



NATIONAL
CHILD PASSENGER
SAFETY BOARD

FACT or FICTION

Making our world safer

rev. June 2014

Fact or Fiction

Inflatable seat belts can be used to install all car seats.



Fact *and* Fiction

- Some car seat manufacturers say YES.
- Others say NO.
- **Child seat manufacturers provide the answer.** Check the car seat owner's manual or call Manufacturer's Customer Service line to determine if the car seat or booster seat can be used with an inflatable seat belt.



Ex: Fact

BRITAX Inflatable Seat Belt Policy

September 24, 2013

Can I use an inflatable seat belt to install my BRITAX car seat?

Yes. BRITAX has revised its recommendations and based upon an analysis of vehicle seat belt system testing results, the current Ford Motor Company (Ford and Lincoln vehicles) Inflatable seat belt system is approved for use with all BRITAX car seats made to date. BRITAX will continue to evaluate information provided by automobile inflatable seat belt manufacturers and may revise these recommendations as new data becomes available.

When installing an approved BRITAX car seat with a harness and a Ford or Lincoln inflatable seat belt, we recommend the following:

- [B-SAFE Infant Car Seat](#)
- [CHAPERONE Infant Car Seat](#)
- [Convertible Car Seats](#)
- [Harness-2-Booster Seats](#)
- [Belt-Positioning Booster Seats](#)

<http://www.britaxusa.com/support/inflatable-seat-belt-policy>

Ex: Fiction



clek

Foonf Instruction Manual

This car seat is designed for use either Rear-Facing or Forward-Facing by children who meet all of the following requirements:



WARNING

- Never use this car seat with a vehicle belt that is cut, damaged, frayed or inoperable.
- Using this car seat with a vehicle belt system unsafe for use with this car seat can result in serious injury or death. Pay careful attention to these systems; some of the seat belts that are not safe to use look very much like seat belts that are safe to use. If you are unsure, consult your vehicle owner's manual or call 1-866-656-2462.
- Not all vehicle belts can be used with a car seat. This car seat must be held tight at all times by the lap belt or lap portion of the lap/shoulder belt.
- Never use an inflatable vehicle belt to secure this car seat.
 - If installing this car seat using LATCH in a seating position equipped with an inflatable vehicle belt, do not buckle the vehicle belt behind this car seat.

http://clekinc.com/pdfs/foonf_2013_Owners_Manual_US_EN.pdf

Ford Inflatable Seat Belts

- The system relies on two retractors, one for shoulder and one for the lap belt.
- Only the shoulder portion inflates.
- There is sufficient webbing to secure a car seat.
- Inflation is much slower than traditional airbag and the bag pressure is very low.
- The seat-belt air bags fill with a cold compressed gas instead of a heat-generating chemical reaction like traditional air bags.



Watch the video: <http://bit.ly/1rjgz4V>

Source: S.Sundarajan, PhD, Passive Safety & Advanced Engineering Dept., Ford Motor Company

Fact or Fiction

Ford is the only vehicle manufacturer with inflatable seat belts on the market today.

Fiction

In addition to Ford Motor Company, Mercedes-Benz has an inflatable seat belt that they call a “BeltBag.”



<http://bit.ly/1i5CxHQ>

Fact or Fiction

Correct installation of car seats includes:

1. Selection
2. Direction
3. Location
4. Installation
5. Harnessing

Fact

New in the 2014 Technician Guide

CPS Technicians carry out this role with caregivers by demonstrating and explaining about:

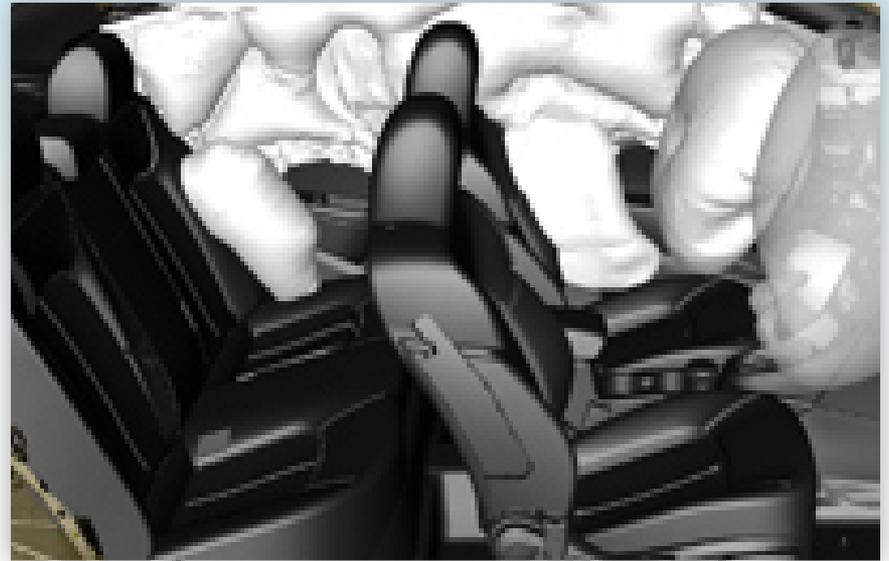
- ✓ **Selection:** Ensuring the car seat, booster seat, or seat belt is in good condition and appropriate for the child's age, height, weight, and developmental levels, as well as ensuring that the seat is not recalled.
- ✓ **Direction:** Facing the car seat in the correct direction for the age, height, weight, and developmental levels of the child.
- ✓ **Location:** Placing the car seat or booster seat in an appropriate location in the vehicle.
- ✓ **Installation:** Installing the car seat or booster seat in the vehicle correctly.
- ✓ **Harnessing:** Securing the child in the car seat, booster seat, or seat belt.

