Aviation Investigation Final Report

Location:	Talkeetna, Alaska	**Accident Number:**	GAA16CA468
Date & Time:	September 3, 2016, 14:00 Local	**Registration:**	N40661
Aircraft:	Maule M4	**Aircraft Damage:**	Substantial
Defining Event:	Runway excursion	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of a tailwheel equipped airplane reported that he was landing on a backcountry airstrip. He reported that after touchdown, about two-thirds of the way down the runway during the landing roll, the wind shifted to a tailwind. He further reported that the airplane over ran the runway, impacted a hill, and nosed over.

The airplane sustained substantial damage to the empennage.

The pilot reported no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

According to the pilot the wind was variable at 7-8 knots prior to the accident.

The Federal Aviation Administration has published the Advisory Circular (AC) 91-79A. This AC discusses the hazards associated with runway overruns and the effect of a tailwind on landing distance and states in part:

The pilot must be aware of airspeed during the approach and of the targeted reference landing airspeed (VREF)/airspeed, plus wind gust adjustments, over the runway threshold. An excessive approach speed may result in an excessive speed over the runway's threshold, which may result in landing beyond the intended touchdown point as well as a higher speed from which the pilot must bring the airplane to a stop.

The effect of a tailwind on landing distance is significant and is a factor in determining the landing distance required. Given the airplane will land at a particular airspeed, independent of the wind, the principal effect of a tailwind on operational landing distance is the change in the ground speed at which the airplane touches down.

Probable Cause and Findings

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

The pilot's failure to recognize and compensate for tailwind conditions during the landing roll, which resulted in a runway overrun and nose over.

Findings

Personnel issues	Identification/recognition - Pilot
Personnel issues	Aircraft control - Pilot
Environmental issues	Tailwind - Ability to respond/compensate
Environmental issues	Tailwind - Awareness of condition

Factual Information

History of Flight

Landing-landing roll	Other weather encounter
Landing-landing roll	Runway excursion (Defining event)
Landing-landing roll	Collision with terr/obj (non-CFIT)
Landing-landing roll	Nose over/nose down

Pilot Information

Certificate:	Commercial	**Age:**	28,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	August 18, 2015
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	July 31, 2015
Flight Time:	(Estimated) 1190 hours (Total, all aircraft), 500 hours (Total, this make and model), 970 hours (Pilot In Command, all aircraft), 81 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Maule	**Registration:**	N40661
Model/Series:	M4 220C	**Aircraft Category:**	Airplane
Year of Manufacture:	1973	**Amateur Built:**	
Airworthiness Certificate:	Normal; Utility	**Serial Number:**	2173C
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	August 16, 2016 Annual	**Certified Max Gross Wt.:**	2300 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1481.3 Hrs as of last inspection	**Engine Manufacturer:**	Franklin
ELT:	C91 installed, activated, aided in locating accident	**Engine Model/Series:**	6A-350-C1
Registered Owner:		**Rated Power:**	220 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PAEC,1400 ft msl	**Distance from Accident Site:**	21 Nautical Miles
Observation Time:	22:52 Local	**Direction from Accident Site:**	260°
Lowest Cloud Condition:	Few / 3000 ft AGL	**Visibility**	30 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	29.92 inches Hg	**Temperature/Dew Point:**	20°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	TALKEETNA, AK (TKA)	**Type of Flight Plan Filed:**	None
Destination:	Talkeetna, AK	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	62.889999,-149.171951(est)

Administrative Information

Investigator In Charge (IIC):	Vanover, Jackie
Additional Participating Persons:	Pete Alexakis; FAA; Anchorage, AK
Original Publish Date:	January 18, 2017
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93963

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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.