



GOVERNMENT OF AUSTRALIA

DEPARTMENT OF TRANSPORT

Reference No

AS/741/1007

**AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT**

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

**1. LOCATION OF OCCURRENCE**

Two kilometres south of Mareeba, Queensland	Height a.m.s.l 1630 feet	Date 9.2.74	Time (Local) 1830 hours	Zone EST
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**2. THE AIRCRAFT**

Make and Model Cessna 182A	Registration VH-DCV
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**3. CONCLUSIONS**

- 3.1 At approximately 1830 hours Eastern Standard Time on 9 February, 1974, a parachutist was fatally injured on impact with the ground following a free fall descent at Mareeba Aerodrome, two kilometres south of Mareeba, Queensland.
- 3.2 The parachutist, Ralph Francis Webb, aged 50 years, was a member of a group known as the Cairns Skydivers Club. He had previously made seven static line and 100 free fall parachute descents.
- 3.3 Mr. Webb was equipped with a B4 type harness, a 35 feet diameter main parachute and a G.Q. "Protector" reserve parachute of 17 feet diameter. He was also equipped with a wrist mounted "Altmaster 11" altimeter, a helmet and a pair of goggles.
- 3.4 The dropping zone used for the descent was an area of the Mareeba Aerodrome. The base of the cloud in the area was approximately 6,500 feet above ground level, there was a light wind from the east at about three knots and the surface visibility was unrestricted.
- 3.5 Earlier in the day Mr. Webb had made a successful free fall descent following which he repacked his main parachute with the assistance of another experienced parachutist.
- 3.6 The descent which resulted in the accident was made from Cessna 182A aircraft registered VH-DCV. The aircraft was flown by Richard Eric Rudd, the holder of a private pilot licence, whose total flying experience amounted to 930 hours. Also on board the aircraft were parachutists Ralph Francis Webb, Andrew Roy Hunter and John Samuel Dangaard.
- 3.7 Prior to take-off it was arranged that the aircraft would climb to 5,500 feet at which height Mr. Webb would commence a free fall and carry out back loop and figure eight manoeuvres before deploying his main parachute in the normal manner by the time he reached 2,200 feet. It was intended that the aircraft would then climb to about 7,000 feet from where the other two parachutists would commence their descents.
- 3.8 At a height of 5,500 feet, Mr. Webb exited the aircraft cleanly and carried out the planned manoeuvres before stabilising in free fall. When he reached a height estimated as 2,200 feet, his main parachute had not deployed and he was observed to first start spinning and then commence forward tumbling. While he was still tumbling, and at a height of about 1,000 feet, his reserve parachute deployed but the canopy appeared to be opening and closing and he continued falling at a high rate of descent until impact.
- 3.9 Following the accident the main parachute ripcord was found to have been withdrawn and it was located near the point of impact. The main parachute pack was open but the parachute had not deployed and this was consistent with a result of impact or an attempt having been made to activate it immediately prior to impact. There was no evidence of any pre-existing defect or error in packing of the main parachute which might have contributed to the accident.
- 3.10 The canopy of the reserve parachute was found to have become inverted, i.e. turned inside out and it had sustained severe heat and tearing damage with the most affected areas being in gore numbers 14, 15, 16 and 17. There was a tear in gore 15, principally coincident with the left seam, which extended from the periphery to the vent. Tearing extended along the full width of the hem line at the periphery of gores 16 and 17 and the radial tapes attached to rigging lines for those gores had become detached from the peripheral hem. This could have allowed gores 16 and 17 to move sideways towards gore 18 and, in conjunction with the damage to gore 15, effectively result in a canopy aperture approximately three gores wide and a seriously degraded canopy performance. Fabric from heat affected areas had sustained a substantial loss in strength and the pattern of the heat and tearing damage suggested that the heat was the result of friction during canopy inversion and that the weakened fabric then failed under the high loads associated with canopy inversion. There was no

3. CONCLUSIONS (Cont'd)

evidence of any pre-existing defect in the reserve parachute and the undamaged portions of the canopy were found to comply with the appropriate material specification.

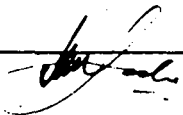
3.11 The manufacturer's specifications for the G.Q. "Protector" 17 feet reserve parachute include provision of a vane auxiliary (pilot) parachute and the packing instructions state that the canopy should be stowed in a series of flattened 'S' folds. The reserve parachute worn by Mr. Webb was not equipped with a pilot parachute and there is evidence that it had been 'roll' packed.

3.12 The goggles worn by Mr. Webb were thick rimmed and his peripheral vision would therefore be restricted to the extent that tilting his head forward approximately 30 degrees would be necessary for him to see the main parachute ripcord handle mounted on the right side of chest. Detailed examination of the altimeter carried by Mr. Webb did not reveal any evidence to suggest that it was other than serviceable at the time of the accident.

4. OPINION AS TO CAUSE

The cause of the accident was that, following non-deployment of the main parachute, the reserve parachute canopy was seriously damaged when it inverted during deployment. There is insufficient evidence available to determine the reason for the canopy inversion.

Approved for  
publication



( I. M. Leslie )

Delegate of the Secretary

Date

8.12.75