

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: Reno/Reno-Stead Airport State: Nevada

ZIP: 89506 Country: United States

Latitude: 39:40:05N Longitude: 119:52:35W

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

Accident/Incident Date/Time

Date: 08/26/2019 Local Time: 16:44
mm/dd/yyyy

Time Zone: PST

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

AIRCRAFT INFORMATION

Registration Number: N78988

Manufacturer: Mooney

Model: M20C

Serial Number: 2022

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: 2575 lbs

Weight at Time of Accident/Incident: 2267 lbs

Number of Seats: 4 Flight Crew Seats: 0 or 1

Cabin Crew Seats: 0 Passenger Seats: 2 or 3

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 ☐ 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	<u>Lycoming</u>	<u>O-360-A1D</u>	<u>L-11248-36A</u>	<u>Unknown</u>	<u>180</u>	<u>4014</u>	<u>98</u>	<u>119</u>
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

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

Date Last Inspection: 02/20/2019
mm/dd/yyyy

Airframe Total Time: 3916 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: Hartzell

Model: HC-C2YK-1BF

Propeller 2

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: _____

Model: _____

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: ACK

Model or Part No.: E-04

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

Was ELT still mounted in aircraft? ☒ Yes ☐ No

Was ELT still connected to antenna? ☒ Yes ☐ No

Did ELT Activate? ☒ Yes ☐ No

If activated:

Did ELT Aid in Locating Aircraft: ☐ Yes ☒ No

If not activated:

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

Additional Equipment (Check all that apply)

- ☐ ADS-B
☐ Airframe Parachute
☐ Angle of Attack Indicator
☐ Autopilot
☐ Data Recorder
☒ Electronic Flight Bag or Handheld Device
☐ Electronic Multifunction Display
☐ Electronic Primary Flight Display
☒ Handheld GPS
☐ Heads Up Display
☐ Onboard Weather
☒ Satellite Tracking Device
☐ Stall Warning System
☒ Video Recording Device
☒ Other, Specify: Graphic Insight G-1 Engine Analyzer

OWNER/OPERATOR INFORMATION**Registered Aircraft Owner**Name: Joseph Benjamin WydevenCity: Woodland ParkState: ColoradoZIP: 80863Fractional Ownership Aircraft: ☒ Yes ☐ NoCountry: United States**Operator of Aircraft**☒ Same As Registered Owner☒ Same Address as Registered Owner

Name: _____

City: _____

Doing Business As: _____

State: _____ ZIP: _____

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

Country: _____

Operating Certificates Held

(Check all that apply)

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

Regulation Flight Conducted Under

- ☒ FAR 91 ☐ FAR 129 ☐ FAR 415
☐ FAR 103 ☐ FAR 133 ☐ FAR 431
☐ FAR 121 ☐ FAR 135 ☐ FAR 435
☐ FAR 125 ☐ FAR 137 ☐ FAR 437
- ☐ FAR 91 Special Flight
☐ Non-US, Commercial
☐ Non-US, Non-commercial
- ☐ Public Aircraft (Select one)
☐ Armed Forces
☐ Federal
☐ State
☐ Local
- ☐ Unknown

Revenue Operation for FAR 121, 125, 129, 135

(Select one for each group)

- ☐ Scheduled or Commuter ☐ Domestic
☐ Non-Scheduled or Air Taxi ☐ International
- ☐ Passenger
☐ Cargo
☐ Mail Contract Only

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

(Select one)

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

Revenue Sightseeing Flight☐ Yes ☒ No**Air Medical Flight**☐ Yes ☒ No**AIRPORT INFORMATION (Fill in if accident/incident occurred on approach, landing, takeoff, departure, or within 3 miles of an airport)**Airport Name: Reno/Stead AirportDistance From Airport Center: 1.15 smAirport Identifier: KRTSDirection From Airport: 120 (from center) degrees trueProximity to Airport: ☒ Off Airport/Airstrip ☐ On Airport/Airstrip ☐ N/AAirport Elevation: 5,050 ft. msl**Runway Information**Runway ID: 26 (L/R/C) Length: 7608 ft Width: 150 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 ☐ Sideslip ☐ 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: Joseph City of Residence: Woodland Park
 Middle Initial: B State: Colorado ZIP: 80863
 Last Name: Wydeven Country: _____
 Age at time of Accident/Incident: 33 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>10/01/2018</u> mm/dd/yyyy
---	---	---	--

