

NASA TECH BRIEF

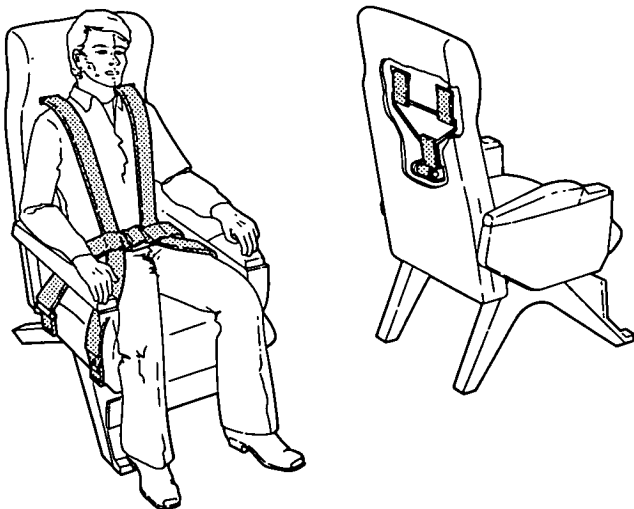
Ames Research Center



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Seat Belt Restraint System

The shoulder-harness and lap-belt restraint system shown in the diagram is designed to be worn by individuals of widely different sizes and to permit normal body motion except under sudden deceleration.



The restraint system is divided into two basic assemblies, the lap belt and the torso or shoulder harness. The ends of the lap belts are attached to self-locking or inertia-activated reels that are secured to the seat in the usual manner. On each side of the lap belt buckle are attached slip joints through which pass the shoulder belts. The lower ends of the shoulder belts are fastened to the front edge of the seat

and the upper ends pass through the back padding over rollers and are fastened to a yoke or tie bar. A strap connected to the yoke is attached to an inertia-activated reel secured to the seat back.

The occupant first slips into the shoulder harness and then buckles the lap belt. The inertia reels permit normal body motion; however, when the vehicle in which the seat is located experiences a sudden deceleration, all reels immediately lock and the occupant is restrained. The slip joint allows loads on the shoulder harness straps to be reflected on the seat without pulling the lap belt into the occupant's vulnerable abdominal area. The joint also keeps the straps parallel and thus prevents slippage into the arm pit area.

Note:

No additional documentation is available. Specific questions, however, may be directed to:

Technology Utilization Officer
Ames Research Center
Moffett Field, California 94035
Reference: B72-10692

Patent status:

NASA has decided not to apply for a patent.

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Category 06