NOTE: Ensure that the caregiver can secure the child in their car seat in the vehicle.

Technician Guide, page 2-2

Fact or Fiction

Car seats may be installed near side air bags without risk of injury.



Fact

Many vehicle manufacturers follow industry standards to minimize the risk of injury from all types of side air bags.

- Usually, children may sit near side air bags without risk of injury.
- Check the vehicle owner's manual to be sure. The owner's manual will always warn if a car seat or booster seat **CANNOT** be installed next to a side air bag.
- The owner's manual for the car seat or booster seat must also allow use near a side air bag.
- If either of the owner's manuals forbids using a car seat or booster seat next to the side air bag, put it in a different seating position in the vehicle.

Technician Guide, page 5-5

Fact or Fiction

It is acceptable to lock the retractor to hold a child in a booster seat.



Fact and Fiction

- If this child won't stay in position, they may not be mature enough for a booster and would be better protected in a full harness (follow weight limits).
- Not all vehicle manufacturers permit retractors to be locked/switched to restrain a child in a belt positioning booster seat.
 - If the manufacturer says not to do it, do not switch the retractor.
- Always read the vehicle owner's manual and car seat instructions.

SHOULDER BELT

WARNING!

TO AVOID POSSIBLE ENTANGLEMENT AND CHOKING WITH YOUR VEHICLE'S SHOULDER BELTS, ENSURE THAT THE FOLLOWING PRECAUTIONS ARE TAKEN WHEN INSTALLING YOUR BOOSTER SEAT.

Check your vehicle's safety information and seat belt guide to learn about how your seat belt works.

It is recommended that the switchable retractor be engaged by the caregiver to hold the child snugly, so the shoulder belt cannot be pulled out:

- Place your child into the booster seat and fasten the seatbelt.
- Pull the seatbelt all the way out until the retractor locks.
- **SLOWLY** let the seatbelt retract until it is snug against your child.
- **ENSURE** that it is not too tight or too loose.
- Do the same for all unused seatbelts.

Teach your child that seat belts are not toys and should never be played with, regardless of whether the car is in motion or not.

ALWAYS be aware of what your children are doing in the back seat.

9

Example: Fact

- Harmony BPB recommends that the switchable retractor be engaged to hold the child snugly.

Example: Fiction

- The 2014 Nissan Altima specifically says NOT to use the belt in the automatic locking mode when using BPB.

Booster seat installation

CAUTION

Do not use the lap/shoulder belt in the Automatic Locking Retractor mode when using a booster seat with the seat belts.