Medical Certificate Limitations

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: <u>08/06/2019</u> mm/dd/yyyy	Flight Review Aircraft Make: <u>Mooney</u> Model: <u>M20C</u>
---	--

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
---	--	--	--

Type Ratings	Student Endorsements (Include dates) PIC in complex airplane: 61.31(e) - 02/22/2019 A.71 endorsement from AC-61-65G
---------------------	--

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	127	91	127	0	7	0	3	0	0	0
Pilot in Command (PIC)	49	46	49	0	1	0	0	0	0	0
Time as Instructor	0	0	0	0	0	0	0	0	0	0
This Make/Model					3	0	1			
Last 90 Days	54	54	54	0	1	0	0	0	0	0
Last 30 Days	13	13	13	0	1	0	0	0	0	0
Last 24 Hours	1	1	1	0	0	0	0	0	0	0

[illegible]

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 ☐ 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>Shereen</u> City : <u>Woodland Park</u> Middle Initial: <u>R</u> State: <u>CO</u> ZIP: <u>80863</u> Last Name: <u>Vorachek</u> Country: <u>United States</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>88NV</u> City: <u>Black Rock City</u> State: <u>Nevada</u> Country: <u>United States</u>	Time of Departure Time: <u>16:06</u> Time Zone: <u>PST</u>	Destination Airport ID: <u>KRTS</u> City: <u>Reno</u> State: <u>Nevada</u> Country: <u>United States</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)				Altitude of In-Flight Occurrence: <u>5700</u> ft msl
☐ Class A	☐ Class G	☐ Military Operations Area (MOA)	☐ Special	
☐ Class B	☐ Demo Area	☐ Airport Advisory Area	☐ Air Traffic Control Area	
☐ Class C	☐ Warning Area	☐ Jet Training Area	☐ Unknown	
☐ Class D	☐ Prohibited Area	☐ TRSA		
☒ Class E	☐ Restricted Area	☐ FAR 93		

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>AWOS-3</u> Observation Time: <u>16:37-16:42</u> Time Zone: <u>PST</u> Distance from Accident Site: <u>3-5</u> nm Direction from Accident Site: <u>30-60</u> degrees true
☐ Company ☐ Military ☐ Internet ☐ None ☐ Unknown	

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	Ceiling ☒ None (Clear) ☐ Obscured ☐ Broken ☐ Indefinite ☐ Overcast ☐ Unknown	Temperature: _____ (C) or _____ (F) Dew Point: _____ (C) or _____ (F) Altimeter Setting: _____ in. Hg or _____ MB
Lowest Cloud Condition Height _____ ft agl	Ceiling Height _____ ft agl	

Wind Direction ☒ Variable -or- Direction: _____ degrees true	Wind Speed ☐ Calm ☒ Light and Variable -or- Speed: _____ kts	Wind Gusts ☒ Not Gusting -or- Speed: _____ kts	Visibility <u>10</u> miles RVR: _____ feet RVV: _____ miles Density Altitude: _____ ft
--	--	--	---

Intensity of Precipitation ☐ Light ☐ Moderate ☐ Heavy ☐ N/A ☐ Unknown	Type of Precipitation (Check all that apply)	Restriction to Visibility (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	☐ None ☐ Fog ☐ Blowing Dust ☐ Ground Fog ☐ Blowing Sand ☐ Haze ☐ Blowing Snow ☐ Ice Fog ☐ Blowing Spray ☐ Smoke ☐ Dust ☐ Unknown

