

Child Passenger Safety on School Buses



NATIONAL TRAINING



Handout • CSRS Types: Conventional and Integrated

PROS AND CONS OF CONVENTIONAL CSRS ON SCHOOL BUSES

Among the pros, the most compelling reason to use a conventional CSRS is that it is the only way to safely transport children who must ride rear-facing. Here are some additional details.

PROS

- The only option for rear-facing
- Accessible, relatively affordable, readily available at retail stores or through institutional/bulk sales distributors
- Provide side/head support, protection
- May allow a child to recline forward-facing



CONS

- Can be used only on buses equipped with seat belts or lower anchors; if CSRS requires tether use, a tether anchor option is also needed.
- Can be more difficult and time consuming to install because of limitations of space and access to anchorages
- Bulkier than other forward-facing CSRS, limiting capacity
 - Two CSRS will fit on a 39" bench seat
 - Some models are difficult to fit between rows when space is tight.
- Tend to be heavier and more difficult to maneuver on or off the bus
- Take more space to store when not in use

CONVENTIONAL CSRS—REAR-FACING AND FORWARD-FACING TYPES

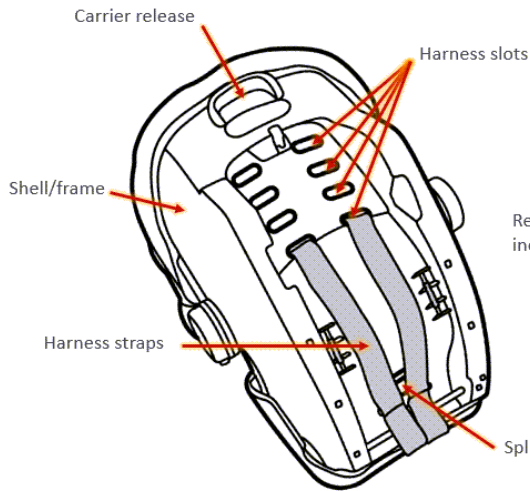
Rear-Facing CSRS	Rear-Facing/ Forward-Facing CSRS	Forward-Facing CSRS
 Rear-Facing Only CSRS, carrier on detachable base  Rear-Facing Only CSRS, carrier only	 Convertible CSRS (Rear-Facing/Forward-Facing)  All-in-One CSRS (Rear-Facing/Forward-Facing/Booster)	 Combination CSRS aka, Harness-to-Booster, etc. (Forward-Facing/Booster)

CONVENTIONAL CSRS—CHILD SIZES

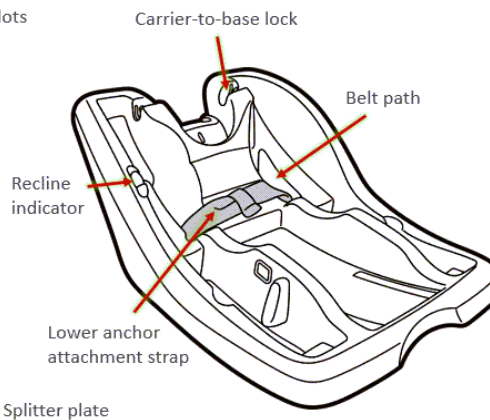
When Rear-Facing	When Forward-Facing
	
<p>TYPICAL HEIGHT REQUIREMENTS¹</p> <p>Top of child's head at least one inch from the top of the shell</p>	<p>TYPICAL HEIGHT REQUIREMENTS¹</p> <p>Shoulders below the highest harness slot Ears below the top of the shell</p>
<p>TYPICAL WEIGHT CAPACITIES¹</p> <p>Minimum: 4 or 5 pounds</p> <p>Maximum: 22, 30, 32, 35, 40, 45, or 50 pounds</p>	<p>TYPICAL WEIGHT CAPACITIES¹</p> <p>Minimum: 20 or 22 pounds</p> <p>Maximum: 40, 50, or 65 pounds</p> <p><i>Also check for height minimums and age minimums—sometimes age 2.</i></p>

¹ Always check CSRS labels and manufacturer instructions for model-specific use guidance.

