CFIT, Campbell-Ewald Advertising Company, Rockwell Turbo Commander 690A, N847CE, Nemacolin, Pennsylvania, September 12, 1975

Micro-summary: **This Rockwell Turbo Commander 690A crashed on approach to Farmington.**

Event Date: **1975-09-12 at 1058 EDT**

Investigative Body: **National Transportation Safety Board (NTSB), USA**

Investigative Body's Web Site: **http://www.ntsb.gov/**

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1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).

2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. ***Your company's flight operations manual is the final authority as to the safe operation of your aircraft!***

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File No. 3-3243

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D. C. 20594

AIRCRAFT ACCIDENT REPORT

Adopted: February 25, 1976

CAMPBELL-EWALD ADVERTISING COMPANY
ROCKWELL TURBO COMMANDER 690A, N847CE
NEMACOLIN, PENNSYLVANIA
SEPTEMBER 12, 1975

SYNOPSIS

On September 12, 1975, a Campbell-Ewald Advertising Company Rockwell Turbo Commander 690A, N847CE, was operated as a corporate executive flight from Pontiac, Michigan, to Nemacolin, Pennsylvania, with a stop at Pittsburgh.

About 1058 e.d.t. on September 12, after the flight had departed Pittsburgh and was en route to Nemacolin, radar contact and radio communications were lost, which was not unusual or unexpected, when the flight was about 5 nmi northeast of the Nemacolin Airport. The flight was operating on an instrument flight rules flight plan and in instrument meteorological conditions.

On September 13, the wreckage was located about 5 nmi from the Nemacolin Airport in mountainous terrain at an elevation of about 2,800 feet. The two crewmembers and the two passengers were killed; the aircraft was destroyed.

The National Transportation Safety Board determines that the probable cause of this accident was the pilot's attempt to execute a VFR approach in meteorological conditions which precluded visual flight to an airport which did not have an FAA-approved instrument approach procedure.

1. INVESTIGATION

1.1 History of the Flight

On September 12, 1975, a Campbell-Ewald Advertising Company Rockwell Turbo Commander 690A, N847CE, was operated as a corporate

executive flight from Pontiac, Michigan, to Nemacolin, Pennsylvania, with a stop at Pittsburgh. The two corporate executives on board the flight were to attend a meeting at a lodge near Nemacolin that evening.

At 0900 [1] the flight departed Pontiac and was cleared to Pittsburgh on an instrument flight rules (IFR) flight plan. About 1000, the flight landed at the Greater Pittsburgh Airport without reported difficulty.

About 1043, the flight departed the Greater Pittsburgh Airport with two passengers and two crewmembers on board. The flight was cleared on an IFR flight plan to the Nemacolin Airport by way of the Indian Head VORTAC, direct to Nemacolin and to maintain 5,000 feet. [2]

About 1045, Cleveland Air Route Traffic Control Center (Cleveland Center) established positive radar contact and radio communications with N847CE and verified the assigned altitude of 5,000 feet. The flightcrew then requested and received a "cruise" clearance for 5,000 feet while approaching the Indian Head VORTAC for a possible landing at Nemacolin. The minimum en route altitude (MEA) to Nemacolin was 5,000 feet.

About 1053, N847CE descended from 5,000 feet and departed the Indian Head VORTAC on a southwesterly heading toward Nemacolin. About 1055, Cleveland Center asked the crew of its intentions; a crewmember responded, "We have some ground contact here, and I think we're gonna make it, but... standby with us and we'll give you a call in a minute." A crewmember also stated, "... if we... lose radio contact with you and we make the ap... landing okay, I've an 800 [3] number to call and cancel it." (See Appendix E.) About 1058, Cleveland Center transmitted to N847CE that radar contact had been lost at 2,800 feet; N847CE did not reply.

