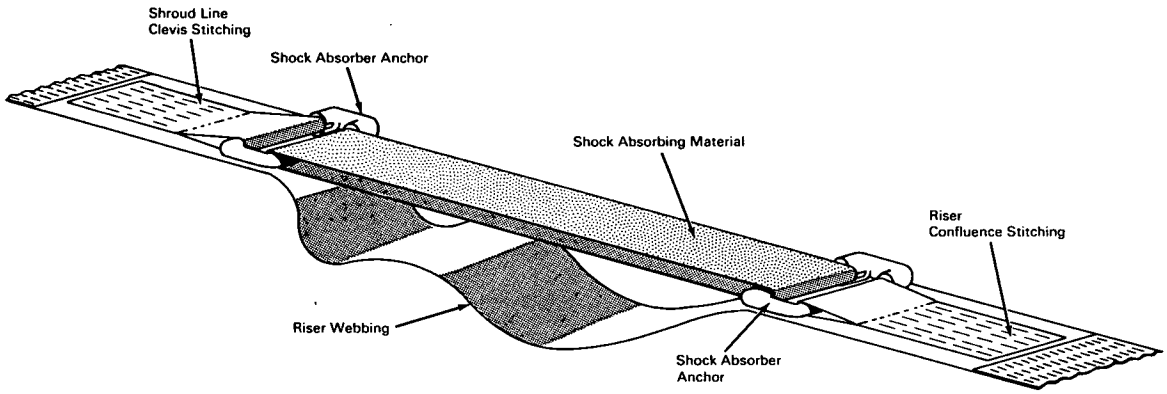
NASA TECH BRIEF

Nylon Shock Absorber Prevents Injury to Parachute Jumpers



The problem:

To reduce the canopy-opening shock of a parachute to a level that protects the wearer from injury. Various devices that control canopy opening behavior either do not protect against line stretch shock or add significant bulk and complexity to the parachute pack.

The solution:

A nylon shock absorber is mounted on each of the four risers between the shroud lines and the harness.

How it's done:

An 8-inch shock absorber is mounted by stitching it to the 17-inch long riser between the shroud line clevis and the riser confluence with sufficient slack introduced in the riser to permit stretching of the shock absorber fabric when the parachute canopy opens. Opening shock loads are converted to large elastic strains at a relatively low level in the shock absorbers instead of small elastic strains at a high load level in the parachute risers.

Notes:

1. Because of their size and location, the shock absorbers pose no problem in repacking the chute and harness after a jump.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   P.O. Box 1537
   Houston, Texas, 77001
   Reference: B66-10080

Patent status:

No patent action is contemplated by NASA.

Source: James A. Mandel
of Goodyear Aerospace Corporation
Subcontractor to
McDonnell Aircraft Corporation
under contract to
Manned Spacecraft Center
(MSC-226)

Category 05