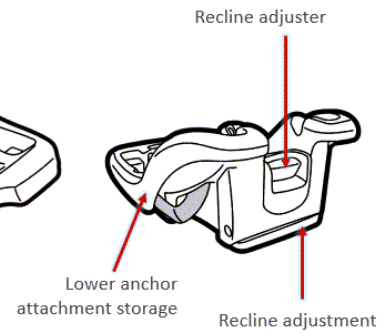
REAR-FACING ONLY CSRS PARTS



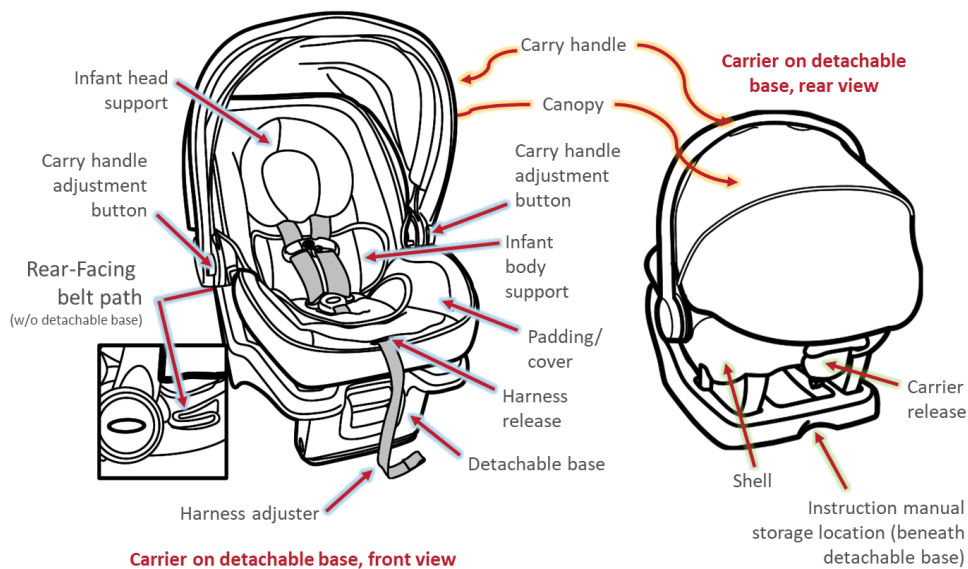
Carrier, rear view



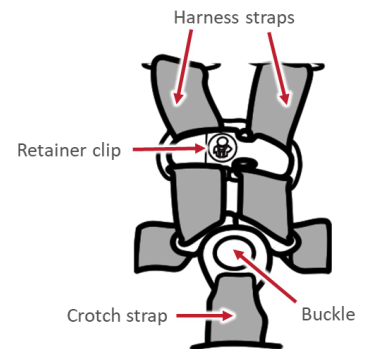
Detachable base, rear view



Detachable base, front view



HARNES DETAIL front view



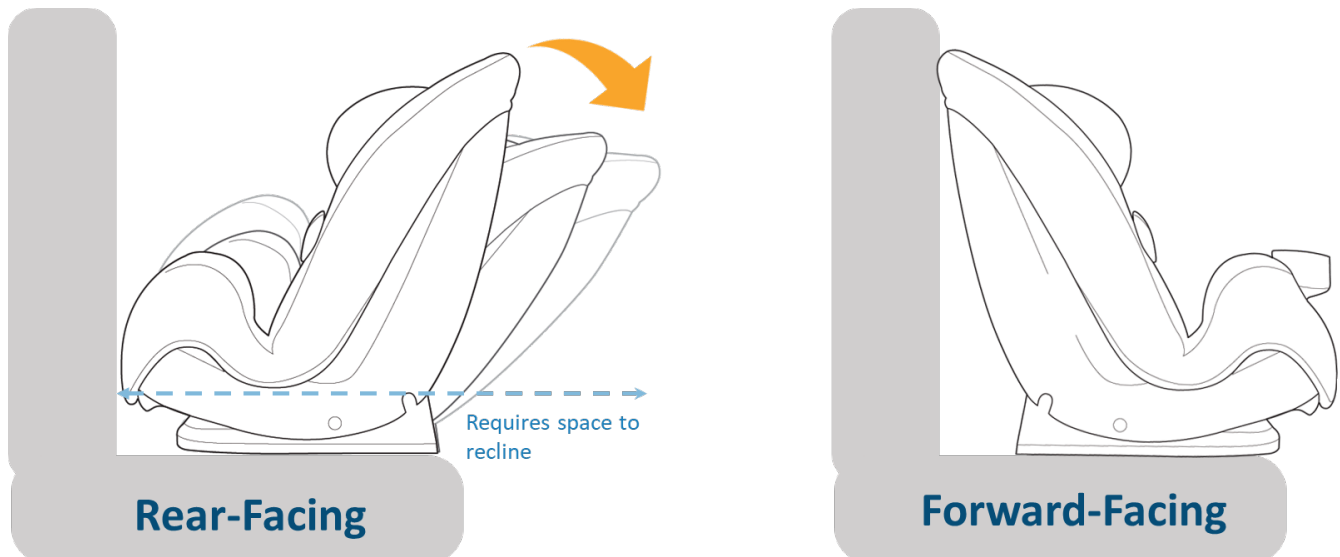
CONVERTIBLE/COMBINATION/ALL-IN-ONE* PARTS



