



**LIFE SUPPORT
INTERNATIONAL**

SOLUTIONS₄SURVIVAL

MACK-5A

Modernized Aircrew Combat Kit

Ejection Seat Survival Kit and Associated Components

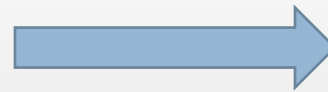
Modernization Effort

MACK-5A, Modernized Aircrew Combat Kit for the integration of the GAU-5A in the ACES ejection seat

- Modernization of 40+ year legacy USAF/ACES II Survival Kit rucksacks, survival equipment, and life raft
- MACK-5A is a fully integrated ACES ejection seat survival kit replacement featuring a backpack, designed to stow and segregate the GAU-5A from all required survival equipment and supplies.
- Strengthen combat survivability for downed aircrew during E/E & Rescue Operations.
- Allow for the integration and quick access to the GAU-5A, 4-magazines, and weapon sling.



OLD circa 1970's
ACES II Survival Kit Container



NEW circa 2020
MACK-5A Survival Kit Container

MACK-5A Solution

- Fully integrated with legacy ACES II outer case, drop line, and raft diaper.
- Patent Serial No. 62/889,603 for Backpack for Placement in Aircraft Ejection Seat
- Custom Designed Suspension System / Shoulder Strap, (its more than a backpack) manufactured with 4,000lbs webbing. (Legacy Suspension System was manufactured with 1,200lbs. webbing).



Segregated Area for Quick, Easy access to the weapon, ammunition and sling



Clamshell design and storage pouches for organized and segregated survival items.
OCP / IR Reduction Material



Integrated Shoulder Straps for E&E and comfort.
Shoulder Straps Double as Suspension System for deployment.

MACK-5A Exterior Overview

Infrared Reduction
500 denier Cordura



Waist/Chest
Compression Strap
attachment points



MOLLE/MAPS
attachment on padded
shoulder straps



Dual redundancy snap
covers for zippers.



Integrated Suspension
System/Shoulder Straps.
PIA-W-4088 TY VIII CL 1A
(4,000 lbs. tensile strength)

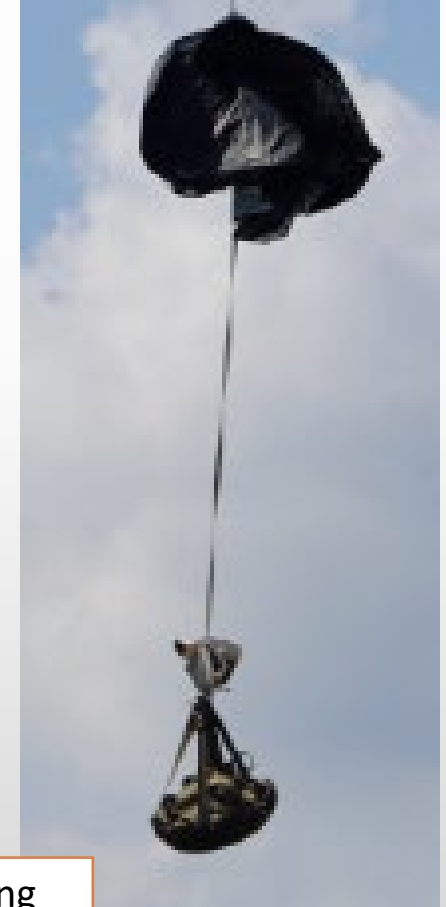
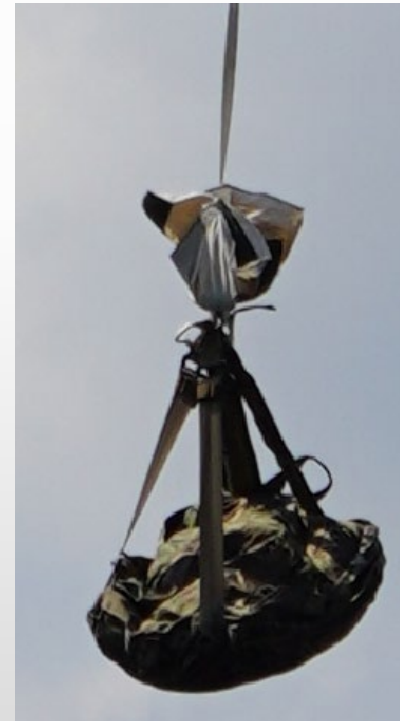
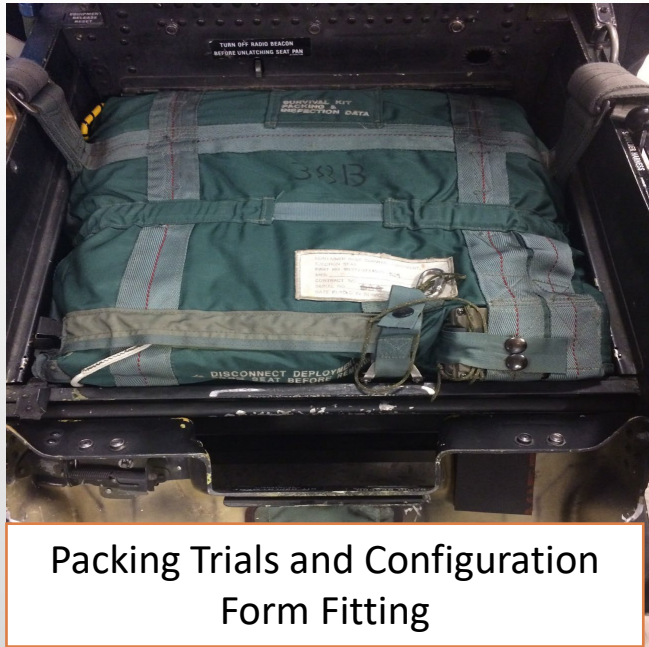


