

REARWARD-FACING SEATS NOW?

WHILE the protagonists of the idea that rearward-facing passenger seating ought to be adopted for all transport aircraft have argued the case strongly for a good many years (further views are expressed in our "Letters" pages in this issue), no organization or individual seems to have come out equally strongly *against* the idea, either on safety or economic grounds. In spite of this, and rather surprisingly, there is still no indication of any early general adoption of the arrangement by civil operators.

However, there has been quite a lot of argument around the proposal, with most airlines and authorities putting up objections—mainly, perhaps, to avoid being without an excuse for not setting a trend (which for once would not bring in more revenue through any commercial advantage). Most of the objections have been scotched one by one—airsickness, fear, plain dislike, and so forth. There remain two arguments based on one very real and tangible factor—money. Further, they are tough arguments to refute without statistics which will only come after the need for argument has ceased to exist. Here they are, expounded and then refuted by a correspondent whose profession keeps him closely in touch with the subject:—

(1) It is alleged that prospective passengers will probably say about the first airline to reverse its seats "They *expect* accidents. I will book my journey with one of the other carriers." If this is true there would be a loss of revenue. Each carrier fears to be the first guinea pig. Air transport is a competitive business, and it matters not one whit that many operators and medical authorities believe the fear to be unfounded. There is a harsh axiom in the world of civil air transport: preservation of factual income is more important than occasional preservation of life.

Such sampling of passenger reaction as has been possible on this point shows conclusively that when they know there is added safety in facing aft, then they wish to do so, if there is a choice. Passengers are, however, often fatalistic, or mentally idle, as are many road users. They are not prepared to make a fuss, or refuse to travel, if there is no choice of seating direction; they trust in fate, and the operator comes first.

The facile solution is to create a demand by firmly appraising the customer of the safety facts. For example: "Tin Pot Airlines keeps its passengers safer than the others—our seats face backwards. Ask the stewardess for full details of this revolutionary measure for your greater comfort and protection," etc. The first carrier to use such an approach would scoop the passenger pool. The RAF and its passengers are sold on this line. Unfortunately in this respect, the use of safety comment in airline publicity is forbidden by IATA regulations.

(2) With forward-facing seats, body retardation is effected through the seat-belt anchorage, normally at the bottom of the seat-cushion; aft facing, body retardation is effected through the seat back-cushion, operating through the passenger's centre of gravity (his umbilicus) which is 6-9in *above* the seat-cushion. Facing the seat aft therefore increases the leverage on seat and floor, by raising the point through which the decelerative forces are acting, and for any given strength requirement the seat and floor must be heavier, and

more expensive. A figure of 2-5lb and £2-£5 per seat has been quoted. From these facts a whole family of disadvantages has been extrapolated, most of them illegitimate. Here are the main ones:—

It is said to mean increased costs in fuel and wear, for humping the extra weight about. True, but only if one ignores the strong body of opinion that 5½g aft facing would be better than 6g forward facing. For a start, 5½-6g deceleration, forward facing, especially in high-density seating, probably kills the passenger on the seat in front; at best it dazes and shocks him, and impedes his escape. A reduction in requirement for aft-facing seats, to a 5½g failure factor, would eliminate the weight penalty entirely, whilst enhancing the overall safety factor. This possibility has been studiously sidestepped by the framers of international agreements.

All these penalties have, in an American study of aft-facing seats, been added up to an astronomical number of extra millions of dollars per annum to be found by the world's airlines. The calculations are based on extremely doubtful premises, and entirely on regulations as written today.

At present, with airlines losing money almost everywhere, it is only too easy to understand their antipathy for this subject. It will cost money to make any change in seating. How much money is highly debatable; the sums are inflated by those against, minimized by those in favour. But *some* cost there will be. And no one can point to even a reasonable prospect of *any* compensating increase of revenue.

Actual proof of the pudding is in the RAF charter airline eating. Preference in awarding contracts—and therefore revenue—was given to the operators whose seats faced aft. The seats went round in a flash. No increase in strength; no comments; no complaints; no trouble. And, so far, no accidents to provide more evidence, one way or the other.

Money is the key. Government regulation, by itself, will solve nothing. It will merely place that country's operators slightly behind their competitors in the rat-race, and stir up violent passions and unsound arguments. There are, therefore, three possible methods of acquiring the enhanced safety which is available.

First, to pay the operators, by Government subsidy, a bonus to slightly-more-than offset any losses which will be incurred in reversing the seating. This bonus could be minimized by negotiating a change in regulations for aft-facing seat and floor strength factors, and perhaps by some reduction in the passenger insurance premiums paid by companies.

Secondly, to educate the passengers to ask for aft-facing seats. This may mean difficulty with IATA, but the saving of lives should be more important than feelings.

Thirdly, to educate the popular Press so that they may be prepared for the accidents with a thumping great avoidable injury and deathroll, which are coming by the law of averages (for example, the disaster at Munich, when nationally acclaimed footballers in forward-facing seats were killed, and those in aft-facing seats were saved). Startling treatment of such a disaster could save more lives, in the future, than have been lost in air accidents for the last decade.



The Finnish airline Kar-Air (Karhumäki Airways) uses this DC-6B on inclusive-tour and group charter flights to Mediterranean resorts. Finnair has a majority shareholding in Kar-Air