



National Transportation Safety Board Aviation Accident Final Report

Location:	BARTLESVILLE, OK	Accident Number:	FTW95FA001
Date & Time:	10/01/1994, 0942 CDT	Registration:	N379SF
Aircraft:	MCMURTRIE JURCA MJ-10	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal

Flight Conducted Under: Part 91: General Aviation -

Analysis

THE PILOT TOOK OFF AND REMAINED IN THE TRAFFIC PATTERN. WITNESSES SAID HE HAD DIFFICULTY LOWERING THE LANDING GEAR AND BY THE TIME IT WAS FULLY EXTENDED, THE AIRPLANE HAD TURNED FINAL AND WAS HALFWAY DOWN THE RUNWAY. WITNESSES SAID POWER WAS INCREASED, THE NOSE PITCHED UP, THE LEFT WING DROPPED, AND THE AIRPLANE DOVE OR SPUN TO THE GROUND. THE PILOT'S BROTHER SAID THAT ON A PREVIOUS TEST FLIGHT, THE PILOT HAD MADE A FORCED LANDING WHEN THE PROPELLER FEATHERED, AND IT APPEARED TO HIM THE SAME THING HAPPENED ON THIS FLIGHT. THE PROPELLER DISASSEMBLY REPORT INDICATED THE BLADE ANGLE WAS '40 DEGREES TO 45 DEGREES. . . CONSIDERED HIGH FOR A SLOW SPEED IMPACT.' THIS WOULD BE POSSIBLE IF 'THE CONFIGURATION'S OUTPUT CONTROL PRESSURE WAS NOT CAPABLE OF MAINTAINING BLADE ANGLE, AND THAT THE PROPELLER WAS SLIPPING TO COARSE PITCH.' NO OIL LEAKS NOR PROPELLER GOVERNOR ANOMALIES WERE FOUND.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: AN INADVERTENT PILOT-INDUCED STALL AT TOO LOW AN ALTITUDE TO EFFECT A SAFE RECOVERY. FACTORS WERE THE MALFUNCTIONING PROPELLER SYSTEM AND THE UNCOMMANDED FEATHERING OF THE PROPELLER.

Findings

Occurrence #1: PROPELLER FAILURE/MALFUNCTION

Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (F) PROPELLER SYSTEM/ACCESSORIES, FEATHERING SYSTEM - MALFUNCTION
2. (F) PROPELLER FEATHERING - UNCONTROLLED

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
4. STALL - INADVERTENT - PILOT IN COMMAND
5. (C) DIVERTED ATTENTION - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On October 1, 1994, at 0942 central daylight time, a McMurtrie Jurca MJ-10, N379SF, was destroyed when it impacted terrain while maneuvering at the Bartlesville, Oklahoma, Municipal Airport. The airline transport rated pilot was fatally injured. Visual meteorological conditions prevailed.

The following is collectively based on four written witness statements. The aircraft took off, the landing gear was retracted, and the aircraft remained in the traffic pattern. On base leg, the landing gear was lowered; however, the left main gear did not appear to extend completely. The landing gear eventually was completely lowered; however, the airplane was halfway down the runway. The engine was heard to increase power as if the pilot was attempting to make a go-around. The airplane pitched up to a nose high attitude, stalled, the left wing dropped, and the airplane dove to the ground. One witness said the airplane made a "3/4-spin before impact."

During the investigation a video tape was provided to the investigator-in-charge to review. Although the last few seconds of the accident was not videotaped, the take off and cycling of the landing gear was captured and the engine sounds could be heard.

The pilot's brother, who assisted in building the airplane and who also witnessed the accident, stated that on a previous test flight several months earlier, the pilot was forced to execute a forced landing following an uncommanded propeller feathering. He further stated that it appeared to him that the propeller had again feathered.

AIRCRAFT INFORMATION

According to the aircraft maintenance records, the propeller was overhauled on December 1, 1992, and had not been used until it was installed on N379SF. Maintenance records further indicated the propeller governor was replaced on July 22, 1994.

