

The Effect Of Operators' Briefing, Seating Configuration And Operating Handle Mechanism On Type III Exit Operation

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Introduction: Accident reports and experimental research have documented difficulties faced by operators of conventional Type III exit mechanisms, resulting in delayed exit availability and evacuation. Operator difficulties include the cognitive demands of the task (i.e. how to perform the task, task novelty and where to dispose of the hatch) and the physical operation of the hatch (i.e. due to the physical parameters of the hatch and exit, and the available space in which to complete the task). The aim of the research was to investigate the potential influence of a modification to the exit operating handle, the seating configuration and the briefing delivered to the exit operator on exit operation.

Method: The cabin simulator at Cranfield University was modified to represent a number of internal features associated with smaller transport aircraft. There were three independent variables. The seating configuration which was tested with either 3 x 3 or 2 x 2 seats abreast, the exit operating handle which was tested as either a retracted (conventional) or fixed (modified) mechanism, and the Type III exit operator briefing, either a minimal or in-depth briefing was delivered. Eighty volunteers were recruited to evacuate the cabin individually. A mixed experimental design was used. **Results:** The results indicated that briefing delivered had a statistically significant effect on exit operation. Participants reacted to the call to evacuate and operated the exit significantly faster when the in-depth briefing was delivered compared to when the minimal briefing was provided. There were no significant effects on exit operation attributable to seating configuration or operating handle mechanism. **Discussion:** This result highlights the importance of providing clear instruction to participants prior to them being asked to complete a complex task such as Type III exit operation.