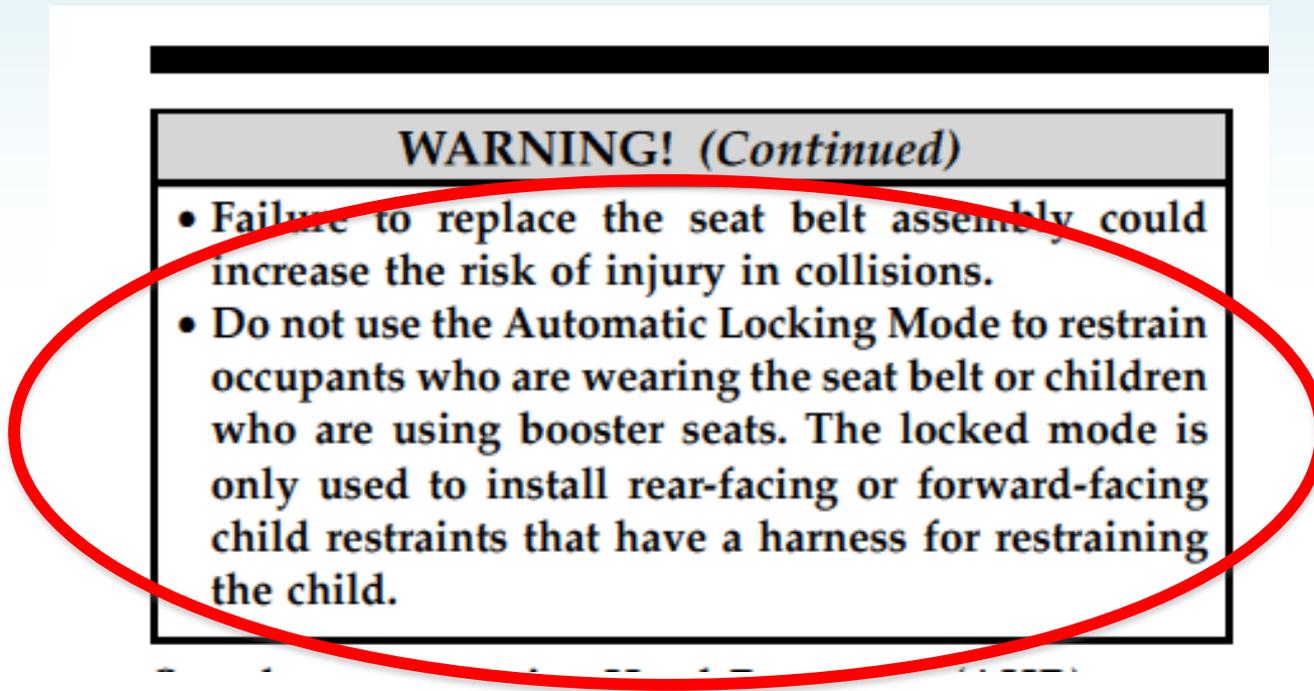
Refer to all Warnings and Cautions in the “Child Safety”, “Child Restraint” and “Booster Seats” sections before installing a child restraint.

Follow these steps to install a booster seat in the rear seat or in the front passenger seat:



Example: Fiction

- Chrysler Group LLC says NOT to use the belt in the automatic locking mode when using BPB.



Fact or Fiction

The term LATCH applies to both vehicle and car seat hardware.



Fact and Fiction

LATCH applies to the lower anchors and tethers in a vehicle.

In the new Tech Guide (TG), we are more careful about LATCH terms.

- Lower anchors and tether – NOT LATCH
- Tether – NOT top tether
- Lower anchor connectors – NOT attachments
- Tether connectors- NOT attachments

Fact and Fiction

- Many owner's manuals still use the term LATCH
- NHTSA still uses this term on their website



The screenshot shows the NHTSA website interface. At the top, there is a search bar and a 'SUBSCRIBE' button with the text 'Enter Email Address' and 'Sign up for Email Updates'. Below the header, the NHTSA logo is displayed on the left, and navigation links for 'DRIVING SAFETY', 'VEHICLE SAFETY', 'RESEARCH', 'DATA', 'LAWS & REGULATIONS', and 'ABOUT NHTSA' are in the center. A sidebar on the left lists various topics, with 'Child Safety at Parents Central' highlighted. The main content area features the article title 'Lower Anchors and Tethers for Children (LATCH) Restraint System'. Below the title is a photograph of a woman and a child in a car seat, and a yellow LATCH logo with the text 'Anchor, Tether, LATCH The next generation of child safety.' To the right of the photo is a box titled 'Additional Resources' with links for 'Child Restraint Use Survey: LATCH Use and Misuse' and 'en español'. Below the photo, the text reads: 'The Facts - 3 out of 4 car seats are not used correctly. Every year, thousands of young children are killed or injured in crashes, mainly because 3 out of every 4 children in child safety seats are not properly secured, or even worse, not restrained at all.' Below that, it says: 'Confused About How to Use It Right? In too many instances, parents are confused about how to correctly install their child's seat.'

Fact or Fiction

A seating position with a tether anchor only and no lower anchors IS NOT called LATCH.

Fact

- LATCH is an alternative system to install car seats in vehicles using two lower anchors and one tether.
- Each LATCH set in the vehicle is made up of two lower anchor bars and one tether anchor.
- If you are referring to the lower anchors AND tether it is a LATCH system.

Technician Guide, page 6-1

Fact or Fiction

If there are lower anchors in a vehicle position, there is always a tether anchor for that seating position.

Fiction

Exceptions

- Convertibles, sports cars, school buses, and some heavy trucks (over 10,000 pounds gross vehicle weight/GVW) are not required to have tether anchors, though some of these vehicles are still required to have lower anchors.
- When a vehicle has lower anchors, but there is no tether anchor, consult the car seat owner's manual to see if installing the seat with only lower anchors and no tether is allowed. If the owner's manual says you must use both lower and upper connectors, or if you do not know or cannot find out, then use the seat belt to secure the seat.
- An approved integrated (or built-in) car seat may take the place of one of the LATCH positions NHTSA requires.