On September 13, when information became available that N847CE did not arrive at Nemacolin, Cleveland Center searched its records of the previous day's activities. The arrival flight strip for the aircraft was found, and the arrival time which would indicate that the flight plan had been closed, had not been recorded.

1/ All times are eastern daylight, based on the 24-hour clock.

2/ All altitudes are mean sea level, unless otherwise indicated.

3/ A toll-free telephone number through which a flight plan can be cancelled after the aircraft has landed.

About 1055, on September 13, supervisory personnel of Cleveland Center notified the Pennsylvania State Police at Uniontown, Pennsylvania, that the aircraft was missing and requested that the area 5 nmi northeast of Nemacolin Airport be searched. The wreckage of N847CE was found about 5 nmi northeast of the Nemacolin Airport in mountainous terrain. The elevation of the crash site is about 2,800 feet.

Although the exact time of the accident is not known, radar contact was lost about 1058 on September 12 near the area where the wreckage was later discovered.

The geographic coordinates of the accident site were 39° 50' N and 79° 30' W.

1.2 Injuries to Persons

Injuries	Crew	Passengers	Others
Fatal	2	2	0
Nonfatal	0	0	0
None	0	0	

1.3 Damage to Aircraft

The aircraft was destroyed.

1.4 Other Damage

None.

1.5 Crew Information

The crewmembers were certificated in accordance with Federal Aviation Administration (FAA) regulations. (See Appendix B.) In April 1975, both crewmembers completed a pilot familiarization and checkout course in the Rockwell Turbo Commander 690A.

1.6 Aircraft Information

N847CE was owned and operated by the Campbell-Ewald Advertising Company of Detroit, Michigan. It was certificated and maintained in accordance with FAA regulations and requirements.

The aircraft was refueled with 218 gallons of Jet-A fuel in Pontiac, Michigan, on September 11, 1975, and was not flown until the flight of September 12, 1975. There is no record that the aircraft was refueled at Pittsburgh. The flight plan, filed at Pittsburgh by the pilot, showed fuel on board as 3 hours 30 minutes. Flight time from Pittsburgh to Nemacolin was estimated as 20 minutes. The gross weight and center of gravity were within prescribed limits during takeoff from Pittsburgh and during the approach to Nemacolin. (See Appendix C.)

1.7 Meteorological Information

Forest rangers reported that the weather in the Nemacolin area at the time of the accident was characterized by low clouds, light rain, and fog.

There are no official weather observation facilities at the Nemacolin Airport. Terminal forecasts for the airport are not prepared by the National Weather Service.

The following surface weather observations for September 12, 1975, were made for Pittsburgh, Pennsylvania -- about 50 miles northwest of Nemacolin, Pennsylvania; and for Morgantown, West Virginia -- about 30 miles southwest of the crash site.

Pittsburgh, Pennsylvania

1100 - ceiling--estimated 800 feet broken, 2,000 feet overcast; visibility--4 miles, light rain; temperature--50°F; dew point--49°F; wind--340° at 12 kn; altimeter setting--29.92 in.

1200 - ceiling--measured 700 feet broken, 2,200 feet overcast; visibility--5 miles, light rain; temperature--54°F; dew point--49°F; winds--360° at 10 kn; altimeter setting--29.93 in.

Morgantown, West Virginia

1100 - ceiling--measured 300 overcast; visibility--2 miles, moderate rain, fog; temperature--57°F; dew point--55°F; wind--340° at 12 kn; altimeter setting--29.89 in. Ceiling ragged. Frontal passage at 1050.

1200 - ceiling--measured 600 feet overcast; visibility--4 miles; moderate rain, fog; temperature--56°F; dew point--54°F; winds--350° at 10 kn; gusts to 15 kn; altimeter setting-- 29.92 in.

