



National Transportation Safety Board Aviation Accident Final Report

Location:	DES MOINES, IA	Accident Number:	MKC86MA031
Date & Time:	11/25/1985, 1742 CST	Registration:	N81589
Aircraft:	Rockwell 500-S	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	7 Fatal

Flight Conducted Under: Part 91: General Aviation - Public Aircraft

Analysis

N81589 WAS FLWG A BOEING 727 ON ILS APCH IN IFR CONDS. APRX 2.5 MI FM RWY, N81589 SUDDENLY DEVIATED LEFT NRLY 90 DEG. 39 SEC LATER, PLT RPRTD HE ENCTR D SVR TURBC, THEN SAID HE WAS TRYING TO CLB. N81589 SUBSEQUENTLY FLEW THRU TREE TOPS ON RISING TRRN FOR APRX 2 CITY BLKS, THEN HIT PWR LNS & A POLE & CRASHED AGAINST A TREE. NO EVIDENCE OF TURBC DUE TO WX AT/NR APCH ALT. INV SHOWED 4.7 MI SEPN BTN ACFT WHEN THE 727 PASSED THE POINT OF DVN (POD). AT POD, THE 727 WAS ON THE ILS GLIDE SLOPE AT 850'; N81589'S ALT WAS NOT DETERMINED. WND WAS FM 120 DEG AT 3 TO 6 KTS, SHIFTING MORE SOUTHERLY WITHALT. PREVAILING VIS WAS 1/2 MI; RVR FOR RWY 12L WAS 6000'; LGT RIME ICG WAS RPRTD. WITNESSES HEARD PWR INTERRUPTION OF 1 ENG AT POD; BUT THERE WAS NO INDCN OF PWR LOSS WHERE ACFT HIT TREES. RADAR DATA SHOWED ACFT SLOWED TO 80 KTS AT POD, ACCELERATED TO 100 KTS DRG DVN, SLOWED TO 70 KTS BFR IMPACT; VMCA WAS 74 KTS. SAFETY BOARD BELIEVES THE PLT MOST LIKELY LOST CONTROL DUE TO SLOW SPD & LGT AIRFRAME ICG; POSSIBLY ENCTR D WAKE TURBC. NO REASON FND FOR LOSS OF ENG PWR.

Probable Cause and Findings

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

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) WEATHER CONDITION - LOW CEILING
3. (F) WEATHER CONDITION - FOG
4. (F) WEATHER CONDITION - RAIN
5. (F) WEATHER CONDITION - ICING CONDITIONS
6. (C) WING - ICE

Occurrence #2: ALTITUDE DEVIATION, UNCONTROLLED

Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings

7. (F) AIRSPEED - REDUCED - PILOT IN COMMAND
8. (C) AIRSPEED - INADEQUATE - PILOT IN COMMAND
9. (C) AIRCRAFT HANDLING - NOT MAINTAINED - PILOT IN COMMAND
10. DESCENT - UNCONTROLLED
11. DIRECTIONAL CONTROL - NOT MAINTAINED
12. REMEDIAL ACTION - INITIATED
13. LEVEL OFF - PERFORMED

Occurrence #3: LOSS OF ENGINE POWER

Phase of Operation: APPROACH

Findings

14. (F) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #4: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: APPROACH

Findings

15. (F) TERRAIN CONDITION - RISING
16. PROPER CLIMB RATE - NOT POSSIBLE
17. STALL/MUSH
18. (F) OBJECT - TREE(S)
19. (F) OBJECT - WIRE, TRANSMISSION
20. (F) OBJECT - UTILITY POLE

Occurrence #5: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	59, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	12/05/1984
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	7020 hours (Total, all aircraft), 1553 hours (Total, this make and model), 6838 hours (Pilot In Command, all aircraft), 72 hours (Last 90 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Rockwell	Registration:	N81589
Model/Series:	500-S 500-S	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	3297
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	10/04/1985, Annual	Certified Max Gross Wt.:	6750 lbs
Time Since Last Inspection:	41 Hours	Engines:	2 Reciprocating
Airframe Total Time:	3185 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	IO-540-E1B5
Registered Owner:		Rated Power:	290 hp
Operator:	IOWA STATE UNIVERSITY	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	DSM, 957 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	1750 CST	Direction from Accident Site:	180°
Lowest Cloud Condition:	Unknown / 100 ft agl	Visibility	0 Miles
Lowest Ceiling:	Overcast / 100 ft agl	Visibility (RVR):	6000 ft
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	-1° C / -2° C
Precipitation and Obscuration:			
Departure Point:	MILWAUKEE, WI (MKE)	Type of Flight Plan Filed:	IFR
Destination:		Type of Clearance:	IFR
Departure Time:	1517 CST	Type of Airspace:	Class D; Class E

Airport Information

Airport:	DES MOINES MUNI (DSM)	Runway Surface Type:	Asphalt
Airport Elevation:	957 ft	Runway Surface Condition:	Wet
Runway Used:	12L	IFR Approach:	ILS
Runway Length/Width:	9000 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	6 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	7 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	EUGENE ROTH	Report Date:	
Additional Participating Persons:	MICHAEL J ROCHE; WICHITA, KS FREDERICK H POGUE; WICHITA, KS BOB CATES; BETHANY, OK CHARLES E WARD; BETHANY, OK		
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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