BRITISH PARACHUTE ASSOCIATION
Wharf Way
Glen Parva
LEICESTER LE2 9TF

SI 4/88

BRITISH PARACHUTE ASSOCIATION
SAFETY INFORMATION

Tandem Master: 38 years, male
Passenger: 21 years, male
Tandem Master
Experience: 1000 jumps, "E" Licence, Inst "B" + T/M ratings, recent tandem experience: one on 15/1/88, three on 30/10/87, total of eight since revalidation on 25/7/87.
Equipment: Relative Workshop Tandem Vector, with drogue.

DETAILS (Subject to confirmation)

The exit was made at 9000 feet. Freefall and relative work were completed as planned, and the tandem-master waved and pulled the drogue release at 4,000 ft. The drogue collapsed normally but the main pin was not pulled from the closing loop.

The tandem pair developed a right hand turn, and it appears from the video record that at one stage they lost stability. Fifteen seconds elapsed from the time the drogue release was pulled, until the cameraman opened his canopy. The video-man states that his opening height was 1300-1400 ft, with the tandem pair at this stage being about 500 ft below the video. This would give a total time from drogue release activation to impact of 16-19 seconds.

The video-man states that he saw the reserve activation about half a second before impact. The proximity of the reserve and freebag supports this. The video also shows (although not clearly) that the tandem pair may have become unstable for the duration of one loop. Throughout the decent the passenger had his arms in a forward and out position.

OBSERVATIONS FROM SUBSEQUENT INVESTIGATION

- The drogue collapsed normally but failed to pull the pin.
- The green cutaway pad was pulled and found 100m downwind of the impact site.
- The drogue release handle was found 50m downwind of the impact site.
- The reserve handle was found 10m from the impact site.
- The rig was nearly new and had done very few jumps.
- The reserve was out of the freebag and lying on it and touching the deceased.
- The reserve canopy was in date, and appeared to have been packed correctly and to be functional.
- The main canopy had been packed by the deceased Tandem Master and had two full line twists packed into it.
- It was also packed with the bridle pulled insufficiently through the deployment bag grommet. This could have caused a pilot chute in tow situation had the main container opened.

- The main bridle was incorrectly roused from the pin under No. 2 flap, effectively locking the pin in position such that no force short of destruction would have pulled the pin.

- The Tandem Master's Protec helmet survived the impact unscathed.

CONSIDERATIONS:

- Valuable time was wasted pulling the green handle. The procedure laid down in the Manual for a drogue in tow situation is to pull the reserve handle only.

- The passenger's arms may have obstructed the view and accessibility to the Tandem Master of the reserve ripcord.

- The passenger may have grabbed the Tandem Master's arms: subsequent struggle may have caused the suspected instability.

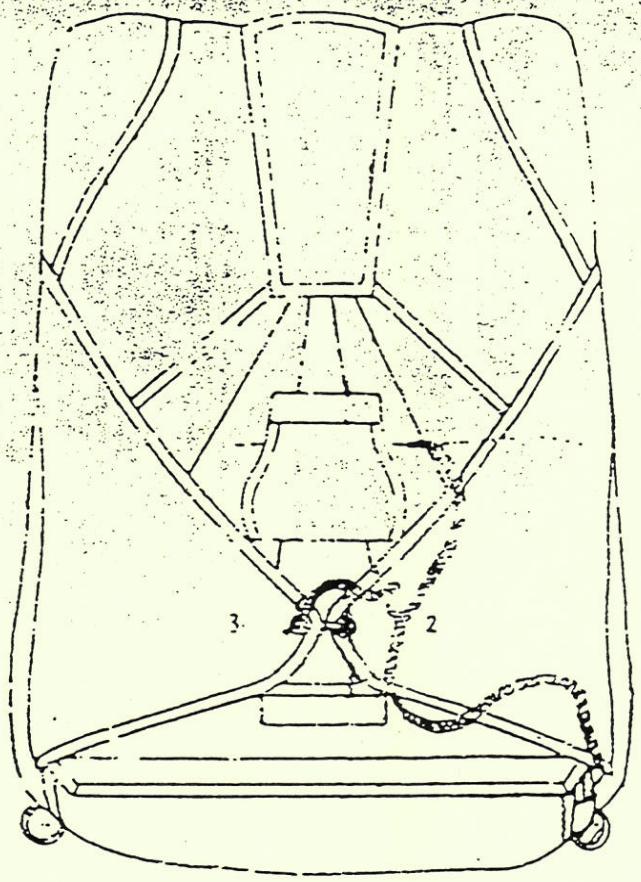
CONCLUSIONS:

The initial problem was caused by a packing error. The correct routing of the bridle is shown in the Tandem Vector manual and differs from the routing used for the non-tandem Vector. The mis-routing was not picked up in any pre-jump check (if any was done). The Tandem Master had only a limited time to detect the problem and to deal with it. It is possible that the Tandem Master was unprepared for the increase in speed and wasted valuable time before activating the reserve.

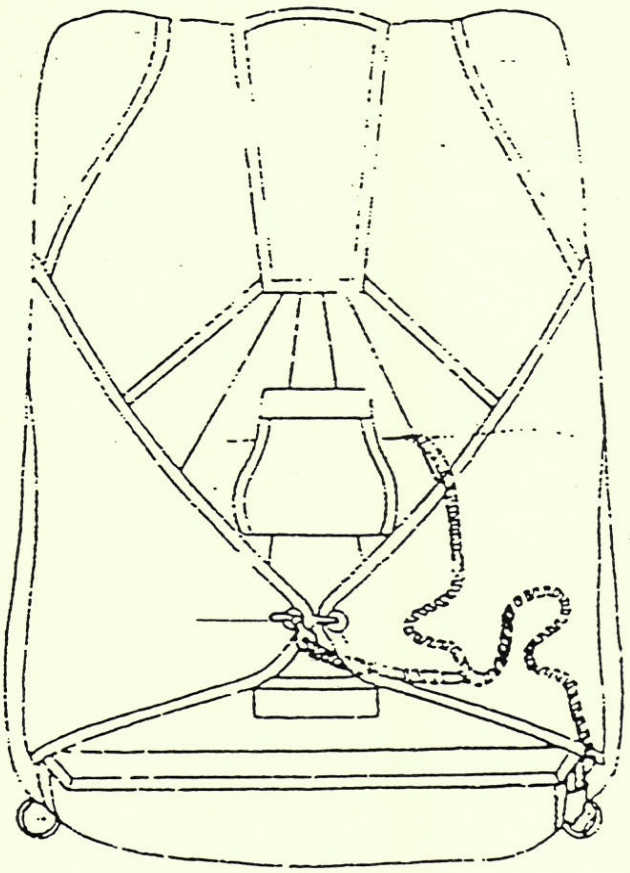
Tandem parachutes differ in many important respects from other parachutes and the laid-down procedures for packing and for dealing with malfunctions must be adhered to in order to minimise the possibility of problems. Tandem Masters must at all times be fully aware of the fact that height can be lost extremely rapidly when the drogue has been collapsed.

NOTE: This interim report is based on a preliminary investigation in the interest of safety. Subsequent investigation may negate some or all of the information presented here.

HOW IT WAS PACKED



HOW IT SHOULD BE PACKED



16th February 1988

John H. Hitchen
JOINT NATIONAL COACH & SAFETY OFFICER

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