

NATIONAL TRANSPORTATION SAFETY BOARD PILOT/OPERATOR AIRCRAFT ACCIDENT/INCIDENT REPORT

This form to be used for reporting civil and public aircraft accidents and incidents

BASIC INFORMATION

Accident/Incident Location

Nearest City/Place: Santa Fe State: NM

ZIP: _____ Country: USA

Latitude: _____ Longitude: _____

(Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time

Date: 01/15/2018 Local Time: 1935

mm/dd/yyyy

Time Zone: Mtn

Collision with Other Aircraft: ☐ Midair ☐ On-ground ☒ None

AIRCRAFT INFORMATION

Registration Number: N787SB

Manufacturer: Bryk

Model: Velocity xl-rg

Serial Number: 3RX097

Year of Manufacture: 2003

Amateur-Built: ☒ Yes ☐ No If Yes: ☒ Kit/Plans ☐ Original Design Make: Velocity

☒ IFR-Equipped and Certified

☐ Commercial Space Flight

☐ Unmanned Aircraft

Maximum Gross Weight: 2900 lbs

Weight at Time of Accident/Incident: 2470 lbs

Number of Seats: 4 Flight Crew Seats: 2

Cabin Crew Seats: 0 Passenger Seats: 2

Number of Engines: 1

Category of Aircraft

- ☒ Airplane
- ☐ Balloon
- ☐ Blimp/Dirigible
- ☐ Glider
- ☐ Gyroplane
- ☐ Helicopter
- ☐ Powered Lift
- ☐ Rocket
- ☐ Ultralight
- ☐ Unknown

Type of Airworthiness Certificate (Check all that apply)

Standard

- ☐ Normal
- ☐ Aerobatic
- ☐ Balloon
- ☐ Commuter
- ☐ Transport
- ☐ Utility

☐ Certificate of Authorization or Waiver (COA)
☐ None

Special

- ☐ Restricted
- ☐ Limited
- ☐ Provisional
- ☐ Special Flight
- ☒ Experimental
- ☐ Special Light-Sport
- ☐ Experimental Light-Sport

☐ Unknown

Landing Gear

(Check all that apply)

☒ Retractable

☐ Tricycle

☐ Amphibian

☐ Emergency Float

☐ Float

☐ Hull

☐ Other Launch/Recovery System

☐ None

☐ Tailwheel

☐ High Skid

☐ Skid

☐ Ski

☐ Ski/Wheel

☐ Unknown

Engine Type (Select one)

- ☒ Reciprocating
- ☐ Turbo Shaft
- ☐ Turbo Prop
- ☐ Turbo Jet
- ☐ Turbo Fan
- ☐ Electric
- ☐ Liquid Rocket
- ☐ Solid Rocket
- ☐ Hybrid Rocket
- ☐ None
- ☐ Unknown

Fuel System Type (Reciprocating)

☐ Carburetor ☒ Fuel-Injected

Engine	Engine Manufacturer	Engine Model/Series	Manufacturer's Serial Number	Date of Mfg. <i>mm/dd/yyyy</i>	Rated Power ☒ Horsepower or ☐ lbs of Thrust	Total Time (hours)	Time Since: Inspection (hours)	Overhaul (hours)
Eng. 1	Lycoming	I0540			300	500	25	
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

- ☐ 100-Hour
- ☐ AAIP
- ☒ Annual
- ☐ Continuous Airworthiness
- ☐ Conditional Inspection
- ☐ Unknown

Date Last Inspection: 08/01/2017

mm/dd/yyyy

Airframe Total Time: 600 hrs

hours measured at (Select one)

☒ Last Inspection ☐ Time of Accident/Incident

Type of Maintenance Program (Select one)

- ☒ Annual
- ☐ Conditional (Amateur-built only)
- ☐ Manufacturer's Inspection Program
- ☐ Other Approved Inspection Program (AAIP)
- ☐ Continuous Airworthiness
- ☐ Other, specify: _____

Description of Fire Extinguishing System

- ☐ None
- ☒ Specify: hand tank

Propeller 1

- ☐ Fixed Pitch
- ☒ Controllable Pitch
- ☐ Ground Adjustable

Manufacturer: MT

Model: _____

Propeller 2

- ☐ Fixed Pitch
- ☐ Controllable Pitch
- ☐ Ground Adjustable

Manufacturer: _____

Model: _____

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: _____

Model or Part No.: _____

TSO No.: ☐ C91 (121.5 MHz) ☐ C91a (121.5 MHz)
☐ C126 (406 MHz)

Was ELT still mounted in aircraft? ☒ Yes ☐ No

Was ELT still connected to antenna? ☐ Yes ☐ No

Did ELT Activate? ☐ Yes ☐ No

If activated:

Did ELT Aid in Locating Aircraft: ☐ Yes ☒ No

If not activated:

- Indicate Reason:
- ☐ Impact Damage
 - ☐ Fire Damage
 - ☐ Battery Expired/Damaged
 - ☒ Unknown

Additional Equipment (Check all that apply)

- ☐ ADS-B
- ☐ Airframe Parachute
- ☐ Angle of Attack Indicator
- ☒ Autopilot
- ☐ Data Recorder
- ☐ Electronic Flight Bag or Handheld Device
- ☒ Electronic Multifunction Display
- ☐ Electronic Primary Flight Display
- ☒ Handheld GPS
- ☐ Heads Up Display
- ☐ Onboard Weather
- ☐ Satellite Tracking Device
- ☐ Stall Warning System
- ☐ Video Recording Device
- ☐ Other, Specify: _____

