

ASRS Database Report Set

Fuel Management Issues

Report Set Description.....A sampling of reports referencing incidents of fuel mismanagement, and operational concerns for fuel planning.

Update Number.....37

Date of UpdateApril 8, 2024

Number of Records in Report Set.....50

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

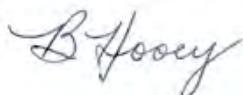
The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded when evaluating these data of the following points.

ASRS reports are submitted voluntarily. Such incidents are independently submitted and are not corroborated by NASA, the FAA or NTSB. 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 clarified 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.

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Becky L. Hooey, 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: 2054975 (1 of 50)

Synopsis

Small aircraft Flight Instructor expressed concern about terrain clearance issues within the airspace structure in the LAS area.

ACN: 2054018 (2 of 50)

Synopsis

Pilot flying fighter aircraft encountered high workload and fuel gauge failure inflight. Pilot diverted to departure airport and landed where the engine flamed out during taxi to ramp.

ACN: 2052711 (3 of 50)

Synopsis

Caravan 208B pilot reported a fuel exhaustion event shortly after instructing the skydivers to exit the plane. The pilot descended with the prop feathered and engine off safely to the ground and was able to exit on to a taxiway with the plane's own momentum.

ACN: 2052301 (4 of 50)

Synopsis

A319 flight crew reported the center fuel tank pump failed and they returned to their departure airport.

ACN: 2051575 (5 of 50)

Synopsis

B737 flight crew reported diverting to an alternate airport after experiencing Number 1 engine failure in flight.

ACN: 2051143 (6 of 50)

Synopsis

Single Pilot reported an engine stoppage during initial climb after a touch and go landing. Pilot advised tower and selected a grass area for a forced landing.

ACN: 2047453 *(7 of 50)*

Synopsis

During departure climb air carrier flight crew reported the left fuel tank showing a high rate of fuel consumption compared to the right tank. Flight crew elected to return to departure airport and landed uneventfully.

ACN: 2043400 *(8 of 50)*

Synopsis

MD-11 Captain and Dispatcher reported a loss of fuel quantity during cruise. Flight crew diverted and landed safely.

ACN: 2041906 *(9 of 50)*

Synopsis

Flight Instructor reported left engine failure during final approach. The flight crew also reported erratic fuel gauge indications yet the flight landed without incident.

ACN: 2039480 *(10 of 50)*

Synopsis

BE-58 pilot reported a loss of fuel flow and a partial loss of engine power at cruise during night conditions. The pilot shut down the engine, diverted, and landed.

ACN: 2038702 *(11 of 50)*

Synopsis

B787 Captain reported a single aircraft hydraulic pressure pump malfunction on the takeoff roll and continued the takeoff. Numerous other caution and status messages appeared during the climb out. The Captain requested priority handling with ATC and returned to the departure airport for a safe landing.

ACN: 2036402 *(12 of 50)*

Synopsis

Pilot flying Maule M4 aircraft reported engine loss of power inflight. Performed off airport landing.

ACN: 2035634 *(13 of 50)*

Synopsis

Flight instructor on training flight with student in a PA23 aircraft reported engine failure in cruise. Flight instructor diverted and landed without incident.

ACN: 2035334 *(14 of 50)*

Synopsis

Air carrier pilot reported a fuel leak indication and diversion to land at the nearest suitable airport.

ACN: 2033165 *(15 of 50)*

Synopsis

Air carrier Captain reported multiple fuel system EICAS messages illuminated shortly after takeoff. Flight crew returned to the departure airport where a safe overweight landing was executed with no further issues.

ACN: 2032191 *(16 of 50)*

Synopsis

Experimental aircraft pilot reported losing engine power mid-flight and safely landed in an area that was not the airport. Upon further troubleshooting the pilot realized the fuel shutoff valve was closed, resulting in the engine not receiving any fuel, a mistake that was not caught during preflight.

ACN: 2032039 *(17 of 50)*

Synopsis

Cessna 170 pilot reported a fuel leak during cruise in VMC conditions. The pilot diverted to an airport and landed safely.

ACN: 2031123 *(18 of 50)*

Synopsis

RV-14 pilot reported smelling fuel in cabin which was verified by passenger. Pilot returned to departure airport and after landing reported that local mechanic found leak at the fuel pressure sensor.

ACN: 2030548 *(19 of 50)*

Synopsis

A Piper Archer pilot reported they miscalculated their fuel remaining resulting in a rough running engine due to fuel starvation. They diverted to the nearest suitable airport.

ACN: 2030182 *(20 of 50)*

Synopsis

Air carrier pilot crew reported a fuel leak while climbing en-route. The crew asked ATC for priority handling and diverted to the nearest suitable airport.

ACN: 2028676 *(21 of 50)*

Synopsis

B767-300 air carrier crew reported a fuel leak after notification from ATC during climb. The flight crew requested priority handling and returned to the departure airport and landed safely with fuel leaking from the wing.

ACN: 2024820 *(22 of 50)*

Synopsis

C150 Flight Instructor reported the engine RPM became erratic during cruise and elected to divert to a nearby airport. The reporter had fueled at the departure airport and noticed traces of water during the preflight sumping but believed that all the water was removed with clean samples. However, a postflight sumping resulted in additional water being found and sumped out of the tank.

ACN: 2023004 *(23 of 50)*

Synopsis

Air carrier flight crew reported the undocumented transport of Hazmat class1 explosives. The issue was discovered at destination arrival where it was determined the departure ramp crew failed to unload seven cargo pallets.

ACN: 2022866 *(24 of 50)*

Synopsis

GA pilot reported fuel exhaustion during a cross country flight required them to make an off-airport landing. Pilot stated there were no injuries or damage.

ACN: 2021179 *(25 of 50)*

Synopsis

Cessna 172 pilot reported an engine malfunction during cruise on a day flight in VMC conditions. The pilot performed checklist procedures, troubleshooting, contacted ATC, and diverted to a non-towered airport and landed safely.

ACN: 2021090 *(26 of 50)*

Synopsis

EMB-145 First Officer reported encountering wake turbulence on short final at DEN.

ACN: 2020113 *(27 of 50)*

Synopsis

Velocity XL pilot reported a fuel reading issue and fuel pressure warning during descent. The engine began to sputter prompting the pilot to divert to the nearest airport. Post flight inspection revealed an old fuel cap poorly seated was a possible contributing factor.

ACN: 2019384 *(28 of 50)*

Synopsis

EMB-145 Captain reported a reroute and increased headwinds caused fuel reserves to drop to minimum. The reporter stated fuel gauge indications fluctuated indicating below minimums at times and FMS was not working properly. Flight crew received priority handling and landed at destination airport.

ACN: 2019231 *(29 of 50)*

Synopsis

Air carrier B737 First Officer reported an unstable approach during a night visual approach after the Captain overshot the turn to final. The First Officer had concerns about fuel remaining and after correcting for the ATC issued low altitude alert, the crew landed.

ACN: 2018511 *(30 of 50)*

Synopsis

C172 pilot reported engine power fluctuations during cruise required a diversion to a nearby airport. Pilot stated the checklist does not provide a procedure for this problem and the placement of the placard for switching fuel tanks is in a location that is difficult to view.

ACN: 2016686 *(31 of 50)*

Synopsis

EMB-145 crew reported an EGPWS event during flap retraction on an autopilot missed approach after conducting an ILS approach to minimums. Crew took manual control of aircraft and diverted due to fuel considerations and weather at destination.

ACN: 2014309 *(32 of 50)*

Synopsis

MD-11 Captain reported fuel quantities were less than expected compared to the fuel log and FMS estimation and performed a QRH procedure that stopped the leaking.

ACN: 2013989 *(33 of 50)*

Synopsis

Flight instructor reported their student solo flying a light sport aircraft misread their fuel system and the engine quit while in the pattern. The student landed the aircraft.

ACN: 2013355 *(34 of 50)*

Synopsis

B737-700 flight crew reported a fuel imbalance and suspected fuel leak during climb. Crew returned to departure airport after shutting down left engine per checklist.

ACN: 2012920 *(35 of 50)*

Synopsis

Cessna 500 pilot reported a cracked cockpit window during climb to high altitude resulting in aircraft depressurization. The flight crew diverted and landed safely.

ACN: 2012689 *(36 of 50)*

Synopsis

DA20 pilot flying a night cross country training flight reported unexpected headwinds resulted in them running out of fuel, so they landed on a highway. No damage to aircraft, and they were towed to the nearby airport.

ACN: 2012280 *(37 of 50)*

Synopsis

Air carrier EMB-XRJ Captain reported executing a go-around after encountering windshear on approach that resulted in airspeed and altitude deviations before positive control was re-established.

ACN: 2008922 *(38 of 50)*

Synopsis

Air carrier Dispatcher reported he failed to add the dry ice overburn on fuel calculations. After rectifying the calculations it was determined the flight had enough extra fuel to continue to the destination with no issues.

