

ASRS Database Report Set

Commuter and GA Icing Incidents

Report Set Description.....	A sampling of aircraft icing encounter reports from GA and Commuter flight crews.
Update Number.....	33.0
Date of Update	June 29, 2018
Number of Records in Report Set.....	50
Number of New Records in Report Set	39
Type of Records in Report Set.....	For each update, new records received at ASRS will displace a like number of the oldest records in the Report Set, with the objective of providing the fifty most recent relevant ASRS Database records. Records within this Report Set have been screened to assure their relevance to the topic.

National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, CA 94035-1000



TH: 262-7

MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data

SUBJECT: Data Derived from ASRS Reports

The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded when evaluating these data of the following points.

ASRS reports are submitted voluntarily. The existence in the ASRS database of reports concerning a specific topic cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System.

Information contained in reports submitted to ASRS may be amplified by further contact with the individual who submitted them, but the information provided by the reporter is not investigated further. Such information represents the perspective of the specific individual who is describing their experience and perception of a safety related event.

After preliminary processing, all ASRS reports are de-identified and the identity of the individual who submitted the report is permanently eliminated. All ASRS report processing systems are designed to protect identifying information submitted by reporters; including names, company affiliations, and specific times of incident occurrence. After a report has been de-identified, any verification of information submitted to ASRS would be limited.

The National Aeronautics and Space Administration and its ASRS current contractor, Booz Allen Hamilton, specifically disclaim any responsibility for any interpretation which may be made by others of any material or data furnished by NASA in response to queries of the ASRS database and related materials.

Linda J. Connell

Linda J. Connell, Director
NASA Aviation Safety Reporting System

CAVEAT REGARDING USE OF ASRS DATA

Certain caveats apply to the use of ASRS data. All ASRS reports are voluntarily submitted, and thus cannot be considered a measured random sample of the full population of like events. For example, we receive several thousand altitude deviation reports each year. This number may comprise over half of all the altitude deviations that occur, or it may be just a small fraction of total occurrences.

Moreover, not all pilots, controllers, mechanics, flight attendants, dispatchers or other participants in the aviation system are equally aware of the ASRS or may be equally willing to report. Thus, the data can reflect **reporting biases**. These biases, which are not fully known or measurable, may influence ASRS information. A safety problem such as near midair collisions (NMACs) may appear to be more highly concentrated in area “A” than area “B” simply because the airmen who operate in area “A” are more aware of the ASRS program and more inclined to report should an NMAC occur. Any type of subjective, voluntary reporting will have these limitations related to quantitative statistical analysis.

One thing that can be known from ASRS data is that the number of reports received concerning specific event types represents the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 2010 (this number is purely hypothetical), then it can be known with some certainty that *at least* 881 such events have occurred in 2010. With these statistical limitations in mind, we believe that the **real power** of ASRS data is the **qualitative information** contained in **report narratives**. The pilots, controllers, and others who report tell us about aviation safety incidents and situations in detail – explaining what happened, and more importantly, **why** it happened. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.

Report Synopses

ACN: 1532800 *(1 of 50)*

Synopsis

C182 pilot reported an airspace incursion resulted when he inadvertently took off with carburetor heat on and was concerned with terrain clearance.

ACN: 1531789 *(2 of 50)*

Synopsis

Cessna 182 pilot reported operating VFR in IMC after being stuck above clouds with ATC assistance during the descent.

ACN: 1526213 *(3 of 50)*

Synopsis

A commercial fixed wing pilot reported descending below the glideslope and coming within 1,271 feet of an obstacle while in IFR conditions.

ACN: 1525989 *(4 of 50)*

Synopsis

Pilot reported descending below the glidepath on an RNAV approach in order to escape icing conditions.

ACN: 1525984 *(5 of 50)*

Synopsis

M20 pilot reported accumulating ice at the minimum vectoring altitude and resorted to a descent to VFR conditions.

ACN: 1522688 *(6 of 50)*

Synopsis

Tower Controller and GA pilot reported a taxiway landing after a circle to land approach.

ACN: 1522047 *(7 of 50)*

Synopsis

C172 pilot reported flying VFR into IMC and encountering inflight icing due to hazardous attitudes.

ACN: 1520158 *(8 of 50)*

Synopsis

BE36 pilot reported loss of directional control after landing due to strong winds and ice on the runway. Reporter stated the controlling Center and his onboard XM and ADSB weather gave him inaccurate field condition and weather information.

ACN: 1520020 *(9 of 50)*

Synopsis

D328 Captain reported diverting to an alternate airport after experiencing failure of vertical and horizontal stabilizer deicing systems in icing conditions.

ACN: 1518874 *(10 of 50)*

Synopsis

C208 pilot reported a loss of the HSI in IMC conditions resulting in a diversion.

ACN: 1518863 *(11 of 50)*

Synopsis

C152 instructor pilot reported a precautionary landing with a student after experiencing a power loss possibly related to carburetor ice.

ACN: 1518603 *(12 of 50)*

Synopsis

Cessna 177RG pilot reported a failure of airspeed indications while in cruise.

ACN: 1517991 *(13 of 50)*

Synopsis

Falcon 10 Captain reported the loss of all flight instruments during cruise, possibly due to icing.

ACN: 1517127 *(14 of 50)*

Synopsis

M20 pilot reported engine roughness that did not improve with carburetor heat. After diverting, the carburetor heat was found to not be functioning properly.

ACN: 1517026 *(15 of 50)*

Synopsis

Twin Cessna Captain reported a window heat switch malfunction.

ACN: 1516513 *(16 of 50)*

Synopsis

Beech 400 flight crew reported that a lack of runway condition reports from ATC contributed to an excursion from an icy runway into the EMAS overrun.

ACN: 1515436 *(17 of 50)*

Synopsis

G650 First Officer reported confusion regarding altitude assignment related to QFE/QNH procedures departing UUWW.

ACN: 1514576 *(18 of 50)*

Synopsis

Air taxi Captain reported several weather issues and lack of company support that led to a canceled flight.

ACN: 1514452 *(19 of 50)*

Synopsis

CL-350 First Officer reported receiving warning messages for anti-ice and engine thrust while climbing through icing conditions.

ACN: 1514080 *(20 of 50)*

Synopsis

A twin engine turboprop Captain reported finding out inflight they may have a taxiway light on taxi out for takeoff.

ACN: 1514071 *(21 of 50)*

Synopsis

General aviation pilot reported entering IMC on a VFR clearance, and subsequently deviated from ATC vectors, which were attributed to the lack of familiarity with aircraft avionics and mental preparedness for IFR flight.

ACN: 1512360 *(22 of 50)*

Synopsis

GA pilot reported landing at a closed airport due to adverse flight characteristics caused by icing.

ACN: 1511489 *(23 of 50)*

Synopsis

GA pilot reported a gear up landing after experiencing electrical problems.

ACN: 1511481 *(24 of 50)*

Synopsis

A Cessna Citation Captain reported that he was unable to land due to ILS being out of service. The reporter was unprepared for an RNAV approach.

ACN: 1508809 *(25 of 50)*

Synopsis

Dassault Falcon 2000 flight crew reported a transient anomaly with the number 1 engine, including an RPM roll back. The engine automatically recovered, and the flight continued to the destination airport.

ACN: 1508603 *(26 of 50)*

Synopsis

C206 pilot reported encountering lower than forecasted conditions while on a VFR flight, in non IFR equipped aircraft. The pilot diverted, and conducted the flight into IMC, as this was the best option, until reaching VMC.

ACN: 1502815 *(27 of 50)*

Synopsis

PA34 pilot reported that supercooled liquid droplet icing conditions resulted in a loss of all flight instruments except for the standby attitude indicator and magnetic compass. Pilot exited icing conditions with ATC assistance and successfully diverted.

ACN: 1501127 *(28 of 50)*

Synopsis

SR22 pilot reported losing most PFD functions. Reportedly, the problem may be related to updating the data cards using an Apple Mac computer.

ACN: 1498570 *(29 of 50)*

Synopsis

C150 pilot reported an off field landing due to loss of engine power. After refueling, the following flight experienced radio problems that resulted in landing without a clearance.

ACN: 1497503 *(30 of 50)*

Synopsis

Cessna Caravan pilot reported TKS fumes in the cockpit inhibiting the use of the cabin heater unless the oxygen mask is used.

ACN: 1495829 *(31 of 50)*

Synopsis

Light sport aircraft pilot reported a loss of engine power led to an off-field landing, likely caused by carburetor icing.

ACN: 1494483 *(32 of 50)*

Synopsis

Carbon Cub pilot reported an off airport landing due to fuel exhaustion.

ACN: 1493219 *(33 of 50)*

Synopsis

A C172 pilot reported encountering rain, sleet, and icing enroute. He made some quick decisions that included diverting to exit the weather and a modified instrument approach to minimize his time in the icing.

ACN: 1492963 *(34 of 50)*

Synopsis

C150 pilot reported diverting due to engine power fluctuations possibly caused by carburetor icing.

ACN: 1491706 *(35 of 50)*

Synopsis

SR22 Pilot initiated a climb prior to receiving ATC approval in an attempt to avoid icing conditions.

ACN: 1485672 *(36 of 50)*

Synopsis

Bonanza 35 pilot reported experiencing enroute icing and ATC transmissions that resulted in an overspeed while descending to clear the ice. A subsequent altitude excursion related to the pilot's misunderstanding of the altitude clearance.

ACN: 1484671 *(37 of 50)*

Synopsis

BE99 pilot reported losing the right engine shortly after takeoff resulting in a return to airport of departure. Upon landing the aircraft slid off the end of the runway.

ACN: 1484211 *(38 of 50)*

Synopsis

Cessna 400 pilot reported entering Class A airspace without an IFR clearance then IFR conditions when issued a descent.

ACN: 1480546 *(39 of 50)*

Synopsis

Pilot reported deviating from assigned altitude due to experiencing aircraft structural icing while in a "dead zone" of Anchorage Center's communications equipment radio coverage.

ACN: 1475141 *(40 of 50)*

Synopsis

C150 instructor reported engine roughness and loss of power after demonstrating a slip at 3,000 feet with a recovery at about 100 feet AGL with a climb to pattern altitude and a successful landing. Instructor reported probable carb icing.

ACN: 1473537 *(41 of 50)*

Synopsis

Aeronca Pilot reported landing in an open field due to a loss of engine power.

ACN: 1465235 *(42 of 50)*

Synopsis

A PA32R pilot reported a NMAC with a skydiving aircraft while on an IFR flight plan.

ACN: 1464572 *(43 of 50)*

Synopsis

ZAN Center Controller reported two aircraft that were VFR needed help due to weather and icing, both aircraft were helped and landed safely.

ACN: 1463947 *(44 of 50)*

Synopsis

C152 pilot reported a loss of engine power that resulted in a return to the departure airport. The pilot suspected carburetor icing.

ACN: 1460998 *(45 of 50)*

Synopsis

A Center Controller reported attempting to climb an aircraft entering higher terrain, but lost radio contact with the aircraft.

ACN: 1449264 *(46 of 50)*

Synopsis

C172 flight instructor reported a loss of engine power during a go-around from a simulated engine failure maneuver. After diverting, Maintenance concluded that a fouled spark plug was the likely cause.

ACN: 1444821 *(47 of 50)*

Synopsis

Lancair IV pilot reported erroneous airspeed at FL270 due to pitot icing led the G3X autopilot to attempt to maintain airspeed by pitching down.

ACN: 1440882 *(48 of 50)*

Synopsis

ZJX Controller reported an airborne conflict occurred when a pilot descended for weather even though he had been advised of opposite direction traffic below it.

ACN: 1438874 *(49 of 50)*

Synopsis

CE-750 Captain reported regretting his decision to takeoff and complete the flight after receiving a fuel filter bypass light just before takeoff.

ACN: 1435492 *(50 of 50)*

Synopsis

A Center Controller was not familiar with the lowest altitudes he could approve for an aircraft experiencing icing and allowed the aircraft to fly below their Minimum Vectoring Altitude.

Report Narratives

Time / Day

Date : 201804
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : S56.TRACON
State Reference : UT
Altitude.MSL.Single Value : 5000

Environment

Weather Elements / Visibility : Rain

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : Skylane 182/RG Turbo Skylane/RG
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Initial Climb
Airspace.Class B : SLC

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 220
Experience.Flight Crew.Type : 100
ASRS Report Number.Accession Number : 1532800
Human Factors : Situational Awareness
Human Factors : Troubleshooting
Human Factors : Workload
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Flight Crew

When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

I did a thorough preflight inspection and engine run up at U42 using a checklist. I also calculated the weight and balance of the aircraft and the aircraft was within limits but closer to the max than I usually fly. I am also typically fly out of airports at lower elevations.

After completing run up I struggled a little bit to find the taxi ways to runway 34 which the winds were favoring. I tried to find an airport diagram for U42 in advance of the flight but none was available. This struggle had me a bit flustered as this was an unfamiliar airport to me with a more complex taxi system than I am used to.

I approached the runway, checked for traffic, made a radio call and took off. The aircraft struggled more than usual to take off which I attributed to the higher altitude and higher load than I normally carry. However, after takeoff the climb was extremely slow. Normally I climb out at 88 mph (approximately V_y), but I was forced to climb out at about 80 mph (approximately V_x) in order to gain altitude. And the altitude gains were maybe 1/5th the normal rate.

I started to panic and tried to determine what was wrong. Had I grossly miscalculated the load? Was the density altitude far too high than I am used to? Were my flaps mis-configured? Did my plane have the wrong type of fuel? Had the tanks been compromised with rain water that day? Where would I make an emergency landing if my engine was failing?

I remembered my training and focused on "flying the plane." I knew I needed to keep from stalling as this would likely be deadly this close to the ground. I had to keep my airspeed above V_x and fly the plane straight and level without turning. I remembered that trying to turn back to the runway in this situation is often fatal. I had to focus on flying the plane at the expense of navigation or other concerns while determining what was wrong.

My GPS started warning that I was nearing SLC Class B airspace. I believed this was the airspace above me and focused my attention on my airspeed and trying to gain altitude. Suddenly my GPS indicated that I had entered the SLC B airspace. I knew I didn't have permission and I realized what had happened. I was so focused on flying the plane that I hadn't turned left as I had planned and runway 34 was pointed directly at the SLC Class B airspace all the way to the ground.

I had gained enough altitude that I was comfortable with a careful turn to the left to get my plane out of the airspace as quickly as possible without stalling the plane.

Once clear of the B airspace, I continued to search my instruments and flight controls for the source of my engine's poor performance. Mixture was good, throttle was full, primer was in and locked. But carb heat was set to hot! I pushed the carb heat control to cold and my engine roared with new life. My airspeed and climb improved instantly and dramatically. I realized what must have happened. During my engine run up I make sure

the engine would idle and turned on carb heat to prevent icing. But I had left the carb heat on by mistake and missed the check during the pre-take off checklist.

What contributed to the mistake was the lack of airport diagram for U42 and lack of familiarity with the airport which caused me to become flustered and miss a critical item on the check list. Also, I would have liked to connect with Flight Following from the ground but wasn't sure how to do this at U42. Was I supposed to call clearance? SLC Approach? SLC Center? Had I been on Flight Following a Controller might have warned me I was heading directly for [Class] B or I could have explained what was going on when I experienced engine trouble.

Synopsis

C182 pilot reported an airspace incursion resulted when he inadvertently took off with carburetor heat on and was concerned with terrain clearance.

Time / Day

Date : 201804
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 5500

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Cloudy
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 2000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Skylane 182/RG Turbo Skylane/RG
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Nav In Use : GPS
Flight Phase : Descent
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class D : ZZZ
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 720
Experience.Flight Crew.Last 90 Days : 5
Experience.Flight Crew.Type : 400
ASRS Report Number.Accession Number : 1531789
Human Factors : Training / Qualification
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : VFR In IMC
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

We departed the Airport with full fuel (4-1/2 hours usable) beneath an overcast layer of approximately 4,000 feet MSL, on a heading of 008 degrees on my GPS. I set cruise at 3,300 MSL and contacted Approach to request Flight Following. They asked if I could climb to 5,500 MSL and I responded with 'negative until I can get above the cloud layer'. They advised that they could not pick me up on radar below 5,500 feet MSL, continue on VFR, and set transponder to VFR 1200, at present altitude of 3,300 feet MSL.

North of my position, clouds were scattered allowing me to climb to 5,500 feet MSL to benefit from Flight Following. I contacted Approach and requested Flight Following, and was instructed [with a] squawk. Enroute I was handed off to approach through a series of frequencies. By this time, the cloud layer had changed to complete overcast below us. I requested handoff, as I was going to need assistance in finding a hole in the clouds to transition through. I was then handed off to Next Controller. I advised of the need for assistance to get through the clouds and requested information on how far west could I go if necessary to find scattered clouds. The controller advised overcast with ceilings at 1,200 to 1,500 MSL and asked if I was IFR qualified and equipped, as they did not have radar capability to determine cloud coverage. My reply was 'negative' to both. At this point, I was directed to change my heading to 320 while we considered approach options. I was also asked how much fuel I had on board, to which I replied approximately 1-1/2 to two hours of usable. Momentarily, I was advised that they were turning me over to ZZZ and to tune to ZZZ Approach.

Upon contact with ZZZ Approach, I was asked what type of navigation equipment I had on board, fuel remaining, IFR experience and number of souls on board. I responded with having ForeFlight on my iPad and a Garmin 250XL, approximately 1-1/2 hours of usable fuel, IFR experience limited to flight review sessions and two souls on board. At that point, the controller advised he was identifying us as an emergency and would talk me through the set up for descent through the clouds and the approach. He advised of possible icing conditions and recommended the application of carb heat, to which I complied. We broke through the cloud layer at approximately 2,000 feet MSL and I advised that I could see the ground but had basically zero forward visibility. The controller instructed me through additional power reductions and the use of flaps after which I had the runway in sight. Touch down, landing and roll out were uneventful.

I was instructed to stay on the present frequency and follow the emergency response vehicle to the FBO for parking. I was then instructed to switch to ground control frequency

and to continue following the emergency response vehicle. Upon parking at the FBO, I asked ground control if they were through with me and they responded with 'yes'. We were then met at the plane by a fireman who asked if we were all Okay, to which we responded, 'yes'. He asked how high above the cloud layer I had been and I replied with 'from 1,000 to 1,500 feet'. I asked him if any report or paperwork needed to be filled out and was advised that the controller may be able to answer that question. We were then greeted by the controller who had stepped us through the process and said he was the one I had been talking to. He asked if we were Okay, to which we replied 'yes'. He then offered suggestions on how to be better prepared for this type of situation and was very cordial, polite, and professional. I asked if there were any reports I needed to file and he said he was not aware of any since no incident or damage had occurred. I then contacted my CFI and shared our experience with him. He suggested I file this report and we made arrangements to initiate IFR certification.