OWNER/OPERATOR INFORMATION**Registered Aircraft Owner**Name: Cloud Catcher Properties, INCCity: Klamath FallsState: ORZIP: 97601Fractional Ownership Aircraft: ☐ Yes ☒ No

Country: _____

Operator of Aircraft☒ Same As Registered Owner☒ Same Address as Registered Owner

Name: _____

City: _____

Doing Business As: _____

State: _____

ZIP: _____

Air Carrier/Operator Designator (4 Character Code): _____

Country: _____

Operating Certificates Held

(Check all that apply)

- ☐ None
☐ Flag Carrier Operating Certificate (FAR 121)
☐ Supplemental
☐ Air Cargo
☐ Foreign Air Carriers (FAR 129)
☐ Rotorcraft External Load (FAR 133)
☐ Commuter Air Carrier (FAR 135)
☐ On-Demand Air Taxi (FAR 135)
☐ Commercial Air Tour (FAR 136)
☐ Agricultural Aircraft (FAR 137)
☐ Pilot School (FAR 141)
☐ Certificate of Authorization or Waiver (COA)
☐ Commercial Space Transportation
Experimental Permit
☐ Commercial Space Transportation License
☐ Other Operator of Large Aircraft

Regulation Flight Conducted Under

- ☒ FAR 91 ☐ FAR 129 ☐ FAR 415
☐ FAR 103 ☐ FAR 133 ☐ FAR 431
☐ FAR 121 ☐ FAR 135 ☐ FAR 435
☐ FAR 125 ☐ FAR 137 ☐ FAR 437

- ☐ FAR 91 Special Flight
☐ Non-US, Commercial
☐ Non-US, Non-commercial

☐ Public Aircraft (Select one)

- ☐ Armed Forces
☐ Federal
☐ State
☐ Local

☐ Unknown**Revenue Operation for FAR 121, 125, 129, 135**

(Select one for each group)

- ☐ Scheduled or Commuter ☐ Domestic
☐ Non-Scheduled or Air Taxi ☐ International

- ☐ Passenger
☐ Cargo
☐ Mail Contract Only

Purpose of Flight for FAR 91, 103, 133, 137

(Select one)

- ☐ Aerial Application ☐ Firefighting ☐ Unknown
☐ Aerial Observation ☐ Flight Test
☐ Air Drop ☐ Glider Tow
☐ Air Race/Show ☐ Instructional
☐ Banner Tow ☐ Other Work Use
☐ Business ☒ Personal
☐ Executive/Corporate ☐ Positioning
☐ External Load ☐ Skydiving
☐ Ferry

Revenue Sightseeing Flight☐ Yes ☒ No**Air Medical Flight**☐ Yes ☒ No**AIRPORT INFORMATION** (Fill in if accident/incident occurred on approach, landing, takeoff, departure, or within 3 miles of an airport)

Airport Name: _____

Distance From Airport Center: _____ sm

Airport Identifier: _____

Direction From Airport: _____ degrees true

Proximity to Airport: ☐ Off Airport/Airstrip ☐ On Airport/Airstrip ☐ N/A

Airport Elevation: _____ ft. msl

Runway Information

Runway ID: _____ (L/R/C) Length: _____ ft Width: _____ ft

Runway/Landing Surface (Check all that apply)

- ☐ Asphalt ☐ Grass/Turf ☐ Macadam ☐ Water
☐ Concrete ☐ Gravel ☐ Metal/Wood
☐ Dirt ☐ Ice ☐ Snow ☐ Unknown

Condition of Runway/Landing Surface (Check all that apply)

- ☐ Dry ☐ Snow-Compacted ☐ Water-Calm
☐ Holes ☐ Snow-Crusted ☐ Water-Choppy
☐ Ice Covered ☐ Snow-Dry ☐ Water-Glassy
☐ Rough ☐ Snow-Wet ☐ Wet
☐ Rubber Deposits ☐ Soft
☐ Slush-Covered ☐ Vegetation ☐ Unknown

Approach/Departure Segment (Select one)

- ☐ Taxi ☐ VFR Departure ☐ On Instrument Approach ☐ Downwind ☐ Low Approach
☐ Takeoff ☐ IFR Departure Procedure/Clearance ☐ Landing ☐ Base ☐ Go Around
☐ Initial Climb ☐ Final ☐ Aborted Landing (after touchdown)
☐ Crosswind ☐ Unknown

IFR Approach (Check all that apply)

- ☐ None
☐ ADF/NDB ☐ PAR ☐ MLS ☐ Practice
☐ SDF ☐ Sidestep ☐ LDA ☐ GPS
☐ VOR/TVOR ☐ ILS ☐ ASR ☐ Visual
☐ VOR/DME ☐ Localizer Only ☐ Contact
☐ TACAN ☐ LOC-back course ☐ Circling
☐ RNAV ☐ Unknown

VFR Approach (Check all that apply)

- ☐ None
☐ Traffic Pattern ☐ Stop and Go
☐ Straight-In ☐ Touch and Go
☐ Valley/Terrain Following ☐ Simulated Forced Landing
☐ Go Around ☐ Forced Landing
☐ Full Stop ☐ Precautionary Landing
☐ Unknown

