

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: Hillsboro, Twin Oaks Airpark 7S3 State: OR
 ZIP: 97123 Country: United States
 Latitude: 45.4297044 Longitude: -122.9395363
(Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time

Date: 08/18/2020 Local Time: 1950
mm/dd/yyyy
 Time Zone: PDT

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

AIRCRAFT INFORMATION

Registration Number: N2933L

Manufacturer: Mooney

Model: M20C

Serial Number: 670067

Year of Manufacture: 1967

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: 2440 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
☐ 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. <i>mm/dd/yyyy</i>	Rated Power ☒ Horsepower or ☐ lbs of Thrust	Total Time <i>(hours)</i>	Time Since: Inspection <i>(hours)</i>	Overhaul <i>(hours)</i>
Eng. 1	Lycoming	O360	L-10907-36A	1976	180	5578.2	20.7	1520.7
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

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

Date Last Inspection: 08/15/2020
mm/dd/yyyy

Airframe Total Time: 5567.6 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

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: ACK Technologies

Model or Part No.: E-01

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

Propeller 2

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: _____

Model: _____

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: <u>Mark Case and Ian Neubert</u> Fractional Ownership Aircraft: ☐ Yes ☐ No		City: <u>Duval (Mark) and Everett (Ian)</u> State: <u>WA</u> ZIP: _____ Country: <u>USA</u>	
Operator of Aircraft ☒ Same As Registered Owner Name: _____ Doing Business As: _____ Air Carrier/Operator Designator (4 Character Code): _____		☒ Same Address as Registered Owner City: _____ State: _____ ZIP: _____ Country: _____	
Operating Certificates Held <i>(Check all that apply)</i> ☒ 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 103 ☐ FAR 121 ☐ FAR 125 ☐ FAR 129 ☐ FAR 133 ☐ FAR 135 ☐ FAR 137 ☐ FAR 415 ☐ FAR 431 ☐ FAR 435 ☐ FAR 437 ☐ FAR 91 Special Flight ☐ Non-US, Commercial ☐ Non-US, Non-commercial ☐ Public Aircraft <i>(Select one)</i> ☐ Armed Forces ☐ Federal ☐ State ☐ Local ☐ Unknown		
Revenue Sightseeing Flight ☐ Yes ☒ No		Revenue Operation for FAR 121, 125, 129, 135 <i>(Select one for each group)</i> ☐ Scheduled or Commuter ☐ Non-Scheduled or Air Taxi ☐ Domestic ☐ International ☐ Passenger ☐ Cargo ☐ Mail Contract Only	
Purpose of Flight for FAR 91, 103, 133, 137 <i>(Select one)</i> ☐ Aerial Application ☐ Aerial Observation ☐ Air Drop ☐ Air Race/Show ☐ Banner Tow ☐ Business ☐ Executive/Corporate ☐ External Load ☐ Ferry ☐ Firefighting ☐ Flight Test ☐ Glider Tow ☒ Instructional ☐ Other Work Use ☐ Personal ☐ Positioning ☐ Skydiving ☐ Unknown			
AIRPORT INFORMATION <i>(Fill in if accident/incident occurred on approach, landing, takeoff, departure, or within 3 miles of an airport)</i>			
Airport Name: <u>Starks Twin Oaks Airpark</u> Airport Identifier: <u>7S3</u> Proximity to Airport: ☐ Off Airport/Airstrip ☒ On Airport/Airstrip ☐ N/A		Distance From Airport Center: <u>0</u> sm Direction From Airport: _____ degrees true Airport Elevation: <u>170</u> ft. msl	
Runway Information Runway ID: <u>02</u> (L/R/C) Length: <u>2465</u> ft Width: <u>48</u> ft		Condition of Runway/Landing Surface <i>(Check all that apply)</i> ☒ Dry ☐ Holes ☐ Ice Covered ☐ Rough ☐ Rubber Deposits ☐ Slush-Covered ☐ Snow-Compacted ☐ Snow-Crusted ☐ Snow-Dry ☐ Snow-Wet ☐ Soft ☐ Vegetation ☐ Water-Calm ☐ Water-Choppy ☐ Water-Glassy ☐ Wet ☐ Unknown	
Runway/Landing Surface <i>(Check all that apply)</i> ☒ Asphalt ☐ Concrete ☐ Dirt ☐ Grass/Turf ☐ Gravel ☐ Ice ☐ Macadam ☐ Metal/Wood ☐ Snow ☐ Water ☐ Unknown		Approach/Departure Segment <i>(Select one)</i> ☐ Taxi ☐ Takeoff ☐ Initial Climb ☐ VFR Departure ☐ IFR Departure Procedure/Clearance ☒ On Instrument Approach ☒ Landing ☐ Downwind ☐ Base ☐ Final ☐ Crosswind ☐ Low Approach ☐ Go Around ☐ Aborted Landing (after touchdown) ☐ Unknown	
IFR Approach <i>(Check all that apply)</i> ☒ None ☐ ADF/NDB ☐ SDF ☐ VOR/TVOR ☐ VOR/DME ☐ TACAN ☐ PAR ☐ Sidestep ☐ ILS ☐ Localizer Only ☐ LOC-back course ☐ RNAV ☐ MLS ☐ LDA ☐ ASR ☐ Visual ☐ Contact ☐ Circling ☐ Unknown		VFR Approach <i>(Check all that apply)</i> ☐ None ☒ Traffic Pattern ☐ Straight-In ☐ Valley/Terrain Following ☐ Go Around ☐ Full Stop ☐ Stop and Go ☐ Touch and Go ☐ Simulated Forced Landing ☐ Forced Landing ☐ Precautionary Landing ☐ Unknown	