Synopsis

Cessna 182 pilot reported operating VFR in IMC after being stuck above clouds with ATC assistance during the descent.

Time / Day

Date : 201803
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ACV.Airport
State Reference : CA
Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Icing
Weather Elements / Visibility : Rain
Weather Elements / Visibility.Visibility : 10
Light : Night
Ceiling.Single Value : 3700

Aircraft

Reference : X
ATC / Advisory.Center : ZSE
Aircraft Operator : Air Taxi
Make Model Name : Small Transport
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Cargo / Freight
Nav In Use.Localizer/Glideslope/ILS : Runway 32
Flight Phase : Initial Approach
Airspace.Class E : ZSE

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 8746
Experience.Flight Crew.Last 90 Days : 132
Experience.Flight Crew.Type : 176
ASRS Report Number.Accession Number : 1526213
Human Factors : Workload
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Altitude : Crossing Restriction Not Met
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

I had been descending from 14,000 ft. where the temperature was -18c down to cross YAGER intersection (the initial approach fix) for the ILS 32 into ACV as cleared at 7,000 ft. Onboard equipment had indicated an area of moderate precipitation along most of the approach. Thus I was concerned about potential for icing. Temperature at ACV was reported as 8c. My general tactic in these situations was to keep my speed up to present the minimum angle of attack in order to minimize icing potential. I was approaching at approximately 160 kts IAS. I was used to crossing YAGER at 7,000 ft. and seeing the glideslope come down on my instrumentation from above, slowly but surely. I had been in a habit of monitoring my minimum crossing altitude of 5,700 ft. before the next stepdown of VOMAC as I had flown [this route] many times. As is our usual policy, I was watching on the approach for a point where I was VMC and could cancel IFR and proceed to my ultimate destination of EKA. It was night still and during most of the descent I was IMC, so basically visibility was nil and it was raining most of the time. I was dividing my attention between monitoring my wing for icing with my icing light, looking for a VMC path to EKA, and flying the approach. I knew I was approximately 1/3 deflection below the glideslope but it had been moving down steadily so it did not concern me much, since I was still well outside (approximately 9.7nm) the FAF of VOLEW. It should be mentioned that usually I flew this approach at 120 kts or less but today was unusual in that I chose to fly it at 160 kts.

Then the Seattle Center Controller mentioned that I was low on the approach and that the crossing altitude at VOMAC was 5,700 MSL. I looked at my altimeter and noticed I was at approximately 5,000 ft. MSL. Obviously, I corrected immediately and was back at the proper altitude within a matter of seconds. Later, I noticed that the highest obstacle near VOMAC was 3729 MSL. Thus I had potentially come within 1,271 ft. of it.

After that, the approach went as normal; and I broke out under the ceiling, was in VMC, cancelled IFR, and had an uneventful flight to EKA, landing in the dark.

I think my failure to monitor the altitude at the step down fix was due to my familiarity with the approach which made me more relaxed about it than I was with being concerned about the icing potential and being able to peel off the approach at the most opportune moment for EKA. I think a contributing factor was the higher speed at which I flew the approach, giving me less time to monitor where I was along it while doing other tasks.

Essentially it was a case of mistaken priorities and the step down altitude had been

regulated to a lower priority subconsciously in my mind as I felt over-confident that the nearing glideslope indication would keep me safe. Obviously this was a false assumption that in the heat of the moment I had subconsciously made.

Thus I chose to write this report to help reemphasize in my mind the importance of step down fix altitudes on an ILS approach.

I found the InFO 11009 document published by the FAA on 3/28/2011 online and this helped a lot in helping me understand my error.

I am also thankful for the Seattle Center controller doing a good job of monitoring my approach.

Synopsis

A commercial fixed wing pilot reported descending below the glideslope and coming within 1,271 feet of an obstacle while in IFR conditions.

Time / Day

Date : 201803
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : 1H0.Airport
State Reference : MO
Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Icing
Weather Elements / Visibility : Rain
Weather Elements / Visibility.Visibility : 8
Light : Daylight
Ceiling.Single Value : 1600

Aircraft

Reference : X
ATC / Advisory.TRACON : T75
Aircraft Operator : Personal
Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Descent
Route In Use : Direct
Airspace.Class B : STL

Component

Aircraft Component : AHRS/ND
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 5000
Experience.Flight Crew.Last 90 Days : 20
Experience.Flight Crew.Type : 700
ASRS Report Number.Accession Number : 1525989

Human Factors : Situational Awareness
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

There was no mention in a briefing for ice. In fact, the departure from ZZZ was through IMC without incident. Upon reaching the 1H0 area I was offered direct ODUJY and the RNAV 34 into 1H0. At that time a Falcon Jet went into SUS and reported zero ice on the approach. About 10 miles from the fix I entered IMC as I descended through 4,000. Initially, the ice appeared to be light rime but almost immediately I encountered freezing rain and clear/rime mixed with jagged edges on my leading edges and a useless ice covered windscreen. The controller instructed to "maintain 2,200 MSL" then corrected himself to, "maintain 2,600 until ODUJY." The actual altitude for ODUJY is 2,800 and 2,200 at the FAF. I was hand flying the aircraft to avoid autopilot disconnect and un-commanded aerobatics. There seemed no alternative but continue as the ceiling was reported to be at about 2,000 MSL. Just after the FAF, the navigation displays partially malfunctioned, but since I had a heading from ODUJY to the FAF I continued the approach to VMC and the icing abated. I continued to just above circling minimums and after some mild excursions found the airport. As the aircraft shed the significant ice I was able to circle to land 34. I considered the missed approach, but given an unexpected response from the EFIS and heavy ice, I elected to stay VMC. No damage to anything but the pilot's nerves.

Synopsis

Pilot reported descending below the glidepath on an RNAV approach in order to escape icing conditions.

Time / Day

Date : 201803
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Icing
Weather Elements / Visibility.Visibility : 2
Light : Daylight
Ceiling.Single Value : 3000

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : M-20 J (201) / Allegro
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 2160
Experience.Flight Crew.Last 90 Days : 45
Experience.Flight Crew.Type : 1290
ASRS Report Number.Accession Number : 1525984
Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

Icing forecast but all airports along route forecasting VFR. The first half of the trip was without incident but then at 8000 ft entered clouds. Initially no ice but after 20-30 minutes picked up slight rime ice. Initially descended but ice was worse at 6000 ft. Cleared to 10,000 ft and broke free of clouds at 9000 ft. Later started descent for approach. Held at 6000 ft as this was minimum vectoring altitude. Started picking up significant ice and ATC could not get me lower due to MVA. I knew there were VFR ceilings beneath me so I [advised ATC of conditions]. Descended to 5000 ft and remained clear of clouds to the field and an uneventful landing. The presence of VFR conditions kept me from filing an alternate, and the terrain following GPS assured clearance from mountains. In the future if icing is forecast I will likely arrange to fly to a different airfield to remain clear of the possibility of icing.

Synopsis

M20 pilot reported accumulating ice at the minimum vectoring altitude and resorted to a descent to VFR conditions.

Time / Day

Date : 201803
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 0

Environment

Flight Conditions : Marginal
Weather Elements / Visibility : Cloudy
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Turbulence
Light : Daylight
Ceiling.Single Value : 1500

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : Small Transport
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Nav In Use : GPS
Flight Phase : Landing
Airspace.Class D : ZZZ

Person : 1

Reference : 1
Location Of Person.Facility : ZZZ.Tower
Reporter Organization : Government
Function.Air Traffic Control : Ground
Function.Air Traffic Control : Flight Data / Clearance Delivery
Qualification.Air Traffic Control : Developmental
ASRS Report Number.Accession Number : 1522688
Human Factors : Distraction

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 6197
Experience.Flight Crew.Last 90 Days : 58
Experience.Flight Crew.Type : 1836

ASRS Report Number.Accession Number : 1522941
Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Anomaly.Ground Incursion : Taxiway
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Airport
Contributing Factors / Situations : Weather
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Aircraft X was inbound on a circling approach. The pilot reported circling east for the runway at which point the Local Controller who was also assigned Controller in Charge cleared the pilot to land and turned the runway lights on high. As the pilot was in the left downwind, the pilot provided a bases report of around 1380 ft. As Ground Control and Flight Data I began working on submitting the PIREP and cutting a Special weather observation. Due to our facilities lack of weather equipment we rely on PIREPs for more accurate information than the estimates we as a tower are able to provide. While I was recording the ATIS I heard the Local Controller say, "He just landed on [the taxiway]." I then observed Aircraft X on his landing roll on the taxiway. Looking out the window it is near impossible to tell if an aircraft was lined up for the runway or taxiway due to the close proximity of the surfaces and the vantage point from the tower. Also, it is rare that the facility is operating on the runway we were on during this event.

Having seen this occur more than once recently at this facility by both training and experienced pilots something must be done! Wrong surface landings were the topic of our FBO and Tower meeting this past month and a few recommendations were made including painting the word "TAXI" or the letter of the taxiway for the taxiway. Other more radical suggestions included changing of signage near the runway or removal of [the parallel] taxiway due to the close proximity.

Narrative: 2

The METAR was 3sm BRRR BKN015 OVC050 13/12 A2986. On approach from altitude I picked up icing and significant turbulence. I reported Icing to Approach and that the icing stopped with little altitude depth. I also reported moderate turbulence to Approach with last response after told to contact tower and frequency. I was cleared for the RNAV approach, circle to land. I broke out on the approach with airport in sight at 1380 ft, and as requested, reported to Tower that I was starting the circle to land east of the airport. Tower cleared me to land.

I continued to a left downwind the east of the airport with airport in sight. I estimated weather at the time was broken at 1300 ft AGL and visibility east and north of the airport

worse than on the approach. Estimated was visibility at 1.5 miles but the airport was visible. I'm not sure why, but I lined up for the taxiway on turn to final rather than the runway. The approach to landing was not rough nor did it require maneuvering. I was lower on downwind than normal landing due to the weather at the airport, and the turn to final was lower than normal such that I added power to get back to glidepath. I landed incorrectly on the taxiway and recognized the error after touching down. I chose to complete the landing rather than take off. The landing was normal and there was no issue making the turn off at the end of the taxiway and taxi to parking.

I was given a number to call from Tower and called Tower after shutdown of the engine. Tower informed me of a possible pilot deviation. I provided my phone number, address and pilot Certificate number. During the discussion I told Tower of the somewhat lower visibility to the east/north of the field. This airport is my home airport and I use it often during the year. During rain or weather, the runways often switch to the southeast runways which were lit but at mid-day, the ambient light was relatively high so they were not prominent.

I was rested and no health issues, flight was approximately 2.5 hours. I want to review the sight picture for the runways to see if that could have contributed to my error. I'm told by Tower that this has happened more than they would like and are trying to understand solutions. I also want to see if the taxiway is marked, although it clearly doesn't have runway markings.

Synopsis

Tower Controller and GA pilot reported a taxiway landing after a circle to land approach.

Time / Day

Date : 201802

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : EUG.Airport

State Reference : OR

Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : Mixed

Weather Elements / Visibility : Cloudy

Weather Elements / Visibility : Fog

Weather Elements / Visibility : Icing

Light : Daylight

Ceiling.Single Value : 2300

Aircraft

Reference : X

ATC / Advisory.TRACON : EUG

Aircraft Operator : FBO

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Cruise

Airspace.Class E : EUG

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 220

ASRS Report Number.Accession Number : 1522047

Human Factors : Training / Qualification

Human Factors : Other / Unknown

Events

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : VFR In IMC

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Landed in Emergency Condition

Result.Flight Crew : Diverted

Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

This event happened because of all my inexperience and greed and now I am confessing what I experienced. I am working on [a] commercial pilot course and the flight was for my long cross country from my home airport to RBG.

It was cold day and also clear sky. I picked this day a few days prior. However, right before I took off, METAR at RBG was MVFR. But the TAF said it will be VFR when I get there, so I took off. I was cruising around 7500 ft and after passing EUG, I was able to see thick cloud layer [in] front of me, but I kept going to RBG. At that moment, I should have done 180 degree [turn] and landed [at] EUG. I was too greedy and full of the hazardous attitudes. Also, I didn't want to waste my money for the flight since I rent the aircraft. Getting close to RBG, I wanted to descend and [do a] touch and go at RBG. At that moment I was barely able to see the earth and I made a decision to descend because I thought I wouldn't have any chance to see the ground unless I descend now. After descending altitude, I realized that I'm in trouble because actually I was between the thick cloud layer and the cloud was moving and it was hard to see the earth. And I was able to tell that after descending, [to] around 6000 ft, there were dark clouds on the side of RBG. I was somehow maintaining clear [of] cloud but hard to see the earth and ATC gave me terrain alerts. At that point, I was right between RBG and EUG, I wanted to complete this lesson, I didn't want to waste my money, so I had hard time making decision for what I have to do. Since it was really cold day, I absolutely expected I would get iced but I've never experienced, I've learned on the textbook only, so I didn't know how the icing would be serious. So I finally made a decision to request IFR clearance to go back EUG with RNAV Y 34L since RBG side was really dark. ATC cleared me direct cross IAF UJOKU with 4000 ft so I was descending from about 6000 ft to 4000 ft. On the direct and descending route, I had to encounter with clouds and I expected that the base of the cloud would be [higher] than 4000 ft so that I would be able to see the ground by that time. And since I've never experienced picking up ice on the aircraft, I expected I would be ok for descending with short period time. However, the reality was totally different with my expectation, the tire color turned to white and I was able to see the ice on the aircraft and even hear freezing sound on the windshield although I was wearing headsets. This situation got me panic but I tried to be relaxed. I tried. I finally descended to 4000 ft but still I was in the cloud, wasn't able to see anything with icing condition. My heart was beating like crazy and I asked to ATC for descending due to icing, but they said I can descend up to 2200 ft with emergency purpose only. So, I descended up to 2200 ft and finally I was able to see the ground, but it was very [rough] terrain area so I was really close to the ground and actually the cloud base was about 2300 ft. I kept continue maintain 2200 ft to IAF, and I made a safe landing at EUG. After landing and taxiing they wanted me to copy down the phone number and I contacted with them and I explained the situation as much as I could at that time. They were glad me to land safely and took care of me really much going fly back to home.

I really appreciate for the fact that I survived, actually I was really scared and panic so I thought I would die with icing condition. Now I am looking back and thinking that it was really meaningful lesson for my future, I learned a lot from that day, that day [made me] change myself regarding flight. Even though I wasn't able to finish my long cross country, I spent lots of money for renting and have to try one more time, I am so glad I survived and learned a lot.

Synopsis

C172 pilot reported flying VFR into IMC and encountering inflight icing due to hazardous attitudes.

Time / Day

Date : 201802

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Ceiling.Single Value : 700

Aircraft

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Bonanza 36

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Flight Phase : Landing

Route In Use : Direct

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 3300

Experience.Flight Crew.Last 90 Days : 300

Experience.Flight Crew.Type : 1300

ASRS Report Number.Accession Number : 1520158

Human Factors : Situational Awareness

Analyst Callback : Attempted

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Ground Excursion : Runway

Anomaly.Ground Event / Encounter : Loss Of Aircraft Control

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Person : Flight Crew

When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Airport
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Clearance was obtained before departing and I was in contact through all phases of flight. During the flight some icing was encountered. Center was made aware. Center asked if I had the weather at [destination]. I told them yes, but I asked Center to provide me what they had for weather. They provided winds light and variable and 700 ft ceilings. They also provided the NOTAMS. This aircraft is equipped with both XM Weather and ADSB Weather. The onboard equipment reported light and variable on the windows with a 700 ft ceiling. Center provided the same weather. I requested and was cleared by Center for [the approach] so I proceed to the initial approach. More ice was encountered so I requested lower and then higher. Center asked about the ice and if I wanted a different direction of flight. I indicated that if cleared I would fly the approach. The approach proceeded without incident and I touched down.

While on the rollout the aircraft was spun to the right and exited the runway. The plane came to rest with its tail back towards the runway. I exited the plane. As soon as I opened the door (facing north) I was hit with gusts of wind that made it difficult to open the door. When I got on the ground it was apparent that the field conditions were 0/0 (solid ice). Talking with the FBO Manager and the City Manager it was determined the weather reporting equipment on the field was reporting inaccurate information.

Synopsis

BE36 pilot reported loss of directional control after landing due to strong winds and ice on the runway. Reporter stated the controlling Center and his onboard XM and ADSB weather gave him inaccurate field condition and weather information.

Time / Day

Date : 201802
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 26000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Icing
Weather Elements / Visibility.Visibility : 0
Light : Dusk
Ceiling.Single Value : 16000

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Make Model Name : Do 328 TP (Turboprop)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Training
Nav In Use : FMS Or FMC
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class A : ZZZ

Component

Aircraft Component : Aerofoil Ice System
Aircraft Reference : X
Problem : Failed

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 2500
Experience.Flight Crew.Last 90 Days : 60
Experience.Flight Crew.Type : 250
ASRS Report Number.Accession Number : 1520020

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Upon reaching FL260, aircraft encountered moderate to heavy-moderate clear/rime icing and experienced a failure in the vertical and horizontal stabilizer de-icing boots. Crew attempted to mitigate icing conditions by climbing to FL280, then to FL300. Any deviations from cleared altitude [were] to avoid icing conditions for safety of flight considerations. Unable to avoid icing by climbing, the crew requested Center to provide information on areas clear of clouds for descent below cloud deck. Center approved course deviation and descent towards [a nearby airport]. During descent, the aircraft had an Environmental Control System (ECS) pack fail above FL260, which then resulted in an uncommanded cabin depressurization. The crew went on oxygen and stated to ATC of an in-flight emergency. After requesting the location of the nearest airfield with at least 3000 feet of runway length, Center approved the crew to divert to [the nearest appropriate airport]. The crew landed safely with no physiological incidents and with no indications of aircraft damage.

The crew operated the aircraft within all approved standard operating procedures and operating limits, so it is unknown caused this issues. To prevent future occurrence, crew should immediately request courses/altitudes clear of icing conditions.

