

NATIONAL TRANSPORTATION SAFETY BOARD

NTSB Form 6120.1

PILOT/OPERATOR AIRCRAFT ACCIDENT/INCIDENT REPORT

Email the pilot/operator aircraft accident/incident report to the investigator-in-charge of your accident/incident. If email is not available, mail the report per the instructions below.

If your accident/incident occurred in Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Delaware, Virginia, West Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Mississippi, Alabama, Georgia, Florida, the District of Columbia, Puerto Rico, or the US Virgin Islands, send the form to: NTSB, ERA, 45065 Riverside Parkway, Ashburn, VA 20147.

If your accident/incident occurred in Ohio, Michigan, Indiana, Wisconsin, Illinois, Minnesota, Iowa, Missouri, Arkansas, Louisiana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Colorado, or New Mexico, send the form to: NTSB, CEN, 4760 Oakland Street, Suite 500, Denver, CO 80239.

If your accident/incident occurred in Montana, Wyoming, Idaho, Utah, Arizona, Nevada, Washington, Oregon, California, Hawaii, or the territories of Guam or American Samoa, send the form to: NTSB, WPR, 505 South 336th Street, Suite 540, Federal Way, WA 98003.

If your accident/incident occurred in Alaska, send the form to: NTSB, ANC, 222 West 7th Avenue, Room 216, Box 11, Anchorage, AK 99513.

Rules pertaining to notification of aircraft accidents and incidents, as well as overdue aircraft are found in 49 *Code of Federal Regulations* (CFR) Part 830 http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title49/49cfr830_main_02.tpl. These rules state the authority of the NTSB, define accidents, incidents, injuries, and other terms, and provide procedures for initial and immediate notification of accidents and incidents by aircraft pilots/operators.

A. APPLICABILITY

The pilot/operator of an aircraft shall send a report to the office listed above, based on accident/incident location; immediate notification is required by 49 CFR 830.5(a). **The report shall be filed within 10 days after an accident for which notification is required by Section 830.5, or after 7 days if an overdue aircraft is still missing.**

An aircraft accident, as defined in 49 CFR 830.2, is determined as an occurrence that involves a fatality or serious injury, or substantial damage to the aircraft. For occurrences that do not involve a fatality, the determination that the occurrence is an accident can be appealed by writing to the Director, Office of Aviation Safety, NTSB, 490 L'Enfant Plaza, S.W., Washington, D.C. 20594.

INSTRUCTIONS TO PILOTS/OPERATORS FOR COMPLETING THIS FORM

It is necessary that ALL questions on this report be answered completely and accurately.

If more space is needed, continue on a blank sheet of paper.

Nearest City/Place: Use the name of the nearest community in the state where the accident/incident occurred.

Date/Time: Indicate the date and local time of the event. Be sure to indicate the time zone.

Phase of Operation: Indicate the phase of operation during which the accident/incident occurred.

Aircraft Information: Enter aircraft make and model information as indicated on the aircraft registration certificate, including series. If the involved aircraft is certified as "amateur-built," include the name of the producer of the kit or plans, unless an NTSB employee instructs otherwise.

Maximum Gross Weight: Enter the certificated maximum gross weight for the aircraft involved in the occurrence. This should be the same as the maximum gross weight indicated on the aircraft weight and balance documents.

Engine: Enter engine make and model information as indicated on the engine data plate.

The NTSB uses this form for aircraft accident prevention activities and for statistical purposes. NTSB regulations (49 CFR Part 830) require that **ALL** questions be answered completely and accurately. Completion of this form will take approximately 60 minutes. The NTSB does not guarantee the privacy of any information provided in this form. You need not complete this form unless it displays a valid OMB control number, in accordance with 5 C.F.R. § 1320.5(b), which applies to this collection of information.

B. DEFINITIONS

1. "Aircraft Accident" means an occurrence associated with the operation of an aircraft that takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death, or serious injury, or in which the aircraft receives substantial damage. For purposes of this form, the definition of "aircraft accident" includes "unmanned aircraft accident," as defined at 49 CFR 830.2.

