

AVIATION OCCURRENCE REPORT

MISSING AIRCRAFT

**PIPER PA-28-140 C-GXGB
LAKE ONTARIO
24 FEBRUARY 1994**

REPORT NUMBER A94O0056



The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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Synopsis

The pilot was on a flight from Brampton to Hamilton Airport, Ontario, when he reported to the Hamilton tower controller that something had come through the windshield, that he could hardly see, and that he was disoriented. Six minutes later he made his last radio transmission. The aircraft was observed to go off radar about 14 miles northeast of Hamilton Airport over Lake Ontario. The pilot and aircraft are still missing.

The Board determined that an unknown object penetrated the aircraft windshield and incapacitated the pilot.

Ce rapport est également disponible en français.

Table of Contents

	Page
1.0 Factual Information	1
1.1 History of the Flight	1
1.2 Injuries to Persons	1
1.3 Damage to Aircraft	1
1.4 Other Damage	1
1.5 Personnel Information	2
1.6 Aircraft Information	2
1.7 Meteorological Information	2
1.8 The Search	3
2.0 Analysis	5
3.0 Conclusions	7
3.1 Findings	7
3.2 Causes	7
4.0 Safety Action	9
5.0 Appendices	
Appendix A - Radar Plot of Flight Path	11
Appendix B - Glossary	12

1.0 *Factual Information*

1.1 *History of the Flight*

The pilot was on a visual flight rules (VFR¹) flight from Brampton to Hamilton Airport, Ontario. (See Appendix A.) At 1322 eastern standard time² (EST), he contacted Hamilton tower and requested special visual flight rules (SVFR) to land at Hamilton Airport. The pilot was instructed to hold over the bay (northeast of the control zone) because there was instrument flight rules (IFR) traffic in the control zone. The tower controller issued the latest weather to the pilot, and at 1328 approved SVFR operation into the control zone. At 1334 the pilot reported that something had come through the windshield and that he could not see. During and after this transmission, there was a loud background noise whenever the pilot transmitted. For the next six minutes the controller attempted, based on the tower radar, to assist the pilot by giving advice about the aircraft's position and headings to steer. The pilot was mostly unresponsive, repeating that something had come through the windshield, that he could barely see or

1 See Glossary for all abbreviations and acronyms.

2 All times are eastern standard time (Coordinated Universal Time (UTC) minus five hours) unless otherwise stated.

3 Missing and presumed dead.

could not see, and that he could not see the instruments. At one point he stated that he was disoriented. At 1340 the pilot made his last radio transmission, and further attempts to contact the pilot were unsuccessful; at about 1345 the aircraft disappeared from the radar screen. The aircraft was observed on radar to fly an S-pattern eastbound over Lake Ontario before it disappeared from the radar,

approximately 14 miles northeast of Hamilton Airport. The pilot and aircraft are still missing.

Discussions with eye witnesses revealed that the aircraft was flying erratically as it flew out over Lake Ontario. No witnesses saw the aircraft strike the water surface.

1.2 *Injuries to Persons*

	Crew	Passengers	Others	Total
Fatal	1 ³	-	-	1
Serious	-	-	-	-
Minor/None	-	-	-	-
Total	1	-	-	1

1.3 *Damage to Aircraft*

The aircraft is missing.

1.4 *Other Damage*

There was no other damage.

1.5 *Personnel Information*

	Pilot-in-Command
Age	63
Pilot Licence	Private-Aeroplane
Medical Expiry Date	1 January 1994
Total Flying Time	17,050+ hr
Total on Type	Unknown
Total Last 90 Days	Unknown
Total on Type Last 90 Days	Unknown
Hours on Duty Prior to Occurrence	Not Applicable
Hours Off Duty Prior to Work Period	Not Applicable

The pilot was certified and qualified for the flight in accordance with existing regulations.

The pilot commenced pilot training in 1953, became a flying instructor in 1955, and in 1958 became the Chief Flying Instructor at

Hamilton Airport. He also started to fly pipeline patrol in 1958; this later became the pilot's full-time employment. Most of the pilot's flying experience was low-level flying while conducting pipeline patrol.

