, S8.2.5, S8.2.6)

Report No. 213-CAL-09-021

Test No. 11

Date of Test 12/18/09

Item Code 021-E3121925-D3U

Date of Manufacture 2008/11/13

Remarks:

Laboratory Ambient Conditions During Testing Temperature Range

Temperature Range 20 C (68 F) to 20 C (68 F) Degrees C (F)

Relative Humidity Range 20% to 20%

Inversion Test

Dummy Used 3 Year Old S/N 032

Child Restraint System

Installation Mode Forward-facing

Adjustment Mode Upright

Rotation About Y-Axis (Forward)

Test	Compliance Requirement	Test Result	Pass / Fail
Dummy Retention (FMVSS 213, S8.2.5)	Retained within system	Retained	Pass
Child Restraint Retention (FMVSS 213, S8.2.5)	Retained within aircraft seat	Retained	Pass

Rotation About X-Axis (Lateral)

Test	Compliance Requirement	Test Result	Pass / Fail
Dummy Retention (FMVSS 213, S8.2.6)	Retained within system	Retained	Pass
Child Restraint Retention (FMVSS 213, S8.2.6)	Retained within aircraft seat	Retained	Pass

APPENDIX A

EQUIPMENT LIST AND CALIBRATION SCHEDULES

CERTIFICATION INSTRUMENTATION

Instrument	Certification Test	Calibrate Date	Due Date
Pendulum Arm Potentiometer Servo Model 14CB1-2397	Neck Pendulum	2/09	2/10
Pendulum Head Potentiometer Servo Model 14CB1-2981	Neck Pendulum	2/09	2/10
Pendulum Accelerometer Endevco Model 7231CT S/N AE8KO	Neck Pendulum	4/09 11/09	10/09 4/10
Probe Accelerometer Endevco Model 7264CT S/N AC-P21392	Thorax Impact	3/09 8/0	9/09 2/10
Pendulum Arm Potentiometer ETI Model SP22D		1/09	1/10
Pendulum Head Potentiometer ETI Model SP22D		1/09	1/10
Pendulum Linear Potentiometer ETI Model LCP20-50		1/09	1/10
Pendulum Accelerometer CEC Model 4-202 S/N AC-160		4/09 9/09	10/09 3/10
National Instruments Ni-DAQ Model PCI-MIO-16E-4 S/N 0x76179		5/09	5/10
Newport Timer/Counter Model P5000 S/N 140459		4/09	4/010
HP Digital Multimeter Model 3478A S/N 2911A54328		9/08 10/09	9/09 10/10

CERTIFICATION INSTRUMENTATION

Instrument	Certification Test	Calibrate Date	Due Date
Proto Torque Wrench S/N 81041066		4/09 10/09	10/09 4/10
Temp. & Humidity Recorder Dickson S/N 04149036		10/09	10/10
Temp. & Humidity Recorder Dickson Model THDX S/N 04149034		5/09	5/10
Temp. & Humidity Recorder Dickson Model THDX S/N 04114789		10/08 10/09	10/09 10/10
Digital Angle Gauge Wixey		8/09	8/10
Chatillon 5 Pound Gauge +/- 8 oz. Accuracy		4/09 10/09	10/09 4/10
Chatillon 20 Pound Gauge +/- 1% Accuracy		5/09 10/09	11/09 5/10
Chatillon 40 Pound Gauge +/- 1% Accuracy		5/09	11/09
SPX Belt Tension Gauge S/N 52759, +/- 1 lb.		5/09 11/09	11/09 5/10
SPX Belt Tension Gauge, S/N 53277 +/- 1 lb.		5/09 11/09	11/09 5/10
Force Gauge, Chatillon Model DPTH 250		11/08 5/09	5/09 11/10
Imada Force Gauge Model DPSH-440R		5/09 11/09	11/09 5/10
Dillon Force Gauge Model AFG-250N		5/09 11/09	11/09 5/10

CERTIFICATION INSTRUMENTATION

Instrument	Certification Test	Calibrate Date	Due Date
Endevco Accelerometers 7264: S/N P51872	ATD'S	8/09	2/10
		10/09	4/10
		12/09	6/10
S/N P49217		8/09	2/10
		10/09	4/10
		12/09	6/10
S/N P49207		8/09	2/10
		10/09	4/10
		12/09	6/10
S/N P51729		8/09	2/10
		10/09	4/10
		12/09	6/10
S/N P49204		8/09	2/10
		10/09	4/10
		12/09	6/10
S/N P51259		8/09	2/10
		10/09	4/10
		12/09	6/10
S/N P52119		11/09	5/10
S/N P59011		11/09	5/10
		12/09	6/10
S/N AC-P58765		11/09	5/10
		12/09	6/10
S/N AC-P58785		11/09	5/10
		12/09	6/10
S/N AC-P51944		11/09	5/10
		12/09	6/10
S/N AC-J20014		11/09	5/10

