

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: Leadville State: CO

ZIP: 80429 Country: USA

Latitude: 39.2242 N Longitude: 106.3152 W

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

Accident/Incident Date/Time

Date: 12/13/2020 Local Time: 2000
mm/dd/yyyy

Time Zone: Mountain

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

AIRCRAFT INFORMATION

Registration Number: N686TM

Manufacturer: Eclipse

Model: 500

Serial Number: 00221

Year of Manufacture: 2008

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

☒ IFR-Equipped and Certified

☐ Commercial Space Flight

☐ Unmanned Aircraft

Maximum Gross Weight: 6034 lbs

Weight at Time of Accident/Incident: 5,200 lbs

Number of Seats: 4 Flight Crew Seats: 2

Cabin Crew Seats: Passenger Seats: 2

Number of Engines: 2

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

Fuel System Type (Reciprocating)

- ☐ Carburetor
- ☐ Fuel-Injected

Engine	Engine Manufacturer	Engine Model/Series	Manufacturer's Serial Number	Date of Mfg. mm/dd/yyyy	Rated Power ☐ Horsepower or ☒ lbs of Thrust	Total Time (hours)	Time Since: Inspection (hours) Overhaul (hours)
Eng. 1	<u>Pratt & Whitney</u>	<u>PW610 F-A</u>	<u>35C0960</u>	<u>2008</u>	<u>900</u>	<u>1808</u>	
Eng. 2	<u>Pratt & Whitney</u>	<u>PW610 F-A</u>		<u>2008</u>	<u>900</u>	<u>1777</u>	
Eng. 3							
Eng. 4							

Last Inspection Type

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

Date Last Inspection: 12/10/2019
mm/dd/yyyy

Airframe Total Time: 1303 1740.2 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:

Propeller 1

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

Manufacturer:

Model:

Propeller 2

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

Manufacturer:

Model:

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: Arlex

Model or Part No.: ME 406

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:

OWNER/OPERATOR INFORMATION**Registered Aircraft Owner**Name: Amicus Curiae LLCCity: ChicagoState: IL ZIP: 60606Fractional Ownership Aircraft: ☐ Yes ☒ NoCountry: USA**Operator of Aircraft**☒ Same As Registered Owner☒ Same Address as Registered OwnerName: Robert Held

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: Leadville - Lake County Airport

Distance From Airport Center: _____ sm

Airport Identifier: LXV

Direction From Airport: _____ degrees true

Proximity to Airport: ☐ Off Airport/Airstrip ☒ On Airport/Airstrip ☐ N/AAirport Elevation: 9934 ft. msl**Runway Information**Runway ID: 16 (L/R/C) Length: 6400 ft Width: 75 ft**Runway/Landing Surface (Check all that apply)**

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

Condition of Runway/Landing Surface (Check all that apply)

- ☐ Dry ☒ Snow-Compacted ☐ Water-Calm
☐ Holes ☐ Snow-Crusted ☐ Water-Choppy
☒ Ice Covered ☐ Snow-Dry ☐ Water-Glassy
☐ Rough ☐ Snow-Wet ☐ Wet
☐ Rubber Deposits ☐ Soft
☐ Slush-Covered ☐ Vegetation ☐ Unknown

Approach/Departure Segment (Select one)

- ☐ Taxi ☐ VFR Departure ☐ On Instrument Approach ☐ Downwind ☐ Low Approach
☐ Takeoff ☐ IFR Departure Procedure/Clearance ☒ Landing ☐ Base ☐ Go Around
☐ Initial Climb ☐ 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" was pilot flying ☒ Yes ☐ No																																																																																																				
"Flight Crewmember 1" Identification First Name: <u>Robert</u> Middle Initial: <u>S</u> Last Name: <u>Held</u> City of Residence: <u>Flossmoor</u> State: <u>IL</u> ZIP: <u>60422</u> Country: <u>USA</u> Age at time of Accident/Incident: <u>63</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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"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 First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____			Seat Occupied ☐ Left ☐ Center ☐ Right ☐ Front ☐ Rear ☐ Single ☐ Unknown		Injury ☐ 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 First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____			Seat Occupied ☐ Left ☐ Center ☐ Right ☐ Front ☐ Rear ☐ Single ☐ Unknown		Injury ☐ 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>KMYF</u> City: <u>San Diego</u> State: <u>CA</u> Country: <u>USA</u>	Time of Departure Time: <u>1654</u> Time Zone: <u>Pacific</u>	Destination Airport ID: <u>KLXV</u> City: <u>Leederville</u> State: <u>CO</u> Country: <u>USA</u>	Type Flight Plan Filed ☐ None ☐ VFR/IFR ☐ Company VFR ☒ IFR ☐ Military VFR ☐ Unknown ☐ VFR Activated? ☒ Yes ☐ No ☐ Unknown
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Type of ATC Clearance/Service (Check all that apply) ☐ None ☐ 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 ☒ Class E <u>700' Floor</u> ☐ 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: <u>LXV</u> Observation Time: <u>1953Z</u> Time Zone: <u>Mountain</u> Distance from Accident Site: _____ nm Direction from Accident Site: _____ degrees true
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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: <u>-14</u> (C) or _____ (F) Dew Point: _____ (C) or _____ (F) Altimeter Setting: _____ 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 <u>+6</u> miles RVR: _____ feet RVV: _____ miles Density Altitude: _____ ft
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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
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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
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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)

Right wing substantially damaged. Nose gear separated. Left main strut pushed up into left wing. Airframe damaged during off-airport portion of the landing role.