2. "Substantial Damage" means damage or failure that adversely affects the structural strength, performance or flight characteristics of the aircraft, and that would normally require major repair or replacement of the affected component. NOTE: Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairing or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wing tips are not considered "substantial damage" for purposes of this report.

3. "Operator" means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

4. "Fatal Injury" means any injury that results in death within thirty (30) days of the accident.

5. "Serious Injury" means any injury that (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fracture of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves injury to any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Type of Fire Extinguishing System: If a fire extinguishing system was used to fight an aircraft fire, specify the type(s) of extinguishing system(s) used. Examples include handheld extinguisher, engine fire bottle, cargo/baggage compartment fire suppression system, or airport emergency ground equipment.

Owner/Operator Information: Enter the owner information as shown on the registration certificate. Commercial operators, enter the operator information, including "doing business as" when applicable, as shown on the operator certificate.

Revenue Sightseeing Flight: Indicate whether the accident aircraft was conducting **revenue** sightseeing operations under 14 CFR Part 91 at the time of the accident.

Air Medical Flight: Indicate whether the accident flight was being conducted for the purpose of carrying medical personnel, patient(s), or organs.

Public Aircraft: Federal, state or local government flight operations such as official travel, law-enforcement, low-level observation, aerial application, firefighting, search and rescue, biological or geological resource management, or aeronautical research. Indicate whether the flight was conducted by the armed forces, federal, state, or local government.

Purpose of Flight: 14 CFR Parts 91, 103, 133, 136, and 137: Indicate the type of operation that was being conducted at the time of the occurrence using the following definitions:

AERIAL APPLICATION--Operations using an aircraft to perform aerial application or dispersion of any substance. Examples include agricultural, health, forestry, cloud seeding, firefighting, insect control, etc.

AERIAL OBSERVATION--These flights include aerial mapping/photography, patrol, search and rescue, hunting, highway traffic advisory, ranching, surveillance, oil and mineral exploration, criminal pursuit, fish spotting, etc.

AIR DROP--Aerial operations, other than aerial application, that are intended to release items in flight.

AIR RACE/SHOW--Includes any flight operations conducted as part of an organized air race or public demonstration.

BUSINESS--includes all personal flying without a paid professional crew for reasons associated with furthering a business, including transportation to and from business meetings or work. This does not include corporate/executive operations, air taxi, or commuter operations.

EXECUTIVE/CORPORATE--Company flying with a paid, professional crew.

FERRY--Non-revenue flight under a special flight or "ferry" permit. Refer to 14 CFR 21.197 for details of special flight permit issuance.

FLIGHT TEST--Flight for the purpose of investigating the flight characteristics of an aircraft/aircraft component or evaluating an applicant for a pilot certificate or rating.

INSTRUCTIONAL--Flying while under the supervision of a flight instructor or receiving air carrier training. Personal proficiency flight operations and personal flight reviews, as required by federal air regulations, are excluded.

OTHER WORK USE--Miscellaneous flight operations conducted for compensation or hire such as construction work (not 14 CFR Part 135 operation), parachuting, aerial advertising, towing gliders, etc.

PERSONAL--Flying for personal reasons (excludes business transportation) including pleasure or personal transportation. This also includes practice or proficiency flights performed under flight instructor supervision and not part of an approved flight training program.

POSITIONING--Non-revenue flight conducted for the primary purpose of relocating the aircraft. Examples include moving the aircraft to a maintenance facility or to load passengers or cargo etc.

UNKNOWN--Use only if the primary purpose of flight is not known.

Other Aircraft--Collision: For all accidents involving a collision with another aircraft, including parked aircraft, check "Collision with other aircraft" under Basic Information and complete this section indicating details about the OTHER aircraft involved in the collision.

Airport Information: Complete this section if the accident/incident occurred on approach, landing, takeoff, departure, or within 3 statute miles of an airport. Please refer to the FAA Airport/Facility Directory or other official source for airport information.

