

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: Millersburg State: Ohio

ZIP: 44654 Country: USA

Latitude: 40 degs. 32 min. N Longitude: 81 deg. 56 min. W

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

Accident/Incident Date/Time

Date: 12/21/2016 Local Time: ~1020 AM
mm/dd/yyyy

Time Zone: EDT

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

AIRCRAFT INFORMATION

Registration Number: N8381T

Manufacturer: Cessna

Model: 175C

Serial Number: 17557081

Year of Manufacture: 1962

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

☒ IFR-Equipped and Certified
☐ Commercial Space Flight
☐ Unmanned Aircraft

Maximum Gross Weight: 2450 lbs

Weight at Time of Accident/Incident: 2100 lbs

Number of Seats: 4 Flight Crew Seats: 2

Cabin Crew Seats: _____ 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
- ☐ Restricted
- ☐ Aerobatic
- ☐ Limited
- ☐ Balloon
- ☐ Provisional
- ☐ Commuter
- ☐ Special Flight
- ☐ Transport
- ☐ Experimental
- ☐ Utility
- ☐ Special Light-Sport
- ☐ Experimental Light-Sport

☐ Certificate of Authorization or Waiver (COA)
☐ None ☐ Unknown

Landing Gear

(Check all that apply)

☐ Retractable

- ☒ Tricycle ☐ Tailwheel
- ☐ Amphibian ☐ High Skid
- ☐ Emergency Float ☐ Skid
- ☐ Float ☐ Ski
- ☐ Hull ☐ Ski/Wheel
- ☐ Other Launch/Recovery System
- ☐ None ☐ Unknown

Engine Type (Select one)

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

Fuel System Type (Reciprocating)

- ☒ Carburetor ☐ Fuel-Injected

Engine	Engine Manufacturer	Engine Model/Series	Manufacturer's Serial Number	Date of Mfg. mm/dd/yyyy	Rated Power ☒ Horsepower or ☐ lbs of Thrust	Total Time (hours)	Time Since: Inspection (hours)	Overhaul (hours)
Eng. 1	Lycoming	O-360	L-9122-36A	UNKNOWN	180	4480	99	579
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

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

Date Last Inspection: 12/28/2015

mm/dd/yyyy

Airframe Total Time: 2169 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: McCauley

Model: 1A170/FFA7563

Propeller 2

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

Manufacturer: _____

Model: _____

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: Narco

Model or Part No.: ELT-10

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: Peter B. & Nona I. Mapes c/o Dave CrusonCity: GreenbushState: MIZIP: 48738Fractional Ownership Aircraft: ☐ Yes ☒ NoCountry: USA**Operator of Aircraft**☒ Same As Registered Owner☐ Same Address as Registered OwnerName: Peter B. MapesCity: Rockville

Doing Business As: _____

State: MDZIP: 20852

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: Holmes County AirportDistance From Airport Center: ~0.6 smAirport Identifier: 10GDirection From Airport: ~090 degrees trueProximity to Airport: ☒ Off Airport/Airstrip ☐ On Airport/Airstrip ☐ N/AAirport Elevation: 1227 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
☐ 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																																																																																																				
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"Flight Crewmember 1" Identification First Name: <u>Peter</u> Middle Initial: <u>B</u> Last Name: <u>Mapes</u> City of Residence: <u>Rockville</u> State: <u>MD</u> ZIP: <u>20852</u> Country: <u>USA</u> Age at time of Accident/Incident: <u>62</u> Date of Birth: [REDACTED] mm/dd/yyyy Certificate Number: [REDACTED]																																																																																																				
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Principal Occupation ☐ Pilot ☒ Other ☐ Unknown						Medical Certificate ☐ None ☐ Class 3 ☐ Class 1 ☐ Driver's License (Sport Pilot only) ☒ Class 2 ☐ Unknown		Medical Certificate Limitations 'Must wear corrective lenses'																																																																																												
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Type Ratings No Type Ratings NOTE concerning 'Flight Time' Below: In the calculation of 'This Make & Model' below, time from the C172 & C-175 are combined. ME instructor time is all military. Don't have time totals broken out by PIC and instructor for Night & Instrument but nearly all Instrument time should be PIC.						Student Endorsements (Include dates)																																																																																														
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"Flight Crewmember 2" was pilot flying ☐ Yes ☐ No																																																																																																				
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ADDITIONAL FLIGHT CREWMEMBERS (Exclusive of cabin crew, complete the following information)