"FLIGHT CREWMEMBER 1" INFORMATION

"Flight Crewmember 1" Responsibilities at the Time of Accident/Incident

☒ Pilot ☐ Co-Pilot ☐ Student Pilot ☐ Flight Instructor ☐ Check Pilot ☐ Flight Engineer ☐ Other Flight Crew

"Flight Crewmember 1" was pilot flying ☒ Yes ☐ No

"Flight Crewmember 1" Identification

First Name: John City of Residence: Richland
 Middle Initial: L State: WA ZIP: 99352
 Last Name: Berman Country: usa
 Age at time of Accident/Incident: 60 Date of Birth: mm/dd/yyyy
 Certificate Number:

Degree of Injury ☐ None ☐ Fatal ☐ Minor ☐ Unknown ☒ Serious	Seat Occupied ☒ Left ☐ Front ☐ Unknown ☐ Right ☐ Rear ☐ Center ☐ Single	Restraint Type <table border="0"> <tr> <th>Available</th> <th>Used</th> </tr> <tr> <td>☐ None</td> <td>☐ None</td> </tr> <tr> <td>☐ Lap only</td> <td>☐ Lap only</td> </tr> <tr> <td>☒ 3-point</td> <td>☒ 3-point</td> </tr> <tr> <td>☐ 4-point</td> <td>☐ 4-point</td> </tr> <tr> <td>☐ 5-point</td> <td>☐ 5-point</td> </tr> <tr> <td>☐ Unknown</td> <td>☐ Unknown</td> </tr> </table>	Available	Used	☐ None	☐ None	☐ Lap only	☐ Lap only	☒ 3-point	☒ 3-point	☐ 4-point	☐ 4-point	☐ 5-point	☐ 5-point	☐ Unknown	☐ Unknown	Inflatable Restraints ☒ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Available	Used																
☐ None	☐ None																
☐ Lap only	☐ Lap only																
☒ 3-point	☒ 3-point																
☐ 4-point	☐ 4-point																
☐ 5-point	☐ 5-point																
☐ Unknown	☐ Unknown																

Pilot Certificate(s) (Check all that apply)

☐ None ☐ Flight Instructor ☐ Commercial ☐ US Military
☒ Private ☐ Recreational ☐ Airline Transport ☐ Foreign
☐ Student ☐ Sport ☐ Flight Engineer

Principal Occupation ☐ Pilot ☒ Other ☐ Unknown	Medical Certificate ☐ None ☒ Class 3 ☐ Class 1 ☐ Driver's License (Sport Pilot only) ☐ Class 2 ☐ Unknown	Medical Certificate Validity ☒ Without limitations/waivers ☐ Unknown ☐ With limitations/waivers ☐ N/A ☐ Special Issuance	Date of Last Medical <u> </u> mm/dd/yyyy
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Medical Certificate Limitations

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks:

08/2017
 mm/dd/yyyy

Flight Review Aircraft

Make: Velocity
 Model: XL-RG

Airplane Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Single-Engine Land ☐ Single-Engine Sea ☐ Multiengine Land ☐ Multiengine Sea	Other Aircraft Rating(s) <i>(Check all that apply)</i> ☐ None ☐ Airship ☐ Balloon ☐ Glider ☐ Gyroplane ☐ Helicopter ☐ Powered Lift	Instrument Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Airplane ☐ Helicopter ☐ Powered Lift	Instructor Rating(s) <i>(Check all that apply)</i> ☒ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift ☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport
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Type Ratings

Student Endorsements (Include dates)

Flight Time (Enter appropriate number of hours in each box)	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	1500	150	1500	0						
Pilot in Command (PIC)										
Time as Instructor										
This Make/Model										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

"FLIGHT CREWMEMBER 2" INFORMATION

"Flight Crewmember 2" Responsibilities at the Time of Accident/Incident

☐ Pilot
 ☐ Co-Pilot
 ☐ Student Pilot
 ☐ Flight Instructor
 ☐ Check Pilot
 ☐ Flight Engineer
 ☐ Other Flight Crew

