

Child Passenger Safety TECH REPORT



New Vehicle Features for Child Safety

More and more new vehicles are offering a wide range of features specifically for children's safety. At least some model year 2001 vehicles offer center-rear shoulder belts, adjustable upper belt anchors in the rear, LATCH, and interior trunk releases. Of these features, only LATCH is required by regulation (for a small proportion of vehicle production). The other features have been added voluntarily.

Features vary widely, depending on vehicle type, according to vehicle listings in the NHTSA booklet *Buying a Safer Car for Child Passengers* (2001 edition).

- Center rear shoulder belts are standard equipment in almost two-thirds of the passenger cars but are standard or optional in only one-third of SUVs and three vans listed.

- Built-in CRs are options for 37 percent of the vans but only 6 percent of passenger cars and none of the SUVs.
- Back seat adjustable upper belt anchors are standard equipment in about 63 percent of SUVs and 79 percent of vans, but only 25 percent of passenger cars.
- Lower LATCH anchors are standard (or optional in a few cases) in 31 percent of passenger cars, 46 percent of SUVs, and 68 percent of vans.
- Trunk releases are in 65 percent of all passenger cars (not broken down by sedan vs. station wagon).

In the current model year (2001), all passenger vehicles (except convertibles and small school buses) are required to have tether anchors built in.

Rear-seat head restraints, which are not included in the 2001 child passenger safety booklet, were standard in most 2000 vans and SUVs, according to NHTSA's companion booklet, *Buying a Safer Car 2000*. They were present in very few of the light-weight cars, more of the medium-weight cars, and most of the heavy cars.

To obtain the booklet, contact the NHTSA website: www.nhtsa.dot.gov.

NTSB Meeting Focuses on Restraint Gap for 4- to 8-Year-Olds

New attention but few answers came out of a December 7, 2001, roundtable meeting hosted by the National Transportation Safety Board (NTSB). The meeting sought solutions to a very real safety problem: the dearth of restraints for children over 40 pounds for use in vehicles with lap-only belts in the back seat. Jim Hall, chairman of NTSB, called the meeting after attending a SAFE KIDS-sponsored safety seat check in Memphis, Tenn. He had observed firsthand children 4 to 8 years of age being sent away without adequate protection because their families drove older vehicles with lap-only belts in the back seat.

Statistics were presented at the meeting to support not only the need for lap belt-only restraints, but also the need to keep costs low. According to NTSB data from 1990-1999, 16 children aged 4 to 8 are killed in motor vehicle crashes each week, and 6 out of 10 are not properly restrained.

Approximately 18 percent of children ages 4 to 8 in the United States live below poverty level. About 34 percent of cars in use are model year 1988 and older with lap-only belts in the rear seat. NHTSA has found that, of the 74 percent of low-income households who own a vehicle, the average vehicle age is 11 years. Shoulder belts have only been required in the rear seat since model year 1990. Most newer cars and SUVs, which have become popular family cars, continue to have lap belts in the center seating position.

Fisher-Price Futura, Britax Laptop, and E-Z-On Y-86 Harness were presented as the only existing products that serve heavier children in lap belt positions. The E-Z-On harness is the only one that covers the entire age/weight range, but it requires a special anchor installation. The only other option, retrofitting of rear-seat

continued, page 4

NHTSA Releases New Plan for Child Passenger Safety

In late November, NHTSA issued a detailed plan for its ongoing and new child passenger safety activities and solicited public comment by Dec. 22. The plan is available on the agency website and is well worth reading. It details a wide range of child passenger safety projects and programs, both current and proposed, covering everything from consumer information to crash testing. It also includes graphs of CR usage rates and fatalities and injuries to children.

The plan is too complex to summarize succinctly. Here are some highlights:

- develop a guide for fitting stations;
- assist states to institutionalize CPS technical training;
- conduct a new CR misuse study;
- revise FMVSS 213, including side-impact protection and labeling changes;
- utilize the Child Restraint Air Bag Interaction (CRABI) 12-month, 22-pound dummy, and more advanced 3- and 6-year-old dummies, develop a 10-year-old dummy;

continued, page 4

INSIDE

CPS Tech Liability Insurance	2
CRs on School Buses	2
CPS Listserve Address	2
Special Needs Training	2
CPS Board Update	2
Q&A: Head Excursion Requirements	3
Head Start Bus Rule	3
Trunk Escape Latch Rule	3
Restraint Gap, from page 1	4
NHTSA Safety Plan, from page 1	4
LATCH Vehicles Multiply	4
Product Notices	
DaimlerChrysler, Evenflo	4
Technical Notes	4



AAA, ICIP Offer Plans for CPS Tech Liability Insurance

Recently, two national organizations announced discounted group liability insurance to certified child passenger safety technicians and instructors.

