

CHILD RESTRAINT IN VIRGIN ATLANTIC AIRWAYS



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INTRODUCTION

- Brief history of Virgin Atlantic
- UK Child Restraint Regulations
- Influences on Virgin's policy to provide child restraint seats
- Operational experiences
- Where to next?

BRIEF HISTORY OF VIRGIN ATLANTIC AIRWAYS



- Privately owned, UK registered commercial airline
- Established in June 1984 using one B747-200
- Richard's original values: "to make flying enjoyable again" by...
 - being caring and honest
 - providing value for money
 - making it fun
- being innovative

VIRGIN ATLANTIC'S HISTORY (cont.)

Operate from 3 UK airports to
19 destinations worldwide:

10 in USA

- Athens, Greece

- 3 in Far East

- 3 in Caribbean

- 2 in South Africa



EVOLUTION OF U.K. CHILD RESTRAINT REGULATIONS



- 1984
 - The only approved restraint was the supplemental loop for infants under 2 years. Use recommended
- 1986
 - Air Navigation Order (ANO) requires their use
- 1990
 - CAA issues exemption to ANO permitting the optional use of car-type seats for same ages as loop belt
 - 4 'acceptable' UK manufactured seats listed
 - All FAA approved seats also 'acceptable'
 - Use dependant on complying with Operational Conditions



CAA's PRESS RELEASE

MARCH 1990

- Advises the public of the acceptance of car-type seats as an optional infant restraint. It adds:
 - “ ...airlines may consider that it is better if only one type of seat is used, with which cabin staff are totally familiar, and which is provided by the airline so that its condition is known to be satisfactory.”

EVOLUTION OF U.K. CHILD RESTRAINT REGULATIONS (cont)



- 1991
 - This exemption was amended to permit their use for children 6 months to less than 3 years old (9 to 18kg - approx. 20 to 40lbs)
 - 8 UK manufacturers' seats now listed
- 1992
 - Exemption amended again to approve optional use of CareChair and other purpose built child seats
 - Acceptability Criteria introduced for all child seats

CURRENT CHILD RESTRAINTS REGULATIONS ON UK REGISTERED AIRLINES



- 0 to less than 2 years
 - supplemental loop only
- 6 months to less than 2 years
 - supplemental loop or exempted car-type seat or approved CareChair
- 2 years to less than 3 years
 - exempted car-type seat or approved CareChair or aircraft seat
- 3 years or more
 - aircraft seat only

OPERATIONAL CONDITIONS (OCs)

- Airline responsible for ensuring proper installation
- Manufacturers' instructions must be available *on board* to ensure proper use
- Commander responsible for ensuring 'location, security and general condition is satisfactory.' (ANO Art 37)

Obstacles to compliance with Ocs

INSTALLATION INSTRUCTIONS:



- How could we ensure manufacturer's instructions were always available for each seat?
- Would parents remember to travel with them?
- Without these how could we ensure proper installation?
- Even with them would they be understood?
- Could be depend on the parent's ability to fit the seat effectively?

Obstacles to compliance with OCs (cont)

ENSURING SATISFACTORY CONDITION

- How could the commander (or his rep) ensure the satisfactory condition of the seat?
- Many car-seats are passed on, the current owner may not even be aware they are damaged/unsafe.
- Time required to conduct inspection could result in delays to departure schedules

ACCEPTABILITY CRITERIA

- Where seat has a separate shell and under-structure, they must be securely attached to each other
- Neither should show any obvious signs of having sustained damage
- Harness must be a minimum of 1 inch wide
- Any lift-type adjustors must require a positive angular lift to operate
- The harness release device must not be unreasonably easy to release by the child

Obstacles to compliance with Acceptability Criteria

- Who would conduct the checks required?
- Check-in?
 - Delay in processing customers = delay in on time departures
- Cabin crew?
 - Too late in the process. Seat becomes a cabin baggage issue if it doesn't meet the criteria