WRECKAGE AND IMPACT INFORMATION

The accident site was located abeam, and approximately 150 feet to the right, of the departure end of runway 17. The first wreckage noted was the airplane's propeller, located just outside the ground fire area, and 6 feet to the right of the wreckage distribution centerline. All but one blade remained attached to the hub, and the hub remained attached to the gearbox. The third propeller blade was located nearby. In close proximity to the propeller were three ground disruptions. The first disruption, arbitrarily labeled the 12 o'clock position, measured 47 inches in length. The second disruption at the 3 o'clock position measured 84 inches in length. The third disruption at the 9 o'clock position measured 44 inches in length. Actual measurement from the propeller blade tip to the center of the hub was 45 inches.

There was a ground scar 18 feet, 10 inches long. At the beginning of this scar were red lens fragments. The scar terminated at the ground indentation containing the propeller hub. The main body of wreckage lay 55 feet beyond, aligned on a magnetic heading of 275 degrees. The left wing, although still attached to the fuselage via cables, was bent back 30 degrees. Both wings bore fire damage, particularly in the area of the fuel tanks.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy (T-374-94) was performed by the Oklahoma State Medical Examiner's Office. Toxicology protocol, conducted by FAA's Civil Aeromedical Institute (CAMI), revealed the presence of pseudoephedrine in blood and liver fluid. According to a CAMI spokesman, pseudoephedrine is a common over-the-counter nasal decongestant, and is not contraindicated for flying.

TESTS AND RESEARCH

The McCauley propeller was disassembled and examined at their Vandalia, Ohio, facilities under the supervision of a FAA maintenance inspector. According to the McCauley report, "Several impact marks found on propeller components indicate a blade angle range at impact of 40 degrees to 45 degrees, measured at the 30 inch reference station. The blade angle range is considered high for a slow speed impact... It is possible that the configuration's output control pressure was not capable of maintaining blade angle, and that the propeller was slipping to coarse pitch prior to impact. (This would be) possible if the propeller, governor, oil transfer bearing, and oil flow output, were not compatible for this installation, or, if an oil pressure leak in the transfer system occurred." Wreckage examination disclosed no evidence of oil leaks.

The Woodward propeller governor was disassembled and examined at their Rockton, Illinois, facility under the supervision of an FAA maintenance inspector. According to the Woodward report, there were "no anomalies in appearance or function," and the unit was "operational in all conditions."

ADDITIONAL INFORMATION

At the conclusions of these tests mentioned above, the wreckage and various components were returned and verbally released to the owner's representative. A written release, dated January 23, 1995, was sent to the owner's representative but was never returned.

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	52, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	02/25/1994
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	5646 hours (Total, all aircraft), 128 hours (Total, this make and model), 5486 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MCMURTRIE	Registration:	N379SF
Model/Series:	JURCA MJ-10 JURCA MJ-1	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	OK 1
Landing Gear Type:	Retractable - Tailwheel	Seats:	1
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5 Hours	Engine Manufacturer:	JAGUAR
ELT:	Not installed	Engine Model/Series:	V-326
Registered Owner:	MCMURTRIE, DONALD E.	Rated Power:	250 hp
Operator:	MCMURTRIE, DONALD E.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BVO, 716 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0941 CDT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	7 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	20° C / 14° C
Precipitation and Obscuration:			
Departure Point:	(BVO)	Type of Flight Plan Filed:	None
Destination:	, OK (BVO)	Type of Clearance:	None
Departure Time:	0940 CDT	Type of Airspace:	Class G

Airport Information

Airport:	BARTLESVILLE MUNICIPAL (BVO)	Runway Surface Type:	Asphalt
Airport Elevation:	716 ft	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	6200 ft / 100 ft	VFR Approach/Landing:	Traffic Pattern

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):	ARNOLD W SCOTT,	Report Date:	06/29/1995
Additional Participating Persons:	JAMES R KELLN; OKLAHOMA CITY, 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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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](#).