Synopsis

D328 Captain reported diverting to an alternate airport after experiencing failure of vertical and horizontal stabilizer deicing systems in icing conditions.

Time / Day

Date : 201802
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 9000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Icing
Weather Elements / Visibility : Fog
Weather Elements / Visibility : Snow
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility.Visibility : 1
Light : Night
Ceiling.Single Value : 700

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Caravan Undifferentiated
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class E : ZZZ

Component

Aircraft Component : Navigational Equipment and Processing
Aircraft Reference : X
Problem : Failed

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 3795
Experience.Flight Crew.Last 90 Days : 300

Experience.Flight Crew.Type : 2000
ASRS Report Number.Accession Number : 1518874
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Equipment / Tooling
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Equipment / Tooling

Narrative: 1

I was the Pilot in Command (PIC) and Pilot Flying (PF) for Aircraft X. This was the last scheduled flight for myself and my First Officer (FO). We had been scheduled to swap aircraft by leaving the one in which we had been operating all day Aircraft Y with the present Aircraft X. This was our first flight of the day in Aircraft X. We completed a thorough preflight upon aircraft acceptance and discovered that the previous crew neglected to note a severely bald tire when they had accepted the aircraft from a 100 hour inspection. This caused us concern, as we were unsure how thorough the acceptance preflight had been.

Weather was marginal in the area throughout the day, but legal at the time of departure and the intended time of arrival. As we approached ZZZ, however, visibility on the AWOS dropped precipitously. Upon our arrival, weather was below the required minimums to initiate an approach. I obtained a holding clearance and held at 9000 feet over the ZZZ VOR, as published. After approximately 30 minutes, a jet aircraft departed from ZZZ and reported that conditions were still deteriorating on the field.

We prepared to initiate a diversion to our filed alternate. As we began to set up for this maneuver and before we requested clearance, I noted that that the lubber line of the needle of my HSI was fluctuating back and forth rapidly. I had my First Officer confirm this observation. I confirmed that the instrument was set to "GPS" on the Garmin 530 and that a distant "direct to" point was selected. I also had my First Officer confirm this. The Number 2 VOR omni was set identically and not having the same faulty indications. We discussed the situation and determined together that the HSI instrument could not be relied upon safely.

Because we were in actual IMC and on an instrument flight plan at this time, I directed my First Officer to notify Center of the loss of instrumentation, per FAR 91.183(c) and 91.187.

Before discovering this loss of instrumentation, my copilot and I noted conditions at surrounding airports had deteriorated to low visibilities and that conditions were optimal for icing (+/- 5 degrees and periods of visible moisture). In fact, during the hold, we had developed approximately ?? inch of rime ice on the wings. Although I knew it was warmer below us, we had slowly been adding power to maintain a constant airspeed. Based on the information available from our onboard weather, ZZZ1 was reporting 7-mile visibility and was close. All other reasonably nearby airports were now reporting?? Mile visibility or below.

I instructed my First Officer to simultaneously [advise ATC of our situation] based upon the need for urgency and to notify ATC that we intended to now land at ZZZ1. Factors were combining to produce a situation that was not immediately dangerous but which could result in a catastrophic event if not properly addressed.

We proceeded to ZZZ1 as vectored for the RNAV (GPS) Runway 25, which we could still execute on our Number 2 VOR (which is connected to an instrument-approved Garmin 430). The Number 2 VOR omni has a glideslope as well. Although I removed the HSI from my scan, I did direct my FO to activate the localizer on that instrument so I could determine if that part of it was working. At the same time, I had him pull the RNAV (GPS) Runway 25 on the Garmin 530 screen for situational awareness. We confirmed more faulty indications on the HSI when set to "VLOC" and tuned into the localizer. The HSI directed us far left of the RNAV (GPS) 25 centerline and significantly short of the actual runway and RNAV (GPS) 25 glideslope on VOR Number 2. It is also possible that the HSI directional compass card was processing, even though it is an electrical instrument. At any rate, the HSI was entirely not reliable and classically misleading so it had to be faulty.

We were able to fully and safely execute the RNAV (GPS) Runway 25 approach on the VOR Number 2 indications, substituting the Second in Command's directional gyro for the HSI altogether, utilizing the 430 and 530 screens, and working together with effective CRM. Together, we were capable of completing the flight from the discovery of the problem to ZZZ1 without violating ATC assigned altitudes or limits.

We notified ATC of our safe arrival, asked them for a contact number so we could reach them after this event and taxied to the ramp. After shutdown, we immediately contacted our operations and began making alternate travel arrangements for our passenger, who was unaware of the circumstances surrounding incident.

As after action, I continue to press our ops department not to dispatch new aircraft to crews on the last flight of the day. While my crew and I preflighted the aircraft as good as possible, it is not possible to locate all faults prior to flight. Fatigue from being on the completion end of a [long] duty period as well as constant operations by my crew and I over the last several days also played a clear factor. Icing, although manageable, further complicated the options on the table. In retrospect, this was probably handled to the best capability of the crew under the operational circumstances present.

Synopsis

C208 pilot reported a loss of the HSI in IMC conditions resulting in a diversion.

Time / Day

Date : 201802
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 4200

Environment

Flight Conditions : Mixed
Weather Elements / Visibility.Visibility : 5
Light : Night
Ceiling.Single Value : 6000

Aircraft

Reference : X
ATC / Advisory.FSS : ZZZ
Aircraft Operator : FBO
Make Model Name : Cessna 152
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Training
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class E : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Instructor
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 1000
Experience.Flight Crew.Last 90 Days : 100
ASRS Report Number.Accession Number : 1518863
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Landed As Precaution

Result.Flight Crew : Diverted

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Primary Problem : Aircraft

Narrative: 1

A student, working on his Commercial license, and I were conducting a night cross country of 100 miles point to point. We had an extremely slow [ground speed] due to high winds. There were intermittent clouds at our altitude.

I contacted Flight Service to show the student how to use the service to receive updated weather information. We were cruising at 4,200 ft MSL with an airspeed of approx 80 knots. I then noticed that the altitude was below 4,000 ft and descending. I asked the student about this and he replied that he didn't know why we were descending. The descent continued and I took control of the aircraft. I applied full power, full mixture and carburetor heat. I radioed that we had a problem and that I was switching back to Approach. Approach had apparently noticed our descent and called us on the radio. I informed them that we could not hold altitude and asked for vectors to the nearest airport. We were vectored to [an airport] approximately 9 miles away. The aircraft continued to descend as we made a 180 degree turn back towards [the airport]. The airplane stopped descending at approximately 3,000 ft and we were able to slowly climb back up to 4,000 ft. As the aircraft stabilized at 4,000 ft, I handed the controls back to the student. We maintained 4,000 ft until we were over [the airport]. We performed a spiraling descent and landed.

On the ground, we checked the aircraft and found no indication of airframe icing or any other obvious problems. We believe that the descent was probably caused by carburetor ice.

Synopsis

C152 instructor pilot reported a precautionary landing with a student after experiencing a power loss possibly related to carburetor ice.

Time / Day

Date : 201802
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 19000

Environment

Flight Conditions : IMC
Weather Elements / Visibility.Visibility : .1
Ceiling.Single Value : 21000

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Personal
Make Model Name : Cardinal 177/177RG
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class A : ZZZ

Component

Aircraft Component : Pitot/Static Ice System
Aircraft Reference : X
Problem : Failed
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 730
Experience.Flight Crew.Last 90 Days : 14
Experience.Flight Crew.Type : 680
ASRS Report Number.Accession Number : 1518603
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Landed As Precaution
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Weather
Primary Problem : Aircraft

Narrative: 1

While on an IFR flight plan level in cruise at FL190 near the cloud tops in IMC, negative ice, -28C, all is normal. Approximately one hour earlier I entered IMC and had turned on the pitot heat. Suddenly, I noticed the air speed readouts on the Aspen PFD 1000 began degrading. I immediately check the pitot heat was on, cross checked to the backup Sandia 340 Quattro on the other side of the panel and both confirmed the airspeed slowly bleeding off from 140 KIAS (eventually reaching 0 KIAS). I distinctly recalled thinking about the analysis of [a similar] accident about pitot tube icing and immediately began cross checking the airframe for ice (which there was none) but I was in cloud. I then began checking instrumentation for changes in pitch attitude (straight and level indicated), altitude (no change from FL190), VSI (zero indication), then the JPI 900 for engine performance (all parameters normal) and finally crosschecked the Aspen and Avidyne IFD 540/440 GPS Nav/coms (all indicating GPS ground speed of around 175KT). To validate the autopilot wasn't changing pitch attitude to hold altitude, as the ASIs fell thru 83KIAS, I clicked off the autopilot altitude hold (STEC 30 with altitude hold) with GPS Nav1 engaged, pulled power back to 19.5" MP to test for any sudden changes in pitch which there were none. I then re-applied power, re-engaged the autopilot altitude hold and pulled out one of my in-ear radio/com headphones and closely listened for any changes to the air flow over the airframe and noted no changes. At that point confused, I just could not figure out how or if the pitot tube had iced up with the pitot heat on and no airframe icing present. Eventually I began suspecting the pitot tube heater had somehow failed since I was in cloud and even a little moisture present it had slowly iced up although no visible signs were present.

I called Center and advised them of the situation and asked for a climb to FL210 in the hopes of getting on top VFR to further assess the situation. I was immediately cleared to FL210 and began the climb carefully monitoring the Aspen VSI and altimeter. Since this aircraft was turbo normalizer, I was able to climb to FL210 with no issue. At FL210 however, I was still in and out of the cloud tops, negative ice, but clear above. About a minute at FL210 the Aspen's primary AI and HSI failed completely displaying the large red X's thru those display features with warning boxes enunciating 'ATTITUDE FAIL CHECK PITOT HEAT' and 'DIRECTION INDICATOR FAIL'. I could not comprehend why the Aspen was failing instruments that are not connected to airspeed so I contacted Center and [notified them of the situation]. The reason I did this is I was now partial panel and late in the day I wanted all the help I could get not knowing what the next thing that was about to fail. I did not want to attempt a decent into ZZZ in the dark, in IMC, partial panel. The good news is the backup AI was still online, the Aspen was still displaying baro altitude, VSI and more importantly still receiving and feeding GPS heading information from the

Avidyne 540 to the autopilot so I still had the ability to navigate via GPS and descend thru cloud with a functional autopilot.

I then asked Center to check for the best solution for the nearest airport with the best weather options for an immediate decent to land hopefully VFR. I could hear them asking other aircraft for conditions etc. and they came back and advised ZZZ was clear below 12,000 but unknown above that. In the mean time I was checking my onboard Avidyne based ADSB weather and noted ZZZ was closer only about 50nm away and reporting clear below (best I recall) 10,000 feet I suspected overcast above 12,000 so I advised Center that ZZZ was likely my best closest option. I was promptly cleared to ZZZ and reprogrammed the Avidyne 540 with the Autopilot still engaged and receiving GPS commands I began a controlled decent in IMC to ZZZ.

Descending and passing thru 15,000 feet, surprisingly the airspeed began to slowly coming back on line confirmed by both the Aspen PFD the Sandia backup. About 45 seconds later the Aspen's primary ASI and HSI came back on line and full functionality returned to normal. I advised Center that my primary flight instruments had come back on line and upon exiting the cloud bases and having the airport in sight advised Center that I was requested switching over to VFR. They granted the request but asked me to stay on my squawk code and call them when on the ground. I landed without incident and promptly called FSS and asked them to relay the message Center since I was never provided a phone number. Center subsequently called the FBO and verified I was there which the confirmed. Not sure about the delay in message relay between FSS and Center.

On the ground, after shut down, I immediately checked the pitot heat and the probe was hot to the touch. I then went into the FBO and conversed with the local on-site A&P mechanic and he could not recall ever having any issues with and intermittent pitot tube behavior like I described. He thought perhaps water could have somehow formed in the line and froze between the heated pitot tube probe and the cockpit or more likely the pitot tube heating element had gone intermittent. I then returned to the plane and after letting it cool down for 30 minutes and I tested the pitot heat and it behaved normally warming to the touch in about 1 minute. With the weather reporting VFR I fueled and proceeded to my final destination without further issue.

Synopsis

Cessna 177RG pilot reported a failure of airspeed indications while in cruise.

Time / Day

Date : 201802
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 37000

Environment

Weather Elements / Visibility : Icing
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Falcon 10/100
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class A : ZZZ

Component

Aircraft Component : Pitot/Static Ice System
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 4500
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 550
ASRS Report Number.Accession Number : 1517991
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Analyst Callback : Completed

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Weather
Primary Problem : Aircraft

Narrative: 1

On a flight to ZZZ we were in cruise flight at FL370. I was the pilot in command. FO was the pilot flying on that leg. About 1 hour out from ZZZ [very early] in the morning, we started losing the airspeed indicator on the pilot side and eventually went to 0. Then we lost the altimeter and the altitude preselects on the pilot side and the auto pilot stopped working. FO proceeded to hand fly it off of his instruments. Then the copilot side instruments were starting to read unreliable so we were using the standby altimeter. I decided to [advise ATC of our situation] and they helped us get into ZZZ. It was VFR weather on our time of arrival and we landed with no problem. Maintenance determined it was possible icing in the pitot static system.

Callback: 1

The reporter stated that the airspeed indicator, altimeter and flight director all flagged on the Captain's side. The reporter stated that the airspeed indicator on the First Officer's side became unreliable. The reporter also stated that during descent the instruments started coming back. The reporter also stated that Maintenance was unable to find any faults in the system, they suspected moisture in the pitot system that froze. The reporter stated that all the pitot/static heaters were tested on the ground and operated just fine.

Synopsis

Falcon 10 Captain reported the loss of all flight instruments during cruise, possibly due to icing.

Time / Day

Date : 201801

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Haze / Smoke

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 9000

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Personal

Make Model Name : M-20 Series Undifferentiated or Other Model

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Route In Use : Direct

Airspace.Class E : ZZZ

Component : 1

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Carburetor Heat Control

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 1010
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 10
ASRS Report Number.Accession Number : 1517127
Human Factors : Troubleshooting
Human Factors : Time Pressure
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Weather
Primary Problem : Aircraft

Narrative: 1

I was enroute in a Mooney M20 with one passenger when my engine began running rough. I had descended to 4,000 feet as my passenger had indicated he needed to use a restroom and we were discussing where to land. I requested with ATC Center to deviate and land and they cleared the request and asked the reason. They gave me an altitude of 3,000. When I reduced power to begin my descent is when the first indication of roughness began. My final destination was ZZZ, but we had deviated toward ZZZ1 due to a band of IMC conditions moving across [area]. We were on an IFR flight plan but I planned my route to stay in VMC conditions in order to eliminate any structural icing concerns. When the engine began running rough I performed the emergency checklist which includes items like carb heat on, electric fuel boost on, switch fuel tanks, mixture rich, etc. The checklist showed that if engine roughness did not improve to turn carb heat off after one minute.

I followed the checklist and the engine improved momentarily, then began losing power again. I continued to try carb heat and diagnose the issue. I lost some power again and was unsure if I would be able to hold altitude. The nearest airport was ZZZ2. After the second time that the engine lost power I called ATC Center and [advised them of situation]. I did so because I was unsure if the aircraft would completely lose power and I was outside of glide distance of an airport. From my training safety comes first and I have read and learned that hesitating to [advise ATC] can lead to increasing risks. I also reviewed the checklists for an emergency landing.

The engine continued to run and regained most of its power. It seemed to be running at approximately 40-80 percent power at different times. I was able to make ZZZ2 and had altitude to fly over and then turn and land safely. After landing the engine seemed to lose its roughness. After taxiing to the ramp I called flight service to cancel IFR and advise we

were down safely. I did a run up on the ramp and the airplane appeared to run normally again. After shutting down we called a mechanic and conferred on what to do. We also spoke with airport staff and located a heated hangar to place the aircraft in. The weather deteriorated and we waited until evening for it to improve and plan what to do. My passenger and I looked at the airplane and could see through the cowl that the butterfly valve was not moving when the carb heat was applied. I called a mechanic again and they stated it should shut completely when carb heat is on. We moved the control back and forth and were able to free up the butterfly valve and now the carb heat was working properly. Now that the carburetor heat was fully operational and the plane had over 6 hours to warm up, I did several full power run ups and several normal run ups. The carb heat produced more of an RPM drop than earlier in the day. We checked again that it was working properly and noted the position of the control lever when the carb heat was fully on. Conditions were now VFR and we flew home. The airplane flew normally and had no further issues.

In hindsight I think staying calm and working through the checklist as well as letting ATC know help calm my passengers worries and helped me focus on the task at hand rather than worry about the situation or let fear take over. During my run up at the beginning of the day I noticed an RPM drop while using carb heat but it was not as much of a drop as after the carb heat was working fully. If I had realized that was an issue I would have had a mechanic inspect the plane prior to departure. I learned from this experience and will be more attentive to the symptoms of carb ice and also to possible mechanical issues that may not be immediately obvious.

Synopsis

M20 pilot reported engine roughness that did not improve with carburetor heat. After diverting, the carburetor heat was found to not be functioning properly.

Time / Day

Date : 201802

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.Tower

State Reference : US

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Taxi

Make Model Name : Cessna Twin Piston Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Flight Phase : Takeoff

Airspace.Class C : ZZZ

Component

Aircraft Component : Window Ice/Rain System

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1517026

Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

Narrative: 1

Immediately after takeoff I noticed the windshield light came on in the annunciator panel. My initial thought to this was that I must have flipped on the wrong switch. I thought I had flipped on the windshield heater during takeoff instead of the prop anti-ice, however, upon looking down at the switch I realized I had never flipped the windshield heat switch. The windshield heat was on even though the switch was off. I now began to wonder how long the light had been on. Did it come on during the takeoff roll or before rolling onto the runway. I was worried about the 20 second limitation on the windshield heat. After that initial 3 second thought, I began to flip the windshield heat switch on and off in an attempt to shut off the windshield heat. The windshield heat stayed on. I paused for a second to think about what was going on before giving the switch another try. This time when I flipped the switch to the off position, the light on the annunciator panel finally went out. From this point on, I was unable to get the windshield heat to work. It did not look like a circuit breaker popped. After giving the switch a couple more tries in an attempt to see if the windshield heat would come back again, I finally turned the switch off and kept it off, thinking the switch may have failed or that there may have been an electrical short. There was no icing, and the weather had improved so I decided to complete the flight.

Synopsis

Twin Cessna Captain reported a window heat switch malfunction.