NARRATIVE HISTORY OF FLIGHT (Please type or print in ink)

Describe what occurred in chronological order, including circumstances leading to and nature of accident/incident. Describe terrain and include wreckage distribution sketch if pertinent. Attach extra sheets if needed. State departure time and and location, services obtained, and intended destination. Provide as much detail as possible.

See attached

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

Operator/Owner Safety Recommendation

By initiating a ~~go-around~~ ^{missed approach} during the approach when I realized I needed to "slip" the jet to get down or initiating a go-around upon touchdown as I realized that the braking action was not as effective as it had been two days earlier when I landed on the same runway with similar contamination.

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)

247

Gallons

Fuel Type

☐ 80/87☐ 100 Low Lead☐ 100/130☒ 115/145☒ Jet A☐ Jet A-1☐ Jet B☐ JP8☐ Automotive☐ Other, specify _____

Other Services, if Any, Prior to Departure

EVACUATION OF AIRCRAFTWas an emergency evacuation of the aircraft performed? ☐ Yes ☒ No

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

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

12/29/20
mm/dd/yyyy

Name of Pilot/Operator: Robert S. Held

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.

CEN21LA086

Reviewed by NTSB Regional Office

Denver, CO

Name of Investigator

Arnold W. Scott

Date Report Received

Dec. 29, 2020

Personal information:

I am 63 years old and in excellent health (no current ailments of any kind). I have not taken any medication of any kind or consumed any alcohol for weeks prior to this incident. Other than a visit to renew my Airman Medical Certificate on October 31, 2020, I have had no reason to visit a health professional of any kind recently.

The morning of the incident:

I had no need to set an alarm for any morning agenda or chores, and awoke naturally following an uninterrupted and normal evening of sleep. I began the morning enjoying leisure time with my family before thinking of my planned flying that afternoon. It was rather cold, so I headed over to the airport (KLXV, Leadville, CO) and relocated the aircraft into the hangar. After leaving the airport I then joined my family for lunch. After lunch, we headed back to KLXV to take my son out to San Diego (KMYF, Montgomery-Gibbs Executive Airport, San Diego, CA).

General details:

This incident occurred upon landing at KLXV on Sunday evening, December 13, 2020, 20:00 MST (03:00 GMT). I was Pilot in Command and sole occupant of the aircraft. The weather conditions I encountered upon arrival into the KLXV general area were good: scattered clouds and good visibility. The most recent wind report I had for the airport was "light and variable." I did encounter some light turbulence during my descent.

In addition to taking off from KLXV that same afternoon, I had also landed at KLXV two days earlier (Friday, December 11, 2020). Despite packed snow and some runway contamination, I experienced good braking action on landing at KLXV two days prior. The aircraft stopped flawlessly and effortlessly without incident. On December 13, 2020 when I departed KLXV to KMYF, the runway condition looked much the same as it was when I had landed two days prior. I therefore expected to have the same good landing performance and braking action upon return to KLXV.

Departing KMYF for KLXV:

I departed KMYF at 16:54 PST (00:54 GMT), about six minutes before my flight planned estimate of 17:00 PST (01:00 GMT). My flight planned estimated time to KLXV was 1:47. The actual flight time ended up being 2:06. The weather and flight-in-general from KMYF to KLXV was unremarkable. The KLXV arrival area was VMC and I elected to disconnect the autopilot and hand fly the RNAV (GPS) RWY 16 approach.

Final approach:

I visually saw KLXV and runway 16 from several miles away. At some point during the final approach, I felt that I was a bit high. I had configured the aircraft for landing and completed the landing checklist. But I still felt that I was a bit high, so I "slipped" the aircraft in order to lose altitude without gaining airspeed. Once I felt that I was closer to the glide path, I continued the approach. I was still experiencing light turbulence during this phase of flight.

Landing:

On short final, I once again ran through key items on my Before Landing Checklist: Gear down, three green; ABS armed; flaps full. When announcing my landing intentions on UNICOM, I was advised the runway was contaminated. But there had been no appreciable change to runway conditions and I believed this to describe much the same runway conditions I had seen earlier that afternoon and experienced during landing two days prior. As such, this runway condition report was not unexpected.