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	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Private ☐ Recreational ☐ Student ☐ Sport ☐ Commercial ☐ US Military ☐ Airline Transport ☐ Foreign ☐ Flight Engineer	Restraint Type: Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ 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	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Flight Instructor ☐ Private ☐ Recreational ☐ Student ☐ Sport ☐ Commercial ☐ US Military ☐ Airline Transport ☐ Foreign ☐ Flight Engineer	Restraint Type: Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ 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>Withheld (minor)</u> City: <u>Bethesda</u> Middle Initial: _____ State: <u>MD</u> ZIP: <u>20816</u> Last Name: <u>Withheld (minor)</u> Country: <u>USA</u> ☐ 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>W50</u> City: <u>Laytonsville</u> State: <u>MD</u> Country: <u>USA</u>		Time of Departure Time: <u>~0700</u> Time Zone: <u>EDT</u>		Destination Airport ID: <u>10G</u> City: <u>Millersburg</u> State: <u>Ohio</u> Country: <u>USA</u>
Type Flight Plan Filed ☒ None ☐ VFR/IFR ☐ Company VFR ☐ IFR ☐ Military VFR ☐ Unknown ☐ VFR Activated? ☐ Yes ☐ No ☐ Unknown				
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 ☐ FAR 93 ☐ Class E ☐ Restricted Area				
Altitude of In-Flight Occurrence: <u>1600</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	
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 <u>25000</u> ft agl		Ceiling ☒ None (Clear) ☐ Obscured ☐ Broken ☐ Indefinite ☐ Overcast ☐ Unknown Ceiling Height _____ ft agl		
Wind Direction ☐ Variable -or- Direction: <u>250</u> degrees true		Wind Speed ☐ Calm ☐ Light and Variable -or- Speed: <u>8</u> kts		
Wind Gusts ☒ Not Gusting -or- Speed: _____ kts		Visibility <u>100</u> miles RVR: _____ feet RVV: _____ miles Density Altitude: <u>-688</u> ft		
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				
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				
NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident: None of significance to the flight or the forced landing.				

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)

Hard landing made intentionally to shear gear and avoid sliding out of control into trees or downslope. No prop strike as prop had been stopped in the horizontal position after attempted airstart with starter. Right wing struck and dislodged fence post in approach, aircraft came to rest with the right wing held up by a wire fence and the left wing on the ground. Aircraft a total loss. Salvage value only.

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 location, services obtained, and intended destination. Provide as much detail as possible.

Preflight - I obtained weather and NOTAMS by reviewing National Weather Service Data on line & obtaining a 'standard' weather brief from Leidos Flight Service at approximately 4:30 AM. I filed an SFRA flight plan IAW SFRA procedures. I checked weight & balance & determined that the aircraft was properly loaded. Aircraft had been checked the evening before. Aircraft was full of fuel. Performance data was checked and was conservative due to density altitudes below sea level and headwind. Intended runways were adequate for operations. Formation brief was conducted with the pilot of N8548C, her duties would be to navigate independently, communicate with ATC in the SFRA & switch to 122.775 when departing the SFRA. After departing the SFRA, I would take charge of communication for the flight (obtain clearance through the Martinsburg Class D for both aircraft) until switching to Unicom on arrival at 10G when each aircraft would resume single ship comms. A thorough preflight was conducted of the aircraft at W50 including, visual inspection of both tanks & draining fuel, no contaminants were found. I advised Potomac Tracon of the planned formation by phone, received approval, & obtained a squawk (4351) & a frequency (128.7 MHz) for departure from the SFRA.

Engine Start - I waited until ambient lighting allowed excellent vision of unlighted objects on the ground & started engines. I taxied as #2. Runup check was normal. Before Takeoff Checklist was unremarkable.

Takeoff & Departure - I took off behind the lead aircraft after lead was airborne in <500' of runway. I contacted Potomac as briefed & established radar contact. I closed to close trail, inspected lead for leaks & damage, then fell back to extended trail (stacked level, 500' astern, on the 30 degree line) & allowed my passenger to practice basic aircraft control while following lead. I checked fuel flow on both tanks independently, found it satisfactory, and switched to left tank for the enroute portion. I set power & leaned for peak EGT.

Enroute - I accomplished station checks every 15 minutes. My passenger gave up following lead after Martinsburg due to queasiness & I engaged the autopilot. I kept us above the other aircraft and followed it visually, on the Avidyne TAS & on ADS-B traffic, when that was available. We stayed within 2 miles of the other aircraft for the duration of the flight and maintained radio contact on 122.775 MHz. Due to headwinds we flew at roughly 1,500' to 2,000' AGL until across the E. Continental Divide, then descended to 1,500' AGL into 10G.