Airport Identifier: Provide the official 3 or 4 character airport identifier number.

Runway: Indicate the number of the runway used, including L, R, or C if applicable.

Runway/Landing Surface: Indicate the type of intended runway/landing surface (do not indicate surface conditions). If the surface type was mixed, check all that apply.

Condition of Runway/Landing Surface: Indicate the condition of the intended runway/landing surface. If multiple conditions existed at the time of the accident, check all that apply.

Weather Information at the Accident/Incident Site: Indicate the weather conditions reported at the accident/incident site at the time of occurrence. If no weather reporting was available for the accident/incident site, indicate the reported conditions at the nearest reporting site. Specify the weather reporting site identifier, the observation time, and distance from the accident/incident.

Sky/Lowest Cloud Condition: Indicate the height above ground level of the lowest cloud condition present at the time of the accident/incident and whether coverage was reported as few, scattered, broken or overcast. Also indicate the height above ground level and coverage of the lowest cloud ceiling present at the time of the accident/incident (reported as broken or overcast).

NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs: Describe all NOTAMs (distant (D) or Flight Data Center (FDC), if known), AIRMETs, SIGMETs, and PIREPs in effect near the accident/incident.

Flight Crewmember Information: Indicate the category that best describes the capacity served by this flight crewmember at the time of the accident. The designators "Flight Crewmember 1" and "Flight Crewmember 2" do not refer to a specific pilot position or responsibility. If more than one pilot is aboard, they may be entered in any order and their capacity entered as appropriate.

Degree of Injury: See Definitions on the top half of Page 1 of the instructions. Minor injury is not defined. If an injury does not meet the criteria for another injury category, select Minor.

Date of Last Flight Review or Equivalent: Enter the date of the most recent flight review, or equivalent, completed by this pilot. Refer to 14 CFR 61.56 for accepted equivalents.

Type Ratings: List all type ratings on the pilot certificate. If the pilot holds no type ratings indicate "none." If the pilot holds a pilot certificate other than student and was flying an aircraft requiring an endorsement, enter the type and date of any logbook endorsement(s) for that aircraft. See 14 CFR 61 for examples of required endorsements.

Student Endorsements: If the pilot holds a student pilot certificate, enter all solo endorsements and dates on the student pilot certificate.

Flight Time: Complete the flight time matrix. Solo flight time should be included as "Pilot-in-Command (PIC)" and all dual flight instruction given should be included as "Time as Instructor."

Additional Flight Crewmembers: Complete this section if there were more than two required flight crewmembers on the aircraft. This also includes a check airman performing official duties but does not include cabin crew. State the capacity served by each included crewmember at the time of the accident.

Passenger(s)/Other Personnel: Enter identification and injury severity information for all passengers, cabin crew, and other personnel involved in the accident. See Page 1 of the instructions for the official definition of injury levels.

Several questions throughout the form allow for multiple responses; when appropriate, choose all responses that apply.

These instructions only pertain to major issue areas covered by NTSB Form 6120.1 Pilot/Operator Aircraft Accident/Incident Report. For additional definitions of questions and responses, please refer to www.nts.gov.

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: Broomfield State: CO

ZIP: 8021 Country: USA

Latitude: 39 54' 19.19" N Longitude: -105 07' 1.20" W +

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

Accident/Incident Date/Time

Date: 08/28/2019 Local Time: 19:45

mm/dd/yyyy

Time Zone: Mountain

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

AIRCRAFT INFORMATION

Registration Number: N53432

Manufacturer: Cessna

Model: 172P

Serial Number: 17274748

Year of Manufacture: 1981

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

☒ IFR-Equipped and Certified

☐ Commercial Space Flight

☐ Unmanned Aircraft

Maximum Gross Weight: 2400 lbs

Weight at Time of Accident/Incident: 1800 lbs

Number of Seats: 4 Flight Crew Seats: 3

Cabin Crew Seats: N/A 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

Special

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

- ☐ Certificate of Authorization or Waiver (COA)
- ☐ None
- ☐ 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	<u>Lycoming</u>	<u>0-320 Series</u>	<u>*Info Not Available (a/c in FAA custody)</u>	<u>*Info Unavailable</u>	<u>160</u>	<u>*Info Unavailable</u>	<u>*Info Unavailable</u>	<u>*Info Unavailable</u>
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