1.6 Aircraft Information

Particulars	
Manufacturer Type	Piper Aircraft Corporation PA-28-140
Year of Manufacture	1976
Serial Number	287725032
Certificate of Airworthiness (Flight Permit)	Valid
Total Airframe Time	9,420.5 hours
Engine Type (number of)	Reciprocating (1)
Propeller/Rotor Type (number of)	Fixed Pitch (1)
Maximum Allowable Take-off Weight	2,150 lb
Recommended Fuel Type(s)	100 LL
Fuel Type Used	100 LL

The aircraft was certified, equipped and maintained in accordance with existing regulations and approved procedures. The weight and centre of gravity were estimated to be within the prescribed limits.

The aircraft had accumulated a total air time of 9,420.5 hours since it was manufactured in 1976.

1.7 Meteorological Information

The following weather reports are station actual (SA) reports for the time of the occurrence for Toronto and Hamilton, the two closest weather reporting stations relative to the aircraft's flight path.

Toronto - Measured ceiling 3,000 feet broken cloud, 7,000 feet overcast cloud, 15 miles visibility, temperature minus four degrees Celsius, dew point minus eight degrees Celsius, wind 280 degrees at 20 knots gusting to 24 knots, altimeter setting 29.53.

Hamilton - Special at 1847 UTC - sky partially obscured, estimated ceiling 2,000 feet broken cloud, 3,000 feet broken cloud, one and one-

half miles visibility in light snow showers with blowing snow, wind 280 degrees at 20 knots gusting to 29 knots.

One witness, a pilot familiar with the occurrence aircraft, saw the aircraft in flight as he drove his car along highway 403, heading toward Hamilton. He observed the aircraft for about two minutes as it proceeded out over

Lake Ontario. The witness reported that it was sunny, the visibility unlimited, with cloud bases at approximately 5,000 feet. Shortly before the pilot reported that the windshield had been hit, he stated that he had a visibility of at least eight miles.

1.8 The Search

A Transport Canada Beechcraft Kingair B90 was preparing for departure from Hamilton Airport at the time that the controller was giving the pilot his position and headings. The Kingair proceeded to the area where the Piper PA-28-140 was last observed on radar but was unsuccessful in locating the aircraft.

At 1355, the Rescue Coordination Centre (RCC) at Trenton, Ontario, was notified and a search was commenced. Search and Rescue (SAR) conducted air searches to no avail, and RCC closed the search at 2100 EST, 25 February 1994. Police forces also conducted an investigation.

2.0 *Analysis*

A large area of Lake Ontario was searched, but neither the pilot nor the aircraft was found. The last known position of aircraft C-GXGB is 14 miles northeast of Hamilton Airport over Lake Ontario.

The weather conditions where the pilot was holding were visual meteorological conditions (VMC).

The loud background noise in the pilot's radio transmissions, evident at the time the pilot announced his predicament and afterwards, was not evident on his initial communications with the tower controller. This audible change, accompanied by an erratic flight path, indicates that the aircraft's windshield was broken and that the pilot was incapacitated as a result. Because the aircraft and pilot are still missing, the nature of the object that broke the aircraft's windshield was not determined.

3.0 *Conclusions*

3.1 *Findings*

1. The pilot was qualified and competent.
2. The aircraft was being operated in visual meteorological conditions when the windshield was struck by an unknown object.
3. The object penetrated the windshield and caused the pilot to become incapacitated.
4. The aircraft was last observed on radar 14 miles northeast of Hamilton Airport over Lake Ontario.
5. An extensive search was conducted but neither the aircraft nor the pilot was found.