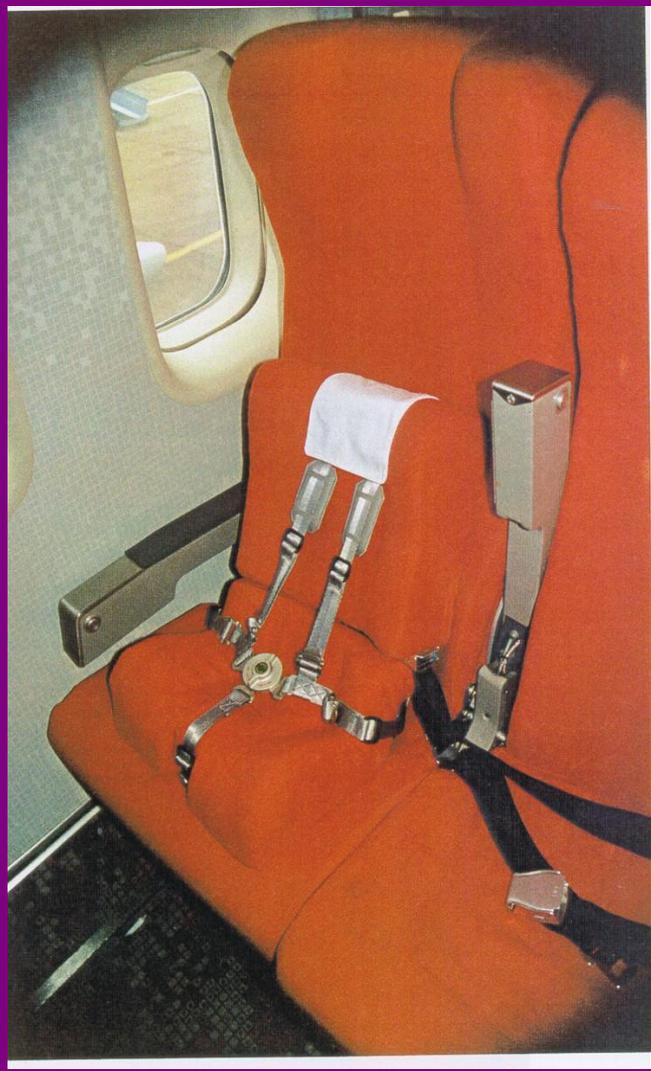
VIRGIN'S TESTING OF ACHIEVABILITY OF EFFECTIVE INSTALLATION OF CHILD SEATS

Conducted in June 1990



- The 4 originally acceptable UK manufactured car-type seats
- The prototype of Aviation Furnishings International's (AFI) CareChair (still seeking CAA approval)
- Installed in 3 classes of seats on our aircraft
- Conducted by our Engineering and SEP Training depts.

THE 'CARECHAIR'



- Designed specifically for use in aircraft
- Made of aircraft approved materials
- Fully adjustable five-point harness
- Folds for stowage
- Weighs 13 lbs - lighter than other 4 models tested
- Tested to withstand forward crash load of 16g (subject to host seat)

INSTALLATION TEST RESULTS



Fair amount of forward movement of one of the car seats



Difficulty in operating the a/c's seatbelt buckle as it was fouled by the child-seat's back



Front bar of another car seat rested too close to the edge of the a/c seat's cushion, forward loading resulted in child seat toppling off host seat



A/c's seatbelt buckle rested on child seat's frame - not recommended by manufacturer



- Installation and stowage of Carechair easier than any of the other 4 seats

INFLUENCES ON VIRGIN'S POLICY TO PROVIDE 'CARECHAIRS'

- UK Child Restraint Regulations
- Results of seat installations trials
- Ability to comply with Operational Conditions for car-type seat installation and use
- Ability to comply with Acceptance Criteria
- Customer care influences:
 - Effects of last minute refusal to accept their car seat
 - Effects of policy not to offer a service which other airlines did.

INFLUENCES ON VIRGIN'S POLICY TO PROVIDE CARECHAIRS (cont.)

- Commercial concerns:
 - Possible operational delays resulting from time spent to check acceptability criteria
 - Unhappy customers due to refusal to allow use of their 'acceptable' seat
 - Commercial problems normally mean lost revenue
- UK Civil Aviation Authority's (CAA) press release
Company's value to be innovative =
 - HOW CAN WE BE DIFFERENT AND DO THE BEST FOR OUR CUSTOMERS AND OURSELVES?



EVOLUTION OF VIRGIN'S POLICY TO PROVIDE 'CARECHAIRS'



- Company policy to refuse optional acceptance of car-type seats on our a/c as these tests showed our non-compliance with Operational Conditions.