Technician Guide, page 6-2

Fact or Fiction

It is acceptable to install some forward-facing combination seats using LATCH even when used as a booster seat.

Fact

- Some forward-facing combination seats may allow for connecting the car seat to the vehicle using LATCH even when used as a booster seat.
- However, some high-back booster seats can only be used with a seat belt.

Fact or Fiction

When a car seat manufacturer changes the weight limits on their car seats, a retesting of the seats must be done in order to meet the Federal Motor Vehicle Safety Standards.

Fiction

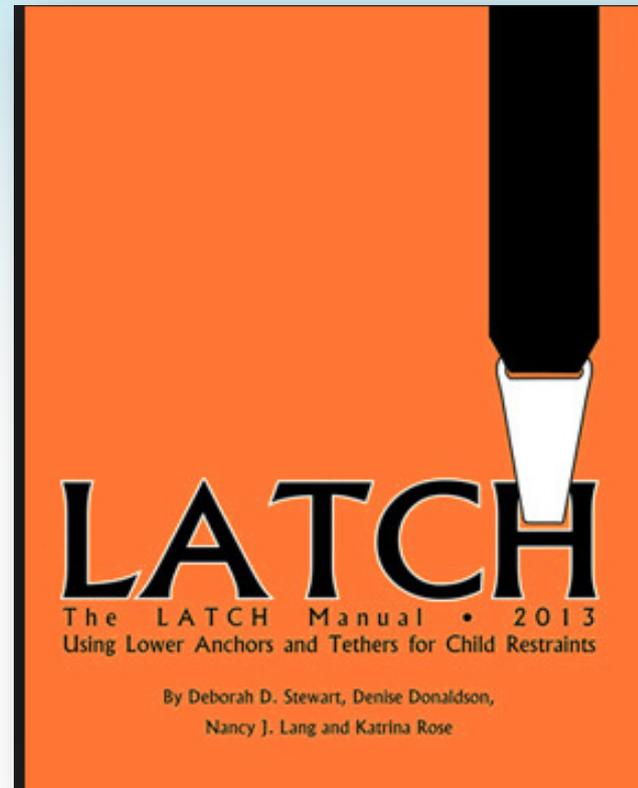
Not always. If the new car seat weight limit is still within the weight range of the original crash test dummy used, then retesting is not necessary.

For example: weight limit is changed from 30 pounds to 35 pounds and the crash test dummy used for original testing weighs 36 pounds

When used in Booster mode, vehicle lower anchor and tether anchor weight limits do not apply.

Fact or Fiction

The information published in the 2013 edition of The LATCH Manual is provided and approved by the car seat and vehicle manufacturers.



Fact

100 percent of the vehicle and car seat manufacturers contributed information and illustrations to the 2013 edition of The LATCH Manual.

These manufacturers also reviewed and confirmed product information for inclusion in this edition.

Fact or Fiction

Solid core pool noodles are better to use than regular pool noodles (with a hole in them) for use with car seats.

Fiction

- There are no standards on pool noodles.
- Pool noodles vary in density whether they have a core or not.



- Check the Manuals: Some manufacturers, such as Chicco, do not want pool noodles used with their infant bases or convertible car seats.

Fact or Fiction

These are the types of latchplates:

1. Locking
2. Switchable
3. Sliding
4. Sewn-on

Fiction

- There is a new category of latchplate: Dynamic Locking.
- May look like traditional locking latchplates but are not meant to secure car seats.
- One will need to take additional steps as recommended in the vehicle owner's manual to lock the seat belt that has a dynamic locking latchplate.



Photo source: General Motors

Fact: Dynamic Locking Latchplate

- Allows webbing of the seatbelt to pass through freely and provide the same comfort and convenience of traditional non-locking, sliding latchplates.
- In the event of a crash, the locking plate clamps the lap belt webbing to prevent the webbing from slipping through the latchplate. This holds the lower torso in place during the crash.

Fact or Fiction

Lockoffs are better than locking clips to secure a car seat in place.



Lockoff



Locking clip

Fiction

- **Either a lock-off or locking clip is safe to use.** They perform the same function.
- Do NOT use a locking clip if a lock-off is present on the car seat.
- A locking clip clamps the tightened lap-and-shoulder belt together within 1” of the latchplate to make the lap belt a fixed length.
- A lock-off also locks to make the lap belt a fixed length.
- It is the fixed length lap belt that locks a car seat in place.

