Aviation Safety Investigation Report 198900840

Thruster Gemini

29 July 1989

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number: 198900840 **Occurrence Type:** Accident
Location: Truro Flats (50 km E Nuriootpa SA)
Date: 29 July 1989 **Time:** 1415
Highest Injury Level: Minor
Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	0	0
Ground	0	0	0	-
Passenger	0	0	0	0
Total	**0**	**0**	**2**	**0**

Aircraft Details: Thruster Gemini
Registration: AUF 250068
Serial Number: N/A
Operation Type: Aerial work
Damage Level: Destroyed
Departure Point: Truro Flats SA
Departure Time: 1410
Destination: Truro Flats SA

Approved for Release: 12th December 1989

Circumstances:

During the climb at about 120 feet above ground level, the engine stopped suddenly. The student promptly lowered the nose of the aircraft to maintain flying speed. Almost immediately, the instructor took over and increased the nosedown attitude in an attempt to increase the airspeed. However, he had to pull back on the stick almost straight away to attempt a flare for landing. The aircraft had not gained sufficient airspeed to fully respond and mushed into the ground with a heavy impact. The first witness on the scene to render assistance noticed that the ignition " kill " switch was in the OFF position although both pilots were adamant they had not switched it off as a deliberate action after the crash. Subsequent inspection of the engine by a Civil Aviation Authority engineer and a test run of the engine by the company engineer failed to find any reason for the engine failure. Further experimentation, however, showed that the " kill" switch could be placed in a mid-position which would allow the engine to start and then the switch could move to either the ON or OFF position by vibration. Although the actual cause of the engine failure could not be established, it is probable that the ignition " kill " switch was placed in the OFF position inadvertently or vibrated into the OFF position from a mid-selection position.

Significant Factors:

The following factors were considered relevant to the development of the accident:

1. Engine failure, probably resulted from a faulty ignition " kill " switch.

2. There was insufficient height for the pilot to complete a successful forced landing after the engine failed abruptly.

Reccomendations:

A report on the accident which was supplied by Australian Ultralight Federation members recommended the following :

1. That the Australian Ultralight Federation recommend the fitment of a double-pole double-throw switch as an ignition " kill " switch in lieu the current single-pole single-throw switch and that this switch be guarded from inadvertent activation.

2. That the Australian Ultralight Federation publish a height/velocity graph as a guide to pilots to assist them in avoiding that area of the flight envelope from which a successful forced landing cannot be made. Such a graph should be published for single pilot and the two-up configurations.