1.8 Aids to Navigation

During the investigation, the Safety Board obtained a copy of an unofficial and unapproved approach procedure for the Nemacolin Airport entitled, "VFR safe altitude approach plate." The Safety Board could not determine who prepared the plate, but the investigation disclosed that aviation personnel of the Campbell-Ewald Company had access to the approach plate. Another pilot for the company stated that he was reasonably sure that a copy of the approach plate was aboard N847CE when it crashed.

The approach plate is constructed, using the Indian Head VORTAC and its distance measuring equipment to establish minimum safe altitudes below 5,000 feet between the VORTAC and Nemacolin Airport. The approach plate depicts a 226° radial from the Indian Head VORTAC; the instructions on the approach plate read as follows: "Conduct all maneuvering NW of 226 IHD Radial when between 3400' and 3800' m.s.l." Additionally, the instructions state that it should be used only in visual flight conditions.

The approach plate was not authorized by the FAA; there are no authorized instrument approaches to the Nemacolin Airport. (See Appendix D.)

1.9 Communications

No communications difficulties were reported between the flightcrew and ground stations during the flight; however, the loss of radar contact and voice communications was anticipated before landing because of mountainous terrain.

1.10 Aerodrome and Ground Facilities

Nemacolin Airport is an uncontrolled private airport of restricted usage. There is one macadam surface runway, 3,000 feet long and 50 feet wide. Runway 22 is equipped with runway end indicator lights and threshold lights. Runway edge lights are manually controlled or activated by a radio call from the inbound aircraft.

1.11 Flight Recorders

The aircraft was not equipped nor was it required to be equipped with either a cockpit voice recorder or a flight data recorder.

1.12 Wreckage

The aircraft struck the ground at an elevation of 2,800 feet in wooded mountainous terrain. The left wingtip was found adjacent to a tree which had freshly broken limbs about 30 feet above ground level. Except for the left wingtip and pieces of aircraft metal, the remainder of the aircraft disintegrated and was strewn along a wreckage path 295 feet long and 170 feet wide. The magnetic heading of the wreckage path was about 230°.

The left elevator was broken in two parts and came to rest 160 feet from the point of impact. The major portion of the tail section was separated from the aircraft and lodged against a large tree about 15 feet from the point of impact.

The fuselage was broken into two parts near the midwing point. The aft fuselage section was located about 165 feet from the first point of impact. The passengers' seats were dislodged from the cabin floor.

The forward section of the fuselage, including the cockpit area, was found 235 feet from the point of initial impact along the wreckage path. The right side control column was lodged in a small tree, 5 feet above ground level.

Both propeller assemblies separated from the engines. Both engines were separated partially from their mounts. The forward half of the right engine casing was found about 255 feet from initial point of impact.

The aircraft was equipped with an emergency locator transmitter. The activation switch was found in the "off" position. Post-accident examination revealed that the transmitter operated satisfactorily when the switch was set to activate it.

1.13 Medical and Pathological Information

The aircraft occupants were killed in the crash. Toxicological tests and post-mortem examination of the two crewmembers disclosed no evidence of preexisting physical and physiological problems which could have affected their judgments or performances.

1.14 Fire

There was no fire either in-flight or after impact.

1.15 Survival Aspects

The accident was not survivable.

1.16 Tests and Research

After the accident the aircraft's engines were examined. No preimpact malfunction or mechanical failures were disclosed. In addition, examination of the navigational and avionics equipment in the aircraft disclosed no irregularities.

1.17 Other Information

1.17.1 Delay in Accident Notification

Since the accident went undiscovered for about 24 hours, the Safety Board examined extensively the air traffic control procedures used in the handling of this aircraft. The Safety Board learned from Cleveland Center personnel that the air traffic control flight progress strip was removed from the sector console rack without receipt of the aircraft's arrival time at the intended destination.

The radar controller reported that he was not overly concerned when radar and radio contact were lost because, during the latter portion of the flight, the crew of N847CE reported partial ground contact and stated if radio contact was lost before landing that an "800" number would be used to closeout the flight plan.