"FLIGHT CREWMEMBER 1" INFORMATION																																																																																																				
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"Flight Crewmember 1" was pilot flying ☐ Yes ☒ No																																																																																																				
"Flight Crewmember 1" Identification First Name: <u>Philip</u> Middle Initial: <u>H</u> Last Name: <u>Mandel</u> City of Residence: <u>Beaverton</u> State: <u>OR</u> ZIP: <u>97008</u> Country: <u>USA</u> Age at time of Accident/Incident: <u>66</u> 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 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																																																																																													
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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 Validity ☐ Without limitations/waivers ☐ Unknown ☐ With limitations/waivers ☒ N/A ☐ Special Issuance			Date of Last Medical <u>02/06/2019</u> mm/dd/yyyy																																																																																													
Medical Certificate Limitations <u>Basic Med</u>																																																																																																				
Medical Certificate Special Issuance																																																																																																				
Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: <u>02/02/2020</u> mm/dd/yyyy				Flight Review Aircraft Make: <u>Thorp</u> Model: <u>T-18</u>																																																																																																
Airplane Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Single-Engine Land ☐ Single-Engine Sea ☒ Multiengine Land ☐ Multiengine Sea		Other Aircraft Rating(s) <i>(Check all that apply)</i> ☒ None ☐ Airship ☐ Balloon ☐ Glider ☐ Gyroplane ☐ Helicopter ☐ Powered Lift		Instrument Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Airplane ☐ Helicopter ☐ Powered Lift		Instructor Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Airplane Single-Engine ☒ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift ☒ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport																																																																																														
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<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Flight Time <i>(Enter appropriate number of hours in each box)</i></th> <th rowspan="2">All Aircraft</th> <th rowspan="2">This Make & Model</th> <th rowspan="2">Airplane Single Engine</th> <th rowspan="2">Airplane Multiengine</th> <th rowspan="2">Night</th> <th colspan="2">Instrument</th> <th rowspan="2">Rotorcraft</th> <th rowspan="2">Glider</th> <th rowspan="2">Lighter Than Air</th> </tr> <tr> <th>Actual</th> <th>Simulated</th> </tr> </thead> <tbody> <tr> <td>Total Time</td> <td>3,260</td> <td>20</td> <td>3,186</td> <td>74</td> <td>204</td> <td>66</td> <td>76</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pilot in Command (PIC)</td> <td>3,170</td> <td>20</td> <td>3,095</td> <td>65</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Time as Instructor</td> <td>1,984</td> <td>20</td> <td>1,984</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td>This Make/Model</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 90 Days</td> <td>46</td> <td>5</td> <td>46</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 30 Days</td> <td>24</td> <td>2</td> <td>24</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 24 Hours</td> <td>4</td> <td>2</td> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>											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	3,260	20	3,186	74	204	66	76				Pilot in Command (PIC)	3,170	20	3,095	65							Time as Instructor	1,984	20	1,984	0							This Make/Model											Last 90 Days	46	5	46								Last 30 Days	24	2	24								Last 24 Hours	4	2	4							
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"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: Mark City of Residence: Duvall
 Middle Initial: _____ State: WA ZIP: 98019
 Last Name: Case Country: USA
 Age at time of Accident/Incident: 53 Date of Birth: 1966 mm/dd/yyyy
 Certificate Number:

