

National Transportation Safety Board
Washington, D.C. 20594

Brief of Accident

File No. - 2060 11/24/87 PALM COAST, FL A/C Reg. No. N246EP Time (Lcl) - 1445 EST

-----Basic Information-----

Type Operating Certificate-NONE (GENERAL AVIATION)

Type of Operation -INSTRUCTIONAL
Flight Conducted Under -14 CFR 91
Accident Occurred During -DESCENT

Aircraft Damage
DESTROYED

Fire
NONE

	Injuries			
	Fatal	Serious	Minor	None
Crew	1	0	0	0
Pass	0	0	0	0

-----Aircraft Information-----

Make/Model - CESSNA 172N
Landing Gear - TRICYCLE-FIXED
Max Gross Wt - 2150
No. of Seats - 4

Eng Make/Model - LYCOMING O-320-D2J
Number Engines - 1
Engine Type - RECIPROCATING-CARBURETOR
Rated Power - 160 HP

ELT Installed/Activated - YES/YES
Stall Warning System - YES

-----Environment/Operations Information-----

Weather Data

Wx Briefing - NO RECORD OF BRIEFING
Method - N/A
Completeness - N/A
Basic Weather - VMC
Wind Dir/Speed- 110/015 KTS
Visibility - 7.0 SM
Lowest Sky/Clouds - 2000 FT SCATTERED
Lowest Ceiling - 3300 FT OVERCAST
Obstructions to Vision- NONE
Precipitation - RAIN
Condition of Light - DAYLIGHT

Itinerary

Last Departure Point
DAYTONA BEACH, FL
Destination
LOCAL

ATC/Airspace

Type of Flight Plan - NONE
Type of Clearance - NONE
Type Arch/Lnds - NONE

Airport Proximity
OFF AIRPORT/STRIP

Airport Data

Runway Ident - N/A
Runway Lth/Wid - N/A
Runway Surface - N/A
Runway Status - N/A

-----Personnel Information-----

Pilot-In-Command

Certificate(s)/Rating(s)
STUDENT

Age - 20
Biennial Flight Review
Current - N/A
Months Since - N/A
Aircraft Type - N/A

Medical Certificate - VALID MEDICAL-NO WAIVERS/LIMIT
Flight Time (Hours)

Total	- 44	Last 24 Hrs	- 1
Make/Model-	34	Last 30 Days-	4
Instrument-	UNK/NR	Last 90 Days-	13
Multi-Eng	- UNK/NR	Rotorcraft	- UNK/NR

Instrument Rating(s) - NONE

-----Narrative-----

THE STUDENT PLT WAS FLYING THE ACFT ON A SOLO INSTRUCTIONAL FLT IN THE NORTH PRACTICE AREA & WAS ASSIGNED TO PRACTICE LANDINGS, TAKEOFFS, STALLS & SLOW FLT. WITNESSES STATED THEY OBSERVED THE ACFT FLYING AT A VERY LOW ALTITUDE JUST BEFORE IT COLLIDED WITH A HOUSE & CAME TO REST IN THE WOODS BEHIND IT. THE ACFT WAS ALSO OBSERVED AT NEAR TREETOP HEIGHT, APRX 1 MI FROM THE ACFT SITE. WITNESSES DESCRIBED LOUD ENG SOUNDS AS THE ACFT FLEW OVER AN INTERCOASTAL WATERWAY BEFORE THE CRASH. A POST CRASH EXAM OF THE ACFT, ENG, & RELATED COMPONENTS REVEALED NO EVIDENCE OF FAILURE OR MALFUNCTION PRIOR TO IMPACT.

Brief of Accident (Continued)

File No. - 2060

11/24/87

PALM COAST, FL

A/C Reg. No. N246ER

Time (Lcl) - 1445 EST

Occurrence #1 IN FLIGHT COLLISION WITH OBJECT
Phase of Operation MANEUVERING

Findings(s)

1. PROPER ALTITUDE - NOT MAINTAINED - PILOT IN COMMAND
2. OBJECT - RESIDENCE
3. CLEARANCE - MISJUDGED - PILOT IN COMMAND
4. LACK OF TOTAL EXPERIENCE - PILOT IN COMMAND

Occurrence #2 IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation DESCENT - UNCONTROLLED

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are findings(s) 1,3

Factor(s) relating to this accident is/are findings(s) 2

National Transportation Safety Board

ACCIDENT FILE CONTENTS

PAGE 1 OF 1 PAGES

Transportation Mode

☒ AVIATION

☐ HIGHWAY

☐ PIPELINE

☐ INTERMODAL

☐ MARINE

☐ RAILROAD

NTSB FILE NO. *Q24*

IDENTIFICATION OF ACCIDENT PALM COAST, FLORIDA

11-24-87

CESSNA 172N, N246ER

MIA-88-F-A044

ITEM NO.	DESCRIPTION OF ITEM	NO. OF PAGES		
		DOC.	B&W PHOTO	COLOR PHOTO
1.	ACCIDENT FILE CONTENTS (NTSB FORM 6120.3)	1		
2.	FACTUAL AIRCRAFT ACCIDENT REPORT (NTSB FORM 6120.4) WITH SUPPLEMENTS "A, B, I, K, AND S"	28		
3.	WITNESS STATEMENTS	14		
4.	WRECKAGE RELEASE (NTSB FORM 6120.15)	2		
5.	STATEMENT OF PARTY REPRESENTATIVES TO NTSB INVESTIGATION	1		
6.	TOXICOLOGY REPORT	2		
7.	PHOTOGRAPHS (10) W/NEGATIVES (9)			5
TOTAL NUMBER OF PAGES		48		5



**FACTUAL REPORT
AVIATION
ACCIDENT/INCIDENT**

**National Transportation Safety Board
Washington, D.C. 20594**

NTSB Form 6120.4

Instructions

Unless otherwise stated in the instructions or on the form, all data fields must be completed. Each data field requires either a direct entry or the entry of one or more x's in appropriate blocks that best describe the mishap circumstances. Multiple entry fields may require two or more responses. Enter all applicable responses in multiple entry fields. When the selections offered are inappropriate, a two digit "other" code shall be entered in the space that follows the word "other." Do not make additional remarks in the margins as the automated data processor is not programmed to accept them. Any information which is needed to outline the sequence of events which preceded the occurrence, to support probable cause determination or which is pertinent to crashworthiness studies should be addressed in the narrative report.

"Other" Codes

- | | |
|----|--|
| 01 | Limited access to and/or limited time available at site. |
| 02 | Aircraft not recovered/missing. |
| 03 | Part/component not recovered/not located. |
| 04 | Aircraft too badly damaged to determine. |
| 05 | Part/component too badly damaged to determine. |
| 06 | Information not pertinent to accident/incident. |
| 07 | Applicable personnel could not provide information or information not available to applicable personnel. |
| 08 | Applicable personnel would not provide information. |
| 09 | Not installed. |
| 10 | Records not located/not available. |
| 11 | Information not entered on NTSB Form 6120.1. |
| 12 | See narrative report. |

Supplements

The following accident scenarios are provided to assist investigators in selecting the report forms which should supplement the basic NTSB Form 6120.4.

1. A Cessna 172 collided with a snowbank during landing goaround at an airport. Weather was not a factor. The pilot said there was no powerplant or control malfunction. The pilot and one passenger received minor injuries. The pilot had recently been certificated as a private pilot.

Complete supplemental forms F (Training and Proficiency), Q (Airport) and S (Occupant list). A "Limited" investigation should be completed.

2. A PA-31, being operated by two pilots under FAR 135, crashed into a tower while being vectored to intercept the localizer at the destination airport. The PA-31 struck the tower while being operated at an assigned altitude. Flight was in IMC. There were two fatal injuries and three serious injuries. CFR personnel responded and treated the injured.

This accident requires an onscene investigation. Thus supplement A (Wreckage documentation), B (Cockpit documentation) and I (Crash kinematics) are required. Supplements E (Second pilot), F (Training and Proficiency) and U are required because of the two pilot FAR 135 operation (even though proficiency may not be at issue). S is needed to list the occupants; T, to document the CFR activity and P, to cover the possible ATC involvement. R (Meteorology) is required to document the weather conditions. Copies of supplements K and L would be required to document injury/toxicology and seat/restraint damage information, respectively.

National Transportation Safety Board

FACTUAL REPORT
AVIATION

1 NTSB Accident/Incident Number

M I A 8 8 F A 0 4 4

2

1 ☒ Accident
2 ☐ Incident

3 Investigation

1 ☒ NTSB
2 ☐ FAA Delegated

Aircraft Registration Number

5 Flight Number

A Other 06

For collision between
aircraft, enter reg. no.
and flt. no. for other aircraft

6 Aircraft Registration Number

7 Flight Number

A Other

Nearest City/Place

9 State

10 Zip Code (last 5 numbers only)

11 Accident Site Elevation

PALM COAST

FL

32037

30

Feet MSL

Date of Accident (Nos. for M, D, Y)

13 Day of Week (First 2 letters)

14 Local Time (24-hour clock)

15 Time Zone

11-24-87

TU

1445

EST

5 Narrative Statement of Facts, Conditions and Circumstances Pertinent to the Accident/Incident

HISTORY OF FLIGHT

On November 24 1987, at about 1445 EST, a Cessna 172N, N246ER, registered to Embry Riddle Aeronautical University, hit a house and crashed into trees while on an instructional flight. Visual meteorological conditions prevailed at the time and no flight plan had been filed. The aircraft was destroyed and the pilot, the sole occupant, was killed. The flight originated from Daytona Beach, FL, on November 24, 1987.

A witness stated that he saw the aircraft flying north-northeast about 40 to 60 feet above the trees just moments before he heard a loud crash as the aircraft collided with a house and came to rest in the woods behind it. Another witness that was approximately 1 mile south of the accident site stated that she saw the aircraft flying across the intercoastal waterway heading north at a very low altitude.

OTHER DAMAGE

A private residence sustained substantial damage to its roof and the upper portion of the walls during the crash sequence. Internal damage to the home was also sustained when part of the roof collapsed inward.

PILOT INFORMATION

The 20-year-old pilot was the holder of student pilot/medical certificate No. BB-7421278, issued 8-5-87, with no limitations. According to the pilot's logbook, he had accumulated 44 total hours of flight time with 9 hours solo and had flown 13 total hours of flight time in the last 90 days.

Additional Persons Participating in this Accident/Incident Investigation (Name, address, affiliation, Continue on page 2 if necessary)

GARY CHEATUM
CESSNA AIRCRAFT
WICHITA, KSJIM STABLEY
AVCO LYCOMING
WILLIAMSPORT, PA

Date (Nos. for M, D, Y)

16 Agency

18 Name/Signature

8-8-88

NTSB (MIA)

BRUCE J. HILL

Bruce J. Hill

National Transportation Safety Board

**FACTUAL REPORT
AVIATION**

NTSB Accident/Incident Number

M | I | A | 8 | 8 | F | A | 0 | 4 | 4

Narrative Statement of Facts, Conditions and Circumstances Pertinent to the Accident/Incident (continued)

Conversations with the pilot's roommates and flight instructor indicated normal behavior, and they had no knowledge of any personal problems or problems with any of his classes at school or his flight training.

AIRCRAFT INFORMATION

Aircraft N246ER, a Cessna 172N, serial No. 17270055, was equipped with a Lycoming O-320-D2J engine and a McCauley DTM-7557 fixed-pitch propeller. This aircraft was a zero timed aircraft; all airframe components were rebuilt or replaced and a new engine had been installed. According to aircraft logbooks, the aircraft had accumulated 1,855.8 total hours of flying time, with 257.6 hours since rebuilt and 56 hours since the last inspection on 11-8-87.

METEOROLOGICAL INFORMATION

The 1450 surface weather observation at Daytona Beach, approximately 30 miles south of the accident site, reported: 2,000 feet scattered clouds, 3,300 feet overcast clouds, light rain falling with 7 miles visibility, temperature 68° F, and the dewpoint 63° F. The wind was 110° at 5 knots with an altimeter setting of 30.27 inHg.

The witness in the building with which the aircraft collided stated that the weather was clear at the time of the accident.

WRECKAGE

The aircraft struck the top of a house located at 6500 Old A1A Highway in Palm Coast, FL, broke apart, tumbled, and came to rest about 115 feet north on an approximate 360° heading; there was no fire.

All essential components necessary to sustain flight were found in the immediate vicinity of the main wreckage. The main wreckage consists of the fuselage aft of the instrument panel, including the complete tail section and the left and right wings.

The forward fuselage consisting of the instrument panel, engine and propeller, came to rest about 15 feet southeast of the main wreckage. The remainder of the aircraft, seats, right and nose landing gear and doors, were scattered approximately 100 feet north along the wreckage path with the exception of the left main landing gear which came to rest on the roof.

Examination of the flight controls revealed all control cables were attached to the respective control surfaces; therefore, control continuity was established.

Attach additional pages as necessary (Page 2a, 2b, 2c, etc.)

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**FACTUAL REPORT
AVIATION**

NTSB Accident/Incident Number

M | I | A | 8 | 8 | F | A | 0 | 4 | 4

Narrative Statement of Facts, Conditions and Circumstances Pertinent to the Accident/Incident (continued)

Examination of the fuel system revealed that the tanks were topped off with 14 gallons of fuel prior to flight. The fuel selector was set to both, and the fuel strainer was damaged, but the screen was clean. The carburetor was broken off the engine and was found inside the house. Examination of the carburetor revealed evidence that suggests it was functioning properly at the time of impact.

Postcrash teardown examination and continuity check of the engine and its related components revealed no evidence that would suggest a failure or malfunction prior to impact.

Examination of the propeller revealed severe chordwise scratching and bending of both blades; damage normally associated with evidence of rotation of the propeller at impact.

An instrument flight hood was found hanging in the trees along the path in which the pilot was ejected. According to Embry Riddle personnel, an instrument flight hood is located in all Embry Riddle aircraft and is normally located behind the rear seat in the baggage compartment area. It could not be determined if it was being used at the time of the accident.

PATHOLOGICAL INFORMATION

The post-mortem examination of the pilot was conducted by Robert J. McConaghie, M.D., from the Office of the Medical Examiner District 23, St. Augustine, FL. The cause of death was listed as multiple traumatic injuries secondary to an aircraft crash.

The results of toxicological examination conducted at the Harris Medical Laboratory revealed no evidence of drugs or alcohol.

ADDITIONAL INFORMATION

Witnesses stated that they saw the aircraft flying north-northeast about 40 to 60 feet above the trees moments before the aircraft crashed.

The student was scheduled to take a phase check, which his instructor thought would be accomplished with above average grades. The student stated that he would feel better about taking the phase check if an additional dual and solo flight was authorized. The dual flight took place on November 21, 1987. The main purpose of the solo flight was to make the student feel more confident about his phase check. The maneuvers the student was assigned by his instructor were to practice takeoffs and landings, slow flight at minimum controllable airspeed, and stalls. Slow flight at minimum controllable airspeed and stalls are normally done at altitudes above 2,000 feet.

Attach additional pages as necessary (Page 2a, 2b, 2c, etc.)

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

M I A 8 8 F A 0 4 4

Narrative Statement of Facts, Conditions and Circumstances Pertinent to the Accident/Incident (continued)

According to FAR 91.79, Minimum safe altitudes; general: "Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes: ...Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. Over other than congested areas. An altitude of 500 feet above the surface except over open water or sparsely populated areas. In that case, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure."

The wreckage was released to Embry Riddle Aeronautical University on November 25, 1987.

Attach additional pages as necessary (Page 2a, 2b, 2c, etc.)

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number:

M I A 8 8 F A 0 4 4

Port/Approach/Landing Information

24 ☒ Not applicable (Go to block 39)

25 Airport Name A Other	26 Airport Identifier	27 Accident Location 1 <input checked="" type="checkbox"/> Off airport/airstrip 2 <input type="checkbox"/> On airport 3 <input type="checkbox"/> On airstrip A Other	28 Distance From Airport Center (Nearest SM) SM A Other	29 Direction From Airport mag A Other
----------------------------	-----------------------	--	--	---

VFR Approach/Landing (Multiple entry)

- 1 ☒ None
2 ☐ Traffic pattern
3 ☐ Straight-in
4 ☐ Valley/terrain following
5 ☐ Go around
6 ☐ Touch and go
7 ☐ Full stop
8 ☐ Stop and go
9 ☐ Simulated forced landing
10 ☐ Forced landing
11 ☐ Precautionary landing
A Other

31 Type Instrument Approach Flown (Multiple entry)

- 1 ☒ None
2 ☐ ADF/NDB
3 ☐ SDF
4 ☐ VOR/TVOR
5 ☐ VOR/DME
6 ☐ TACAN
7 ☐ ILS-complete
8 ☐ ILS-localizer
9 ☐ ILS-backcourse
10 ☐ RNAV
11 ☐ MLS
12 ☐ LDA
13 ☐ ASR
14 ☐ PAR
15 ☐ Sidestep
16 ☐ Visual
17 ☐ Contact
18 ☐ Circling
19 ☐ Practice
A Other

32 Runway Used Identifier

A Other

33 Runway Length

Feet
A Other

34 Runway Width

Feet
A Other

35 Airport Elevation

Ft. MSL
A Other

36 Runway/Landing Surface

- 1 ☐ Macadam
2 ☐ Asphalt
3 ☐ Concrete
4 ☐ Gravel
5 ☐ Dirt
6 ☐ Grass/turf
7 ☐ Snow
8 ☐ Ice
9 ☐ Water
10 ☐ Metal/wood
A Other

37 Runway/Landing Surface Condition

- 1 ☐ Dry
2 ☐ Wet
3 ☐ Ice covered
4 ☐ Snow—dry
5 ☐ Snow—wet
6 ☐ Snow—crusted
7 ☐ Snow—compacted
8 ☐ Vegetation
9 ☐ Water—calm
10 ☐ Water—choppy
11 ☐ Water—glassy
12 ☐ Rubber deposits
13 ☐ Soft
14 ☐ Rough
15 ☐ Slush covered
16 ☐ Holes
A Other

If accident occurred during approach, departure or on airport, see instructions for completing Supplement C.