The International Center for Injury Prevention is offering a \$250-a-year, \$250 deductible plan. AAA's zero deductible plan is available for \$55 annually. Both say premium years match annual national certification periods. Both intend to cover individuals, not organizations.

"We are excited that there are two levels of insurance now available," said Elaine Kizewski, ICIP executive director. "We do not feel they compete but complement each other and allow affordable insurance for everyone."

AAA's Bill Wen said their intent also is to provide affordable coverage. He cited AAA's purchasing power and research confirming scarcity of related claims.

In general, both policies aim to support activities that implement part or all of the standardized curriculum, with application in a variety of settings. Buyers should compare policy details and limits to determine which one meets their needs.

Contacts: AAA: Bill Wen, 407/444-7960 or wen@AAA.national.org
ICIP: Shirley Christianson, 800/344-7580 Ext. 12 or shirley@cipsafe.org

Child Passenger Safety TECH REPORT is published quarterly by the National Highway Traffic Safety Administration.

Articles are compiled with permission from copyrighted material originally published by Safe Ride News Publications, in the November/December 2000 and January/February 2001 issues of *Safe Ride News*.

Child Restraints on School Buses: Course to be Piloted

A nine-hour course specifically addressing child restraints in school buses is being pilot-tested in three places in February. Cheryl Wolf, Sue Shutrump, Kathy Strotmeyer, and Jean Zimmerman were in the curriculum development group and will be teaching the pilot courses along with others. The final course will be taught by technicians, and those who finish it will get a certificate of completion.

Diane Wigle, until recently the school bus staff person in the NHTSA Office of Safety Countermeasures, says that she hopes the course will be ready by summer. "We hope to set up some workshops at the ICIP conference in June to give technicians the opportunity to install CRs in school buses," she says. "It is important they know they cannot successfully teach the curriculum unless they have experience securing CRs in school buses. School buses are very different [vehicles] than passenger cars and it is vital for techs to get some hands-on experience before they attempt to teach the school-bus-specific course."

Contact: NHTSA Office of Safety Countermeasures, 202/366-1739

New Home for CPS Listserve

The International Center for Injury Prevention, which has sponsored the CPS e-mail listserv, has moved it in-house. This means that there is a new address, so users must sign up again.

To sign up, send a blank message from the computer from which you will be accessing it with "subscribe" in the subject line. To receive the digest, send the blank message with "subscribe digest" in the subject line to cpslist@cipsafe.org.

The address to send messages is cpslist@cipsafe.org.

The searchable archive is available at <http://groups.yahoo.com/group/cpslist>.

If you have any problems, address them to cpslistmaster@cipsafe.org.

Special Needs Training Offered To Technicians

A two-day class in transporting children with special needs was held in Indianapolis, Indiana, on April 26-27. The course is intended for CPS Technicians.

In addition, Riley Hospital, Indianapolis, held a class for potential instructors for the Special Needs Class before the International CPS Technical Conference in Indianapolis in early June. Potential instructors of this advanced training program must have a year of hands-on experience working with children with special needs, preferably in a medical capacity, e.g., nurse, occupational or physical therapist, or physician.

For future classes, contact the Automotive Safety for Children Program at Riley Hospital, 317-274-2977 or jtalty@iupui.edu.

CPS Board Update

Website has permanent address

The board's website is now housed at the University of North Carolina Highway Safety Research Center. The new address, www.cpsboard.org, should remain with the service, regardless of its host.

Recertification test completed

The recertification test has been finished and is being sent out by AAA.

Curriculum revision complete

The 2001 editions of the Instructor Guide and Test Packet, as well as the Participant Manual have been completed. All currently certified instructors and technicians should received their copies by late June or early July.

CD Version of Manufacturers' Instructions is out

The 1999 CD version of the complete manufacturers' instructions has been mailed to all certified technicians and instructors.

Contact for questions

Contact Carole Guzzetta, National Safety Belt Coalition, if you have any questions or comments about the training and certification program at 202/296-6263; guzzette@nsc.org.



Head Excursion Requirements Explained

Q: I am a new instructor and am reviewing my material before I teach next month. I am confused about the allowable head excursion for forward-facing restraints. There seem to be two standards for head excursion. Can you clarify the standard?

