



Aviation Investigation Factual Report

Location:	Portsmouth, New Hampshire	Accident Number:	ERA21LA099
Date & Time:	January 3, 2021, 11:18 Local	Registration:	N489RS
Aircraft:	Diamond Aircraft DA 40	Aircraft Damage:	Substantial
Defining Event:	Fire/smoke (non-impact)	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Factual Information

On January 3, 2021, about 1118 eastern standard time, a Diamond Aircraft DA 40, N489RS, was substantially damaged when it was involved in an accident near Portsmouth, New Hampshire. The flight instructor and pilot receiving instruction were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

After a short flight, the pilot performed a landing on runway 34. The instructor assumed control of the airplane during the roll, taxied to the hold-short line at the approach end of runway 34, and waited for landing traffic. Soon after, the pilot of the landing airplane announced over the tower radio frequency that the airplane holding short was “on fire.” The instructor confirmed that smoke was rising from beneath the right wing and both he and the pilot egressed the airplane without injury.

Video recorded by the pilots before the arrival of aircraft rescue and firefighting (ARFF) vehicles showed the right main landing gear tire, wheel pant, landing gear strut, and underside of the right wing in flames. ARFF arrived within 3 minutes of notification and extinguished the fire. The instructor reported that he noticed no anomalies with the performance and handling of the airplane during taxi. He stated that, throughout the taxi back to the hold-short line, the steering forces required and the braking power he experienced were “normal.”

The removable SD card from the Garmin G1000 Multifunction Display was undamaged and was downloaded normally. A review of the recorded data revealed that, after landing, the airplane turned right at the first perpendicular taxiway (Bravo) and again turned right onto the parallel taxiway (Alpha). While on taxiway Alpha, the ground speed varied between about 22 and 27 knots. The ground speed indication was displayed to the flight crew.

At the start of a right turn where Alpha taxiway turned 90° and intersected the approach end of runway 34, the ground speed was about 23 knots. The ground speed then decreased sharply several times, each time followed by several seconds of constant or slightly increasing ground speed until the data ended, as the airplane neared the hold short line for runway 34.

The airplane was recovered to a maintenance facility and examined by a representative of the manufacturer under the supervision of a Federal Aviation Administration aviation safety inspector. Examination revealed normal wear of the brake pads and no pre-accident mechanical anomalies. Examination of the fuel tank directly above the right main landing gear wheel and brake assembly revealed that it was intact with no leaks and contained about 15 gallons of fuel.

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	52, Male
Airplane Rating(s):	Single-engine land; Single-engine sea	Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	February 27, 2020
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	6509 hours (Total, all aircraft), 32.6 hours (Total, this make and model), 5970 hours (Pilot In Command, all aircraft), 72.2 hours (Last 90 days, all aircraft), 7.5 hours (Last 30 days, all aircraft)		

Pilot Information

Certificate:	Private	Age:	50, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	August 9, 2019
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 29, 2020
Flight Time:	375 hours (Total, all aircraft), 1 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Diamond Aircraft	Registration:	N489RS
Model/Series:	DA 40	Aircraft Category:	Airplane
Year of Manufacture:	2004	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	40.379
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	September 30, 2020 100 hour	Certified Max Gross Wt.:	2535 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3149.9 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	I0360 MIA
Registered Owner:	VIAGE LLC	Rated Power:	180 Horsepower
Operator:	Avier Flight School	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KPSM, 100 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	11:26 Local	Direction from Accident Site:	42°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.18 inches Hg	Temperature/Dew Point:	0°C / -4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Beverly, MA (BVY)	Type of Flight Plan Filed:	None
Destination:	Portsmouth, NH	Type of Clearance:	VFR
Departure Time:	11:00 Local	Type of Airspace:	Class D

Airport Information

Airport:	Portsmouth International KPSM	Runway Surface Type:	Asphalt;Concrete
Airport Elevation:	100 ft msl	Runway Surface Condition:	Dry
Runway Used:	34	IFR Approach:	None
Runway Length/Width:	11322 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	43.077944,-70.823278(est)

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	William Moore; FAA; Portland, ME Beverley Harvey; TSB Canada; Quebec, OF
Report Date:	December 13, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=102515

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).