Aircraft Information

39 Aircraft Manufacturer CESSNA	40 Aircraft Model/Series 172N	41 Serial No. 17270055 A Other	42 Certified Maximum Gross Weight 2150 A Other
------------------------------------	----------------------------------	--------------------------------------	--

3 Type of Aircraft

- 1 ☒ Airplane
2 ☐ Helicopter
3 ☐ Glider
4 ☐ Balloon
5 ☐ Blimp/dirigible
6 ☐ Ultralight
7 ☐ Gyroplane
A Specify

44 Type Airworthiness Certificate (Multiple entry)

- Standard
1 ☒ Normal
2 ☐ Utility
3 ☐ Acrobatic
4 ☐ Transport
Special
5 ☐ Restricted
6 ☐ Limited
7 ☐ Provisional
8 ☐ Special flight
9 ☐ Experimental
A Other

45 Home Built

- 1 ☐ Yes
2 ☒ No
A Other

National Transportation Safety Board

FACTUAL REPORT
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NTSB Accident/Incident Number

M I A 8 8 F A 0 4 4

Aircraft Information (continued)

Landing Gear (Multiple entry)

- | | | | | |
|--|--|---|---------------------------------------|---------------------------------------|
| 1 <input checked="" type="checkbox"/> Tricycle—fixed | 4 <input type="checkbox"/> Tailwheel—all retractable | 7 <input type="checkbox"/> Hull | 10 <input type="checkbox"/> Ski | 13 <input type="checkbox"/> High Skid |
| 2 <input type="checkbox"/> Tricycle—retractable | 5 <input type="checkbox"/> Tailwheel—retractable mains | 8 <input type="checkbox"/> Float | 11 <input type="checkbox"/> Ski/wheel | |
| 3 <input type="checkbox"/> Tailwheel—all fixed | 6 <input type="checkbox"/> Amphibian | 9 <input type="checkbox"/> Emerg. float | 12 <input type="checkbox"/> Skid | A Other |

- | | | | | |
|--------------------------------------|---|--|--|---|
| No. of Seats
<u>04</u>
A Other | 49 Stall Warning System
Installed
1 <input checked="" type="checkbox"/> Yes
2 <input type="checkbox"/> No
A Other | 50 IFR Equipped
1 <input checked="" type="checkbox"/> Yes
2 <input type="checkbox"/> No
A Other | 51 Icing Certification/Equipped
(Multiple entry)
1 <input type="checkbox"/> Certified
2 <input checked="" type="checkbox"/> Not Certified
3 <input type="checkbox"/> Equipped
4 <input checked="" type="checkbox"/> Not Equipped
A Other | 52 Engine Type
1 <input checked="" type="checkbox"/> Reciprocating—carburetor
2 <input type="checkbox"/> Reciprocating—fuel injected
3 <input type="checkbox"/> Turbo prop
4 <input type="checkbox"/> Turbo jet
5 <input type="checkbox"/> Turbo fan
6 <input type="checkbox"/> Turbo shaft A Other |
|--------------------------------------|---|--|--|---|

- | | | | | |
|---|--|--|--|--|
| If not
Engine
powered,
go to
block 59 | 53 Engine Manufacturer

LYCOMING | 54 Engine Model and Series

O-320D2J | 55 Engine Rated Power
A <u>160</u> Horsepower
B _____ Lbs. Thrust
C Other | 56 Number of Engines
<u>01</u>
A Other |
|---|--|--|--|--|

- | | | | | | |
|---|------------------------|--------------|-------------------------|--------------------------------|---------|
| If 3 or more
engines
enter
times in
Supp. C | Engine Time
(Hours) | A Total Time | B Time Since Inspection | C Time Since Major
Overhaul | D Other |
| | 57 Engine No. 1 | 257.6 | 56.2 | 257.6 | |
| | 58 Engine No. 2 | | | | 06 |

- | | | | | |
|--|--|---|--|--|
| 59 Type Maintenance Program
1 <input type="checkbox"/> Annual
2 <input type="checkbox"/> Manufacturer's Inspection Program
3 <input checked="" type="checkbox"/> Other approved inspection program (AAIP)
4 <input type="checkbox"/> Continuous airworthiness
A Other | 60 Type of Last Inspection
1 <input type="checkbox"/> Annual
2 <input type="checkbox"/> 100 hour
3 <input checked="" type="checkbox"/> AAIP
4 <input type="checkbox"/> Continuous airworthiness
A Other | 61 Date Last Inspection
Performed
(Nos. for M, D, Y)
<u>11-8-87</u>
A Other | 62 Time Since Inspection
<u>56.2</u> Hours
A Other | 63 Airframe Total Time
<u>1855.8</u> Hours
A Other |
|--|--|---|--|--|

- | | | | |
|--|--|--|--------------------------|
| 64 Source of Maintenance Information
1 <input type="checkbox"/> Tach
2 <input type="checkbox"/> Flight
3 <input type="checkbox"/> Hobbs
4 <input checked="" type="checkbox"/> Logbooks Records
5 <input type="checkbox"/> Estimate
6 <input type="checkbox"/> Pilot/Operator Report
A Other | 65 Hazardous Materials
on Aircraft
1 <input checked="" type="checkbox"/> No
A (Type) _____
B Other | Emergency Locator
Transmitter (ELT)
67 Installed
68 Required
69 Operated
70 Aided in location
of accident site | 1 Yes
2 No
A Other |
|--|--|--|--------------------------|

Owner/Operator Information

- | | | |
|---|---|---|
| 71 Registered Aircraft Owner
Name
EMBRY RIDDLE AERONAUTICAL UNIVERSITY, INC. | 72 Address
REGIONAL AIRPORT, DAYTONA BEACH, FL 32014 | |
| 73 Operator of Aircraft 1 <input checked="" type="checkbox"/> Same as registered owner
A Name:
B dba
C Other | 74 Address 1 <input checked="" type="checkbox"/> Same as registered owner
A _____
B Other | 75 Operator Certificate No.

A Other
76 Operator Designator Code
_____ |

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

M I A 8 8 F A 0 4 4

Owner/Operator Information (continued)

7 Operator Status of This Aircraft

- 1 ☒ Owner
2 ☐ Lessee
3 ☐ Renter
4 ☐ Borrower
5 ☐ Unauthorized
A Other

78 Pilot Status of This Aircraft

- 1 ☐ Owner
2 ☐ Lessee
3 ☒ Renter
4 ☐ Borrower
5 ☐ Unauthorized
6 ☐ Employee
A Other

Type of Certificate(s) Held

79 None ☒ (Go to block 83)

80 Air Carrier Operating Certificate (Check all applicable)

- 1 ☐ Flag carrier/domestic (121)
2 ☐ Supplemental
3 ☐ All cargo (418)
4 ☐ Large helicopter (127)
5 ☐ Commuter air carrier
6 ☐ On-demand air taxi

81 Operating Certificate

- ☐ Other operator of
large aircraft

82 Operator Certificate

- 1 ☐ Rotorcraft—external load operator (133)
2 ☐ Agricultural aircraft (137)

Regulation Flight Conducted Under

3 Regulation Flight Conducted Under

- 1 ☒ 14 CFR 91 (only)
2 ☐ 14 CFR 91D
3 ☐ 14 CFR 103
4 ☐ 14 CFR 105
5 ☐ 14 CFR 121
6 ☐ 14 CFR 125
7 ☐ 14 CFR 127
8 ☐ 14 CFR 133
9 ☐ 14 CFR 135
10 ☐ 14 CFR 137
11 ☐ 14 CFR 129 (Foreign flag)
A Specify ~~14 CFR 141~~

Type of Flight Operation Conducted

(Complete 84a, b, c ONLY if flight was a revenue operation conducted under 121, 125, 127, 129, 135)

- 84a
1 ☐ Scheduled
2 ☐ Non-scheduled

- 84b
1 ☐ Domestic
2 ☐ International

- 84c
1 ☐ Passenger
2 ☐ Cargo
3 ☐ Passenger/cargo
4 ☐ Mail contract ONLY

(Complete 86 ONLY if 84a, b, c is not applicable)

- 86
1 ☐ Personal
2 ☐ Business
3 ☒ Instructional (Including air carrier training)
4 ☐ Executive/corporate
5 ☐ Aerial application
6 ☐ Aerial observation
7 ☐ Other work use
8 ☐ Public use
9 ☐ Ferry
10 ☐ Positioning
A Specify _____

First Pilot Information

7 Name (Last, First, Initial)

INGUAGGIATO, MICHAEL

A Other

88 Pilot Certificate No.

BB 742 1278

A Other

89 Street Address

ERAU Box 6077

A Other

90 City

DAYTONA BEACH

A Other

91 State

FL

92 Date of Birth (Nos. for M, D, Y)

2-19-68

A Other

93 Age

20 Yrs.

A Other

94 Sex

1 ☒ Male2 ☐ Female

5 Seat Occupied

- 1 ☒ Left
2 ☐ Right
3 ☐ Center
4 ☐ Front
5 ☐ Rear
A Other

96 Principal Profession

- 1 ☐ Pilot—civilian
2 ☐ Pilot—military
3 ☐ Other—military
4 ☐ Aircraft mechanic
5 ☐ Business
6 ☐ Lawyer
7 ☐ Doctor/dentist
8 ☐ Police
9 ☒ Student
10 ☐ Clergy
11 ☐ Teacher
12 ☐ Engineer
13 ☐ Farmer/rancher
14 ☐ Retired
A Other

97 Certificate(s) (Multiple entry)

- 1 ☒ Student
2 ☐ Private
3 ☐ Commercial
4 ☐ Airline Transport
5 ☐ Flight Instructor
6 ☐ Flight Engineer
7 ☐ Military
8 ☐ None
9 ☐ Foreign
A Other

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

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Pilot Information (continued) (Multiple entry - blocks 99-102)

9 Ratings—Airplane 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Single engine land 3 <input type="checkbox"/> Multiengine land 4 <input type="checkbox"/> Single engine sea 5 <input type="checkbox"/> Multiengine sea		99 Rotorcraft/Glider/LTA 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Helicopter 3 <input type="checkbox"/> Gyroplane 4 <input type="checkbox"/> Airship 5 <input type="checkbox"/> Free balloon 6 <input type="checkbox"/> Glider		100 Instrument Rating 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Airplane 3 <input type="checkbox"/> Helicopter		101 Instructor Rating(s) 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Airplane SE 3 <input type="checkbox"/> Airplane ME 4 <input type="checkbox"/> Helicopter 5 <input type="checkbox"/> Gyroplane 6 <input type="checkbox"/> Glider 7 <input type="checkbox"/> Instrument plane 8 <input type="checkbox"/> Instrument helicopter					
102 Ground Instructor 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Basic 3 <input type="checkbox"/> Advanced 4 <input type="checkbox"/> Instrument		103 Type Rating Endorsement This Aircraft 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No (Go to block 105) A Other		104 Months Since Check/Endorsement This Aircraft ____ Months A Other		105 Biennial Flight Review (Or equivalent) 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No A Other					
106 Months Since Last BFR ____ Months A Other 06		107 BFR (or equivalent) Aircraft Make/Model A Make _____ B Model _____ C Other 06		108 Medical Certificate 1 <input type="checkbox"/> None 2 <input checked="" type="checkbox"/> Class 1 3 <input type="checkbox"/> Class 2 4 <input type="checkbox"/> Class 3 A Other		109 Medical Certificate Validity 1 <input checked="" type="checkbox"/> Valid medical—no waivers/limitations 2 <input type="checkbox"/> Valid medical—with waivers/limitations 3 <input type="checkbox"/> Non valid medical for this flight 4 <input type="checkbox"/> Expired 5 <input type="checkbox"/> No medical certificate A Other					
110 Date of Last Medical (Nos. for M, D, Y) 8-5-87 A Other _____		111 Medical limitation 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Vision A Specify _____ B Other		112 Medical waiver 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Vision 3 <input type="checkbox"/> Hearing A Specify _____ B Other		113 Statement of Demonstrated Ability 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No A Other					
114 Correcting Lenses (Multiple entry) 1 <input checked="" type="checkbox"/> Not required 2 <input type="checkbox"/> Required to be in possession 3 <input type="checkbox"/> Required, not in possession 4 <input type="checkbox"/> Required to be worn 5 <input type="checkbox"/> Required, not worn 6 <input type="checkbox"/> Worn at time of accident A Other				115 Source of Pilot Flight Time (Multiple entry) 1 <input checked="" type="checkbox"/> Pilot log 2 <input type="checkbox"/> Company 3 <input type="checkbox"/> FAA 4 <input type="checkbox"/> Pilot/Operator Report 5 <input type="checkbox"/> Investigator's Estimate 6 <input type="checkbox"/> Relative 7 <input type="checkbox"/> Other Person A Other							
Flight Time	A All A/C	B This Make & Model	C Airplane Single Engine	D Airplane Multiengine	E Night	F Instrument Actual	G Instrument Simulated	H Rotorcraft	I Glider	J Lighter Than Air	K Other
125 Total Time	44	35	44		0						10
126 Pilot in Command (PIC)	9	9	9								10
127 Instructor											10
128 This Make/Model											10
129 Last 90 Days	13	13	13								10
130 Last 30 Days	5	5	5								10
131 Last 24 Hours	1	1	1								10
132 Landings—Last 90 Days All Aircraft 18 Day A Other		133 Landings—Last 90 Days All Aircraft 0 Night A Other		134 Landings—Last 90 Days This Make/Model 18 Day A Other		135 Landings—Last 90 Days This Make/Model 0 Night A Other					
136 Seatbelt Available 1 <input checked="" type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other		137 Seatbelt Used 1 <input checked="" type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other				138 Shoulder Harness Available 1 <input checked="" type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other					
139 Shoulder Harness Used 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other 04		140 Autopsy Performed (This pilot) 1 <input checked="" type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other				141 Toxicology Performed (This pilot) 1 <input checked="" type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other					

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Information (continued)

Person at Controls

- 1 ☒ Pilot in command 4 ☐ Non-pilot
2 ☐ Second pilot 5 ☐ No one
3 ☐ Both pilots A Other

143 Simulated Instrument Flight

- 1 ☐ Yes
2 ☒ No
A Other

144 Vision Restricting Device Used

- 1 ☐ Yes
2 ☒ No
A Other

145 Second Pilot

- 1 ☐ Yes (Complete second pilot supplement)
2 ☒ No

Flight Information

Last Departure Point (Multiple entry)

- 1 ☐ Same as accident/incident location or
A Airport Identifier DAB
B City/Place DAYTONA BEACH
C State FL D Other

Time of Departure

- A Time 1345 C Other
B Time Zone EST

157 Destination (Multiple entry)

- 1 ☐ Same as accident/incident location or
2 ☒ Local flight
A Airport Identifier _____
B City/Place _____
C State _____
D Other

158 Flight Plan Filed (Multiple entry)

- 1 ☒ None
2 ☐ Visual Flight Rules (VFR)
3 ☐ Instrument Flight Rules (IFR)
4 ☐ VFR/IFR
5 ☐ Company (VFR)
6 ☐ Military (VFR)
A Other

Type of Clearance

- 1 ☒ None 6 ☐ VFR on top
2 ☐ VFR 7 ☐ Cruise
3 ☐ Special VFR 8 ☐ Traffic Advisory
4 ☐ IFR 9 ☐ VFR Flight Following
5 ☐ Special IFR
A Other

160 Airspace

- 1 ☐ Uncontrolled 8 ☐ Stage II TRSA 15 ☐ Warning area
2 ☒ Controlled 9 ☐ Stage III TRSA 16 ☐ FAR 93
3 ☐ Airport traffic area 10 ☐ Prohibited area (Special air traffic areas)
4 ☐ Control zone 11 ☐ Restricted area A Other
5 ☐ Airport advisory area 12 ☐ Military Operating Area (MOA)
6 ☐ Positive control area 13 ☐ Student Jet Training Area
7 ☐ Terminal control area 14 ☐ Demo Area

Control Area

- 1 ☒ None
2 ☐ Victor airway
3 ☐ Jet airway
4 ☐ Control airway
5 ☐ Colored airway
A Other

162 Route

- 1 ☒ None 7 ☐ VR route (military)
2 ☐ Standard instrument departure 8 ☐ IR route (military)
3 ☐ Standard terminal arrival 9 ☐ SR route (military)
4 ☐ RNAV/OMEGA/LCRAN/INS 10 ☐ Refueling route (military)
5 ☐ Direct A Other
6 ☐ Profile Descent

163 Last Two Way Communications Established

- 1 ☒ None
2 ☐ Yes
A Facility Identifier _____
B Other

Aircraft Loading Information

164 Fuel on Board at Takeoff (Multiple entry)

- 1 ☒ Estimated
2 ☐ Verified
A 40 Gallons or
B _____ Pounds
C Other

165 Fuel Types (Multiple entry)

- 1 ☐ 80/87 5 ☐ Kerosene 9 ☐ Mixture
2 ☒ 100 low lead 6 ☐ JP 3, 4, 5, 6 10 ☐ Automotive
3 ☐ 100/130 7 ☐ Jet A 11 ☐ Anti-ice additive added (if known)
4 ☐ 115/145 8 ☐ Jet B A Other

166 Aircraft Weight at Takeoff (Multiple entry)

- 1 ☒ At or below max cert. gross takeoff weight
2 ☐ Above max certified gross takeoff weight
3 ☒ Estimated
4 ☐ Verified A Other

167 Aircraft CG at Takeoff (Multiple entry)

- 1 ☒ Within limits 5 ☒ Estimated
2 ☐ Exceeded fwd limit 6 ☐ Verified
3 ☐ Exceeded aft limit A Other
4 ☐ Exceeded lateral limit

168 Aircraft Weight at Accident (Multiple entry)

- 1 ☐ Same as takeoff
2 ☒ At or below max cert. gross takeoff weight
3 ☐ Above max certified gross takeoff weight
4 ☒ Estimated
5 ☐ Verified
A Other

169 Aircraft CG at Accident (Multiple entry)

- 1 ☐ Same as takeoff 6 ☒ Estimated
2 ☒ Within limits 7 ☐ Verified
3 ☐ Exceeded fwd limit A Other
4 ☐ Exceeded aft limit
5 ☐ Exceeded lateral limit

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Craft Loading Information (continued)

0 Load Description (Multiple entry)

- 1 ☒ None 3 ☐ Cargo 5 ☐ Towing banner 7 ☐ Parachutists 9 ☐ Chemical 11 ☐ Illegal cargo
2 ☐ Passengers 4 ☐ Towing glider 6 ☐ Other external 8 ☐ Water 10 ☐ Livestock A Other

Weather Information

80 Source of Weather Briefing (Multiple entry)

- 1 ☒ No record of briefing (Go to block 183)
2 ☐ National Weather Service (NWS)
3 ☐ Flight Service Station
4 ☐ PATWAS (Pilot Automated Tel. WX Answering Svc)
5 ☐ VRS (Voice Response System)
6 ☐ Company
7 ☐ Commercial weather service
8 ☐ TV/radio weather
9 ☐ Military
A Other

181 Method of Briefing (Multiple entry)

- 1 ☐ In person
2 ☐ Teletype
3 ☐ Telephone
4 ☐ Aircraft radio
5 ☐ TV/radio
A Other

182 Completeness of Weather briefing

- 1 ☐ Weather not pertinent
2 ☐ Full
3 ☐ Partial—limited by pilot
4 ☐ Partial—limited by briefer/forecaster
A Other

183 Investigator's Source of Weather Information

- 1 ☐ Pilot (Go to block 185)
2 ☐ Witness (Go to block 185)
3 ☒ Weather observation facility

184 Weather Observation Facility

- A Identifier DAB
B Time of observation 1450 zone EST
C Elevation 30 feet MSL
D Distance from accident site 30 NM
E Direction from accident site 170 °magnetic

185 Basic Weather Conditions at Accident Site

- 1 ☒ Visual Meteorological Conditions (VMC)
2 ☐ Instrument Meteorological Conditions (IMC)
A Other

186 Conditions of Light

- 1 ☐ Dawn
2 ☒ Daylight
3 ☐ Night (Dark)
4 ☐ Night (Bright)
5 ☐ Dusk
A Other

187 Sky/Lowest/Cloud Condition

- 1 ☐ Clear
2 ☒ Scattered
3 ☐ Thin broken
4 ☐ Thin overcast
5 ☐ Partial obscuration
A 2000 Feet AGL
B Other

188 Lowest Ceiling

- 1 ☐ None
2 ☐ Broken
3 ☒ Overcast
4 ☐ Obscured
A 3300 Feet AGL
B Other

189 Visibility (decimals)

- A 7 SM
B RVR _____ Feet
C RVV _____ SM
D Other

190 Temperature

68 ° F
A Other

192 Wind (From)

- 1 ☐ Variable
A 110 ° Magnetic
B Other

193 Wind Speed

- 1 ☐ Calm
2 ☐ Light and Variable
A 15 Kts.
B Other

194 Gusts

- 1 ☒ None
A _____ Kts.
B Other

195 Altimeter Setting

30.27 " Hg
A Other

196 Density Altitude

500 Feet
A Other

197 Restrictions to Visibility

- 1 ☒ None
2 ☐ Haze (H)
3 ☐ Dust (D)
4 ☐ Smoke (K)
5 ☐ Fog (F)
6 ☐ Ice fog (IF)
7 ☐ Ground fog (GF)
8 ☐ Blowing spray (BY)
9 ☐ Blowing dust (BD)
10 ☐ Blowing snow (BS)
11 ☐ Blowing sand (BN)
A Other

198 Type of Precipitation

- 1 ☐ None (Go to block 200)
2 ☒ Rain (R)
3 ☐ Snow (S)
4 ☐ Hail (A)
5 ☐ Rain showers (RW)
6 ☐ Freezing rain (ZR)
7 ☐ Snow shower (SW)
8 ☐ Drizzle (L)
9 ☐ Ice pellets (IP)
10 ☐ Snow pellets (SP)
11 ☐ Snow grains (SG)
12 ☐ Freezing drizzle (ZL)
13 ☐ Ice crystals (IC)
14 ☐ Ice pellet shower (IPW)
A Other

199 Intensity of Precipitation

- 1 ☒ Light
2 ☐ Moderate
3 ☐ Heavy
A Other

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Accident Information

Aircraft Damage

- 1 ☐ None
2 ☐ Minor
3 ☐ Substantial
4 ☒ Destroyed

201 Aircraft Fire

- 1 ☒ None
2 ☐ In-flight
3 ☐ On ground
A Other

202 Explosion

- 1 ☒ None
2 ☐ In-flight
3 ☐ On ground
A Other

203 Damage to Property

- 1 ☐ None
2 ☒ Residence
3 ☐ Residential area
4 ☐ Commercial bldg.
5 ☐ Vehicle(s)