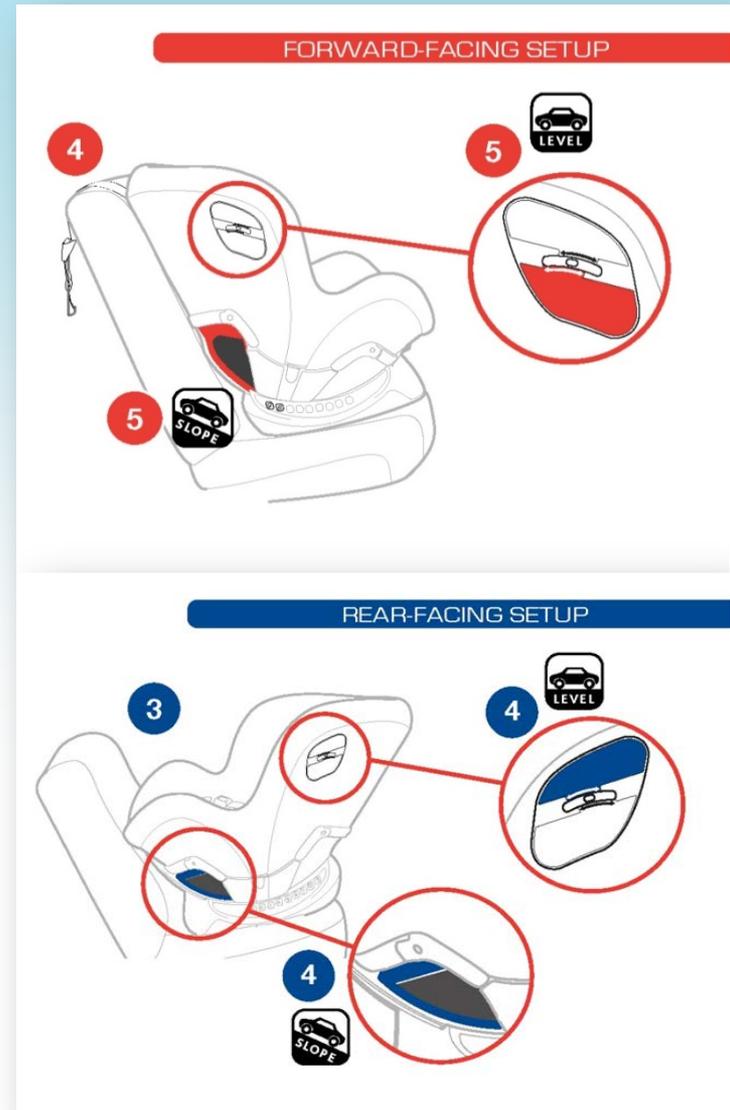


Fact or Fiction

Level indicators are for assisting the caregiver to get the correct angle for **rear facing** car seats only.

Fiction

- Level indicators are **not limited** to rear facing only seats.
 - Safety 1st Rumi has an indicator line for forward facing.
 - Chicco NextFit (image) has angle indicators for rear and forward facing positions.



Fact or Fiction

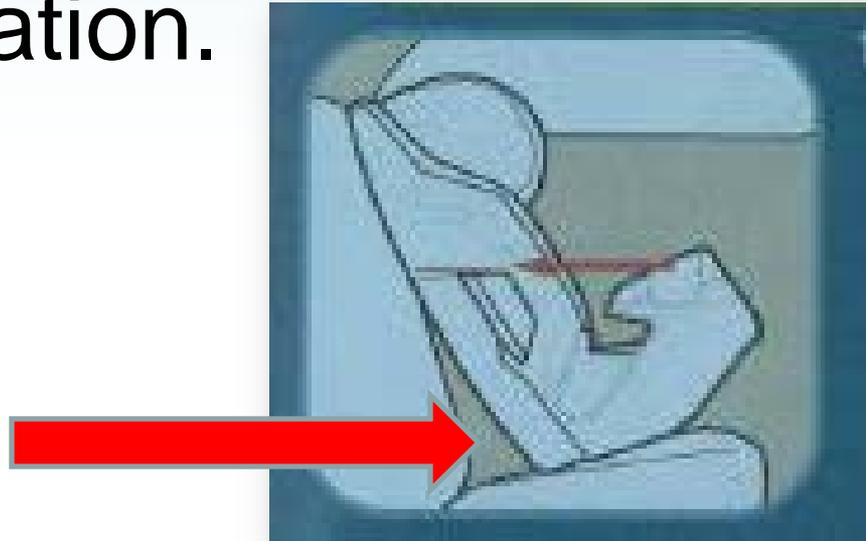
Height and weight limits on car seats stay constant so checking labels is enough.

