

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: THREE FORKS (9S5) AIRPORT State: MT
 ZIP: 59752 Country: USA
 Latitude: 45.8781111 Longitude: 111.5694444
(Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time

Date: 07/20/2022 Local Time: 0815
mm/dd/yyyy Time Zone: MST

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

AIRCRAFT INFORMATION

Registration Number: N6224M

Manufacturer: MAULE AIR, INC.

Model: M-5-235C

Serial Number: 7196C

Year of Manufacture: 1978

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

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

Maximum Gross Weight: 2500 lbs

Weight at Time of Accident/Incident: 2090 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 | Special |
|---|---|
| ☒ 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. <i>mm/dd/yyyy</i>	Rated Power ☒ Horsepower or ☐ lbs of Thrust	Total Time (hours)	Time Since: Inspection (hours)	Overhaul (hours)
Eng. 1	TEXTRON-LYCOMING	O-540-J1A5D	L-19410-40A		235	568.0	1.0	1.0
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

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

Date Last Inspection: 07/05/2022
mm/dd/yyyy

Airframe Total Time: 569.2 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 HELD 2.5 LB HALOTRON

Propeller 1

- ☐ Fixed Pitch
☒ Controllable Pitch
☐ Ground Adjustable

Manufacturer: McCAULEY

Model: B3D32C414-C

Propeller 2

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: _____

Model: _____

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: EMERGENCY BEAC

Model or Part No.: EBC406AP

TSO No.: ☐ OC91 (121.5 MHz) ☐ OC91a (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: MARDOCK SHAPIRO FAMILY TRUST SHAPIRO, DAVID A - TRUSCity: THREE FORKSState: MTZIP: 59752Fractional Ownership Aircraft: ☐ Yes ☒ NoCountry: USA**Operator of Aircraft**☒ Same As Registered Owner☒ Same Address as Registered OwnerName: DAVID A. SHAPIRO - TRUSTEECity: THREE FORKS

Doing Business As: _____

State: MTZIP: 59752

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: THREE FORKSDistance From Airport Center: 1/2 smAirport Identifier: 9S5Direction From Airport: 226 degrees trueProximity to Airport: ☒ Off Airport/Airstrip ☐ On Airport/Airstrip ☐ N/AAirport Elevation: 4080 ft. msl**Runway Information**Runway ID: 03 (L/R/C) Length: 5100 ft Width: 60 ft**Condition of Runway/Landing Surface** (Check all that apply)**Runway/Landing Surface** (Check all that apply)

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

- ☒ 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: DAVID

City of Residence: THREE FORKS

Middle Initial: A

State: MT ZIP: 59752

Last Name: SHAPIRO

Country: USA

Age at time of Accident/Incident: 71 Date of Birth: [REDACTED] mm/dd/yyyy

Certificate Number: [REDACTED]

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		Medical Certificate Validity ☐ Without limitations/waivers ☐ Unknown ☒ With limitations/waivers ☐ N/A ☐ Special Issuance															
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 <u>02/10/2021</u> mm/dd/yyyy															

Medical Certificate Limitations

MUST HAVE AVAILABLE GLASSES FOR NEAR VISION

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: 03/31/2021
mm/dd/yyyy

Flight Review Aircraft

Make: BEECHCRAFT

Model: BONANZA V35B

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

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	6,210	2,546	6,146	6	586	308	189	53	12	
Pilot in Command (PIC)	5,938	2,539	5,938		570					
Time as Instructor	4,966	974	4,966							
This Make/Model										
Last 90 Days	7		7							
Last 30 Days	5		5							
Last 24 Hours	2		2							

"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) <i>(Check all that apply)</i> <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					
☐ 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 _____ 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: _____ mm/dd/yyyy	Flight Review Aircraft Make: _____ Model: _____
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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> <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
☐ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift	☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport				

Type Ratings	Student Endorsements <i>(Include dates)</i>
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Flight Time <i>(Enter appropriate number of hours in each box)</i>	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: _____ 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 ☐ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☐ Student ☐ Sport ☐ 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 ☐ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☐ Student ☐ Sport ☐ 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: _____ 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>9S5</u> City: <u>THREE FORKS</u> State: <u>MT</u> Country: <u>USA</u>	Time of Departure Time: <u>0800</u> Time Zone: <u>MST</u>	Destination Airport ID: <u>9S5</u> City: <u>THREE FORKS</u> State: <u>MT</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 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	Altitude of In-Flight Occurrence: <u>7500</u> ft msl
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WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE

Source of Pilot Weather Information

(Check all that apply)

☒ National Weather Service ☐ Flight Service Station ☐ TV/Radio ☐ Automated Report ☐ Commercial Weather Service (DUATS) ☐ On-Board Weather	☐ Company ☐ Military ☐ Internet ☐ None ☐ Unknown
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Weather Observation Facility

Facility ID: AVIATIONWEATHER.GOV
 Observation Time: 0600
 Time Zone: MST
 Distance from Accident Site: 22 nm
 Direction from Accident Site: 045 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

_____ ft agl

Ceiling

☒ None (Clear) ☐ Obscured
☐ Broken ☐ Indefinite
☐ Overcast ☐ Unknown

Ceiling Height

_____ ft agl

Temperature: _____ (C) or 62 (F)

Dew Point: _____ (C) or _____ (F)

Altimeter Setting: 30.02 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 +10 miles

RVR: _____ feet

RVV: _____ miles

Density Altitude: 5300 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	Type
☒ None	☐ N/A
☐ Trace	☐ Rime
☐ Light	☐ Clear
☐ Moderate	☐ Mixed
☐ Severe	☐ Unknown
☐ Unknown	

Icing Actual

Amount	Type
☒ None	☐ N/A
☐ Trace	☐ Rime
☐ Light	☐ Clear
☐ Moderate	☐ Mixed
☐ Severe	☐ Unknown
☐ Unknown	

Turbulence

Type (Check all that apply)	Severity
☒ None	☐ Light
☐ Clear Air	☐ Moderate
☐ Terrain-Induced	☐ Severe
☐ Convective Turbulence	☐ Extreme

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)*

AIRCRAFT DAMAGE: ALL PROP BLADES BENT, LEFT WING SPAR DAMAGE, LEFT WING LIFT STRUTS BENT, UPPER LONGERONS AT WING ATTACH BENT, BOTH LANDING GEAR A-LEGS BENT, BOTH LANDING GEAR OLEOS BENT, LOWER COWL CRUSHED.

PROPERTY DAMAGE: APPROXIMATELY 100 FEET OF PASTURE BARBED WIRE FENCE TORN AND POSTS PUSHED OVER. APPROXIMATELY 100 FEET OF AIRPORT PERIMETER CYCLONE FENCE AND BARBED WIRE PUSHED OVER.

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.

FIRST FLIGHT OF AIRCRAFT AFTER EXTENSIVE REBUILD, OVERHAUL OF ENGINE, AND AVIONICS INSTALLATION. TACH READ 1.0 HRS.

FOUR PREVIOUS GROUND ENGINE RUNS ACCOMPLISHED. TWO INITIAL SETUP TEST RUNS OF APPROXIMATELY 2 MINUTES EACH, AND TWO EACH; 1/2 HOUR RUNS, AIRCRAFT MOUNTED ON FLAT BED TRAILER, STRAPPED DOWN IN LEVEL FLIGHT ATTITUDE, TOWED 8 TIMES FOR A TOTAL 1/2 HR RUN TIME UP AND DOWN RUNWAY TO 70 MPH, GOING UP TO FULL POWER, AND BACK DOWN, WITH COOLING PERIODS OF 10-20 MINUTES IF CHT ABOVE 400 DEGREES F, ON THE GROUND. PRIOR TO TEST RUNS, ALL TANKS FILLED TO CAPACITY WITH 100LL FOR WEIGHING PURPOSES BEFORE INITIAL TEST RUNS. FUEL CALCULATED BEFORE FLIGHT OF 52 GALLONS TOTAL, 17 GALLONS IN LEFT MAIN, 20 GALLONS IN RIGHT MAIN. 5 GALLONS IN LEFT AUX, 10 GALLONS IN RIGHT AUX, FUEL PHYSICALLY CONFIRMED BY DIPSTICK BEFORE FLIGHT.

IDLE AND MIXTURE ADJUSTMENTS PERFORMED AFTER SHORT TEST RUNS.