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

Date Last Inspection: *Info not available
mm/dd/yyyy

Airframe Total Time: *Info not available 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: _____

Propeller 1

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

Manufacturer: *info not available a/c in FAA custody

Model: *info not available - a/c in FAA custody

Propeller 2

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

Manufacturer: N/A

Model: N/A

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: *Info not available

Model or Part No.: *Info not available

TSO No.: ☐ OC91 (121.5 MHz) ☐ OC91a (121.5 MHz)
☐ OC126 (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: G & M Aircraft, Inc.City: Wheat RidgeFractional Ownership Aircraft: ☐ Yes ☒ NoState: CO ZIP: 80033Country: USA**Operator of Aircraft**☐ Same As Registered Owner☐ Same Address as Registered OwnerName: Rocky Mountain Flight School, Inc.City: Broomfield

Doing Business As: _____

State: CO ZIP: 80021

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

Country: USA**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: Rocky Mountain Metropolitan AirportDistance From Airport Center: 0.5 smAirport Identifier: KBJCDirection From Airport: 033 degrees trueProximity to Airport: ☐ Off Airport/Airstrip ☒ On Airport/Airstrip ☐ N/AAirport Elevation: 5673 ft. msl**Runway Information**Runway ID: 03 (L/R/C) Length: 3600 ft Width: 75 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 ☐ 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
☐ VOR/DME ☐ Localizer Only ☐ Visual
☐ TACAN ☐ LOC-back course ☐ Contact
☐ RNAV ☐ Circling
☐ 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: Boulder
 Middle Initial: W State: CO ZIP: 80302
 Last Name: Belk Country: USA
 Age at time of Accident/Incident: 23 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) ☐ 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>07/02/2019</u> mm/dd/yyyy
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Medical Certificate Limitations

None.

Medical Certificate Special Issuance

N/A

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

N/A (Student Pilot)
mm/dd/yyyy

Flight Review Aircraft

Make: N/A

Model: N/A

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) ☒ None ☐ Instrument Airplane ☐ Airplane Single-Engine ☐ Instrument Helicopter ☐ Airplane Multi-Engine ☐ Helicopter ☐ Gyroplane ☐ Glider ☐ Powered Lift ☐ Sport
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Type Ratings

None

Student Endorsements (Include dates)

Solo (expires 10/8/19 -Cessna 172 N & P models)
 Solo XC , 8/18/2019
 Solo XC (BJC,CYS,FNL,BJC), 8/18/19.
 Solo XC (BJC, COS, BJC), 8/28/2019.

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	65	65	65	0	6		1	0	0	0
Pilot in Command (PIC)	10	10	10	0	0	0	0	0	0	0
Time as Instructor	0	0	0	0	0	0	0	0	0	0
This Make/Model					6	0	1			
Last 90 Days	22	22	22	0	4	0	1	0	0	0
Last 30 Days	8	8	8	0	4	0	1	0	0	0
Last 24 Hours	0	0	0	0		0	0	0	0	0