ACN: 2008601 *(39 of 50)*

Synopsis

PA-44 flight instructor reported a sudden loss of power on the left engine during cruise. The flight diverted to the closest airport where a safe landing was executed.

ACN: 2007712 (40 of 50)

Synopsis

Air carrier Captain reported a maintenance diversion due to fuel system malfunctions during departure climb. Flight crew diverted to a suitable airport where an overweight landing was made.

ACN: 2006270 (41 of 50)

Synopsis

PA22-150 Pilot reported mistakenly moving the fuel selector to off, causing fuel starvation and engine shut down in cruise. The pilot made a forced landing on a golf course and was later able to take-off and continue the flight.

ACN: 2006053 (42 of 50)

Synopsis

B787 First Officer reported various malfunctions including loss of the right VHF radio after takeoff. The flight crew coordinated with ATC and returned to the departure airport.

ACN: 2005830 (43 of 50)

Synopsis

C150 Pilot reported fuel exhaustion caused engine failure and a forced, off airport landing in a field.

ACN: 2004063 (44 of 50)

Synopsis

PA28 Flight Instructor reported fuel exhaustion resulted in a forced landing in a field without damage or injuries.

ACN: 2001970 (45 of 50)

Synopsis

PA28 pilot reported loss of engine power during approach. The flight crew executed an immediate landing at the airport.

ACN: 2000942 *(46 of 50)*

Synopsis

Sierra 24 pilot reported an engine failure occurred just after ATC cleared the aircraft to land. The pilot then safely performed an off-airport landing at a nearby field.

ACN: 2000206 *(47 of 50)*

Synopsis

A321 flight crew reported an ECAM Message FUEL FLOW/USED/FOB DISAGREE - FUEL LEAK PROC... APPLY in flight. The flight crew elected to perform an air turn back to the departure airport.

ACN: 1999249 *(48 of 50)*

Synopsis

SR22 pilot reported engine fuel flow and power loss in cruise and a diversion was necessary for a safe landing.

ACN: 1996107 *(49 of 50)*

Synopsis

Pilot reported an engine failure in climb was caused by fuel contaminated with water.

ACN: 1994807 *(50 of 50)*

Synopsis

C172 Flight Instructor reported smelling strong fuel fumes in the cockpit during a training flight. The flight crew performed an air turnback with the Flight Instructor assuming control as the Student Pilot was affected by the fumes. Maintenance found the aircraft's filler tube developed a crack in the area welded to the gas tank.

Report Narratives

ACN: 2054975 (1 of 50)

Time / Day

Date : 202311
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : LAS.Airport
State Reference : NV
Altitude.MSL.Single Value : 4500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : L30
Aircraft Operator : FBO
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 : None
Mission : Training
Flight Phase : Descent
Route In Use : Visual Approach
Airspace.Class B : LAS

Component

Aircraft Component : Indicating and Warning - Fuel System
Aircraft Reference : X
Problem : Malfunctioning

Person

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 : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 276
Experience.Flight Crew.Last 90 Days : 27
Experience.Flight Crew.Type : 0
ASRS Report Number.Accession Number : 2054975
Human Factors : Workload
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Miss Distance.Vertical : 500
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

Aircraft X training flight practicing cross-country VFR navigation east of Las Vegas airspace. Enroute to our return destination, HND, we received a yellow CAS for fuel. We stopped at ZZZ to visually confirm fuel, and fuel was above 'tabs.' We did a run-up and then continued west for a traditional arrival over VPVTR [visual point] into HND. Enroute, south of VPVDP, we received a red CAS for minimum fuel and so we began an immediate eastward arrival into Henderson through VPVDP. Although we visually confirmed fuel, I was unsure if the issue could be due to a sensor, onboard W&B (Weight and Balance) programming or very unlikely fuel starvation within the lines. We proceeded and requested our arrival with 'minimum fuel' as to be cautious. As we began to arrest our descent at 4500 ft. to avoid the overlying Class B and underlying terrain at VPVDP, I interpreted the engine performance to be less than expected at our present settings - 2660 RPM, approximately 26.5 in. Hg - and in anticipation of descending further, I proceeded further west to avoid the terrain. This, however, allowed only a small horizontal gap between the terrain and LAS Class B. Once clear of terrain, I immediately entered a 30-degree bank to avoid the Class B airspace, but I went into the controlled airspace by approximately 0.4 NM. HND ATC was on the phone with LAS TRACON at this time and the situation was resolved. To avoid future Class B conflicts, I will no longer look at the VPVDP arrival as an entry or exit point from HND airspace during training flights. The terrain clearance of 500 ft. and the airway horizontal / vertical restrictions from the Class B surface shelf are too limiting. Lastly, this same Class B shelf is only 1.4 NM from departure end of Runway 35L/R at HND, meaning most traditional GA aircraft with more than 200 HP must turn 'crosswind' below the FAA advised altitude of 700 ft. AGL, otherwise a Class B incursion is likely. I think it would be beneficial for the FAA to look at this sector of airspace once more to see if further adjustments are worth recommendation.

Synopsis

Small aircraft Flight Instructor expressed concern about terrain clearance issues within the airspace structure in the LAS area.

ACN: 2054018 (2 of 50)

Time / Day

Date : 202311
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Angle.Radial : 350
Relative Position.Distance.Nautical Miles : 50
Altitude.MSL.Single Value : 20000

Environment

Flight Conditions : IMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 12000

Aircraft

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

Component : 1

Aircraft Component : Fuel Quantity-Pressure Indication
Aircraft Reference : X
Problem : Failed

Component : 2

Aircraft Component : Aileron Control System
Aircraft Reference : X
Problem : Malfunctioning

Component : 3

Aircraft Component : Autopilot
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck

Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 10060
Experience.Flight Crew.Last 90 Days : 20
Experience.Flight Crew.Type : 45
ASRS Report Number.Accession Number : 2054018
Human Factors : Physiological - Other
Human Factors : Workload
Human Factors : Human-Machine Interface

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Returned To Departure Airport

Assessments

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

Narrative: 1

Phase 1 test flight of a fighter aircraft. GPS equipped, but retained the Eastern Block style attitude indicator. ZZZ1 ATIS wind 090/13, 10 miles, -R, 055 SCT, 120 BKN, +20/+20, 30.06. Initial climb clearance was to 1,600 on a 350 heading. After takeoff cleared to 16,000'. Immediately after takeoff planned routing was not available with ATC providing vectors. Entered IMC at approximately 3,000 and remained IMC until reaching approximately 33,000'. The Eastern block attitude indicator operated in the roll axis differently than western style in that the horizon remained oriented with the aircraft and the aircraft symbol moved to indicate roll attitude. Shortly after entering IMC, significant special disorientation was experienced with intense concentration required to maintain the desired roll attitude and maintain assigned headings. The aircraft had neither roll trim nor a usable autopilot and was quite unstable in the roll axis. Pilot workload became intense in this situation while maintaining aircraft control, performing frequency changes and compliance with ATC issued altitudes and headings. The decision to abort the flight was delayed in anticipation of reaching VMC conditions on top per the weather forecast. As the climb was continued, workload did not decrease with altitude control becoming very difficult. It was during the climb in the mid-20,000' range that ZZZ issued a phone number to call for "Possible Pilot Deviation". At one point ZZZ became concerned about oxygen system operation, rightfully so! Cabin pressurization and oxygen system operation appeared to be nominal (oxygen mask was affixed). Meanwhile ATC vectors ("Toward

"ZZZ" [VOR]) continued the flightpath well north of the intended flight plan route. A westerly vector was received, VMC was encountered and visual contact with a large body of water was obtained. A southerly vector and descent were requested to descend below FL180, cancel IFR and proceed direct to ZZZ1. Meanwhile, the aircraft Inverter failed which was unrecognized for a period of time. A major effect of this failure is that the fuel gauge ceased incrementing downward. By the time the failure was recognized (only indications are frozen fuel gauge and oil pressure gauge failure - no warning lights or Master Caution!) approximately 260 L of fuel had been consumed. A VMC descent was accomplished to return to ZZZ1. In order to maintain VMC, cruise was performed at relatively low altitude (3,500 - 5,000' MSL). Actual fuel remaining was estimated by illumination of fuel sequencing lights and LOW FUEL (500L). A critical fuel state was realized, and [priority handling requested]. There were no suitable closer divert airfields, so continuation to ZZZ1 was decided. Cruise at a maximum conserve airspeed was accomplished, the aircraft landed, and engine flameout occurred during taxi to the chocks.

Synopsis

Pilot flying fighter aircraft encountered high workload and fuel gauge failure inflight. Pilot diverted to departure airport and landed where the engine flamed out during taxi to ramp.

