

Research Request:

We sometimes carry young passengers who are too large for a car seat yet too small to fit snugly within the aircraft seat belt. Is it safe to fill-in the slack by using a pillow under a small child?

Research Response:

Best practice dictates the best method for securing a child in an aircraft seat is through the use of a child restraint system (CRS) or Aviation Child Safety Devices (The new FAA term for aviation only restraints). AC120-87A clearly outlines the use of a CRS and may be applied to those who operate under parts 125, 135, and 91. There are several devices that are designed to accommodate children of different ages and sizes. The simple lap belt is not always the safest method of restraint. Only those devices approved for aircraft use should be used. CRS's are not always interchangeable for the aircraft and the car. The user should take note of the warning label, and ensure it can be used on the aircraft. There is sometimes an incorrect impression a car seat is naturally safer than a certified restraint available for the aircraft, which is not true.

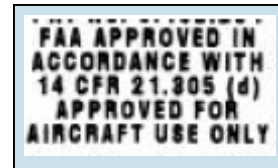


It is also important to ensure the child is restrained during all phases of flight. Turbulence is not very predictable and even moderate turbulence can be dangerous. Taxi operations may be hazardous in the event it becomes necessary to make a sudden stop as well. If the child is over 40lbs and will still not securely fit with a lap belt, you may want to use a CRS that would accommodate that particular child. It is also important to remember to place the CRS in a window seat and ensure it is not a window seat designated an emergency exit. The CRS could hinder escape during an emergency for other passengers. While the FAR's may state an adult is able to hold a child under two in their arms, this is not best practice. It is highly unlikely an adult will be able to restrain a child themselves during an accident. It is recommended you use a CRS appropriate to the size of the child.

The FAA recommends:

- Less than 20 pounds use a rear-facing CRS.
- From 20 to 40 pounds use a forward-facing CRS.
- More than 40 pounds use an airplane seat belt.

Be sure to identify these labels such as these, to ensure you are using the appropriate CRS.



FAR 135.128

Below is a portion of the FAR outlining child seating requirements.

Sec. 135.128

Use of safety belts and child restraint systems.

(a) Except as provided in this paragraph, each person on board an aircraft operated under this part shall occupy an approved seat or berth with a separate safety belt properly secured about him or her during movement on the surface, takeoff, and landing. For seaplane and float equipped rotorcraft operations during movement on the surface, the person pushing off the seaplane or rotorcraft from the dock and the person mooring the seaplane or rotorcraft at the dock are excepted from the preceding seating and safety belt requirements. A safety belt provided for the occupant of a seat may not be used by more than one person who has reached his or her second birthday. Notwithstanding the preceding requirements, a child may:

(1) Be held by an adult who is occupying an approved seat or berth, provided the child has not reached his or her second birthday and the child does not occupy or use any restraining device; or...

NTSB

The NTSB has also issued a safety recommendation that was added to the Most Wanted List in 1999:

Objective

Require infants and toddlers under age 2 to be safely restrained on takeoff, landing, and in turbulence

Importance

Young children deserve the same level of safety provided to other aircraft passengers.

During take-off, landing, and turbulence, adults are required to be buckled up, baggage and coffee pots are stowed, computers are turned off and put away, yet infants and toddlers need not be restrained.

The following is a brief excerpt from the summary of action:

In 1994, the Safety Board investigated an accident in Charlotte, North Carolina, in which a 9-month-old infant who was held on her mother's lap sustained fatal injuries. The child's mother was unable to maintain a secure hold on the child during the impact sequence, and the child struck several seats. The Safety Board believes that if the child had been properly restrained in a child restraint system, she might not have sustained fatal injuries. The Safety Board asked that small children be restrained in age appropriate restraint systems.

Action(s) Remaining

The Safety Board believes that all occupants should be restrained during take-off, landing, and turbulent conditions and that all infants and small children should be restrained in an approved child restraint system appropriate to their height and weight.

Safety Recommendation

A-95-51 (FAA)

Issued May 16, 1995

Added to the Most Wanted List: 1999

Status: Open—Unacceptable Response

Revise 14 Code Of Federal Regulations [CFR] Parts 91, 135, and 121 to require that all occupants be restrained during takeoff, landing, and turbulent conditions, and that all infants and small children be restrained in a manner appropriate to their size. (Source: USAir DC-9 Accident, flight 1016, at Charlotte, North Carolina, on July 2, 1994 [NTSB/AAR-95-03])

CRS Suppliers

The following are a few companies that provide CRS's. We suggest contacting the manufacturer to verify compatibility with your aircraft.

Britax

Website: www.britaxusa.net

Sample Product

Britax Decathalon– up to 65lbs

Britax Child Safety, Inc
 13501 South Ridge Drive
 Charlotte, NC 28273
 1-888-427-4829



Erie Aviation, Inc.

Website: <http://www.erieaviation.com/childrestraint.htm>

Sample Product

SkyKids Child Seat

Erie Aviation, Inc.
 Erie International Airport
 Business Address: 1607 Asbury Road Erie, PA 16505 USA
 Mailing Address: P.O. Box 8283 Erie, PA 16505 USA
 Telephone: 814-838-8934, Fax: 814-833-3672
 General Information: info@erieaviation.com
 Sales Information: sales@erieaviation.com
 Support Information: support@erieaviation.com



AMSAFE

Website: <http://www.amsafecp.com/child.htm>

Sample Products

- Upper tether assemblies
- Lower anchor assemblies
- Harness assemblies
- Expertise in FMVSS compliance for child safety seats



child products

Ground Vehicle Safety Restraints
22937 Gallatan Way
Elkhart, IN 46514
574.266.8330
fax: 574.266.8288
sales-ascp@amsafe.com

DME Corporation

Website: <http://www.dmecorp.com/products/subcat.asp?catid=2&subcatid=17>

Sample Product

CRS2000 Planeseat

DME Corporation - Fort Lauderdale
6830 Northwest 16th Terrace
Fort Lauderdale, Florida 33309 USA

Main Phone Number (954) 975-2100
Main Fax Number (954) 979-3313
Email ftlsales@dmecorp.com, aircraftprod11@dmecorp.com



Toddler Orientation



Infant Orientation