A: All forward-facing CRs manufactured on or after Sept. 1, 1999, are required to meet a head excursion limit of 28.35 inches (720 millimeters) in the FMVSS 213 sled test. In addition, CRs must have head excursion of less than 32 inches (813 mm) when sled-tested without a tether. The 32-inch requirement is used to guarantee minimum performance without a tether at least equal to that required prior to September 1999. The latter test recognizes that not everyone will use a tether. Tether anchors are difficult to install in some pre-2000 model year vehicles and are not available for all pre-1989 vehicles. In addition, not all existing CRs can be retrofitted with tethers.

Head excursion is measured not from the seat back but from the point where the test-sled seat back pivots. This is about 5 inches behind the seat bight (where the back and bottom cushions meet) on the test sled. To get an idea of approximately how much head excursion space there is in a particular vehicle, subtract 5 inches from the 28-inch or 32-inch allowance, measure that distance forward from the bight, and then imagine a vertical line upward to the level of the child's head and shoulders. The availability of the maximum head excursion space (27 inches) in the rear seat depends a great deal on how far back the front seat is positioned and reclined.

It is possible to design a CR that can meet the 28-inch requirement without a tether, as Fisher-Price has demonstrated with the Futura. Most models, especially those designed in the past (when 32 inches was the only head excursion limit in the U.S.), must use a tether to pass the 28-inch requirement.

In the "old days" (starting January 1, 1981), FMVSS 213 allowed manufacturers to meet the 32-inch head excursion

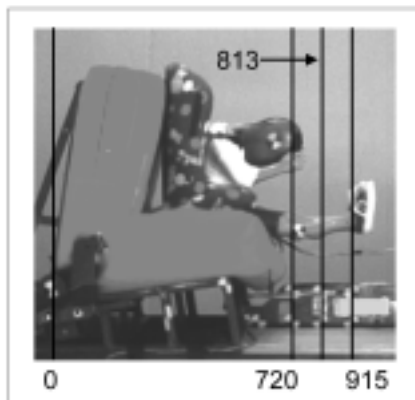


Photo of a dynamic test, showing head excursion limits of 720 mm (with tether) and 813 mm without tether. 915 mm is the knee excursion limit. Photo courtesy of Child Passenger Protection, University of Michigan.

limit in any way they wanted--and many chose to use tethers. However, sled tests showed that some of those CRs would fall apart completely without the tether in use. The first observational study of misuse ever done (by Shelness and Jewett, 1983) found that tethers were rarely used. Soon after, the standard was changed (1985), applying the 32-inch rule to installation with only a lap belt anchoring the CR. At that point, considerable redesign was done so products could pass the requirement without tethering, so tethers vanished from the market. That situation

The Canadian child restraint standard (CMVSS 213) has required a maximum head excursion limit of 720 mm since 1984. It does not require a test without the tether, however, and products virtually always use a tether to pass. Canadian vehicle regulations were written to facilitate tether anchor installation. Thanks to this rule, vehicles made for sale in both the U.S. and Canada have had holes predrilled or tether anchor locations designated in their vehicles for many years. Since the 2000 model year, regulations of both countries have required the installation of tether anchors in most vehicles.

Head Start Bus Rule Published

A final rule for Head Start transportation was announced on January 18, 2001, more than five years after the draft proposal was published. It governs the types of vehicles and restraints to be required.

The rule was delayed by a dispute over whether school bus use would be required or other vans permitted. The final rule is a compromise, including both school buses and "allowable alternative vehicles." Allowable vehicles would have to comply with federal school bus standards dealing with crash survivability and mirrors but would not have to meet such crash avoidance features as color, bus lights, and stop arms. There will be a five-year phase-in period.

Child restraints will be mandated for children up to 50 pounds. The phase-in period will be three years. Other requirements include a monitor on each bus, minimum qualifications and training requirements for drivers, vehicle and pedestrian safety education for parents and children, and specific rules regarding children with special needs.

More information on Head Start transportation is available on www.headstartinfo.org

Trunk Escape Latch Rule Finalized

NHTSA completed Federal Motor Vehicle Safety Standard 401 for Internal Trunk Release in October. All new passenger vehicles with trunks will be required to have an internal release mechanism, beginning September 1, 2001. The mechanism can be a release latch that could be pulled by anyone inside or a passive release activated by a detector.



Restraint Gap

(continued from page 1)

shoulder belts to allow the use of belt-positioning boosters, was barely discussed.