- 6 ☐ Airport facility
7 ☐ Trees
8 ☐ Crops
9 ☐ Fence
10 ☐ Wires/poles
11 ☐ Other property

I Injury Index (Most critical injury)

- 1 ☐ None 2 ☐ Minor 3 ☐ Serious 4 ☒ Fatal

Injury Summary

(Enter only one digit per block)

	A Fatal	B Serious	C Minor	D None	E Total
1 First Pilot		1			1
2 Co-pilot					
3 Dual Student					
4 Check Pilot					
5 Flight Engineer					
6 Cabin Attendants					
7 Other Crew					
8 Passengers					
9 TOTAL ABOARD	1				1
10 Other Aircraft					
11 Other Ground					
12 GRAND TOTAL	1				1

217 Classification

- 1 ☒ U.S. Registered Aircraft on U.S. Soil, Territories and Possessions, or International Waters
2 ☐ U.S. Registered Aircraft on Foreign Soil
3 ☐ U.S. Registered Aircraft operated by a Foreign Operator
4 ☐ Foreign Registered Aircraft on U.S. Soil, Territories or Possessions
5 ☐ Military Aircraft
6 ☐ Aircraft not Registered

218 Failure/Incorrect Part

219 Part Failure/Malfunction (Multiple entry)

- 1 ☒ None 4 ☐ Part/component #3
2 ☐ Part/component #1 A Other _____
3 ☐ Part/component #2

221 Incorrect Part (Multiple entry)

- 1 ☒ None 4 ☐ Part/component #3
2 ☐ Part/component #1 A Other _____
3 ☐ Part/component #2

	A Part/Component #1		B Part/Component #2		C Part/Component #3	
2 Part Name						
3 ATA Code						
4 Manufacturer						
5 Mfg. Part #						
6 Mfg. Model #						
7 Serial #						
8 Part Condition						
9 Total Time						
10 TSO						
11 TSI						
12 Cycles Total						
13 Cycles Since Overhaul						
14 Cycles Since Inspection						
15 Service Difficulty Report or Malfunction/Defect Report Submitted	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No
16 Bogus Part	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No

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Supplement A

—Wreckage Documentation, Single and Twin Reciprocating Engine and Unpowered Aircraft

Engine #1 Serial No. <u>L-14574-39A</u>	2 Engine #2 Serial No. A Other	3 Supercharger Installed 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No A Other	4 Turbocharger Installed 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No A Other	5 Propeller Manufacturer <u>MCCAULEY</u> A Other	6 Propeller Model/Serial <u>DTM 7557</u> A Other
--	-----------------------------------	---	---	--	--

Propeller Type (Multiple entry) 1 <input type="checkbox"/> Wood 2 <input checked="" type="checkbox"/> Metal 3 <input type="checkbox"/> Composite 4 <input type="checkbox"/> Constant speed-controllable pitch A Other	5 <input type="checkbox"/> Ground Adjustable/variable pitch 6 <input type="checkbox"/> Reversible 7 <input type="checkbox"/> Full automatic feathering 8 <input type="checkbox"/> Full manual feathering A Other	8 Aircraft STOL Modification Installed 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No A Other
--	--	---

Landing Gear Positions 1 <input type="checkbox"/> Fixed gear, go to block 12) 2 <input type="checkbox"/> Fixed gear, go to block 12) 3 <input type="checkbox"/> Fixed gear, go to block 12) A Other	9 Nose/Tail 1 <input type="checkbox"/> Up 2 <input type="checkbox"/> Down 3 <input type="checkbox"/> Intermediate A Other	10 Left Main 1 <input type="checkbox"/> Up 2 <input type="checkbox"/> Down 3 <input type="checkbox"/> Intermediate A Other	11 Right Main 1 <input type="checkbox"/> Up 2 <input type="checkbox"/> Down 3 <input type="checkbox"/> Intermediate A Other	For Rotorcraft or Balloon accidents, go to block 20.
---	---	--	---	--

Control Surface Positions 1 <input type="checkbox"/> Up 2 <input type="checkbox"/> Extended _____ deg. 3 <input type="checkbox"/> Other	12 Left Trailing Edge Flap 1 <input checked="" type="checkbox"/> Up A Extended _____ deg. B Other	13 Right Trailing Edge Flap 1 <input checked="" type="checkbox"/> Up A Extended _____ deg. B Other	14 Speed Brake 1 <input checked="" type="checkbox"/> Not Installed 2 <input type="checkbox"/> Stowed 3 <input type="checkbox"/> Deployed A Other	15 Spoiler 1 <input checked="" type="checkbox"/> Not Installed 2 <input type="checkbox"/> Stowed 3 <input type="checkbox"/> Deployed 4 <input type="checkbox"/> Deployed Asymmetrically A Other
--	--	---	--	--

Trim Tab Positions (Multiple entry) 1 <input checked="" type="checkbox"/> Not Installed 2 <input type="checkbox"/> Neutral 3 <input type="checkbox"/> Up 4 <input type="checkbox"/> Down A _____ deg. B Other	16 Left Aileron 1 <input checked="" type="checkbox"/> Not Installed 2 <input type="checkbox"/> Neutral 3 <input type="checkbox"/> Up 4 <input type="checkbox"/> Down A _____ deg. B Other	17 Right Aileron 1 <input checked="" type="checkbox"/> Not Installed 2 <input type="checkbox"/> Neutral 3 <input type="checkbox"/> Up 4 <input type="checkbox"/> Down A _____ deg. B Other	18 Rudder 1 <input checked="" type="checkbox"/> Not Installed 2 <input type="checkbox"/> Neutral 3 <input type="checkbox"/> Left 4 <input type="checkbox"/> Right A _____ deg. B Other	19 Elevator/Stabilator/Ruddervator 1 <input type="checkbox"/> Neutral 2 <input type="checkbox"/> Up 3 <input checked="" type="checkbox"/> Down A _____ deg. B Other
---	---	--	--	--

Cargo Restraint System 1 <input checked="" type="checkbox"/> None (Go to block 26) 2 <input type="checkbox"/> Cargo net 3 <input type="checkbox"/> Straps/tie down A Other	20 Cargo Restraint Installed (Multiple entry) 1 <input checked="" type="checkbox"/> None (Go to block 26) 2 <input type="checkbox"/> Cargo net 3 <input type="checkbox"/> Straps/tie down A Other	21 Cargo Restraint Used (Multiple entry) 1 <input checked="" type="checkbox"/> None (Go to block 26) 2 <input type="checkbox"/> Cargo net 3 <input type="checkbox"/> Straps/tie down A Other	22 Cargo Restraint Failed (Multiple entry) 1 <input checked="" type="checkbox"/> None 2 <input type="checkbox"/> Cargo net 3 <input type="checkbox"/> Straps/tie down A Other
--	---	--	---

Computed Weight and Balance Information	Complete when weight and/or center of gravity limitations are exceeded on accident flight. (Otherwise go to block 32)
---	---

Takeoff

Weight _____ Lbs.	27 Center of Gravity A _____ % MAC or B _____ Inches	28 CG Range (Multiple entry) 1 <input type="checkbox"/> At takeoff weight 2 <input type="checkbox"/> At max gross weight A _____ % MAC to _____ % MAC or B _____ Inches to _____ Inches
-------------------	--	---

Accident

Weight _____ Lbs.	30 Center of Gravity A _____ % MAC or B _____ Inches	31 CG Range (Multiple entry) 1 <input type="checkbox"/> At takeoff weight 2 <input type="checkbox"/> At max gross weight A _____ % MAC to _____ % MAC or B _____ Inches to _____ Inches	32 Fuel On Board At Accident 1 <input type="checkbox"/> Estimated 2 <input type="checkbox"/> Verified A Total gallons _____ B Other
-------------------	--	---	---

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Supplement A—Wreckage Documentation, Single and Twin Reciprocating Engine and Unpowered Aircraft (continued)

Fuel Tanks	Fuel on Board at Accident			D Tank Construction				F Spill-safe Fittings			H Fuel Leakage/Rupture				
	A Gallons Estimated	B Gallons Verified	C Other	1 Wet Wing	2 Bladder	3 Metal	E Other	1 Yes	2 No	G Other	1 None	2 Line	3 Fitting	4 Tank	I Other
Left Wing	15					X			X			X			
Right Wing	15					X			X			X			
Left Tip															
Right Tip															
Fuselage															
(Specify)															

Fuel Found in #1 Engine (Multiple entry)

- 1 ☐ None
2 ☒ Lines
3 ☐ Gascolator/strainer
4 ☐ Carburetor/fuel injector
5 ☐ Engine driven pump
6 ☐ Auxiliary fuel pump
7 ☐ Filter(s)
8 ☐ Selector valve
9 ☐ Fuel manifold/spider
10 ☐ Accumulator tank
A Other

42 Fuel Found in #2 Engine (Multiple entry)

- 1 ☐ None
2 ☐ Lines
3 ☐ Gascolator/strainer
4 ☐ Carburetor/fuel injector
5 ☐ Engine driven pump
6 ☐ Auxiliary fuel pump
7 ☐ Filter(s)
8 ☐ Selector valve
9 ☐ Fuel manifold/spider
10 ☐ Accumulator tank
A Other

Flight Controls, Evidence or Operational Failure or Malfunction (Multiple entry)

- 1 ☒ None
2 ☐ Pitch control
3 ☐ Roll control
4 ☐ Yaw control
A Other

44 Airframe/Structure, Evidence of In-Flight Separation/Failure (Multiple entry)

- 1 ☒ None
2 ☐ Helicopter (Complete Supp. G)
3 ☐ General disintegration
4 ☐ Left wing
5 ☐ Right wing
6 ☐ Left stab/elevator
7 ☐ Right stab/elevator
8 ☐ Vertical fin/rudder
9 ☐ Canard
10 ☐ Powerplant
11 ☐ Cabin/cargo door
A Other

45 Propeller, Evidence of In-Flight Separation/Failure

- 1 ☐ Yes
2 ☒ No
A Other

46 Powerplant, Evidence of In-Flight Mechanical Malfunction

- 1 ☐ Yes
2 ☒ No
A Other

47 Fuel, Evidence of Improper Grade or Contamination (Multiple entry)

- 1 ☒ None
2 ☐ Improper grade
3 ☐ Contamination
A Other

48 Oil, Evidence of Improper Grade or Contamination (Multiple entry)

- 1 ☒ None
2 ☐ Improper grade
3 ☐ Contamination
A Other

Emergency Locator Transmitter (ELT) Information

ELT Manufacturer

NARCO

A Other

52 ELT Model No.

C15923

A Other

ELT Battery Type

- 1 ☒ Alkaline
2 ☐ Cadmium
3 ☐ Nicad
4 ☐ Nickel
5 ☐ Lithium
A Other

54 ELT Battery Expiration Date (Nos. for M, D, Y)

7-1989

A Other

55 Preimpact ELT Location(s) (Multiple entry)

- 1 ☐ Cockpit
2 ☒ Cabin
3 ☐ Tailcone
4 ☐ Empennage
5 ☐ Raft
6 ☐ Survival Kit
A Other

ELT-Reason for Noneffectiveness/Failure (Multiple entry)

- 1 ☒ Operated effectively
2 ☐ Insufficient G's
3 ☐ Improper installation
4 ☐ Battery dead
5 ☐ Battery corroded
6 ☐ Battery installation incorrect
7 ☐ Incorrect battery
8 ☐ Fire damage
9 ☐ Impact damage
10 ☐ Antenna broken/disconnected
11 ☐ Water submersion
12 ☐ Unit not armed
13 ☐ Shielded by wreckage
14 ☐ Shielded by terrain
15 ☐ Internal failure
16 ☐ Test satisfactorily after accident
17 ☐ Signal direction altered by terrain
18 ☐ Packing device still installed
19 ☐ Remote switch off
A Other

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Supplement B—Cockpit Documentation, Single and Twin Reciprocating Engine and Unpowered Aircraft

Cockpit Secured, Readings Not Pertinent 1 ☐ Yes (Go to block 3)2 Cockpit/Instrument Panel Destroyed 1 ☐ Yes (Go to block 3)

Cockpit Instrument Indications—Enter direct in appropriate category

Flight Instruments

Engine/System Instruments

Item	Reading/Setting	Item	Reading/Setting
DG	172°	Ammeter	Broken needle
Vertical speed indicator	900 fpm up	Tachometer	257.6 "0"
Horizon	Destroyed	Magnetos switch	On left mag key Bent to left
Turn coordinator	Destroyed	Left fuel gauge	Empty
Airspeed	Destroyed	Right fuel gauge	1/2 full
Altimeter	Unreliable setting 30.28	Master switch	On
		Vacuum	Works and turns freely

Comm/Nav Equipment

Miscellaneous

Item	Frequency/Remark	Item	Remark
Avionics master	On		

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Supplement B—Cockpit Documentation, Single and Twin Reciprocating Engine and Unpowered Aircraft (continued)

1 Navigational Equipment/Displays Installed (Multiple entry) 1 <input checked="" type="checkbox"/> OMNI Head(s) 2 <input type="checkbox"/> Glide slope 3 <input checked="" type="checkbox"/> HSI 4 <input type="checkbox"/> Flight director 5 <input type="checkbox"/> RMI 6 <input type="checkbox"/> RNAV 7 <input type="checkbox"/> LORAN/Omega/INS 8 <input type="checkbox"/> DME 9 <input type="checkbox"/> ADF 10 <input type="checkbox"/> Marker beacons A Other		4 Autopilot 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Engaged 3 <input type="checkbox"/> Not engaged A Other		5 Digital Electronic/Nav/Com Displays 1 <input type="checkbox"/> Not installed 2 <input checked="" type="checkbox"/> Installed A Other		6 Primary Altimeter Type 1 <input type="checkbox"/> Counter-pointer 2 <input type="checkbox"/> Drum-pointer 3 <input checked="" type="checkbox"/> 3-pointer 4 <input type="checkbox"/> 2-pointer A Other	
7 Standby Altimeter Installed 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No A Other		8 Radar Altimeter Installed 1 <input type="checkbox"/> Yes 2 <input checked="" type="checkbox"/> No A Other		9 Transponder 1 <input type="checkbox"/> Not installed 2 <input checked="" type="checkbox"/> Installed-not used 3 <input type="checkbox"/> Installed-used 4 <input type="checkbox"/> Installed-used-Altitude encoding A Other		10 Attitude Indicator Installed 1 <input checked="" type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other	
11 Attitude Indicator Power Source (Multiple entry) 1 <input checked="" type="checkbox"/> Pressure/vacuum system 2 <input type="checkbox"/> Pressure/vacuum system-with backup power source 3 <input type="checkbox"/> Electrical 4 <input type="checkbox"/> Standby indicator with alternate power source A Other		12 Type of Stall Warning Indicator 1 <input type="checkbox"/> None 2 <input type="checkbox"/> Visual/light 3 <input type="checkbox"/> Visual/gauge 4 <input checked="" type="checkbox"/> Aural 5 <input type="checkbox"/> Stickshaker A Other		13 Weather Radar/Detection Equipment 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Installed-on 3 <input type="checkbox"/> Installed-off 4 <input type="checkbox"/> Installed, on/off unknown A Other			
14 Type Weather Radar/Detection Equipment (Multiple entry) 1 <input type="checkbox"/> Storm scope 2 <input type="checkbox"/> Black and white radar 3 <input type="checkbox"/> Color radar A Other 09							
Electrical/System Switches				18 <input type="checkbox"/> Switches Destroyed/Inaccessible (Go to block 56) 19 <input checked="" type="checkbox"/> Switch Positions Not Pertinent (Go to block 56)			
Switch/Item	Not 1 Installed	2 On	3 Off	A Other	Pertinent Setting/Remark		
20 Electrical Master							
21 Battery							
22 #1 Gen/Alternator							
23 #2 Gen/Alternator							
24 Inverter							
25 Avionics Master							
26 Pitot Heat							
29 Ice Detection							
30 Propeller Deice/Anti-ice							
31 Windshield Deice							
32 Windshield Anti-ice							
33 Airframe Deice							
36 Cabin Air/Fan							
37 Cabin Heater							
38 Air Conditioning							
39 Cabin Pressure Altitude							
40 Cabin Pressure Temperature							
41 Crew Oxygen							
42 Cabin/Passenger Oxygen							
45 Taxi Lights							
46 Landing Lights							
47 Rotating Beacon							

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Supplement B — Cockpit Documentation, Single and Twin Reciprocating Engine and Unpowered Aircraft (continued)

Critical/System Switches (continued)

Switch/Item	1 Not Installed	2 On	3 Off	A Other	Pertinent Setting/Remark
8 Strobes					
9 Navigation Lights					
10 Instrument Panel Lights					
11 Cockpit/Storm Lights					
12 Cabin Lights					
13 ELT Remote					

Engine Controls—No. 1 Engine

56 ☐ Engine Control Positions Not Pertinent (Go to block 65)

57 Throttle Position 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Full forward 3 <input type="checkbox"/> Midrange 4 <input type="checkbox"/> Idle A Other 04	58 Propeller 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Full increase (Low pitch) 3 <input type="checkbox"/> Midrange 4 <input type="checkbox"/> Full decrease (High pitch) 5 <input type="checkbox"/> Feather A Other	59 Mixture 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Full rich 3 <input type="checkbox"/> Midrange 4 <input type="checkbox"/> Idle cutoff A Other 04	60 Carburetor Heat 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Full on 3 <input type="checkbox"/> Partial 4 <input type="checkbox"/> Off A Other 04
61 Alternate Air 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Open 3 <input type="checkbox"/> Closed 4 <input type="checkbox"/> Midrange A Other	62 Cowl Flaps 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Open 3 <input type="checkbox"/> Closed 4 <input type="checkbox"/> Midrange A Other	63 Magneto Switch Position 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Both 3 <input checked="" type="checkbox"/> Left 4 <input type="checkbox"/> Right 5 <input type="checkbox"/> Off 6 <input type="checkbox"/> Start A Other 12	64 Throttle Friction 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Tight 3 <input type="checkbox"/> Loose A Other 04

Engine Controls—No. 2 Engine

65 ☐ Engine Control Positions Not Pertinent (Go to block 74)

66 Throttle Position 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Full forward 3 <input type="checkbox"/> Midrange 4 <input type="checkbox"/> Idle A Other	67 Propeller 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Full increase (Low pitch) 3 <input type="checkbox"/> Midrange 4 <input type="checkbox"/> Full decrease (High pitch) 5 <input type="checkbox"/> Feather A Other	68 Mixture 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Full rich 3 <input type="checkbox"/> Midrange 4 <input type="checkbox"/> Idle cutoff A Other	69 Carburetor Heat 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Full on 3 <input type="checkbox"/> Partial 4 <input type="checkbox"/> Off A Other
70 Alternate Air 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Open 3 <input type="checkbox"/> Closed 4 <input type="checkbox"/> Midrange A Other	71 Cowl Flaps 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Open 3 <input type="checkbox"/> Closed 4 <input type="checkbox"/> Midrange A Other	72 Magneto Switch Position 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Both 3 <input type="checkbox"/> Left 4 <input type="checkbox"/> Right 5 <input type="checkbox"/> Off 6 <input type="checkbox"/> Start A Other	73 Throttle Friction 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Tight 3 <input type="checkbox"/> Loose A Other

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Supplement B—Cockpit Documentation, Single and Twin Reciprocating Engine and Unpowered Aircraft (continued)

Landing Gear Controls/Indicators, Flight Controls/Indicators, and Fuel Selectors/Pumps