Degree of Injury ☒ None ☐ Fatal ☐ Minor ☐ Unknown ☐ Serious	Seat Occupied ☒ Left ☐ Front ☐ Unknown ☐ Right ☐ Rear ☐ Center ☐ Single	Restraint Type <table border="0"> <tr> <th>Available</th> <th>Used</th> </tr> <tr> <td>☐ None</td> <td>☐ None</td> </tr> <tr> <td>☒ Lap only</td> <td>☒ Lap only</td> </tr> <tr> <td>☐ 3-point</td> <td>☐ 3-point</td> </tr> <tr> <td>☐ 4-point</td> <td>☐ 4-point</td> </tr> <tr> <td>☐ 5-point</td> <td>☐ 5-point</td> </tr> <tr> <td>☐ Unknown</td> <td>☐ Unknown</td> </tr> </table>	Available	Used	☐ None	☐ None	☒ Lap only	☒ Lap only	☐ 3-point	☐ 3-point	☐ 4-point	☐ 4-point	☐ 5-point	☐ 5-point	☐ Unknown	☐ Unknown	Inflatable Restraints ☒ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Available	Used																
☐ None	☐ None																
☒ Lap only	☒ Lap only																
☐ 3-point	☐ 3-point																
☐ 4-point	☐ 4-point																
☐ 5-point	☐ 5-point																
☐ Unknown	☐ Unknown																
Pilot Certificate(s) (Check all that apply) <table border="0"> <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 <u>5/11/2020</u> mm/dd/yyyy														

Medical Certificate Limitations

Must wear corrective lenses for distant vision and have glasses available for near vision

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: 1/25/2017
 mm/dd/yyyy

Flight Review Aircraft

Make: Mooney
 Model: M20

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 ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift ☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport
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Type Ratings

Student Endorsements (Include dates)

Flight Time (Enter appropriate number of hours in each box)	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	372	283	367	5	6	4	0	0	0	0
Pilot in Command (PIC)	288	263	288	0	3	0	0	0	0	0
Time as Instructor	0	0	0	0	3	0	0	0	0	0
This Make/Model					0	0	0			
Last 90 Days	1	1	1	0	0	0	0	0	0	0
Last 30 Days	1	1	1	0	0	0	0	0	0	0
Last 24 Hours	1	1	1	0	0	0	0	0	0	0

ADDITIONAL FLIGHT CREW MEMBERS (Exclusive of cabin crew, complete the following information)							
Crew Name and Address				Seat Occupied		Injury	
First Name: _____		City of Residence: _____		☐ Left ☐ Center ☐ Right	☐ Front ☐ Rear ☐ Single ☐ Unknown	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	
Middle Initial: _____		State: _____ ZIP: _____					
Last Name: _____		Country: _____					
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Private ☐ Student ☐ Flight Instructor ☐ Recreational ☐ Sport ☐ Commercial ☐ Airline Transport ☐ Flight Engineer ☐ US Military ☐ Foreign				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: _____		☐ Left ☐ Center ☐ Right	☐ Front ☐ Rear ☐ Single ☐ Unknown	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	
Middle Initial: _____		State: _____ ZIP: _____					
Last Name: _____		Country: _____					
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Private ☐ Student ☐ Flight Instructor ☐ Recreational ☐ Sport ☐ Commercial ☐ Airline Transport ☐ Flight Engineer ☐ US Military ☐ Foreign				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>Jan</u> City: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: <u>Neubert</u> Country: _____ ☐ Crew ☒ Passenger ☐ Other		☐ Left ☐ Center ☒ Right ☐ Unknown Row: <u>2</u>	☒ 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: KMMV

City: McMinnville

State: OR

Country: USA

Time of Departure

Time: 1930

Time Zone: PDT

Destination

Airport ID: 7S3

City: Hillsboro

State: OR

Country: USA

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 C ☐ Military Operations Area (MOA) ☐ Special
☐ Class B ☐ Demo Area ☐ Airport Advisory Area ☐ Air Traffic Control Area
☐ Class C ☐ Warning Area ☐ Jet Training Area ☐ Unknown
☐ Class D ☐ Prohibited Area ☐ TRSA
☐ Class E ☐ Restricted Area ☐ FAR 93

