

TECHNICAL BULLETIN #67

Item #1 Mandatory Repairs to Precision Canopies

A Mandatory Service Bulletin, SB-1221, has been issued and posted on the Precision Aerodynamics website at <http://www.aerodynamics.com>. SB-1221 affects original configuration Raven Dash-M reserve canopies and P-124 Emergency parachute canopies that were produced before April 12, 1999.

SB-1221 does not affect any canopies in the original Raven series, Super Raven series, Micro Raven series, or Raven Dash-M canopies produced after April 12, 1999.

SB-1221 requires installation of one additional bartack at each of the 'A line' and 'B line' attachment points, for a total of 16 additional bartacks on the line attachment loops.

The Raven Dash-M and P-124 series of reserve parachutes were tested within a range of 300-360 lbs at 180 knots and developed opening forces in the range of 2168 to 3660 lbs as measured in accordance with AS 8015A, the drop test standard for parachutes certified under FAA TSO C23d. Recently, 2 separate occasions have been witnessed wherein the integrity of the line attachment system of 2 different Dash-M canopies has been compromised during normal use by persons who are documented as having been within the Maximum Operating Limitations of Weight and Speed. In both cases, the jumpers reported exceptionally hard opening shocks resulting in canopy damage and hard landings.

Damage to the referenced canopies was consistent with canopies having been tested to destruction when dropped beyond the limits of Maximum Operating Limitations of both Weight and Speed, while at the same time tumbling or otherwise presenting a non-symmetrical loading scenario to the deployment sequence.

Exceptionally hard opening shocks generated by the subject canopies have prompted this Service Bulletin. Forces generated during opening shock resulted in a cataclysmic compromise of the line attachment system, with collateral damage extending upward generating torn canopy fabric and downward generating broken lines. The initial point of failure appeared to be similar in both cases, beginning in the region of the off-center A line attachment point. Subsequently, transient loading migrated outward and rearward affecting the integrity of some of the adjacent line attachment loops. The failure mode was in the destruction of the .75 x T-III MIL T-5038 line attachment loop tape, manifested by pulling the attachment loop tape away from the canopy but leaving the associated stitching intact (image 2 of Bulletin SB-1221).

Compliance with this Service Bulletin enhances the line attachment structure of the original Dash-M and P-124 configuration and subsequent test data indicate that it increases the line attachment integrity by more than 100%.

For compliance details, please download a copy of SB-1221 from the Precision Aerodynamics website at <http://www.aerodynamics.com>.

Barry McAuley – Chair
Technical & Safety Committee

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