



National Transportation Safety Board Aviation Accident Final Report

Location:	MEMPHIS, TN	Accident Number:	ATL84FA251
Date & Time:	08/11/1984, 0101 CDT	Registration:	N70003
Aircraft:	DOUGLAS DC3C-S1C3G	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	3 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

MOMENTS AFTER THE DC-3 TOOK OFF, THE TWR CTLR NOTED THE L ENG WAS TORCHING & ASKED THE FLT IF IT WAS 'HAVING A PROBLEM.' THE CREW REPLIED 'AFFIRMATIVE,' THEN THE CTLR CLRD THE FLT TO LND ON ANY RWY. THE ACFT BEGAN TURNING LEFT AT THE END OF THE RWY & CONTD TURNING AT LOW ALT UNTIL IT STRUCK UTILITY POLES & CRASHED THRU A WAREHOUSE ROOF ABOUT 2 MI FM THE ARPT. A WITNESS RPRTD THE ACFT WAS AT AN ALT OF APRX 100 TO 150 FT AGL, THE L PROP WAS FEATHERED & THE R ENG WAS AT FULL PWR. AN EXAM OF THE L ENG DISCLOSED THE #14 CYLINDER WAS MISSING A SPARK PLUG FM THE FRONT SPARK PLUG HOLE. THE SPARK PLUG LEAD & 'B' NUT WERE ATTACHED TO THE IGNITION HARNESS, BUT NO PLUG WAS ATTACHED TO THE LEAD. THE SPARK PLUG HOLE & B-NUT THREADS WERE UNDEMANAGED. A WHITE DEPOSIT WAS FND INSIDE THE CYLINDER SPARK PLUG THREADS & OUTSIDE THE CYLINDER, ADJACENT TO THE HOLE. THE DEPOSIT WAS IDENTIFIED TO CONTAIN HIGH CONCENTRATIONS OF LEAD & BROMINE, MOST LIKELY FORMED FROM EXHAUST GASES & FUEL DURING CYLINDER OPERATION. A COMPANY MECHANIC RPRTDLY WORKED ON THE PLUGS ON THE PREVIOUS DAY.

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(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) IGNITION SYSTEM, SPARK PLUG - LOOSE
2. (F) MAINTENANCE - IMPROPER - COMPANY MAINTENANCE PERSONNEL
3. (F) IGNITION SYSTEM, SPARK PLUG - SEPARATION
4. PROPELLER FEATHERING - PERFORMED - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF

Findings

5. (C) REASON FOR OCCURRENCE UNDETERMINED
6. AIRSPEED - NOT MAINTAINED
7. DIRECTIONAL CONTROL - NOT MAINTAINED
8. CLIMB - NOT POSSIBLE

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: TAKEOFF

Findings

9. (F) LIGHT CONDITION - DARK NIGHT
10. (F) OBJECT - UTILITY POLE
11. (F) OBJECT - BUILDING(NONRESIDENTIAL)

Factual Information

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	46, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	12/29/1983
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	DOUGLAS	Registration:	N70003
Model/Series:	DC3C-S1C3G DC3C-S1C3G	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	12938
Landing Gear Type:	Retractable - Tailwheel	Seats:	3
Date/Type of Last Inspection:	06/21/1984, Continuous Airworthiness	Certified Max Gross Wt.:	26900 lbs
Time Since Last Inspection:	63 Hours	Engines:	2 Reciprocating
Airframe Total Time:	11247 Hours	Engine Manufacturer:	P&W
ELT:		Engine Model/Series:	R-1830-94
Registered Owner:		Rated Power:	1100 hp
Operator:	AVIATION ENTERPRISES, INC.	Operating Certificate(s) Held:	On-demand Air Taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	MEM, 332 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	0052 CDT	Direction from Accident Site:	135°
Lowest Cloud Condition:	Scattered / 1200 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	25° C / 23° C
Precipitation and Obscuration:			
Departure Point:	MEMPHIS, TN (MEM)	Type of Flight Plan Filed:	IFR
Destination:	CHICAGO, IL (ORD)	Type of Clearance:	IFR
Departure Time:	0100 CDT	Type of Airspace:	

Airport Information

Airport:	MEMPHIS INTERNATIONAL	Runway Surface Type:	Concrete
Airport Elevation:	332 ft	Runway Surface Condition:	Dry
Runway Used:	36R	IFR Approach:	None
Runway Length/Width:	8400 ft / 150 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	CHARLES T FOUTS	Report Date:	
Additional Participating Persons:	DENNIS D HENDERSON; ATLANTA, GA JOEL JONES; MEMPHIS, TN ROBERT L WITHERS RAYMOND E LADD		
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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