ADDITIONAL FLIGHT CREWMEMBERS (Exclusive of cabin crew, complete the following information)									
Crew Name and Address					Seat Occupied		Injury		
First Name: <u>N/A</u> City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____					☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown ☐ Unknown		☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown		
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☐ Student ☐ Sport ☐ Flight Engineer					Restraint Type: 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		
Type Rating/Endorsement for Accident/Incident Aircraft? ☐ Yes ☐ No			Total Flight Time at the Time of this Accident/Incident: _____ hrs						
Crew Name and Address					Seat Occupied		Injury		
First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____					☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown ☐ Unknown		☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown		
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☐ Student ☐ Sport ☐ Flight Engineer					Restraint Type: 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		
Type Rating/Endorsement for Accident/Incident Aircraft? ☐ Yes ☐ No			Total Flight Time at the Time of this Accident/Incident: _____ hrs						
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: <u>N/A</u> 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>KCOS</u> City: <u>Colorado Springs</u> State: <u>CO</u> Country: <u>USA</u>	Time of Departure Time: _____ Time Zone: <u>Mountain</u>	Destination Airport ID: <u>KBJC</u> City: <u>Broomfield</u> State: <u>CO</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 ☒ VFR	☐ Special VFR ☐ IFR	☐ Special IFR ☐ VFR On Top	☒ VFR Flight Following ☐ Traffic Advisory
			☐ Cruise ☐ Unknown / NA

Airspace where the accident/incident occurred (Check all that apply)			Altitude of In-Flight Occurrence: _____ ft msl
☐ Class A ☐ Class B ☐ Class C ☒ Class D ☐ Class E	☐ Class G ☐ Demo Area ☐ Warning Area ☐ Prohibited Area ☐ Restricted Area	☐ Military Operations Area (MOA) ☐ Airport Advisory Area ☐ Jet Training Area ☐ TRSA ☐ FAR 93	☐ Special ☐ Air Traffic Control Area ☐ Unknown

WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE

Source of Pilot Weather Information (Check all that apply)	Weather Observation Facility
☒ National Weather Service ☐ Flight Service Station ☐ TV/Radio ☒ Automated Report ☐ Commercial Weather Service (DUATS) ☐ On-Board Weather	Facility ID: <u>KBJC</u> Observation Time: <u>6:46 p.m. (local)</u> Time Zone: <u>Mountain</u> Distance from Accident Site: <u>0.0</u> nm Direction from Accident Site: <u>N/A</u> degrees true
☐ Company ☐ Military ☒ Internet ☐ None ☐ Unknown	

Basic Conditions ☒ VMC ☐ IMC ☐ Unknown	Light Condition ☐ Dawn ☐ Dusk ☐ Day ☒ Night ☐ Dark Night ☐ Unknown ☐ Bright Night
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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 _____ ft agl	Temperature: <u>31</u> (C) or _____ (F) Dew Point: <u>-3</u> (C) or _____ (F) Altimeter Setting: <u>30.10</u> in. Hg or _____ MB
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Wind Direction ☐ Variable -or- Direction: <u>090</u> degrees true	Wind Speed ☐ Calm ☐ Light and Variable -or- Speed: <u>3</u> kts	Wind Gusts ☒ Not Gusting -or- Speed: _____ kts	Visibility <u>10</u> miles RVR: _____ feet RVV: _____ miles Density Altitude: <u>8595</u> ft
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Intensity of Precipitation ☐ Light ☐ Moderate ☐ Heavy ☒ N/A ☐ Unknown	Type of Precipitation (Check all that apply)	Restriction to Visibility (Check all that apply)
☒ None ☐ Rain ☐ Snow ☐ Hail ☐ Rain Showers	☐ Drizzle ☐ Ice Pellets ☐ Snow Pellets ☐ Snow Grains ☐ Ice Crystals	☒ None ☐ Blowing Dust ☐ Blowing Sand ☐ Blowing Snow ☐ Blowing Spray ☐ Dust
	☐ Freezing Rain ☐ Snow Shower ☐ Ice Pellets Shower ☐ Freezing Drizzle	☐ Fog ☐ Ground Fog ☐ Haze ☐ Ice Fog ☐ Smoke ☐ Unknown

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:

TFR over Coors Field in Downtown Denver, CO;
 Multiple NOTAMS for instrument approach procedures and notifying TEMPORARY CRANE 5746 MSL 2684FT SOUTHEAST OF RWY 30L;
 BJC 07/009 BJC AIRSPACE AEROBATIC ACFT WI AN AREA DEFINED AS 1NM RADIUS OF BJC338020 SFC-3500FT AGL DLY
 SR-SS 1907061138-1911152344

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)*

Substantial damage occurred to aircraft from impact including damage to propeller,nose/spinner, fuselage, and landing gear.