ACN: 2052711 (3 of 50)

Time / Day

Date : 202311
Local Time Of Day : 0601-1200

Place

Relative Position.Distance.Nautical Miles : 2
Altitude.MSL.Single Value : 11500

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : Caravan 208B
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Skydiving
Flight Phase : Climb
Route In Use : Visual Approach

Component

Aircraft Component : Fuel System
Aircraft Reference : X
Problem : Improperly Operated

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 1236.6
Experience.Flight Crew.Last 90 Days : 261
Experience.Flight Crew.Type : 981.1
ASRS Report Number.Accession Number : 2052711
Human Factors : Workload
Human Factors : Time Pressure
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight

Result.Flight Crew : Overcame Equipment Problem

Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Manuals

Contributing Factors / Situations : Weather

Primary Problem : Human Factors

Narrative: 1

While flying for a skydive company out of airfield on Location X, I was on my 9th load of the day, and my last flight before refueling. The loads are roughly 20 minutes in length and we take the jumpers up to 14000 ft. Between each flight I have a flow that I go through every single time while passengers are loading onto the plane. This flow always ends with checking the fuel levels to ensure there is a sufficient amount. I have a hard rule never to takeoff under 150 lbs per side on this airplane. My quantity was sitting at around 170 a side. It was a very windy day with winds at about 27 KTS from the east. The other skydive company was ahead of me and so I held at 10,000 ft for about 10 minutes while they made a few passes on their jump run. Usually we only have to hold behind each other for a couple minutes before giving our 5 minutes to jumpers notice, but on this day it was close to 10 minutes as the other company was hesitant to jump based on wind speeds. I noted that the tanks looked much lower than they did on the ground and were getting close to the empty mark. While paying close attention to my fuel level now, I wasn't too concerned as I have seen this airplane go even below the E mark numerous times with other pilots flying. The angle of climb was what I suspected the different reading from on the ground to be attributed to. Once I got to 11,500 ft, the "Fuel reservoir low" light came on. I knew this meant I had 90 seconds of fuel left and so I switched on the fuel boost switch and immediately pointed the aircraft toward the drop zone so that the jumpers could exit the plane safely. I also leveled the plane off and reduced engine power. After about a minute and a half the engine started sputtering and sure enough we lost power. I feathered the prop and instructed the jumpers to get out of the plane. There was plenty of altitude and we were actually very close to where they normally disembark anyway. I instructed them out early however because the other skydive company had dropped jumpers from 3000 ft above me only two minutes prior. I wanted to give everyone as much space from each other and the plane as possible. Everyone made it back to the drop zone except one jumper who landed at the park across the street. I descended the airplane with the prop feathered and the engine off safely to the ground and was able to get off onto a taxiway with the plane's own momentum. I was at a loss as to how this could have happened as I consider myself a very cautious and safe pilot. It is on a daily basis that I get to this fuel level before refueling so I was scratching my head as to why this day was different. I considered a misreading on the ground. I considered a gauge error. I considered the wind speeds and as well as holding behind the other company. The plane had just come back from its 100 hour inspection a week prior, and after this event our other pilot told me he's noticed he can only get 6 loads out of the plane now before having to refuel, assuming it is filled to our standard 650 lbs a side (as opposed to our pretty consistent 9 loads). He also noted that fuel flow on climb is now sitting around 550 pph as opposed to what it was before at around 460 pph. I too have since noticed the change. Maintenance has done a couple run ups and some fuel gauge checks and can not find anything wrong. As the PIC I take responsibility for the incident and it has been a humbling experience. I have been with the company for over a year now and always thought my minimums were conservative and safe. My new minimums have gone up to

200 lbs a side, and I am going to be much more aware of wind speeds as well as if there are other airplanes flying that day. I feel this event has made me a better pilot on a number of levels and I do not ever intend to find myself in this situation again. If there are ever any doubts on fuel level I will promptly return to the airport, or I will not take off in the first place.

Synopsis

Caravan 208B pilot reported a fuel exhaustion event shortly after instructing the skydivers to exit the plane. The pilot descended with the prop feathered and engine off safely to the ground and was able to exit on to a taxiway with the plane's own momentum.

ACN: 2052301 (4 of 50)

Time / Day

Date : 202311
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 14000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : A319
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class A : ZZZ

Component

Aircraft Component : Fuel Booster Pump
Aircraft Reference : X
Problem : Failed

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 128.48
Experience.Flight Crew.Type : 1145.55
ASRS Report Number.Accession Number : 2052301
Human Factors : Troubleshooting
Human Factors : Workload
Human Factors : Distraction

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 174.1
Experience.Flight Crew.Type : 2859.32
ASRS Report Number.Accession Number : 2052309
Human Factors : Workload
Human Factors : Distraction
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : MEL / CDL
Anomaly.Deviation / Discrepancy - Procedural : Maintenance
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

We discussed MEL on preflight. After engine start center tank pumps showing fault in manual mode. We called maintenance control to get clarification on MEL. They stated we were ok to go and it would work properly in flight. Per the MEL below 11,000 lbs fuel in wing tanks we turned on center pumps in manual mode and both pumps showed fault. We contacted dispatch and patched in maintenance control. We could not get center tank pumps to turn on in manual or automatic mode leaving over 4000 lbs in center tank. This resulted in insufficient fuel to proceed to ZZZ1. After discussing with dispatch we diverted back to ZZZ. We burned fuel under max weight and proceeded with no further issues.

Narrative: 2

Myself and First Officer discussed the MEL during preflight. We had some concern so we contacted maintenance to verify we were in compliance and understanding the MEL completely. Our concern was that the center tank pumps were showing a false light after we were following the MEL. Maintenance said that once airborne and flaps are retracted with tanks less than 11,000 pounds those center tanks in manual mode we can select on and should have access to the 5000 pounds in the center tank. Once we achieved that phase of flight, we went to comply with the MEL. The MEL did not allow us any access to

the center tank at which point we contacted dispatch and discussed with maintenance. After several attempts to see if we could get the center tank pump to operate, we determined we would not be able to get access to that fuel, and we would not make the destination. Coordinated with dispatch to return to ZZZ, for aircraft swap, we kept flight attendants and passengers advised throughout, no emergency was declared and coordinated with Center to do two turns and holding to achieve landing weight, and landed uneventfully on [runway] XXL in ZZZ. We wrote up the discrepancy, consulted with mechanics that met us at the gate.

Synopsis

A319 flight crew reported the center fuel tank pump failed and they returned to their departure airport.

ACN: 2051575 (5 of 50)

Time / Day

Date : 202311
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 37000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737 Next Generation Undifferentiated
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

Aircraft Component : Turbine Engine
Aircraft Reference : X
Problem : Malfunctioning
Problem : Failed

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 132.8
Experience.Flight Crew.Type : 1509.47
ASRS Report Number.Accession Number : 2051575

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 34.22
Experience.Flight Crew.Type : 3588.67
ASRS Report Number.Accession Number : 2051578

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.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 : Aircraft
Primary Problem : Aircraft

Narrative: 1

During cruise flight the Engine 1 engine lights all started to flash, the Engine 1 fuel flow light stayed illuminated. Went to the QRH referencing fuel flow checklist. Roughly 60 seconds into the checklist the left engine shut down. [We requested ATC assistance] with ZZZ Center; [and] requested [radar vectors] to ZZZ Airport. I followed the fuel flow checklist following all appropriate steps which hyperlinked me to the one engine Inoperative Landing Checklist. Planned landing weight was below MLW and the Non-Normal Configuration Landing Distance table was reviewed for landing data. Conducted the RNAV XL into ZZZ. We completed some delay vectors to run appropriate checklists and to brief the Flight Attendants (FAs). Airport Rescue and Firefighting (ARFF) equipment was standing by on landing, once clear of the runway parking brake was set and I requested the ARFF unit verify we had no fire or smoke, they did advise fuel was leaking from the bottom of the nacelle. ARFF units followed us to the gate as a precaution. We parked and shutdown and deplaned the passengers. The following numbers were noted during event. FF: ENG 1= 3.85 ENG 2= 2.4 FQ: Left Tank 4.9 Right Tank 5.6 Contacted the Chief Pilot, Maintenance Control with full debrief. Debriefed with First Officer (F/O), then conducted a debriefing with all FAs.

Narrative: 2

At cruise fuel flow message in yellow primary engine indicator stack popped up. Captain pulled out QRH [and] was directed to fuel leak checklist. Engine instrument indications made us decide to begin a divert to ZZZ; as we were descending [and] in turn for ZZZ left engine failed. Captain ran engine inop landing checklist [and] we landed without incident. On ground after exiting runway emergency vehicles confirmed fuel leaking from left engine.

Synopsis

B737 flight crew reported diverting to an alternate airport after experiencing Number 1 engine failure in flight.