Icing Forecast	Icing Actual	Turbulence
Amount ☒ None ☐ Trace ☐ Light ☐ Moderate ☐ Severe ☐ Unknown	Amount ☒ None ☐ Trace ☐ Light ☐ Moderate ☐ Severe ☐ Unknown	Type (Check all that apply) ☒ None ☐ Clear Air ☐ Terrain-Induced ☐ Convective Turbulence
Type ☐ N/A ☐ Rime ☐ Clear ☐ Mixed ☐ Unknown	Type ☐ N/A ☐ Rime ☐ Clear ☐ Mixed ☐ Unknown	Severity ☐ Light ☐ Moderate ☐ Severe ☐ Extreme

NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident:

None in route of flight

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)*

Punctures/tears to right wing (leading edge), one of two propellor blades bent, damage to cowling, damage to aft bulkhead (elevator/stabilizer sections), puncture to front right windshield, puncture to right door window, puncture to right door, separation of nose gear, damage to main gears, underbelly, and wing bottoms.

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.

On August 26th, 2019, Sean Irwin, Shereen Vorachek and myself (Joseph Wydeven) received a ride with accompanying luggage (two flight bags belonging to Sean Irwin and myself and one fannie pack belonging to Shereen Vorachek). We performed the pre-flight inspection as per the checklist in the aircraft. This checklist is comprised of the original checklists from the Mooney's Owner's Manual (former POH), AFM and supplemental data from emergency checklists from another complex aircraft, as Mooney did not, in my opinion, provide adequate emergency checklists for this model in 1962. I have also added additional items to this checklist so as to increase safety and preflight preparedness for this aircraft, so long as these items did not conflict with original Mooney checklist items, and without any exclusion of original Mooney checklist items. During the pre-flight inspection, the only physical changes to the aircraft included adding 1/3 quart of oil (bringing the total oil pan/crankcase oil level to 6.1-6.2 quarts, just over the minimum of 6 quarts) and sumping all three fuel locations (left wing sump, right wing sump, and gascolator) to look for water and/or foreign materials. All three fuel tests revealed that there was no water nor foreign materials in the fuel. All items/components on the pre-flight inspection checklist passed inspection. We proceeded to load the aircraft according to weight and balance data I assembled, assuring that the flight was within weight and C.G. limits. I consciously decided not to add fuel to the aircraft, which I had purchased ahead of the event and was staged at 88NV, since my prospective weight and balance calculations for the return flight (with the addition of a 4th passenger and her luggage) would require that I not fill my fuel tanks to their full capacity. In addition, I was able to determine that I had ample fuel for a 30 minute diversion from my destination airport (KRTS). In short, my mindset was that it would be easier to add fuel according to a reconfigured weight and balance at KRTS than to arrive with too much fuel and have to extract fuel from the aircraft. I also wanted to be sure that my 4th passenger's luggage was a true representation of what I had figured in my prior calculations. An accompanying photo taken from my rear passenger during the run-up shows that the aircraft had 2/5 fuel in the left tank (approximately 9.6 gallons) and 1/2 fuel in the right tank (approximately 12 gallons). At a generous estimate of 10 gph burn rate (between 9.0-9.5 typically based off past experience with similar power settings and altitude) plus an initial climbout rate closer to 16 gph, I figured I had approximately 2 hours of flight time for a flight that required 40 min of in-flight fuel plus the 30 min requirement for a possible diversion from my destination airport upon arrival. This allowed for an additional 45-50 minutes of a fuel buffer in addition to VFR flight requirements for this flight. After boarding and loading the aircraft according to my weight and balance configuration, I turned on the master and navigation switches, so I could gain taxi clearance from Black Rock Operations before starting the engine (so as to kick up less dust and avoid having to restart in the case I did not get clearance). After receiving clearance, I turned off the navigation and turned on the electric fuel pump before consulting the checklist for the rest of the engine starting sequence, finalizing this process by slowly leaning out the fuel mixture until I sensed the early stages of roughness (I do this at 1900 RPM just after I test the propeller control), then turned the mixture control knob clockwise 360 degrees (four 1/4 turns to the right), to a rich of peak setting. The engine noticeably returned to smooth running within the first of these four quarter turns, as I have learned to do with this aircraft. I am very careful to pull the mixture out slowly due to the delay in my input and the engine's actual performance. All items on Run Up checklist were performed. After engines were started, we switched frequency to the 88NV CTAF to confirm location of runway 23R. I taxied the aircraft to the vicinity of runway 23R and was advised by tower to perform a rolling run-up [if able], however, I elected to perform a stationary run-up as I have never performed a rolling run-up before, nor did I feel comfortable with this being my first time (not to mention the difficulty in setting a precise mixture while the airframe is bouncing around). I did not experience any issues with the run-up, and I determined the aircraft ready for takeoff. I announced our departure from Black Rock City, runway 23R, entered the runway, and performed a soft-field takeoff. I departed with the fuel selector on the fuller tank (right tank). We departed at approximately 16:05 PST. Upon reaching our cruising altitude of 8500' MSL I ran the cruise checklist. I first checked throttle position and made a small adjustment to 24" Hg followed by a reduction in the prop to 2450 RPM. I did not lean the engine out any further at this point nor at any point in cruise. Somewhere en route, I remember seeing my fuel tank timer go off on my Garmin 396 and switched the fuel tank selector over to the left tank, which was my fullest tank by a very small margin at this time. We continued on our flight path to Reno-Stead Airport. At one point I climbed to 9000' MSL to gain clearance over terrain, then descended back to 8500' MSL. Sean started adjusting radio frequencies in flight. We received the AWOS-3 information for Reno-Stead and briefed the approach with the airport diagram. Winds were variable at 4 knots. I do not remember the altimeter setting, but I adjusted it once before take-off with 88NV CTAF information and again on approach to KRTS with their AWOS. Since wind was not a factor, I chose the runway most suitable based on our incoming direction and overall runway size/condition. I made an announcement over the Reno-Stead CTAF, vectored the aircraft so that I could eventually enter a right base for runway 26 at Reno-Stead, switched on the electric fuel pump, switched the fuel tank selector to my fullest tank (back to the right tank at this point) pushed in the propeller control so that I was just a

