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AAA Foundation for Traffic Safety

FACT SHEET

New Research on Lower Anchors and Tethers for CHildren Systems in Vehicles

Saving lives through research and education

When used properly, child safety seats significantly reduce the risk of death or serious injury for infants and toddlers. Since 2002, the Lower Anchors and Tethers for CHildren (LATCH) system has been required equipment on nearly all new vehicles, per Federal Motor Vehicle Safety Standard (FMVSS) 225. LATCH is intended to reduce user error when installing and securing children in car seats.

In an effort to inform a National Highway Traffic Safety Administration (NHTSA) update to FMVSS 225, the AAA Foundation has released two reports on the ease-of-use and key features of the LATCH system. With LATCH now over 10 years old, this is an opportunity to improve future iterations of the system by building on lessons learned, successes to date, and lingering concerns regarding usability.

Ease-of-Use and Key Features Report (Available Here)

Overview

- Objective: Examine LATCH system components (e.g., anchors, lower attachments, tethers) and vehicle design related to compatibility and ease of use, with emphasis on informing NHTSA regulations.
- Project components:
  - Topic investigation on LATCH background and development
  - Human factors analyses
  - Expert panel workshop

Key Findings

The study identified numerous potential usability issues with LATCH.

- Lower anchors:
  - Difficulty or errors in connecting to lower anchors
  - Difficulty locating lower anchors
  - Not securing unused components
- Top tethers:
  - Difficulty or errors in connecting to top tether
  - Incorrect use of, or difficulty locating, tether anchor
- Vehicle factors:
  - Combined weight of child safety seat and child exceeds weight limits
  - Difficulties with center seating position
  - Lack of awareness of LATCH

Report on the Child Passenger Safety (CPS) Technician Survey (Available Here)

Overview

- Objective: Supplement previous report with professional opinions of certified child passenger safety (CPS) technicians regarding LATCH ease of use and common usage errors observed.
- Method:
  - CPS technicians randomly sampled from a national online database
  - 2,936 technicians were contacted via email; 533 responses were received (18.2%) between October 29 and November 12, 2013
  - Multiple choice questions and an open-ended item were asked via the web

Key Findings

- Most CPS technicians expressed support for LATCH, with 81.3% agreeing it is an effective system for achieving correct child safety seat installation; however, 54.6% also said it needs to be improved.
- Ease-of-use concerns were evident, with 80.5% saying LATCH installation errors are not obvious to parents and caregivers, and less than half (46.4%) saying parents are more likely to install a child seat correctly using LATCH than the seatbelt.
- More than 4 in 5 (83.9%) reported they *often* or *occasionally* encounter parents or caregivers who use LATCH and the seatbelt at the same time, even though this is not permitted. A similar number (79.6%) *often* or *occasionally* encounter LATCH-installed seats not installed tightly.
- Nearly 4 in 5 (79.8%) said they *often* or *occasionally* encounter the lower attachments attached to the wrong anchor bar for the seating position, and nearly half (47.8%) said they *often* or *occasionally* encounter the lower anchor weight limit exceeded.
- More than 4 in 5 (82.5%) *often* or *occasionally* encounter the top tether not in use when it should be; 59.9% *often* or *occasionally* see the top tether strap attached to something other than the tether anchor.

Recommendations

LATCH availability

- Provide LATCH in the center back seat position in all vehicles where space allows
- Provide LATCH in all 3 locations in back seats where space allows

Standardization

- Standardize and increase weight limits for both lower and tether anchors so they are the same in all new vehicles (or increase the weight limit requirements such that this becomes irrelevant)
- Require minimum accessibility and ease-of-use standards
- Lower attachments on child safety seats should be standardized across brands and products
- Set guidelines for size of routing guides so they accommodate top tether adjustment mechanisms

Information requirements and clarity

- Clearly indicate locations of all lower anchors in the vehicle that are not readily visible
- Require that all vehicle manufacturers indicate and clarify weight limits in vehicle owners' manuals
- Require child safety seat manufacturers to clearly indicate weight of the seat on label
- Clearly indicate locations of all tether anchors in the vehicle
- Provide labels clearly diagramming tether routing in the vehicle
- Provide consistent terminology and types of information across vehicle owners' manuals

Public awareness and education

- Increase public information and education efforts regarding what LATCH is, how it's used, why tether use is critical, what the common mistakes are, and what weight limits signify