# OWNER'S MANUAL
# Shock Reduction Tether System
# #780-SRT

**DESCRIPTION**

The #780-SRT is LSC's latest technology in restraint tethers. The #780-SRT is designed to reduce or mitigate the forces experienced by personnel during a fall or other high acceleration event such as vehicular direction change (momentum), etc. The Shock Reduction Tether system is constructed primarily of MIL-SPEC webbing and stainless steel hardware for strength and corrosion resistance in the marine environment.

At the core of the SRT system is a patented sacrificial strap that is folded and secured within a protective sleeve forming the shock reduction element. The strap is woven in a special manner such that the fibers will begin to separate and break once a force of approximately 700-800 lbs is experienced. It is the separation and breaking of the fibers that permits the tether system to dissipate and absorb the energy of the moving mass/body that is in free fall, etc. The shock-reducing element will expand in length, as the fibers are broken. The maximum extension will not exceed 18 inches.

Note, this extended length is in addition to the original length of the adjusted tether. During this extension or energy-absorbing phase, the force experienced by the personnel being restrained is limited to approximately 800 lbs. Once the maximum extension of 18 inches has been let out, no further energy will be absorbed by the shock reduction element, and the unit will serve as a standard nylon-webbing tether up to the rated breaking limit of 3300 lbs. The design of the tether is self-indicating and a warning label will be exposed if the system has been subjected to an over limit force of approx. 800 lbs or greater.

**TECHNICAL DATA**

Drop tests performed by LSC show the shock reduction element will arrest a 220 lb body mass from a 3-foot free fall (i.e. one "G" of acceleration) within 14 inches of elongation and subject to a maximum impact of 820 lbs force. This provides an approximate 54% reduction in impact force when compared to the same test performed without the use of the shock reduction element resulting in an impact of 1810 lbs force.

Tests were performed using a 220 lb wooden body form wearing a full body harness and dropped a distance of 3 feet. It is important to note that the percent reduction for this test is specific to the given parameters. Changes in drop distance (resulting in higher or lower speed of the restrained mass at impact), additional acceleration factors, and weight of the body form will provide different results. The above test data is provided for reference only. An increase in any parameter (body mass, fall distance, acceleration or initial velocity) will increase the maximum impact force experienced by restrained personnel. Additionally the type of harness or other personal protective gear worn will affect the results.

**WARNINGS**

1. Use only for the intended application and as instructed. Failure to comply with these warnings may result in serious injury or death.
2. Ensure the tether is properly secured to an appropriate hard/tether point and the opposite end is secured to the restraint ring of the personnel safety harness or belt system. Ensure both snap shackles are closed securely before use.
3. Check both ends of the plastic sleeve protecting the shock reduction element. If a warning label is fully exposed outside the protective sleeve (indicating an over limit force) or should the tether fail any of the inspection requirements, immediately remove tether from service.
4. Working Load Limit (WLL) not to exceed 450 lbs. Breaking Limit is 3300 lbs.

**CAUTION**

The #780-SRT is intended to reduce the impact or shock load experienced by the wearer. When used for the intended application the SRT system will limit the impact force to approx. 800 lbs. However extreme conditions (high acceleration, turns, long tethers etc.) can exceed the limits of the shock reduction element and users can be subjected to shock loads up to the rated breaking limit of the tether. To minimize the shock load in all applications the user shall remain diligent at all times, adjusting the tether to the correct length and to minimize slack for the task at hand.

**DONNING**

1. Ensure the snap shackle is secured to the proper attachment point on the restraint harness or belt, and the locking pin is fully engaged.
2. Adjust tether to desired working length and minimize slack in system.
3. Secure free end of tether webbing with elastic bands to preventing tripping hazard.
4. Ensure tether is secured to proper attachment/tether point.

**INSPECTIONS**

While LSC has designed and manufactured the #780-SRT to be as reliable as possible, periodic inspections are necessary to ensure functional reliability. Prior to each use, inspect the entire tether assembly for cuts, broken stitches or unusual wear. Check the adjuster and snap shackles for proper operation. Ensure there are no warning labels fully exposed. Full exposure of a warning label indicates tether has been subject to an over limit force. Remove tether from service immediately if any discrepancy is identified.

**MAINTENANCE**

As required, apply a lightweight lubricant, such as WD-40 to each snap shackle. Wipe off excess lubricant. If unit has excessive soiling, or after direct exposure to salt water, salt spray, fuel, oils or other chemicals clean the entire belt with fresh water and mild detergent. Thoroughly rinse and allow to completely air dry, away from direct exposure to sunlight. After washing lubricate snap shackles as previously described.

**WARRANTY**

LSC products are warranted to the first consumer purchaser to be free from defects in material or workmanship for a period of twelve (12) months. Please contact LSC for our complete Warranty information and Policies, or visit our website.


**LIFESAVING SYSTEMS CORP.**
**220 ELSBERRY RD.**
**APOLLO BEACH, FL 33572**
**PHONE: 813/645-2748**
**FAX: 813/645-2768**
**www.lifesavingsystems.com**