ACN: 2051143 (6 of 50)

Time / Day

Date : 202310
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Relative Position.Angle.Radial : 10
Relative Position.Distance.Nautical Miles : .2
Altitude.MSL.Single Value : 1440

Environment

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

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : M-20 E Super 21
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Initial Climb
Route In Use : Direct

Component

Aircraft Component : Engine
Aircraft Reference : X
Problem : Failed

Person

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
Qualification.Other
Experience.Flight Crew.Total : 137.9
Experience.Flight Crew.Last 90 Days : 22
Experience.Flight Crew.Type : 78.7
ASRS Report Number.Accession Number : 2051143
Human Factors : Workload
Human Factors : Time Pressure

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Fuel Issue
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

I arrived at ZZZ Airport XA30 to begin preparing for my flight. Requested fuel of 20 gal in each wing, 40gal total. Even though I was only planning on flying about 1.5 hrs. Weather was checked the night before and conditions seemed VFR with overcast skies about 4000-6000ft. Checked again the morning of similar with high winds and gusts in direction of runway, and still VFR. Begun my pre-flight inspection according to my checklist i.e. inspect flight controls for freedom of travel, sump both main tanks after fueling, turned on main battery and checked pitot port heat, strobes, nav lights, landing lights, elec pump, all ok. Checked main gears for security of hydraulic lines, no leaks, brake pads, actuators and any abnormal wear and tear. Checked prop for nicks, dents, smoothness. Engine bay area for belts security of mounts, and oil level sufficient above 7 gal. As well as any other items on checklist e.t.c. Inside the aircraft, completed interior checks, sumped both lines from interior valve. At XC00 Cranked the engine on R tank, all indications normal, oil pressure, oil temp, fuel flow, amps, volts. Nav lights on for ads-b out e.t.c. Check the atis before taxi while engine is warming up. Taxid to a spot, asked ZZZ ground for clearance for taxi with westbound departure. Cleared for taxi to XXR via taxiway 1 crossing runway XXR. Taxid down taxiway 1, cross runway XYL, made it to the SW run-up area. Did my run-up checklist, flight controls free, mag checks, prop cycle, vacuum, amps, volts, idle check all green. E.t.c. Did my pre-flight checklist, takeoff trim, 15° Flaps, doors and windows closed. E.t.c. Asked for clearance for departure XXR with westbound departure, was given clearance with R pattern and departing the pattern westbound. Lined up XXR, heading lined up, elec pump on, landing and Strobe lights on. Full throttle, Airspeed alive, indicators all green, oil temp, oil pressure, manifold pressure, fuel pressure. 80kts start lightly pulling the yoke, liftoff positive rate of climb, 300ft gear up, and Flaps up, 2500 rpm and 2500 prop 700 ft start right crosswind turn. 1000ft right downwind turn and straight out the pattern. Flew to ZZZ1 for touch and go's, only one touch and go as ZZZ1 was closing for maintenance. Flew back to ZZZ called ZZZ Tower within 10nm with ATIS for the option, I was acknowledged and given XXR clear for the option, report 3 m final. Was called back within 7 miles to change runways to XXL clear for the option. Steady approach for XXL began my descent and pre landing checklist, ram air close, Cowl Flaps close, Flaps, landing light, elec pump on. Did my GUMPS checklist, gas set, undercarriage down and locked, mixture full rich, prop full forward, seat belts. I did realize I had been flying on R tank for about the hour and never switched tanks, so switched to L tank to balance fuel load close to final. Touched down XXL, all good smooth landing. Cleaned up Flaps check runway length remaining and decided for the touch and go. Full throttle, Flaps were already up, positive rate of climb. At about 150 ft realized I was quite low and prop started to slow drastically, started to bank left to come back to the airport. Prop stopped completely as I advised Tower and set fuel valve to OFF. checked gear was still down and locked. Looked for minimal traffic area on the road, but was too busy. Found the grass area looked clear and braced for landing.

Synopsis

Single Pilot reported an engine stoppage during initial climb after a touch and go landing. Pilot advised tower and selected a grass area for a forced landing.

ACN: 2047453 (7 of 50)

Time / Day

Date : 202310
Local Time Of Day : 0601-1200

Place

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-800
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Mission : Passenger
Flight Phase : Initial Climb
Flight Phase : Climb
Airspace.Class B : ZZZ

Component

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

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2047453

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2048076

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

After liftoff I noticed a rapidly increasing amount of roll correction was required to remain wings level. Climbout continued as I noticed the left fuel tank quantity rolling back like a countdown timer with the center and right tanks remaining stable. QRH for "Fuel Imbalance" procedures were followed up to shutting down the left engine. We paused there since we were turning final for Runway XXL at ZZZ and the aircraft was stable and the imbalance was no longer increasing at a rapid rate. After landing we shut down the left engine and allowed ARFF (Airport Rescue and Firefighting) to examine the aircraft. ARFF crew verified fuel was not leaking, we single engine taxied to the alley and towed to gate with ARFF supervision. The maintenance crew informed me that they had been called out by the fueling crew for an imbalance condition before the flight however when they arrived the fuel was properly loaded. Cause: Unknown. Post flight review indicates that both engines were being fed by the left fuel tank with all pumps on and cross feed closed. Suggestion: Unknown cause. Early recognition and starting the checklist before getting the fuel imbalance indication maintained the aircraft in a controllable configuration.

Narrative: 2

Shortly after arriving to the airplane to start the day, 2 Maintenance members came on the plane and asked me about a fuel imbalance that they received and were called out to check on. All three of us looked at the fuel quantity that was already put on the airplane and it showed the correct amount of gas that we needed for the flight and it was balanced and checked out fine. When everything was finished with boarding and the front door was shut, we pushed back like normal and taxied to [Runway] XXR for departure. Shortly after departure, the Captain was flying and noticed that the plane was requiring a lot more rudder and aileron to keep the airplane flying straight. Shortly after departure, the fuel imbalance indication came up on the left fuel tank which got both of ours attention for which we saw a super fast decrease in fuel coming from the left tank. We continued the departure while we started to decide what we wanted to do. I got into the QRH with the Fuel Imbalance Checklist and proceeded with the checklist. We got all the way up to "shutting down the engine" and stopped because we were already turning back to ZZZ and we made the decision to not shut it down because we were close to the airport and had plenty of fuel in the tanks. After doing the checklist, the decrease in fuel was finally stable and was not decreasing like it was before. We [requested priority handling] and landed on XXL and came to a full stop. The ARFF (Airport Rescue and Firefighting) trucks approached the airplane while we were stopped on the runway to make sure we weren't leaking fuel and everything was safe. After getting the ok from ARFF, we taxied into the gate with ARFF following us all the way. Cause: The 2 Maintenance team members came onto the airplane right after I got on the plane to ask about a fuel imbalance that they received to come out and investigate. After all 3 of us looked at the fuel quantity and seeing that it

was full and balanced, they left and I started doing my preflight tasks. After departure and the fuel imbalanced came up with the amount decreasing so rapidly, it made things weirder that the fuel was imbalanced during refueling, showed fine on the ground, and then became imbalanced again in the air. Suggestion: Ask more questions when the Maintenance members came out to investigate a fuel imbalance call. They came and saw it was fine and all 3 of us were ok when we saw it fine. I should have asked more questions about who reported the fuel imbalance, when did the person see it was imbalance, and did the completed fueling cause the fueler to see it fine and then leave.

Synopsis

During departure climb air carrier flight crew reported the left fuel tank showing a high rate of fuel consumption compared to the right tank. Flight crew elected to return to departure airport and landed uneventfully.

ACN: 2043400 (8 of 50)

Time / Day

Date : 202310
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 34000

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-11
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight / Delivery
Flight Phase : Cruise
Airspace.Class E : ZZZ

Component

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

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2043400
Human Factors : Troubleshooting

Person : 2

Location Of Person : Company
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 2043404

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew

When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.General : Maintenance Action
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Approximately 3 hours into flight, approaching ZZZZ at FL 340, received a Level 2 FUEL QTY/USED CHK alert. Approximately 50 minutes earlier at ZZZ, a fuel log entry was made indicating the flight was 2 minutes behind, but up 2.3K on the fuel. Crossing ZZZZZ, the flight was still 2 minutes behind, but down 6.9K on the fuel. Aircrew complied with QRH. When system was switched to manual and the Tail tank was isolated, the tail tank continued to decrease 400lbs in 4 minutes. Suspect the fuel leak was in or connected to the Tail tank. After consulting with Dispatch and Maintenance Control via SATCOM, [requesting priority handling] and making a diversion to ZZZ1 was the safest course of action. An uneventful landing was made on Runway XXL. After landing, the emergency ground crew inspected the aft end of the aircraft and noted a slow drip from the left side of the tail. The difference between our blockout fuel minus the fuel used and the total fuel on board at block-in was 14,280 lbs. Cause: Not sure. Maintenance is still trying to figure that out. The fuel system malfunctioned. Suggestions: Perhaps some sort of inflight diagnostic and fuel leak isolation logic.