Landing Gear Control 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Up 3 <input type="checkbox"/> Down 4 <input type="checkbox"/> Off A Other	75 Landing Gear Indicator 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Up 3 <input type="checkbox"/> Down 4 <input type="checkbox"/> Transit/unsafe A Other	76 Trailing Edge Flap System 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Manual 3 <input checked="" type="checkbox"/> Electric 4 <input type="checkbox"/> Hydraulic A Other	77 Trailing Edge Flap Control 1 <input type="checkbox"/> Not installed 2 <input checked="" type="checkbox"/> Up A Down _____ deg. B Other	78 Trailing Edge Flap Indicator 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Up A Down _____ deg. B Other 04
Speed Brake Control 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Stowed 3 <input type="checkbox"/> Deployed A Other	80 Spoiler Control 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Stowed 3 <input type="checkbox"/> Deployed A Other	81 Dual Controls 1 <input type="checkbox"/> Not installed 2 <input checked="" type="checkbox"/> Installed A Other	82 Throwover Control Yoke/Position 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Left 3 <input type="checkbox"/> Right 4 <input type="checkbox"/> Intermediate A Other	
Elev/Stab Trim Control (Multiple entry) 1 <input type="checkbox"/> Not installed 2 <input checked="" type="checkbox"/> Manual 3 <input type="checkbox"/> Electric A Other	84 Elev/Stab Trim Indicator 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Up 3 <input checked="" type="checkbox"/> Down 4 <input type="checkbox"/> Neutral A Other	85 Aileron Trim Control (Multiple entry) 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Manual 3 <input type="checkbox"/> Electric A Other	86 Aileron Trim Indicator 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Left 3 <input type="checkbox"/> Right 4 <input type="checkbox"/> Neutral A Other	87 Rudder Trim Indicator 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Left 3 <input type="checkbox"/> Right 4 <input type="checkbox"/> Neutral A Other
Fuel Selector Position(s) (Multiple entry) 1 <input type="checkbox"/> Left main 2 <input type="checkbox"/> Right main 3 <input checked="" type="checkbox"/> Both 4 <input type="checkbox"/> Left auxiliary 5 <input type="checkbox"/> Right auxiliary 6 <input type="checkbox"/> Center 7 <input type="checkbox"/> Forward 8 <input type="checkbox"/> Aft 9 <input type="checkbox"/> External tank 10 <input type="checkbox"/> Between tanks 11 <input type="checkbox"/> X-feed left to right 12 <input type="checkbox"/> X-feed right to left 13 <input type="checkbox"/> On-engine #1 14 <input type="checkbox"/> Off-engine #1 15 <input type="checkbox"/> On-engine #2 16 <input type="checkbox"/> Off-engine #2 A Other			89 Fuel Boost Pump, Engine #1 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> On 3 <input type="checkbox"/> High 4 <input type="checkbox"/> Low 5 <input type="checkbox"/> Off A Other 04	
Fuel Boost Pump, Engine #2 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> On 3 <input type="checkbox"/> High 4 <input type="checkbox"/> Low 5 <input type="checkbox"/> Off A Other	91 Fuel Transfer Pump 1 <input checked="" type="checkbox"/> Not installed 2 <input type="checkbox"/> Off A On (____ tank to ____ tank) B Other	92 Primer, Engine #1 1 <input type="checkbox"/> Not installed 2 <input checked="" type="checkbox"/> Locked 3 <input type="checkbox"/> Unlocked A Other	93 Primer Engine #2 1 <input type="checkbox"/> Not installed 2 <input type="checkbox"/> Locked 3 <input type="checkbox"/> Unlocked A Other	

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Supplement I—Crash Kinematics

Accident Site Geographic Coordinates—Latitude (Multiple entry)

1 ☒ North A 29 deg. 39 minutes2 ☐ South B Other

2 Accident Site Geographic Coordinates—Longitude (Multiple entry)

1 ☐ East A 081 deg. 12 minutes2 ☒ West B Other

Impact Sequence—(Number in sequence. Multiple entry.)

- | | | | |
|---|--|--|--|
| 1 <input type="checkbox"/> None | 7 <input checked="" type="checkbox"/> Ground | 13 <input type="checkbox"/> Trees/limbs 12" diam. and up | 19 <input type="checkbox"/> Runway light |
| 2 <input checked="" type="checkbox"/> Rock face | 8 <input type="checkbox"/> Dirt bank | 14 <input type="checkbox"/> Frangible approach aid | 20 <input type="checkbox"/> Water |
| 3 <input type="checkbox"/> Rigid structure | 9 <input checked="" type="checkbox"/> Scrub tree | 15 <input type="checkbox"/> Non-frangible approach aid | 21 <input type="checkbox"/> Wire |
| 4 <input type="checkbox"/> Rocks to 1' diam. | 10 <input type="checkbox"/> Trees/limbs to 6" diam. | 16 <input type="checkbox"/> Submerged obstacle | 22 <input type="checkbox"/> Pole |
| 5 <input type="checkbox"/> Rocks 1'-2' diam. | 11 <input type="checkbox"/> Trees/limbs 6"-9" diam. | 17 <input type="checkbox"/> Vehicle | 23 <input type="checkbox"/> Snow bank |
| 6 <input type="checkbox"/> Rocks > 2' diam. | 12 <input type="checkbox"/> Trees/limbs 9"-12" diam. | 18 <input type="checkbox"/> Aircraft | A Other |

Terrain at Principal Impact Point (Multiple entry)

- | | | | |
|--|--|-------------------------------------|----------------------------------|
| 1 <input checked="" type="checkbox"/> None | 6 <input type="checkbox"/> Packed snow | 11 <input type="checkbox"/> Dry sod | 16 <input type="checkbox"/> Rock |
| 2 <input type="checkbox"/> Wet cultivated soil | 7 <input type="checkbox"/> Loose snow | 12 <input type="checkbox"/> Wet sod | 17 <input type="checkbox"/> Ice |
| 3 <input type="checkbox"/> Dry cultivated soil | 8 <input type="checkbox"/> Concrete | 13 <input type="checkbox"/> Water | 18 <input type="checkbox"/> Mud |
| 4 <input type="checkbox"/> Dry packed clay | 9 <input type="checkbox"/> Asphalt | 14 <input type="checkbox"/> Tundra | 19 <input type="checkbox"/> Sand |
| 5 <input type="checkbox"/> Boggy swampy | 10 <input type="checkbox"/> Loose rock | 15 <input type="checkbox"/> Dirt | A Other |

Principal Impact Kinematics

Airspeed At Impact (Enter direct or mark estimated range.)

- | | | |
|----------------------------------|--|--|
| 1 <input type="checkbox"/> 0-15 | 6 <input type="checkbox"/> 75-90 | 11 <input type="checkbox"/> 210 plus knots |
| 2 <input type="checkbox"/> 15-30 | 7 <input checked="" type="checkbox"/> 90-120 | A <u> </u> Knots |
| 3 <input type="checkbox"/> 30-45 | 8 <input type="checkbox"/> 120-150 | B Other |
| 4 <input type="checkbox"/> 45-60 | 9 <input type="checkbox"/> 150-180 | |
| 5 <input type="checkbox"/> 60-75 | 10 <input type="checkbox"/> 180-210 | |

6 Flight Path Angle (Enter direct or mark estimated range.)

- | | | |
|--|-----------------------------------|-----------------------------------|
| 1 <input type="checkbox"/> Up | 6 <input type="checkbox"/> 15-20 | 11 <input type="checkbox"/> 60-90 |
| 2 <input checked="" type="checkbox"/> Down | 7 <input type="checkbox"/> 20-25 | A <u> </u> Degrees |
| 3 <input checked="" type="checkbox"/> 0-5 | 8 <input type="checkbox"/> 25-30 | B Other |
| 4 <input type="checkbox"/> 5-10 | 9 <input type="checkbox"/> 30-45 | |
| 5 <input type="checkbox"/> 10-15 | 10 <input type="checkbox"/> 45-60 | |

























Pitch Attitude At Impact (Enter direct or mark estimated range.)

Pitch Attitude

- 1 ☒ Down
2 ☐ Up
A Deg.

Nose Down Angle With Horizon

Nose Up Angle With Horizon

- | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> 75 | <input type="checkbox"/> 60 | <input type="checkbox"/> 45 | <input type="checkbox"/> 30 | <input type="checkbox"/> 15 | <input type="checkbox"/> 0 | <input type="checkbox"/> 15 | <input type="checkbox"/> 30 | <input type="checkbox"/> 45 | <input type="checkbox"/> 60 | <input type="checkbox"/> 75 | |
|  |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> 90 | <input type="checkbox"/> 75 | <input type="checkbox"/> 60 | <input type="checkbox"/> 45 | <input type="checkbox"/> 30 | <input type="checkbox"/> 15 | <input checked="" type="checkbox"/> 0 | <input type="checkbox"/> 15 | <input type="checkbox"/> 30 | <input type="checkbox"/> 45 | <input type="checkbox"/> 60 | <input type="checkbox"/> 75 |

B
or Other

























Roll Attitude At Impact (Enter direct or mark estimated range.)

Roll

- 1 ☒ Left
2 ☐ Right
A Deg.

Aircraft Rolled Left

Aircraft Rolled Right

- | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> 105 | <input type="checkbox"/> 120 | <input type="checkbox"/> 135 | <input type="checkbox"/> 150 | <input type="checkbox"/> 165 | <input type="checkbox"/> 180 | <input type="checkbox"/> 165 | <input type="checkbox"/> 150 | <input type="checkbox"/> 135 | <input type="checkbox"/> 120 | <input type="checkbox"/> 105 | |
|  |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> 90 | <input type="checkbox"/> 75 | <input type="checkbox"/> 60 | <input type="checkbox"/> 45 | <input type="checkbox"/> 30 | <input type="checkbox"/> 15 | <input checked="" type="checkbox"/> 0 | <input type="checkbox"/> 15 | <input type="checkbox"/> 30 | <input type="checkbox"/> 45 | <input type="checkbox"/> 60 | <input type="checkbox"/> 75 |

B
or Other

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Supplement 1 - Crash Kinematics (continued)

Yaw Attitude at Impact (Enter direct or mark estimated range.)

1 <input type="checkbox"/> Nose left 2 <input type="checkbox"/> Nose right A _____ Deg.	Aircraft Yawed Left 90 <input type="checkbox"/> 75 <input type="checkbox"/> 60 <input type="checkbox"/> 45 <input type="checkbox"/> 30 <input type="checkbox"/> 15 <input type="checkbox"/> 0 <input checked="" type="checkbox"/> 15 <input type="checkbox"/> 30 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> 75 <input type="checkbox"/> 90 <input type="checkbox"/>	Aircraft Yawed Right or B Other	
10 Terrain Angle 1 <input checked="" type="checkbox"/> Level A Up _____ deg. B Down _____ deg. C Other	11 Principal Impact Ground Scar Length 1 <input checked="" type="checkbox"/> None A _____ feet B Other	12 Principal Impact Ground Scar Depth 1 <input checked="" type="checkbox"/> None A _____ inches B Other	13 Fuselage Totally Destroyed 1 <input checked="" type="checkbox"/> Yes (Go to block 36) 2 <input type="checkbox"/> No A Other
4 Cockpit Damage (Multiple entry) 1 <input type="checkbox"/> Destroyed 2 <input type="checkbox"/> Collapsed 3 <input type="checkbox"/> Part collapsed 4 <input type="checkbox"/> Distorted 5 <input type="checkbox"/> Burnt 6 <input type="checkbox"/> Intact 7 <input type="checkbox"/> None A Other	15 FWD Cabin Damage (Multiple entry) 1 <input type="checkbox"/> Destroyed 2 <input type="checkbox"/> Collapsed 3 <input type="checkbox"/> Part collapsed 4 <input type="checkbox"/> Distorted 5 <input type="checkbox"/> Burnt 6 <input type="checkbox"/> Intact 7 <input type="checkbox"/> None A Other	16 AFT Cabin Damage (Multiple entry) 1 <input type="checkbox"/> Destroyed 2 <input type="checkbox"/> Collapsed 3 <input type="checkbox"/> Part collapsed 4 <input type="checkbox"/> Distorted 5 <input type="checkbox"/> Burnt 6 <input type="checkbox"/> Intact 7 <input type="checkbox"/> None A Other	
7 Fuselage Split 1 <input type="checkbox"/> No (Go to block 19) 2 <input type="checkbox"/> Longitudinal 3 <input type="checkbox"/> Circumferential A Other	18 Fuselage Split Behind Seat # _____ A Other	19 Fuselage Collapse (Estimated) 1 <input type="checkbox"/> None A Horizontal _____ inches B Vertical _____ inches C Other	20 Fuselage Crush 1 <input type="checkbox"/> None A Horizontal _____ inches B Vertical _____ inches C Other

Approved Exit Data

Exit Location	A Type of Exit				C Operable			E Fire Damage			G Impact Damage		
	1 Door	2 Window	3 Hatch	B Other	1 Yes	2 No	D Other	1 Yes	2 No	F Other	1 Yes	2 No	H Other
21 Cockpit-Left													
22 Cockpit Right													
23 1L													
24 1R													
25 2L													
26 2R													
27 3L													
28 3R													
29 4L													
30 4R													
31 5L													
32 5R													
33 6L													
34 6R													

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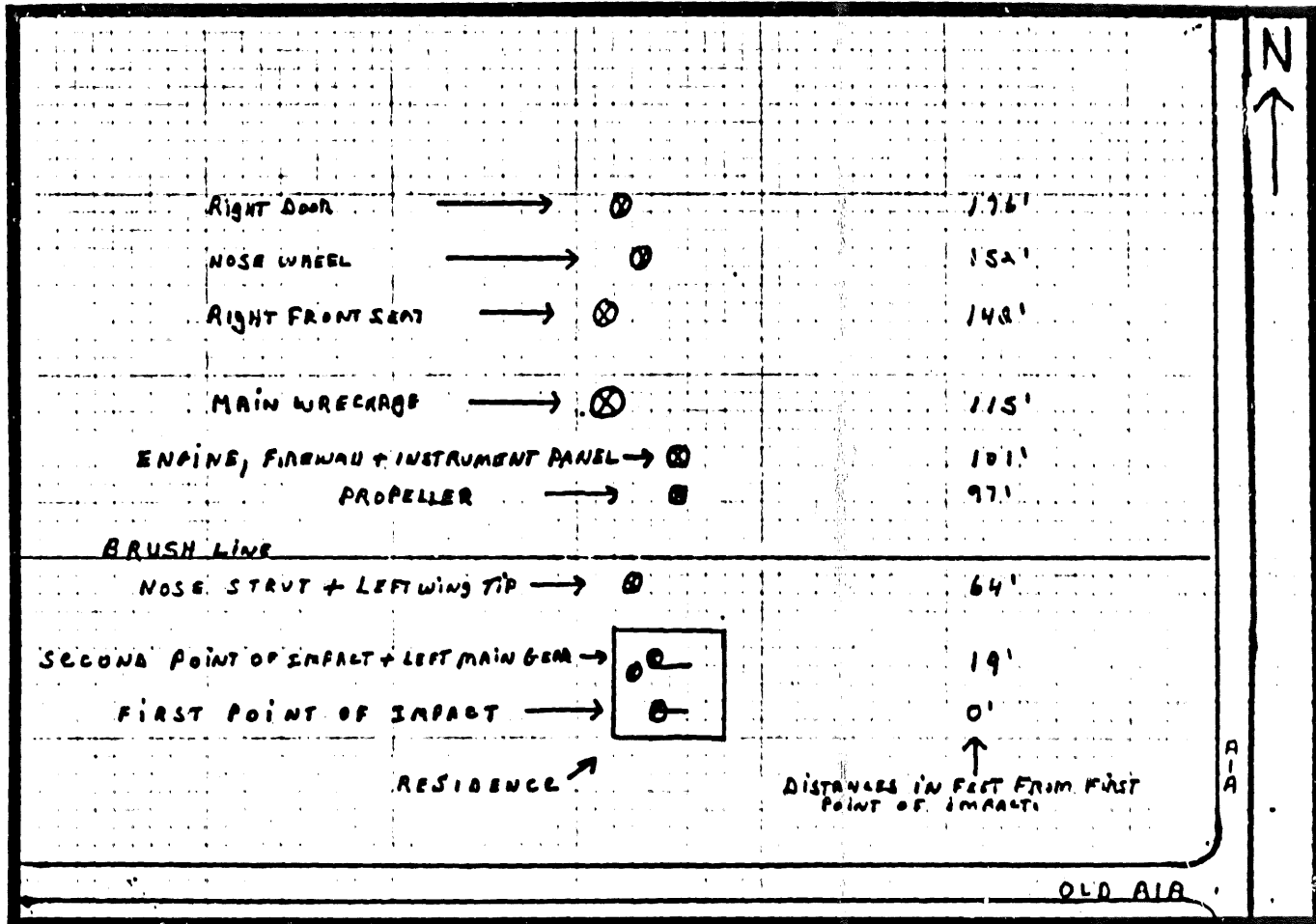
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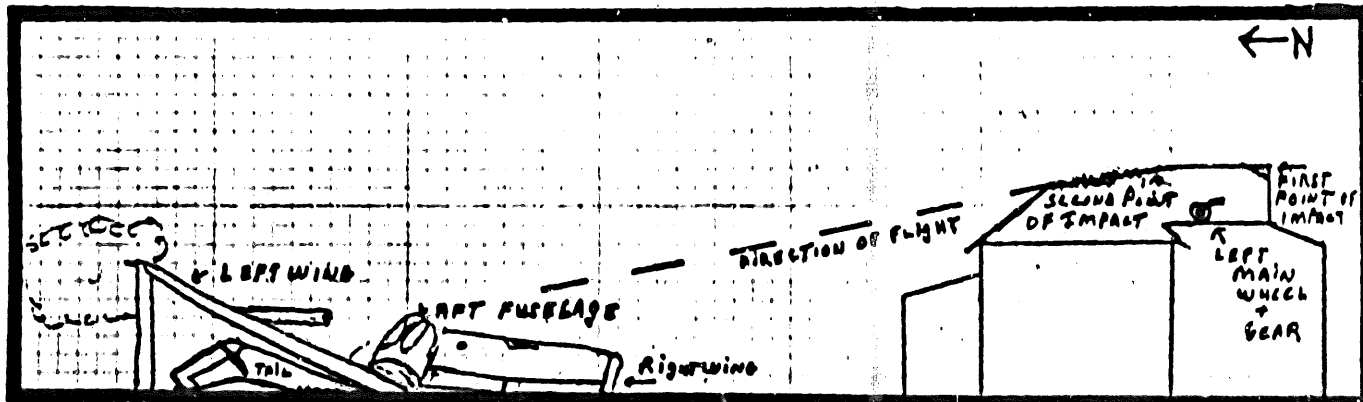
Supplement I—Crash Kinematics (continued)

Crash Site Plan/Elevation

Sketch of Crash Site—Show distribution of major components, fire area, obstacles struck, occupants, and magnetic north. Sketch is "NOT TO SCALE".