CERTIFICATION INSTRUMENTATION

Instrument	Certification Test	Calibrate Date	Due Date
Endevco Accelerometers 7264: S/N P51988	ATD'S	3/09	9/09
		4/09	10/09
		8/09	2/10
		11/09	5/10
		12/09	6/10
S/N P52016		11/09	5/10
		12/09	6/10
S/N P52032		3/09	9/09
		4/09	10/09
		8/09	2/10
		11/09	5/10
		12/09	6/10
S/N P52026		6/09	3/10
		8/09	2/10
		11/09	5/10
		12/09	6/10
S/N P49176		8/09	2/10
		9/09	3/10
		11/09	5/10
		12/09	6/10
S/N P49173		8/09	2/10
		9/09	3/10
		11/09	5/10
		12/09	6/10

CERTIFICATION INSTRUMENTATION

Instrument	Certification Test	Calibrate Date	Due Date
Entran Accelerometers: EGE-73BQE0 73B6Q; S/N 03E03E21-M20	ATD'S	11/09	5/10
EGEB6Q 73B6Q; S/N 05G14-X33		4/09	10/09
		6/09	12/09
		8/09	2/10
		11/09	5/10
		12/09	6/10
73B6Q; S/N 04J04I20-Z14		4/09	10/09
		6/09	12/09
		8/09	2/10
		11/09	5/10
		12/09	6/10
73B6Q; S/N 03E03E02-N01		4/09	10/09
		6/09	12/09
		8/09	2/10
		11/09	5/10
		12/09	6/10
Chest Potentiometer Denton Model KS S/N DS-036	Chest Impact (ATD)	11/09	5/10
		12/09	6/10
Chest Potentiometer Denton Model KS S/N DS-038	Chest Impact (ATD)	11/09	5/10
		12/09	6/10
Chest Potentiometer Denton Model KS S/N DS-160	Chest Impact (ATD)	11/09	5/10

APPENDIX B

PHOTOGRAPHS OF EQUIPMENT

FOR YOUR CHILD'S CONTINUED SAFETY

Please take a few moments to promptly fill out and return the attached card (or register online using the direct link to the manufacturer's registration website provided).

Although child restraint systems undergo testing and evaluation, it is possible that a child restraint could be recalled.

In case of a recall, we can reach you only if we have your name and address, so please send in the card (or register online) to be on our recall list.

Please fill this card out and mail it NOW,
(or register online at: <https://plweb.evenflo.com/productreg.aspx>)
while you are thinking about it.

It's already addressed and we've paid the postage.

Tear off and mail this part

Consumer: Just fill in your name and address. **PLEASE PRINT**

Your name _____

Your street and address _____

City _____ State _____ Zip Code _____

CHILD RESTRAINT REGISTRATION CARD

Made in/Fabrique en 2008 | 11 | 13
(year/month/day) / (année/mois/jour)
Name/Nom Symphony
Model/Modèle 3121925 L 1
Manufactured in / Fabriqué en US

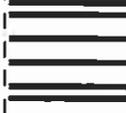
IMPORTANT

In case of a recall, we can reach you only if we have your name and address. You **MUST** send in the attached card to be on our recall list.

We've already paid the postage.

Do it today.