Time / Day

Date : 201802

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : Marginal

Light : Dusk

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Taxi

Make Model Name : Beechjet 400

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Flight Phase : Landing

Airspace.Class D : ZZZ

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Flying

Function.Flight Crew : First Officer

ASRS Report Number.Accession Number : 1516513

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

ASRS Report Number.Accession Number : 1516514

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Ground Excursion : Runway
Anomaly.Ground Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected.Other
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Airport
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Prior to departing we had acceptable time to plan and execute our preflight planning, evaluation and clearances. The planning included information on meteorological conditions at the time of arrival being marginal VFR, runway NOTAMs with a FICON (Field Condition) of 5/5/5, and the ILS approach would be our planned approach with runway analysis done to calculate the landing distance if wet and dry. Enroute there was no occurrences other than light chop. In the descent the PM received the weather and we determined we would do the ILS 24R to a full stop because the winds were straight down the runway with limited marginal cloud coverage. Around 4,000 ft ATC advises us that the winds have shifted and we will be circling north for the landing. We received the weather and there was a significant change to 340 at 10 kts with gusts. We concluded we would try the circling approach. We received very close vectors essentially directly onto the FAF 600 ft high, this is where we first encountered icing. At a safe airspeed, I the PF, descended until the airport became visible at 1800 ft MSL. Both the PM and I, PF, concluded we could circle by flying north of the airport and agreed if PF lost sight of the airport that PF would transfer controls to Capt., the PM.

At this time we had not received any runway braking or status reports from the Tower. We circled north and concluded we were too low and too close to the downtown area around the airport due to the northern winds and the snow and upon reaching our base to final turn concluded that we would be unable to maneuver onto the Final Approach Path safely and we executed a missed approach. Tower gave us a heading of 360 up to 3000 ft MSL and transferred control to Approach. Approach asked us our intentions and we requested the straight-in ILS to 24R due to the winds being a crosswind at both runways and the inability to safely circle to the non-approach equipped runway. Anticipating that we would once again receive vectors to the FAF rather closely and I was slowed to approach speed with 30 degrees flaps in prior to the FAF. The approach was accomplished with the autopilot to minimums, although the airport was in sight at 1700-1800 ft MSL.

During the approach Tower cleared us to land on runway 24R and gave sporadic wind check warnings throughout the descent, none of which included raining, icing reports, runway analysis or braking action. The autopilot was flown to minimums of 200 ft AGL. At that time I turned off the autopilot and yaw damp and started my final segment of the approach. Above the threshold the winds died down and I landed the aircraft on the centerline and in the touchdown zone. PF began applying breaks gradually then forcefully when PF noticed it wasn't sufficient enough and Capt., PM, assisted. The anti-skid

attempted to kick on but the aircraft simply wasn't slowing down due to no traction from the layer of ice between the wheels and runway. Around the 1500 ft markers Captain, PM and I, PF, tried our best to stop the aircraft with what was left and began swerving moderately and slid into the EMAS. The aircraft rolled to a stop and settled. Captain took control and I began exiting the aircraft with the passengers.

Narrative: 2

Fire department upon arrival apologized for delay due to icy taxiways and the trucks inability to maintain safe control.

Upon exiting, the EMAS and runway were covered in ice causing the passengers, pilots, and authorities to almost fall several times. From observation the ice was smooth and approximately 1/8 inch thick.

Synopsis

Beech 400 flight crew reported that a lack of runway condition reports from ATC contributed to an excursion from an icy runway into the EMAS overrun.

Time / Day

Date : 201801

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : UUWW.Airport

State Reference : FO

Altitude.MSL.Single Value : 3600

Environment

Weather Elements / Visibility : Fog

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Snow

Weather Elements / Visibility.Visibility : 1

Light : Night

Ceiling.Single Value : 300

RVR.Single Value : 6000

Aircraft

Reference : X

Aircraft Operator : Corporate

Make Model Name : Medium Large Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Ferry

Flight Phase : Initial Climb

Route In Use.SID : UM 1D

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 11800

Experience.Flight Crew.Last 90 Days : 80

Experience.Flight Crew.Type : 50

ASRS Report Number.Accession Number : 1515436

Human Factors : Situational Awareness

Human Factors : Fatigue

Human Factors : Confusion

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

The departure clearance included "climb via the Ivanovskoye 1D (UM 1D) SID except maintain 900 Meters". Crew briefed the use of QNH for departure and noted that 900 Meters was 3640 ft QNH. 3600 ft was set in the altitude window along with LNAV. After takeoff, the FP (Flying Pilot) climbed to 3600 ft but noted that the Metric Altitude altimeter function was also selected and displayed on the left PFD. The PM (Pilot Monitoring) noted the 1100 meter indication and set the Altitude preselect to 3000 ft and I, the flying pilot, was momentarily confused and started a descent using vertical speed of approximately 200 ft/min. Before we could descend to the incorrect altitude of 3000 ft (which would have been about correct for 900 meters QFE, we received normal, further climb instructions.

This was an interesting human factors event because the last time I flew into Moscow, QFE was the standard altimetry in use so all of my previous experience was in QFE in this location. Since Russia is switching to QNH ops, issuing climb altitudes in meters can cause pilots that usually fly with feet to second guess the clearance, even though the "ALT/HEIGHT CONVERSION" table is readily displayed on Jeppesen charts. This subtle communications issue, coupled with fatigue and other operations such as dealing with tight slot times, de-icing/anti-icing, and flight planning due to destination weather below forecast minimums (as was the case in this operation) all contributed to this momentary altitude deviation.

ATC did not note the deviation and no separation issues occurred as a result of this event.

Summary

Pilots operating in QFE/QNH environments should not use the metric altitude feature of advanced cockpit avionics if conducting QNH operations due to the conflicting data displayed, in this case QFE meters is 1100 which corresponded to 900 Meters QFE (field elevation at UUWW is 686 ft MSL). Contributing factors in this event included fatigue, recency of operations in QFE/QNH airspace, and the departure altitude clearance limit being conveyed in QFE Meters when Moscow and other large cities in Russia have reportedly switched to QNH ops.

Synopsis

G650 First Officer reported confusion regarding altitude assignment related to QFE/QNH procedures departing UUWW.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 15000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Thunderstorm

Weather Elements / Visibility : Snow

Weather Elements / Visibility.Visibility : 4

Light : Daylight

Ceiling.Single Value : 6000

Aircraft

Reference : X

Aircraft Operator : Air Taxi

Make Model Name : PC-12

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Route In Use : Direct

Route In Use : Visual Approach

Route In Use : Vectors

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1360

Experience.Flight Crew.Last 90 Days : 125

Experience.Flight Crew.Type : 293

ASRS Report Number.Accession Number : 1514576

Human Factors : Communication Breakdown

Human Factors : Distraction

Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Other

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : Flight Cancelled / Delayed

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

During this flight we encountered conditions that were worse than forecast. Pireps were reporting light icing in the area, and convective activity was not present. After departure we encountered moderate icing, and cells with moderate precipitation started to build. We broke out on top at approximately 16,500 ft. I had filed 17,000 ft and ended up climbing to FL210 as final altitude due to convective activity. During climb out we also encountered degraded climb performance due to icing conditions. The weather at [the destination airport] was reported as 5000 ft overcast, which would mean we would break out at around 11000 ft, we broke out at about 12000 ft. We were VFR at this point and continued to land.

The reasons I [chose] to remain on the ground was as follows. Approximately 15 minutes after landing the field when IFR with ceilings down to 100 ft obscured, and down to 1/4th mile visibility, line of convective activity. Moderate to severe icing reports, updated forecast for super cooled water droplets. There was also issues with the GPS where the FO (First Officer) and I were not on the same page on what was going on. He was concerned with ATC instructions, and I was trying to slow down and get everything in order. I became frustrated that we were being rushed, and did not get my point across effectively that we needed to slow down and ask for more time. This experience was frustrating for me, and I was not in a mindset to fly, the FO was also not in a mindset to fly. We did not feel this way until after shutdown and the passenger was inside the terminal we kept our composure while flying and in front of the passenger. These reasons for not flying are due to my belief that they compromised safety of flight.

After landing the company decided that they were going to communicate to us through the FO, instead of myself. He was insistent on wanting to drive instead of fly, and at the time I was also not wanting to fly and stated such. After following [the First Officer's] advice of going to sit down and eat I did feel better, and would probably have felt ok to fly after some rest, the storm did remain in the area until after midnight. After returning to the airport we were informed that we would drive the crew car back to [the departure airport]. I feel that it's also important to note that we were delayed for our flight over 16 hours, and were supposed to fly the overnight the day before. We refused the aircraft due to safety concerns. My FO and I were already stressed due to this issue.

Synopsis

Air taxi Captain reported several weather issues and lack of company support that led to a canceled flight.

Time / Day

Date : 201712

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Make Model Name : Challenger 350

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Climb

Component

Aircraft Component : Ice/Rain Protection System

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1514452

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Automation : Aircraft Other Automation

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Landed As Precaution

Result.Flight Crew : Diverted

Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Weather
Primary Problem : Aircraft

Narrative: 1

After Departure, while climbing in icing conditions and climb or takeoff thrust selected, we received a "WING ANTI ICE LEAK" red EICAS message with associated Master Warning and triple chimes. I was flying pilot and assumed radio communications, while the captain began running the checklist. During this time, the warning message disappeared and was replaced by "R WING ANTI-ICE FAIL, L WING ANTI-ICE FAIL, R ENG THRUST FAULT, and L ENG THRUST FAULT". The original checklist allowed us to turn the anti-ice back on at some point and it continued to work fault free. We elected to divert and wrote up the aircraft.

After landing and while writing up the aircraft, the Captain relayed a conversation with the Bombardier representative that receiving this message is a known issue with the engines at high power settings due to the volume of bleed air available. I heard the word "normal" used but don't want to put words in anyone's mouth.

This is an issue that needs to be worked out. A master warning should NEVER stem from a known issue. We were flying an obstacle Departure in icing conditions relying on a system that failed due to a design fault. While we did not notify ATC of an emergency, that fact exists because ATC was informed of the situation and assigned a higher altitude out of icing conditions. A successful outcome was further enhanced by a crew that was able to automatically assign and communicate task assignments immediately upon digestion of the situation. Both of us were relatively new to the aircraft but have extensive experience in other aircraft as well as airline experience. It is still a major problem that a known issue throws us a potential emergency during a high workload phase of flight. This known issue could easily result in an undesirable outcome if replayed by a fatigued or more inexperienced crew.

Synopsis

CL-350 First Officer reported receiving warning messages for anti-ice and engine thrust while climbing through icing conditions.

Time / Day

Date : 201801
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : HTS.Airport
State Reference : WV
Altitude.AGL.Single Value : 0

Environment

Flight Conditions : Marginal
Weather Elements / Visibility.Visibility : 7
Light : Night
Ceiling.Single Value : 4500

Aircraft

Reference : X
ATC / Advisory.Tower : HTS
Aircraft Operator : Government
Make Model Name : Light Transport, Low Wing, 2 Turboprop Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Taxi

Component

Aircraft Component : Propeller Blade
Aircraft Reference : X

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Government
Function.Flight Crew : Captain
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 9000
Experience.Flight Crew.Last 90 Days : 30
Experience.Flight Crew.Type : 500
ASRS Report Number.Accession Number : 1514080
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Ground Excursion : Taxiway
Anomaly.Ground Event / Encounter : Object
Detector.Person : Ground Personnel
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Landed As Precaution
Result.Air Traffic Control : Provided Assistance
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Airport
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

While flying from HTS at FL180 we were notified by Center that HTS Operations was concerned we may have damage to the aircraft from hitting a taxiway light. They asked if we had any issues or known damage. We advised ATC that we were not experiencing any problems and didn't believe we hit a taxiway light but would inspect and report after landing. The copilot and I then reviewed our taxi route charts and were unable to determine where we may have hit a light. We again reviewed the taxi diagram (as we had during our before taxi brief) with emphasis on Hot Spot 2 and the remarks and comments.

Reconstruction of events leading to Propeller Strike. This is based on a review of charts and satellite imagery of the HTS Airport. I was performing the duties of Captain. We were scheduled to fly three legs. The first legs were uneventful and we were on time as scheduled. As we had a long layover at HTS we ate a late lunch/early dinner and returned to the airport. We then relaxed in the pilot lounge and I napped. The passengers informed me they would arrive early and I adjusted my IFR flight plan.

The weather had been lousy at HTS with a mixture of frozen precipitation, so we had the airplane placed in a heated hangar. When the passengers arrived, we loaded them into the airplane in the hangar and we were towed out. The copilot had obtained the ATIS and Clearance prior to the passengers' arrival. After starting engines, we completed the after engine start and before taxi checklist. We then obtained instructions to taxi to Runway 30 via taxiway Foxtrot and Alpha. Prior to taxi we reviewed the taxi diagram, completed our takeoff and departure brief, and I informed the copilot that I was turning on the "Hot 5" prior to taxi. We would take off with engine anti ice on in anticipation of climbing through icing conditions.

We then began our taxi. It was a little tight on taxiway F as we passed by service vehicles on the left side of Foxtrot. We monitored closely as we passed. We then turned left onto A and continued towards Runway 30. Prior to taxi we noted Hot Spot 2, which focused on the area between the runway and a service road adjacent to taxiway B. The remarks indicated that taxiway B had been relocated southeast and the old taxiway B was being used for service vehicles. There was also a wingspan restriction of 127 feet, which we were well within limits with a wingspan of 58 feet. No reason was given for the restriction. We later learned it was due to a building located between taxiway A and Runway 30. That building is not depicted on the Airport Diagram. Additionally, Hot Spot Circle 2 is drawn

exclusive of taxiway Alpha and there were no remarks or comments or graphic of a jog in the taxiway or that a handful of taxi lights were located on the paved surface on what I presume was the original taxiway. I did not anticipate any anomalies that would affect us after reviewing available information. As we passed taxiway C the copilot informed the controller we would be ready for takeoff upon reaching (Runway 30). The controller then cleared us for takeoff. As the takeoff clearance was being given, I saw the ILS hold short sign ahead and was focusing on the taxiway after that area which was again a straight line from my vantage point at that time. Throughout the taxi I was following the yellow line, however, I believe as we passed the area just after taxiway C I was focusing on the taxiway farther ahead and not directly in front of the aircraft.

When talking with the operations folks at HTS, I was informed the taxiway doglegs left and then back right at the location near B. I was also told that [the] taxi lights we struck also jog to the left and are on the asphalt, not on the grass. I did not see that deviation on the Airport Diagram nor did I visually notice the jog as I taxied. Therefore, I continued straight ahead on the asphalt instead, making the short arcing turn to the left and then back to the right. Also, I did not see any blue taxiway lights that [were] in my path at this time. I also didn't see anything on the taxi diagram that made me think that the taxiway would arc left then back to the right. There is a bump out on the taxiway to the left at this point, making it look as if the taxiway is only wider, not jogging left. I assumed this was possibly a run-up area. Also, on the taxi diagram, the right side of taxiway A (as you taxi towards Runway 30) appears to be on the same line (no deviations nor bump jogging left is indicated) that would have given me cause to look for a "dogleg" in the taxiway. Reviewing daytime overhead satellite imagery, the jog is apparent. However, the taxiway visual while taxiing on Alpha to Runway 30 remains quite straight. Also the building which is the cause of the wing restriction is not depicted on the taxi chart either. Throughout the taxi, neither myself nor the copilot recall any unusual noises. In hind sight, I believe that was in the general area of taxiway B. There was nothing that indicated to me we had struck an object. At this time, my taxi and landing lights were on. It is possible that those lights, along with the farther down the taxiway were washing out the few blue taxi lights that were supposed to signal the dogleg. Neither myself nor my copilot saw those lights.

Not realizing anything unusual had happened, we took the runway and the subsequent takeoff and climb out were completely normal. It wasn't until we were more than halfway to ZZZ that ATC advised us that they were concerned we may have unknowingly struck a taxiway light and may have damage. I informed them we didn't have any indication of doing so and that everything was normal. We began to discuss possible damage if we had hit a light. We reviewed the chart again and were at a loss for how that could have happened. ATC requested we contact HTS operations upon arrival and let them know if we had any visible evidence on the airplane.

As a precaution, on the approach into ZZZ we requested CFR be standing by and requested a little more space on the ILS XPR to ensure the landing gear would extend and lock normally. The landing and touch down roll were uneventful. Upon post flight examination we discovered leading edge damage to two of the four propeller blades on the right engine, consistent with a taxiway light strike. The damage consisted of a few large dings on the blades and some yellow paint, but no metal was missing. Throughout the flight, all indications were that both propellers and engines were performing normally. On the approach, the landing gear extended normally and an inflight test of the brakes indicated we had brake pressure. Additionally, the passengers were briefed on the situation and potential emergency procedures prior to initiating our approach.

I believe the jog in taxiway Alpha adjacent to taxiway B is a poor design and difficult to

see at night. This was my first time on taxiway A. I also believe the Hot Spot 2 depiction, notes and comments are inadequate. The actual HS2 circle doesn't even overlay on taxiway A. I believe the blue taxiway lights on the pavement that are there to show the dogleg should be flush with the ground to prevent the possibility of damaging an aircraft. Lastly, the airport taxiway diagram should clearly identify the rather drastic turn in the road.

Synopsis

A twin engine turboprop Captain reported finding out inflight they may have a taxiway light on taxi out for takeoff.

Time / Day

Date : 201801

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : MRY.Airport

State Reference : CA

Relative Position.Distance.Nautical Miles : 10

Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : IMC

Weather Elements / Visibility.Visibility : 6

Light : Daylight

Ceiling.Single Value : 5000

Aircraft

Reference : X

ATC / Advisory.TRACON : NCT

Aircraft Operator : Personal

Make Model Name : Bonanza 36

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Nav In Use : GPS

Nav In Use.VOR / VORTAC : SNS

Flight Phase : Climb

Route In Use : Direct

Airspace.Class C : MRY

Component : 1

Aircraft Component : Autopilot

Aircraft Reference : X

Problem : Improperly Operated

Component : 2

Aircraft Component : Flight Director

Aircraft Reference : X

Problem : Improperly Operated

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 3200
Experience.Flight Crew.Last 90 Days : 45
Experience.Flight Crew.Type : 600
ASRS Report Number.Accession Number : 1514071
Human Factors : Situational Awareness
Human Factors : Workload
Human Factors : Human-Machine Interface

Events

Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : VFR In IMC
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

Departed MRY in VMC. Reported weather was 2,300 scattered/6,000 overcast. Blue sky visible to west and south. On climbout, realized I would be unable to maintain VFR, and advised TRACON. TRACON said unable altitude at current position. A short time later, I entered IMC and notified ATC. TRACON then gave me clearance to SNS VOR and descent to 5,000 ft.