Additionally, both controllers and supervisors at Cleveland Center affirmed that it is not uncommon for considerable time to elapse (30 to 45 minutes) before confirmation of an arrival or cancellation of a flight plan is received from small, uncontrolled airports.

The Pittsburgh Sector manual controller stated that the departure flight strip of N847CE was furnished to him by an adjacent sector controller. The strip was then placed on his control board in the appropriate flight strip rack. The flight strip depicted the letter "D", to note that it was a departure flight; in this case, the departure strip was for the flight's departure from the Greater Pittsburgh Airport.

Under the initial instrument clearance from Greater Pittsburgh to Nemacolin, the flight would have been handled by an adjacent sector. However, when the clearance was amended to reroute the aircraft from

Pittsburgh, direct to the Indian Head VORTAC, direct to Nemacolin, the flight became the sole responsibility of the Pittsburgh Sector. This procedure explains why the letter "D" appeared on the flight strip that was being used as an arrival strip. The FAA considers this practice to be acceptable.

About 1110 -- about 12 minutes after radar and radio contact were lost with N847CE--the Pittsburgh Sector manual controller telephoned the Morgantown, West Virginia, Flight Service Station and informed them that N847CE was inbound to Nemacolin Airport and would probably cancel his flight plan with Morgantown Flight Service Station upon arrival. He requested that the Pittsburgh Sector be notified of the flight's arrival time.

About 5 minutes after that telephone conversation, the controller was relieved for lunch. The relief controller was briefed on N847CE and told that he would probably receive a call from Morgantown advising him that the aircraft had cancelled the flight plan. The flight strip for N847CE was flagged on the sector console to remind the controller that additional information was required before the flight strip could be removed from the rack.

Immediately after the relief controller assumed responsibility, Pittsburgh Sector became extremely busy. In fact, the relief controller asked his supervisor for an assistant controller to help. An assistant controller was assigned to take flight strips from the computer printer and to assist the relief controller as required.

According to the original controller, when he returned from lunch he did not notice the strip in the rack and assumed that the flight plan had been canceled.

None of the controllers could determine how the strip was removed from the sector console and filed. The relief controller stated that he did not remember whether he removed the strip.

1.17.2 Cruise Clearance

The following is an excerpt from the Airman's Information Manual, Part 1, page 1-2, dated August 1975:

"Cruise - A word used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the MEA/MOCA [4/] up to and including the altitude specified in the clearance. The pilot may level off at any intermediary altitude within this block of airspace. Climb/descent within the block is to be made at the discretion of the pilot. However, once the pilot starts descent and reports leaving an altitude in the block he may not return to that altitude without additional ATC clearance. Further, it is approval for the pilot to proceed to and make an approach at destination airport and can be used in conjunction with:

*****

"b. An Airport clearance limit at locations that are within/below/outside controlled airspace and without an approved/prescribed instrument approach procedure. Such a clearance is NOT AUTHORIZATION for the pilot to descend under IFR conditions below applicable MEA/MOCA nor does it imply that ATC is exercising control over aircraft in uncontrolled airspace; however, it provides a means for the aircraft to proceed to destination airport, descend, and land in accordance with applicable FAR's governing VFR flight operations. Also, this provides search and rescue protection until such time as the IFR flight plan is closed."

1.17.3 Radar Service Termination

The following is extracted from the Air Traffic Controllers Manual 7110.9D, dated January 1, 1975, concerning instructions to the controller as to radar service termination. Section 3, paragraph 662 states:

4/ MEA/MOCA - Minimum En Route Altitude/Minimum Obstruction Clearance Altitude.

"Inform aircraft when radar service is terminated, except when this is a result of a flight canceling its IFR flight plan. Arrival aircraft need not be advised of termination when any of the following circumstances exist:

a. The aircraft conducts a visual approach

b. The aircraft is vectored to a final approach course."