Narrative: 2

Inflight diversion / [Requested priority handling]. XA:04Z - Crew called on Satcom with a fuel concern. Level 2 Fuel Quantity Check / Possible Fuel Leak. Reported 10,000 pounds of fuel lost over the last hour. Phone patch established with Currently use Maintenance Control. Currently use Maintenance Control asked questions to determine if it was an indication issue. It was thought to be a real fuel leak. Fuel transfer out of the tail tank was still in progress. Crew suspected that the fuel leak was related to the tail tank or the related plumbing. We considered continuing if the fuel loss stabilized after the transfer was complete. I ran numbers with 93,000 pounds of estimated fuel over waypoint ZZZZZ and 2.7% overburn. We were far short of meeting the ETP scenario. We elected to divert. Diverted to ZZZ as it was just ahead and the preference for maintenance and tail swap. I learned after landing that the crew [requested priority handling]. [Requested priority handling] due to possibility of fuel leaking on to hot brakes. Fire trucks inspected the aircraft after clearing Runway XXL. Minor fuel leak near tail noted. Aircraft taxied to gate under own power. Cause: Maintenance issue, suspected fuel leak in flight.

Synopsis

MD-11 Captain and Dispatcher reported a loss of fuel quantity during cruise. Flight crew diverted and landed safely.

ACN: 2041906 (9 of 50)

Time / Day

Date : 202310
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
Make Model Name : Tecnam P2006 Twin
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Descent
Route In Use : Direct
Airspace.Class D : ZZZ

Component

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

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 1480
Experience.Flight Crew.Last 90 Days : 380
Experience.Flight Crew.Type : 680
ASRS Report Number.Accession Number : 2041906
Human Factors : Troubleshooting
Human Factors : Workload
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

Upon approach left engine failed. At 4 miles out, Right engine started to fail. Fuel was visually inspected by both pilots with metal dip stick before flight. After returning from flight fuel was depleted in both tanks. Throughout whole phase of flight left gauge showed no indication less than half to 3/4ths. Right gauge kept oscillating during maneuvers. Plane landed without incident.

Synopsis

Flight Instructor reported left engine failure during final approach. The flight crew also reported erratic fuel gauge indications yet the flight landed without incident.

ACN: 2039480 (10 of 50)

Time / Day

Date : 202309
Local Time Of Day : 0001-0600

Place

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

Environment

Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Baron 58/58TC
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Cargo / Freight / Delivery
Flight Phase : Cruise
Route In Use : Direct

Component

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

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Single Pilot
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 5000
Experience.Flight Crew.Last 90 Days : 150
Experience.Flight Crew.Type : 800
ASRS Report Number.Accession Number : 2039480
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

Noticed a loss of fuel flow while at cruise. Tried to enrichen the mixture but no response in fuel flow or power. Elected to land at nearest suitable airport. Since it was a fuel flow problem and I had a partial loss of power, I elected to secure the left engine and land. Once on the ground, the mechanic discovered that the nut holding the mixture cable in position had backed off, allowing the cable to move and bring the whole mixture assembly towards idle cut off.

Synopsis

BE-58 pilot reported a loss of fuel flow and a partial loss of engine power at cruise during night conditions. The pilot shut down the engine, diverted, and landed.

ACN: 2038702 (11 of 50)

Time / Day

Date : 202309

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B787 Dreamliner Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Takeoff / Launch

Component : 1

Aircraft Component : Hydraulic System

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Cargo Compartment Fire/Overheat Warning

Aircraft Reference : X

Problem : Malfunctioning

Component : 3

Aircraft Component : Electrical Distribution

Aircraft Reference : X

Problem : Malfunctioning

Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 12204.75

Experience.Flight Crew.Last 90 Days : 179.95

Experience.Flight Crew.Type : 4266.35

ASRS Report Number.Accession Number : 2038702

Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Returned To Departure Airport
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On takeoff roll slightly below 100 kts. received Hyd press c2 caution. Continued and ran checklist on climb. Notified Dispatch and Maintenance Control and continued. Subsequently Cargo heat FWD caution displayed and soon thereafter a slight pressure bump was felt and multiple caution and status messages annunciated. Verified stability of aircraft and recontacted Maintenance Control. Due to deteriorating condition of the situation I elected to return to ZZZ. Briefed Purser and passengers about our return. In preparation for landing we jettisoned fuel to arrive below max landing weight. Start time XA: 34, End XA: 40. Approximately 20K lbs. Continuing, more Status messages, among them R1 Main AC bus, cruise flap disagree and fuel pump R FWD. At that time we notified ATC that we were [requesting priority handling]. Normal preparations and checklists were completed for our arrival. More failures in the fuel jettison system appeared and checklists attempted but were not completed due time compression getting aircraft on the ground. Slight fuel imbalance was noted for landing. Normal flight characteristics were apparent and normal approach and landing was completed to Runway XXR.

Synopsis

B787 Captain reported a single aircraft hydraulic pressure pump malfunction on the takeoff roll and continued the takeoff. Numerous other caution and status messages appeared during the climb out. The Captain requested priority handling with ATC and returned to the departure airport for a safe landing.

ACN: 2036402 (12 of 50)

Time / Day

Date : 202309
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 300

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : M-4
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Takeoff / Launch
Route In Use : Direct

Component

Aircraft Component : Fuel Booster Pump
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Captain
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Qualification.Other
Experience.Flight Crew.Total : 2500
Experience.Flight Crew.Last 90 Days : 35
Experience.Flight Crew.Type : 30
ASRS Report Number.Accession Number : 2036402

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

Narrative: 1

While conducting a touch and go at ZZZ I experienced a reduction and then loss of power in my "new to me" Maule M4 220C during takeoff initial climb before making crosswind turn. I was approximately 300-500 ft. AGL. I immediately pitched down to regain airspeed for best glide and attempted to turn towards airport. After immediately running through emergency checklist I was actuating throttle and gained a slight power response for a few seconds and then it would go idle again. It took everything I had to keep from force landing to the east of the runway. The power would go idle and I'd pump throttle and get a burst of energy for a few seconds then go idle again. I repeated this while trying to locate a safe landing spot sometimes only estimated 30-50 ft. AGL. Once to the north area of field it was obvious I would not get back to runway and the engine stopped responding to throttle inputs I knew it was time to put it down. I picked the flattest area on a small ridgeline and landed. I estimated landing roll about 200 ft. before my left landing gear caught a hidden barbed wire fence. This forced plane to go over on its nose and then upside down. We cleared the aircraft and made sure we were both unharmed. I then secured the plane and called for some help to flip the plane over. This happened on private property. There was no injury or damage to property. Once plane had been recovered I've been trying to figure out what caused the loss of power. After reviewing all ADs and SBs I then started inspecting the plane to ensure they were actually complied with. It was noted at least twice in the logs that all ADs and SBs were complied with from the seller/A&P IA. After further inspection I realized that was not true. One AD in particular AD 2003-05-01. The fuel pump that was supposed to be removed was in fact still on the plane and the cause of engine loss of power. I have attempted to reach out to seller but am unable to get in touch with him as I believe he is unavailable for next few weeks. Aviation safety at the core is about trust. Trust between pilot, mechanics, crew and all involved. I'm just a pilot, not a mechanic and I expect when a log book is signed airworthy and complied with all ADs and SBs for that to be true.

Synopsis

Pilot flying Maule M4 aircraft reported engine loss of power inflight. Performed off airport landing.

ACN: 2035634 (13 of 50)

Time / Day

Date : 202309
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 10000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : FBO
Make Model Name : PA-23 Apache/Geronimo Apache
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

Component

Aircraft Component : Reciprocating Engine Assembly
Aircraft Reference : X
Problem : Failed

Person

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 : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 1230
Experience.Flight Crew.Last 90 Days : 109
Experience.Flight Crew.Type : 37
ASRS Report Number.Accession Number : 2035634

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Inflight Shutdown
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

The flight initially departed from ZZZ, on an IFR flight plan. Onboard the aircraft were four passengers, one student training for Commercial Pilot Airplane Multi-Engine Land (CAMEL) certification, and myself instructing the CAMEL student. The purpose of the flight was to return all persons to ZZZ1, with the additional purpose of the CAMEL student to receive additional training on flight operations to build confidence and flight time. En route and over the ZZZ VOR, we began switching from the auxiliary fuel tanks to the main fuel tanks. The left tanks were switched first with no issue. The right tanks were switched several minutes later. During this switch, the right fuel selector required greater force than typical. Approximately one minute after the switch to the right main tank the right engine began to fail. I performed the Engine Failure checklist and the Engine Restart checklist shortly after, which resulted in a successful restart of the right engine. During this time, [priority handling requested] with Approach , and assistance in navigation to the nearest field was requested. The rest of the flight was conducted without incident. We landed in ZZZ2 and called a number provided by Approach to let them know we were down and safe. A previous incident at ZZZ3 predeceased this incident. A CAMEL flight assessment (check-ride) was being conducted, and the engine was shut down by the Designated Pilot Examiner (DPE). Both pilots could not restart the engine, and [priority handling requested]. They returned to ZZZ3. The airplane's engines were runup and the flight school's mechanic and owner were consulted. No issues were found or could be perceived as the later flights would not deliberately shut down the engine. A risk assessment on the likelihood and severity of engine failure determined that failure was remote but would be critical if it occurred. This was evaluated to marginal risk, which was determined to be acceptable by the instructor and CAMEL student. In reflection, continuing to position the fuel selector after encountering increased resistance was abnormal and may have contributed to the engine failure. A review of the PA23's fuel system with another Multi-Engine Flight Instructor is planned and will be logged.

