



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	BROOMFIELD, CO	<b>Accident Number:</b>	DEN93LA013
<b>Date &amp; Time:</b>	11/20/1992, 1840 MST	<b>Registration:</b>	N473FW
<b>Aircraft:</b>	MITSUBISHI MU-2B-25	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Business		

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## Analysis

IN PREPARATION FOR A CROSS COUNTRY FLIGHT WITH TAKEOFF OCCURRING DURING A SNOW STORM, THE AIRCRAFT WAS LOADED IN THE HANGAR AND TOWED OUT BY FBO PERSONNEL. FOLLOWING THE TOW, THE TORQUE LINK WAS NOT PROPERLY CONNECTED AND SEPARATED DURING THE TAKEOFF RUN. DUE TO A LOSS OF NOSE WHEEL STEERING, THE TAKEOFF WAS ABORTED. THE AIRCRAFT DEPARTED THE SIDE OF THE RUNWAY DURING THE ABORT AND THE NOSE WHEEL WAS SHEARED OFF CAUSING DAMAGE TO BOTH ENGINES, WINGS, THE FUSELAGE, AND LANDING GEAR.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A FAILURE BY FBO PERSONNEL TO PROPERLY CONNECT THE NOSE WHEEL TORQUE LINK AFTER TOWING THE AIRCRAFT.

## Findings

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Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER  
Phase of Operation: TAKEOFF - ROLL/RUN

### Findings

1. WEATHER CONDITION - SNOW
  2. (C) LANDING GEAR,STEERING SYSTEM - DISCONNECTED
  3. (C) PROPER ASSISTANCE - NOT PERFORMED - FBO PERSONNEL
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Occurrence #2: NOSE GEAR COLLAPSED  
Phase of Operation: TAKEOFF - ABORTED

### Findings

4. TERRAIN CONDITION - SNOW COVERED

## Factual Information

### Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Instructor	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	10/13/1992
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	13753 hours (Total, all aircraft), 4200 hours (Total, this make and model), 1346 hours (Pilot In Command, all aircraft), 59 hours (Last 90 days, all aircraft), 31 hours (Last 30 days, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	MITSUBISHI	<b>Registration:</b>	N473FW
<b>Model/Series:</b>	MU-2B-25 MU-2B-25	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	269
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	09/23/1991, 100 Hour	<b>Certified Max Gross Wt.:</b>	9200 lbs
<b>Time Since Last Inspection:</b>	60 Hours	<b>Engines:</b>	2 Turbo Prop
<b>Airframe Total Time:</b>	3406 Hours	<b>Engine Manufacturer:</b>	GARRETT
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TPE331-6
<b>Registered Owner:</b>	WAYNE C. MUHLER	<b>Rated Power:</b>	725 hp
<b>Operator:</b>	WAYNE C. MUHLER	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	MUHL AIR	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	BJC, 5657 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1855 MST	Direction from Accident Site:	70°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	0 Miles
Lowest Ceiling:	Obscured / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	0°C / -7°C
Precipitation and Obscuration:			
Departure Point:	(BJC)	Type of Flight Plan Filed:	IFR
Destination:	LAS VEGAS, NV (LAS)	Type of Clearance:	IFR
Departure Time:	1840 MST	Type of Airspace:	Class E

## Airport Information

Airport:	JEFFERSON COUNTY (BJC)	Runway Surface Type:	Asphalt
Airport Elevation:	5658 ft	Runway Surface Condition:	Slush covered; Snow--wet
Runway Used:	29	IFR Approach:	
Runway Length/Width:	9000 ft / 100 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	NORMAN F WIEMEYER	Report Date:	09/14/1993
Additional Participating Persons:	BUDDY MAKIN; DENVER, CO		
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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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](#).