Fiction

- CPS Technicians can't go wrong **following the labels and instructions** that come with the car seat.
- Sometimes product use guidelines are updated.
- May allow for longer use.

Fact or Fiction

A small gap between the car seat and vehicle seat back is **not** a poor installation.



Fact

- May be an issue with the headrest or seat contour.
- Manufacturers may have specifics.
 - Britax Next Generation convertibles, used forward facing, allow a small gap between the car seat and vehicle seat back. This is okay as long as it is a snug installation. (in FAQs)

Fact or Fiction

Car seats can be used for no more than 6 years.

Fiction

- Each car seat manufacturer determines the appropriate expiration date of their seats.
- While JPMA suggests replacing the car seats after 6 years, some car seats are good for longer periods of time.
 - Example: The Radian RXT has an expiration of 10 years after date of manufacture.
- Always check the labels on the car seat and the owner's manual.



Fact or Fiction

Surveys indicate that most families are using tethers with forward facing harnessed car seats.

Fiction

- Only 28% of forward facing car seats used a tether.
- Of those who did, 59% used it correctly.



A Look Inside American Family Vehicles: A National Study of 79,000 Car Seats, 2009-2010, Safe Kids Worldwide, Sept 2011.

Fact or Fiction

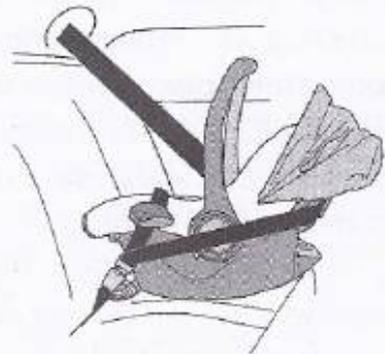
The European belt routing is not approved for use in the United States.



Fiction

Routing the shoulder belt behind the CR

A few models allow/recommend wrapping the shoulder belt behind the back of the CR (if the seat belt webbing is long enough) as a way to reduce forward motion in a crash (similar to the function of an Australian-method rear tether). On rear-facing-only models that allow this method, it typically is only an option when the CR is used without the base. See owner's manual for details.



Use of a shoulder belt around the back of an infant CR installed without its base.

This form of belt routing has been used for many years in the U.S. It is used primarily for rear-facing only child seat that has an open belt path.

2013 LATCH Manual, page 74

Fact or Fiction

Seat belt systems are taught in two parts:

1. Precrash locking
2. Precrash non-locking

Fiction

- In the 2014 curriculum, seat belt systems are taught as a whole with no distinction between precrash locking and precrash nonlocking.
- Module 4 teaches about latchplates and retractors.



National Child Passenger Safety Certification Training Program

Module 4

Seat Belt Systems



4-1

Fact or Fiction

The 2014 amendment to FMVSS 213 means I have to weigh car seats to know the maximum child weight the CR can be installed with the lower anchors.

Fiction

- Anchor weight limits are not always stated in the vehicle or car seat owner's manual.
- **You do not have to weigh most child restraints.**
- Check the label – newer seats will state the maximum weight for LATCH. This is always the weight limit to use, in all vehicles.
- For older car seats, you can find the weight of the seat in the LATCH manual, in Appendix A. You can use this to calculate the weight limits for the vehicle.

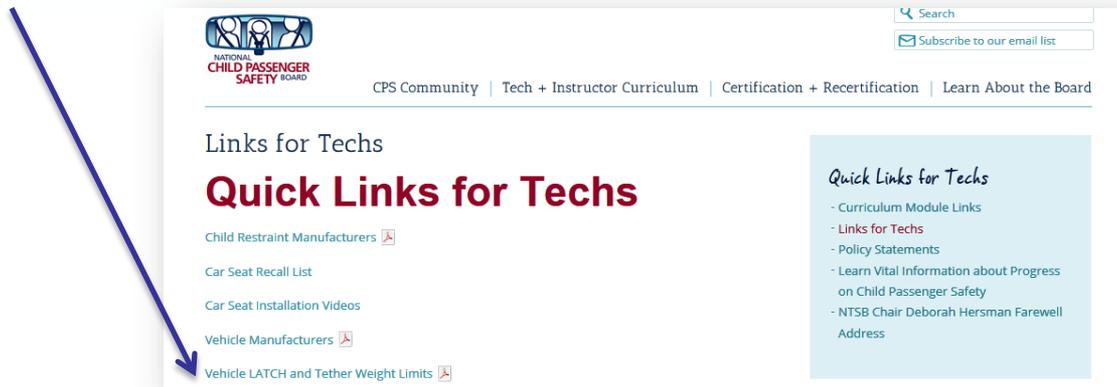
Fiction

- Anchor weight limits are not always stated in the vehicle or car seat owner's manual.
- **You do not have to weigh most child restraints.**
- Check the label – newer seats will state the maximum weight for LATCH. This is always the weight limit to use, in all vehicles.
- For older car seats, you can find the weight of the seat in the LATCH manual, in Appendix A. You can use this to calculate the weight limits for the vehicle.



