Seat and seatbelt accommodation in fire apparatus: Anthropometric aspects.

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Applied Ergonomics

Volume 51, November 2015, Pages 137-151

Seat and seatbelt accommodation in fire apparatus:

Anthropometric aspects

Hongwei Hsiao ^a [△] [™] ... J. Gordon Routley ^e

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https://doi.org/10.1016/j.apergo.2015.04.004

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Highlights

- New firefighter anthropometry data for fire truck seat and seatbelt design are presented.
- Seating space specifications are proposed to foster greater use of seatbelts.
- Adequate seatbelt web length is suggested for fire apparatus.
- Results are being used for updating national fire apparatus standards.

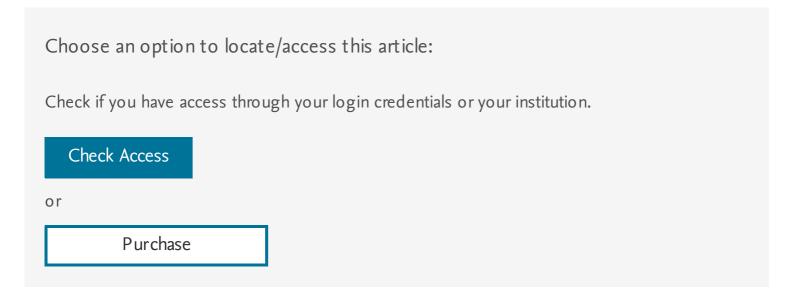
Abstract

This study developed anthropometric information on U.S. firefighters to guide fire-apparatus seat and seatbelt designs and future standards development. A stratified sample of 863 male and 88 female firefighters across the U.S. participated in the study. The study results suggested 498 mm in width, 404 mm in depth, and 365–476 mm in height for seat pans; 429–522Â mm in width and 542Â mm in height for seat back; 871Â mm in height for head support; a seat space of 733Â mm at shoulder and 678Â mm at hip; and a knee/leg clearance of 909Â mm in fire truck cab. Also, 1520Â mm of lap belt web effective length and 2828Â mm of lap-and-shoulder belt web effective length were suggested. These data for fire-truck seats and seatbelts provide a foundation for fire apparatus manufacturers and standards committees to improve firefighter seat designs and seatbelt usage compliance.



Keywords

Firefighter; Seatbelt; Anthropometry



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