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 Narrative.

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

Operator/Owner Safety Recommendation

As a student pilot, I see the importance of ensuring that I have adequate training and knowledge of aircraft systems (specifically, the electrical system) as well as training to land an airplane without the use of flaps to be able to confidently handle a similar situation in the future.

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.)

In-flight total loss of electrical system.

**Total Time/Cycles
On Part**

_____ Hours

_____ Cycles

**Time Since This Part
Inspected/Overhauled**

_____ Hours

FUEL & SERVICES INFORMATION**Fuel on Board at Last Takeoff**

(Convert from pounds, as necessary)

43 (From BJC) _____ 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**

N/A

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

The student pilot and sole occupant exited through the passenger door.

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.

*Note: The FAA has taken custody of the accident aircraft and all logbooks/maintenance records. According, some information is unavailable to complete portions of this report related to the aircraft and its maintenance history (e.g. propeller serial no., last inspection, etc.). Additionally, the pilot and sole occupant is only able to provide limited information regarding the damage because the accident aircraft is currently in FAA/ custody and the pilot and sole occupant has not viewed the aircraft since leaving the accident site.

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

Date of this Report

09/12/2019

mm/dd/yyyy

Name of Pilot/Operator: Wilson Belk

Signature: _____

-- or -- ☒ Check here to electronically sign this document

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.

CEN19LA292

Reviewed by NTSB Regional Office

Central

Name of Investigator

C. Liedler

Date Report Received

09/16/2019

NTSB Form 6120.1 –NARRATIVE HISTORY OF FLIGHT

On August 28, 2019 I, John Wilson Belk, arrived at Rocky Mountain Metro Airport (KBJC) to conduct a solo cross-country flight to fulfill a requirement for my private pilot certificate. This was my second solo cross country flight as a student pilot. I met with my instructor Jim Franke, at Rocky Mountain Flight School, to discuss the flight and my instructor gave me a logbook endorsement for the flight. I checked weather utilizing Foreflight and noted that no adverse weather conditions existed or were forecast for the route of flight.

I conducted a pre-flight inspection (utilizing the airplane checklist) of the Aircraft, a Cessna 172P (N53432), which I rented from the flight school. The pre-flight inspection was unremarkable. I did not note any issues with the aircraft, including its electrical system. The aircraft had full fuel in both tanks. I had previously flown N53432 and I generally switched between this aircraft and other similarly equipped Cessna 172 models at the flight school based on their availability.

I am unaware of any recent discrepancies have been reported or corrected with respect to N53432. I was my understanding that if an airplane was “squawked” for any problem, it would be taken offline (not available to schedule a rental) until any problem was corrected.

At approximately 6:20 p.m., I taxied from Rocky Mountain Flight School for departure from KBJC to KCOS. I followed the before takeoff checklist and conducted a run-up, which was normal. I checked the electrical systems functionality and noticed no abnormal conditions. I also checked the functionality of the flaps prior to takeoff, which functioned normally.

I departed KBJC (VFR) and the flight proceeded normally with no adverse flight conditions or issues with the Aircraft. Over approximately Monument, CO, I noticed that the volt-meter (which was a numeric display) went from 28.5 to 28.4 or 28.3. I also noticed that the low voltage light began illuminating intermittently, turning a faint red. Voltage seemed to decline slightly, but seemed to remain at approximately 28 volts all the way to COS, so I did not perceive a problem that required immediate action. At this time, I did not see any rapid or steady decline in volts.

I recalled a previous conversation with my instructor where he mentioned that he had noticed “low voltage” concerning a flight school aircraft and that he pulled “vape pen” charger from an outlet. I’m unsure when he noticed this condition or if he was referring to N53432 or another aircraft. My instructor’s tone was conversational, and I did not take this as any kind of warning or indication that there may be any issue with N53432’s functionality.