I am IFR certified, current, with a recent instrument competency check and BFR as part of annual flight training in another aircraft. I had not recently flown the plane I was in, and was not prepared for instrument flight. After entering IMC, I had issues engaging the flight director and autopilot. On two occasions, I thought the autopilot was engaged, and turned my attention to setting up navigation and squawk codes (were changed twice during this period). I had substantial variation in heading from assigned heading, and delay in reaching assigned altitude. I estimate this period at 3 or 4 minutes before solving autopilot issues.

I have been a licensed pilot for more than 40 years, and have never before entered IMC during a VFR flight. I departed this day VFR for two reasons: I was concerned about icing at altitudes required to file IFR (airplane was not certified for flight into known icing), and had departed from same airport numerous times, in what appeared to be similar conditions. When I entered IMC, I was not mentally prepared. I did not have navigation set up, and did not have flight director or autopilot engaged. In addition, I had not flown this airplane recently. The avionics and autopilot are significantly different than other planes I fly. I learned the stress of these factors diminished my ability to scan and fly the airplane while simultaneously dealing with TRACON, setting up navigation, and changing

squawk codes. In the future, when departing VFR under marginal conditions, I will be prepared, both the airplane and mentally, for unforeseen conditions.

Synopsis

General aviation pilot reported entering IMC on a VFR clearance, and subsequently deviated from ATC vectors, which were attributed to the lack of familiarity with aircraft avionics and mental preparedness for IFR flight.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Fog

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Snow

Light : Daylight

Ceiling.Single Value : 2000

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Personal

Make Model Name : PA-28R Cherokee Arrow All Series

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Flight Phase : Initial Approach

Route In Use : Vectors

Airspace.Class E : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 2500

Experience.Flight Crew.Last 90 Days : 30

Experience.Flight Crew.Type : 1500

ASRS Report Number.Accession Number : 1512360

Human Factors : Workload

Human Factors : Situational Awareness

Human Factors : Time Pressure

Events

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR

Anomaly.Ground Incursion : Runway
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Diverted
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

While on IFR Flight Plan to I encountered unforecast icing conditions just north of ZZZ while on vector to the ILS. I immediately requested a 180 turn-out due to icing, toward my departure airport, which was also my filed alternate. Within a couple minutes, there was significant ice accumulation such that there were significant unfavorable flight characteristics. No longer able to maintain altitude, I requested a vector to the nearest airport. A vector was given to ZZZ1. Although ATC did not advise the airport was closed, I already knew it was because I saw the NOTAM previously when I had considered this an alternate airport for my flight plan.

I made an emergency landing at the closed airport. I had no alternative but to use the long, plowed runway. I had no time to tune to CTAF or contact UNICOM, so I landed in the blind. Only activity was a plow truck at the far end of the runway, but I had no time or other options. I closed my IFR flight plan with Center when crossing the numbers and safe landing was assured. After landing, I contacted UNICOM.

Synopsis

GA pilot reported landing at a closed airport due to adverse flight characteristics caused by icing.

Time / Day

Date : 201801
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Icing
Weather Elements / Visibility.Visibility : 10
Light : Night
Ceiling.Single Value : 6000

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Personal
Make Model Name : Small Aircraft, Low Wing, 1 Eng, Retractable Gear
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Landing
Route In Use : Visual Approach
Route In Use : Direct
Airspace.Class E : ZZZ

Component

Aircraft Component : Electrical Power
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 1962
Experience.Flight Crew.Last 90 Days : 24
Experience.Flight Crew.Type : 1400
ASRS Report Number.Accession Number : 1511489
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Ground Event / Encounter : Gear Up Landing
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Primary Problem : Aircraft

Narrative: 1

Flying on an IFR clearance. Let down through cloud cover by center. Advised of reported rime icing in clouds. Activated all de-icing equipment. Handed off to approach. Upon exiting the cloud layer at 6000 ft, airport in sight, cancelled IFR. Attempted to lower landing gear. The two 80 amp main bus breakers popped due to electrical overload. Turned off all de-icing equipment and successfully reset left circuit breaker. The right circuit breaker would not reset. After 5 failed attempts to reset the breaker, initiated emergency gear extension per checklist. Could not determine if the gear was down due to gear indicator lights being inoperative. Attempted a landing, which resulted in a gear up landing.

No injuries to anyone nor damage to any property other than the aircraft. Fire and police departments were on the scene.

Synopsis

GA pilot reported a gear up landing after experiencing electrical problems.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Fog

Weather Elements / Visibility : Rain

Weather Elements / Visibility : Snow

Weather Elements / Visibility.Visibility : 1

Light : Daylight

Ceiling.Single Value : 400

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Citationjet (C525/C526) - CJ I / II / III / IV

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Ferry

Route In Use.Other

Airspace.Class D : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Flight Engineer

Qualification.Flight Crew : Multiengine

ASRS Report Number.Accession Number : 1511481

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

Cleared for the RNAV approach to in lieu of ILS which was Out of Service (OTS). At MAP and MDA there was no runway environment and aircraft icing up with all deicing operative. Executed published miss and in climb out continued through 5500 up to 7000 to be above clouds and icing. Advised approach of altitude and reason for being there. Requested clearance to alternate ZZZ1.

This was poorly handled by myself:

Should have prepared for the RNAV vs ILS which I failed to see it had been notamed OTS.

Should have had deice on earlier and perhaps used spoilers to have more thrust for heat.

Should have been more familiar with missed approach procedures using the FMS.

Should have been more skeptical of ASOS which was indicating above minimums but with variable ceiling.

Synopsis

A Cessna Citation Captain reported that he was unable to land due to ILS being out of service. The reporter was unprepared for an RNAV approach.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 40000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Personal

Make Model Name : Falcon 2000

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Descent

Route In Use : Visual Approach

Airspace.Class A : ZZZ

Component

Aircraft Component : Turbine Engine

Aircraft Reference : X

Problem : Malfunctioning

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1508809

Human Factors : Distraction

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
ASRS Report Number.Accession Number : 1508810
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

When we started out of altitude (FL400), descending to destination, the auto-throttles disconnected and we noticed the number 1 engine rolling back. The engine automatically started a re-light. The engine came back with some notice of vibration. We monitored the engine parameters for the remainder of the trip. We declared PIC authority under FAR 91.3 with ATC and asked to land at an alternate airport. The controller came back and advised us that the alternate airport was closed. The controller the suggested we use another airport, which we then asked current weather there, which was freezing rain. Since we seemed to have control of the engine, we opted to continue to original destination with priority handling. The number 1 engine vibrations were higher than normal and I made slow power adjustments as needed. We landed in normal configuration with no events. We cancelled our status after we cleared the runway.

Narrative: 2

Left Engine [had an] un-commanded Rollback during Normal Descent. I was the Second In Command (SIC) and Pilot Not Flying (PNF). The Flight conditions at the time were VMC. The autopilot and autothrottle were engaged. We were level at FL400 and Center cleared us to descend and maintain FL380. Upon the initial power reduction for the descent, the Captain and I felt a vibration. We looked and the engine gauges and the Left engine began to roll back less than that of the right engine. The autothrottle disengaged and the left engine Amber Ignition light came on, indicating that the auto ignition was on attempting to relight the engine. The engine did relight with more vibrations and then appeared to function normally.

As a precaution, we advised Center of the nature of the problem, and asked for Direct to a suitable alternate. Center then advised us that the alternate was closed and suggested that we go to a different airport. We then asked for Direct [there] and they cleared us to do so. I then asked Center for the current weather at the airport and the current conditions indicated Light Freezing Rain. Due to the icing conditions, we requested Direct a third alternate Airport. Center gave us direct.

During our descent, we evaluated the operation of the left engine and it appeared to be responding normally, but with higher than normal Vibration indications, but no felt vibrations. The Captain and I discussed continuing on into our initial destination since the

engine response was normal and kept the third airport as an alternate if the vibration returned or if it were necessary to shut down the engine. We asked for Direct to initial destination with priority handling. Center gave us Direct and we complied with all altitude and speed assignments. Airport conditions were day, VFR conditions. Approach cleared us for a visual to 36R, and we landed without incident and we canceled our status upon landing.

Synopsis

Dassault Falcon 2000 flight crew reported a transient anomaly with the number 1 engine, including an RPM roll back. The engine automatically recovered, and the flight continued to the destination airport.

Time / Day

Date : 201701

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : GAL.Airport

State Reference : AK

Altitude.MSL.Single Value : 1400

Environment

Flight Conditions : Mixed

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Snow

Weather Elements / Visibility.Visibility : 1

Light : Daylight

Ceiling.Single Value : 4000

Aircraft

Reference : X

ATC / Advisory.CTAF : GAL

Aircraft Operator : Government

Make Model Name : Cessna Stationair/Turbo Stationair 6

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Flight Phase : Cruise

Route In Use : Visual Approach

Route In Use : VFR Route

Route In Use : Direct

Airspace.Class G : GAL

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Government

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 747

Experience.Flight Crew.Last 90 Days : 31

Experience.Flight Crew.Type : 582

ASRS Report Number.Accession Number : 1508603

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : VFR In IMC

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

Flight to KAL, forecast conditions in area at time of arrival called for visibility greater than 6SM, with showers in the vicinity. At one hour after arrival, weather was forecast to be visibility 6SM, with light snow, mist (based on TAF for GAL). Approximately 20NM from KAL, decision was made to turn back due to weather conditions (deteriorating visibility and light icing encountered). Visibility was observed to have also since deteriorated. Approximately 7NM west of GAL visibility dropped to approximately 1SM (snow) and decision was made to divert Northwest towards favorable weather.

Attempted fly to KYU, but weather appeared to be marginal/mixed VMC (no weather reporting at this location). A second attempt was made to fly to GAL. AWOS at the time was reporting 5SM visibility. Approximately 10NM west of GAL visibility dropped to approximately 1SM, and again decision was made to divert Northwest. Conditions over KYU had not improved, and the next nearest field (HLA) was 60NM to the north. Conditions between present position and HLA were marginal VMC with possible IMC. A PIREP was obtained from a flight that had just landed at GAL. The PIREP said conditions in vicinity of airport appeared to be good, but snow squalls could be observed to north, west, and south. VFR flight did not appear possible from present position to any airfield. Aircraft was equipped with attitude and heading indicators, but not certified for IFR. Decision was made to fly to GAL due to known favorable conditions in the area.

Approximately 8NM west of GAL visibility dropped to approximately 1/4SM, before rapidly improving. Flight continued on to FAI without further incident. Decision to fly through IMC was based on what appeared to be a lack of suitable alternatives. Diverting to HLA appeared to have a high probability of encountering IMC. A climb into IMC to contact ATC for clearance was considered, but [this] would have required climbing into icing conditions. A lack of radar coverage would also limit ATC assistance. Aircraft was being flown single pilot, without an autopilot. Weather radar, ADS-B ground station coverage, and/or ATC radar coverage could aid in preventing a recurrence.

Synopsis

C206 pilot reported encountering lower than forecasted conditions while on a VFR flight, in non IFR equipped aircraft. The pilot diverted, and conducted the flight into IMC, as this was the best option, until reaching VMC.

Time / Day

Date : 201712
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain
Weather Elements / Visibility : Icing
Weather Elements / Visibility : Snow
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility.Visibility : 10
Light : Night
Ceiling.Single Value : 4500

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Corporate
Make Model Name : PA-34-220T Turbo Seneca III
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Route In Use : Direct
Airspace.Class B : ZZZ
Airspace.Class E : ZZZ

Component

Aircraft Component : Valve/Oil System
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 1400

Experience.Flight Crew.Last 90 Days : 45
Experience.Flight Crew.Type : 1050
ASRS Report Number.Accession Number : 1502815

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

I encountered Supercooled Large Droplets (SLD) icing conditions in my known ice certified Piper Seneca III. I began the flight on a direct route at 11,000 feet MSL. I noticed abnormally high oil temperature and lower than normal oil pressure on the right engine. After monitoring the engine instruments, the problem persisted and I made the decision to divert. I advised ATC of my situation and ATC cleared me direct ZZZ. I remained at 11,000 MSL as it was -24 degrees C and was helping keep the oil temperatures from exceeding the green arc on the gauge. As I neared ZZZ, the oil temperatures remained where they were, and I decided to continue on to ZZZZ as it was closer to my final destination and I knew they had appropriate maintenance facilities on the field. There was a spotty band of light snow north of ZZZZ that I observed on my XM weather radar, but ATC advised no reports of icing upon my inquiry.

As I was approaching the class B airspace, ATC advised they would have to give me vectors around the departure corridor and instructed me to descend to 6,000 MSL. While descending, I entered IMC conditions and noted snow present in the clouds. Prior to encountering SLD conditions, only a trace of rime icing was noted on the leading edge of the de-ice boots. Approximately 5 minutes after entering IMC conditions, ATC advised he observed moderate precipitation at my 12 o'clock, about 6 miles in diameter, however no other aircraft had deviated, and no aircraft had reported any issues in the area. I assumed, as the OAT was -22 degrees C, that any precipitation would be snow and not cause an issue. As I descended below 8,000 MSL, I began encountering light turbulence. This turbulence for reasons unknown, fixed the abnormally high oil temperatures. Oil temperatures and pressures returned to normal and closely mirrored the left engine. Passing below 7,000 MSL, I heard heavy rain striking the windshield. It sounded as if I was flying through moderate-heavy precipitation in the spring or summer. I looked at the OAT gauge and it read -21 degrees centigrade. I immediately initiated a 30 degree turn to the left, continued my descent, and advised ATC of my deviation.

Approximately 30 seconds passed when I noticed an alarming amount of ice accretion on unprotected areas of the aircraft, including aft of the de-ice boots, and the side windows were beginning to freeze over. The sound of rain continued, and I continued my turn further to the left to attempt to fly out of what I realized was heavy freezing rain. At this time I noticed my airspeed beginning to rapidly decay. I pushed the nose down to 15 degrees in an attempt to increase my airspeed, but the airspeed continued to decay. Once the airspeed reached under 60 knots, I realized my pitot static system had frozen over. I confirmed that pitot heat was indeed on, (I turned pitot heat on prior to departing) as well as all other de-ice/anti-ice equipment. After I lost the airspeed indicator, The G500 began displaying red X's on the airspeed, heading, altitude, and attitude display. The only functioning instruments left were the standby attitude indicator, standby altimeter, and the whiskey compass. I engaged the alternate static source and [told] ATC. I told the controller I needed altitude readouts as quickly as he could get them to me, as I was flying blind in IMC in heavy freezing rain. The controller stated he showed me at 6,400 MSL level. I rolled in nose down trim and confirmed with the standby attitude indicator that I was in a descent. I checked the standby altimeter, and it was showing 6,400 MSL, but was not moving. I assumed it was unreliable and focused navigating by attitude and whiskey compass.

I asked the Controllers for the ceiling in the area and he stated 4-5000 feet. I asked again for altitude readout and he stated 6,000 in a descent. I checked the leading edge of the wing for ice accretion and noticed a large ridge of ice forming behind the de-ice boots, but the boots themselves had significantly less ice accretion than other surfaces of the wing. There was run back ice on the top of the wing to the middle row of rivets on the wing. I continued my descent until around 4,500 MSL (estimated), where I exited the bottom of the clouds in a wings level, slightly nose down attitude. I informed the controller that I was in VMC conditions and no longer needed altitude readouts. The OAT outside of bottom of the clouds was -12 degrees centigrade and there was no precipitation present.

Approximately one minute after exiting the clouds, the airspeed indicator came back alive and displayed a speed of 185 KIAS. Shortly thereafter, one by one all red X's on the G500 PFD went away and returned to normal operation. I descended to 4,000 MSL and confirmed the altitude with ATC. I continued operating the de-ice boots until the leading edges were free of the majority of ice contamination. The ice behind the protected surfaces was flying off the aircraft and I was maintaining altitude and airspeed normally. I accepted a heading turn from ATC, and advised I would like to stay on a heading, straight and level for some time to ensure the aircraft was performing normally. Once I had re-run the cruise and encountering severe ice checklists, the aircraft was operating normally, with no abnormal readings, including the right engine oil temperature and pressure. I told ATC that I would not advise them to have any traffic enter the clouds in the vicinity of the heavy freezing rain that I had encountered. As I still had some ice on the aircraft, I flew the approach at a higher than normal speed, with no flap extension. I completed the landing with no issue, and terminated the flight.

I had learned of SLD icing from a video presentation, and was able to more readily identify those conditions and take corrective action. In hindsight, I should not have assumed that the precipitation reported by ATC was snow, just because I had been flying in snow and was not picking up any more than a trace of ice with an OAT of -21 degrees centigrade. Just because I was outside the "normal" temperature window of icing conditions, does not mean that SLD conditions cannot be present. The next morning my mechanic and I tested the pitot and stall warning heat for proper operation. All components operated as

designed, reaching a temperature of 205 degrees Fahrenheit. The aircraft has been grounded until the new oil control valve is installed.

Synopsis

PA34 pilot reported that supercooled liquid droplet icing conditions resulted in a loss of all flight instruments except for the standby attitude indicator and magnetic compass. Pilot exited icing conditions with ATC assistance and successfully diverted.

Time / Day

Date : 201710
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 9000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain
Weather Elements / Visibility.Visibility : 3
Light : Daylight
Ceiling.Single Value : 800

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : SR22
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class E : ZZZ

Component

Aircraft Component : PFD
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 1200
Experience.Flight Crew.Last 90 Days : 25
Experience.Flight Crew.Type : 250
ASRS Report Number.Accession Number : 1501127
Human Factors : Troubleshooting
Analyst Callback : Attempted

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed As Precaution
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Procedure
Primary Problem : Aircraft

Narrative: 1

In cruise while I was IMC on the edge of icing conditions most functions on my PFD failed. I had no comms for 3-4 min., no transponder, etc. All functions had an "X" through it on the PFD. Shortly thereafter I lost the moving map on the MFD of the G1000. My autopilot continued to operate and I initiated a 180 degree turn back to [a suitable airport]. My COMM came back up and I was able to take vectors to the field. Warning sounds continued throughout all of this. I continued toward [the airport] where the ceiling was approximately 800 ft. I loaded the ILS approach and it seemed to load as I got a glide slope and perspective seemed to be working. I still didn't have a map on the MFD. The terrain awareness system started going off as I was on the approach telling me to pull up. I landed safely.