"Flight Crewmember 2" was pilot flying ☐ Yes ☐ No

"Flight Crewmember 2" Identification

First Name: _____ City of Residence: _____

Middle Initial: _____ State: _____ ZIP: _____

Last Name: _____ Country: _____

Age at time of Accident/Incident: _____ Date of Birth: _____ mm/dd/yyyy

Certificate Number: _____

Degree of Injury ☐ None ☐ Fatal ☐ Minor ☐ Unknown ☐ Serious	Seat Occupied ☐ Left ☐ Front ☐ Unknown ☐ Right ☐ Rear ☐ Center ☐ Single	Restraint Type <table style="width: 100%;"> <tr> <th style="text-align: left;">Available</th> <th style="text-align: left;">Used</th> </tr> <tr> <td>☐ None</td> <td>☐ None</td> </tr> <tr> <td>☐ Lap only</td> <td>☐ Lap only</td> </tr> <tr> <td>☐ 3-point</td> <td>☐ 3-point</td> </tr> <tr> <td>☐ 4-point</td> <td>☐ 4-point</td> </tr> <tr> <td>☐ 5-point</td> <td>☐ 5-point</td> </tr> <tr> <td>☐ Unknown</td> <td>☐ Unknown</td> </tr> </table>	Available	Used	☐ None	☐ None	☐ Lap only	☐ Lap only	☐ 3-point	☐ 3-point	☐ 4-point	☐ 4-point	☐ 5-point	☐ 5-point	☐ Unknown	☐ Unknown	Inflatable Restraints ☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Available	Used																
☐ None	☐ None																
☐ Lap only	☐ Lap only																
☐ 3-point	☐ 3-point																
☐ 4-point	☐ 4-point																
☐ 5-point	☐ 5-point																
☐ Unknown	☐ Unknown																
Pilot Certificate(s) (Check all that apply) <table style="width: 100%;"> <tr> <td>☐ None</td> <td>☐ Flight Instructor</td> <td>☐ Commercial</td> <td>☐ US Military</td> </tr> <tr> <td>☐ Private</td> <td>☐ Recreational</td> <td>☐ Airline Transport</td> <td>☐ Foreign</td> </tr> <tr> <td>☐ Student</td> <td>☐ Sport</td> <td>☐ Flight Engineer</td> <td></td> </tr> </table>		☐ None	☐ Flight Instructor	☐ Commercial	☐ US Military	☐ Private	☐ Recreational	☐ Airline Transport	☐ Foreign	☐ Student	☐ Sport	☐ Flight Engineer		Medical Certificate Validity ☐ Without limitations/waivers ☐ Unknown ☐ With limitations/waivers ☐ N/A ☐ Special Issuance			
☐ None	☐ Flight Instructor	☐ Commercial	☐ US Military														
☐ Private	☐ Recreational	☐ Airline Transport	☐ Foreign														
☐ Student	☐ Sport	☐ Flight Engineer															
Principal Occupation ☐ Pilot ☐ Other ☐ Unknown	Medical Certificate ☐ None ☐ Class 3 ☐ Class 1 ☐ Driver's License (Sport Pilot only) ☐ Class 2 ☐ Unknown	Date of Last Medical _____ mm/dd/yyyy															

Medical Certificate Limitations

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: _____ mm/dd/yyyy

Flight Review Aircraft

Make: _____

Model: _____

Airplane Rating(s) (Check all that apply) ☐ None ☐ Single-Engine Land ☐ Single-Engine Sea ☐ Multiengine Land ☐ Multiengine Sea	Other Aircraft Rating(s) (Check all that apply) ☐ None ☐ Airship ☐ Balloon ☐ Glider ☐ Gyroplane ☐ Helicopter ☐ Powered Lift	Instrument Rating(s) (Check all that apply) ☐ None ☐ Airplane ☐ Helicopter ☐ Powered Lift	Instructor Rating(s) (Check all that apply) <table style="width: 100%;"> <tr> <td> ☐ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift </td> <td> ☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport </td> </tr> </table>	☐ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift	☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport
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Type Ratings

Student Endorsements (Include dates)

Flight Time (Enter appropriate number of hours in each box)	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time										
Pilot in Command (PIC)										
Time as Instructor										
This Make/Model										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

ADDITIONAL FLIGHT CREWMEMBERS (Exclusive of cabin crew, complete the following information)

Crew Name and Address		Seat Occupied		Injury
First Name: _____	City of Residence: _____	☐ Left	☐ Front	☐ None
Middle Initial: _____	State: _____ ZIP: _____	☐ Center	☐ Rear	☐ Minor
Last Name: _____	Country: _____	☐ Right	☐ Single	☐ Serious
			☐ Unknown	☐ Fatal
				☐ Unknown
Pilot Certificate(s) (Check all that apply)		Restraint Type:		Inflatable Restraints
☐ None	☐ Flight Instructor	☐ Commercial	☐ US Military	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
☐ Private	☐ Recreational	☐ Airline Transport	☐ Foreign	
☐ Student	☐ Sport	☐ Flight Engineer		
		Available	Used	
		☐ None	☐ None	
		☐ Lap Only	☐ Lap Only	
		☐ 3-point	☐ 3-point	
		☐ 4-point	☐ 4-point	
		☐ 5-point	☐ 5-point	
		☐ Unknown	☐ Unknown	
Type Rating/Endorsement for Accident/Incident Aircraft?		Total Flight Time at the Time of this Accident/Incident: _____ hrs		
☐ Yes ☐ No				

Crew Name and Address		Seat Occupied		Injury
First Name: _____	City of Residence: _____	☐ Left	☐ Front	☐ None
Middle Initial: _____	State: _____ ZIP: _____	☐ Center	☐ Rear	☐ Minor
Last Name: _____	Country: _____	☐ Right	☐ Single	☐ Serious
			☐ Unknown	☐ Fatal
				☐ Unknown
Pilot Certificate(s) (Check all that apply)		Restraint Type:		Inflatable Restraints
☐ None	☐ Flight Instructor	☐ Commercial	☐ US Military	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
☐ Private	☐ Recreational	☐ Airline Transport	☐ Foreign	
☐ Student	☐ Sport	☐ Flight Engineer		
		Available	Used	
		☐ None	☐ None	
		☐ Lap Only	☐ Lap Only	
		☐ 3-point	☐ 3-point	
		☐ 4-point	☐ 4-point	
		☐ 5-point	☐ 5-point	
		☐ Unknown	☐ Unknown	
Type Rating/Endorsement for Accident/Incident Aircraft?		Total Flight Time at the Time of this Accident/Incident: _____ hrs		
☐ Yes ☐ No				

PASSENGER(S) / OTHER PERSONNEL (Include cabin crew; continue on separate sheet if necessary)

Name and Address	Seat	Injury	Restraint Type	Inflatable Restraints	Age
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other	☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown	☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown	☐ Under 5 years If Under 5, ☐ Child Restraint ☐ Lap-Held ☐ Unknown