Continuous grab handle
support strap.
PIA-W-4088 TY VIII CL 1A
(4,000 lbs. tensile strength)



MACK-5A Testing

- Packaging Trials
- Configuration Form Fitting (17" x 15.75" x 7.25")
- Deployment and Activation Testing (TPR-4830-02)
- Weapons Access Time Trials (TPR-4830-03)
- Suspension System Endurance Test (TPR-4830-04)



MACK-5A Pack-Out Overview



ACES II Replacement – “Kitchen Sink”

- Direct drop in to ACES II System
- Utilizes:
- Standard ACES II Drop Line
 - Standard ACES II Life Raft Diaper
 - Standard ACES II exterior bag



1-Man LRU Options



	LRU-16/P	SSLR	ISPLR
Weight (lbs)	7.93	7.14	7.05
Packed height w/o inflation system (in) (15.75"x17" base)	2	1.5	0.75
Packed Volume w/o Inflation system (in ³)	535	401	200
Approximate Inflation System Volume (in ³)	46	52	30



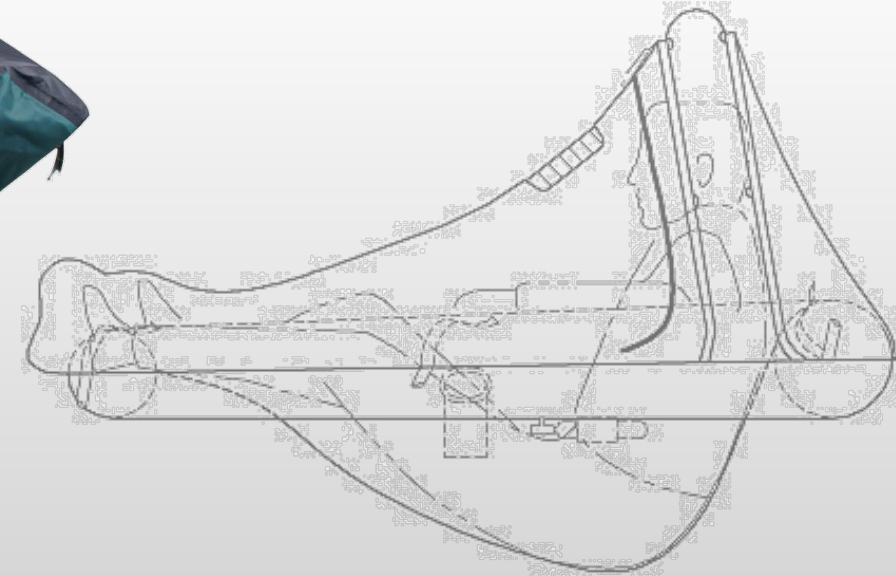
Patten - SSLR

- **COTS Item**
- Similar Design geometry to LRU-23/P with lightweight material (MIL-C-83489) for decreased pack volume
- 1 – 230g Replaceable CO₂ Cylinder
- M1000 – Mirada Inflation Valve
- Inflatable Floor
- Inflatable canopy/rain fly
- Integrated sea anchor and ballast bags
- Exterior Light included



Switlik – ISPLR

- **COTS Item – Approximately 4,000 units in service (DOD)**
- Martin Baker Mk10 Ejection Seat Approved – TYPE 38 ISPLR Pack.
- TSO-C72c Approved.
- Used by U.S. Army Air Warrior and U.S. Coast Guard Rescue Swimmer.
- Non-Hazardous Shipment.
 - (2 – 75g Replaceable CO₂ Cylinders)
- Reversible Construction.
- Inflatable Floor.
- Low slung design for stability in water.
- 3-Layer buoyancy tubes for redundancy.
 - Repair kit could then be removed from MACK-5A, saving 24in³ and 0.24 lbs. Replaced with Adhesive Patch (Tear Aid)
- Smallest form factor of any known COTS single seat life raft
- Covert or High-Visibility Color Option



Solutions for Survival

- LSI is ready to provide any configuration or need or quantity of MACK-5A system the USAF decides upon.
 - LSI has fully designed, developed, tested, patented and produced the MACK-5A backpack for the better part of 2 years.
- LSI has teamed with key industry partners to provide the USAF the best opportunity to provide the best life saving and support system for any downed airman.
- LSI has developed a system manual to seamlessly transition the USAF from the legacy system to a generational change in technology, performance, and capability.

