National Transportation Safety Board
Aviation Accident Data Summary

Location:	Merritt Island, FL	**Accident Number:**	ERA14FA282
Date & Time:	06/09/2014, 2036 EDT	**Registration:**	N516XL
Aircraft:	LIBERTY AEROSPACE INCORPORATED XL-2	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

According to a friend of the airplane's owner, the purpose of the flight was for the owner to check out another pilot in the airplane. It could not be determined which pilot was flying the airplane at the time of the accident. Review of uncorrelated radar data indicated that the flight departed and maneuvered in the local area for about 26 minutes before the accident occurred. One witness stated that the airplane was about 200 ft above ground level when it entered a turn, and then its nose dropped and it descended to the ground. Two other witnesses reported seeing the airplane descending in a nose-down attitude. The witnesses provided conflicting information as to whether or not the airplane's engine was producing power. Examination of the accident site indicated that the airplane impacted in a steep descent. The witness observations and the impact geometry are consistent with the pilots failing to maintain adequate airspeed while maneuvering, resulting in the airplane exceeding its critical angle of attack and experiencing an aerodynamic stall.

The propeller blade signatures were consistent with the engine not producing power at impact. Engine parameter data downloaded from the full authority digital engine control's (FADEC) data recording device revealed normal rpm, cylinder head temperature, and fuel pressure readings from takeoff to the end of the recorded data, and no FADEC fault codes were recorded. However, the recorded data ended before the loss of control occurred. Postaccident examination of the engine powertrain, fuel distribution block, and fuel injectors revealed no evidence of preimpact failure or malfunction. Both of the engine's electronic control units sustained impact damage that precluded operational testing. Although the auxiliary fuel pump was determined to have been inoperative for a long period of time before the flight due to separation of one electrical wire near the pump, the engine-driven fuel pump was operational and capable of providing adequate fuel to the engine to sustain engine power. The investigation could not determine the reason the engine was not producing power at impact.

Flight Events

Maneuvering - Loss of engine power (total)
Maneuvering-low-alt flying - Aerodynamic stall/spin
Maneuvering-low-alt flying - Loss of control in flight
Uncontrolled descent - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The failure of the pilots to maintain airspeed while maneuvering, which resulted in the airplane

exceeding its critical angle of attack and experiencing an aerodynamic stall. Contributing to the accident was the loss of engine power for a reason that could not be determined by the postaccident examination, which was limited due to impact damage.

Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Airspeed-Not attained/maintained - C
Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Angle of attack-Capability exceeded - C
Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

Pilot Information

Certificate:	Airline Transport; Commercial	**Age:**	47
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Instrument Rating(s):**	Airplane
Other Aircraft Rating(s):	None	**Instructor Rating(s):**	None
Flight Time:	2140 hours (Total, all aircraft), 43.7 hours (Total, this make and model), 18.3 hours (Last 90 days, all aircraft), 3.2 hours (Last 30 days, all aircraft)		

Other Flight Crew Information

Certificate:	Private	**Age:**	65
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Instrument Rating(s):**	None
Other Aircraft Rating(s):	None	**Instructor Rating(s):**	None
Flight Time:	30 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	LIBERTY AEROSPACE INCORPORATED	**Registration:**	N516XL
Model/Series:	XL-2	**Engines:**	1 Reciprocating
Operator:	SPATIAL, INC.	**Engine Manufacturer:**	CONT MOTOR
Operating Certificate(s) Held:	None	**Engine Model/Series:**	IOF-240-B
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Dusk
Observation Facility, Elevation:	COF, 8 ft msl	**Weather Information Source:**	Weather Observation Facility
Lowest Ceiling:	None	**Wind Speed/Gusts, Direction:**	6 knots / , 120°
Temperature:	27°C	**Visibility**	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Merritt Island, FL (COI)	**Destination:**	Merritt Island, FL (COI)

Airport Information

Airport:	Merritt Island Airport (COI)	**Runway Surface Type:**	
Runway Used:	N/A	**Runway Surface Condition:**	Unknown
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Latitude, Longitude:	28.368056, -80.687500		

Administrative Information

Investigator In Charge (IIC):	Timothy W Monville	**Adopted Date:**	11/19/2015
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=89401		