2. ANALYSIS AND CONCLUSIONS

2.1 Analysis

The aircraft was certificated, equipped, and maintained according to FAA requirements. The aircraft's powerplants, airframe, electrical and pitot/static instruments, flight controls, and hydraulic and electrical systems were not factors in the accident. There was no evidence of in-flight fire or explosion.

There was more than adequate fuel on board the aircraft for the intended flight from Pontiac, Michigan, to Nemacolin, Pennsylvania, as well as the reserve required by FAA regulations.

The flightcrew was certificated in accordance with company and FAA requirements.

The flightcrew of N847CE requested and received a "cruise" clearance to the Nemacolin Airport at 5,000 feet approaching the Indian Head VORTAC. Coincident with the altitude specified in the clearance, was the MEA, between Pittsburgh and Nemacolin, of 5,000 feet.

Therefore, based on the definition of "cruise" clearance and since Nemacolin Airport does not have a FAA-approved instrument approach procedure, the flight could not proceed beyond Nemacolin Airport or, more importantly, descend below 5,000 feet, except in VFR conditions.

At 1055:33, the pilot reported he had "...some ground contact." At this time, according to data from the Cleveland Center radar trace of N847CE and from the Data Analysis Reduction Table of the National

Airspace System, Stage "A", radar computer equipment at Cleveland Center, the aircraft was about 4 nmi southwest of the Indian Head VORTAC and had already descended to an altitude of about 3,400 feet. The Safety Board believes that, based on reported weather conditions in the crash area on September 12, 1975, descent from 5,000 feet to the airport could not have been accomplished in VFR conditions as required by regulations.

The unofficial VFR approach plate, which was reportedly on board the aircraft, showed the Nemacolin Airport located on the 226° radial of the Indian Head VORTAC. The flight instruments recovered from the aircraft wreckage showed a probable final heading of about 226°. The aircraft wreckage was strewn along a path which was oriented about 230°. Also, altitudes recorded by Cleveland Center during the aircraft's descent from Indian Head VORTAC correspond closely, in time and distance, to the "safe" altitudes depicted on the VFR approach plate. The Safety Board believes that these factors indicate that the flightcrew was using the VFR approach chart for navigation.

The Safety Board was unable to determine why the pilot attempted to make an approach and landing at Nemacolin with the weather conditions which existed. However, regardless of the reason, the accident would not have occurred had the pilot adhered to the clearance issued to him and remained at his clearance limit altitude until he was either able to conduct a VFR approach or proceed to an alternate airport.

The Cleveland Center Controller stated that when he observed the aircraft descend below 5,000 feet, he assumed that the aircraft was operating in VFR conditions and that no further monitoring was required. This observation was coincident with the pilot's report of some ground contact. The Safety Board believes that the controller's assumption was a logical one since the aircraft was operating under "cruise" criteria.

In its effort to determine why the accident was not known to anyone for about 24 hours, the Safety Board found that a controller at Cleveland Center inadvertently removed the flight progress strip from the position console rack without being advised that the flight had reached its destination. The following factors combined to create the irregularity: (1) The change of sector controllers; (2) the increased traffic workload during the critical time period; and

(3) the relief controller's failure to mention the flight strip to the sector controller when he returned from lunch.

In this case, the failure of the controllers to close the flight plan properly had no effect on the ultimate outcome of the accident since all occupants of the aircraft were killed in the crash. However, that failure negated the purpose of the flight plan for timely search and rescue, and could have been crucial to the survival of anyone not killed in the crash.

In addition, the failure during the equipment installation to set the switch of the emergency locator transmitter to the proper position negated the usefulness of that instrument which could have been crucial to the rescue of any crash survivors.

2.2 Conclusions

(a) Findings

1. The flightcrew was properly certificated and trained.

2. There was no evidence of aircraft structure of component failure or malfunction before the aircraft crashed.

3. The flightcrew descended below the MEA of 5,000 feet in instrument meteorological conditions.

4. The aircraft was not reported missing for about 24 hours after the accident.

5. The emergency locator transmitter on the aircraft was turned "off."

6. The flightcrew was using an unofficial and unauthorized VFR approach plate to conduct the approach to Nemacolin Airport.