I used a Mac to do a recent update. I may have some corrupt files as a result of using a Mac to update the data cards. In looking at the cards there were indeed two corrupt files on the cards that essentially caused the G1000 to overload and come close to locking up which is why I lost the functions I lost. It was trying to "fix" the corrupt files. I have been flying the Cirrus for 2 years and had a Columbia 400 with a G1000 for 5 years prior and had never heard of the of the potential issue of using a Mac and the resulting corrupt files. I have two other friends who had been doing the same thing. It seems that Garmin, Cirrus or Jeppesen should issue some type of warning to pilots to prevent someone from getting hurt. This is totally avoidable. A lot of pilots I know use Mac based laptops etc. I hope by making this report it can help someone not get in the bad situation I found myself in.

Synopsis

SR22 pilot reported losing most PFD functions. Reportedly, the problem may be related to updating the data cards using an Apple Mac computer.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 800

Environment

Flight Conditions : Marginal

Weather Elements / Visibility.Visibility : 5

Light : Daylight

Ceiling.Single Value : 1000

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Personal

Make Model Name : Cessna 150

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Ferry

Flight Phase : Initial Approach

Route In Use : Direct

Airspace.Class E : ZZZ

Component : 1

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Air/Ground Communication

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Rotorcraft

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1750

Experience.Flight Crew.Last 90 Days : 50
Experience.Flight Crew.Type : 75
ASRS Report Number.Accession Number : 1498570
Human Factors : Communication Breakdown
Human Factors : Confusion
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Landing Without Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Aircraft

Narrative: 1

I was the sole person on board. I had just purchased this aircraft and was not familiar with its unique flying characteristics. I conducted a full pre-flight inspection. In so doing, I verified that the aircraft had full fuel, which is about four hours of flying time, and found that its VHF radio was operative. The takeoff went as expected, with no issues. I [departed] VFR. After about 3 hours and fifteen minutes of flying, while on approach to ZZZ, my engine began to sputter. I immediately suspected induction icing due to temperature and visible moisture, but after an inflight check of my systems, I was unable to get the engine to run smoothly. Eventually the engine, completely died, and I was unable to restart it. After the engine died, I stabilized the airplane at the best rate of glide. I was not near any airports and was not flying very high. I spotted a hard surface roadway and landed the Cessna 150 without any incident or damage to the airplane. It was decided that the aircraft should be towed to the nearest airport for mechanical assessment. I was not cited or arrested for landing on the highway. I believe that the cause of the engine failure was carburetor icing and low fuel. I had just purchased this Cessna 150, and this was my first time flying [it] cross country. I verified that it had full fuel on board before departing and it should have been able to fly four hours on the full fuel, according to the POH.

Later that day, the airplane was refueled, and I elected to depart and fly on to ZZZ. While I was enroute to ZZZ, I noticed that the ATC approach controllers were not responding to any of my radio ATC transmissions, but I could hear them speaking to me. I attempted to get the Cessna's panel installed radio to work, but it would not. I had a handheld backup radio on board, but it also did not enable me to talk to ATC. Since I had previously experienced the issue with having the less than four hours of fuel available on full tanks, and I had been flying for over three hours by that time, I elected to land at ZZZ1. After landing, I was instructed to call the ATC tower, which I did once the airplane was safely on

the ground. I was told that the ATC personnel believe I had committed a pilot deviation, however, I was taking reasonable steps to ensure the safety of my aircraft and myself as the sole occupant. Once at ZZZ, the airplane was taken to the FBO. It remains there now, awaiting repairs. I am a safe pilot, and the issues that I encountered presented challenges to my safety, which I correctly handled.

Synopsis

C150 pilot reported an off field landing due to loss of engine power. After refueling, the following flight experienced radio problems that resulted in landing without a clearance.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Taxi

Make Model Name : Caravan 208B

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Climb

Airspace.Class C : ZZZ

Component

Aircraft Component : Ice/Rain Protection System

Aircraft Reference : X

Problem : Design

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1497503

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Prior to aircraft loading I performed a Cold Weather preflight including ground test of the TKS system. Ground temp at Ramp departure was +02C with a ceiling of 600 ft overcast. I departed the Ramp with the aircraft's cargo compartment completely full from floor to ceiling. I turned the TKS system ON Hi during my taxi to the departure runway so that the wing would be "wetted" prior to entering the clouds after takeoff. After takeoff while climbing to 5000 ft MSL with the TKS system now ON Normal I turned on the Cabin Heat /Defrost and immediately smelled the telltale TKS alcohol odor. Wanting to avoid the throat and eye irritation that I have experienced in the past from TKS fumes in the cockpit I promptly turned OFF the cabin heat while leaving the TKS system ON until I topped the cloud layer. After exiting the clouds I turned the TKS system OFF and tried the cabin heat again. Once again, I immediately smelled the alcohol smell. When I turned OFF the cabin heat the alcohol odor was no longer present. To avoid breathing the TKS fumes while using the cabin heat I donned my mask and breathed O2 for the next 30 minutes until the alcohol smell was no longer detectable with cabin heat. TKS system total AM run time with ground test plus taxi out to topping the cloud layer was less than 10 minutes.

It is my opinion that TKS fluid mist shed by the prop slinger was being drawn into the cockpit from the air stream surrounding the aircraft nacelle via the aircraft bleed air system. I believe that the fact that the alcohol odor in the cockpit dissipated each time that I turned the cabin heat OFF while the TKS system was in use and later, after the TKS system had been turned OFF, until the prop slinger supply lines had sufficiently drained down in flight supports my position. This episode is a reminder of the necessity for pilots to have available and, when needed, to use supplemental O2 any time that the TKS system is used in flight when the Cabin Heat/Defrost is also used. This action will minimize the potential for pilot physical symptoms and/or possible mental impairment. As of yet there is no effective way to prevent TKS fumes from entering the cockpit under this and similar flight in icing scenarios.

Synopsis

Cessna Caravan pilot reported TKS fumes in the cockpit inhibiting the use of the cabin heater unless the oxygen mask is used.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 1750

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Ceiling : CLR

Aircraft

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Ultralight

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Initial Approach

Airspace.Class G : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Sea

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 1140

Experience.Flight Crew.Last 90 Days : 20

Experience.Flight Crew.Type : 227

ASRS Report Number.Accession Number : 1495829

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Landed in Emergency Condition

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Diverted

Result.Air Traffic Control : Provided Assistance
Result.Aircraft : Equipment Problem Dissipated

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Carburetor icing. Clear, cold day with visibility unlimited temps were 0 C and dew point - 10 C, Alt. set. 3049. Pleasure flight began at ZZZ and meandered toward ZZZ1 at around 2300 ft MSL. Within five miles of ZZZ1, I descended to pattern altitude and I called in my position and intention to land there. A pilot was calling his pattern at ZZZ1 at the time. The ground under me was higher than at ZZZ so my AGL was less than a 1000 ft.

All of a sudden my engine ran rough and quickly deteriorated into a shaking roughness even though I applied carburetor heat instantly. I lost altitude and made the decision to land off airport. I shut off the engine, shut off the fuel supply. I called the traffic landing at ZZZ1 and explained my situation and said "mayday". I described my plane's color and my approximate location from ZZZ1. The pilot answered and communicated back with me. Then I concentrated on landing safely on a harvested bean field close by. The landing was uneventful, the surface remarkably smooth (better than some grass field airports).

I am a LSRM (Light Sport Repairman) so I troubleshot my engine. In the end it became obvious that it was a simple matter of carburetor ice on my Rotax 912 S engine. I waited about 20 minutes then restarted the engine. It started back without hesitation and ran smoothly. A thorough run-up verified that all was OK.

I took off again and flew to ZZZ1: it was the closest airport. The flight was uneventful, the pattern also. After taxiing and doing one more run-up I was ready to fly back to my home airport. A pilot flying over relayed my information to Approach who was concerned because of my "mayday". When in the air again, I contacted Approach and communicated with them. They asked me to call them on the phone when I landed at my home airport. I flew there directly, remaining in contact with Approach. The flight was uneventful and so was the arrival at ZZZ.

Once on the ground, I called Approach on the phone and we debriefed together. They were very helpful and friendly. It seems that everybody around: the pilot I spoke with at the beginning, the FBO at ZZZ1 who picked up a radio and began driving in my general direction then the pilot above and finally the ATC were very professional, helpful and capable. All in all it was an experience without trauma and I am grateful. When it is this cold, in the future I will fly with the carburetor heat at all times.

Synopsis

Light sport aircraft pilot reported a loss of engine power led to an off-field landing, likely caused by carburetor icing.

Time / Day

Date : 201711
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 340
Relative Position.Distance.Nautical Miles : 12
Altitude.AGL.Single Value : 1000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 5000

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Light Sport Aircraft
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Initial Approach
Route In Use : Visual Approach
Route In Use : Direct
Airspace.Class E : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 305
Experience.Flight Crew.Last 90 Days : 15
Experience.Flight Crew.Type : 79
ASRS Report Number.Accession Number : 1494483
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight

Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

After filling my fuel tanks to max capacity (24 gallons usable) I departed VFR [for a three leg flight]. Total distance is 203 miles and I determined while planning that it would take 2 hours total flight time. After landing uneventfully at ZZZ1 and attending [a local exhibit], I departed for what I determined would be an approximately 30 minute flight to ZZZ. I looked at the sight gauges for the wing fuel tanks, and it appeared to over 1/3 tank and by my estimation, I should have more than 1 hr of fuel. After departing ZZZ, I was approximately 20 miles to the NW of ZZZ my engine sputtered and then ran smooth. I at first thought maybe the carburetor had iced and applied carb-heat. The engine smoothed out and then started to die and then start running again. By this time I was approx 12 miles to the NW of ZZZ, and had the tower frequency there already on my active radio. I called the tower and informed them that my engine had stopped and I was going to land next to the interstate. I landed on an empty highway that was just finished with construction and had not opened yet for public use. It was approx 5 lanes wide and completely clear of people, vehicles, overhead power lines, cables and any debris. I landed uneventfully, uninjured, with no damage to property or plane. After landing, upon inspection, it appeared that the sight gauges for the fuel tanks both showed completely empty. My fuel computer/analyzer showed there to still be 5.2 Gallons remaining, which if were true would equate into approx 40 minutes remaining. To prevent this from happening I will not rely on flight-fuel computer or sight gauges. I will also use a 'fuel-dipstick' that will visually verify the actual remaining fuel quantity.

Synopsis

Carbon Cub pilot reported an off airport landing due to fuel exhaustion.

Time / Day

Date : 201710

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZKC.ARTCC

State Reference : KS

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : Mixed

Weather Elements / Visibility : Rain

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Snow

Weather Elements / Visibility.Visibility : 10

Light : Night

Ceiling.Single Value : 20000

Aircraft

Reference : X

ATC / Advisory.Center : ZKC

Aircraft Operator : Personal

Make Model Name : Skyhawk 172/Cutlass 172

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Nav In Use : GPS

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZKC

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 580

Experience.Flight Crew.Last 90 Days : 160

Experience.Flight Crew.Type : 300

ASRS Report Number.Accession Number : 1493219

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Diverted
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed As Precaution
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

I was on a solo flight and the temperatures were near freezing (2C). I was flying at 6000 ft. The conditions were VFR BKN 20,000 so good visibility. I was on an IFR flight plan so I was in contact with KC Center. Everything was smooth. I looked off to the left and noticed the strobe lights reflecting some precipitation. I turned on my landing light and saw rain/sleet/flurries coming at me. So I called ATC and asked for lower. I went down to 4000 ft. The precipitation was still coming and I asked for lower again, so I went down to 3000 ft. At this point ATC LOST RADAR CONTACT because I was too low. The precip was still there and I wasn't going to go any lower. So I started thinking about either turning around or diverting. Fortunately Effingham's city lights were right in front of me.

I definitely had to make some quick decisions. I called up ATC, requested a diversion. Moments later after I requested to divert the precip intensified and it felt like I was in a blizzard. The visibility dropped rapidly from like 10nm to 3nm and the precip increased. In retrospect I believe I hit a small cell. But anyways the precip was increasing and the visibility decreasing, I asked ATC for vectors but they couldn't give any because of the size of the airport so I ended up doing the GPS 11 approach. The ATC controller wanted me to do the full procedure, but in that situation I didn't have time to stay out and accumulate icing, so I turned for the FAF (final approach fix) and told the controller. The controller cleared me for the approach and then I had a normal landing.

Synopsis

A C172 pilot reported encountering rain, sleet, and icing enroute. He made some quick decisions that included diverting to exit the weather and a modified instrument approach to minimize his time in the icing.

Time / Day

Date : 201710
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 5500

Environment

Weather Elements / Visibility.Visibility : 30
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Cessna 150
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class E : ZZZ

Component

Aircraft Component : Engine
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 25000
Experience.Flight Crew.Last 90 Days : 240
Experience.Flight Crew.Type : 500
ASRS Report Number.Accession Number : 1492963
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Aircraft : Equipment Problem Dissipated

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

While enroute at 5,500 MSL, the aircraft engine dropped about 200 RPM momentarily and then returned to normal. A few seconds later, the rpm started dropping and lost approximately 600 RPM and the engine started running rough. I went through emergency procedures, including fuel, mixture, throttle, carb heat and mags, but the engine rpm stayed around 1,800 RPM. I advised approach that we were having engine problems and that we would need to land at ZZZ. I [advised ATC], because I felt this would mitigate the risk to others, should the situation deteriorate further. In the descent, the engine returned to normal operation. I figured that the power loss could possibly have been carb ice. Nevertheless, I felt the safest course of action would be to get the aircraft on the ground to investigate what had happened.

On the ground at ZZZ, I was able to locate a mechanic who was able to provide assistance. He looked over the function of all of the engine controls, but found nothing wrong. Generous sampling of fuel provided no indications of contamination. At the mechanic's suggestion, I took the airplane out and did a full power run up and checked the function of carb heat, mags, etc. The aircraft performed perfectly. I assumed that the problem was carb ice. I flew a pattern close to the airport as a precaution in case anything was wrong and then flew the aircraft to altitude to see if any problem could be detected. The aircraft performed flawlessly.

Synopsis

C150 pilot reported diverting due to engine power fluctuations possibly caused by carburetor icing.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : PCT.TRACON
State Reference : VA
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Icing
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 8000

Aircraft

Reference : X
ATC / Advisory.TRACON : PCT
Aircraft Operator : Personal
Make Model Name : SR22
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Cruise
Route In Use.Airway : V134
Airspace.Class E : PCT

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 4800
Experience.Flight Crew.Last 90 Days : 10
Experience.Flight Crew.Type : 70
ASRS Report Number.Accession Number : 1491706

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

I was at 10,000 ft MSL on an IFR flight plan. The OAT was approximately -8 Celsius, and I saw a cloud deck in front of me. I believed I would remain visual above the cloud, which was mandatory because my aircraft is not approved for known icing. However, as I was approximately 3 minutes from the cloud, I realized my altitude was on a conflicting course (I'd estimate tops of the stratus layer were 10,700 ft MSL). I immediately told ATC that I have a request. They were extremely busy. I made several more requests accompanied by "assistance is needed." At that time I may have been acknowledged and told to stand by. At this point I was one minute from entering the cloud. My further request for immediate altitude change to avoid icing got somewhat confrontational responses from the ATC facility. The replies were "Negative, traffic above and traffic below". Several times I thought the altitude approval was forthcoming, instead they gave me a frequency switch. I made several strong statements, "Climbing to 12,000 ft now to avoid ice. Aircraft not approved for icing." Unfortunately I was trying to bluff ATC believing I would get the climb approval. At this point I decided not to do a 180 degree turn and not to climb due to busy airspace traffic and pressure from ATC. I did not declare but thought I would momentarily skim the top of the cloud and that would be the safest course of action, all other factors considered. I turned on the aircraft's anti-icing and briefly tried to cheat up a few hundred feet to the top of the cloud without causing any conflict with other potential aircraft. As I did I finally got my climb clearance to 12,000 ft. My aircraft picked up moderate rime icing on the leading edges. Anticipating topping the layer or getting altitude deviation approval from ATC caused me to activate the system rather late, which may have led to increased ice accretion.

Recognizing the PIC has final authority, I reflect perhaps I should have declared and deviated from ATC instructions. ATC's failure to acknowledge my serious situation was a strong contributor to the problem.

Synopsis

SR22 Pilot initiated a climb prior to receiving ATC approval in an attempt to avoid icing conditions.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : PDT.Airport
State Reference : WA
Relative Position.Angle.Radial : 210
Relative Position.Distance.Nautical Miles : 30
Altitude.MSL.Single Value : 11000

Environment

Flight Conditions : Mixed
Weather Elements / Visibility : Icing
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 5000

Aircraft

Reference : X
ATC / Advisory.Center : ZSE
Aircraft Operator : Personal
Make Model Name : Bonanza 35
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Nav In Use.VOR / VORTAC : PDT
Flight Phase : Cruise
Route In Use : Direct
Route In Use.Airway : V536
Airspace.Class E : ZSE

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 307
Experience.Flight Crew.Last 90 Days : 10
Experience.Flight Crew.Type : 20
ASRS Report Number.Accession Number : 1485672
Human Factors : Time Pressure
Human Factors : Distraction
Human Factors : Situational Awareness
Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Took Evasive Action
Result.Air Traffic Control : Provided Assistance
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

The weather conditions were VFR at Redmond, and along our whole route of flight. Ground temperatures were in the 50's (F). I checked the weather report at Pendleton and Pasco, and both airports were reporting clear conditions (no clouds), and visibility of 10 miles. There had been some puffy white clouds on our way to RDM earlier in the day, that had not presented any problems. I noted the same clouds as we departed Redmond. I climbed to our initial altitude of 9000, but noted that this would put us right in the middle of the scattered clouds along our route. I noted the bases to be around 7000, and was told that the MEA along this initial segment was 7000. So I asked for 11000, and was cleared to climb to this new altitude. I did, and this got us above some of the scattered clouds. But some ahead required very small deviations to avoid. But about 40 nm from PDT, I noted a gray build-up ahead that looked more ominous. I asked Seattle Center if they had any precip/weather on their radar in my route of flight, and they said no. My iPad, which had an ADS-B receiver, did not show any weather either. Since I had previously blown right through the puffy white cloud build-ups, I optimistically hoped I'd be thru this weather in 30 seconds or less. But about 20 seconds after penetrating this cloud, I suddenly encountered a pelting of ice on the windshield. It was loud, and rapid, and got my attention! I knew I couldn't out climb it, and I knew that the bases of the clouds were above the terrain, so I asked for a descent. Seattle cleared me lower, and I quickly began a rapid descent.