Fiction (cont.)

- Some Vehicle Manufacturers have made retroactive changes to the weight limits for their anchorages. This may supersede printed materials.
- To find the up-to-date weight limits for vehicles:
 1. Vehicle weight limits are now available online. Check the list on the cpsboard.org website under “Links for Techs”



Fiction (cont.)

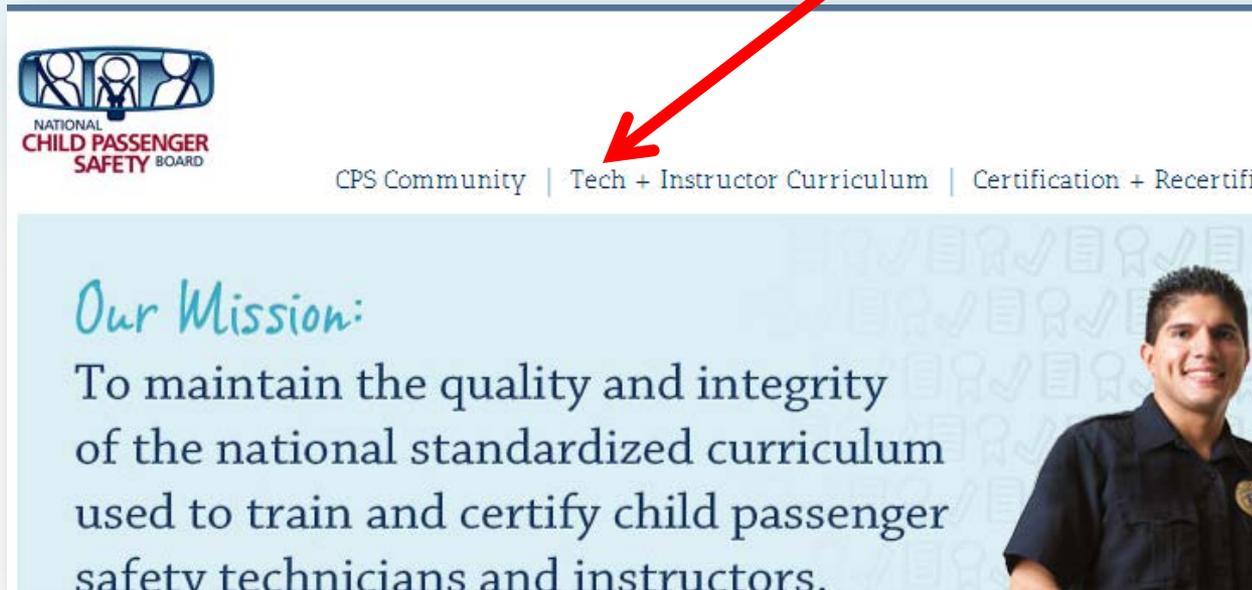
- If the vehicle isn't listed in the online list:
 2. Check the most recent LATCH manual.
 3. Check the vehicle owner's manual
 4. If there is no weight limit listed in any of these resources, then the default child weight limit to be used is "65 pounds minus the CR weight."
 5. When published weights for the vehicle and the CR are in conflict, use the more conservative (lower) weight limit.
 6. When in doubt, use the safety belt to install the CR.

Fact or Fiction

The 2014 Technician Guide (TG) is available for me to download.

Fact

The Technician Guide is available for download from the National CPS Board website: www.cpsboard.org



The screenshot shows the website header with the logo on the left and a navigation menu on the right. The menu items are 'CPS Community', 'Tech + Instructor Curriculum', and 'Certification + Recertification'. A red arrow points to the 'Tech + Instructor Curriculum' link.

NATIONAL CHILD PASSENGER SAFETY BOARD

CPS Community | **Tech + Instructor Curriculum** | Certification + Recertification

Our Mission:
To maintain the quality and integrity of the national standardized curriculum used to train and certify child passenger safety technicians and instructors.



Fact or Fiction

Children whose feet can reach the back of the vehicle seat are more likely to injure their legs in a crash.

Fiction

- Researchers found **no elevated risk of injury for children** ages 12-23 months due to rear-facing car seats.
- Lower extremity injuries are rare for children facing the rear.
- Riding forward-facing does not eliminate a child's risk of lower extremity injuries. Children in forward-facing car seats had a **76%** increased risk of injury compared to children in rear-facing car seats.

Bull, MJ, Durbin, DR. Rear-Facing car safety seats: Getting the message right. Pediatrics. 2008



Fact or Fiction

The 80/20 Car seat overhang guideline does not always apply.

