



National Transportation Safety Board Aviation Accident Final Report

Location:	RAPID CITY, SD	Accident Number:	DEN90FA055
Date & Time:	02/09/1990, 1114 MST	Registration:	N64MD
Aircraft:	MITSUBISHI MU-2B-60	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal, 1 Serious, 2 Minor

Flight Conducted Under: Part 135: Air Taxi & Commuter - Non-scheduled

Analysis

WITNESSES RPRTD THAT SHORTLY AFTER LIFT-OFF, THE ACFT ENTERED AN UNUSUALLY STEEP, NOSE HIGH ATTITUDE, WHILE STILL AT LOW AIRSPEED. ONE WITNESS (AN ATP PLT) RPRTD THE ACFT ATTAINED AN ALT OF APRX 75 TO 100 FT AND APPEARED TO SLOW DOWN AND ENTER A VMC ROLL, THEN IT CRASHED. IMPACT OCCURRED IN AN INVERTED, NOSE DOWN ATTITUDE, LEFT OF THE RWY. AN INVESTIGATION REVEALED THAT A COUPLING SHAFT (PN 865888-3) HAD FAILED IN THE LEFT ENG & THE LEFT PROP HAD FEATHERED. A METALLURICAL EXAM OF THE COUPLING SHOWED EVIDENCE OF FATIGUE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE OF THE PILOT TO MAINTAIN ADEQUATE AIRSPEED (VMC), WHICH RESULTED IN A LOSS OF AIRCRAFT CONTROL. A FACTOR RELATED TO THE ACCIDENT WAS: FATIGUE FAILURE OF A COUPLING SHAFT IN THE #1 ENGINE, WHICH RESULTED IN LOSS OF POWER IN THAT ENGINE.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (f) ENGINE ASSEMBLY - FATIGUE

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

Findings

2. (c) AIRSPEED(VMC) - NOT MAINTAINED - PILOT IN COMMAND

3. (c) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF

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):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	07/11/1989
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	5985 hours (Total, all aircraft), 291 hours (Total, this make and model), 4185 hours (Pilot In Command, all aircraft), 140 hours (Last 90 days, all aircraft), 53 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MITSUBISHI	Registration:	N64MD
Model/Series:	MU-2B-60 MU-2B-60	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	747SA
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	02/04/1990, AAIP	Certified Max Gross Wt.:	11575 lbs
Time Since Last Inspection:	14 Hours	Engines:	2 Turbo Prop
Airframe Total Time:	4382 Hours	Engine Manufacturer:	GARRETT
ELT:	Installed, not activated	Engine Model/Series:	TPE-331-10
Registered Owner:	CHANCELLOR AIRCRAFT LEASING	Rated Power:	715 hp
Operator:	AEROMEDICAL SERVICES INTL	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:	ASSOCIATED JET CHARTER	Operator Designator Code:	VTTA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	RAP, 3202 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1116 MST	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 4000 ft agl	Visibility	35 Miles
Lowest Ceiling:	Broken / 7000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	14 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	0° C / -8° C
Precipitation and Obscuration:			
Departure Point:	(RAP)	Type of Flight Plan Filed:	VFR/IFR
Destination:	MANITOBA, CANADA, OF (CYWG)	Type of Clearance:	IFR
Departure Time:	1113 MST	Type of Airspace:	Class E

Airport Information

Airport:	RAPID CITY REGIONAL (RAP)	Runway Surface Type:	Asphalt
Airport Elevation:	3202 ft	Runway Surface Condition:	Dry
Runway Used:	14	IFR Approach:	None
Runway Length/Width:	8701 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	VERLIN B TRANTER	Report Date:	06/30/1992
Additional Participating Persons:	RICHARD BRANDIGER; RAPID CITY, SD PETER BAKER RALPH SORRELLS MICHAEL BERNSTEIN		
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](#).