



COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF TRANSPORT

## AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

Publication of this report is authorised by the Secretary under the provisions of Air Navigation Regulations 283 (1)

Reference No

6/762/1520

## 1. LOCATION OF OCCURRENCE

Mount Blackheath, N.S.W.

Height a.m.s.l.

3600 feet

Date

27.12.76

Time (Local)

1930 hours

Zone

ESuT

## 2. THE AIRCRAFT

Make and Model

Rogallo hang glider Moyes Midi Swallow Tail *Rogallo hang glider*

Registration

Not applicable

## 3. CONCLUSIONS

(i) At about 1930 hours ESuT on 27 December 1976, a hang glider operated from Mount Blackheath, New South Wales sustained structural failure in flight and crashed to the ground. The pilot was killed on impact and the ~~kite~~ structure was destroyed. There was no injury to any other person or property.

(ii) The pilot, Richard James Saw, was 34 years of age. He had formerly held a Commercial Pilot's licence but this had not been renewed after May 1971 when his total aeronautical experience was in excess of 500 hours. He commenced hang gliding in February 1976. He purchased a Dragonfly kite, and in December 1976, purchased the Midi <sup>from a friend</sup>. At the time of the accident, the Midi had been in his possession for approximately two weeks and it is believed that he had not made more than a small number of flights with it. He was a member of ~~TASSA~~ The Australasian Self Soar Association, membership number 2068.

(iii) In mid August 1976, an accredited observer of TASSA, Robert Lewis, witnessed the first flight of two which Saw intended to complete for the issue of a C1 rating; a second flight was to be made later and had this been satisfactory, ~~then~~ <sup>then</sup> Saw would have obtained the highest <sup>available</sup> TASSA rating. The first flight was of approximately 1½ hours duration, and was made from Mount Blackheath. Robert Lewis' subsequent verbal assessment of Saw's ability was that he was a proficient hang glider pilot. At the time of his death, therefore, Richard Saw had partly qualified for the TASSA C1 rating <sup>but</sup> did not appear in TASSA's records as holding any of their lower ratings.

*By prior arrangement*  
(iv) A group of hang glider pilots, some of whom were fairly experienced, had arrived at the Mount Blackheath site early on the day of the accident. ~~It had been arranged by one of their number that they would meet Richard Saw there and that he would discuss local conditions with them.~~ He was not there when they arrived and after ~~arranging~~ <sup>discussing</sup> a landing site with the owner in the valley 1100 feet below Mount Blackheath, they spent much of the day waiting for the gusting westerly wind to abate. This it did towards early evening. Saw and some friends arrived at Mount Blackheath at 1830 hours and after some ~~discussion~~ <sup>discussion</sup> with the other group took wind readings at the launching site and at the cliff face below. These ~~were~~ <sup>were</sup> reported to be from the west 15 miles an hour gusting to 20 miles an hour at the site and 20 to 25 miles an hour gusting to 30 miles per hour at the cliff face. The weather was fine.

*then*  
(v) Saw briefed the group on areas of local turbulence including one particular area about 150 metres south west of the launch site which he described as particularly turbulent with westerly winds blowing. Most of the group were reluctant to fly as they did not consider it safe in the prevailing conditions and Saw said that he would demonstrate to them that it was.

(vi) They assisted him to carry his kite from his car down to the launch point where he donned his harness and clipped it to the kite's 'A' frame. There ~~was~~ <sup>was</sup> witness evidence that the ensuing self launch during the course of which Saw stumbled, was longer than would have been expected in the strong wind, but the kite became airborne, obtained good lift over the cliff face, and the pilot assumed the prone position in the harness. The kite moved slowly in a south westerly direction out over the valley. There ~~was~~ <sup>was</sup> conflicting evidence as to the height the kite reached above the observers (a minimum estimate was 300 feet) and the number of 360 degree turns which it then made, but it is apparent that at least two <sup>turns</sup> were completed. Witness evidence ~~was~~ <sup>was</sup> consistent that the turns were made to the left. During the course of these turns, the kite moved in an easterly direction back over the cliff face and into the area of particular turbulence of which Richard Saw had warned the others.

(vii) A cine film taken by one of the witnesses of the final stages of the flight showed that the kite was in a stable right turn for at least 10 seconds, that the sail was levelled laterally, and that the kite entered a shallow dive which became steeper. It is probable that at this time it attained an airspeed of 35 to 40 miles per hour. The right sail, then the left sail, partly deflated and the wing-tips oscillated. There was a clearly discerned vigorous rearward and upward shift of the pilot's prone body as though he had pushed hard against the 'A' frame and this was immediately followed by an abrupt pitch-up of the nose of the kite. The cross member bowed downward, then buckled at 90 degrees at the outboard section, one metre from the left cross member/wing leading edge attach point. The left leading edge member swung inward and the left sail collapsed. The kite fell steeply 300 feet <sup>and struck</sup> the ground ~~and the pilot was killed on impact.~~ *before striking*

### 3. CONCLUSIONS (Cont'd)

(viii) The kite was fairly new, having been constructed on 26 August 1976. Specialist examination of the failed cross member indicated that no defective material had been used in its manufacture and that its original specification had not <sup>subsequently</sup> been lowered ~~subsequently~~. There ~~was~~ <sup>is</sup> no evidence of pre-existent cracking of the material prior to the accident. There ~~was~~ <sup>is</sup> no failure evident in any other structural member of the kite, and damage to the structure - apart from the cross member - ~~was~~ <sup>is</sup> consistent with ground impact damage. The sail was almost intact and in good condition.

(ix) ~~It is believed~~ <sup>appears based</sup> on the evidence presented by the cine film, ~~that Saw realised~~ <sup>it appears appreciated</sup> that the kite had ~~realised~~ <sup>realised</sup> that the kite had entered a critical situation in the dive, and initiated rapid corrective action by pushing hard on the 'A' frame in order to raise the nose of the kite. This succeeded, but it has been calculated that the resultant pitch-up was in the order of  $45^{\circ}$  at the rate of  $68^{\circ}$  per second. This, <sup>plus the</sup> combined with a heavy pilot, and ~~the~~ <sup>the</sup> relatively high airspeed of the kite, without doubt subjected the kite's structure to very high stresses. The possibility of additional stress imposed by a wind gust on the structure cannot be discounted.

NOT TO BE RELEASED

4. OPINION AS TO CAUSE

The probable cause of the accident was that the pilot initiated a manoeuvre which imposed loads that exceeded the structural strength of the kite. A possible causal factor may have been the pilot's relative inexperience on the type of site, and the conditions that existed at the time.

Approved for  
publication

Delegate of the Secretary

Date

NOT TO BE  
REPRODUCED