Altitude of In-Flight Occurrence:

_____ 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: KHIO

Observation Time: 1853

Time Zone: PDT

Distance from Accident Site: 7 nm

Direction from Accident Site: 358 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

Ceiling

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

Ceiling Height

_____ ft agl

Temperature: 22 (C) or _____ (F)

Dew Point: 15 (C) or _____ (F)

Altimeter Setting: 30.01 in. Hg
or _____ MB

Lowest Cloud Condition Height

_____ ft agl

Wind Direction

- ☐ Variable

-or-
Direction: 300 degrees true

Wind Speed

- ☐ Calm
☐ Light and Variable

-or-
Speed: 8 kts

Wind Gusts

- ☒ Not Gusting

-or-
Speed: _____ kts

Visibility 10 miles

RVR: _____ feet

RVV: _____ miles

Density Altitude: _____ 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 ☐ N/A
☐ Trace ☐ Rime
☐ Light ☐ Clear
☐ Moderate ☐ Mixed
☐ Severe ☐ Unknown
☐ Unknown

Icing Actual

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

Turbulence

- Type (Check all that apply)**
☐ 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 <i>(Use additional sheet if necessary)</i> Aircraft's right gear leg was separated from the aircraft, minor gouging to the runway, and damage to a runway light.		
NARRATIVE HISTORY OF FLIGHT <i>(Please type or print in ink)</i> 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 18, 2020, I provided instruction to one of the new owners of N2933L, a Mooney M20C. The plan for the flight was to provide an initial familiarization of the aircraft for insurance purposes, and was also intended to serve as one portion of a series of flights to complete a flight review for the new owner. The pilot under instruction was a private pilot and had previously owned two other Mooney aircraft, however this was his first time flying a Mooney M20C. The other owner of the aircraft was a passenger in the backseat. The flight departed Twin Oaks Airpark (7S3) at approximately 6:20PM (PDT), and we performed a number of exercises in the vicinity of Newberg, OR. We practiced stalls, slow flight, and turns, and the pilot under instruction performed very well during these maneuvers. Following the air work, I had the pilot under instruction perform two full stop, taxi back landings at McMinnville airport (KMMV). The first landing was passable but not within my standards, while the second landing was much improved. After approximately an hour of flight time, we elected to return to Twin Oaks Airpark for landing. We entered the pattern for runway 2 with 45 degree leg to the downwind leg. During the base leg, I noticed the pilot under instruction was slightly high, and I instructed him to reduce power to idle to get back on profile. He was able to return to profile prior to turning final, approximately 3/4 miles from the threshold of runway 2. The final leg was initially on profile and stabilized, and the pilot under instruction was able to maintain an approximately 3 degree glide path with the power at an intermediate setting. However, on short final, while crossing the creek at the south end of the airport, the aircraft encountered sink. Initially, the pilot under instruction appeared to be adequately correcting, adding power and increasing pitch, however the sink increased while we were less than 100 feet above the touchdown zone, and right before I was about to command a go-around, the airplane sunk further and touched down just prior to the runway. The right landing gear impacted the edge of the runway and collapsed. The aircraft subsequently slid on the runway surface and on the grass next to the runway. After the aircraft came to a stop, we secured the airplane, and all three of us exited the aircraft through the cabin door. There were no injuries. I take aviation safety very seriously, and I have participated extensively in the FAA's Wings Program. I've given numerous seminars on aviation safety, and I have taken many Wings programs as a student. I intend to carefully study this incident and I will pass along the lessons I learn to the aviation community.		

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

An earlier initiation of a go-around by the pilot flying, and/or a more aggressive application of power upon encountering sink on short final would have prevented this incident.

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)

Full 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

All three occupants exited the aircraft normally through the right side cabin 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.

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

Date of this Report

08/29/2020

mm/dd/yyyy

Name of Pilot/Operator: Philip Mandel

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.

WPR 20CA 276

Reviewed by NTSB Regional Office

WPR Federal Way, WA

Name of Investigator

Tom Little

Date Report Received

9-8-2020