Fact

- Read CR instructions regarding the amount of overhang, if any, that is allowed by each manufacturer for each car seat.

✓ As with car seats and booster seats in passenger cars, according to most manufacturers, a car seat in a pickup truck must have 80 percent of the base supported by the vehicle seat with no more than a 20 percent overhang on the front edge of the vehicle seat. Some models require 100 percent of the car seat to be on the vehicle seat and some have indicators (lines) on the seat to show how much must be placed on it.

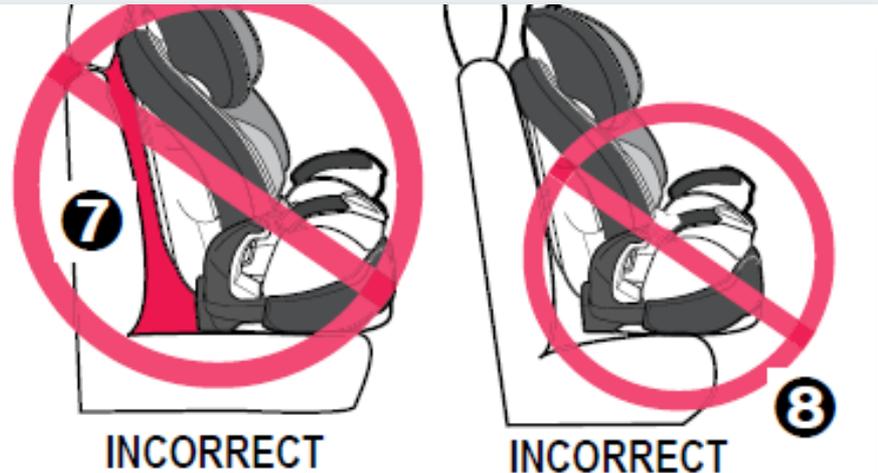
Technician Guide, page 11-1

Fact

- Some CRs require 100% of CR on the vehicle seat.

Example: Graco Nautilus

⑦. The front of booster seat **MUST NOT** hang over front of vehicle seat ⑧.



Fact or Fiction

Following the manufacturer's instructions, **BEST PRACTICE** is the GOLD standard of protection to safely transport a child in a motor vehicle.

Fact

- To safely transport a child in a motor vehicle, **BEST PRACTICE** is the gold standard of protection.
- It is based on the child's age, height, weight, and developmental levels.

Fact or Fiction

The FAA requires the use of car seats on airplanes for children under age 2.

Fiction

- FAA encourages, but does not require, the use of car seats on airplanes for children under the age of 2.
- Car seats labeled as approved for use on airplanes may be used.
- For children weighing 22-44 pounds, who are less than 40 inches tall and can sit unassisted, the FAA has approved the AmSafe /Aviation CARES device for use on airplanes only.
 - The CARES system is not for use in motor vehicles.

Technician Guide, page 11-4

Fact or Fiction

In an emergency, a rear-facing car seat used by an uninjured child, can be installed in a rear-facing ambulance seat.

Fact and Fiction

In general rear facing seats can not be secured to a rear-facing ambulance seat. However, if the car seat manufacturer provides specific approval, it would be appropriate.

Car Seats and Booster Seats in Emergency Vehicles

Emergency vehicles may have side or rear-facing vehicle seats. There are no standards for crash testing a car seat or booster seat on a side-facing or rear-facing vehicle seat. A car seat or booster seat should **NOT** be used in these seating positions.

- Rear-facing car seats are made to face backward on a forward-facing vehicle seat. They **CANNOT** be safely installed on a rear-facing ambulance seat.

Technician Guide, page 11-5

Example: Fact

Diono Special Installation Guidelines for Ambulances and other Emergency Response Vehicles:



3104 142nd Avenue East • Suite 105 • Sumner WA 98390
tel 253.859.5700 • fax 253.859.5800 • us-sales@diono.com • www.diono.com

Special Installation Guidelines for Ambulances and other Emergency Response Vehicles:

It is permissible to install a Radian car seat in a rear-facing passenger seat of an ambulance or specialized emergency response vehicle. In these cases, install the Radian car seat in its upright, 'forward-facing' configuration (with the child facing the rear of the vehicle).

Fact or Fiction

Seat checks for recertification must be done at a big event.

Fiction

- Seat checks for recertification require that you work with an Instructor or Technician Proxy.
- Seat checks for recertification do not have to be done at a large event but they do require observation of your technical and communication skills.
- The seat checks can be done at an inspection station, public event or by appointment. At the discretion of the Instructor or Tech Proxy, mock scenarios in vehicles can also be used.

Source: April 2014 CPS Express