Arrival - About 5 miles from 10G, I disengaged the autopilot & completed the Before Landing Checklist (Critical Error - In hindsight, I failed to position the fuel selector to Both at this juncture and this set the stage for the forced landing). My usual habit pattern is to touch each control - Carb Heat (N/A due to low temp on CAT and low moisture), Mixture Rich (Done), Fuel Both (Not Done), Ignition (Both), Master (On) & configure for landing. I looked the other aircraft over prior to landing when flaps were extended, then took spacing for landing.

Mishap Sequence - Failing to set Fuel Selector to Both set the stage for fuel exhaustion. At ~1,600' MSL on final, ~0.3 SM from threshold @ 1.3 Vso (green circle on AOA) with flaps extended, the engine experienced fuel exhaustion. I immediately checked the fuel selector, found it still on left & placed it to right tank. I picked a forced landing spot ahead at the base of the hill leading up to the runway threshold, aimed slightly to the right (north) to set up a base & determined I had time to engage the starter. I engaged for 3 revolutions and did not achieve a restart. I then bumped the prop to the horizontal position to avoid a prop strike and gave my full attention to the forced pattern.

Forced Pattern - I was now flying an 'emergency aircraft' under FAR 91.3. At an altitude of roughly 1,300' MSL I slowed to 1.1 Vso (top half of green circle only) on the AOA to achieve a minimum energy approach. I could now clearly make out fence lines and posts parallel to the contours on the hill ahead. My aim point was the base of the hill aimed through an opening in the fence; toward trees on the south side of the hill in a SW direction. Since the temperature was below freezing, I anticipated a lack of traction on landing end elected a hard landing to shear the gear, facilitate extra friction and prevent an extended, out of control, roll out. I planned to accomplish this with a 12' high flare to a dropped in landing; saving my last bit of lift to raise the nose. The aircraft touched down firmly shearing the nose gear first, then the mains, removing the top half of a fence post with the right wing and coming to a stop with it's right wing high and supported on a wire fence and its left wing on the ground. I determined my passenger was OK (she was asleep for landing), turned off the Master and we both egressed.

RECOMMENDATION (How could this accident/incident have been prevented?)**Operator/Owner Safety Recommendation**

Egress - The left door was used for egress, both doors were sprung open by deformation but the left was easiest to use. Seatbelts held in the 3 point configuration, deformation of the shoulder harness attach point on the lap belt was noted in both cases. Both I & the passenger (minor child) sustained a minor injury - each had a small cut less than 1" long. No other injuries. The ELT had activated. I removed it & silenced it. I must have had some shock at that point because I policed up the nose gear and laid it by the engine cowl.

Follow Up Actions - My small laceration bled profusely so we walked out of the forced landing site, located an occupied habitation to the north of the landing site and gained help to travel to the airport where we notified the lady on duty of the forced landing. She notified the Sheriff and the FAA. In the mean time, I obtained a ride downtown to get first aid supplies and asked the pilot of N8548C to administer first aid to my bleeding laceration. She is an Emergency Medical Responder. We returned to the forced landing site after stoping the bleeding and found the Sheriff (Capt Renker) also approaching. After I explained I needed to turn off the fuel selector, he let me complete securing the aircraft. One of the Deputies voiced concern that we might be 'running drugs' so I invited him to search anything he might wish and he proceeded to do that. Capt Renker was polite, photographed my credentials, had the Deputy remove the folder containing the Airworthiness Certificate and Registration from the aircraft (ripped it off the right interior forward side panel where it was glued) and photographed the Registration. These documents were not returned to me. I tried to remove the GDL-69 (needed the subscription associated with the box for a flight later that day) but was not successful due to tray deformation. Everyone was getting very chilled at this point so I got permission from Capt Renker to leave the site with our (now fully inspected) baggage and wait at the airport in the warmth. As the FAA Inspector was delayed in arriving from Cleveland, I left a partial statement with Capt Renker containing data requested by the FAA & departed in N8548C. The original pilot of N8548C and my passenger returned home by commercial air from Columbus. - END

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

_____ Cycles

**Time Since This Part
Inspected/Overhauled**

_____ Hours

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

(Convert from pounds, as necessary)

49 _____ 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

Preflight inspection, engine preheat (EZ Heat)

EVACUATION OF AIRCRAFT

Was an emergency evacuation of the aircraft performed? ☒ Yes ☐ No

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

2 occupants exited left cabin door.

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

Aircraft Registration Number

Manufacturer: _____

Damage to Other Aircraft

Model: _____

☐ 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.

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

Date of this Report

12/29/2016

mm/dd/yyyy

Name of Pilot/Operator: Peter B. MapesSignature: [REDACTED]

— 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.

CEN17LA060

Reviewed by NTSB Regional Office

— CEN —

Name of Investigator

T. SORENSON

Date Report Received

2 JAN 2017