7. Cleveland Center erred when the flight progress strip was removed before notification that the flight had arrived at its destination.

8. As a result of this error, Cleveland Center failed to provide search and rescue protection as required in a "cruise" clearance.

(b) Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the pilot's attempt to execute a VFR approach in meteorological conditions which precluded visual flight to an airport which did not have an FAA-approved instrument approach procedure.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ WEBSTER B. TODD, JR.
Chairman

/s/ FRANCIS H. McADAMS
Member

/s/ LOUIS M. THAYER
Member

/s/ ISABEL A. BURGESS
Member

/s/ WILLIAM R. HALEY
Member

February 25, 1976

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APPENDIX A

INVESTIGATION

1. Investigation

The National Transportation Safety Board was notified of the accident about 1300 on September 13, 1975. The Safety Board immediately dispatched a field investigator from the New York Office and technical personnel from its Washington, D. C., Headquarters to the scene.

Participants in the investigation included the Federal Aviation Administration and Rockwell International Corporation representatives.

2. Public Hearing

A public hearing was not held.

APPENDIX B

CREW INFORMATION

Richard S. Macauley

Mr. Macauley, 55, was employed by Campbell-Ewald Company on June 26, 1967. He held an Airline Transport Pilot Certificate No. 483029 with airplane multi-engine land and commercial privileges; airplane single engine-land and Aero Commander 1121. His first-class medical certificate was issued on May 27, 1975, and stated, "Holder shall possess reading glasses at all times while exercising the privileges of his Airman's Certificate."

Mr. Macauley had accumulated a total of 4,891 flight-hours as of September 11, 1975, the last entry in the pilot's logbook. He had flown 426 hours in this make and model aircraft during the preceding 12 months.

James E. Rhea

Mr. Rhea, 38, was employed by Campbell-Ewald Company on April 3, 1972. He held an Airline Transport Pilot's Certificate No. 1530658. Information on file with the Federal Aviation Administration Airman's Certification Branch, Oklahoma City, Oklahoma, listed 5,000 total flight-hours as of October 3, 1974. His first-class medical certificate dated October 3, 1974, had no limitations.

Both pilots successfully completed the pilot's familiarization and checkout course for Rockwell Commander 690A in April 1975.

APPENDIX C

AIRCRAFT INFORMATION

N847CE was manufactured by Rockwell International Corporation of Betheny, Oklahoma, in December 1974. It had accumulated about 265 hours of time in service.