In my haste, I didn't pull the power back initially, and then had Center calling to verify what type of ice and what the temperature was. I checked the temp and looked at the wings to see what type of buildup I was getting. The outside air temp was in the mid 20's (F), and there was minimal build-up on the leading edge. By the time I answered Center, my airspeed was 10 mph (5 knots into the yellow arc). I quickly pulled the power back, and continued my descent. A wing-leveler autopilot had been in use prior to entering the cloud, and I continued to utilize this to reduce my workload, as I adjusted trim for my descent. As I recall, I was cleared to 6000. Just as I reached 6000, I was able to see the

ground below, but was still cruising in the base of the clouds. I reported that I could go VFR under the clouds if I could descend further. I could see the ground clearly enough to see that I was still several thousand feet above any terrain below, and my iPad did not show any rising terrain ahead. The controller as I recall said I could descend, but was concerned about the MEA in this area being 6000. I descended to 5000 and was clear of the cloud/weather, and the ice had shed. I then began a climb back to 6000, as it seemed to me the controller was uncomfortable with me at 5000. Part-way to 6000, he came back on asking why I was changing altitude without requesting this with first. I apologized, and he then cleared me back to 6000. I continued the flight without further issues, and landed 20 minutes later.

As I reviewed this flight, the following were the learning points I took away:

1. If you see some threatening weather, avoid it! Even if the controller and your weather app don't show it, believe your eyes.
2. Aviate, Navigate, Communicate. If I had followed this age-old adage, and asked Center to "Standby" when asked about the type of ice, amount, and air temp - and instead focused on my instruments, I likely would have avoided the overspeed situation I got into. Perhaps Center could have asked me to report this information "when able", which would have made me feel less like I had to do it right away.
3. Note what the freezing level is, and whether it is above or below the bottom of the weather/clouds I'll be flying thru or around. Since the aircraft I fly is not certified for flight into known icing, I need to know before and during the flight whether it is safe to proceed. In this case, the freezing level was above the bottom of the clouds, and the base of the clouds was just at the MEA. I might have been better off going VFR below these clouds, as they were several thousand feet above the terrain, and I would have been in temps above freezing. I've just previously had the impression that I'm safer on an Instrument Flight Plan. But another option in this scenario, is that I could have asked for flight following, and stayed VFR under the weather.
4. If in doubt about any instructions from ATC, ask for clarification before doing something. After making my descent to 6000, and then to 5000, I assumed the controller wanted/preferred me at 6000, due to the MEA. But I didn't ask for clarify about this, and began climbing back to 6000, catching him off-guard, as I evidently didn't have permission to change altitude.

Synopsis

Bonanza 35 pilot reported experiencing enroute icing and ATC transmissions that resulted in an overspeed while descending to clear the ice. A subsequent altitude excursion related to the pilot's misunderstanding of the altitude clearance.

Time / Day

Date : 201709

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 9000

Environment

Flight Conditions : Mixed

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Rain

Weather Elements / Visibility.Visibility : 9

Light : Dusk

Ceiling.Single Value : 4500

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Taxi

Make Model Name : Airliner 99

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 135

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Initial Climb

Route In Use : Direct

Airspace.Class E : ZZZ

Component : 1

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Powerplant Lubrication System

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 1505
Experience.Flight Crew.Last 90 Days : 140
Experience.Flight Crew.Type : 75
ASRS Report Number.Accession Number : 1484671
Human Factors : Time Pressure
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Ground Excursion : Runway
Anomaly.Ground Event / Encounter : Object
Detector.Person : Flight Crew
Miss Distance.Horizontal : 2000
Miss Distance.Vertical : 500
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Inflight Shutdown

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I checked the weather and filed a flight plan. I showed up to the airport around XA: 15 local and began my preflight of the aircraft (everything checked out). [Company] then showed up and I loaded up the aircraft followed by the completion of the weight and balance. I started up engines roughly XA: 55 and called WXBRIEF to activate my flight plan. Upon receiving my clearance (as filed, climb 19,000) I finished the checklists and lined up on Runway XY. I powered up prior to releasing brakes and began down the runway. Shortly after liftoff and positive rate I selected gear up and continued a climb. I began a turn to heading 010 to ZZZZZ [Waypoint] at 1,500 feet. In the turn I was getting pretty good rain so I confirmed that my anti-ice equipment was on, knowing that I would be entering icing conditions.

Shortly after (probably 5-10 seconds) the right engine fire lights illuminated followed by the R oil pressure light and a fluctuation in torque. I then made the decision to discontinue the climb and proceeded with the engine shutdown procedure and return to the airport. Because of increasingly heavy rain the visibility went down along with the ceiling. Several scattered layers did not leave me much room to maneuver for the visual approach. I rolled into final overshooting the runway by 200 [feet]; or so because I did not want to overbank. I got back on center and knew I was high, but opted to put the plane down instead of climbing back up single engine into IMC. I put the plane down with half runway usable and immediately tried to slow the aircraft. I had no reverse thrust from the right engine so I applied minimal reverse on the left and full braking. I felt the aircraft sliding and not making good contact for effective braking. As I reached the end of the runway I veered slightly left to avoid taxi lighting and cutoff the left engine condition lever before

going off the end. The aircraft then slid through grass in an open field and through a small fence along with some brush. After coming to a stop I went through the emergency evacuation procedure and exited the airplane and contacted the Chief Pilot.

Synopsis

BE99 pilot reported losing the right engine shortly after takeoff resulting in a return to airport of departure. Upon landing the aircraft slid off the end of the runway.

Time / Day

Date : 201709
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 14000

Environment

Flight Conditions : Marginal
Weather Elements / Visibility : Icing
Weather Elements / Visibility.Visibility : 10
Light : Dusk
Ceiling.Single Value : 9500

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Personal
Make Model Name : Cessna 400
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Descent
Route In Use : Vectors
Route In Use : Direct
Airspace.Class E : ZZZ

Component

Aircraft Component : Air/Ground Communication
Aircraft Reference : X
Problem : Improperly Operated

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 330
Experience.Flight Crew.Last 90 Days : 15
Experience.Flight Crew.Type : 300
ASRS Report Number.Accession Number : 1484211
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Human Factors : Physiological - Other

Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Procedural : FAR
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : VFR In IMC
Detector.Person : Air Traffic Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

A sequence of bad choices and events while delivering the plane I have enjoyed so long to its new owner. I had planned to leave some 3 hours before I did. Flight planning looked free and clear when I departed. The climb went smooth and I contacted ATC for flight following. At 17500 the ride was bumpy and I was over high terrain. I called ATC and asked if I could get higher. On Oxygen and with a Pulse Oximeter I thought I never had this plane to ceiling and this would be my last flight in her. I asked for 25000. Cleared to climb I found a nice smooth and fast ride. I started studying my arrival and a controller suddenly ordered me to drop to 17000, this was right in the middle of the clouds I was flying above. He was rather aggressive in that order so I complied. When the radio reception started breaking up I called for permission to deviate as the clouds and icing conditions worsened. Before long I was faced with deciding to ignore what ATC requested of me or accept that ice was forming. This is not what I was expecting on a simple VFR flight. I announced this to ATC and got another controller that gave me permission to maneuver as needed and cleared me below the cloud layer. The ice melted, wings cleared and I tried to regain composure after such an event. The new controller asked me if I had the weather for ZZZ and I did have the METAR off the G1000. At some point, I must have flopped channels on the radio and not realized it. When I made repeated calls to ATC I realized I was on the wrong Frequency. I flopped over and the controller stated that they were trying to contact me. He gave me the number to call him. I called him and he explained that I descended without permission, we talked about what all had happened and I apologized for my mistakes.

Looking back, I see that I inadvertently put myself in to and IFR situation this instant I asked for higher altitude. Being vectored into an instrument condition was defiantly not expected and while the authoritative voice of the controller intimidated me and Hypoxia could have cluttered my judgment decisions that is not an excuse. I was not comfortable with this chain of events. The responsibility to maintain flight in a safe way is mine, and I have learned greatly from this event. My years of clear weather flying did not due me

justice when flying in clouded mountainous areas. Additional training is exactly what I need and I will get. I have had instrument training but never officially finished. This is something I WILL do now for sure.

Synopsis

Cessna 400 pilot reported entering Class A airspace without an IFR clearance then IFR conditions when issued a descent.

Time / Day

Date : 201709

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZAN.ARTCC

State Reference : AK

Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZAN

Aircraft Operator : Air Taxi

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 135

Flight Plan : IFR

Flight Phase : Cruise

Airspace.Class E : ZAN

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1480546

Human Factors : Other / Unknown

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Overcame Equipment Problem

Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

Received my IFR clearance from FAI FSS over the HSL RCO. Was monitoring the ANC Center frequency 127.0 prior to takeoff and tried to contact them multiple times between 10 and 25 DME east of Huslia at altitudes between 4,000 feet and 9,000 feet. Although I could hear Anchorage Center, they could not receive my transmissions. I tried on both radios as well. Began accumulating moderate to severe mixed icing at 9,000 feet, and requested a block altitude between 9,000 feet and 11,000 feet in the blind. I tried identifying, with no response from ATC. I also tried to relay my request and concerns [through another] aircraft on frequency, but that pilot was also not able to reach ATC. I then made the decision to squawk 7600 for lost communications, and climbed to 10,000 feet where I was in clear skies above the layer where the icing was occurring. About this time, I heard ATC query my altitude and another aircraft (not the aircraft [I tried talking through]) said they heard me request an immediate request to be given a block altitude. I could still hear ATC, but they could not hear my transmissions. ATC relayed a block altitude amended clearance and to contact center on 120.9 in 10 minutes. I went back to assigned squawk code at this time. Once able to communicate with Anchorage Center approximately 45 miles west of Tanana VOR, I told the controller I was able to hear the previous controller, but [controller] was unable to hear me.

Traveling between Tanana and Galena or between Tanana and Huslia IFR there is a large dead zone where you are unable to talk to Anchorage Center. However, once you are above 5,000 feet and within 25 miles of Huslia, you are always able to contact them. Today, was not the case.

There needs to be improved communications capabilities in this area! A repeater or similar device on top of Indian Mountain where there are already ATC facilities present. This would allow uninterrupted access to Anchorage Center, and be able to contact them through the current dead zones east and north of Galena.

Synopsis

Pilot reported deviating from assigned altitude due to experiencing aircraft structural icing while in a "dead zone" of Anchorage Center's communications equipment radio coverage.

Time / Day

Date : 201708

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : FBO

Make Model Name : Cessna 150

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Descent

Route In Use : None

Airspace.Class G : ZZZ

Component

Aircraft Component : Carburetor

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Flight Instructor

Experience.Flight Crew.Total : 477

Experience.Flight Crew.Last 90 Days : 72

Experience.Flight Crew.Type : 12

ASRS Report Number.Accession Number : 1475141

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

After modeling a slip for my student with the airplane in its proper configuration, we experienced engine roughness at 3,000 feet MSL. We were on a 4 mile 45 entry for the downwind for runway 18. I established best glide, called our position, situation and intentions to the two aircraft in the area (which was to proceed inbound for a short approach landing due to engine roughness) then began to troubleshoot. I confirmed that the carb heat was full on, mixture full rich, fuel tanks on both with both being nearly full and fuel gauges checked normal. When we departed, both tanks were full at 26 gallons total and our flight according to the hobbs was 1.1. The mags also checked okay. Despite full throttle, we were in a steady descent with minimal engine power and unable to climb. Approximately 1 mile east of our downwind entry, it was evident we would not make the runway, and with housing between us, I opted to remain to the east, and aim for a field east of the housing. I continued my descent and prepared for a forced landing, while continuing to attempt to regain power. The two aircraft that were in the pattern had visual on our position. At approximately 100 feet AGL, I attempted the throttle one last time. The engine regained full power, was smooth, and I was able to establish a climb. I continued my climb and was able to establish an altitude to safely proceed over the housing which would allow me the option, should it occur again, to glide to either side of the development, at about 800 feet AGL. I was able to enter a short base and land without incident. The engine remained normal.

Synopsis

C150 instructor reported engine roughness and loss of power after demonstrating a slip at 3,000 feet with a recovery at about 100 feet AGL with a climb to pattern altitude and a successful landing. Instructor reported probable carb icing.

Time / Day

Date : 201708
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Haze / Smoke
Weather Elements / Visibility : Rain
Weather Elements / Visibility.Visibility : 7
Light : Daylight
Ceiling.Single Value : 12000

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Personal
Make Model Name : Aeronca Champion
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Cruise
Route In Use : Visual Approach
Airspace.Class E : ZZZ

Component

Aircraft Component : Powerplant Fuel System
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
ASRS Report Number.Accession Number : 1473537
Human Factors : Troubleshooting
Human Factors : Situational Awareness
Analyst Callback : Completed

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Landed As Precaution

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

On the way to ZZZ airport to get fuel the engine started to stutter. I immediately pulled carb heat, verified mixture full rich, and fuel selector on, fuel gauge showing to have fuel, oil pressure and temperature both in the green. I continually pumped the throttle, as that seemed to be the only thing to keep the engine running partially. I looked for the private grass strips that I know of in the area, I was too far and too low to make it to them so I continued toward the best field options I could see when I remembered a friend of my boss had a big field he said we could land at just north of ZZZ. I then located the field and proceeded to circle the field while performing my final check list. I secured the engine and preformed a textbook 3 point soft field landing. I called my boss and he promptly arrived with an aircraft mechanic to inspect the airplane. They found absolutely no evidence of a problem so they started the airplane and my boss flew it back to the airport where he could have it checked tested and fixed. No one was injured, no damage to persons or property occurred, and the airplane was in perfect flying condition. The airplane is now grounded until the issue can be found, however, my boss could not duplicate the issue and the engine ran perfectly smooth on the way back to the airport. The only thing they could come up with to this point is carb ice or vapor lock. Those are just guesses seeing how the issue cannot be duplicated. Also, I used carb heat and it only seemed to escalate the issue, progressively losing power and never restoring fuel flow. When pumping the throttle the engine would start back up for about a second per pump. This continued for about 2 minutes before it stopped healing and the engine stopped completely.

Callback: 1

The reporter stated that the field where he made the emergency landing was a field that they used for practicing soft field landing. He added that Maintenance has replaced the fuel line precautionary and ensured that the carb heat was working properly. They were unable to determine the actual cause of the engine shutting down, but suspect icing was the probable cause since the aircraft has been operating normally since the incident.

Synopsis

Aeronca Pilot reported landing in an open field due to a loss of engine power.

Time / Day

Date : 201707

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : Mixed

Weather Elements / Visibility : Cloudy

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Personal

Make Model Name : PA-32 Cherokee Six/Lance/Saratoga/6X

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Flight Phase : Initial Approach

Route In Use : Direct

Airspace.Class E : ZZZ

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZZZ

Aircraft Operator : FBO

Make Model Name : Twin Otter DHC-6

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 119

Flight Plan : VFR

Mission : Skydiving

Flight Phase : Initial Climb

Route In Use : None

Airspace.Class E : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1550

Experience.Flight Crew.Last 90 Days : 60
Experience.Flight Crew.Type : 300
ASRS Report Number.Accession Number : 1465235
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Automation : Aircraft TA
Detector.Person : Flight Crew
Miss Distance.Horizontal : 300
Miss Distance.Vertical : 0
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

While operating on an IFR flight plan, I noticed that my route would take me across the top of the ZZZ Airport. I am familiar with the Skydiving operation there, so as I was approaching approximately 15 miles from the northwest, I tuned in the ZZZ CTAF frequency on my #2 COM radio to listen in for the jump aircraft. I never heard the aircraft take off and never observed anything on my traffic display as I was approaching. At about 10 miles northwest of ZZZ, [Center] cleared me, at pilot's discretion, to start my initial descent from 9,000 ft MSL down to 4,000 ft MSL. A build up of clouds was occurring in the immediate vicinity, and at about 7,000 ft MSL, I started going in and out of the tops of the clouds. Shortly thereafter I noticed an aircraft appear on my ADS-B traffic display at 2,500 ft below me and climbing. I surmised that it was the jump aircraft, but still had not heard anything on the CTAF frequency or the ARTCC frequency. At approximately 5 miles northwest of ZZZ, I heard the pilot of the jump aircraft check on to the ARTCC frequency. The pilot was alerted by the controller that I was descending behind and above the jump aircraft. The pilot called "No joy" on me. I was also advised of the aircraft, and responded that I was inside of a cloud with no visual contact. At some point, according to my traffic display, the jump aircraft made a left turn back into my flight path while I was still inside of the cloud, and I received a traffic alert on my GTN650. Upon exiting the cloud, I made an immediate right bank, followed by a left bank to try and acquire the jump aircraft. When I identified the aircraft, it was still climbing on a heading that could have potentially taken it into my original flight path. I would estimate we were within 500 ft of each other, maybe more like 300 ft. I was close enough that I could see the skydiver's faces that were standing in the jump door. After ensuring I was clear of the aircraft, I notified [Center] that I was clear of the aircraft and that it posed no further issue. The controller responded. The pilot of the jump aircraft also responded that I had been identified visually. The remaining 10 minutes of the flight were uneventful; however, I was left very shaken up. After landing and reflecting on the event, I wondered what I could've done differently.

Overall, I could've requested a route around ZZZ. Once committed though, and without visual ID of the aircraft due to clouds, I don't know what else I could've done at that time.

Synopsis

A PA32R pilot reported a NMAC with a skydiving aircraft while on an IFR flight plan.

Time / Day

Date : 201707

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZAN.ARTCC

State Reference : AK

Altitude.MSL.Single Value : 11500

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZAN

Make Model Name : Amateur/Home Built/Experimental

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Flight Phase : Cruise

Airspace.Class E : ZAN

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZAN

Make Model Name : Amateur/Home Built/Experimental

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Phase : Cruise

Airspace.Class E : ZAN

Person

Reference : 1

Location Of Person.Facility : ZAN.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Developmental

ASRS Report Number.Accession Number : 1464572

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : FAR

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : VFR In IMC

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

I was training on the R-Side on Sectors 04-15-16, and FAI Approach called my D-side concerning a VFR aircraft, Aircraft Y, having trouble maintaining VFR. The aircraft was at 15,500 feet headed northeast bound from FAI. We immediately started researching weather through the Flight Data Printer (FDP), weather cameras, and gathering PIREPs from other aircraft. We decided that the airports west of FAI were the best options and sent him in that direction. One of my biggest concerns for this pilot was hypoxia. He didn't have oxygen on board the aircraft.