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

Operator/Owner Safety Recommendation

Depending on the outcome of the investigation, I may gain insight into how this could have been prevented. However, as of now I do not know why the engine failed, and so any suggestion I make will only serve to increase my odds of a successful emergency landing.

I could have perhaps picked a different runway that did not present as many challenges in the case of an engine failure. Up until now and through all of my training that has never been a factor in choosing a runway... even when winds are no factor. I might also consider flying tighter traffic patterns than standard over rough terrain, houses, etc, however, I would want to speak with an instructor about this first, as it was not part of training nor suggested in any flight manuals I have read.

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.)*

Lycoming O-360-A1D, serial # L-11248-36A. Engine failure.

**Total Time/Cycles
On Part**119 Hours

Cycles

**Time Since This Part
Inspected/Overhauled**98 Hours**FUEL & SERVICES INFORMATION****Fuel on Board at Last Takeoff***(Convert from pounds, as necessary)*21.6 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

Described above in Narrative History of Flight

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 have recalled the events of this flight to the best of my ability and have tried to be as thorough as possible. I did not have significant time to consult a checklist for the engine restart, nor did I have time to squawk 7700 or declare the emergency over 121.5. Also, Sean was not assigned any specific tasks for this flight, but was merely accompanying me as a fellow pilot, helping where he could to reduce task saturation. I found his calm demeanor extremely helpful through it all, and I do not believe there was anything he could do in that window of time to better the situation.

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE**Date of this Report**09/07/2019

mm/dd/yyyy

Name of Pilot/Operator: Joseph B. Wydeven**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.**

WPR19LA243

Reviewed by NTSB Regional Office

WPR - Federal Way

Name of Investigator

S. Stein

Date Report Received

September 7, 2019