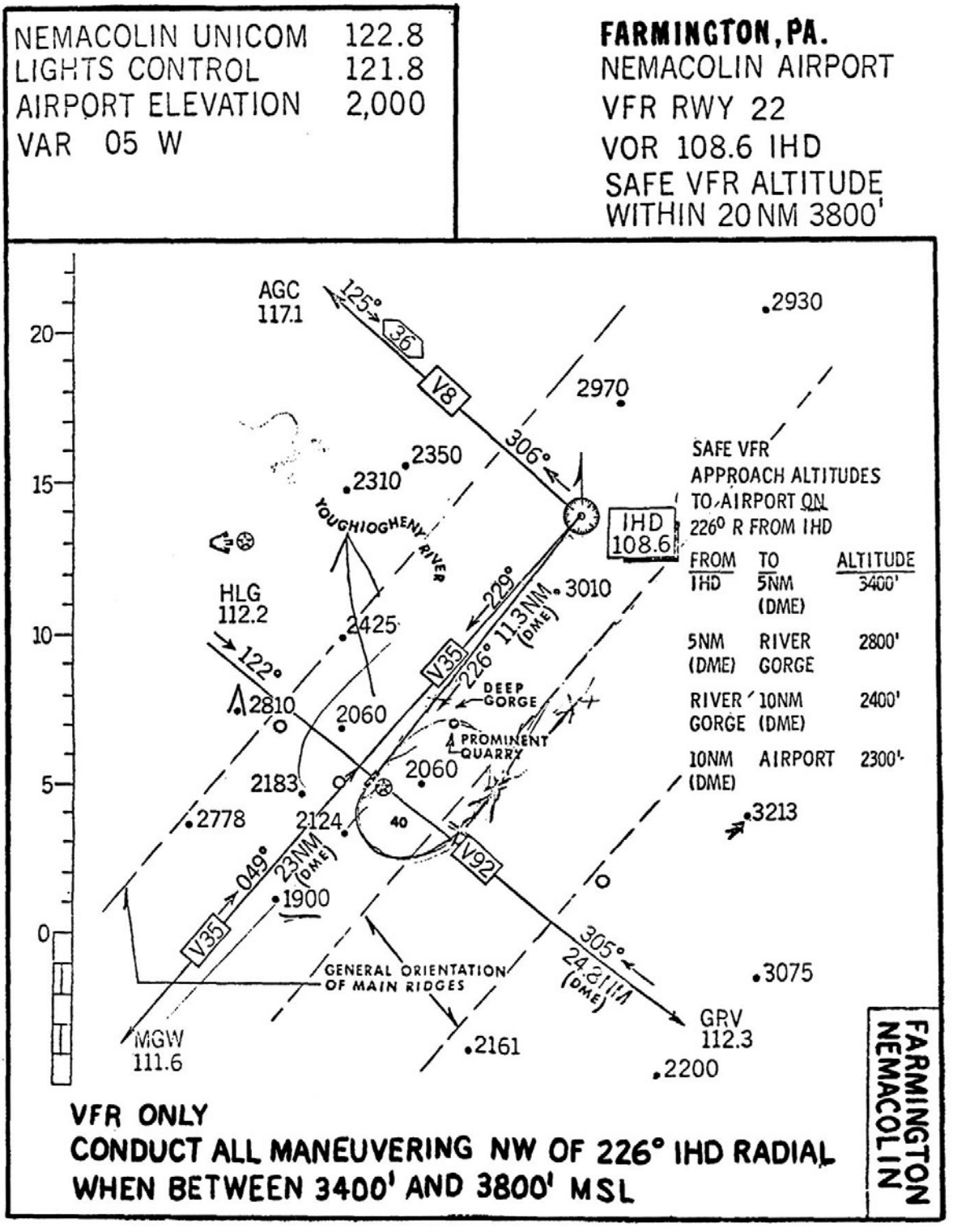
N847CE was powered by two TPE-331-5-251K Airesearch engines. Pertinent engine data are as follows:

Position	Serial No.	Total Time	Time Since Last 100 Hour Inspection
1	P06401	265	43
2	P06426	265	43

All of the required maintenance inspections and checks had been performed in accordance with the Federal Aviation Administration procedures, policy, and requirements.

APPENDIX D

"VFR Safe Altitude Approach Plate"



APPENDIX E

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CLEVELAND AIR ROUTE TRAFFIC CONTROL CENTER
326 East Lorain Street
Oberlin, Ohio 44074

SUBJECT: Transcription of the recorded conversations pertaining to the accident involving N847CE which crashed in the vicinity of the Nemacolin, Pennsylvania, Airport, on September 12, 1975, at approximately 1600 GMT.

TIME COVERED: September 12, 1975; 1538 GMT through 1616 GMT

Identifications:

7CE - N847CE, an AC6T/F
APC - Departure Control, Pittsburgh ATCT
PIT - Pittsburgh Sector Radar Controller, Cleveland ARTCC
PIT-D - Pittsburgh Sector Manual Controller, Cleveland ARTCC
MGW - Morgantown, West Virginia, Flight Service Station
ARM - Army 15930, a helicopter

I hereby certify that the following is a true transcription of the recorded conversations pertaining to the subject accident.

