



**Federal Aviation  
Administration**

# **Safety Considerations When Flying With Children**

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**Child Safety in the Air  
and in Automobiles**

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# Choices About Safety

- **The FAA encourages parents to secure their child in a Child Restraint System when flying, just as they do when traveling in a car.**
  - The only sure way to provide safety during turbulence or an emergency
  - Use is currently the parent's option



# Choices About Safety

- **Parents are encouraged to use child restraint systems (CRS) because some operationally permitted conditions do not provide the highest level of safety.**
- **For example:**
  - Holding a child on the lap
  - Restraining a small child with only the seat belt



# Lap-Held Children

- **Although holding a child under 2 years of age on the lap is permitted, there is a risk of injury for an unrestrained child in the event of severe turbulence or a crash landing.**



# Lap-Held Children

- **Unrestrained lap-held children are at risk for crushing and head injury during a crash landing.**



# Lap-Held Children

- **Restraint with a supplemental loop belt (also called the belly belt) is allowed by some countries but not the U.S.**
- **While it can help restrain the child during turbulence, it provides no protection during crash landing conditions.**



# Lap-Held Children

- Loop belt-restrained children face many of the same injury risks as unrestrained children during a crash landing.



# Lap-Held Children

- **Using a baby sling is allowed by the FAA during the cruise portion of the flight but not during takeoff and landing.**
- **Slings, like the loop belt, may help restrain the child during turbulence but do not provide adequate restraint during a crash landing.**
- **Slings are typically not strong enough to restrain the child during a significant forward impact.**



Photo Courtesy of Australian Transport Safety Bureau

# Lap-Held Children

- **A child restrained in a baby sling could be exposed to the same injury risks as unrestrained children during a crash landing.**



Video Courtesy of Australian  
Transport Safety Bureau

# Seat Belt-Restrained Children

- **Children over 2-years old must have their own seat.**
- **Securing a child in an aircraft seat using only the seat belt is permitted.**
- **The risk of injury is greater for children without an upper torso restraint during a crash landing.**



# Seat Belt-Restrained Children

- Children restrained with only a seat belt are at risk of head and spinal cord injuries.



Video Courtesy of Civil Aviation  
Safety Authority Australia

# CRS Performance in Aircraft

- **Aft-Facing infant carriers restrain the child within a protective shell.**



# CRS Performance in Aircraft

- **Forward-Facing carriers limit the child's forward excursion and head injury risk using belts or support surfaces attached to its protective shell.**



# CRS Performance in Aircraft

- **Forward-Facing carrier performance is affected by the configuration of the aircraft seat. Airlines are gradually replacing older aircraft seats that have a poor interface with the CRS.**



# CRS Usage Considerations

- **CRS must fit in the space available.**
- **Some seats in smaller passenger jets have only 16 inches between the arm rests.**
- **Aircraft with close row seat pitch (30 inches) may have only 21 inches between the seat rows.**



# CRS Usage Considerations

- **Currently, aircraft seats do not provide lower anchor points or tether attachments as in newer cars.**
- **CRS must be installed in the seat using the aircraft seat belt.**
- **In some cases, the aircraft belt buckle can interfere with the CRS shell, making installation and release difficult.**



# Aviation Unique CRS

- To address these fit and performance issues, the FAA worked with SAE International to develop performance standards for CRS that are optimized for aviation use.
- CRS meeting these standards and approved per TSO-C100 should be simple to install and should provide good performance in any aircraft seat.
- No TSO-C100 approved devices are available yet, but some models are under development.



# Aviation Unique CRS

- **The effectiveness of some innovative CRS designs cannot be evaluated using the specific TSO-C100 criteria, which address CRS incorporating a protective shell.**
- **To evaluate these designs, the FAA has developed an approval process requiring a device demonstrate a level of safety equivalent to that required by TSO-C100.**
- **So far, one such device, which adds upper torso restraint straps to the existing seat belt, has been approved.**



**The FAA encourages parents to**

***Play it Safe***

***When Flying With Your Child***

**by using an approved  
Child Restraint System**