Plan View



Elevation View

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Supplement K—Occupant, Survival and Injury Information

1 Seat No. 01 If Seat Unknown Enter Persons Name Other		2 Position 1 <input checked="" type="checkbox"/> Pilot in command 2 <input type="checkbox"/> Second pilot 3 <input type="checkbox"/> Other crewmember 4 <input type="checkbox"/> Passenger A Other		For non-survivable accident, go to block 36		3 Age A Yrs B Under 24 mos., enter months C Other		4 Height Inches A Other		5 Weight Lbs A Other	
6 Injury Index 1 <input type="checkbox"/> None 2 <input type="checkbox"/> Minor 3 <input type="checkbox"/> Serious 4 <input type="checkbox"/> Fatal		7 Condition Prior to Accident (Multiple entry) 1 <input type="checkbox"/> Smoker 2 <input type="checkbox"/> Language difficulty 3 <input type="checkbox"/> Pre-existing disease 4 <input type="checkbox"/> Prothesis A Other		8 Physically Handicapped (Multiple entry) 1 <input type="checkbox"/> No 2 <input type="checkbox"/> Blind 3 <input type="checkbox"/> Mobility impaired 4 <input type="checkbox"/> Deaf A Other		9 Seat Belt Adjustment 1 <input type="checkbox"/> Not fastened 2 <input type="checkbox"/> Loose 3 <input type="checkbox"/> Snug 4 <input type="checkbox"/> Tight 5 <input type="checkbox"/> Fastened-Tightness Unknown 6 <input type="checkbox"/> Not seated 7 <input type="checkbox"/> Seat not equipped A Other		10 Shoulder Harness Adjustment 1 <input type="checkbox"/> Not fastened 2 <input type="checkbox"/> Loose 3 <input type="checkbox"/> Snug 4 <input type="checkbox"/> Tight 5 <input type="checkbox"/> Fastened-Tightness Unknown 6 <input type="checkbox"/> Seat not equipped A Other			
11 Knew Impact/Accident Coming 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other		12 Braced for Impact 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other		13 Direction of Movement at Impact (Multiple entry) 1 <input type="checkbox"/> Forward 2 <input type="checkbox"/> Rearward 3 <input type="checkbox"/> Upward 4 <input type="checkbox"/> Downward 5 <input type="checkbox"/> Left 6 <input type="checkbox"/> Right A Other							
14 Exit Used 1 <input type="checkbox"/> Did not escape 2 <input type="checkbox"/> Split in fuselage A Exit number (use diagram) B Other		Exit Diagram <p>CL Cockpit CR 1L 1R 2L 2R 3L Cabin 3R</p> <p>Use following codes for overhead hatches Cockpit 99 Cabin 88 Tailcone 77</p>						15 Escape Hampered by (Multiple entry) 1 <input type="checkbox"/> Not hampered 2 <input type="checkbox"/> Smoke 3 <input type="checkbox"/> Heat 4 <input type="checkbox"/> Injuries 5 <input type="checkbox"/> Trapped 6 <input type="checkbox"/> Darkness 7 <input type="checkbox"/> Debris 8 <input type="checkbox"/> Disorientation 9 <input type="checkbox"/> Difficulty Using Exit A Specify B Other			
16 Briefed on Emergency Procedures (Multiple entry) 1 <input type="checkbox"/> No 2 <input type="checkbox"/> Before takeoff 3 <input type="checkbox"/> Before impact/accident A Other		17 Evacuation Aided by (Multiple entry) 1 <input type="checkbox"/> Passenger 2 <input type="checkbox"/> Crew 3 <input type="checkbox"/> Bystander 4 <input type="checkbox"/> CFR personnel 5 <input type="checkbox"/> Unaided A Other				18 Injured During Evacuation 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other					
Complete this section if oxygen was used.											
21 Type of Equipment 1 <input type="checkbox"/> Supplemental 2 <input type="checkbox"/> Portable A Other		22 Difficulty in Use 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No A Other				23 Type of Oxygen System 1 <input type="checkbox"/> Solid state 2 <input type="checkbox"/> Gaseous A Specify B Other					

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Supplement K—Occupant, Survival and Injury Information (continued)

Complete this section for accidents involving fire.

24 ☐ No fire involved (Go to block 29)

5 Fire First Sighted (Location)

- 1 ☐ Inside aircraft
2 ☐ Outside aircraft
3 ☐ Both
A Other

26 Smoke Mask/Goggles Used
(Multiple entry)

- 1 ☐ No
2 ☐ Yes
3 ☐ Both
4 ☐ Difficulty in use
A Other

27 Material of Clothes Worn
(Multiple entry)

- 1 ☐ Synthetic
2 ☐ Nonsynthetic
3 ☐ Fire resistant
4 ☐ Mix-synthetic and nonsynthetic
A Other

28 Exposure to Heat/Fire
(Multiple entry)

- 1 ☐ Head/face
2 ☐ Arm(s)
3 ☐ Hand(s)
4 ☐ Leg(s)
5 ☐ Torso
6 ☐ Feet
A Other

Complete this section for accidents involving ditching/water impact.

29 ☒ No water impact (Go to block 36)

Flotation Devices	A Available			C Used			E Familiar With Use			G Problems In Use			I Malfunctioned With Use			K Equipment Damaged		
	1 Yes	2 No	B Other	1 Yes	2 No	D Other	1 Yes	2 No	F Other	1 Yes	2 No	H Other	1 Yes	2 No	J Other	1 Yes	2 No	L Other
30 Liferaft																		
31 Vest-Inflatable																		
32 Vest-Non-Inflatable																		
33 Cushion																		

34 Time In Water

- A _____ Hrs.
B _____ Mins.
C Other

35 Rescued by

- 1 ☐ Boat
2 ☐ Airplane

- 3 ☐ Helicopter
4 ☐ None

A Other

Occupant Injuries—Complete applicable parts for survivors and nonsurvivors.

Items 36 thru 39 apply ONLY to flight crewmembers.

36 Medication Prescribed

- 1 ☒ No
A Yes (Specify: _____)
B Other

37 Medication Being Taken

- 1 ☒ No
A Yes (Specify: _____)
B Other

38 Medication/Drugs Found

- 1 ☒ No
A Yes (Specify: _____)
B Other

39 Pre-existing Disease Found at Autopsy

- 1 ☐ No autopsy performed
2 ☒ None reported

A Yes Specify: _____

B Other

Results of Toxicological Analyses—Complete as applicable for survivors and nonsurvivors.

40 Toxicology (Multiple entry)

- 1 ☐ Not ordered
2 ☐ Not ordered—performed

- 3 ☒ Ordered—performed
4 ☐ Ordered—not performed

5 ☐ Embalmed6 ☐ Specimen not available/unsuitable for analysis

A Other

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01

Supplement K—Occupant, Survival and Injury Information (continued)

Results of Toxicological Analyses—(Complete as applicable for survivors and nonsurvivors.) (continued)

Substances	A Test Results			C Level of Substances Found
	¹ Positive	² Negative	B Other	
41 Ethanol (Alcohol)		X		Mg %
42 CO (Carbon Monoxide)		X		% Saturation
43 hb (Hemoglobin)	X			15.2 gm %
44 HCN (Hydrogen Cyanide)		X		Microgram/ml
45 Acidic and Neutral Drugs		X		
46 Basic Drugs		X		
47 Marijuana		X		
48 (Specify) _____				

List any additional toxicological substances discovered below.

Substance Code	B Level of Substances Found	Substance Code	B Level of Substances Found
49		56	
50		57	
51		58	
52		59	
53		60	
54		61 (Specify)	
55		62 (Specify)	

Toxicological Substances/Codes

Acetaminophen	001	Cocaine	018	Imipramine	035	Mephedrone	067
Acetaldehyde	002	Codine	019	Isopropylal	036	Morphine	068
Acetone	003	Dextropropamine	020	Ketamine	037	Naloxone	069
Amphetamine	004	Diazepam	021	Lidocaine	038	Phenylephrine	070
Amphetamine	005	Dihydrocodeine	022	Lithium	039	Phenylephrine	071
Amphetamine	006	Diphenhydramine	023	Marijuana	040	Phenylephrine	072
Amphetamine	007	Diphenhydramine	024	Marijuana	041	Phenylephrine	073
Amphetamine	008	Doxepin	025	Marijuana	042	Phenylephrine	074
Brompheniramine	009	Doxepin	026	Marijuana	043	Phenylephrine	075
Bupropion	010	Doxepin	027	Marijuana	044	Phenylephrine	076
Bupropion	011	Ethchlorvynol	028	Marijuana	045	Phenylephrine	077
Caffeine	012	Flunitrazepam	029	Marijuana	046	Phenylephrine	078
Cannabidiol	013	Flunitrazepam	030	Marijuana	047	Phenylephrine	079
Chlorazepate	014	Flunitrazepam	031	Marijuana	048	Phenylephrine	080
Chlorazepate	015	Flunitrazepam	032	Marijuana	049	Phenylephrine	081
Chlorpheniramine	016	Flunitrazepam	033	Marijuana	050	Phenylephrine	082
Chlorpheniramine	017	Flunitrazepam	034	Marijuana	051	Phenylephrine	083

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

01

M | T | A | 8 | 8 | F | A | 0 | 4 | 4 |

Supplement K—Occupant, Survival and Injury Information (continued)

63 ☒ For multiple extreme traumatic injuries, check box, and go to next applicable supplement.

Occupant Injury Coding Chart (Complete for survivors and non survivors as applicable.)

	A Body Region	B Aspect	C Lesion	D System/Organ	E A.I.S. Severity	F 6 Injury Source	G 7 Source of Data
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							

Body Region - A

01 Head (Skull, scalp, ears)
02 Face (Forehead, nose, eyes, mouth)
03 Neck (Cervical spine, C1-C7)
04 Shoulder (Clavicle, scapula, joint)
05 Upper limb (Whole arm)
06 Arm (Upper)
07 Elbow
08 Forearm
09 Wrist
10 Hand—fingers
11 Chest (Anterior and posterior ribs)
12 Abdomen (Diaphragm and below)
13 Back (Thoracic spine T1-T12)
14 Back (Lumbar L1-L5)
15 Pelvis—hip
16 Lower limb (Whole leg)
17 Thigh (Femur)
18 Knee
19 Leg (Below knee)
20 Ankle
21 Foot—toes
22 Whole body
88 Injured, unknown region
99 Other

Aspect Of Injury - B

01 Right
02 Left

88 Injured aspect unknown
99 Other

Lesion - C

01 Laceration
02 Contusion
03 Abrasion
04 Fracture
05 Concussion
06 Avulsion
07 Rupture
08 Sprain
09 Dislocation
10 Crush
11 Amputation
12 Burn
13 Fracture and dislocation
14 Severance (Transection)
15 Strain
16 Detachment (Separation)
17 Perforation (Puncture)
88 Injured unknown lesion
99 Other

System/Organ - D

01 Skeletal
02 Vertebrae
03 Joints
04 Digestive

05 Liver
06 Nervous System
07 Brain
08 Spinal cord
09 Ears
10 Arteries/veins
11 Heart
12 Spleen
13 Urogenital
14 Kidneys
15 Respiratory
16 Eye
17 Pulmonary/lungs
18 Airway
19 Muscles
20 Integumentary
21 Thyroid (Thyroid or other endocrine gland)
88 Injured, unknown system or organ
99 Other

Abbreviated Injury Scale - E

00 Not injured
01 Minor injury
02 Moderate injury
03 Serious injury (Not life-threatening)
04 Severe injury (Life-threatening survival probable)
05 Critical injury (Survival uncertain)
06 Maximum (untreatable)
07 Injured (Unknown severity)
88 Unknown if injured

Source of Data - G

Official
01 Autopsy records with or without hospital/medical records
02 Hospital/medical records
03 Emergency room records
04 Private or treating physicians
Unofficial
05 Lay coroner
06 E.M.S. personnel
07 Interviewee
08 Police
09 Other source

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

M I A 8 8 F A 0 4 4

Supplement K—Occupant, Survival and Injury Information (continued)

Injury Source List - F

- | | |
|---------------------------------|--|
| 01 Windshield | 25 Ground/runway |
| 02 Windshield frame | 26 Unsecured seat(s) |
| 03 Window | 27 Outside object(s) entering aircraft |
| 04 Window frame | 28 Galley item(s) |
| 05 Instrument panel | 29 Food/beverage item(s) |
| 06 Side console | 30 Other interior objects |
| 07 Center console | 31 Other exterior objects |
| 08 Control stick/cyclic stick | 32 Evacuation slide/slide raft |
| 09 Collective | 33 Escape rope/tape |
| 10 Control yoke/column | 34 Escape inertia device |
| 11 Throttle quadrant/levers | 35 Ejected from aircraft |
| 12 Rudder pedals | 36 Propeller/rotor blades |
| 13 Ceiling | 37 Exterior aircraft surface |
| 14 Sidewall | 38 Engine |
| 15 Floor | 39 Wheel/tires |
| 16 Fuselage framing/structure | 40 Ground vehicle |
| 17 Table | 41 Toxic/noxious/irritant fumes |
| 18 Seat | 42 Fire/radiant heat |
| 19 Seatback tray | 43 Flying glass |
| 20 Restraints—seatbelt/tiedown | 44 Door/hatches |
| 21 Restraints—shoulder harness | 45 Acceleration forces |
| 22 Unsecured item(s) in cockpit | 46 Exposure |
| 23 Unsecured item(s) in cabin | 47 Glare Shield |
| 24 Other occupants | 48 Eyeglasses |
| | 88 Unknown |
| | 99 Other |

4 Death Due To Fire/Smoke

- 1 ☐ Yes
2 ☒ No
A Other

75 Death Due To Drowning

- 1 ☐ Yes
2 ☒ No
A Other

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

M I T A 8 8 F A 0 4 4

Supplement S—Aircraft Occupant and Injured Ground Personnel

Other Occupants A Name	B Seat No.	C Address (City & State)	D Crew	E Passenger	F Non- Occupant	G FAA	H Degree of Injury			
							4 Fatal	3 Serious	2 Minor	1 None
1 MICHAEL INGUAGGIATO	01	EMBRY RIDDLE AEROL. UNIV. PO Box 6077 DAYTONA BCH, FL	X				X			
2										
3										
4										
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23										

NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

STATEMENT OF WITNESS

The purpose of this statement is intended solely for use in determining the facts, conditions and circumstances, and the probable cause of the subject accident.

- Date 11-25-87
1. Place of accident _____ Date 11-24-87 Hour ~2³⁰ P.M.
2. Type of vehicle Small aircraft
3. Identification of vehicle _____
4. What is your name Dec J. Spearman Age 31
5. Address 3 Elizabeth Dr. E., Kt. #8, Palm Coast, FL 32037
6. Occupation C.N.A. By whom employed Meridian Nursing
7. Where were you at the time of the accident in my home
8. Tell in your own words what you saw or heard before and at the time the accident occurred.

At approximately 2³⁰ P.M. I heard a small aircraft fly over our house. He was flying rather low, since the sound of his engine was louder than I've usually heard. Suddenly his engine cut out. A few seconds later I heard a muffled crash.

D. J. Spearman
(Signature)

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~~WASHINGTON, D.C. 20594~~

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NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

STATEMENT OF WITNESS

The purpose of this statement is intended solely for use in determining the facts, conditions and circumstances, and the probable cause of the subject accident.

- Date 11-25-87
1. Place of accident Hammock - Old Air Date 11-24-87 Hour 2:45 PM
2. Type of vehicle Air craft
3. Identification of vehicle Cessna
4. What is your name William C. Jeffery Age 59
5. Address 9 Debra La Ft. Fla.
6. Occupation _____ By whom employed _____
7. Where were you at the time of the accident Debra Lane 1 blk from crash
8. Tell in your own words what you saw or heard before and at the time the accident occurred.

Heard plane with motor running 2-5 sec. before accident. Plane then crashed w/ loud bang. no other noise

When plane approached house it sounded like a large helicopter

William C. Jeffery
(Signature)

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STATEMENT OF WITNESS

The purpose of this statement is intended solely for use in determining the facts, conditions and circumstances, and the probable cause of the subject accident.

- Date 11/25/87
1. Place of accident OFF OLD AIA Date 11/24/87 Hour 2:00-3:00?
2. Type of vehicle Cessna plane?
3. Identification of vehicle _____
4. What is your name Tett Michael Age 31
5. Address 13 Delra Dr Palm Coast FL 904-445-1058
6. Occupation Sales Rep. By whom employed INSTINCT Sportsman
7. Where were you at the time of the accident Just around the corner.
8. Tell in your own words what you saw or heard before and at the time the accident occurred. (John Gamble)
 (Robert McGrady)
 In area when heard a plane go down. My two friends heard a back fire
 and I guess it did happen. First on the scene and looked for a about
 15 minutes when I found the body. Best thing I can say is I
 think he was looking for a Landing before hitting the house.

Jeffrey Michael
 (Signature)

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35-

NATIONAL TRANSPORTATION SAFETY BOARD

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STATEMENT OF WITNESS

The purpose of this statement is intended solely for use in determining the facts, conditions and circumstances, and the probable cause of the subject accident.

Date 11/25/871. Place of accident OLD A1A Date 11/24/87 Hour 2:30 to 3:002. Type of vehicle single engine plane3. Identification of vehicle Cessna4. What is your name John T. Gamble Age 315. Address 13 Debra Drive Hancock6. Occupation Carpenter By whom employed Paul St Peter7. Where were you at the time of the accident In my truck in the side yard

8. Tell in your own words what you saw or heard before and at the time the accident occurred.

I was standing in the back of my truck, when I heard a sputtering sound & then a loud back fire, or explosion. I listened for a crashing sound or another explosion but I never heard another sound. I left my house for Flagler Bch, with Bill Jeffery's behind me. I drove right by the ~~scene~~ scene, but couldn't see anything cause of the brush. Looking in my rear view mirror I watched all & everything seemed okay so I continued on.

John T. Gamble
(Signature)

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STATEMENT OF WITNESS

The purpose of this statement is intended solely for use in determining the facts, conditions and circumstances, and the probable cause of the subject accident.

Date 11-24-871. Place of accident OLD A1A Date _____ Hour 2:30

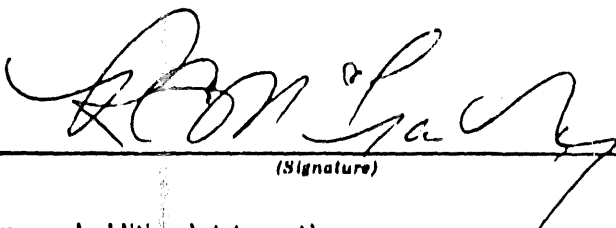
2. Type of vehicle _____

3. Identification of vehicle _____

4. What is your name ROBERT MCGRADY Age 285. Address 10715 ODYSSEY CT. HOUSTON, TX 770996. Occupation CONTRACTOR By whom employed SELF7. Where were you at the time of the accident 13 DEBRA DR. PALM COAST

8. Tell in your own words what you saw or heard before and at the time the accident occurred.

HEARD
AIRPLANE FLYING AT LOW LEVEL
LOUD CRASH


(Signature)

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STATEMENT OF WITNESS

The purpose of this statement is intended solely for use in determining the facts, conditions and circumstances, and the probable cause of the subject accident.

Date 11-24-871. Place of accident PALM COAST Date 11-24-87 Hour 1445

2. Type of vehicle _____

3. Identification of vehicle _____

4. What is your name JAMES B. SMITH Age 185. Address P.O. Box 833 FLAGLER BEACH FL6. Occupation PARK ATTENDANT By whom employed STATE OF FL DEPT NATURAL RESOURCES7. Where were you at the time of the accident IN THE PARK

8. Tell in your own words what you saw or heard before and at the time the accident occurred.

WORKING IN THE FIELD, SAW A/L COMING OVER IN NORTHERLY DIRECTION ENGINE WAS RUNNING ABOUT 10 SECONDS LATER HEARD A THUD.

James B. Smith
(Signature)

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(FOLD AND STAPLE BEFORE MAILING)

Weather Observation for Daytona Beach Airport
and ERAU North Practice Area
November 23, 1987

During the time period 12:30 to 15:15 local time I was engaged in a local training flight in an ERAU Crusader. At 12:30 the Daytona Beach (DAB) airport was experiencing light rain showers but was still VFR as I taxied out for takeoff. These rain showers appeared to be moving from the east-southeast to the west-northwest and seemed to be clearing along the coastline from the southeast through northwest.

I departed the DAB airport and proceeded to the northwest along the Halifax river at 2,000 feet. At this time I could see rain showers about five miles west of the Ormond Beach (OMN) airport, extending to the south and moving northwest. Conditions improved as I continued toward the practice area. Ten miles from DAB and clear of the ARSA I climbed to 3,500 feet and proceeded to an area north of the Flagler County airport. My flight remained in an area bounded by Interstate 95 to the west, north to the limit of the practice area, east to about four miles offshore, and south to the Flagler Airport. During this time the visibility was greater than 10 miles and the entire north practice area was VFR. I observed lower clouds in the western part of the practice area with bases at approximately 3,500 feet and good visibility below.

At 13:50 local time I entered the pattern at Flagler County airport and made one landing. There was light turbulence and I experienced a five knot loss of airspeed between 300 and 100 feet on the final approach. I was on the ground and shut down at 14:00. Sometime between 14:00 and 14:20 I observed only one ERAU Cessna 172. It was taxiing out to runway 11 for takeoff. I do not remember the number of the aircraft or how many people were on board but the aircraft but it did have one distinctive feature. The right side tire was had white paint on the inboard side but the left side tire did not have paint on the outboard side. If this was the aircraft in question, it was on the ground between 14:00 and 14:20 local time.

I departed Flagler airport at approximately 14:30 and proceeded back to the same area as described above to continue training with my second student. The weather at this time was the same as stated above. On my return to DAB the ATIS indicated that DAB was VFR. I called DAB approach control approximately 15 miles out and was told that the ATIS had just changed and the airport was now IFR. I had to do an ILS approach into DAB, but was in good VFR conditions until just west of Ormond at approximately 15:00 local time. I ramped in with Flight Data at approximately 15:15 local time.

If you need any further information please contact me.