D. G. RAMSEY
Acting East Area Officer

1543:45 GMT APC - Pit Sector Approach

1543:51 GMT APC - Pit Sector Approach

1543:54 GMT PIT - Yes

1543:57 GMT APC - Eight forty-seven Charlie Echo's requesting direct Indian Head direct

1544:01 GMT PIT - That's okay

1544:02 GMT APC - We give it to him

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1544:03 GMT PIT - All right

1545:26 GMT 7CE - Center eight four seven Charlie Echo is on direct Indian Head five thousand

1545:30 GMT PIT - Eight four seven Charlie Echo roger and ah squawk ident

1545:35 GMT 7CE - There you go

1552:23 GMT PIT - Eight four seven Charlie Echo has traffic twelve o'clock about ten miles northwestbound at six thousand it's an Army helicopter

1552:33 GMT 7CE - All right sir ah how about a five thousand cruise clearance here we'll take a look at Nemacolin and ah let ya know

1552:40 GMT PIT - Eight four seven Echo you're cleared to cruise five thousand

1552:43 GMT 7CE - Charlie Echo's cleared to cruise five thousand

1552:46 GMT PIT - Army one five nine three zero traffic twelve o'clock and about eight miles southeastbound at five thousand and with a cruise clearance for an approach

1552:57 GMT ARM - And helicopter one five nine three zero no joy do you have us in radar contact yet

1553:02 GMT PIT - Ah one five nine three zero affirmative you're in radar contact five miles southeast of Indian Head

1553:06 GMT ARM - Ah nine three zero roger thank you

1553:47 GMT PIT - Army one five nine three zero the traffic is now off your ah ten o'clock position about three miles

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1553:52 GMT ARM - This is helicopter one five nine three zero roger I'm (unintelligible) (Charlie)* no joy

1553:58 GMT PIT - Roger he's out of forty-one hundred now on a cruise clearance

1554:02 GMT ARM - (Unintelligible)

1555:29 GMT PIT - Eight four seven Charlie Echo what are your intentions

1555:33 GMT 7CE - We just take a look we're gettin' some ground contact here and I think we're gonna make it but ah just stand by with us and we'll give ya a call here in a minute

1555:41 GMT PIT - Charlie Echo roger

1555:45 GMT 7CE - (Unintelligible) (we'll have)* if we miss the contact I got a eight hundred number to call flight service I'll get 'em on the phone (right away)*

1555:52 GMT PIT - Ah Charlie Echo say again

1555:54 GMT 7CE - Yeah if we ah we lose radio contact with you and we make the ap' the landing okay I've got an eight hundred number to call to cancel it

1556:00 GMT PIT - Charlie Echo roger thank you

1558:55 GMT PIT - Eight four seven Charlie Echo radar contact is lost

1609:52 GMT PIT-D - Morgantown radio Cleveland on the sixty line

1610:06 GMT MGW - Morgantown radio

1610:07 GMT PIT-D - Yeah this is Cleveland Pittsburgh sector I had an aircraft go into Nemacolin and ah I'd like to get an arrival on him if he if you get it ah from him perhaps by phone or something it's November eight four seven Charlie Echo

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1610:25 GMT MGW - November eight four seven Charlie Victor

1610:28 GMT PIT-D - Charlie Echo

1610:30 GMT MGW - Charlie Echo

1610:30 GMT PIT-D - Uh huh

1610:31 GMT MGW - Okay

1610:33 GMT PIT-D - Would you advise the Pittsburgh sector as soon as you hear anything

1610:34 GMT MGW - Okay I certainly will

1610:34 GMT PIT-D - (Unintelligible)

()* - This portion of the recording is not entirely clear but this represents the best interpretations possible under the circumstances.

End of transcription.