FLIGHT ITINERARY INFORMATION

Last Departure Point Airport ID: <u>LBL</u> City: <u>Liberal</u> State: <u>KS</u> Country: <u>usa</u>	Time of Departure Time: _____ Time Zone: _____	Destination Airport ID: <u>SAF</u> City: <u>Santa Fe</u> State: <u>NM</u> Country: <u>usa</u>	Type Flight Plan Filed ☐ None ☐ VFR/IFR ☐ Company VFR ☐ IFR ☐ Military VFR ☐ Unknown ☒ VFR Activated? ☒ Yes ☐ No ☐ Unknown
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Type of ATC Clearance/Service (Check all that apply) ☐ None ☐ Special VFR ☐ Special IFR ☒ VFR Flight Following ☐ Cruise ☐ VFR ☐ IFR ☐ VFR On Top ☐ Traffic Advisory ☐ Unknown / NA			
Airspace where the accident/incident occurred (Check all that apply) ☐ Class A ☒ Class G ☐ Military Operations Area (MOA) ☐ Special ☐ Class B ☐ Demo Area ☐ Airport Advisory Area ☐ Air Traffic Control Area ☐ Class C ☐ Warning Area ☐ Jet Training Area ☐ Unknown ☐ Class D ☐ Prohibited Area ☐ TRSA ☐ Class E ☐ Restricted Area ☐ FAR 93			Altitude of In-Flight Occurrence: <u>9000</u> ft msl

WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE

Source of Pilot Weather Information (Check all that apply) ☐ National Weather Service ☐ Company ☐ Flight Service Station ☐ Military ☐ TV/Radio ☐ Internet ☐ Automated Report ☒ None ☐ Commercial Weather Service (DUATS) ☐ Unknown ☐ On-Board Weather	Weather Observation Facility Facility ID: _____ Observation Time: _____ Time Zone: _____ Distance from Accident Site: _____ nm Direction from Accident Site: _____ degrees true
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Basic Conditions ☐ VMC ☒ IMC ☐ Unknown	Light Condition ☐ Dawn ☐ Dusk ☐ Dark Night ☐ Unknown ☐ Day ☒ Night ☐ Bright Night
Sky/Lowest Cloud Condition ☐ Clear ☐ Thin Broken ☐ Few ☐ Thin Overcast ☐ Partial Obscuration ☒ Unknown ☐ Scattered Lowest Cloud Condition Height _____ ft agl	Ceiling ☐ None (Clear) ☐ Obscured ☐ Broken ☐ Indefinite ☒ Overcast ☐ Unknown Ceiling Height <u>2000</u> ft agl
Temperature: _____ (C) or _____ (F) Dew Point: _____ (C) or _____ (F) Altimeter Setting: _____ in. Hg or _____ MB	

Wind Direction ☐ Variable -or- Direction: _____ degrees true	Wind Speed ☐ Calm ☐ Light and Variable -or- Speed: _____ kts	Wind Gusts ☐ Not Gusting -or- Speed: _____ kts	Visibility _____ miles RVR: _____ feet RVV: _____ miles Density Altitude: _____ ft
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Intensity of Precipitation ☐ Light ☐ Moderate ☐ Heavy ☐ N/A ☒ Unknown	Type of Precipitation (Check all that apply) ☐ None ☐ Drizzle ☐ Freezing Rain ☐ Rain ☐ Ice Pellets ☐ Snow Shower ☐ Snow ☐ Snow Pellets ☐ Ice Pellets Shower ☐ Hail ☐ Snow Grains ☐ Freezing Drizzle ☐ Rain Showers ☐ Ice Crystals	Restriction to Visibility (Check all that apply) ☐ None ☐ Fog ☐ Blowing Dust ☐ Ground Fog ☐ Blowing Sand ☐ Haze ☐ Blowing Snow ☐ Ice Fog ☐ Blowing Spray ☐ Smoke ☐ Dust ☐ Unknown
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Icing Forecast Amount ☐ None ☐ Trace ☐ Light ☐ Moderate ☐ Severe ☒ Unknown Type ☐ N/A ☐ Rime ☐ Clear ☐ Mixed ☒ Unknown	Icing Actual Amount ☐ None ☐ Trace ☐ Light ☐ Moderate ☒ Severe ☐ Unknown Type ☐ N/A ☐ Rime ☐ Clear ☒ Mixed ☐ Unknown	Turbulence Type (Check all that apply) ☐ None ☐ Clear Air ☐ Terrain-Induced ☐ Convective Turbulence Severity ☐ Light ☐ Moderate ☐ Severe ☐ Extreme
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NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident:

DAMAGE TO AIRCRAFT AND OTHER PROPERTY**Aircraft Damage**

- ☐ None ☒ Substantial
☐ Minor ☐ Destroyed
 ☐ Unknown

Aircraft Fire

- ☒ None ☐ Both Ground and In-Flight
☐ In-Flight ☐ Fire at Unknown Time
☐ On-Ground ☐ Unknown

Aircraft Explosion

- ☒ None ☐ Both Ground and In-Flight
☐ In-Flight ☐ Explosion at Unknown Time
☐ On-Ground ☐ Unknown

Description of Damage to Aircraft and Other Property *(Use additional sheet if necessary)*

Salvaged engine and panel, some other components

NARRATIVE HISTORY OF FLIGHT *(Please type or print in ink)*

Describe what occurred in chronological order, including circumstances leading to and nature of accident/incident. Describe terrain and include wreckage distribution sketch if pertinent. Attach extra sheets if needed. State departure time and and location, services obtained, and intended destination. Provide as much detail as possible.

see attached statement

RECOMMENDATION (How could this accident/incident have been prevented?)

