



National Transportation Safety Board Aviation Accident Final Report

Location:	OSHTEMO TOWNSHP, MI	Accident Number:	CHI88FA010
Date & Time:	10/23/1987, 0332 EDT	Registration:	N554AC
Aircraft:	Smith, Ted Aerostar AEROSTAR 600	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

THE AIRCRAFT WAS AT CRUISE ALTITUDE (9,000 FEET) FOR APPROXIMATELY 20 MINUTES WHEN THE PILOT REPORTED THE LOSS OF RIGHT ENGINE POWER. CHICAGO ARTCC REPORTED THE CLOSEST AIRPORT WAS KALAMAZOO, 28 MILES WEST. THE AIRCRAFT BEGAN TO DESCEND AND AT 0330:53 CHICAGO ARTCC REPORTED N554AC WAS APPROXIMATELY 6 MILES FROM KALAMAZOO AIRPORT. THE PILOT REPORTED 'MY RIGHT ENGINE COWLING IS GONE...I DON'T KNOW IF I'M GOING TO MAKE IT.' WITNESSES OBSERVED THE AIRCRAFT AT 'TREE TOP LEVEL' AND IMPACT IN A HEAVILY WOODED AREA NEAR INTERSTATE 94, 5 MILES FROM THE AIRPORT. INVESTIGATION REVEALED IMPROPER WELD REPAIRS TO THE RIGHT ENGINE CASE AND SEPARATION OF THE NUMBER 2 CYLINDER FROM THE CASE DUE TO FATIGUE CRACKING IN THE THROUGH BOLTS AND STUDS. THE TOP SECTION OF THE ENGINE COWLING SEPARATED DUE TO THE FORCE OF THE CYLINDER SEPARATION.

Probable Cause and Findings

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

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: CRUISE - NORMAL

Findings

1. 1 ENGINE - FAILURE,TOTAL
 2. ENGINE ASSEMBLY,CRANKCASE - CRACKED
 3. (C) MAINTENANCE,MAJOR REPAIR - IMPROPER - OTHER MAINTENANCE PERSONNEL
 4. (C) ENGINE ASSEMBLY,OTHER - FATIGUE
 5. (C) ENGINE ASSEMBLY,CYLINDER - SEPARATION
 6. (C) COOLING SYSTEM,COWLING - SEPARATION
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Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Findings

7. (F) LIGHT CONDITION - BRIGHT NIGHT
 8. (F) UNSUITABLE TERRAIN OR TAKEOFF/LANDING/TAXI AREA - SELECTED - PILOT IN COMMAND
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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings

9. (F) OBJECT - TREE(S)

Factual Information

Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	47, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Helicopter; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	09/01/1987
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	3290 hours (Total, all aircraft), 101 hours (Total, this make and model), 173 hours (Last 90 days, all aircraft), 26 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Smith, Ted Aerostar	Registration:	N554AC
Model/Series:	AEROSTAR 600 AEROSTAR 6	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	60002960
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	10/13/1987, Continuous Airworthiness	Certified Max Gross Wt.:	5500 lbs
Time Since Last Inspection:	33 Hours	Engines:	2 Reciprocating
Airframe Total Time:	14254 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-540-K1J5
Registered Owner:	AIR CONTINENTAL INC.	Rated Power:	290 hp
Operator:	AIR CONTINENTAL INC.	Operating Certificate(s) Held:	Air Cargo
Operator Does Business As:		Operator Designator Code:	DRNA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Bright
Observation Facility, Elevation:	SBN, 790 ft msl	Distance from Accident Site:	45 Nautical Miles
Observation Time:	0357 EDT	Direction from Accident Site:	230°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	1°C / 1°C
Precipitation and Obscuration:			
Departure Point:	MILWAUKEE, WI (MKE)	Type of Flight Plan Filed:	IFR
Destination:	CLEVELAND, OH (CLV)	Type of Clearance:	IFR
Departure Time:	0257 EDT	Type of Airspace:	Class E

Airport Information

Airport:	KALAMAZOO (AZO)	Runway Surface Type:	
Airport Elevation:	0 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced Landing; Straight-in

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	EDWARD J MCAVOY	Report Date:	12/27/1988
Additional Participating Persons:	P. HANSEN; GRAND RAPIDS, MI D. NODORFT; GRAND RAPIDS, MI J. STABLEY; WILLIAMSPORT, PA		
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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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