James E. Chumley II



EMBRY-RIDDLE
AERONAUTICAL UNIVERSITY

MEMORANDUM

TO: A.C. Tacker

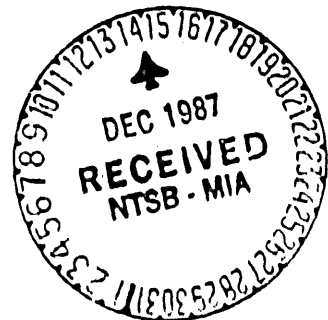
December 9, 1987

FROM: Jack Haun Supervisor of Maintenance

SUBJECT: A/C N246ER Tire Change

N246ER was one of four aircraft used by the Embry-Riddle Flight team for intercollegiate flight competition. The competition was held at Auburn University, Auburn Alabama, the 12 - 14 November 1987. Any time an aircraft is used for competition the tires are striped with white shoe polish on the inside and outside of each tire. So all four of these aircraft had striped tires upon return to ERAU. Aircraft N246ER was even more unique in that we had replaced the left main tire on November 22, 1987. This would have given it one striped and one plain main gear tire thus making it very easy to identify this aircraft from the remainder of the fleet.

Jack Haun



STATEMENT CONCERNING N246ER

N246ER was dispatched to me for my scheduled dual training flights on the morning of 11/24/87. The first flight was scheduled to depart at 06:30. Prior to departure the preflight showed nothing abnormal. The engine oil was clean and within limits along with full or near full fuel in the tanks. Due to the "twilight" conditions at the time, the fuel was not checked visually, however a quick check with my index finger assured that the fuel level was within two inches from the top (both tanks). The engine runup proceeded normally with all areas concerned indicating within limits. The training flight was a FA 104 unit 18 review flight. All maneuvers covered are outlined within the training curriculum. A standard River South departure was flown with the exception of an early turn southwest to the south practice area. After the airwork was completed we proceeded to Deland to review traffic pattern operations. Considering this was the students weak area some additional time was spent accordingly. A total of four takeoff and landings were performed before our return to Daytona. The clock time of the flight was recorded as 1.7 hours, arriving back at Daytona just before 08:30. The aircraft performed normally at all times during the flight. I did notice the right fuel tank quantity dropped below half (two needle widths) towards the end of the flight. Uneven fuel flow during training flights is not uncommon. Yet, since the right tank indicated below half the aircraft was returned to the refueling row. I mentioned the fuel gauge indication to Jack

Haun, Chief of Maintenance. We agreed the fuel flow may be more than normal, yet normal fuel flow during uncoordinated training flight is difficult to define. I also mentioned that the nose wheel was beginning to shimmy occasionally. The items were noted.

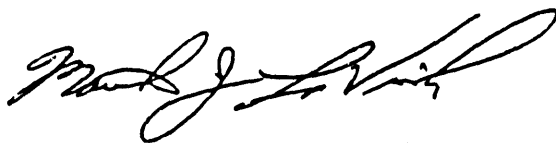
The next flight departed shortly after 09:00. Prior to departure the aircraft preflight found nothing abnormal. Again, the fuel was visually checked as full (gauges indicating the same) with the oil level within limits and clean. The engine runup was uneventful and all areas of concern were acceptable. The scheduled flight was a FA 104 unit X18 dual. This time another standard River South departure was flown to New Smyrna Beach airport. The areas of concentration during the flight were traffic pattern operations, crosswind landings, simulated forced landings and power-off stalls. After three landings at New Smyrna we proceeded just west of N.S.B. for some power-off stall practice, followed by a simulated forced landing. I believe there were five power-off stalls performed. Upon completion of these maneuvers we flew a standard arrival from the south back to Daytona Beach Airport. Total flight duration was clocked at 1.4 hours putting us back at Daytona just before 10:30. Incidentally this flight did have an observer on board. While taxiing back to the ramp the fuel gauges read well above half and therefore was not parked in the fuel row. At no time during this flight N246ER had any indication of functioning other than normal. Since no aircraft discrepancies were noted and my next student was assigned that aircraft, I elected to leave the discrepancy board in the aircraft filling it out later for both flights.

The third flight departed shortly after 11:00. Again, prior

to departure the preflight was acceptable. The engine oil was within limits and the fuel quantity checked appropriate to the fuel gauge indications. The training flight happened to be another FA 104 unit X18 with areas of concentration as the previous flight with an additional high altitude simulated forced landing. The route this flight took was also identical to the previous flight. Total flight duration was clocked as 1.3 hours arriving back at Daytona just before 12:30. While taxiing back to the ramp the fuel gauges indicated about a needle width above half and therefore was not parked in the fuel row. I did notice that the fuel indicators were close to identical unlike after the first flight of the day. I meant to relay this information to Jack Haun however, he was not available before my next departure. As previous, N246ER performed flawlessly during its third flight.

From an experienced pilots point of view, the concerned aircraft (N246ER) performed normally at all times. There were no indications, visual, audible, or of any nature, of an impending failure of any kind.

If I can be of any further assistance in this matter, please do not hesitate to call.



11/24/87

Matthew J. La Viola
Instructor Pilot
Embry-Riddle Aeronautical University

VOLUNTARY STATEMENT
(NOT UNDER ARREST)

Deborah Hill

am not under arrest for, nor am I being detained for any crim

offenses concerning the events I am about to make known to Sgt. Prater
Without being accused of or questioned about any criminal offenses regarding the facts I am about to state, I volunteer the fo
llowing information of my own free will, for whatever purposes it may serve.

I am 35 years of age, and I live at 6500 Old A1A, at approximately

2:30 pm I was talking on the telephone in my kitchen
downstairs when I heard a loud crash and debris started
to fall from the ceiling, the wall started to crack. I
hung up the phone ran out the back door because
the front door was blocked & debris. Outside I saw
an airplane in my back yard in many pieces. The
wheel was sticking out of my roof. There was a very
strong smell of fuel fumes. I immediately yelled
for someone to see if anyone was alive. No one
answered or was in the ground close by so I
went to my neighbors & call 911 for rescue.

I have read each page of this statement consisting of 1 page(s), each page of which bears my signature, and corrections,
any, bear my initials, and I certify that the facts contained herein are true and correct.

Dated at _____, this 24 day of November 19 81

WITNESS: _____

WITNESS: _____

Deborah Hill
Signature of person giving voluntary statement.

Marge McDowell:

A plane which I thought to be blue and white heading in a northeasterly direction coming in off the intercoastal waterway right above the tree line here at the center at Washington Oaks State Gardens. At that time the only thing I noticed was it was very low and the engine was very loud. I had some concern. It was being right over my head that the noise scared me. At that time there was no indication of any apparent trouble because I wouldn't know if there was trouble or not. I'm not that familiar with airplanes, but it was low. That's all I can say. I don't know the wind factor that day. It has been gusting off the intercoastal pretty badly, but it was a nice sunny day that particular day, so..

Tacker:

How far is it from this position north

Marge:

I would have to measure but it would probably be between one and two miles between our northern boundary and our northern boundary is right there at the where the crash site was.

Tacker:

the northern boundary to be between one and two miles?

Marge:

Right. Approximately, that's what I would say. And we, after the crash, went down to our north boundary to secure and make sure that nothing had been hit down there and noticed that he would have had to have taken a very big dip in elevation because the tree line right there was higher and there were power lines all around and the house itself sat in lower than the tree line so he would have had to have dropped in elevation at that point for some reason.

Tacker:

Well, I really appreciate your information on it.

Marge:

Sorry, I can't you know. Sorry I don't know anymore and I'm sorry for the

O.K. this is A.C. Tacker and I have just interviewed Marge McDowell and we at the Interpreter Center.

Tacker:

I understand you were in this clearing which is north of the entrance to the park where you come in from the main entrance.

James:

Right. I was actually west of us standing north of the main entrance.

Tacker:

What made you first see the airplane?

James:

I just happened to be, you know, looking when I heard it go by so I just looked at it.

Tacker:

Always a sight.

James:

Right.

Tacker:

When you looked up, was it a high wing or low wing airplane you

James:

I couldn't recall. However, it was blue and white. I seen that much. And it was

Tacker: In the treetops there is a measuring device. How high would you say , in other words reference to the trees, twice as high as the trees, three times, or what?

James: It looked about 40 to 60 foot above the trees.

Tacker: About 40 to 60 feet above the trees?

James: Right.

Tacker: And after it passed over, which direction was it going?

James: It was going north-northeasterly.

Tacker: North-northeasterly. And after it passed over, approximately how long a laps do you think maybe before you heard the

James: About 10 seconds.

Tacker: And what did the sound sound like?

James:

Tacker: What would you say the weather conditions were at that time?

James: It was shining. The winds weren't blowing very hard at all, if any.

Tacker: O.k. where you were at. In other words, were you at the grass surrounded by trees?

James: Right.

Tacker: Would that area kind of block the wind that was blowing up the intercoastal waterway?

James: Possibly, yes sir.

Tacker: Alrighty, anything else that you heard or saw? Did you see the airplane more than once?

James: Oh, I saw the airplane after the accident.

Tacker: O.K. Did you see the airplane, in other words, what I mean did it make more than one flight over the park before the accident?

James: Not that I could see.

Tacker: Well, I appreciate it. Would you state your full name and where you live James?

James: James Bruce Smith
91 Hernandez

Tacker: O.K. appreciate it very much.

NATIONAL TRANSPORTATION SAFETY BOARD
RELEASE OF AIRCRAFT WRECKAGE

ACCIDENT IDENTIFICATION
NUMBER

MIA 88 FAD 44

PART I—RELEASE OF AIRCRAFT WRECKAGE

REGISTERED OWNER (name and address)

EMBRY RIDDLE AERONAUTICAL UNIVERSITY
REGIONAL AIRPORT
DAYTONA BEACH FL

REGISTRATION NUMBER—N

246ER

MAKE

CESSNA

MODEL

172N

DATE OF ACCIDENT

11-24-87

LOCATION

PALM BEACH FL

The National Transportation Safety Board has ☒ has not ☐ completed its investigation of the aircraft wreckage described above. All wreckage except that listed on the reverse side is hereby released to the registered owner, or owner's representative, for appropriate disposition. (If no parts are retained, insert NONE.)

SIGNATURE OF NTSB REPRESENTATIVE

Bruce J. Hill

TITLE

ASST

DATE

11-25-87

(This section may be signed by a person, not the owner or owner's representative, who has knowledge of the disposition of the aircraft wreckage and its parts. Such signature does not place a responsibility for disposition of the wreckage upon that person.)

I HEREBY ACKNOWLEDGE:

☒ Receipt of the above described aircraft wreckage.

☐ Receipt of the parts, if any, listed on the reverse side of this form.

SIGNATURE

ATL Clarke

TITLE

ERAM
Sgt. Major

DATE

11-25-87

REMARKS:

NATIONAL TRANSPORTATION SAFETY BOARD
RECEIPT OF AIRCRAFT PARTS

ACCIDENT IDENTIFICATION
NUMBER

MIA88FA044

PART II—RELEASE OF AIRCRAFT PARTS

REGISTRATION NUMBER

N246ER

MAKE

CESNA

MODEL

1720

DATE OF ACCIDENT

11-24-87

LOCATION

PALM COAST FL

The National Transportation Safety Board has retained, for further examination, those parts, pieces, or components listed below. When the examination is complete, they will be returned to:

OWNER OR OWNER'S REPRESENTATIVE— EMBRY RIDGE AERONAUTICAL UNIVERSITY

ADDRESS REGIONAL AIRPORT
DAYTONA BEACH FL

PARTS, PIECES, OR COMPONENTS RETAINED:

LYCOMING ENGINE

MCCAWLEY PROPELLER

SIGNATURE OF NTSB REPRESENTATIVE

Bruce Hill

TITLE

ASI

DATE

11-25-87

The registered owner or owner's representative will acknowledge receipt of the materials by signing this form in the spaces designated below.

SIGNATURE OF OWNER OR OWNER'S REPRESENTATIVE

ADDRESS

Q C Kacker

TITLE

Safety Engineer

DATE

12-01-87

STATEMENT OF PARTY REPRESENTATIVES
TO NTSB INVESTIGATION

Aircraft Identification:

Registration Number _____

Make and Model _____

Location _____

Date _____

The undersigned hereby acknowledge that they are participating in the above-referenced aircraft accident field investigation (including any component tests and teardowns or simulator testing) on behalf of the party indicated adjacent to their name, for the purpose of providing technical assistance to the National Transportation Safety Board.

The undersigned further acknowledge that they have read the attached copy of 49 CFR Part 831 and have familiarized themselves with 49 CFR §831.9, which governs participation in NTSB investigations and agree to abide by the provisions of this regulation.

It is understood that a party representative to an investigation may not be a person who also represents claimants or insurers. The placement of a signature hereon constitutes a representation that participation in this investigation is not on behalf of either claimants or insurers and that, while any information obtained may ultimately be used in litigation, participation is not for the purposes of preparing for litigation.

By placing their signatures hereon all participants agree that they will neither assert nor permit to be asserted on their behalf, any privilege in litigation, with respect to information or documents obtained during the course of and as a result of participation in the NTSB investigation as described above. It is understood, however, that this form is not intended to prevent the undersigned from participating in litigation arising out of the accident referred to above or to require disclosure of the undersigned's communications with counsel.

SIGNATURE

NAME (Printed)

PARTY

DATE

<u><i>James R. Stables</i></u>	<u>James R. Stables</u>	<u>Textron Lycoming</u>	<u>12/1/87</u>
<u><i>Gary Chertum</i></u>	<u>GARY CHERTUM</u>	<u>Cessna Aircraft</u>	<u>12/1/87</u>

Continued on reverse

SIGNATURE

NAME (Printed)

PARTY

DATE

Title 49 - Transportation

CHAPTER VIII-NATIONAL TRANSPORTATION SAFETY BOARD

Effective: June 14, 1979

NATIONAL TRANSPORTATION SAFETY BOARD

PART 831-AIRCRAFT ACCIDENT/ INCIDENT INVESTIGATION PROCEDURES

Sec.

- 831.1 Applicability of part.
- 831.2 Responsibility of Board.
- 831.3 Authority of Director.
- 831.4 Nature of investigation.
- 831.5 Request to withhold information.
- 831.6 Right of representation.
- 831.7 Investigator-in-charge.
- 831.8 Authority of Board representatives.
- 831.9 Parties to the field investigation.
- 831.10 Access to and release of aircraft wreckage, records, mail, and cargo.
- 831.11 Flow and dissemination of accident information.
- 831.12 Recommendations.

Authority: Title VII, Federal Aviation Act of 1978, as amended, 72 Stat. 781, as amended by 76 Stat. 921 (49 U.S.C. 1441 et seq); and the Independent Safety Board Act of 1974, Pub. L. 93-633, 88 Stat. 2166 et seq. (49 U.S.C. 1901 et seq.).

§ 831.1 Applicability of part.

Unless otherwise specifically ordered by the National Transportation Safety Board (Board), the provisions of this part shall govern all aircraft accident or incident investigations, conducted under the authority of Title VII of the Federal Aviation Act of 1958, as amended, and the Independent Safety Board Act of 1974. Rules applicable to aircraft accident hearings and reports are set forth in Part 845.

§ 831.2 Responsibility of Board.

(a) The Board is responsible for the organization, conduct and control of all accident investigations involving civil aircraft, or civil and military aircraft, within the United States, its territories and possessions. It is also responsible for investigation of accidents which occur outside the United States, and which involve U.S. civil aircraft or civil and military aircraft, at locations determined to be not in the territory of another state (i.e., in international waters).

(b) Certain field investigations are conducted by the Federal Aviation Administration (FAA), pursuant to a

request to the Secretary of the Department of Transportation, effective February 10, 1977 (see appendix to Part 800 of this chapter),¹ but the Board determines the probable cause of such accidents. Under no circumstances shall investigations conducted by the Board be considered joint investigations in the sense of sharing responsibility. However, in the case of an accident or incident involving civil aircraft of U.S. registry or manufacture in a foreign state which is a signator to Annex 13 to the Chicago Convention of the International Civil Aviation Organization, the state of occurrence is responsible for the investigation. If it occurs in a foreign state which is not bound by the provisions of Annex 13 to the Chicago Convention, the conduct of the investigation shall be in consonance with any agreement entered into between the United States and the foreign state.

§ 831.3 Authority of Director.

The Director, Bureau of Accident Investigation, subject to the provisions of § 831.2, may order an investigation into any accident or incident involving a civil aircraft.

§ 831.4 Nature of investigation.

Aircraft accident or incident investigations are conducted by the Board in order to determine the facts, conditions, and circumstances relating to each accident or incident and the probable cause thereof and to ascertain measures which will best tend to prevent similar accidents or incidents in the future. The investigation includes the field investigation, report preparation, and, where ordered, the public hearing.

§ 831.5 Request to withhold information.

Any person may make written objection to the public disclosure of information contained in any report or document filed, or of information obtained by the Board, stating the grounds for such objection. The Board,

¹The authority of a representative of the Federal Aviation Administration during such field investigations shall be the same as that of a Board investigator under this part.

on its own initiative or if such objection is made, may order such information withheld from public disclosure when, in its judgment, the information can be withheld under the provisions of an exemption to the Freedom of Information Act (Pub. L. 93-502, amending 5 U.S.C. 552) and its release is not found to be in the public interest (see Part 801).

§ 831.6 Right of representation.

Any person interrogated by an authorized representative of the Board during the field investigation shall be accorded the right to be accompanied, represented, or advised by counsel or by any other duly qualified representative.

§ 831.7 Investigator-in-charge.

The designated investigator-in-charge organizes, conducts, and controls the field phase of investigation. He shall assume responsibility for the supervision and coordination of all resources and of the activities of all personnel, both Board and non-Board, involved in the onsite investigation.

§ 831.8 Authority of Board representatives.

Upon demand of an authorized representative of the Board and presentation of credentials issued to such representative, any Government agency, air carrier, airman, or person engaged in air commerce or in any phase of aeronautics, and any other person having possession or control of any aircraft, aircraft engine, propeller, appliance, air navigation facility, equipment or any pertinent records and memoranda, including all documents, papers, and correspondence now or hereafter existing and kept or required to be kept, shall forthwith permit inspection, photographing, or copying thereof by such authorized representative for the purpose of investigating an aircraft accident, overdue aircraft, study, or investigation pertaining to safety in air navigation or the prevention of accidents. Authorized representatives of the Board may interrogate any person having knowledge relevant to an aircraft accident/incident, overdue aircraft, study, or special investigation.

§ 831.9 Parties to the field investigation.

(a) The investigator-in-charge may, on behalf of the Director, Bureau of Accident Investigation, or the Director, Bureau of Field Operations, designate

parties to participate in the field investigation. Parties to the field investigation shall be limited to those persons, government agencies, companies, and associations whose employees, functions, activities, or products were involved in the accident or incident and who can provide suitable qualified technical personnel to actively assist in the field investigation.

(b) Participants in the field investigation shall be responsive to the direction of the appropriate Board representative and may be relieved from participation if they do not comply with their assigned duties or if they conduct themselves in a manner prejudicial to the investigation.

(c) No party to the field investigation designated under § 831.9(a) shall be represented by any person who also represents claimants or insurers. Failure to comply with this provision shall result in loss of status as a party.

(d) Section 701(g) of the Federal Aviation Act of 1958, as amended, provides for the appropriate participation of the Administrator in Board investigations. Thus, the FAA will normally be a party to field investigations and will have the same rights and privileges and be subject to the same limitations as other parties.

§ 831.10 Access to and release of aircraft wreckage, records, mail, and cargo.

(a) Only the Board's accident investigation personnel and persons authorized by the investigator-in-charge, the Director, Bureau of Accident Investigation, or the Director, Bureau of Field Operations to participate in any particular investigation, examination or testing shall be permitted access to aircraft wreckage, records, mail, or cargo which is in the Board's custody.

(b) Aircraft wreckage, records, mail, and cargo in the Board's custody shall be released by an authorized

representative of the Board when it is determined that the Board has no further need of such wreckage, mail, cargo, or records.

§ 831.11 Flow and dissemination of accident information.

(a) Release of information during the field investigation, particularly at the accident scene, shall be limited to factual developments, and shall be made only through the Board Member present at the accident scene, the representative of the Board's Office of Public Affairs, or the investigator-in-charge.