Operator/Owner Safety Recommendation

see attached statement

MECHANICAL MALFUNCTION/FAILURE (If more space is needed, continue on separate sheet)

Was there Mechanical Malfunction/Failure? ☐ Yes ☒ No
(If yes, list the name of the part, manufacturer, part no., serial no., and describe the failure.)

Total Time/Cycles
On Part____ Hours
____ CyclesTime Since This Part
Inspected/Overhauled

____ Hours

FUEL & SERVICES INFORMATIONFuel on Board at Last Takeoff
(Convert from pounds, as necessary)

full 70, 62 useable _____ Gallons

Fuel Type

☐ 80/87 ☐ 115/145 ☐ Jet B ☐ Other, specify _____
☒ 100 Low Lead ☐ Jet A ☐ JP8
☐ 100/130 ☐ Jet A-1 ☐ Automotive

Other Services, if Any, Prior to Departure

1/2 quart oil

EVACUATION OF AIRCRAFTWas an emergency evacuation of the aircraft performed? ☐ Yes ☒ No

Method of Exit – Describe how the occupants exited and how many occupants evacuated each location

I was extricated by first responders. I heard a big CRUNCH, just prior to my being laid flat, that I assumed was the hydraulic jaws ("of life")

OTHER AIRCRAFT – COLLISION (If air or ground collision occurred, complete this section for *other* aircraft)

Aircraft Registration Number

Manufacturer: _____

Model: _____

Damage to Other Aircraft

☐ Destroyed ☐ Minor
☐ Substantial ☐ None

Registered Owner of Other Aircraft

Name: _____
City: _____
State: _____ ZIP: _____
Country: _____

Pilot of Other Aircraft

Name: _____
City: _____
State: _____ ZIP: _____
Country: _____

ADDITIONAL INFORMATION (Please type or print in ink)

Use this space if additional space is needed for any answers.

see attached statement

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Date of this Report

09/24/2018

mm/dd/yyyy

Name of Pilot/Operator: john berman

Signature: _____

— or — ☐ Check here to el

If a Person Other than Pilot/Operator is Filing Report

Name: _____

Title: _____

Signature: _____

— or — ☐ Check here to electronically sign this document

FOR NTSB USE ONLY

NTSB Accident/Incident No.

CEN18LA077

Reviewed by NTSB Regional Office

NTSB-CEN

Name of Investigator

Andrew Todd Fox

Date Report Received

24 SEP 2018

The following description contains my annotations applied to the draft memorandum of my phone call with the NTSB investigators, which they emailed me.

On August 9, 2018, between 1400 EDT and 1533 EDT, NTSB Investigators Fox and Suffern conducted a telephone interview with Mr. John Berman, the pilot/owner of N787SB, concerning the accident that occurred near Santa Fe, New Mexico, on the evening of January 15, 2018.

Mr. Berman stated that he has recounted the accident numerous times, including once with FAA Inspector Ken Hand while he was still in the hospital, and that he was willing to discuss the events leading-up to his accident. Mr. Berman recalled that when he saw, as further described below, an approximately one-foot-diameter, manifestly-clear, quivering, gelatin-like mass of supercooled liquid water in the center of the windscreen of the airplane he knew exactly what it was and that the flight was "in trouble". Mr. Berman stated that instead of immediately attempting to descend quickly and exit the icing conditions, his curiosity got the better of him – due to the mass' being confined to a circle-like geometry in the near-center of the windscreen, seemingly inconsistent with the airflow and uniformity of the windscreen, while the remainder of the windscreen was unaffected as indicated by the reflected light from the instrument panel – as he leaned closer to the supercooled mass to get a better look. Mr. Berman stated that he saw the clear, supercooled water devitrify in a fraction of a second, and when he turned his gaze to the rest of the windscreen, that entire windscreen was covered with crystallized ice that would have certainly blocked view of any ground lights. Mr. Berman stated that at that time, he knew, "his number was up and he was a goner." Seconds later, he said, the plane spontaneously went into a steep dive. Mr. Berman mentioned being acutely aware of the dangers of airframe icing, especially during the winter months, and, in fact, had developed a method to detect airframe icing and notify the pilot, for which he submitted a patent application that was subsequently rejected, he noted. Mr. Berman stated that, before the accident flight, he had never encountered icing conditions beyond trace ice on a Cessna C177B wing; although, he was aware of the negative effects of airframe icing, especially with the laminar flow airfoil and reduced area of the Velocity XL-RG, higher-performance wing.

Mr. Berman explained how he typically used the weather forecast Java tools available on aviationweather.gov to look for icing during his normal preflight routine, as well as review other potential weather issues. He stated that his normal flight planning, during that winter round-country trip that began in Pasco, WA (PSC), with legs through BOI, ENV, SAF, HQZ, HFY, STJ, LBL, took at least 1 to 1.5 hours and often between 2 and 3 hours as he refreshed data numerous times to get a sense of changing conditions, and that he looks at all the weather products, including, but not limited to, METARs and TAFs.