I conducted a touch-and-go landing at COS and departed north to head back to BJC. Shortly thereafter, the volt-meter began to decline more. The decline, although still slight, appeared to be more consistent/steady. This caused me to become more concerned that I was slowly losing electrical power. While in communication with COS departure, I asked for VFR flight following, which was granted. I climbed to approximately 10,000 ft. to give me more altitude and time to deal with any issue with the aircraft.

I was not confident that I completely understood how an electrical system failure may affect the aircraft. While I was aware of some potential issues (such as a loss of electrically powered equipment such as radios), I was concerned about a potential electrical failure’s effect on other systems. At this point in my training, I had not yet received any comprehensive training on the aircraft’s electrical systems. I have

had about 2 hours of ground instruction and had not yet taken (or received an endorsement to take) my private pilot written examination.

I continued with VFR flight following when handed off to Denver Departure. I began noticing a slightly more rapid decrease in voltage. When I was approximately over Chatfield Reservoir, I noted about 23v and declining. I notified Denver Approach of the electrical issue (at the time about 22v were indicated). I asked Denver Approach to hand me off to BJC tower when I was approximately 25 miles south of BJC.

Upon calling BJC Tower, I asked for guidance as to whether I should continue to BJC or if another airport was more suitable. Tower advised to continue to BJC, which I did. At this time, weather was good, but night was approaching. At this time, I would describe light conditions as "dusk." It was just before 8:00 p.m. In planning my descent, I kept my altitude high and advised tower I was staying high because of the electrical system problem. Because of my lack of certainty as to the potential effects of an electrical failure on other systems, I decided to keep my altitude relatively high. I tried to reduce the electrical load by turning off aircraft lights.

BJC directed me to make traffic for runway 12L. I asked for runway 3, as it was a straight-in approach from my current position (about 15 miles from BJC). I had landed on runway 3 previously and from that experience I was aware that I had sufficient landing performance for the runway. Tower cleared me to land on Runway 3. My volt meter was declining rapidly at this time and only showed about 12v. I continued my descent.

When I was on an approximate 10 mile final for runway 3, tower advised that I should extend flaps now, before I lose power. I took that advice, and selected 10 degrees of flaps. As soon as I moved the flaps selector, the airplane lost all electrical power. The flaps did not extend to 10 degrees. I was unable to declare an emergency because of the loss of power. I continued final approach for runway 3, as tower had cleared. Prior to losing power, I had also noted other traffic in the pattern for BJC.

I continued on final approach for runway 3. I had not previously landed an airplane without flaps and I had not yet received training on conducting a no-flaps landing. I realized that I was higher than normal on my approach. I utilized a forward slip to assist in my descent without further increasing airspeed. On final, I was at 110 kias. With night quickly approaching, knowing other planes were in the pattern (and my aircraft was less visible in low light conditions without external lights) and having a clearance to land only on runway 3, I continued my approach. I treated this as my only chance to land the plane safely. I was cognizant of the fact that I was/am a student pilot with limited experience. I had recently re-started my flight training in May of 2019, after several years off while I was in college. I wanted to avoid a night landing without electrical power or endangering other aircraft by doing something which was unpredictable for the tower (such as switching runways).

I continued on short final, crossing the numbers at about 100 kias and first touching down at about the 1000 ft. markers. The aircraft bounced multiple times and I had difficulty getting the aircraft to settle on the ground sufficiently to begin braking. I applied brakes as soon as possible, but could not stop the aircraft before the end of the runway. The aircraft went off the runway, went over a retaining wall and impacted a guard rail on 120th Ave. Although I was conscious immediately after the impact, my recollection of the last several seconds is blurred. I felt very disoriented, but quickly exited the aircraft and flagged a car down to call 911, after which I momentarily lost consciousness. I left the accident scene by ambulance.

The aircraft received substantial damage, but I have not viewed the aircraft after the accident, so I am not aware of the extent of damage.

I was injured as a result of the accident. I describe my injuries as minor, as they were sufficient to require immediate medical attention, but not life-threatening.