(b) All information concerning the accident or incident obtained by any personnel participating in the field investigation shall be passed to the investigator-in-charge, through appropriate channels. Upon approval of the investigator-in-charge, parties to the investigation may relay to their respective organization information which is necessary for purposes of prevention or remedial action. Under no circumstances shall accident information be released to, or discussed with, unauthorized persons whose knowledge thereof might adversely affect the investigation.

§ 831.12 Proposed findings.

Any person, Government agency, company, or association whose employees, functions, activities, or products were involved in an accident under investigation may submit to the Board, prior to its determination of probable cause, proposed findings to be drawn from the evidence produced during the course of the accident investigation, a proposed probable cause, and proposed safety recommendations designed to prevent future accidents.

Approved by the National Transportation Safety Board on June 3, 1979.

James B. King,
Chairman.

[FR Doc. 79-10877 Filed 6-13-79; 9:45 am]

ORIGINAL

ACCOUNT NAME

631
FEDERAL AVIATION ADMINISTRATION
MI-AAH-114
J.D.'S MAC ARTHUR BLVD
OKLAHOMA CITY, OK 73169

PHYSICIAN'S NAME

HARRIS MEDICAL LABORATORY

1401 Pennsylvania Avenue
P.O. Box 2981 / Fort Worth, Texas 76113
817/878-3600
Dallas/Fort Worth (Metro) 654-2460

JAN 14 1988
DAY REPORTED PAGE

01-07-88

1

DATE RECEIVED REQUESTION NO.

12-04-87

6831125

★ FINAL REPORT ★

COMPREHENSIVE DRUG SCREEN, CARBON MONO.

PATIENT'S NAME

AGE

SEX

DATE & TIME DRAWN

PATIENT I.D. NO.

GUAGGIACO, MICHAEL, 6573
6574

O

Y

?

?

6573 6574

-----TEST NAME-----WITHIN RANGE-OUTSIDE RANGE-----NORMAL RANGE-----

COMPREHENSIVE DRUG SCREEN

++ UPDATED RESULT REPORT ++

SERUM, URINE DRUG SCREEN

ALCOHOLS:

ETHANOL

NON-DETECTED

ISOPROPANOL

NON-DETECTED

METHANOL

NON-DETECTED

ANALGESICS:

ACETAMINOPHEN

NON-DETECTED

CODEINE

NON-DETECTED

MEPERIDINE

NON-DETECTED

METHADONE

NON-DETECTED

MORPHINE

NON-DETECTED

OXYCODONE

NON-DETECTED

PENTAZOCINE

NON-DETECTED

PHENYL BUTAZONE

NON-DETECTED

PROPOXYPHENE

NON-DETECTED

SALICYLATE

NON-DETECTED

ANTIDEPRESSANTS:

AMITRIPTYLINE

NON-DETECTED

DESIPRAMINE

NON-DETECTED

DOXEPIN

NON-DETECTED

IMIPRAMINE

NON-DETECTED

NORTRIPTYLINE

NON-DETECTED

ANTI-EPILEPTICS:

CARBAMAZEPINE

NON-DETECTED

DIMETHADIONE

NON-DETECTED

ETHOSUXIMIDE

NON-DETECTED

PHENYTOIN

NON-DETECTED

PRIMIDONE

NON-DETECTED

ETHOTOIN

NON-DETECTED

ANTIHISTAMINES:

BROMPHENIRAMINE

NON-DETECTED

CHLORPHENIRAMINE

NON-DETECTED

DIPHENHYDRAMINE

NON-DETECTED

SEDATIVES, BARBITURATES

AMC BARBITAL

NON-DETECTED

BARBITAL

NON-DETECTED

BUTALBITAL

NON-DETECTED

PENTOBARBITAL

NON-DETECTED

PHENOBARBITAL

NON-DETECTED

SECOBARBITAL

NON-DETECTED

TALBUTAL

NON-DETECTED

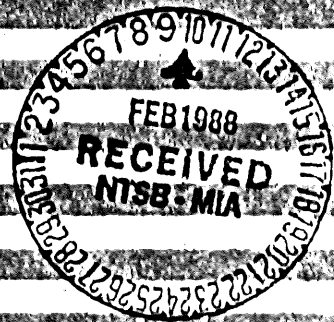
SEDATIVES, NON-BARBITURATES

CARISOPRODOL

NON-DETECTED

ETHCHLORVYNOL

NON-DETECTED



ACCOUNT NAME

0631
FEDERAL AVIATION ADMINISTRATION
AMI-AAH-114
500 S MAC ARTHUR BLVD
OKLAHOMA CITY, OK 73169

PHYSICIAN'S NAME

ORIGINAL

HARRIS
MEDICAL
LABORATORY

1401 Pennsylvania Avenue
P.O. Box 2981 / Fort Worth, Texas 76113
817/878-5000
Dallas/Fort Worth (Metro) 654-2460

DATE REPORTED	PAGE
01-07-88	2

DATE RECEIVED	REQUISITION NO.
12-04-87	6831125

★ FINAL REPORT ★

COMPREHENSIVE DRUG SCREEN, CARBON MONO.

PATIENT'S NAME	AGE	SEX	DATE & TIME DRAWN	PATIENT I.D. NO.
NGUAGGIACO, MICHAEL, 6573 6574	0 Y		?	6573 6574

-----TEST NAME-----WITHIN RANGE-OUTSIDE RANGE-----NORMAL RANGE-----

GLUTETHIMIDE	NON-DETECTED	
METHAQUALONE	NON-DETECTED	
TRANQUILIZERS:		
CHLORDIAZEPOXIDE	NON-DETECTED	
DESMETHYLDIAZEPAM	NON-DETECTED	
DIAZEPAM	NON-DETECTED	
FLURAZEPAM	NON-DETECTED	
MEPROBAMATE	NON-DETECTED	
PHENOTHIAZINES	NON-DETECTED	
MISCELLANEOUS:		
AMPHETAMINE	NON-DETECTED	
CAFFEINE	NON-DETECTED	
COCAINE	NON-DETECTED	
MARIJUANA METABOLITES	NON-DETECTED	
METHAMPHETAMINE	NON-DETECTED	
PHENCYCLIDINE (PCP)	NON-DETECTED	
PHENYLPROPANOLAMINE	NON-DETECTED	
PSEUDOEPHEDRINE	NON-DETECTED	
COMMENT:	NO DRUGS DETECTED.	

*****NOTES*****

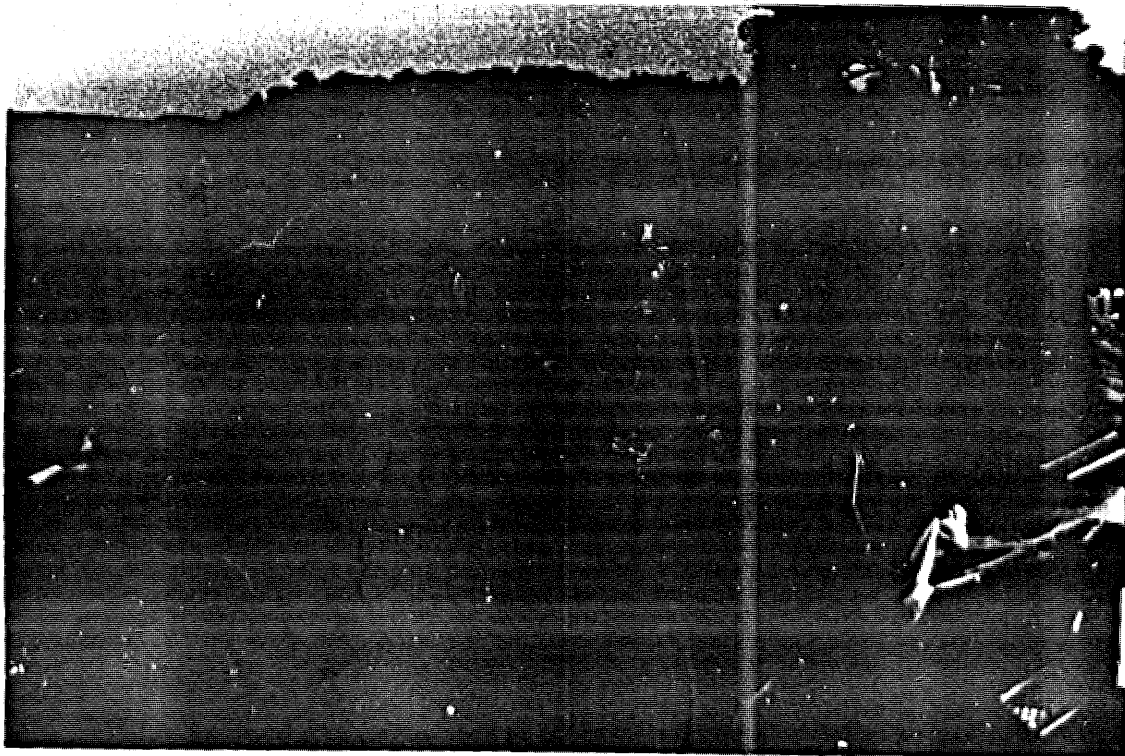
1. MARIJUANA METABOLITES REPORTED ON BASIS OF AN IMMUNOASSAY SCREEN UNLESS LABORATORY NOTIFIED BY CLIENT TO CONFIRM BY MASS SPECTROMETRY (TEST #64940); CONFIRMATION BY MASS SPECTROMETRY IS RECOMMENDED.

2. COMMENT SECTION OF THIS REPORT IS UTILIZED TO INDICATE THOSE DRUGS DETECTED ONLY AT TRACE CONCENTRATIONS OR AT POTENTIALLY TOXIC CONCENTRATIONS AND TO INDICATE THE PRESENCE OF DETECTED DRUGS WHICH ARE NOT SPECIFICALLY LISTED IN THE PROFILE REPORT. DETECTED DRUGS ARE PRESENT IN EACH SPECIMEN OF THIS PROFILE UNLESS INDICATED OTHERWISE IN THE COMMENTS. MORPHINE AND MARIJUANA METABOLITE TESTED IN URINE ONLY UNLESS NOTED OTHERWISE.

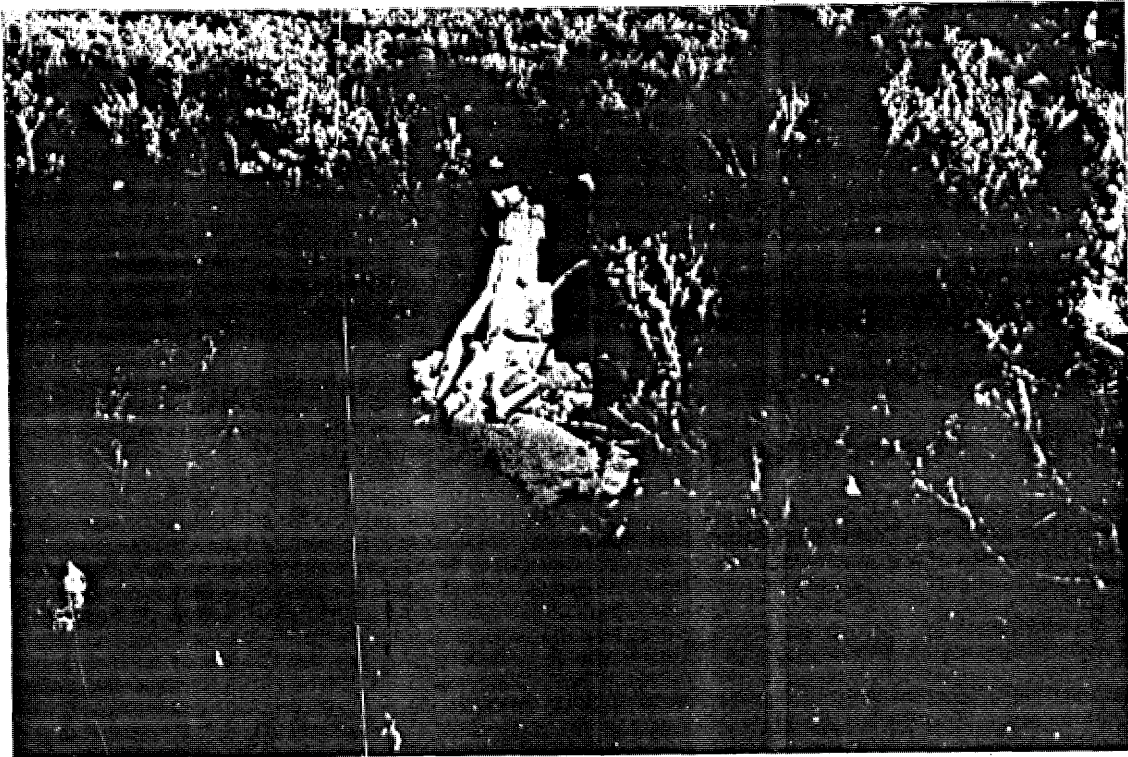
CARBON MONOXIDE, POST-HO CO SATUR., POSTMORTEM SPECIMEN:	UPDATED RESULT REPORT	
CARBON MONOXIDE, XHB-SAT	BLOOD	
HEMOGLOBIN	LT10.	NORMAL IS LESS THAN 10 X (L 11.5 - 17.2 GN/DL
COMMENTS:	LT10. IS LESS THAN 10X.	



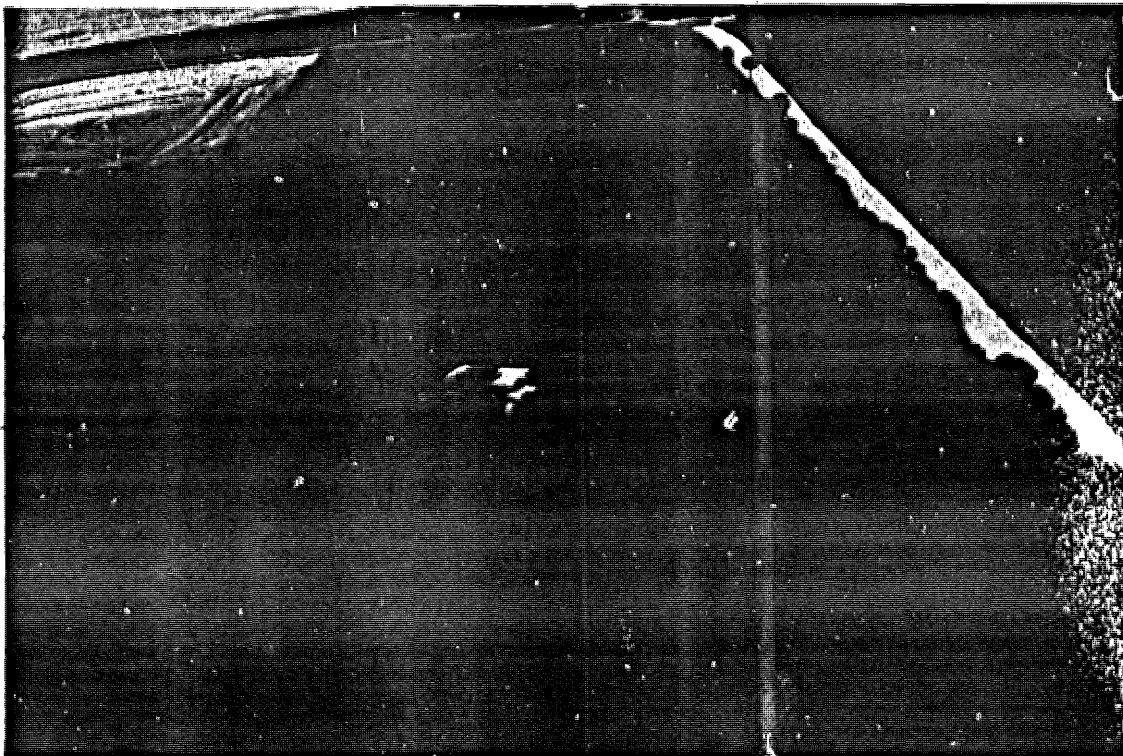
1. View from top of house looking south.



2. View from top of house looking north.
Note: wreckage in woods.



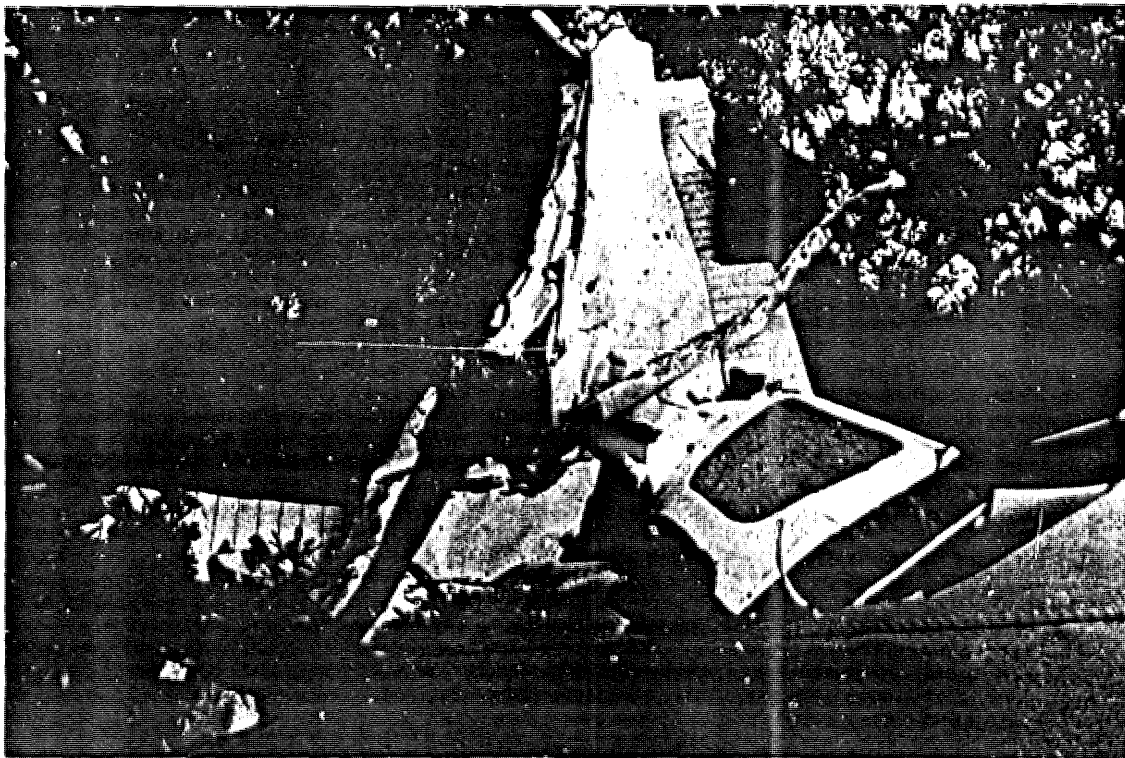
- 3. Photo of main wreckage taken from top of house looking north.



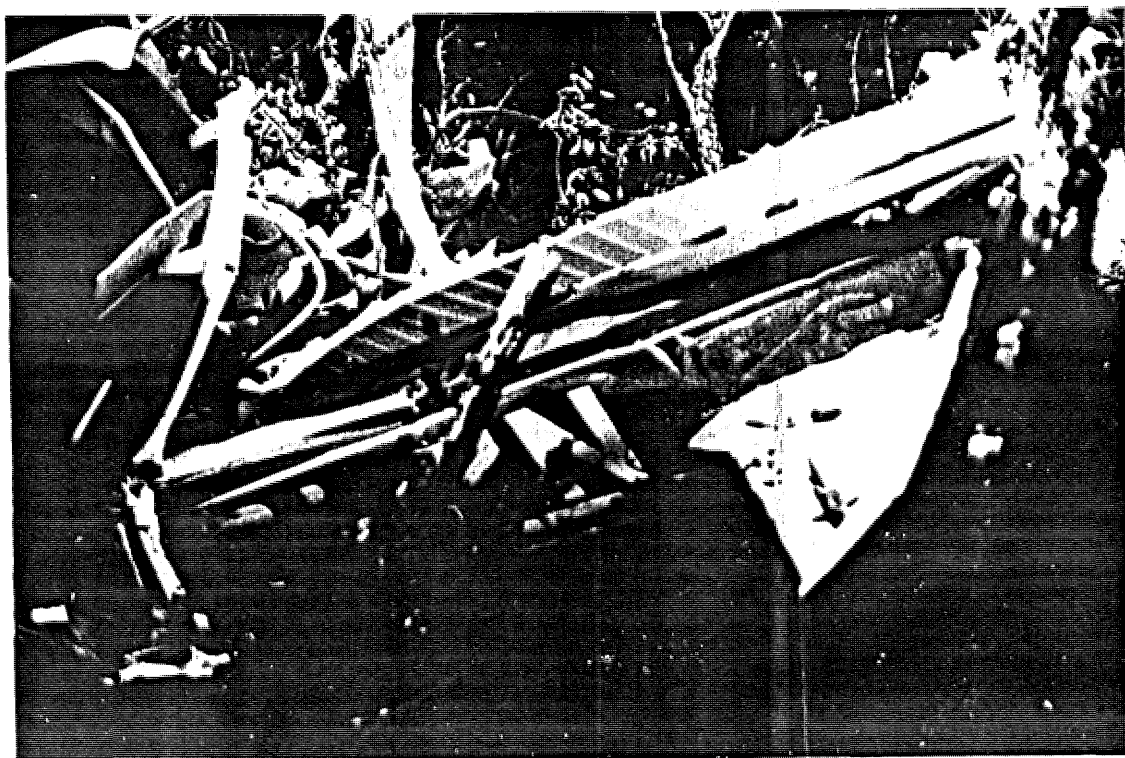
- 4. Aerial view of house looking east.
Note: blue tarp covering hole in roof.
(No negative available.)



