



National Transportation Safety Board Aviation Accident Final Report

Location:	Amarillo, TX	Accident Number:	CEN10LA117
Date & Time:	02/04/2010, 0215 CST	Registration:	N644EM
Aircraft:	MITSUBISHI MU-2B-60	Aircraft Damage:	Substantial
Defining Event:	Loss of control on ground	Injuries:	4 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

While on approach to the snow and ice-covered runway, the pilot was correcting for a right crosswind. The airplane was flying approximately 20 knots faster than the recommended landing airspeed. The airplane's right main landing gear touched down first followed by the left main landing gear and the nose gear. The airplane made an abrupt left turn and the pilot attempted to correct by depressing the right rudder pedal. The pilot lost control of the airplane and the airplane departed the left side of the runway. The right main landing gear was torn from the airplane and the airplane came to rest in the upright position. Airfield operations reported that the runway's braking condition was estimated at "nil." An examination of the airplane and its systems revealed no anomalies.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of directional control while landing on an ice/snow covered runway.

Findings

Aircraft	Directional control - Not attained/maintained (Cause)
Personnel issues	Alertness/Fatigue - Pilot
Environmental issues	Snow/slush/ice covered surface - Effect on operation (Factor)

Factual Information

****This report was modified on April 23, 2010****

On February 4, 2010, approximately 0215 central standard time, a Mitsubishi MU-2B-60, N644EM, was substantially damaged during a runway excursion at the Rick Husband Amarillo International Airport (KAMA), Amarillo, Texas. Night visual meteorological conditions prevailed at the time of the accident. The on-demand air taxi flight was being conducted under the provisions of Title 14 Code of Federal Regulations Part 135 on an instrument flight rules flight plan. The pilot and three passengers were not injured. The cross-country flight originated from the Dallas/Fort Worth International Airport (KDFW), Fort Worth, Texas at 0111 and was landing at its intended destination at the time of the accident.

According to a statement provided by the airline transport pilot, while on approach to the airport, the pilot was informed by airport operations that the runway was covered with snow and ice. The pilot acknowledged and continued the instrument approach to the landing runway. While on approach the pilot was correcting for a right crosswind. The pilot kept a higher approach speed and landed 20 knots faster than the manufacturer's recommended landing airspeed. The airplane's right main landing gear touched down first followed by the left main landing gear and the nose gear. The airplane made an abrupt left turn and the pilot attempted to correct by depressing the right rudder pedal. The pilot lost control of the airplane and the airplane departed the left side of the runway on a heading that was approximately 30 degrees left of runway heading. The right main landing gear detached from the airplane and the airplane came to rest in the upright position.

An inspector from the Federal Aviation Administration (FAA) responded to the accident scene and found no pre-impact anomalies with the airframe or engines. Denting, bending, and crushing damage was sustained to fuselage and the forward spar of the right wing. In an interview with the FAA inspector, a representative from airfield operations reported the runway's braking condition was estimated at "nil."

This accident is part of the Safety Board's Human Fatigue Investigation Methodology Study. Forms completed by the pilot indicate that he awoke at approximately 0700 on February 3, 2010. The pilot had been awake for 19 hours and 15 minutes prior to the accident, but had only been on-duty for 4 hours and 15 minutes.

At 0211, an aviation special weather report from KAMA's weather station reported winds from 120 degrees at 6 knots, 1/2 miles visibility with a runway 04 visual range of 4,000 to 5,000 feet, snow, freezing fog, an indefinite ceiling with a vertical visibility of 110 feet, temperature 28 degrees Fahrenheit (F), dew point 28 F, and a barometric pressure of 29.91 inches of Mercury.

History of Flight

Landing-landing roll	Other weather encounter
	Loss of control on ground (Defining event)
	Runway excursion

Pilot Information

Certificate:	Airline Transport	Age:	54, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	05/20/2009
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	10/23/2009
Flight Time:	12954 hours (Total, all aircraft), 9277 hours (Total, this make and model), 12822 hours (Pilot In Command, all aircraft), 90 hours (Last 90 days, all aircraft), 26 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	MITSUBISHI	Registration:	N644EM
Model/Series:	MU-2B-60	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	1534 S.A.
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	11/11/2009, 100 Hour	Certified Max Gross Wt.:	11575 lbs
Time Since Last Inspection:		Engines:	2 Turbo Prop
Airframe Total Time:	10019 Hours	Engine Manufacturer:	Honeywell
ELT:	C126 installed, not activated	Engine Model/Series:	TPE331-10-511
Registered Owner:	MARTIN EARLE P	Rated Power:	1000 hp
Operator:	MID-COAST AIR CHARTER INC	Air Carrier Operating Certificate:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	MM9A

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KAMA, 3607 ft msl	Observation Time:	0211 CST
Distance from Accident Site:	1 Nautical Miles	Condition of Light:	Night
Direction from Accident Site:		Conditions at Accident Site:	Instrument Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	-2° C / -2° C
Lowest Ceiling:	Indefinite (V V) / 110 ft agl	Visibility	
Wind Speed/Gusts, Direction:	6 knots, 120°	Visibility (RVR):	4500 ft
Altimeter Setting:	29.91 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	Moderate - Snow; Freezing - Fog		
Departure Point:	DALLAS/FORT WOR, TX (KDFW)	Type of Flight Plan Filed:	IFR
Destination:	Amarillo, TX (KAMA)	Type of Clearance:	IFR
Departure Time:	0111 CST	Type of Airspace:	

Airport Information

Airport:	Amarillo International (KAMA)	Runway Surface Type:	Concrete
Airport Elevation:	3607 ft	Runway Surface Condition:	Ice; Snow
Runway Used:	04	IFR Approach:	ILS
Runway Length/Width:	13502 ft / 200 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	3 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None		

Administrative Information

Investigator In Charge (IIC):	Jason T Aguilera	Adopted Date:	06/17/2010
Additional Participating Persons:	GORDON MORRIS; FEDERAL AVIATION ADMINISTRATION; LUBBOCK, TX		
Publish Date:	06/16/2010		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=75357		

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