Mr. Berman explained that he flew to Liberal Mid-America Regional Airport (LBL), Liberal, Kansas, from Rosecrans Memorial Airport (STJ) in St. Joseph, Missouri, earlier in the day. He noted that he spent 1.5 hours looking at weather before departing on the flight leg from STJ to LBL. Mr. Berman reiterated that he typically avoids, unless necessary, flying in actual instrument meteorological conditions (IMC) during all months but would never consider flying in winter IMC because of his strong icing concerns.

Mr. Berman reported that he was physically "extremely cold" when he arrived at LBL and remarked that the airplane was not well heated and had in fact discussed retrofits with a professional mechanic who had also hangared at STJ on a stopover. He was aware of the many issues with cold weather from his years growing up in the East and Midwest. Mr. Berman stated that he had become so cold during the STJ-LBL flight leg that he immediately ran inside the fixed base operator (FBO) upon landing at LBL to warmup next to a space heater for several minutes. After warming up, he used the courtesy car to drive to both a Walmart Supercenter and a Walmart Neighborhood market to purchase food. Mr. Berman stated that he was traveling on a tight budget and acknowledged that his focus on keeping costs low likely contributed to his "making bad decisions." He stated that while he was on the ground at Liberal, Kansas, he called the local Motel 6 to inquire about room availability and their nightly rates. Mr. Berman noted that after turning 60 years old he decided that he wasn't going to fly over mountains at night anymore, believing the elevated risk did not make sense in light of his newer perspective. Additionally, he preferred to avoid night flying for the same reasons.

Mr. Berman stated that he decided to continue to Santa Fe Municipal Airport (SAF), Santa Fe, New Mexico, after he compared the hangar cost at Liberal, Kansas, to that at

Santa Fe, New Mexico. Mr. Berman believes that he exercised extremely poor judgment, in part based on his self-imposed financial pressures but also due to the physical and mental effect of the cold temperature, when he decided to continue to SAF instead of staying the night in Liberal, Kansas. The single, and clearly foolish, financial consideration that influenced Mr. Berman was the lower nightly rate to hangar his airplane at SAF versus LBL. Mr. Berman remarked that his decision to depart on the flight was "pointless" and that he should have stayed the night in Liberal, Kansas. He noted that the detour to SAF from what would have been his route the next day, south of SAF then to the Phoenix area or possibly towards Flagstaff depending on weather, particularly accounting for fuel burn for an extra takeoff, made any hangar cost savings inconsequential and a foolish consideration. He noted he should have used his plane covers – or even have left the plane uncovered – and remained at LBL and de-iced the plane the next morning.

Mr. Berman stated that he didn't follow his normal preflight activities before departing LBL. He postulated that being excessively cold (hypothermic with "low temperature delirium" as the hospital psychologist described it, with whom Berman had numerous discussions), or possibly some other reason, likely contributed to his not following his normal preflight routine. Mr. Berman remarked that he unwittingly violated every personal limitation by departing on the accident flight. He specifically noted that he did not check the weather conditions before departing LBL. Mr. Berman mentioned that he typically checks weather using his Apple MacBook computer; however, in his rush to get inside the warm FBO, he had left his Apple MacBook inside the airplane after landing at LBL and did not retrieve it from the airplane during his time on the ground in Liberal, Kansas. Mr. Berman stated that he topped-off with fuel before departing LBL and added about a half quart of oil to the engine. Mr. Berman remarked how slow the oil poured from the bottle due to the cold outside air temperature and how, had he been thinking straight, that slow pour would have told him not to make the flight. He also tightened a hex nut on the nose landing gear shimmy damper during his preflight. Mr. Berman recalled climbing into the airplane and starting the airplane's engine without any issues. He also observed no airframe ice during his taxi to the runway. Mr. Berman also doesn't recall monitoring the local ASOS at LBL before takeoff, as he was primarily focused on "getting warm" and his mindset likely had become "topsy turvy" at that point. He recalled requesting visual flight rules (VFR) flight following shortly after takeoff.

Mr. Berman stated that he did not ask the air traffic controllers (ATC) about the weather ahead of the airplane, despite having plenty of available time and opportunity to do so. He also didn't make any plans for alternate landing areas while enroute. Mr. Berman doesn't remember any significant details of the accident flight, including the radar-indicated descending 360 turn mid-route that the investigators informed him of during the interview, until when he first reported to ATC that he thought the airplane was in IMC and, then some time after, that he had encountered icing conditions. He has flown across the country before and knew there were limited ground-light visual points of reference in that part of New Mexico. He distinctly remembers being in IMC and would normally have diverted toward visual meteorological conditions (VMC), but he likely wasn't thinking clearly because he was physically cold, which Berman later concluded in consultations with the hospital clinical psychologist who characterized his mindstate as one of "low temperature delirium" from likely hypothermia. She also noted to Berman that such mental impairment can continue quite long after the few minutes Mr. Berman had described "warming up" in front of the FBO space heater.

