



Aviation Investigation Final Report

Location:	Marlborough, Massachusetts	Accident Number:	GAA18CA288
Date & Time:	May 20, 2018, 13:15 Local	Registration:	N143RD
Aircraft:	DIAMOND AIRCRAFT IND INC DA 40	Aircraft Damage:	Substantial
Defining Event:	Loss of control on ground	Injuries:	4 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, during landing, the airplane touched down in the first third of the 1,659-ft-long runway, but the airplane did not seem to slow as normal with the brakes applied. He pumped the brakes, but the deceleration was "less than expected." He considered performing a go around but decided to use maximum braking instead. With maximum braking applied, the airplane veered off the runway to the right and impacted a fence.

The airplane sustained substantial damage to the left wing.

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

He further reported that, following the accident, he inspected the runway and found solid skid marks from the right tire and broken skid marks from the left tire.

The pilot reported that, about the time of the accident, the wind was light and variable and predominately from 280°. The automated weather observation station located about 12 miles east of the accident airport reported that, about 19 minutes before the accident, the wind was from 220° at 12 knots. The airplane landed on runway 32.

The calculated landing roll with full flaps was 930 ft, and the landing distance over a 50-ft obstacle was 2,020 ft.

The manufacturer stated that "For a safe landing the landing distance available (LDA) should be at least equal to the landing distance of a 50 ft (15m) obstacle."

Probable Cause and Findings

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

The pilot's improper decision to land on a runway that was too short for a safe landing and his subsequent failure to maintain directional control in tailwind conditions.

Findings

Aircraft	Directional control - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Personnel issues	Decision making/judgment - Pilot
Environmental issues	Tailwind - Effect on operation
Aircraft	Surface speed/braking - Not attained/maintained
Environmental issues	Fence/fence post - Contributed to outcome

Factual Information

History of Flight

Landing-landing roll	Loss of control on ground (Defining event)
Landing-landing roll	Runway excursion
Landing-landing roll	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Airline transport; Commercial; Flight engineer; Flight instructor	Age:	51, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Waiver time limited special	Last FAA Medical Exam:	March 16, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 9, 2017
Flight Time:	(Estimated) 15129 hours (Total, all aircraft), 165 hours (Total, this make and model), 2979 hours (Pilot In Command, all aircraft), 48 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft), 1.2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DIAMOND AIRCRAFT IND INC	Registration:	N143RD
Model/Series:	DA 40 UNDESIGNAT	Aircraft Category:	Airplane
Year of Manufacture:	2006	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	40.657
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	December 18, 2017 Annual	Certified Max Gross Wt.:	2646 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2176.1 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-360-M1A
Registered Owner:		Rated Power:	180 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:	KBED, 133 ft msl	Distance from Accident Site:	12 Nautical Miles
Observation Time:	16:56 Local	Direction from Accident Site:	53°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 3400 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.82 inches Hg	Temperature/Dew Point:	25°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SUSSEX, NJ (FWN)	Type of Flight Plan Filed:	IFR
Destination:	Marlborough, MA (9B1)	Type of Clearance:	IFR
Departure Time:	12:15 Local	Type of Airspace:	Class G

Airport Information

Airport:	MARLBORO 9B1	Runway Surface Type:	Asphalt
Airport Elevation:	285 ft msl	Runway Surface Condition:	Dry;Rough
Runway Used:	32	IFR Approach:	None
Runway Length/Width:	1659 ft / 45 ft	VFR Approach/Landing:	Full stop

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	Latitude, Longitude:	42.344444,-71.511665(est)

Administrative Information

Investigator In Charge (IIC):	Benhoff, Kathryn
Additional Participating Persons:	Michael Masterson; FAA; Burlington, MA
Original Publish Date:	October 24, 2018
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97288

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