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: SI/794/1002

1. LOCATION OF OCCURRENCE

	Height a.m.s.l.	Date	Time (Local)	Zone
13 km north-west of Stonefield, South Australia	Approx. 3000 feet	28.1.79	1515 hours	CSuT

2. THE AIRCRAFT

Type and Model	Registration
(i) Elliotts of Newbury, Olympia Mark 2 Glider.	(i) VH-GDQ
(ii) Burkhart Grob Flugzeugbau, Astir CS77 Glider.	(ii) VH-KYO

3. CONCLUSIONS

3.1 At about 1515 hours, Central Summer Time, on 28 January, 1979, a single place Olympia Mark 2 glider of wooden construction, registered VH-GDQ, and a single place Astir CS77 glider of fibreglass construction, registered VH-KYO, collided in flight at a height of about 3000 feet above a point some 13 km north-west of Stonefield, South Australia.

3.2 Both gliders were extensively damaged in the collision and crashed to the ground. The pilot of VH-GDQ was probably seriously injured in the collision and was killed on impact with the ground. He was not equipped with a parachute, contrary to the rules of the Gliding Federation of Australia. The pilot of VH-KYO jettisoned the cockpit canopy, evacuated the glider and deployed his parachute. He alighted in an open field without injury.

3.3 The pilot and owner of VH-GDQ was , aged 32 years. He was the holder of a F.A.I. "Silver C" gliding certificate and was a qualified gliding instructor. His gliding experience amounted to some [illegible]0 hours of which 12 hours had been flown in the Olympia 2 type of glider.

3.4 VH-KYO was owned by the Barossa Valley Gliding Club and was flown by , age 16 years, the holder of a F.A.I. "C" gliding certificate. had a total gliding experience of some 40 hours of which 12 hours had been flown in the Astir CS77 type of glider.

3.5 There was a current certificate of airworthiness for VH-KYO but the certificate of airworthiness for VH-GDQ could not be located. Nevertheless, there is evidence to indicate that all required maintenance and inspections had been carried out and that both gliders were serviceable for flight on the day of the accident.

3.6 The gross weight of VH-GDQ has been calculated to have been some 2 kg above the maximum permissible weight and the centre of gravity was within specified limits. The gross weight and the centre of gravity of VH-KYO were within the specified limits.

3.7 The two pilots were taking part in a three day gliding regatta conducted by the Barossa Valley Gliding Club at the Stonefield gliding field. was competing in a Sports Class cross country event to Burra and return and was competing in a Standard Class event to Peterborough and return. Both pilots attended a briefing session for competition flying on the day of the accident.

3.8 VH-GDQ was launched by a tug aircraft at 1441 hours and passed the starting line at 1459 hours. [illegible]-KYO was launched by the same means at 1418 hours and, after the pilot spent some time seeking thermals in the area, passed the starting line at 1504 hours. The sky was cloudless and visibility was unrestricted.

3.9 Several minutes after passing the starting line, the pilot of VH-KYO established the glider in a thermal and circled to the right whilst gaining height. Lift conditions in the thermal were steady but weak. He subsequently observed VH-GDQ enter the same thermal below him and also commence to circle to the right. The orbits of the two gliders were eccentric so that each glider alternately passed inside and outside the orbit of the other. The airspeed of VH-GDQ was observed to be lower than that of VH-KYO.

3.10 After the two gliders had been circling in the thermal for some 5 to 10 minutes, the pilot of VH-KYO observed VH-GDQ slightly ahead of him, on a generally similar heading, to the right but moving to the left, and about 100 feet lower. Just after VH-GDQ passed under him, it appeared to rapidly gain height. The pilot of VH-KYO was unable to climb away as the speed of his glider was near the stalling speed and he attempted to turn away to the left. The attempted avoiding action was unsuccessful and the two gliders collided.

3.11 Detailed examination of the wreckage of the two gliders revealed no evidence of any defect or malfunction which might have contributed to the accident. The pattern of damage indicated that, at the time of the collision, the fuselage of VH-KYO was above the inboard section of the right wing of VH-GDQ, the heading

3. **CONCLUSIONS** (Cont'd)

of VH-KYO was about 20° to the left of that of VH-GDQ, and the greatest closing velocity between the gliders was in a vertical direction.

3.12 The mainplane of the Olympia 2 glider is mounted on top of the fuselage with the leading edge of the centre section positioned above the head of the pilot. Visibility from the cockpit is therefore severely restricted in a rearwards and upwards direction and it is probable that, immediately prior to the collision, the pilot of VH-GDQ would not have been able to observe VH-KYO.

3.13 Both gliders were equipped with VHF (very high frequency) radio transceivers with compatible frequencies but, in accordance with usual practice on flights of this nature, the pilots did not communicate with each other.

3.14 The rules of the Gliding Federation of Australia require that "a glider joining a thermal which is already occupied must circle in the same direction as the glider/s working the thermal." When VH-GDQ entered the thermal it circled in the same direction as VH-KYO and, having regard also to the eccentric orbits flown for some minutes by the two gliders, it is probable that the pilot of VH-GDQ was aware of the presence of VH-KYO although he would not have been able to keep it in sight continuously.

3.15 There is evidence which indicates that VH-GDQ had the capability to gain height, whilst thermalling, at a greater rate than that of VH-KYO.

4. **OPINION AS TO CAUSE**

The probable cause of the accident was that neither of the pilots operated his glider in a manner which ensured maintenance of safe separation.

Approved for publication	(G.V. Hughes) Delegate of the Secretary	Date 1.10.1980

DEFINITIONS

ACCIDENT - An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all those persons have disembarked and in which

(a) any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached to the aircraft; or

Note. - Specifically excluded are: death from natural causes and fatal or serious injury to any person on board whether self-inflicted or inflicted by another person, or to ground support personnel before or after flight, or fatal or serious injury which is not a direct result of the operation of the aircraft, or which concerns stowaways.

(b) the aircraft suffers substantial damage or is destroyed; or

(c) the aircraft is missing or is completely inaccessible.

FATAL INJURY - Any injury which results in death within 30 days.

SERIOUS INJURY - Any injury other than a fatal injury which

(a) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or

(b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or

(c) involves lacerations which cause severe haemorrhages, nerve, muscle or tendon damage; or

(d) involves injury to any internal organ; or

(e) involves second or third degree burns, or any burns affecting more than five percent of the body surface.

MINOR INJURY - Any injury other than as defined under "Fatal Injury" or "Serious Injury".

DESTROYED - Consumed by fire, demolished or damaged beyond repair.

SUBSTANTIAL DAMAGE - Damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft and which would normally require major repair or replacement of the affected component. The following types of damage are specifically excluded: engine failure; damage limited to an engine or its accessories, or to propeller blades; bent fairings or cowlings; small dents or puncture holes in the skin; damage to wing tips, antennas, tires, or brakes.

MINOR DAMAGE - Damage other than as defined under "Destroyed" or "Substantial Damage".