



SIMULA

Safety Systems
SEI Division

SAFETY EQUIPMENT INTERNATIONAL (SEI)
ISO 9001:2000 REGISTERED
PRODUCT SPECIFICS

AIRCRAFT TROOP SEAT - WALL STYLE

FOR C-130, KC-135 AND C-141 AIRCRAFT

Improved Safety

The SEI crash resistant Troop Seat is the first wall style troop seat to be successfully tested in dynamic crash conditions.

- 30 degrees nose down surpassing 14 Gs
- 10 degrees yaw surpassing 16 Gs

* Testing conducted using 250 pound anthropomorphic test dummies (ATD's)

All fabric meets the FAR25.853 vertical burn test requirements by utilizing inherently flame-resistant textile materials and flame-retardant treated nylon webbings and tapes.

Durability

Fabric and structure have been designed to be more rugged than existing in-service bench type seats. This provides significant cost of ownership reductions in replacement and repair costs.

Occupant Comfort

Seated comfort has been increased to ensure the occupant's maximum clearance of seat structure. Seat back is made from a single piece of material designed to minimize equipment snags, and to provide continuous support.

Credibility

SEI is an operating division of Simula, Inc. Over the past 25 years, Simula, Inc. has established itself as the leader in innovative safety systems for both commercial and military markets.



Founded in 1975, Simula introduced the first military crashworthy helicopter crew seat in the UH-60 aircraft. Since that time, Simula has continued to distinguish itself from its competition by introducing leading edge technologies in crashworthy seating, inflatable restraint systems, personnel parachutes, armor, personal survival gear, and safety system electronics. As a division of Simula Safety Systems, Inc., SEI is another resource for specialized seating and occupant restraint systems.

Safety Equipment International

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TWO 115TH AS HERCS OFFSHORE OF SANTA CRUZ ISLAND
PHOTO: SCOTT JAGER

SEI PRODUCT SPECIFICATION SHEET 2002 TROOP SEAT
PROTECTED BY U.S. AND FOREIGN PATENTS

SEI Standard Troop Seat - Wall Style



Dynamic Test

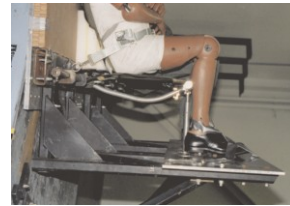
- Improved safety
- Durability
- Occupant comfort
- Can be customized for extended missions and stowage



High strength aluminum tubing and durable fabric create a seat of superior safety and quality

Qualification Dynamic Tests

Reference USAF Performance Requirements Document PD990315					
Configuration	ATD Weight (lbs)	Attitude	Velocity (fps)	Deceleration (g's)	Qualification Test Result
3- Man	250/occupant	30° Pitch Down	35	14	Pass
1- Man, 2-Man	250/occupant	30° Pitch Down	35	14	Pass
3- Man	250/occupant	10° Yaw	44	16	Pass
1- Man, 2-Man	250/occupant	10° Yaw	44	16	Pass



Dynamic Test Set-Up



Static Load Test Set-Up

MIL S-5804 Existing Seat Characteristics	SEI Seat Improvements	MIL S-5804 Existing Seat Characteristics	SEI Seat Improvements
FABRIC ASSEMBLY MATERIALS		SEAT BACK CONFIGURATION	
Nylon fabric and webbing do not meet FAR 25.853 vertical burn requirement	Aramid fabric inherently flame resistant to meet FAR 25.853 vertical burn requirements Nylon webbing treated to meet FAR 25.853 vertical burn test requirements	Seat back consists of 1-1/4 inch wide webbing sewn together to form a rectangular weave with open areas that increase equipment snag hazard	Seat back is made from the same Aramid material as the seat pan to provide a continuous durable support surface that will not snag equipment
SPREADER BAR		ENVIRONMENTAL TESTING	
Occupant comfort affected by contact with spreader bar	Contour increased to provide added clearance with the occupant	Not required	Seat assembly tested to verify compliance to specified military global conditions, MIL-STD 810F
INTER-SEAT FABRIC CONNECTORS		FABRIC CONNECTION TO FRONT TUBE	
Multiple point snap type connectors used to attach adjacent seat bottom and seat back fabrics	Continuous zipper connection for each seat bottom and seat back connection for added strength Easier/faster operation	Sheet metal screws threaded directly into aluminum tube	Durability/repairability improved by using swaged nut elements in holes drilled in the aluminum tube and fabric attached with machine screws
SPREADER BAR FITTING CONNECTION TO AIRCRAFT SUPPORT BAR		FLOOR FITTING RELEASE	
Light weight easily damaged stamped/formed metal	Stronger, safer, more durable machined aluminum	Release requires lifting up collar on fitting located at floor level	Release accomplished by lifting up on easily grasped, outer leg tube near seat level
DYNAMIC STRENGTH VERIFICATION		SEAT BOTTOM FABRIC	
No dynamic testing required Dynamic loads result in component failure that can cause occupant injury	Dynamic tests performed to verify that the seat remains attached to the aircraft with no component failures that cause occupant injury	Single layer of nylon fabric	Double layer of inherently flame resistant fabric Improved durability
STATIC TESTING			
Seat bottom test loads applied with rectangular block	Seat bottom test loads applied with representative contoured butt block Test forces held at or above specified load for 60 seconds		

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