Mr. Berman stated that after the airplane encountered IMC, he recalled seeing a 1 ft diameter gelatinous form of supercooled liquid on the windshield. The gelatinous form crystallized right in front of his eyes and across whole windshield within 2-3 seconds. Additionally, immediately after the windshield had iced over the airplane nosed over into a "real steep dive". Mr. Berman increased engine power and recovered the airplane into level flight after descending 500-1,000 ft, but that gut-feel was based on an assumption that the plane's power was set for a speed of 150-160 knots, which the plane could easily achieve; if the power and speed had been less, the descent could well have been less. He does not believe the airframe experienced asymmetrical icing, which would likely have resulted in an unrecoverable spin. He stated that he did not notice any propeller vibration, as could happen from prop icing. After recovering from the dive, he told the controller, "declaring icing

emergency,” and that he could not maintain altitude. Mr. Berman remembered receiving an instrument clearance to SAF; however, he cannot recall the actual sequence of events. He remembered first, many minutes if not tens of minutes prior to receiving the clearance, a separate call to ATC about IMC, then seeing ground lights out the side windows after ATC noted that Tucumcari and one other town were off to his sides. He recalled not having the windshield defrost turned on; however, he does not believe it would likely have made a difference, but Mr. Berman considers it a mistake not to have had the defrost on from the beginning of the flight. Mr. Berman remembered increasing engine power, but the airplane was unable to climb or maintain altitude after encountering icing conditions and his seeing the windscreen covered. The last thing he remembers before the impact, but immediately after declaring the emergency, was looking at the aircraft multi-function display map, and seeing what he recalls as either 13 or 23 nm to KSAF. The next thing he remembers is seeing the distant lights of what he hoped were emergency vehicles. He recalls praying and while being physically weak, but he did not know where he was. He knew the emergency personnel were coming for him, and although he does not recall hearing any voices postaccident, he remembered, as the vehicles arrived and illuminated the area, seeing the broken windscreen and electrical rocker switches hanging from the ceiling, at which time he then realized that he had crashed the plane, but remembered nothing about the time leading up to that point. He remembered being pulled horizontally out of plane by emergency personnel, while he stated, “Thank God you’re here, and God bless you,” he distinctly remembers.

Mr. Berman reiterated that he did not check weather conditions before departing on the accident flight. He stated that he had checked weather conditions for the previous flight leg (STJ to LBL) and that he typically checks weather in detail and over several hours before each flight leg. He recalled leaving STJ around 1300 CST on the day of the accident, landing at LBL between 1600 and 1630 CST, being on the ground at LBL between 1 and 1.5

hours. However, Berman later, after the interview, stated that he had reviewed text messages and calls on his cell phones. They indicated that he had texted his daughter’s mom at 11:50am on Jan. 15 from STJ and had stated he hoped to be in Santa Rosa tomorrow afternoon. In retrospect, Berman sees that text message as indicating a time commitment that was not realistic for the winter months. Berman had called Motel 6 in Liberal, KS at 3:44pm Central. Even had Berman gone to the motel, which would have been the correct decision, the approximately 1200 miles remaining to STS (waypoints LVS, FLG, WJF, C83) would not have been realistic for Jan. 15 daylight hours and weather. Berman was very comfortable with a 3 hour, 500nm leg in the plane. Two such legs, extended 30 minutes, would not have been a problem in seasons other than winter. So, Berman believes, in retrospect, that some of his impetus to get to SAF and a low-priced hangar was to get an early start the next morning, without having to de-ice the plane, and get to STS in the evening, not too late. Thus there was likely a “get-there-itis” factor that Berman had not recalled during the interview. Text messages 4:58pm Central and 5:02 Central indicated Berman was going to get a call from his daughter in a few minutes, while at LBL. Based on that new information, Berman believes he landed sometime 3:15-3:30pm. He ate some fried chicken and drank some chocolate milk before departing LBL. Mr. Berman stated that he has 4 mobile phones. While he was in the hospital in February, he saw that one of his phones had an “airnav.com” webpage still loaded and he made a screengrab of it and, after the phone interview, emailed it to the investigators with the METAR (2,800 ft ceiling) at LBL with the fuel prices. The time on the airnav.com site image was local UTC-6 12:03:24, which would have placed it when Berman was at STJ. Mr. Berman noted that during the previous two weeks he had spent a lot of time preflight planning for his previous flight legs; however, he reiterated that he completely lost his focus and did not check weather or do any flight planning before the accident flight.

Mr. Berman recalled that the airplane encountered icing conditions less than 5 minutes after the airplane entered IMC. Additionally, he did not recall any weather issues, other than being physically cold, before the airplane encountered IMC. When asked how quickly the ice had accumulated on the airframe, Mr. Berman stated that the gelatinous super cooled water on the windscreen crystalized the whole windscreen in about 5 seconds from the time he first saw the gelatinous formation. He further noted that within a few seconds after the icing covered the entire windscreen the airplane entered the steep dive. Mr. Berman reiterated that his first awareness of imminent

icing was seeing the gelatinous supercooled water on the windscreen. He confirmed that he has never encountered weather conditions like this before.

When asked what could be improved about weather forecast information, Mr. Berman stated nothing realistically could be improved and believes the weather information currently available is great, including the icing tools available on aviationweather.gov. However, he has noticed the cloud tops and cloud bottoms are often inconsistent with METARs in the Graphical Forecast for Aviation (GFA) tool on aviationweather.gov. Specifically, that the GFA tool can show clear skies in areas that clearly were not. Mr. Berman remarked that if pilots solely relied on that tool they would potentially have incorrect information. He stated that the Java and slider tools are useful on aviationweather.gov. Mr. Berman stated that he takes as much of an integrated approach as possible when reviewing weather information. His flight instructor previously remarked that he spends a lot of time on the icing forecast and advised him to also focus on the wind aloft forecast. His normal routine would be to review the prognostic charts, terminal winds, winds aloft, icing, etc. Mr. Berman stated that he reviews weather in a sequence to remain as methodical as possible during his typical preflight weather review.