Synopsis

Flight instructor on training flight with student in a PA23 aircraft reported engine failure in cruise. Flight instructor diverted and landed without incident.

ACN: 2035334 (14 of 50)

Time / Day

Date : 202309
Local Time Of Day : 0601-1200

Place

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

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

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

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2035334
Human Factors : Distraction
Human Factors : Time Pressure
Human Factors : Troubleshooting
Human Factors : Workload

Events

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

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

Primary Problem : Aircraft

Narrative: 1

While operating ZZZ1-ZZZ2 we received a FUEL ECAM indication which lead us to the FUEL LEAK QRH. We had just flown past ZZZ and elected to divert back to that airport under a [priority handling request] status with ATC. We completed the QRH procedure, advised the flight attendants of the divert and completed all checklist prior to landing, underweight, at ZZZ.

Synopsis

Air carrier pilot reported a fuel leak indication and diversion to land at the nearest suitable airport.

ACN: 2033165 (15 of 50)

Time / Day

Date : 202309
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-800
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class E : ZZZ

Component

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

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2033165
Human Factors : Workload
Human Factors : Troubleshooting
Human Factors : Time Pressure

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Weight And Balance
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Flight Cancelled / Delayed

Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Approximately 2 to 3 minutes after Take off we received a RIGHT FUEL FILTER BYPASS indication and less than a minute later a LEFT FUEL FILTER BYPASS. We requested to level off at 7000 feet, vectors to return to airport and [requested priority handling] with ATC. We followed QRH, non-routine landing and overweight landing guidance and landed on ZZZ. After landing BOTH CENTER TANKS FUEL PUMP PRESSURE lights illuminated with around 1200 lbs on Center Tank. We also noticed FUEL FILTER BYPASS lights not illuminated any more. We taxied back to Gate and released ARFF (Airport Rescue and Firefighting) from further assistance. Cause: Possible Fuel Contamination. Suggestion: Have an alternate way to check fuel quality.

Synopsis

Air carrier Captain reported multiple fuel system EICAS messages illuminated shortly after takeoff. Flight crew returned to the departure airport where a safe overweight landing was executed with no further issues.

ACN: 2032191 (16 of 50)

Time / Day

Date : 202309
Local Time Of Day : 1201-1800

Place

Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : Amateur/Home Built/Experimental
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Cruise
Route In Use : None
Airspace.Class G : ZZZ

Component

Aircraft Component : Fuel Selector
Aircraft Reference : X
Problem : Improperly Operated

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 660
Experience.Flight Crew.Last 90 Days : 144
Experience.Flight Crew.Type : 130
ASRS Report Number.Accession Number : 2032191
Human Factors : Troubleshooting
Human Factors : Confusion
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

I was going for a personal flight nothing specific in mind. The specific mistake happened during my preflight. I missed the fact that the fuel shutoff valve was closed. I believe this happened because I got complacent. I typically just always leave the fuel shutoff valve open. However, I hadn't flown the plane in awhile and forgot to check the fuel shutoff valve pre-flight. Everything went normal until about 5 minutes after departure cruising at or just below about 1,500 ft. MSL. The engine began to stutter, I tried flipping on the boost pump, and immediately started planning where I would put it down if I lost engine power. As I was doing this the engine died. I had two spots in mind that I could safely land. I tried restarting the engine and troubleshooting on the way down to no avail. My main focus was getting to the ground safely. I could not make it to an airport. I picked a spot and safely landed the aircraft, away from people and in a spot the plane did not get damaged. After I landed and was safe I did more troubleshooting and realized the fuel shutoff valve was closed and my engine died because it was not getting fuel despite having plenty. After I opened the fuel shutoff valve the plane started and ran normally. I can avoid this in the future by not being complacent and assuming the fuel shutoff valve would be in the open position the way I normally leave it or by creating and using [a] preflight checklist that includes checking the fuel shutoff valve.

Synopsis

Experimental aircraft pilot reported losing engine power mid-flight and safely landed in an area that was not the airport. Upon further troubleshooting the pilot realized the fuel shutoff valve was closed, resulting in the engine not receiving any fuel, a mistake that was not caught during preflight.

ACN: 2032039 (17 of 50)

Time / Day

Date : 202308

Place

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

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Personal
Make Model Name : Cessna 170
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 : Fuel Tank Cap
Aircraft Reference : X
Problem : Malfunctioning

Person

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 : 380
Experience.Flight Crew.Last 90 Days : 70
Experience.Flight Crew.Type : 180
ASRS Report Number.Accession Number : 2032039
Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Security
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

After a couple of months of disputing, different rules and regulations with the airport manager of my homebase airport I had to cancel a flight due to self declaration of being unfit to fly. During the preflight inspection, I was approached by the airport manager, and I got the situation. The following day, I showed up to the airport without incident and performed a preflight inspection upon the inspection, I found my magneto cover, had been removed from the back of my magneto well two of the three bolts anyway, the third was hanging on by a couple of threads. I didn't think much about it at the time and I had the mechanic shop on site replace two bolts and tighten it down for me. I had the airport provide fuel through the service of the lineman. I finished my preflight inspection, and I departed ZZZ I had plenty of fuel to make the trip and back from ZZZ1. However, 20 minutes into the flight I look up at my fuel gauges and I'm on empty, called approach, and I told them I was deviating from the flight plan and I was going to land at ZZZ2. And that's what I did. Upon landing with the help of a couple of other pilots in the airport manager we determined that the screw keeping the universal vented fuel cap tight was backed out, essentially making it look like the fuel. Cap was functional, but in-flight allowed all of the fuel to spill out and then vacuumed it out of the other side. The airport had tools available and they provided them to me to fix the fuel cap after fixing the fuel cap I refilled the fuel tanks, and then flew a couple of laps around the pattern just for precautionary reasons, and then landed to check to make sure everything was OK after verifying that everything was in good condition I proceeded to my final destination ZZZ1.

Synopsis

Cessna 170 pilot reported a fuel leak during cruise in VMC conditions. The pilot diverted to an airport and landed safely.

ACN: 2031123 (18 of 50)

Time / Day

Date : 202308
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 1000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 20000
RVR.Single Value : 10000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Vans Aircraft Undifferentiated or Other Model
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Initial Climb
Route In Use : Vectors
Airspace.Class C : ZZZ

Component

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

Person

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 : 1134
Experience.Flight Crew.Last 90 Days : 27
Experience.Flight Crew.Type : 222
ASRS Report Number.Accession Number : 2031123

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Passenger
Detector.Person : Flight Crew
Result.General : Maintenance Action
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Smelled fuel in cabin, passenger concurred, [requested priority handling] and immediately turned to return for landing. Uneventful return and landing, no fire. Consulted on-field maintenance facility. Mechanic found fuel leak at fuel pressure sensor, made repair and provided logbook entry. Uneventful return flight to home airfield same day.

Synopsis

RV-14 pilot reported smelling fuel in cabin which was verified by passenger. Pilot returned to departure airport and after landing reported that local mechanic found leak at the fuel pressure sensor.

