



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	CLEVELAND, OH	<b>Accident Number:</b>	CHI83AA326
<b>Date &amp; Time:</b>	07/20/1983, 1522 EDT	<b>Registration:</b>	N3711T
<b>Aircraft:</b>	AERO COMMANDER 685	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	6 Fatal

**Flight Conducted Under:** Part 91: General Aviation - Executive/Corporate

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## Analysis

WHILE TURNING FROM DOWNWIND TO BASE LEG, THE ACFT WAS OBSERVED DESCENDING RAPIDLY IN A STEEP BANK. WITNESSES REPORTED SMOKE WAS TRAILING FROM THE ACFT. THE ACFT CRASHED IN AN INDUSTRIAL AREA. AN EXAM OF THE RIGHT ENG REVEALED THAT THE EXHAUST-TO-TURBO ADAPTER, PN 641829, HAD FRACTURED & SEPARATED. THE FRACTURE WAS A RESULT OF THERMAL FATIGUE & IT HAD PROPAGATED ACROSS MORE THAN 95% OF THE AREA BEFORE FINAL SEPARATION HAD OCCURRED. SINCE AN EXAM OF THE COWLING & BOTH ENGINES SHOWED NO STREAKING HEAT OR SMOKE PATTERNS, THE REPORTED 'SMOKE' WAS ATTRIBUTED TO EXHAUST GAS. WHILE THERE WAS A LOSS OF POWER IN THE RIGHT ENG, NO OTHER ACFT MALFUNCTIONS WERE FOUND THAT WOULD HAVE CAUSED LOSS OF CONTROL.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

## Findings

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Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF  
Phase of Operation: APPROACH - VFR PATTERN - BASE TURN

### Findings

1. (C) EXHAUST SYSTEM,MANIFOLD/PIPE - FATIGUE  
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Occurrence #2: FORCED LANDING

Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)  
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

### Findings

2. (C) AIRCRAFT HANDLING - INADEQUATE - PILOT IN COMMAND

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	39, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	02/20/1983
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	5000 hours (Total, all aircraft), 27 hours (Total, this make and model)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	AERO COMMANDER	<b>Registration:</b>	N3711T
<b>Model/Series:</b>	685 685	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	8
<b>Date/Type of Last Inspection:</b>	05/03/1983, Annual	<b>Certified Max Gross Wt.:</b>	8250 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	1509 Hours	<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	GTSIO-520-K-1
<b>Registered Owner:</b>	CAMPBELL RAY CLARK III	<b>Rated Power:</b>	435 hp
<b>Operator:</b>	TECHNICAL COMPUTER SERVICES	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CLE, 792 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1910 GMT	Direction from Accident Site:	230°
Lowest Cloud Condition:	Unknown / 5000 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 5000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	32° C / 20° C
Precipitation and Obscuration:			
Departure Point:	AKRON, OH (CAK)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1505 EDT	Type of Airspace:	Class D

## Airport Information

Airport:	CLEVELAND HOPKINS	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	23L	IFR Approach:	None
Runway Length/Width:	9000 ft / 150 ft	VFR Approach/Landing:	Forced Landing

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	5 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Total Injuries:	6 Fatal	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	GEORGE H SEIDLEIN	Report Date:	
Additional Participating Persons:			
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).