



Aviation Investigation Final Report

Location:	Tampa, Florida	Accident Number:	ERA20CA106
Date & Time:	February 18, 2020, 15:50 Local	Registration:	N188FS
Aircraft:	Aerospatiale AS350	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor in the helicopter reported that he directed the pilot receiving instruction to conduct an autorotation with a 180° turn, followed by a power recovery. Abeam the departure end of runway, he moved the throttle lever from the "fly" position to idle. While conducting the maneuver, the pilot overshot the runway and aligned the helicopter with the parallel taxiway. Upon realizing that the helicopter was not in the correct position, the pilots chose to abort the maneuver and perform a go-around. While the pilot continued to fly the helicopter, the instructor inadvertently moved the throttle lever from idle aft toward the "off" position and then forward to the "fly" position. The engine experienced a total loss of power, and the instructor adjusted the throttle to no avail. As the helicopter descended, the pilot requested that the instructor "get on the controls." The instructor took the controls, conducted a power-off autorotation, and landed the helicopter on the taxiway. The helicopter skidded about 180 ft, departed the taxiway onto adjacent grass, and came to rest in a drainage ditch. The instructor reported that there were no preaccident mechanical failures or malfunctions with the helicopter that would have precluded normal operation. The Federal Aviation Administrator inspector who examined the helicopter reported that the left antivibrator mount beam had sustained substantial damage.

Probable Cause and Findings

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

The flight instructor's inadvertent throttle reduction below idle, which resulted in a total loss of engine power and subsequent impact with terrain following a power-off autorotation.

Findings

Personnel issues

Use of equip/system - Instructor/check pilot

Aircraft

Fuel controlling system - Unintentional use/operation

Factual Information

History of Flight

Autorotation	Landing area undershoot
Autorotation	Attempted remediation/recovery
Autorotation	Loss of engine power (total) (Defining event)
Landing	Loss of control on ground
Landing	Runway excursion
Landing	Collision during takeoff/land

Flight instructor Information

Certificate:	Airline transport; Commercial	Age:	56, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	April 16, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 20, 2019
Flight Time:	(Estimated) 12088 hours (Total, all aircraft), 1226 hours (Total, this make and model), 11023 hours (Pilot In Command, all aircraft), 49 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Private	Age:	32, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	July 22, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 25, 2009
Flight Time:	(Estimated) 225 hours (Total, all aircraft), 104 hours (Total, this make and model), 118 hours (Pilot In Command, all aircraft), 67 hours (Last 90 days, all aircraft), 23 hours (Last 30 days, all aircraft), 1 hour (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aerospatiale	Registration:	N188FS
Model/Series:	AS350 B2	Aircraft Category:	Helicopter
Year of Manufacture:	2014	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	7863
Landing Gear Type:	High skid	Seats:	6
Date/Type of Last Inspection:	October 9, 2019 100 hour	Certified Max Gross Wt.:	4961 lbs
Time Since Last Inspection:		Engines:	1 Turbo shaft
Airframe Total Time:	2627.3 Hrs at time of accident	Engine Manufacturer:	SAFRAN/Turbomeca
ELT:	C126 installed, not activated	Engine Model/Series:	Arriel 1D1
Registered Owner:	Hillsborough County Sheriffs Office	Rated Power:	72195 Horsepower
Operator:	Hillsborough County Sheriffs Office	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	VDF, 22 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	21:15 Local	Direction from Accident Site:	66°
Lowest Cloud Condition:		Visibility:	10 miles
Lowest Ceiling:	Overcast / 4900 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots / 14 knots	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.09 inches Hg	Temperature/Dew Point:	29°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Tampa, FL (TPF)	Type of Flight Plan Filed:	None
Destination:	Tampa, FL (VDF)	Type of Clearance:	None
Departure Time:	15:45 Local	Type of Airspace:	Class G

Airport Information

Airport:	Tampa Executive VDF	Runway Surface Type:	Asphalt
Airport Elevation:	21 ft msl	Runway Surface Condition:	Dry
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	3219 ft / 75 ft	VFR Approach/Landing:	Forced landing; Simulated forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	28.013889,-82.345275(est)

Administrative Information

Investigator In Charge (IIC):	Gutierrez, Eric
Additional Participating Persons:	Randy E Ryhal; FAA / FSDO; Tampa, FL
Original Publish Date:	August 25, 2020
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=100970

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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](#).