ACN: 2030548 (19 of 50)

Time / Day

Date : 202308
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Relative Position.Angle.Radial : 160
Relative Position.Distance.Nautical Miles : 25
Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 30
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Descent
Route In Use : Direct
Airspace.Class E : ZZZ

Component

Aircraft Component : Engine
Aircraft Reference : X
Problem : Improperly Operated

Person

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 : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 689.1
Experience.Flight Crew.Last 90 Days : 107.9
Experience.Flight Crew.Type : 109.0
ASRS Report Number.Accession Number : 2030548
Human Factors : Distraction

Human Factors : Situational Awareness
Human Factors : Time Pressure
Human Factors : Troubleshooting
Human Factors : Workload
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Diverted
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 : Human Factors
Contributing Factors / Situations : Manuals
Primary Problem : Aircraft

Narrative: 1

I planned a round trip flight from ZZZ to ZZZ1. I went through all my normal preflight planning procedures, which included obtaining a weather briefing, determining the fuel requirement for the round-trip flight, reviewing the POH and utilizing the Foreflight App. This was my first time flying a Piper Archer. Having used Foreflight for the past three years, I have found that it has very good accuracy when it comes to performance predictions. Therefore I determined that I would be able to make the roundtrip flight with more than 45 minutes of fuel remaining upon arriving back at ZZZ, which more than met the minimum VFR fuel reserve requirement per FAR regulations. Upon arriving in ZZZ1, I visually inspected the fuel tanks, and per my estimation, the fuel remaining in both tanks was more than what I had expected and planned for. On the flight to ZZZ1, my groundspeed was higher than anticipated by around 5 knots which also led me to believe that what I was showing inside of the tanks was higher than what I had planned for. On the flight back to ZZZ, I planned to climb up to 10,500 ft. Upon reaching 10,500 ft. I leaned the mixture to peak EGT. About 2 hours into the flight the engine sputtered and my initial reaction was that there was carburetor icing, so I turned the carb heat on. I then noticed that my fuel gauge was reading about 5 gallons, so I decided to switch to the other fuel tank. At this point, the engine restarted and so I realized I had a fuel starvation issue and I immediately started looking for a place to land. I had ZZZ2 in sight before the engine started sputtering again. Once I knew I could make the runway, I [requested priority handling] with Approach, where they asked me if I had ZZZ2 in sight and how many souls I had on board, to which I replied I did and there were 4 souls on board. They gave me the frequency change to the airport and advised me to call them once on the ground. I landed the aircraft safely with no damage to the aircraft or any injury to any of the passengers. From a human performance standpoint, the main issue was an expectation that the plane was to perform better than it did based on calculations from the operating handbook. To prevent a recurrence of this event, I shouldn't fly a single-engine piston aircraft for more than 3 cumulative hours without fueling up. Having a personal

minimum as such can standardize the manner in which I fly older general aviation aircraft that might not be relied upon based on their original performance data.

Synopsis

A Piper Archer pilot reported they miscalculated their fuel remaining resulting in a rough running engine due to fuel starvation. They diverted to the nearest suitable airport.

ACN: 2030182 (20 of 50)

Time / Day

Date : 202308
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Distance.Nautical Miles : 10
Altitude.MSL.Single Value : 21000

Environment

Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-700
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Climb
Route In Use : Direct
Airspace.Class B : ZZZ

Component

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

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 166
Experience.Flight Crew.Type : 6373
ASRS Report Number.Accession Number : 2030182
Human Factors : Workload
Human Factors : Time Pressure
Human Factors : Distraction
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2030192
Human Factors : Time Pressure
Human Factors : Situational Awareness
Human Factors : Distraction
Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Inflight Shutdown
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : FLC complied w / Automation / Advisory
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

At FL 210 in the vicinity of the waypoint ZZZZZ, the flight crew discovered a fuel imbalance. After running the appropriate checklist, it was determined that an engine needed to be shut down, and the aircraft needed to be landed at the nearest suitable field. The Air Crew contacted ATC, [priority handling] was declared, and it was determined that ZZZ was the nearest suitable field. The aircraft was recovered single engine to Runway XXR without incident.

Narrative: 2

During climb out a significant fuel imbalance was noted. The checklist was run, and it was determined a fuel leak was present. The checklist directed crew to shut down the number 1 Engine. The checklist said to land at nearest suitable airport. ZZZ was determined to be the nearest suitable airport. [Priority handling] was declared. The landing checklist was completed. The diversion checklist completed. Landed on [Runway] XXR without incident.

Synopsis

Air carrier pilot crew reported a fuel leak while climbing en-route. The crew asked ATC for priority handling and diverted to the nearest suitable airport.

ACN: 2028676 (21 of 50)

Time / Day

Date : 202308
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 10000

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B767-300 and 300 ER
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight / Delivery
Flight Phase : Climb

Component

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

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2028676
Human Factors : Troubleshooting
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Check Pilot
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2028673

Human Factors : Situational Awareness

Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Ground Event / Encounter : Fuel Issue

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.General : Maintenance Action

Result.Flight Crew : Returned To Departure Airport

Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Aircraft

Narrative: 1

During initial climb we were called by departure that they were called from ZZZ Tower that we had fuel leaking out of the left wing. The leak was noticed by Company ground personnel when we took off. We checked our fuel on board and noticed about 2000 pound difference from the left wing compared to the right wing quantity. We spoke with Dispatch and informed them we would be turning around and returning back to ZZZ. There is no QRH checklist for the fuel leak but we did reference the Engine Fuel Leak checklist as a guide. We did not follow the checklist we had the fire department Captain inspect the wing for fuel leakage, where he did notice fuel still leaking out. We shut off the left engine and taxied into the parking single engine. Upon further inspection Maintenance did notice that a pressure relief valve was leaking. They tried to re-seat the valve but it did not work and a new valve had to be ordered.

Narrative: 2

On departure ZZZ advised us that Tower saw fuel leaking from our left wing. We continued our departure while investigating the problem. We had 7000 lbs in the center tank and the left tank had dropped more than 2000 lbs. we also noticed that our calculated fuel was 2100 more than our totalizer. We talked to Dispatch and agreed we had a leak and returned to ZZZ. We [requested priority handling] and landed uneventfully. After landing the Fire Chief advised us we were leaking fuel from the left wing. Upon inspection in the chocks maintenance confirmed that our Left Wing Pressure Relief Valve was leaking.
Cause: Component Failure.

Synopsis

B767-300 air carrier crew reported a fuel leak after notification from ATC during climb. The flight crew requested priority handling and returned to the departure airport and landed safely with fuel leaking from the wing.

ACN: 2024820 (22 of 50)

Time / Day

Date : 202308

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC

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 : IFR

Mission : Training

Flight Phase : Cruise

Airspace.Class E : ZZZ

Component

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Instructor

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 1315

Experience.Flight Crew.Last 90 Days : 301

Experience.Flight Crew.Type : 727

ASRS Report Number.Accession Number : 2024820

Human Factors : Troubleshooting

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Ground Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

The aircraft was fueled at the self-service pump from ZZZ. Traces of water were found during preflight sumping. It was believed that all water was removed with clean samples. During the cruise phase of flight, engine RPM became erratic. Carburetor heat was applied immediately and ATC was notified of the need to divert to the nearest airport, ZZZ1. After a safe descent and landing, additional water was sumped out of the wing tank. I believe the water had not fully settled after fueling, causing the issue in flight. Later I was informed of a notice from a FAA Safety Inspector regarding the potential fuel contaminants at the ZZZ FBO due to a lack of inspection of the fuel, fueling vehicles, safety equipment, and no documented training on their fueling personnel.

Synopsis

C150 Flight Instructor reported the engine RPM became erratic during cruise and elected to divert to a nearby airport. The reporter had fueled at the departure airport and noticed traces of water during the preflight sumping but believed that all the water was removed with clean samples. However, a postflight sumping resulted in additional water being found and sumped out of the tank.

ACN: 2023004 (23 of 50)

Time / Day

Date : 202307
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZZ.Airport
State Reference : FO
Altitude.AGL.Single Value : 0

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B747-400
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Ferry / Re-Positioning
Flight Phase : Parked

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2023004
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Relief Pilot
Function.Flight Crew : First Officer
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2023003
Human Factors : Situational Awareness

Person : 3

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2023002
Human Factors : Situational Awareness

Events

Anomaly.Deviation / Discrepancy - Procedural : Weight And Balance
Anomaly.Deviation / Discrepancy - Procedural : Hazardous Material Violation
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : Aircraft In Service At Gate
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

Me and the crew arrived at the plane via bus. Once we got off I was told loading was complete and that all doors have been closed. I saw no loaders or equipment in the vicinity of the airplane just a few ground ops personal that would do the pushback. I was giving the paperwork where I saw on all 3 sheets flight plan, load plan and weight and balance all had the payload at 0. The First Officer finished his walk around we completed our checklist and told ground personnel that there will be a delay due to ATC slot issues. We pushed back, taxied out and performed a normal takeoff. About 2 to 3 hours into the flight we started noticing that our fuel score was slowly dropping from +2.0 to 1.8 and lower. We checked the fuel synoptic page and all fuel tanks were even, saw the fuel flow and burn rate and again everything was even so a fuel leakage wasn't suspected. We were still showing +2.0 above min fuel for the re-release point and landing at destination with about 26,000 kilos. Me and the First Officer compared the winds with flight plan with those that we had and assumed the reason for the increase fuel burn was due to the tail winds not being as strong as forecasted. We landed in at our destination, taxied over to the ramp, completed the appropriate checklist and began preparing to exit the cockpit. The First Officer went outside to do his walk round and as I was about to leave with the other Captain, the First Officer explains that ground personnel have just found one pallet in the aft lower lobe that was supposed to be off loaded at our departure airport . I called the company and spoke to the dispatcher about the current situation and he said he will get right back to me. The dispatcher called me back and said that manager and lead have been informed, that's where I told him according ground personnel it's now a minimum of two pallets now and that I'll be filling a report once I reached the hotel. Once at the hotel I was informed that it was 7 pallets weighing close to 10000 kilos , which was found and the most likely cause to the over burn

Narrative: 2

I was the relief pilot on an augmented crew of three, operating an empty ferry flight from ZZZZ1 to ZZZZ. During the cruise phase, we noted that our fuel consumption was higher than planned. However, it was still adequate to meet our landing and diversion fuel

requirements. During the landing in ZZZZ, the pilot in command (PIC), who was also the pilot flying (PF), touched down smoothly, but the aircraft subsequently became airborne for what appeared to be approximately one foot in the air. He remarked that the aircraft had a nose up pitching tendency and that he had to exert an abnormal amount of forward pressure to lower the nose on the ground. The taxi to our gate and parking proceeded without incident. During the postflight inspection, it was discovered that various pallets of class 1 DG cargo were never unloaded from the aft lower lobe cargo compartment at ZZZZ1. Since this was intended to be an empty ferry flight, these pallets were not accounted for on the loadsheet, therefore our weight and balance calculations were inaccurate. Cause: The cause of this incident could be attributed to the failure of the ramp personnel at ZZZZ1 to ensure that the aft lower lobe was unloaded completely.