Shortly thereafter Aircraft X called from the same area at 11,500 feet having the same issue only he was in IMC, and was unable to climb higher. We sent him in the same direction and he started picking up icing. He then began having trouble maintaining altitude, but he was well above the terrain. For this reason we [gave priority handling to] the aircraft.

We continued gathering PIREPs and working them far enough east that they were able to find clear air. Both aircraft were eventually handed off to FAI approach and they were able to land safely.

Synopsis

ZAN Center Controller reported two aircraft that were VFR needed help due to weather and icing, both aircraft were helped and landed safely.

Time / Day

Date : 201707

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 5500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Cessna 152

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Personal

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZZZ

Component

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 122

Experience.Flight Crew.Type : 122

ASRS Report Number.Accession Number : 1463947

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Returned To Departure Airport
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

As the pilot in command of the aircraft, I had done all the necessary preflight actions. The route of flight was [along the coastline] at 5500 feet. As we were cruising down the coastline, I remember the engine ran a little rough, and I turned on the carburetor heat. We flew for approximately 5 minutes before we started losing engine power. It looked like we were going to lose the engine power completely to me. I turned inland and went through the checklist. The engine still seemed as though it was going to turn off completely. I was gliding towards ZZZ1 airport. With the engine still giving slight power pulses, I remember going through the checklist at least 3 times. It was at about 3500 feet that the engine started giving me the power I needed. I kept the aircraft climbing to 6500 feet. Moments later the engine seemed to run smooth again, and so I decided to take the airplane back to ZZZ, [the departure airport]. I landed the aircraft, and I remember the controller asking me if I needed any assistance of some sort. I did not see the need. I taxied the aircraft back to the flying club, and parked it. I then spoke to the dispatcher and the mechanics regarding what had happened and that I suspected it to be carburetor icing.

Synopsis

C152 pilot reported a loss of engine power that resulted in a return to the departure airport. The pilot suspected carburetor icing.

Time / Day

Date : 201707

Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZLC.ARTCC

State Reference : UT

Altitude.MSL.Single Value : 11000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZLC

Aircraft Operator : Personal

Make Model Name : SR22

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZLC

Person : 1

Reference : 1

Location Of Person.Facility : ZLC.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 3

ASRS Report Number.Accession Number : 1460998

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Flight Crew

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1780

Experience.Flight Crew.Last 90 Days : 34

Experience.Flight Crew.Type : 1467
ASRS Report Number.Accession Number : 1462155
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Procedural : Other / Unknown
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

Aircraft X checked on and I informed him that I would need to climb him to 12,000 in the BYI area due to the MEA. He acknowledged. When aircraft X was a few minutes away from BYI, I issued a climb to 12,000. No response. I tried again to no avail. I then proceeded to have two different aircraft on a different frequency attempt to reach aircraft X to issue the climb. The other frequency is to the west side of BOI instead of the one to the East. I thought it was possible that aircraft X was put on the west frequency.

Neither aircraft were able to reach aircraft X. I continued to try and reach aircraft X on the frequency that he should have been on and then a VFR aircraft that was in the same vicinity, again to no avail. Big Sky Approach also attempted and got no response. The VFR aircraft in the same vicinity as aircraft X then gave it an attempt using Big Sky Approach's frequency and still nothing. By now, aircraft X was past BYI where the MEA jumps up to 11,400 and now clipping an MIA area of 11,300. I notified the CIC and he in turn let the next sector know. At this point, the next sector has the handoff w/ NORDO in the fourth line. Then, out of the blue aircraft X checked on and stated that a "fellow on a different radio" called him. I issued the climb to 12,000 since there was another MIA ahead above 11,000 (11,400). It appeared that he was already climbing, as the mode C showed 11,400 or 11,500 right after I issued the climb. I then coordinated with the sector that had radar control of the aircraft.

I would say I should have been more aware of what frequency the aircraft was on upon check on. And I could have always issued the climb earlier and possibly been able to reach the aircraft.

Narrative: 2

I was flying direct at 11,000 feet and had been transferred to Center. I had checked in with them, but was having problems hearing them since there was lots of static in the air. I assumed it was due to the cloud build up in the area. They did mention that I would need to climb to 12,000 feet further ahead. I told them I would wait to hear from them when they wanted me to climb. Further along the flight I received a call from another airplane that Center wanted me to climb to 12,000 feet and contact them.

I started my climb and contacted Center. They said to climb to 12,000 feet. I acknowledged that I was climbing to 12,000 feet. When I landed the Tower said to call Center for a possible pilot deviation. I called the number and talked to a man who said he was Operations Manager. He said I had went through MEA (Minimum Enroute Altitude) of 11,000 feet to 12,000 feet. I told him I received the call from the other plane who said SLC wanted me to climb to 12,000 feet contact them which I did while I was climbing. He said it looked like I did everything I could and after the air to air I called them right away and was already climbing. He did not see it as a pilot deviation, but will pass it along. He said if someone wants to call me he has my cell number. He was puzzled why I could not hear them on their frequency. I told him as soon as I heard the air to air I called and was already in the climb. I told him there was quite a lot of static today that I thought might have something to do with the cloud buildup in the area.

Synopsis

A Center Controller reported attempting to climb an aircraft entering higher terrain, but lost radio contact with the aircraft.

Time / Day

Date : 201705
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 550

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : FBO
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Mission : Training
Flight Phase : Initial Climb
Airspace.Class G : ZZZ

Component : 1

Aircraft Component : Engine
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Spark Plug
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Instructor
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
ASRS Report Number.Accession Number : 1449264
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew

When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I initiated an engine failure on my student at 4500 feet and had him steep spiral down. Upon reaching 1500 feet AGL he recovered from four rotations and began to configure the aircraft for the simulated engine failure power off landing. Upon reaching 550 feet AGL he initiated a go around adding full power immediately. On climb out a very strong engine vibration began and we lost much of our available power. I turned carb heat back on in the event it was icing but it didn't correct the engine vibration. I then adjusted mixture leaning it out and pulled power to idle then firewalled it at which point power slowly came back. I then diverted to the nearest airport with services and informed operations and had maintenance inspect the aircraft. It was determined that a fouled plug was most likely the cause and after a run up the aircraft was flown back to [home airport]. No further incident occurred.

Synopsis

C172 flight instructor reported a loss of engine power during a go-around from a simulated engine failure maneuver. After diverting, Maintenance concluded that a fouled spark plug was the likely cause.

Time / Day

Date : 201704

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 27000

Environment

Flight Conditions : IMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Personal

Make Model Name : Lancair IV/IVP

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Nav In Use : GPS

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class A : ZZZ

Component

Aircraft Component : Autopilot

Aircraft Reference : X

Problem : Design

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 3500

Experience.Flight Crew.Last 90 Days : 90

Experience.Flight Crew.Type : 90

ASRS Report Number.Accession Number : 1444821

Human Factors : Situational Awareness

Human Factors : Training / Qualification

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

I was on an IFR flight plan at cruise altitude FL270. I had entered light IMC at approximately -34C about 10 minutes before the incident happened. I encountered no icing on any of the surfaces of the airframe (I am fully de-iced equipped and would have activated de-ice measures if any symptoms had surfaced). I started showing an airspeed drop, very fast, on the Garmin G3X and then got an airspeed warning (impending stall). The Garmin autopilot immediately took stall evasive action by pitching the plane down. As I noticed the altitude tape start rolling downward I realized for the first time my autopilot was connected to airspeed, not just the ADAHRS (Attitude and Heading Reference System) or internal gyros, like in my previous plane. I immediately disconnected the autopilot as I knew we could not have possibly slowed the plane this fast and the autopilot was actually getting me into a dangerous position by diving the plane, possibly to the point of exceeding VNE. About this time the first call came from ATC asking me what was going on with my altitude. I replied I am dealing with an issue to which he responded to call him with an update as soon as I could.

I then turned on the pitot heat, as that was about the only thing that came to mind quickly that might correct the loss of airspeed indication on the EFIS. Within about 30 seconds the airspeed came alive and climbed very fast into the Vne area. I immediately pulled power and went to full forward pitch on the prop. Unfortunately, it now appeared the autopilot had run the pitch servo into an extreme pitch down condition. I was still in IMC and concerned about the plane coming apart so I reactivated the autopilot and hit the "Level" button. I knew the autopilot servos were set to torque values that likely would not exceed the airframe capabilities. While this was all happening, I then got a warning in my headset to "don oxygen mask". I have a cabin audible alert wired into my headset that warns of cabin pressurization loss. I then realized pulling off all engine power had now resulted in no bleed air to pressurize the aircraft. I glanced at the cabin pressure and saw I still had 2 PSI, so elected to keep the power off until getting the aircraft back under control. The plane leveled off at 23,000. At this time I got my second call from ATC and I was able to give him a preliminary update on what had just happened. I resumed power and prop condition to normal and requested a climb back to FL270. At this point it was clear there must have been some ice on the pitot tube. This whole event happened within 60-90 seconds. I looked over the aircraft again, looking at the windshield, wings and horizontal stabilizers, and had absolutely no ice anywhere.

Some very important lessons were learned through this event, and this was clearly the most life threatening event I have ever had in 3,500 hours of flying. I have never lost control of an airplane in IMC, and especially under a scenario where my instrument indications were not reliable enough to get me out of the situation. Applying emergency procedures just taught to me during transition training a few months ago (power back, prop full forward) likely saved my life. The second contributing factor to a safe outcome was the autopilot's option of "level", which just levels the plane off. I have had pitot tube icing in previous aircraft resulting in momentary airspeed loss until applying pitot heat, but always had the autopilot fly the airplane normally during the event. This new Garmin autopilot is not gyro based, and in addition has a safety feature that tries to keep the plane from stalling, which is based on airspeed input. Loss of airspeed on this new autopilot WILL result in a pitch down command to the autopilot, whether the aircraft actually needs that or not.

How will this experience change the way I fly? I ALWAYS turn on the pitot heat when in IMC at any temp below +5C, regardless if there is no indication of ice anywhere else on the plane. If I ever suddenly lose airspeed indication again, during autopilot operation, I will immediately disconnect the autopilot before it can adjust the pitch servo outside the current condition position (level, climbing or descending modes). I think it's also critical to disseminate this major change in autopilot operation from the older systems that are gyro based with no connection to airspeed, versus newer glass versions that attempt to avoid stall or over-speed conditions that are directly connected to the airspeed tape. I am fairly sure I will not be the last pilot to experience this condition with this new Garmin/G3X Autopilot Systems. The next one may not be as lucky as me.

Synopsis

Lancair IV pilot reported erroneous airspeed at FL270 due to pitot icing led the G3X autopilot to attempt to maintain airspeed by pitching down.

Time / Day

Date : 201704

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZJX.ARTCC

State Reference : FL

Altitude.MSL.Single Value : 11000

Environment

Weather Elements / Visibility : Icing

Weather Elements / Visibility : Turbulence

Light : Daylight

Aircraft : 1

Reference : X

ATC / Advisory.Center : ZJX

Make Model Name : Small Aircraft, Low Wing, 2 Eng, Retractable Gear

Operating Under FAR Part : Part 91

Flight Plan : IFR

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZJX

Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZJX

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Retractable Gear

Flight Plan : IFR

Flight Phase : Climb

Airspace.Class E : ZJX

Person

Reference : 1

Location Of Person.Facility : ZJX.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 20

ASRS Report Number.Accession Number : 1440882

Human Factors : Time Pressure

Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

Aircraft X was at 11,000 feet and asked for 12,000 feet to climb over weather. He wasn't able to level at 12,000 feet and asked to descend to 9,000 feet. Opposite direction traffic was level at 10,000 feet and was inside of TLH Approach Control. It was handed off to me and asking for a climb to 12,000 feet. The aircraft were head on and approximately 5 miles apart. Aircraft X leveled at 11,000 feet and demanded 9,000 feet for weather. I called traffic at 10,000 feet and head on.

Aircraft X advised he was descending without ATC clearance because of weather. I advised the Aircraft X that he was either declaring a Weather Emergency or he was having a pilot deviation. Aircraft X declared he was "deviating". Separation was lost. Management said it was 0.0 lateral and 600 feet vertical. Aircraft X descended through traffic and into TLH approach. TLH approach wanted to talk to the aircraft. I shipped him and waited for management to decide how to handle this error. They told me to read the aircraft the Brasher warning which I did about 15 minutes later when TLH approach handed the aircraft off to me.

Later when I solicited a PIREP from the pilot of Aircraft X, he said Light Rime Ice and Light Turbulence during the time he descended through traffic.

Synopsis

ZJX Controller reported an airborne conflict occurred when a pilot descended for weather even though he had been advised of opposite direction traffic below it.

Time / Day

Date : 201704

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : Marginal

Weather Elements / Visibility : Cloudy

Weather Elements / Visibility : Snow

Light : Daylight

Ceiling.Single Value : 1200

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Corporate

Make Model Name : Citation X (C750)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Takeoff

Component

Aircraft Component : Engine Fuel Filter

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1438874

Human Factors : Situational Awareness

Human Factors : Training / Qualification

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Flight Crew

When Detected : Taxi
Result.General : Maintenance Action

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Crew was departing on the second leg of the day after a 28 minute quick turn for fuel and one passenger. Anti-ice was selected ON during the taxi for departure to post the Vs speeds for an AI on takeoff. AI Cold messages posted during the taxi, so a static takeoff was elected to clear the cold messages prior to departure. During the power up, AI Stab hot CAS (Crew Alert System) messages posted, additionally the Fuel Filter Bypass L CAS message posted. The pilot not flying cycled the AI switches to clear the hot messages and the pilot flying released brakes to start the takeoff roll. We were aware of the Fuel Filter Bypass CAS but continued the takeoff. Rotation and climbout were normal, and once at a safe altitude we ran the Fuel Filter Bypass L checklist. The procedure called to land as soon as possible, but given the weather and mountainous terrain we elected to continue on. We notified management of our situation, and we considered it could be a nuisance amber CAS message.

Thirty minutes into the flight we were within range of several suitable airports, but since both engines were operating normally, and no secondary issues noted, we continued to land as soon as practical at the destination airport where maintenance could be facilitated. We maintained glide distance from suitable airports for the duration of the flight, kept the nearest-airport page up on and reviewed best glide speed for our gross weight. Total flight time was 1.8 hours.

On engine shutdown the Fuel Filter L bypass message cleared. The passengers deplaned, and the crew began to discuss what they could have done better. In reviewing the fault logs, the crew noted that the Fuel Filter Bypass message had posted at 0 KIAS, but being in a 'quick turn' state of mind had started the takeoff anyway. Per maintenance request, the crew started the LH engine for an idle power ground run to confirm the CAS message valid. Shortly after engine start the amber Fuel Filter Bypass L CAS message posted.

In the post-flight debrief of events the crew recognized how lucky they were to have no loss of engine power. If it was a fuel contamination issue, both engines could have failed in marginal VFR conditions in mountainous terrain.

G5000 airplanes have a tendency to post numerous amber CAS messages that the crew finds a little too easy to justify. This "Amber CAS fatigue" is likely why the crew didn't consider the full gravity of one of the few "land as soon as possible" amber CAS messages until airborne and climbing away. The correct answer was to abort the takeoff at 0 KIAS, and call for maintenance support. Instead the pilot flying released brakes and began the takeoff with the previous Stab Hot messages in mind, in an effort to get some cooling airflow over the surface. There was no icing on descent and landing, and no icing on climbout.

This was a failure by both crewmembers in communicating the need to abort, followed by a decision not to land as soon as possible. Our complacency is weighing heavy on us, and we regret we gave Murphy's Law a shot at us. Good thing Murphy didn't take it.

Synopsis

CE-750 Captain reported regretting his decision to takeoff and complete the flight after receiving a fuel filter bypass light just before takeoff.

Time / Day

Date : 201703

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZSE.ARTCC

State Reference : WA

Altitude.MSL.Single Value : 7700

Environment

Weather Elements / Visibility : Icing

Aircraft

Reference : X

ATC / Advisory.Center : ZSE

Aircraft Operator : Personal

Make Model Name : Twin Bonanza 50

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Personal

Nav In Use : GPS

Flight Phase : Cruise

Route In Use : Direct

Route In Use.Airway : V2

Airspace.Class E : ZSE

Person

Reference : 1

Location Of Person.Facility : ZSE.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

ASRS Report Number.Accession Number : 1435492

Human Factors : Training / Qualification

Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Air Traffic Control : Issued New Clearance

Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Human Factors

Narrative: 1

Aircraft X checked onto my frequency from Seattle Approach and was looking for the lowest altitude possible for icing. At first I told him I could only get him down to 8,400 feet, which was the Minimum Enroute Altitude (MEA) on V2. My Minimum IFR Altitude was lower in the area but I would have lost radar contact with him and did not want him to be on vectors. Aircraft X advised me that he was GPS equipped and requesting the GPS MEA of 7,700 feet which I did not even realize was an option on the airway.

I gave it a quick glance to confirm and I issued him a descent to 7,700 feet. He did indeed go non-radar for a portion and reported BEEZR at which point I had him back and re-identified him. At that point it was questioned by my Assist controller about the MEA after BEEZR. I quickly realized the GPS MEA was no longer valid and needed him up to 8,000 feet by BEEZR. I issued him a climb to regain compliance with the MEA on the airway.

It might just be me, but since I learned how to read maps and charts and there was a few moments of panic as myself and my Assist were trying to determine what all the numbers were. We were confused by the MEA and also the Minimum Obstruction Clearance Altitude (MOCA), about what we could use and how to apply it. At least in our area, we don't do very much low altitude work and getting refreshed on what everything means again would be beneficial. I will definitely take the time to re-learn on my own. With more and more younger controllers coming in that have never used it at all before, it might be good to either clean up our maps if there are numbers that aren't even applicable or to have some of that included in our annual refresher.

Synopsis

A Center Controller was not familiar with the lowest altitudes he could approve for an aircraft experiencing icing and allowed the aircraft to fly below their Minimum Vectoring Altitude.