Suggestions included:

- Labeling products clearly that can be used with lap-only belts for children over 40 pounds.
- Continuing to publicize the need for boosters to both children and parents.
- Encouraging the availability of retrofit kits for lap and shoulder belts and installation.
- Encouraging manufacturers to design and produce products to fill the gap, especially products for 60- to 80-pound children.
- Educating retail buyers about the need for different restraints.
- Changing regulations to allow tethered child restraints to be used for children over 40 pounds and providing stronger tethers for use by heavier children.
- Making these products more affordable, such as by using federal dollar subsidies (Children's Health Insurance Plan and Medicaid funds), coupons and incentives, and partnerships with organizations that can help reduce costs.

— Karen Kern

NHTSA Safety Plan

(continued from page 1)

- conduct a booster seat effectiveness study
- evaluate the performance of CRs with shields
- find ways to increase recall-completion rate from 50 percent response
- develop a way to identify new parts used in recall repair kits
- train in-house NHTSA hotline operators to field customer inquiries, replacing contracted advocates around the country who have handled these calls
- upgrade the NHTSA website to make child restraint information easier to locate
- provide more detailed information about the results of CR compliance tests
- complete requirement for labeling aftermarket shoulder belt positioning devices

Contact: www.nhtsa.dot.gov/people/injury/childps/

LATCH Vehicles Multiply Rapidly

The Automotive Coalition for Traffic Safety has called attention to the fact that at least 62 vehicle models in the 2001 model year have lower LATCH anchors as well as the tether anchors currently required. Last year, there were only six vehicles with the new lower anchors.

In addition, some 1999-2001 model year Volkswagen and Audi vehicles can be retrofitted with LATCH anchors. These include the Volkswagen Passat, for which kits are available at VW dealerships. Also, retrofit kits are being prepared for Audi A4, A6, allroad, and A8 car lines (except the A8L and TT Coupe and Roadster).

So far, only two child restraints have the lower attachments to make use of LATCH: the Fisher-Price Safety Embrace II and the Cosco Triad. The Safe Embrace II is available in Toys R Us and Babies R Us stores, while the Triad can be found at Kmart.

Britax plans to bring out its first LATCH restraint this spring, a forward-facing-only CR to be sold in specialty stores. It will be based on the Freeway, and will have flexible lower attachments with new Britax-designed buckles.

Product Notices:

DaimlerChrysler

DaimlerChrysler has sent new instructions regarding tether use to owners of over 1.2 million cars, light trucks, and SUVs whose vehicle manuals did not include instructions required by FMVSS 225. Vehicles involved were 2000-01 models. If owners do not receive the instructions, they should call 800/853-1403.

Evenflo Consumer Notice

Evenflo has sent brochures to registered owners of "On My Way Position Right V" infant restraints to describe the correct way to tighten the harness. The company became aware that some owners were adjusting the harness incorrectly, possibly damaging the plastic adjuster housing on the seat.

Contact: Evenflo's Parent Link Consumer Resource Center. U.S.: 800/233-5921 (8am - 7pm EST), Canada: 800/265-0749

Technical Notes: Right Fit Booster Gains Weight

The Evenflo Right Fit booster, model 245, has been approved to accommodate children 40 to 80 pounds. This change is effective in both the United States and Canada, and is retroactive to June 1, 1997.

Consumers who wish to use the Right Fit up to the new weight limit should contact Evenflo Parent Link at 800/233-5921 or visit the website at www.evenflo.com (click on Contact Us) to order a new instruction booklet.

Acronyms To Know

AAAM: Association for the Advancement of Automotive Medicine

AAP: American Academy of Pediatrics

APHA: American Public Health Association

BPB: Belt-positioning booster seat

CDC: Centers for Disease Control and Prevention

CIP: [International] Center for Injury Prevention

CPS: Child passenger safety

CPSC: Consumer Product Safety Commission

CSS, CR, CRS: child safety seat/restraint system

ENA: Emergency Nurses Association

FAA: Federal Aviation Administration

FMVSS: Federal Motor Vehicle Safety Standard

FMVSS 213: the federal motor vehicle safety standard governing restraint systems for children under 50 pounds

IACP: International Association of Chiefs of Police

ICIP: International Center for Injury Prevention

ICR: Infant-Child Restraint (Canadian)

LATCH: Lower Anchors and Tethers for Children

NCSBS: National Coalition for School Bus Safety

NSBC: National Safety Belt Coalition

NHTSA: National Highway Traffic Safety Administration

NTSB: National Transportation Safety Board

SAE: Society of Automotive Engineers

SRN: Safe Ride News

SBS USA: SafetyBeltSafe U.S.A., the national child passenger safety advocacy organization