3.2 *Causes*

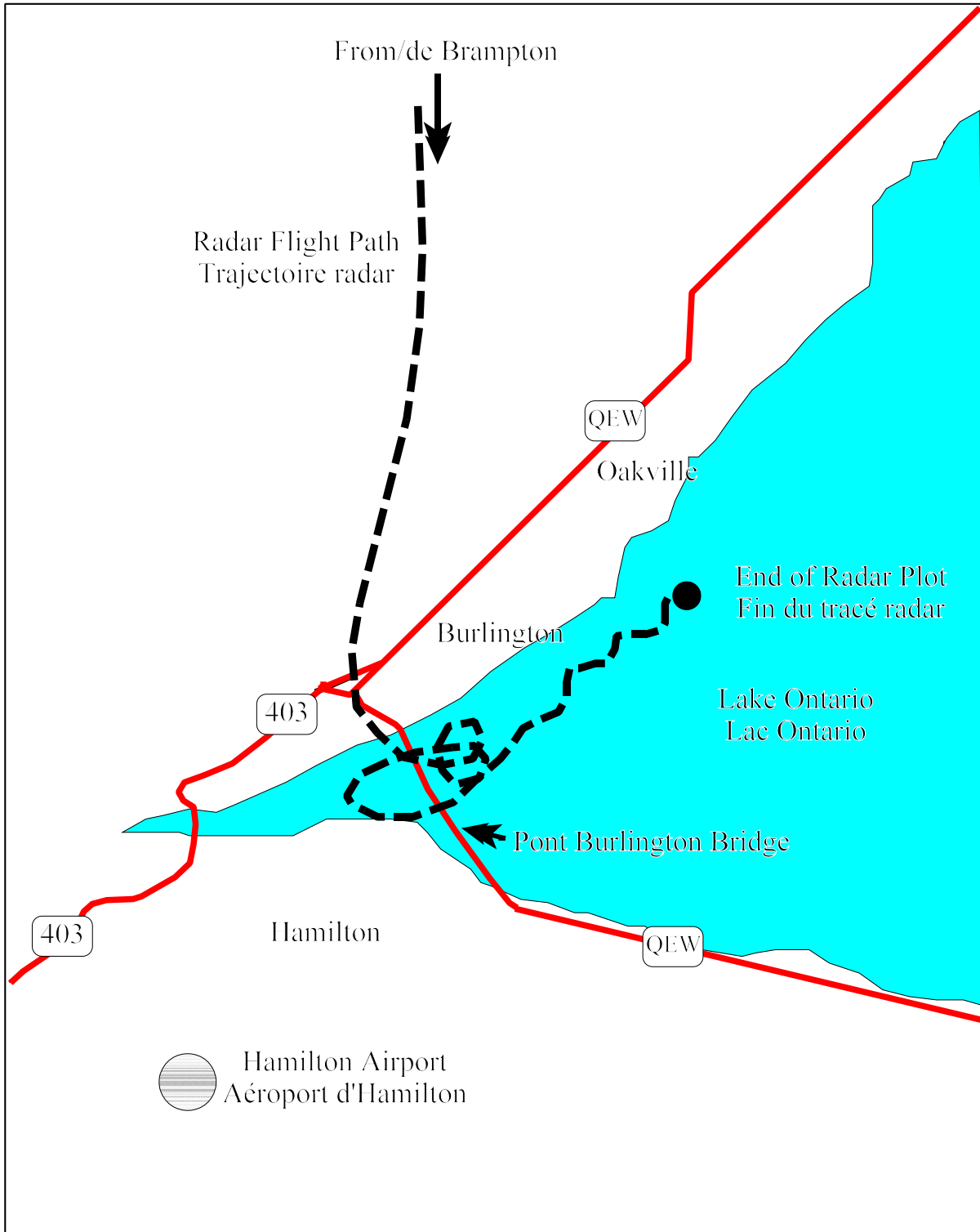
An unknown object penetrated the aircraft windshield and incapacitated the pilot.

4.0 *Safety Action*

The Board has no aviation safety recommendations to issue at this time.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson, John W. Stants, and members Gerald E. Bennett, Zita Brunet, the Hon. Wilfred R. DuPont and Hugh MacNeil, authorized the release of this report on 26 October 1994.

Appendix A - Radar Plot of Flight Path



Appendix B - Glossary

EST	eastern standard time
hr	hour(s)
IFR	instrument flight rules
RCC	rescue coordination centre
SA	station actual
SAR	search and rescue
SVFR	special visual flight rules
TSB	Transportation Safety Board of Canada
UTC	Coordinated Universal Time
VFR	visual flight rules
VMC	visual meteorological conditions