FIRST TRAILER -MOUNTED FULL POWER SERIES OF 8 RUNS: #1 CYLINDER SHOWING LOW EGT AND CHT. IGNITION LEAD TESTER APPLIED AND UPPER LEAD FAILED. LEAD REPAIRED PER BENDIX INSTRUCTIONS.

TEST RUN UP AND DOWN RUNWAY PERFORMED AGAIN, WITH SOME CYLINDERS DROPPING OUT (LOW) ON EGT GRAPH. UPON LEAD TESTER CHECK AGAIN, FOUND # 1 LOWER AND # 2 LOWER FAILING. AIRCRAFT REMOVED FROM TRAILER AND PUT IN HANGAR.

MAGNETO REMOVED, DEFECTIVE IGNITION HARNESS WITH CAP SENT OUT TO KELLY AEROSPACE FOR OVERHAUL. HARNESS AND MAG RE-INSTALLED, MAG TIMED TO SPEC.

AIRCRAFT POSITIONED ON TRAILER FOR SECOND SERIES OF 8 TEST RUNS UP AND DOWN THE RUNWAY AND NO MORE ANOMALIES NOTED.

0800 MST: PRE-FLIGHT AND PRE-TAKEOFF CHECK PERFORMED BEFORE ENGINE START. ENGINE START, 3 MINUTE RUN-UP AND MAG CHECK PERFORMED. BREAK-IN INSTRUCTIONS SPECIFY FULL RICH MIXTURE, AND DO NOT CYCLE PROP, SLOW APPLICATION OF THROTTLE ON TAKE-OFF WITH SHALLOW CLIMB FOR COOLING.

TAKE-OFF NORMAL, VERY SMOOTH ENGINE, NO UNUSUAL VIBRATION OR FALTERING; ALL INSTRUMENTS; NORMAL INDICATIONS, NORMAL CLIMB TO 500 FT ABOVE PATTERN ALTITUDE (5000'). LEVEL OFF AT 5500 MSL.

0804 MST: ENGINE VERY SMOOTH, COMMENCE LEFT ORBITS ABOVE AIRPORT, SHALLOW BANK TURNS, APPROXIMATELY 1/2 MILE FROM RUNWAY CENTERLINE, ALL POWER AND AIRCRAFT INSTRUMENTS; NORMAL INDICATIONS AT FULL THROTTLE AND 2400RPM (REDLINE) NOTE: FUEL FLOW AT 21-23 GPH. ALL FLIGHT AND POWER INDICATIONS PRESENTED BY DYNON HDX 1100 NEED TO BE DOWNLOADED TO CONFIRM ENGINE PARAMETERS.

0810 MST: COMMENCE RIGHT ORBITS ABOVE AIRPORT, APPROXIMATELY 1/2 MILE FROM RUNWAY CENTERLINE, SHALLOW BANK TURNS; ALL POWER AND AIRCRAFT INSTRUMENTS; NORMAL INDICATIONS.

0812 MST: RIGHT DOWNWIND MIDFIELD FOR RWY 03, ENGINE LOSING RPM SLOWLY. CONTINUING STRAIGHT AND LEVEL, PERFORMING ENGINE FAILURE CHECKLIST, INCLUDING MIXTURE CONTROL, SWITCH TO FULLEST TANK (REMAINED ON BOTH), BOOST PUMP ON, PRIMER IN AND LOCKED, CARB HEAT PULLED, MAGS CHECKED, LEFT, RIGHT, AND BOTH. NO RESTART OR POWER RECOVERY, ENGINE RPM STILL WINDING DOWN. NO ELEMENTS OF CHECKLIST MADE ANY DIFFERENCE

0813 MST SETUP FOR BEST GLIDE (80 MPH) COMMENCING RIGHT 180 DEGREE EMERGENCY APPROACH BACK TO RUNWAY. SINK RATE TOO HIGH FOR DISTANCE FROM THRESHOLD. NO FLAPS APPLIED.