26000701 3/06



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 325 PIQUA OH

POSTAGE WILL BE PAID BY ADDRESSEE

CHILD RESTRAINT REGISTRATION
PROGRAM

EVENFLO COMPANY INC
1801 COMMERCE DR
PIQUA OH 45356-9960





Item Code: 021-E3121925-01-D6UW

SLED TEST: 11-9-24A PRE-TEST



Item Code: 021-E3121925-01-D6UW

SLED TEST: 11-9-24A POST-TEST



Item Code: 021-E3121925-02-D6U

SLED TEST: 11-9-24B PRE-TEST



Item Code: 021-E3121925-02-D6U

SLED TEST: 11-9-24B POST-TEST



Item Code: 021-E3121925-03-D3R

SLED TEST: 12-9-32A PRE-TEST



Item Code: 021-E3121925-03-D3R

SLED TEST: 12-9-32A POST-TEST



Item Code: 021-E3121925-03-D3R

SLED TEST: 12-9-32A PRE-TEST



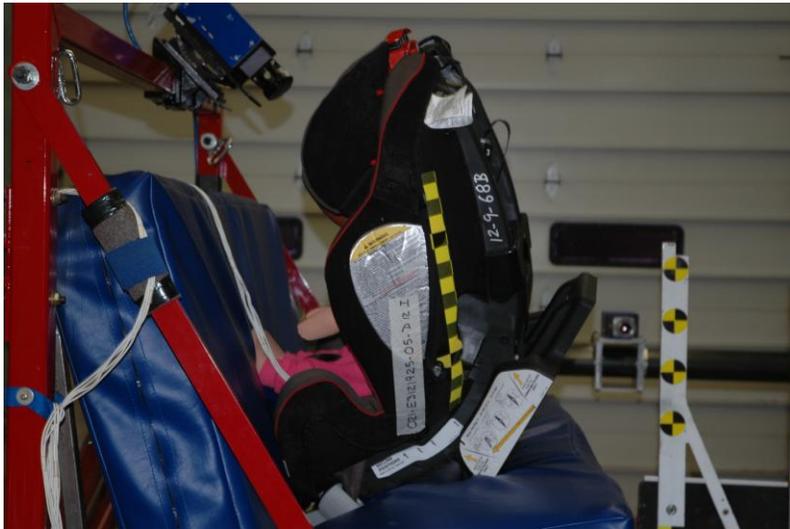
Item Code: 021-E3121925-03-D3R

SLED TEST: 12-9-32A POST-TEST



Item Code: 021-E3121925-05-D121

SLED TEST: 12-9-68B PRE-TEST



Item Code: 021-E3121925-05-D121

SLED TEST: 12-9-68B POST-TEST



Item Code: 021-E3121925-06-D3U

SLED TEST: 12-9-75B PRE-TEST



Item Code: 021-E3121925-06-D3U

SLED TEST: 12-9-75B POST-TEST



PRE-TEST: 11, Y-AXIS



Item Code: 021-E3121925-D12U

POST-TEST: 11, Y-AXIS



PRE-TEST: 11, X-AXIS



Item Code: 021-E3121925-D12U

POST-TEST: 11, X-AXIS



PRE-TEST: 11, Y-AXIS



Item Code: 021-E3121925-D3U

POST-TEST: 11, Y-AXIS



PRE-TEST: 11, X-AXIS



Item Code: 021-E3121925-D3U

POST-TEST: 11, X-AXIS

CONFIGURATION

Item Codes:

021-E3121925-01-D6UW

021-E3121925-02-D6U

021-E3121925-03-D3R

021-E3121925-04-D3U

021-E3121925-05-D12I

021-E3121925-06-D3U



LABELS

Item Codes:

021-E3121925-01-D6UW

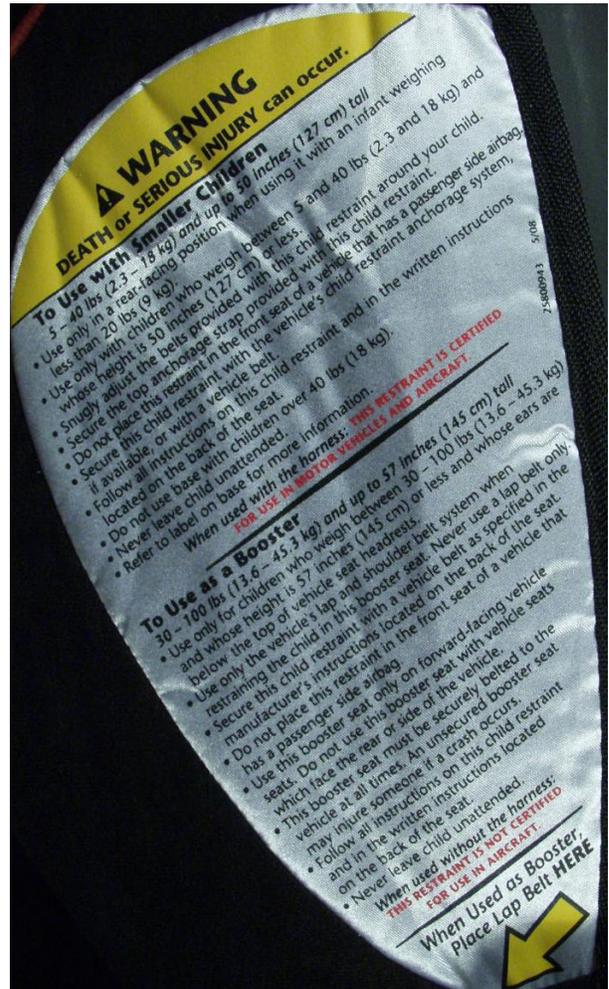
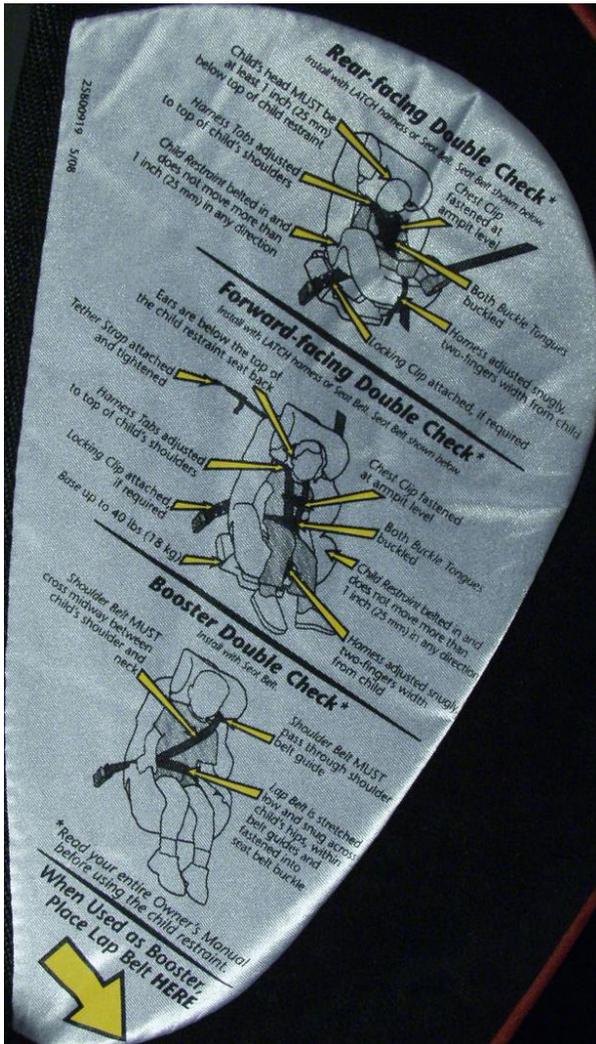
021-E3121925-02-D6U

021-E3121925-03-D3R

021-E3121925-04-D3U

021-E3121925-05-D12I

021-E3121925-06-D3U



LABELS

Item Codes:

021-E3121925-01-D6UW

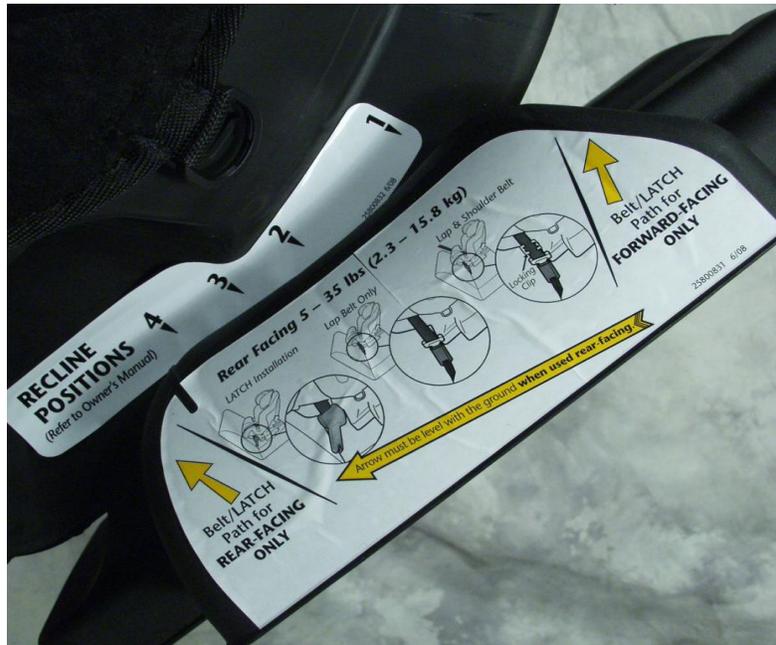
021-E3121925-02-D6U

021-E3121925-03-D3R

021-E3121925-04-D3U

021-E3121925-05-D12I

021-E3121925-06-D3U



LABELS

Item Codes:

021-E3121925-01-D6UW

021-E3121925-02-D6U

021-E3121925-03-D3R

021-E3121925-04-D3U

021-E3121925-05-D12I

021-E3121925-06-D3U

