Aviation Investigation Final Report

Location:	McAlpin, Florida	**Accident Number:**	ERA19LA138
Date & Time:	March 26, 2019, 17:10 Local	**Registration:**	N30271
Aircraft:	FISHER FLYING PRODUCTS Dakota Hawk	**Aircraft Damage:**	Destroyed
Defining Event:	Fuel related	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot allowed the engine to idle for 8 to 10 minutes while he waited for it to warm up, then completed the engine runup and taxied the airplane for takeoff. He reported that the takeoff run was longer than usual, and because he was preoccupied watching the airspeed, he passed his previously established takeoff abort point. Upon reaching rotation speed, he determined that it was no longer safe to abort the takeoff and continued, although the engine did not seem to be producing normal power. Shortly after clearing trees at the end of the runway, "the left wing dropped," and he lowered the nose to prevent the airplane from stalling. When he determined that he had insufficient altitude to recover, he landed straight ahead in a young pine tree plantation. He managed to safely egress before a postimpact fire destroyed the airplane.

Postaccident examination of the engine revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation. The atmospheric conditions at the time of the accident were conducive to the formation of serious carburetor icing at low engine power settings. It is likely that carburetor ice developed during the time the engine was operating at idle power before takeoff, which resulted in a partial loss of engine power during the takeoff and initial climb.

Probable Cause and Findings

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

The pilot's failure to use carburetor heat while operating at idle power in atmospheric conditions conducive to the formation of carburetor ice, which resulted in a partial loss of engine power during takeoff.

Findings

Environmental issues	Conducive to carburetor icing - Effect on equipment
Personnel issues	Lack of action - Pilot

Factual Information

History of Flight

Takeoff	Fuel related (Defining event)
Takeoff	Loss of engine power (partial)
Emergency descent	Collision with terr/obj (non-CFIT)
Post-impact	Fire/smoke (post-impact)

On March 26, 2019, about 1710 eastern daylight time, an experimental amateur-built Fisher Flying Products Dakota Hawk, N30271, impacted terrain during a forced landing shortly after takeoff from Little River Airport (FL10), McAlpin, Florida. The private pilot was uninjured, and the airplane was destroyed by a post-impact fire. The airplane was privately owned and operated as a personal flight under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed at the time of the accident and no flight plan was filed for the local flight.

According to the pilot, he intended to fly in the airport traffic pattern to practice touch-and-go landings. He performed a preflight inspection, allowed the engine to idle for 5-7 minutes to warm up, and completed an engine run-up with no anomalies noted. He reported that the engine operated at low power for a total of 8-10 minutes prior to takeoff from the 2,668-ft-long by 50-ft-wide turf runway 27. He stated that the takeoff run was longer than usual, and that he passed his established abort point because he was preoccupied watching his airspeed. Upon reaching rotation speed, he determined that it was no longer safe to abort his takeoff and continued although the engine did not seem to be producing normal power. He barely cleared the trees at the end of the runway and shortly thereafter "the left wing dropped," and he lowered the nose to prevent the airplane from stalling. When he determined that he had insufficient altitude to recover, he landed straight ahead in a young pine tree plantation. He managed to safely egress before a post-impact fire destroyed the airplane.

The airplane came to rest about 1,000 ft beyond the departure end of runway 27. Most of the airplane, except for a portion of the empennage and the engine, was destroyed by the post-impact fire.

According to Federal Aviation Administration (FAA) airman records, the pilot held a private pilot certificate with a rating for airplane single-engine land. The pilot reported 87 total hours of flight experience of which 18 hours were in the accident airplane make and model.

According to FAA airworthiness records, the airplane, serial number DH-26, was built in 2002. It was equipped with a Continental O-200-A engine, rated at 100 horsepower, that drove a ground adjustable variable-pitch propeller. According to maintenance records, the last condition inspection was performed on January 30, 2019, at a total time-in-service of 508.9 hours. The engine had accrued 4,502.1 total hours of operation; of which, 523.1 hours were since its last major overhaul.

The wreckage was recovered from the accident site for detailed examination. Examination of the engine revealed that the carburetor was fractured off the engine. Examination of the cylinders with a lighted

borescope revealed no damage to the cylinder walls or pistons. The cylinders were oil soaked; however, the engine was rotated several times for transportation. The propeller was rotated by hand and thumb compression was established on all cylinders. Continuity of the power and valvetrains was established throughout the engine. The rocker covers were removed, and the rocker arms, springs, and push rods all appeared to be normal. The right magneto was removed and its input shaft was rotated by hand; spark was observed emanating from all leads. The left magneto was removed and rotated by hand. No spark was present. Examination of the magneto revealed that the post-accident fire melted the internal components.The carburetor was intact and disassembled for examination. Although the carburetor was fire-damaged, all the components appeared intact and serviceable. The inlet screen clear of debris.

The 1715 weather reported at Suwannee County Airport (24J), Live Oak, Florida, located 13 miles northwest of the accident site, included wind from 360° at 6 knots, visibility of 10 miles, few clouds at 8,000 ft, temperature 25° C, dew point 9° C, and an altimeter setting of 29.96 inches of mercury. The calculated relative humidity at this temperature and dewpoint was 36%.

According to a Carburetor Icing-Probability Chart recommended by the Australian Transport Safety Bureau, the atmospheric conditions at the time of the accident were "conducive to moderate icing at cruise power and serious icing at descent power." FAA Advisory Circular 20-113 explains, "To prevent accidents due to induction system icing, the pilot should regularly use [carburetor] heat under conditions known to be conducive to atmospheric icing and be alert at all times for indications of icing in the fuel system."

Pilot Information

Certificate:	Private	**Age:**	63,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:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	BasicMed With waivers/limitations	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 25, 2017
Flight Time:	87 hours (Total, all aircraft), 18 hours (Total, this make and model), 53 hours (Pilot In Command, all aircraft), 28 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	FISHER FLYING PRODUCTS	**Registration:**	N30271
Model/Series:	Dakota Hawk	**Aircraft Category:**	Airplane
Year of Manufacture:	2002	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental light sport (Special)	**Serial Number:**	DH-26
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	January 30, 2019 Condition	**Certified Max Gross Wt.:**	1250 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	523.1 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Not installed	**Engine Model/Series:**	O-200
Registered Owner:		**Rated Power:**	100 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:	K24J,1033 ft msl	**Distance from Accident Site:**	13 Nautical Miles
Observation Time:	17:15 Local	**Direction from Accident Site:**	315°
Lowest Cloud Condition:	Few / 8000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	Unknown / None
Wind Direction:	360°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	25°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	McAlpin, FL (FL10)	**Type of Flight Plan Filed:**	None
Destination:	McAlpin, FL (FL10)	**Type of Clearance:**	None
Departure Time:	17:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Little River FL10	**Runway Surface Type:**	Grass/turf
Airport Elevation:	90 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	27	**IFR Approach:**	None
Runway Length/Width:	2668 ft / 50 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	30.118055,-82.915275(est)

Administrative Information

Investigator In Charge (IIC):	Spencer, Lynn		
Additional Participating Persons:	Gregory King; FAA/FSDO; Tampa, FL		
Original Publish Date:	December 3, 2020	**Investigation Class:**	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99178		