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16. Abstract

This project was an investigation of multiple transport category airplane Type III door dimension changes to evaluate its general impact on safety and egress speed. The goal was to provide rule makers with a generalizable result to address requests to modify airplane exits for the purpose of increasing the allowed number of passengers per door exit rating. Participants exited the door types in both an individual and group setting. There were 160 participants through six different Type III doors, of which three are currently in operation, and three are experimental. The doors that had a smaller step-up and step-down height had the fastest average egress times and the shortest range of egress times. The finding that a smaller step-up/step-down height results in a quicker egress may have implications for the certification of airplanes with Type III exits with smaller step-up/step-down heights than allowed by regulation.

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