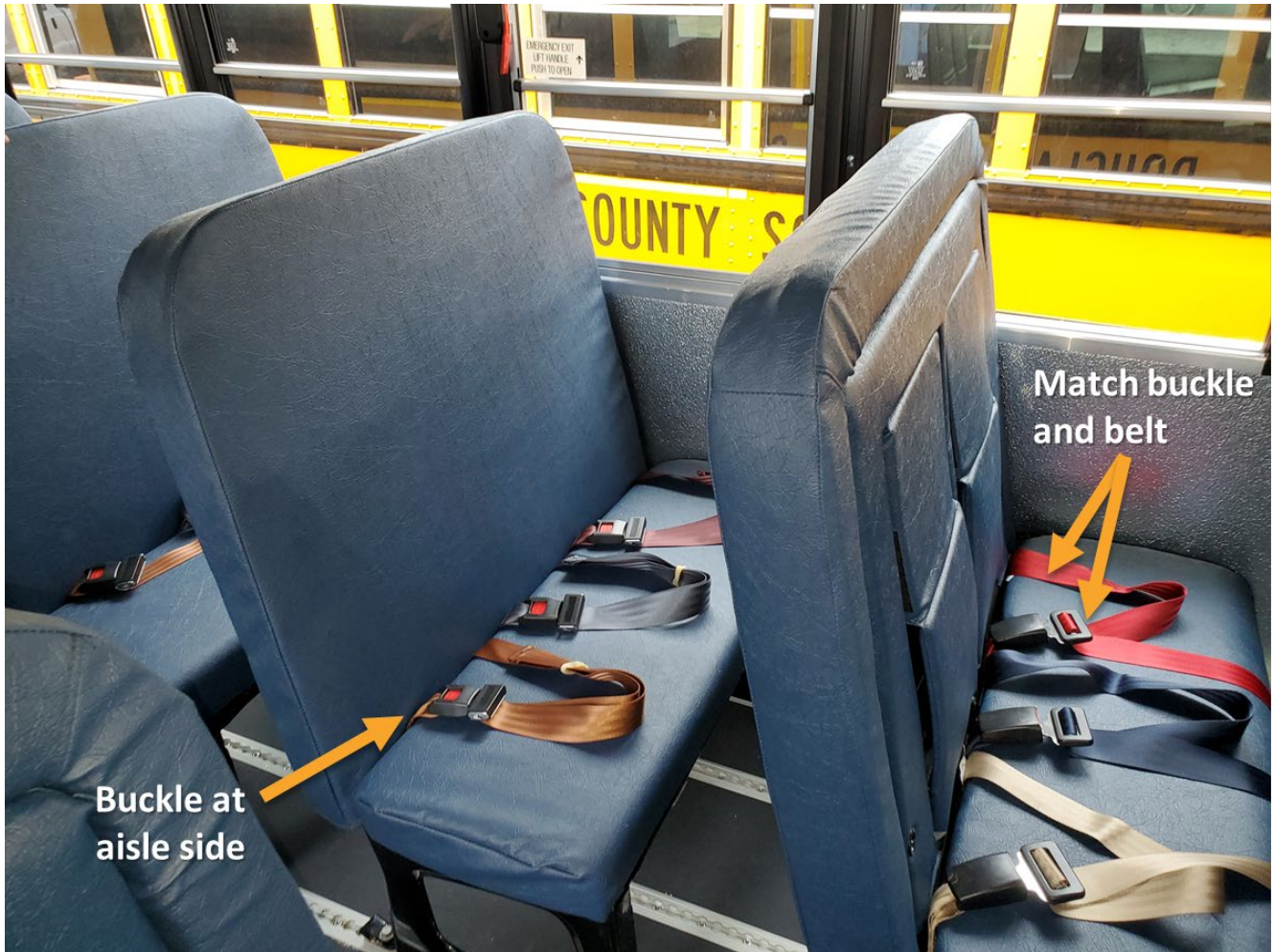
* Convertible CSRS shown

CONVENTIONAL CSRS—RECLINE ANGLE BASICS

Install a CSRS at the recline angle specified in its instruction manual.



INSTALLATION—LAP BELT TIPS



- Buckle segment at aisle side.
- Use matching segments.
- Place a maximum of two conventional CSRS per school bus seat using the two outboard seat belt systems.



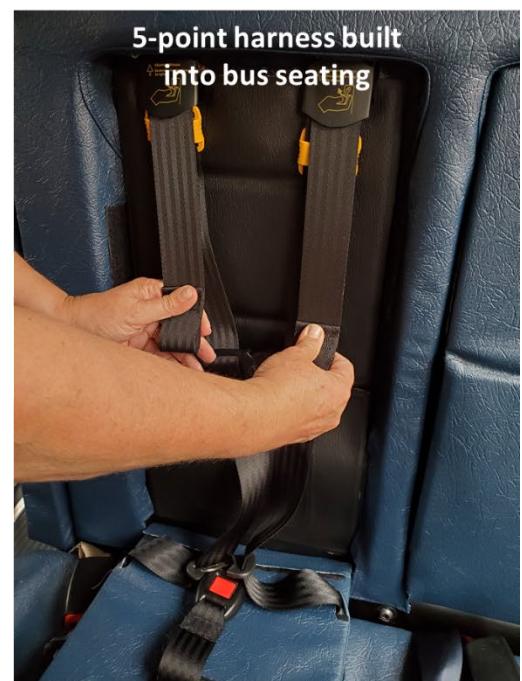
NOTES

TESTING FOR TIGHTNESS

- Always test for tightness at the belt path, as this provides a true measure of proper installation.
- Testing a rear-facing CSRS by grasping it at the top may result in more than 1 inch of movement, even if the CSRS is properly installed.



INTEGRATED (BUILT-IN) CSRS



PROS AND CONS OF INTEGRATED (BUILT-IN) CSRS

PROS

- Easy to use; no installation necessary. Simply folds up for storage.
 - No bulk; accommodates CSRS use, even when rows are spaced close together.
 - Unused CSRS require no storage space; simply fold up the cushioned cover.
 - Do not expire, though must be carefully evaluated for damage/wear and not used if unsafe. Replace worn or damaged components with new components from the bus manufacturer.

CONS

- Limited capacity (two CSRS per 39" bench seat) compared to CSRS models that install using a cam wrap.
- Add to cost of bus seating; pricier than some other CSRS options.
 - Do not provide side support or any recline, which may be needed for children with disabilities.

PROGRESS CHECK

- Why are conventional CSRS sometimes used on school buses?

- Why should a rear-facing CSRS recline?

- What types of anchorages may be used for installation of a conventional CSRS?

- What is the "pinch test?"



NOTES

[illegible]