- Virgin actively assisted AFI to produce the CareChair as it had performed best in the trials
- By October 1990 the CareChair had passed the required testings at Cranfield Impact Centre

EVOLUTION OF VIRGIN'S POLICY TO PROVIDE 'CARECHAIRS' (cont)

- January 1992 - CAA granted approval for the CareChair's use
- Virgin ordered 30 CareChairs - original cost about £250 (US\$400) each
 - Fitted on 16th March 1992
 - 3 to be fitted on each B747 (x 8) + spares
- Other fleets?
 - A340s carry 2, A320 carries 1

OPERATIONAL PROCEDURES

- Booked through Reservations
- Fares: 55% - 75%
- Cabin crew advised at check-in
- Cabin crew fit on boarding a/c
- If not booked, offered at check-in or on boarding.

OPERATIONAL DIFFICULTIES

- Most airlines accept car-type seats:
- Don't know:
 - Virgin do not accept car-type seats
 - Our CareChair is bookable
- Don't want to check their seat as baggage:
 - Want to use it as a cot
 - Becomes a cabin baggage issue
- OC doesn't allow its use inflight
- Car-seat needed at destination

OPERATIONAL DIFFICULTIES (cont.)

- Parent's first impression of the CareChair can be disappointing:
- Majority of customers have only car seats as reference for 'looks'
- Concern that the child's not 'cocooned'
- Perceived comfort issue for younger infants - can't lie down
- Some would prefer to hold their infant

ENGINEERING LOGISTICS

- Procedures for cleaning
- Maintenance checks
- CareChair requires 'fit testing' each time any of the 3 types of a/c seats are changed.

WHERE TO NEXT?

- New child restraint seat ?



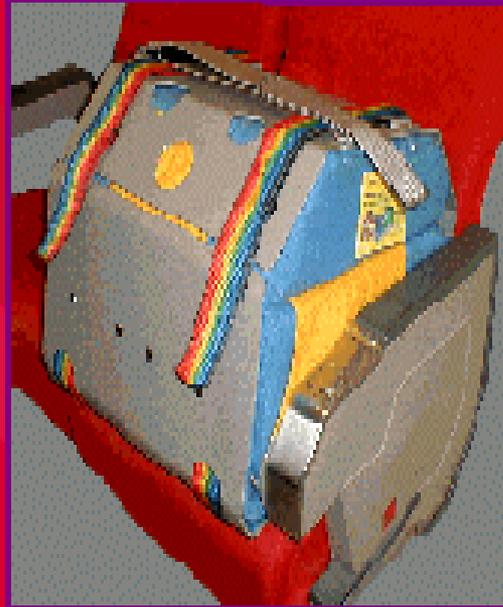
WHERE TO NEXT? (cont.)

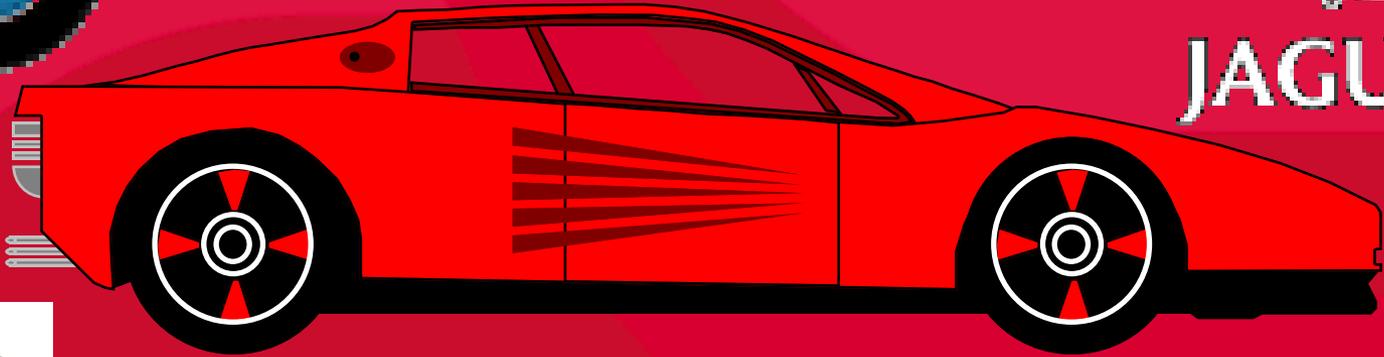
- Restraint for disabled children

Burnett Body Support



MERU







- If they can't be held in turbulence, how can they be held during an impact?



If There's Turbulence, Even The Most Loving Arms Can't Hold Him.



Thank you!

virgin atlantic 