I felt comfortable that the general runway condition was largely unchanged from earlier that afternoon, and thus the aircraft stopping performance would be similar to my recent previous experience. My approach speed was 100 knots ($V_{ref}+10$). It was not until I was nearly over the approach end of the runway that I felt I would not be able to land in my target touchdown zone (the first 500 feet). I elected to forego a normal landing and instead "flew it on" to the runway so as to avoid any floating. The touchdown was firm and there was no bounce. I immediately applied moderate braking, but the aircraft did not appear to be decelerating in conformance with the braking being applied. I braked harder, but still the aircraft deceleration was not matching the deceleration I had two nights earlier on that same runway. On the prior landing, I had felt the steady increase of braking deceleration. But on this landing, deceleration matching brake application force was not occurring. I thought about attempting a Go-Around, but by that point in the landing rollout, I did not feel there was enough usable runway left to safely get airborne. I also felt there was enough remaining runway to stop if deceleration improved. But as the end of the runway got closer and deceleration did not improve, the overwhelming realization set in and the outcome seemed no longer in doubt. I instinctively pushed as hard as physically possible on the brake pedals, but never did feel a corresponding deceleration.

Going off the end of the runway:

The aircraft continued and departed the end of the runway. The aircraft went down what felt like a slight embankment and then came to a stop. I made sure the engines were secured and exited the aircraft. The entry door opened without any need for force. There was no fire or other emergency to tend to once outside.

It was dark outside and I was unable to extensively examine the aircraft at that point, but I did notice damage to the nose area, and also that the nose landing gear was damaged. I immediately called Flight Service and ATC on my cellphone to notify them that I had departed the end of Leadville Runway 16 but was unhurt. I then made firsthand contact with the Leadville Fire Department and refused medical treatment because I did not feel physically injured.

I then noticed that the FAA had left me a voicemail on my cellphone, asking me to call them. Despite being overwhelmed with what had just happened and increasingly feeling increased stress, while waiting for the Fire Department at the airport to give me an "all clear," I called the FAA back at about 20:45 MST. I spoke to Arnold Scott of the NTSB, whom the FAA had patched in, for a conversation lasting about 15 minutes.

Supplemental Information: Possible Primary Cause

While completing the FAA Form 8020-23, I noted the numerous different potential primary and secondary causes of the incident. Even though this part of the form seems to be for the investigator to report his or her findings, I found the number and variety of the potential causes worthy of consideration. I immediately felt that, while trying to provide a timely narrative to the NTSB, I was not specific enough regarding braking issues I encountered upon landing at KLXV on December 13, 2020.

In addition to the aircraft not decelerating in conformance with the braking pressure being applied, I also did not feel any pulsing or modulating feedback in the brake pedals during brake application on the landing rollout at 20:00 MST on December 13, 2020 at KLXV. This was quite different from the very noticeable brake pedal feedback I experienced during brake application on landing rollout at 21:02 MST at KLXV on December 11, 2020, just two days earlier, under much the same runway conditions where the aircraft stopped without incident. In fact, it was the exact same flight for me on December 11, 2020 as on December 13, 2020, in much the same environment during all phases of day/night flight (KMYF-KLXV on both flights, landing KLXV at 21:02 on December 11, 2020, and landing KLXV at 20:00 on December 13, 2020).

While I believe something in the braking system and its associated components was a causal factor, I would like to introduce this added detail which more specifically points toward the anti-skid or "ABS" as a culprit.

I will be supplementing my report to the NTSB with this document, which I would like to ensure is included with the rest of my submission to the FAA.

Landing Performance

As noted in my report to the NTSB, I had landed at KLXV on December 11, 2020, two days before the incident flight on December 13, 2020, and encountered much the same runway conditions that I had seen the day of the incident flight when I departed KLXV for KMYF at 14:32 MST. The added detail that I have provided here is about the brake pedal feedback difference on these two flights. On December 11, 2020 at 21:02 MST, when I applied the brakes on landing rollout at KLXV, I felt a "pulsing" feedback through the brake pedals that served as an indicator that the ABS system was doing its job to prevent wheel skidding. The landing rollout at KLXV on December 11, 2020 at 21:02 MST, with much the same runway conditions as on December 13, 2020 at 14:32 MST and 20:00 MST, was not only successful, but impressed me greatly about how well the airplane could stop with this runway condition with ABS active.

However, I did not feel that same “pulsing” feedback through the brake pedals on December 13, 2020 at 20:00 MST when applying the brakes after landing at KLXV. It felt like, in spite of my efforts to press harder and harder, braking was never commensurate with the pressure I was applying and the ABS system was not providing the expected feedback. I think it is entirely possible, if not probable, that a failure in the ABS system was a cause, if not the primary cause, of this incident.

Inspection Request

I am not familiar with the resources the FAA or NTSB devotes to investigating incidents such as mine, but I would like to be informed if the braking, ABS, and associated system from my aircraft may be recovered and analyzed for defects.



Robert S. Held