0814 MST NORMAL TOUCHDOWN (LAST GLANCE AT AIRSPEED SHOWED 73 MPH AT START OF NORMAL FLARE) IN ROUGH UN-MOWN PASTURE APPROXIMATELY 1000 FT SHORT OF RWY 03 THRESHOLD, ROLLING INTO AND THROUGH PASTURE BARBED WIRE FENCE ALONG PERIMETER ROAD, CROSSING HIGH CROWN GRAVEL ROAD AND COMING TO REST INTO AIRPORT CYCLONE AND BARBED WIRE PERIMETER FENCE.

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

Operator/Owner Safety Recommendation

THIS ACCIDENT COULD HAVE BEEN PREVENTED WITH AN IMMEDIATE RIGHT 180 DEGREE TURN AND GLIDE TO THE RUNWAY. TIME SPENT STRAIGHT AND LEVEL PERFORMING CHECKLIST, ATTEMPTING TO RECOVER POWER, TOOK AIRCRAFT TOO FAR AWAY FROM RUNWAY TO MAKE THE THRESHOLD AT IT'S SINK RATE AT BEST GLIDE (80MPH). PILOT SPENT PAST SEVERAL YEARS TRAINING STUDENTS IN CESSNA 172s IN EMERGENCY APPROACH AND LANDING (DEAD-STICK), WITH PRECISION TOUCHDOWNS. MAULE AIRCRAFT NOT AVAILABLE FOR TRAINING SAME APPROACHES SINCE PILOT SOLD SECOND MAULE (N9207N) 13/JUL/2019. M5'S GLIDE PATH IS VERY SIMILAR TO PIPER PA-22 TRI-PACER AS MAULE AIRCRAFT ORIGINALLY DERIVED FROM THE PA20-22 SERIES. ONE M-7 (LONG WING) MAULE IN THE NORTH OF THE STATE COULD HAVE BEEN UTILIZED BUT SINK RATE (GLIDE DISTANCE) IS MORE SIMILAR TO CESSNA OF LIKE GROSS WEIGHT. PROFICIENCY DEFINITELY WOULD HELPED AS WELL AS ABANDONING TROUBLESHOOTING AND LANDING RIGHT AWAY. ALTITUDE OF 1500 AGL SHOULD HAVE BEEN PERFECTLY ADEQUATE AT FIRST INDICATION OF POWER LOSS TO MAKE RUNWAY UNEVENTFULLY. THE ROADS AROUND THE AIRPORT HAD POWERLINES AND OTHER OBSTRUCTIONS. ALL OF THE ADJACENT FIELDS HAVE DITCHES, SWAMP, CROSS-FENCING, PIVOT, WHEEL LINE, OR DITCH IRRIGATION IN THE CULTIVATED PORTIONS. CONTRIBUTING FACTORS INCLUDE PILOT AS A&P/I.A. POSSIBLY UN-WILLING TO ACCEPT ENGINE FAILURE, THINKING HE COULD DIAGNOSE, SORT OUT, MAYBE RESTORE ENOUGH POWER TO "STRETCH" GLIDE. 1 HOUR OF ENGINE RUN TIME IS ENTIRELY INADEQUATE TO ATTEMPT TEST FLIGHT. MOST OVERHAUL FACILITIES WITH ENGINE TEST CELLS WILL RUN ABOUT 1 HOUR TOO. 5 RUNS IN AN APPROPRIATELY EQUIPPED TEST CELL WOULD BE SAFER. ALSO, NEW AVIONICS, AND COMPLETELY RESTORED AIRFRAME, INCLUDING WINGS AND CONTROL SURFACES AND RIGGING COMBINED WITH A "NEW" UNKNOWN ENGINE CONTAIN TOO MANY POSSIBILITIES OF FAILURE POINTS FOR THE FIRST FLIGHT AND TOO MANY ELEMENTS TO ADEQUATELY DEAL WITH.

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.)

UNKNOWN AT THIS TIME

Total Time/Cycles
On Part

1.2 Hours
 Cycles

Time Since This Part
Inspected/Overhauled

1.2 Hours

FUEL & SERVICES INFORMATION

Fuel on Board at Last Takeoff
(Convert from pounds, as necessary)

52 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

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

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.

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

Date of this Report

07/21/2022

mm/dd/yyyy

Name of Pilot/Operator: DAVID A. SHAPIRO

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.

WPR22LA262

Reviewed by NTSB Regional Office

WPR

Name of Investigator

HICKS

Date Report Received

07/28/2022