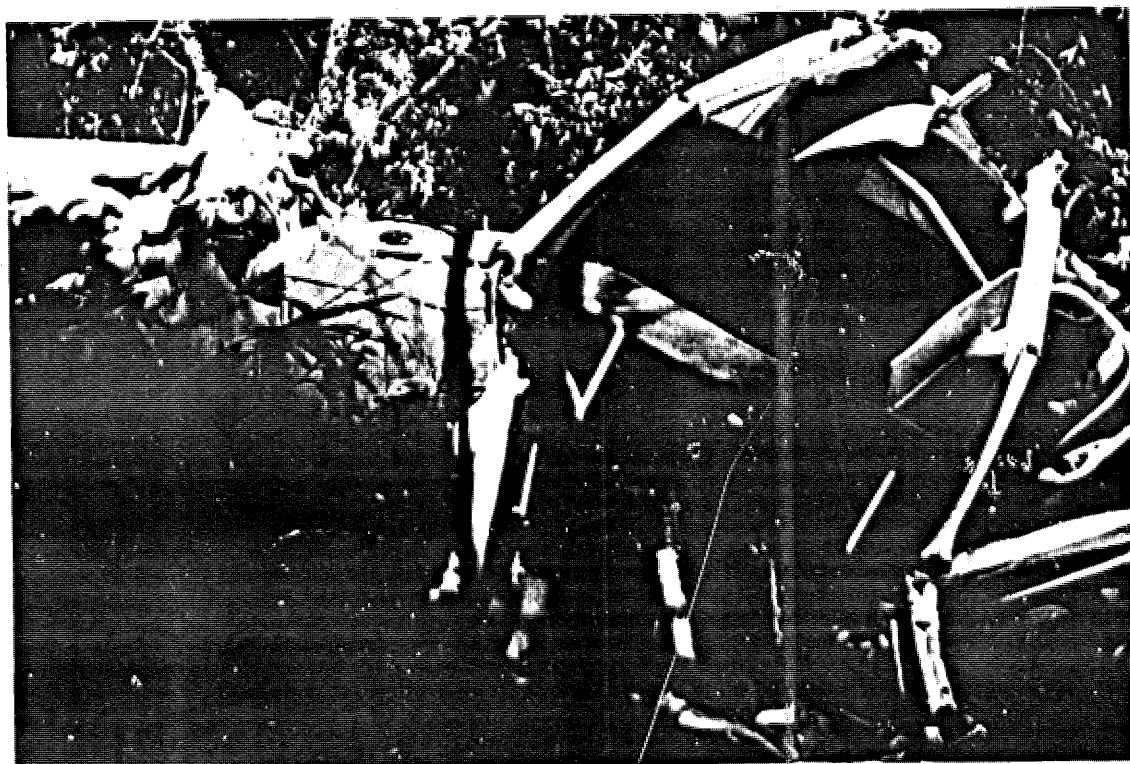
5. Main wreckage in woods looking north.



6. Main wreckage looking north.



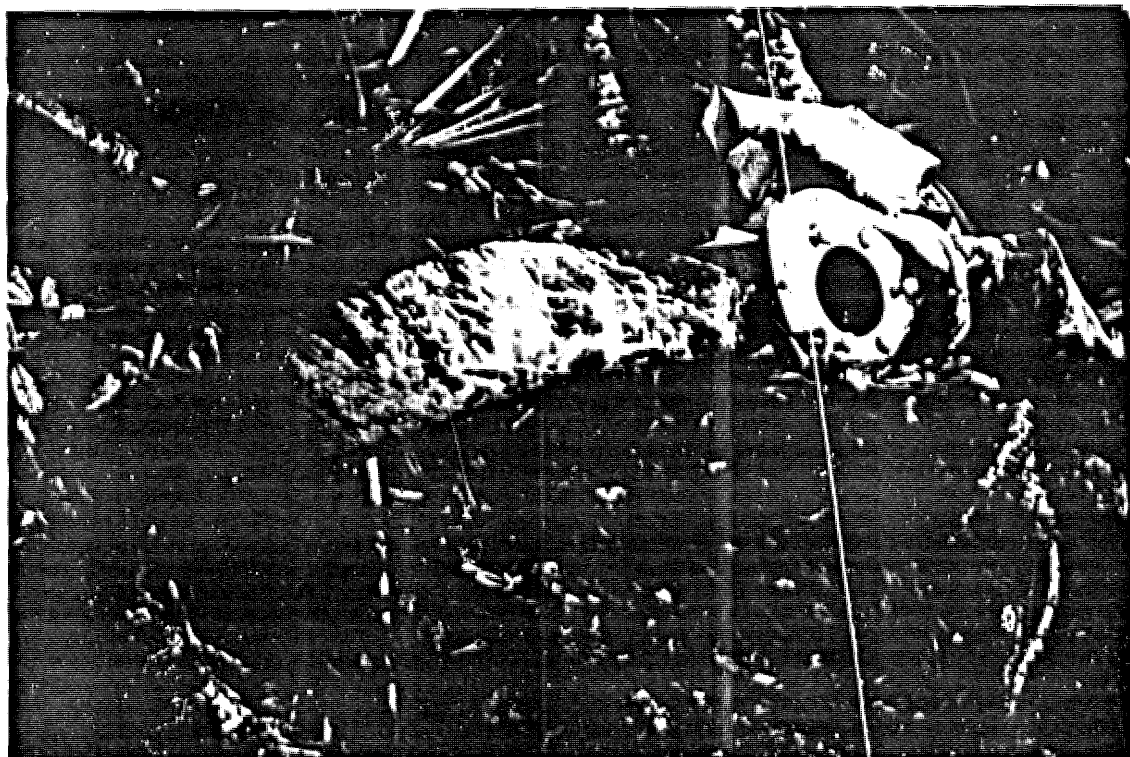
7. Empennage as it came to rest inverted under left wing.



8. Cabin area aft of firewall located with main wreckage.



9. Engine and instrument panel.



10. Propeller - Note: chordwise scratching.

National Transportation Safety Board
Washington, D.C. 20594

Brief of Accident

File No. - 2060 11/24/87 PALM COAST, FL A/C Reg. No. N246EP Time (Lcl) - 1445 EST

-----Basic Information-----

Type Operating Certificate-NONE (GENERAL AVIATION)

Type of Operation - INSTRUCTIONAL
Flight Conducted Under - 14 CFR 91
Accident Occurred During - DESCENT

Aircraft Damage
DESTROYED

Fire
NONE

	Injuries			
	Fatal	Serious	Minor	None
Crew	1	0	0	0
Pass	0	0	0	0

-----Aircraft Information-----

Make/Model - CESSNA 172N
Landing Gear - TRICYCLE-FIXED
Max Gross Wt - 2150
No. of Seats - 4

Eng Make/Model - LYCOMING O-320-D2J
Number Engines - 1
Engine Type - RECIPROCATING-CARBURETOR
Rated Power - 160 HP

ELT Installed/Activated - YES/YES
Stall Warning System - YES

-----Environment/Operations Information-----

Weather Data

Wx Briefing - NO RECORD OF BRIEFING
Method - N/A
Completeness - N/A
Basic Weather - VMC

Itinerary

Last Departure Point
DAYTONA BEACH, FL
Destination
LOCAL

Airport Proximity
OFF AIRPORT/STRIP

Airport Data

Runway Ident - N/A
Runway Lth/Wid - N/A
Runway Surface - N/A
Runway Status - N/A

Wind Dir/Speed- 110/015 KTS
Visibility - 7.0 SM
Lowest Sky/Clouds - 2000 FT SCATTERED
Lowest Ceiling - 3300 FT OVERCAST
Obstructions to Vision- NONE
Precipitation - RAIN
Condition of Light - DAYLIGHT

ATC/Airspace

Type of Flight Plan - NONE
Type of Clearance - NONE
Type Arch/Lnds - NONE

-----Personnel Information-----

Pilot-In-Command

Certificate(s)/Rating(s)
STUDENT

Age - 20
Biennial Flight Review
Current - N/A
Months Since - N/A
Aircraft Type - N/A

Medical Certificate - VALID MEDICAL-NO WAIVERS/LIMIT
Flight Time (Hours)

Total	44	Last 24 Hrs	1
Make/Model-	34	Last 30 Days-	4
Instrument-	UNK/NR	Last 90 Days-	13
Multi-Eng	UNK/NR	Rotorcraft	UNK/NR

Instrument Rating(s) - NONE

-----Narrative-----

THE STUDENT PLT WAS FLYING THE ACFT ON A SOLO INSTRUCTIONAL FLT IN THE NORTH PRACTICE AREA & WAS ASSIGNED TO PRACTICE LANDINGS, TAKEOFFS, STALLS & SLOW FLT. WITNESSES STATED THEY OBSERVED THE ACFT FLYING AT A VERY LOW ALTITUDE JUST BEFORE IT COLLIDED WITH A HOUSE & CAME TO REST IN THE WOODS BEHIND IT. THE ACFT WAS ALSO OBSERVED AT NEAR TREETOP HEIGHT, APRX 1 MI FROM THE ACFT SITE. WITNESSES DESCRIBED LOUD ENG SOUNDS AS THE ACFT FLEW OVER AN INTERCOASTAL WATERWAY BEFORE THE CRASH. A POST CRASH EXAM OF THE ACFT, ENG, & RELATED COMPONENTS REVEALED NO EVIDENCE OF FAILURE OR MALFUNCTION PRIOR TO IMPACT.

Brief of Accident (Continued)

File No. - 2060

11/24/87

PALM COAST, FL

A/C Reg. No. N246ER

Time (Lcl) - 1445 EST

Occurrence #1 IN FLIGHT COLLISION WITH OBJECT
Phase of Operation MANEUVERING

Findings(s)

1. PROPER ALTITUDE - NOT MAINTAINED - PILOT IN COMMAND
2. OBJECT - RESIDENCE
3. CLEARANCE - MISJUDGED - PILOT IN COMMAND
4. LACK OF TOTAL EXPERIENCE - PILOT IN COMMAND

Occurrence #2 IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation DESCENT - UNCONTROLLED

----Probable Cause----

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,3

Factor(s) relating to this accident is/are finding(s) 2

PRELIMINARY REPORT
AVIATION

M I A B B F A O A A

3 Investigation by

1 ☒ NTSB 2 ☐ FAA delegated

5 Report Status

1 ☐ Initial report 2 ☒ Preliminary Report1 ☒ Accident2 ☐ Incident

4 I.C.A.O. Preliminary Report Submitted (NTSB only)

1 ☐ Yes 2 ☒ No

Location/Date

Nearest City/Place

PALM COAST

7 State

FL

8 Zip Code
(First 5 Nos.)

32037

9 Date (Nos. for M,D,Y)

11/24/87

10 Local time
(24 hour clock)

1445

11 Time Zone

EST

Aircraft Information

2 Registration No.

N246ER

13 Aircraft Manufacturer

CESSNA

14 Model/Serial No.

172N

5 Type of Aircraft

1 ☒ Airplane 3 ☐ Glider 5 ☐ Blimp/Dirigible 7 ☐ Gyroplane
2 ☐ Helicopter 4 ☐ Balloon 6 ☐ Ultralight A ☐ Specialty

16 Home Built

1 ☐ Yes
2 ☒ No

Other Aircraft-Collision Between Aircraft

7 Registration No.

18 Aircraft Manufacturer

19 Model/Serial No.

Accident Information

20 Aircraft Damage

1 ☐ None
2 ☐ Minor
3 ☐ Substantial
4 ☒ Destroyed

21 Property Damage (Multiple entry)

1 ☐ None 6 ☐ Airport Facility
2 ☒ Residence 7 ☒ Trees
3 ☐ Residential area 8 ☐ Crops
4 ☐ Commercial Bldg. 9 ☐ Wires, Poles
5 ☐ Vehicle 10 ☐ Other property

22 Accident/Incident Phase of Operation

1 ☐ Standing 6 ☐ Descent
2 ☐ Taxi 7 ☐ Approach
3 ☐ Takeoff 8 ☐ Landing
4 ☐ Climb 9 ☒ Manoeuvring
5 ☐ Cruise 10 ☐ Hover
A ☐ Specialty23 Injury Index
(Most critical injury)1 ☐ None
2 ☐ Minor
3 ☐ Serious
4 ☒ Fatal

Injury Summary

24 Fatal

1

25 Serious

26 Minor

27 None

Pilot

A Name

B Address (City, State only)

C Certificate No.

D Injury Code

Passenger

A Name

B Injury Code

INGUAGGIATO, MICHAEL

DAYTONA BEACH, FL

B57421278

4

Ground Personnel

A Name

B Injury Code

Injury Codes None--1 Minor--2 Serious--3 Fatal--4

Operator Information

2 Name

43 Operator Designator Code

44 Doing Business as (dba)

EMBRY RIDDLE AERONAUTICAL UNIV

5 Street Address

46 City

47 State

48 Zip Code

REGIONAL AIRPORT

DAYTONA BEACH

FL

32014

Type of Certificate(s) Held

49 ☒ None (Go to Block 53)

50 Air Carrier Operating Certificate

1 ☐ Flag carrier/domestic (121) 4 ☐ Large helicopter (127)
2 ☐ Supplemental 5 ☐ Commuter air carrier
3 ☐ All cargo (418) 6 ☐ On-demand air taxi

51 Operating Certificate

☐ Other operator of large aircraft

52 Operator Certificate

1 ☐ Rotorcraft external load operator (133) 2 ☐ Agricultural aircraft operator (137)

Regulation Flight Conducted Under

1 ☐ 14 CFR 91 (only) 4 ☐ 14 CFR 105 7 ☐ 14 CFR 127 10 ☐ 14 CFR 137 A Specialty 14 CFR 141
2 ☐ 14 CFR 91D 5 ☐ 14 CFR 121 8 ☐ 14 CFR 133 -11 ☐ 14 CFR 129
3 ☐ 14 CFR 103 6 ☐ 14 CFR 125 9 ☐ 14 CFR 135 (Foreign flag)

PRELIMINARY INFORMATION - SUBJECT TO CHANGE

PRELIMINARY REPORT

AVIATION

ACCIDENT/INCIDENT

M I A 8 8 F A 0 4 4

Type of Flight Operation conducted

(Complete 54, 55, 56, Only if flight was a revenue operation conducted under 121, 125, 127, 129, 135)

54	1 <input type="checkbox"/> Scheduled 2 <input type="checkbox"/> Non-scheduled	55	1 <input type="checkbox"/> Domestic 2 <input type="checkbox"/> International	56	1 <input type="checkbox"/> Passenger 2 <input type="checkbox"/> Cargo	3 <input type="checkbox"/> Passenger/cargo 4 <input type="checkbox"/> Mail contract ONLY
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(Complete 57 ONLY if 54, 55, 56 not applicable)

57	1 <input type="checkbox"/> Personal 2 <input type="checkbox"/> Business 3 <input checked="" type="checkbox"/> Instruction (Including air carrier training)	4 <input type="checkbox"/> Executive/corporate 5 <input type="checkbox"/> Aerial application 6 <input type="checkbox"/> Aerial observation	7 <input type="checkbox"/> Other work use 8 <input type="checkbox"/> Public use 9 <input type="checkbox"/> Ferry 10 <input type="checkbox"/> Positioning A Spocity _____
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Flight Plan/Itinerary

58 Flight Plan filed

1 <input checked="" type="checkbox"/> None	2 <input type="checkbox"/> VFR	3 <input type="checkbox"/> IFR	4 <input type="checkbox"/> IFR/VFR	5 <input type="checkbox"/> Company (VFR)	6 <input type="checkbox"/> Military (VFR)
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59 Itinerary-Last Departure Point

1 <input type="checkbox"/> Same as accident/incident location Nearest city/place A DAYTONA BEACH	60 State FL	61 Airport I.D. DAB	62 Destination (If "local", mark X here 1 <input checked="" type="checkbox"/>) Nearest city/place A _____	63 State	64 Airport I.D.
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Weather Information

65 Source 1 <input type="checkbox"/> Accident site (Pilot/witness) 2 <input checked="" type="checkbox"/> Weather Observation Facility A Facility Identifier DAB	67 Sky/Lowest Cloud Condition 1 <input type="checkbox"/> Clear 2 <input checked="" type="checkbox"/> Scattered 3 <input type="checkbox"/> Thin broken 4 <input type="checkbox"/> Thin overcast 5 <input type="checkbox"/> Partial obscuration A 2000 FL AGL	68 Lowest Ceiling 1 <input type="checkbox"/> None 2 <input type="checkbox"/> Broken 3 <input checked="" type="checkbox"/> Overcast 4 <input type="checkbox"/> Obscured A 3300 FL AGL	69 Visibility (decimals) 7.00 SM 70 Temperature 68 Fahr. 71 Dew Point 63 Fahr.			
66 Time of Weather Observation 1450 (local)	72 Wind Direction 110 Degrees (Mag.)	73 Wind Speed 15 Kts.	74 Gusts Kts.	75 Altimeter 30.27 Hg	76 Weather Conditions (at accident site) 1 <input checked="" type="checkbox"/> VMC 2 <input type="checkbox"/> IMC	77 Precipitation 1 <input checked="" type="checkbox"/> Yes 2 <input type="checkbox"/> No

Narrative

78 (Brief resume of facts. The information shall not contain opinion, conjecture, or statements reflecting on the character or integrity of the persons involved.)

On November 24, 1987, at about 1445 EST, a Cessna 172N, N246ER, registered to Embry Riddle Aeronautical University, hit a house and crashed into trees while on an instructional flight. Visual meteorological conditions prevailed at the time and no flight plan had been filed. The aircraft was destroyed and the pilot, the sole occupant, was killed. The flight originated from Daytona Beach, FL on November 24, 1987.

A witness stated that he saw the aircraft circling around just moments before he heard a loud crash as the aircraft hit a house.

(Please continue to next page.)

PRELIMINARY INFORMATION - SUBJECT TO CHANGE

PRELIMINARY REPORT

AVIATION

ACCIDENT/INCIDENT

M I A 8 8 F A 0 4 4

Narrative (continued)

Attach additional pages if necessary.)

Administrative Data

79 Notification From

FAA FSDO-64, ORLANDO, FL

80 Date (Nos. for M, D, Y)

11/24/87

81 Local Time (24 hour clock)

1515

82 Time Zone

EST

83 FAA District Office/Coordinator

FSDO-64, JACKSONVILLE, FL

84 Other Federal Agencies Involved in Investigation

1 ☐

FBI

3 ☐

DEA

5 ☐

Customs

2 ☐

USCG

4 ☐

DOD

A ☐

Specify

Investigator(s) Assigned

85 Investigator-In-Charge

BRUCE J HILL

86 Form Preparation Date (Nos. for M, D, Y)

11/26/87

87 Form Receipt Date (For NTSB use only)

11/27/87

88 Other NTSB Personnel Assigned

A _____ D _____ G _____
B _____ E _____ H _____
C _____ F _____ I _____

PRELIMINARY INFORMATION - SUBJECT TO CHANGE