Aviation Safety Investigation Report 199700822

Piper Aircraft Corp Tomahawk

16 March 1997

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Occurrence Number: 199700822 **Occurrence Type:** Accident
Location: Torquay, (ALA)
State: VIC **Inv Category:** 4
Date: Sunday 16 March 1997
Time: 1515 hours **Time Zone** ESuT
Highest Injury Level: None

Aircraft Manufacturer: Piper Aircraft Corp
Aircraft Model: PA-38-112
Aircraft Registration: VH-HAV **Serial Number:** 38-19A0783
Type of Operation: Non-commercial Pleasure/Travel
Damage to Aircraft: Substantial
Departure Point: Tooradin Vic.
Departure Time:
Destination: Torquay Vic.

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Private	200.0	250

Approved for Release: Thursday, March 5, 1998

The pilot planned a flight from his base at Tooradin Vic, to Torquay Vic, accompanied by his son who also held a private pilot's licence.

The pilot advised that although he was familiar with the Torquay airfield layout he had not landed there before. Prior to leaving Tooradin he obtained airfield information from the Aircraft Owners and Pilots Association (AOPA) Airfield Directory and telephoned the operator for approval to land. He inquired about local conditions and was told that there were parachute operations at Torquay that day.

When he arrived in the Torquay area, the pilot listened out on the appropriate frequency and heard another pilot announce that that he was landing on runway 18. The pilot joined crosswind for a landing on runway 18, and while in the circuit observed the marked taxiway and worn take-off area at the threshold of runway 18

On final approach to land, the aircraft collided with powerlines placed along the road adjacent to the threshold of runway 18. One powerline passed over the fuselage, damaging the horizontal and vertical tail surfaces. The other powerline broke the cockpit canopy and snagged on the roof structure. This powerline was pulled from the pole and stretched, allowing the aircraft to travel 70 metres before settling onto the ground in a level attitude. The pilots stayed in the aircraft until electrical power was disconnected. The aircraft was substantially damaged.

The "Special Procedures" section of the Torquay entry in the Airfield Directory did not mention the power line. AOPA advised that the details contained in the directory were supplied by the airport operator. The operator advised BASI that he had not brought the line to the attention of the pilot when he telephoned for permission to land.

There were two thresholds in use on runway 18 at Torquay, one for takeoff and one for landing. Because of the powerlines, the airport operator had placed displaced landing threshold markers some 150 metres into the 805-metre strip in an endeavour to establish an approach gradient that would give adequate clearance over the powerlines. The markers were white and may not have established an effective contrast with the airfield surface under the prevailing dry conditions.

The take-off threshold was adjacent to the fence line with taxiway markers and runway edge markers delineating the take-off area.

The powerlines were made of steel which had a light-grey galvanised finish. The lines were fitted with 200-mm diameter orange marine buoys, the upper sections of which had bleached white. Power supply company records show that the orange marine buoys had been fitted some 8 years prior to the accident. The power supply company manuals did not contain standards for marker buoys, nor was there any requirement to check for ultraviolet degradation during the 3-yearly powerline inspection cycle.

The markers pre-dated the formulation of the Australian Standard for powerline marking.

The accident occurred in bright but overcast lighting conditions at the end of a hot dry summer so that the airfield surface was light brown in colour. The dry background, the oxidised wires, the degraded orange markers, and the displaced landing threshold markers were all of a similar colour to the airfield surface. Therefore the powerlines would have been very hard to detect.

Because the pilot had not been warned of the existence of the powerlines he would have had a lowered expectation of their presence.

After the accident the pilot said that he considered the use of separate landing and take-off thresholds confusing, especially when the latter was neither adequately marked nor mentioned in the airfield directory.

Safety action

1. The operator is ensuring that all pilots who telephone for landing approval are thoroughly briefed on the existence of the powerline and the use of the displaced landing threshold.

2. The operator has enlarged the property and extended the runway. This has allowed the displaced threshold to be placed approximately 300 metres from the fence line and the powerline.

3. The operator has revised the entry in the AOPA airfield directory to include details of the powerline and the displaced threshold.

As a result of the investigation into this occurrence, the Bureau has made the following recommendations:

R970153: The Bureau of Air Safety Investigation recommends that the Electricity Supply Association of Australia make known to its members the circumstances of the accident and make appropriate use of the applicable Australian Standard (AS 3891.1) when marking powerlines.

R970177: The Bureau of Air Safety Investigation recommends that the Australian Airport Owners Association make known to its members the circumstances of the accident. The association should also recommend to its members that they contact their local electricity supplier if they believe any powerlines affecting their airfields are not marked in accordance with the Australian Standard.

R970178: Windsock Productions, publishers of The Country Airstrip Guides, gathers information regarding aerodrome and landing areas by asking operators to fill in a survey form and return it to them. The Bureau of Air Safety Investigation recommends that Windsock Productions amend that survey form to include, as examples, a detailed list of possible hazards, obstacles and special procedures an operator needs to consider when completing the form.

R970179: AOPA, which publishes the Airfield Directory, gathers information regarding aerodrome and landing areas by asking operators to fill in a survey form and return it to them. The Bureau of Air Safety Investigation recommends that AOPA amend that survey form to include, as examples, a detailed list of possible hazards, obstacles and special procedures an operator needs to consider when completing the form. The Bureau also recommends that AOPA inform its members of the circumstances of this accident.