Suggestions: As inspecting the lower lobes is not part of our duties, we are completely reliant on the ramp personnel to ensure that these cargo compartments are loaded and unloaded in accordance to the corresponding procedures.

Narrative: 3

Flight from ZZZZ1 to ZZZZ. I was serving as First Officer (FO) and pilot monitoring (PM). This was supposed to be an empty repositioning flight. The flight plan included contingency fuel for weather and also required ballast fuel due to the very low gross weight. Further, we were pre-fueled with a couple tons of extra fuel. Departure from ZZZZ1 was normal. During the flight we observed higher than usual fuel burn. We attributed this to less than predicted tailwinds and having received several significant shortcuts immediately after takeoff. We were 7 or 8 minutes ahead of schedule the whole flight. All three operating crew were monitoring the fuel closely. However, we were satisfied that we had sufficient fuel to complete the flight with adequate reserves at all times. We landed with about a half ton under flight plan fuel. On landing the Captain/ pilot flying (PF) reported that the aircraft had a noticeable pitch up moment on touchdown. After landing it was discovered that several pallets of cargo were in the aft lower lobe. When the crew arrived at the aircraft in ZZZZ1 the lower lobe cargo doors were closed. It should be noted that the cargo onboard the aircraft was ordinance. We overflew several countries during this flight. Cause: Failure of ground crew to unload dangerous cargo. Suggestions: At stations where dangerous cargo is on every flight require ground crew to open all compartments every arrival. Leave lower lobe doors open until flight crew has done their pre-flight inspection.

Synopsis

Air carrier flight crew reported the undocumented transport of Hazmat class1 explosives. The issue was discovered at destination arrival where it was determined the departure ramp crew failed to unload seven cargo pallets.

ACN: 2022866 (24 of 50)

Time / Day

Date : 202307
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 9
Altitude.MSL.Single Value : 2400

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Initial Approach
Route In Use : Direct
Airspace.Class E : ZZZ

Component

Aircraft Component : Fuel Storage System
Aircraft Reference : X
Problem : Malfunctioning
Problem : Improperly Operated

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 685
Experience.Flight Crew.Last 90 Days : 20
Experience.Flight Crew.Type : 225
ASRS Report Number.Accession Number : 2022866
Human Factors : Situational Awareness
Human Factors : Time Pressure
Human Factors : Human-Machine Interface

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Ground Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

On a cross country flight between Location A and Location B I experienced fuel exhaustion in my aircraft. I was 9 miles from ZZZ when it appeared I had run out of gas in all of my fuel tanks. As I was only approximately 1k ft AGL at the time of exhaustion, I had very little time to deal with the situation at hand. I attempted to make an abandoned airfield just to the north and within the outer ring of ZZZ1's Class Charlie. While maneuvering to make the airfield, and noting my depleting airspeed, I quickly ascertained I best land my aircraft straight ahead, in a farmers field. Landing was uneventful, no aircraft damage occurred, and no injuries whatsoever. After assessing the situation and determining the best course of action, I contacted a local tow service company. They moved my aircraft to the aforementioned airfield. I did a thorough inspection of my aircraft, serviced it with fuel, and proceeded to my original destination (ZZZ). Prior to my next flight, I once again did an inspection, this time more thorough than the last. Once again, there was no damage to the aircraft noted, so I proceeded to fly my aircraft back to Location A, without incident. After returning home, I sat down and thought about what went wrong. Obviously, I had overestimated the amount of fuel in my tanks. I figured I had a good 14 gallons in each of my wingtip tanks. However, after refueling them each with 10 gallons, it appears this is where my overestimating took place. The 10 gallons in each side, to my recollection, appeared to be more than what I had assumed was 14 gallons. I rarely utilize these tanks on a day-to-day basis, so I feel I need to gain a better site picture of what a less-than full wingtip tank looks like. I also plan to construct a dipstick for these tanks, as I don't believe one is available on the open market. It's no excuse, merely an explanation as to why I could've possibly not known how much fuel they contained.

Synopsis

GA pilot reported fuel exhaustion during a cross country flight required them to make an off-airport landing. Pilot stated there were no injuries or damage.

ACN: 2021179 (25 of 50)

Time / Day

Date : 202307
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Angle.Radial : 054
Relative Position.Distance.Nautical Miles : 10
Altitude.MSL.Single Value : 4500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : FBO
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Training
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class E : ZZZ

Component

Aircraft Component : Engine
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 1341.4
Experience.Flight Crew.Last 90 Days : 85.9
Experience.Flight Crew.Type : 55.6
ASRS Report Number.Accession Number : 2021179
Human Factors : Confusion
Human Factors : Training / Qualification
Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Ground Event / Encounter : Fuel Issue
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 : Aircraft

Narrative: 1

Using the checklist for pre-flight, but deferred fuel check to the end so I could do all sumps at the same time. Upon sampling the RH fuel tank, there were approximately 2-3 drops of water. I emptied the container and then filled it 50-75% full two additional times and no water was observed. Only the RH sump showed water during the checks. Run-up checks were all within normal tolerances for both carb heat and both L/R mags. Level flight at 4500 ft. MSL @ 2300 RPM leaned. At approximately 1.3 hrs into my flight, there was a large reduction in power to approximately 1500-1600 RPM. I suspected carb ice and turned carb heat on and put the mixture full rich. The engine then went back to 2300 RPM and was steady for about 3-4 min, so I thought that the issue must have been carb ice and had been resolved so I decided to continue my flight. I then experienced another large reduction in power and applied full throttle. The engine then began to fluctuate between 1500-2000 RPM. I identified the nearest airport 10nm to the SW and diverted. During this time, carb heat was still on, mixture was full rich, and throttle was full forward. I then tried both left and right mags and had no improvement. I then switched to left tank only due to the fact that there had been a small amount of water in my first of three sumps. When I switched to left tank, there was an even lower reduction in engine power, so I went back to both. At this point, using ForeFlight glide advisor, I determined if the engine quit, I would not have sufficient altitude to make the runway, so I advised ATC. Center gave me the appropriate center frequency and I switched over. Center had an individual confirm that all steps had been completed. Once I was assured that I could reach the runway if the engine were to quit, I informed Center and switched to CTAF. The engine continued to sputter during the landing and approach, but I was able to safely land on runway XX. I then switched back to Center to inform them I was down and safe. I proceeded to taxi to the nearest ramp where I shut down the aircraft and called maintenance to arrange for someone to come and recover the aircraft.

Synopsis

Cessna 172 pilot reported an engine malfunction during cruise on a day flight in VMC conditions. The pilot performed checklist procedures, troubleshooting, contacted ATC, and diverted to a non-towered airport and landed safely.

ACN: 2021090 (26 of 50)

Time / Day

Date : 202307
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Tower : DEN
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 145 ER/LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Airspace.Class B : DEN

Aircraft : 2

Reference : Y
ATC / Advisory.Tower : DEN
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Operating Under FAR Part : Part 121
Flight Plan : IFR
Flight Phase : Final Approach
Airspace.Class B : DEN

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2021090
Human Factors : Time Pressure
Human Factors : Situational Awareness
Human Factors : Confusion
Analyst Callback : Attempted

Events

Anomaly.Inflight Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : Wake Vortex Encounter
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

We departed ZZZ with 7000 pounds of fuel. Release called for 6500. We were rerouted on the arrival into DEN. I asked Captain if fuel was a concern. At first he stated that he had no concern and then he became focused on a page in the FMS that showed remaining minutes in the flight and became obsessed with that page. Even though the page showed remaining minutes in the flight and not remaining fuel, he seemed to be misunderstanding that page. We reported to ATC that we were concerned about fuel due to the rerouting and Captain called Dispatch. I was the pilot flying (PF) on this leg. While Captain was on the radio with the Company, ATC came back and reported that they could get us in. I began to set us up for the approach into DEN. After the call with Company, Captain was agitated and frustrated and reported, "We are on our own." I tried to assuage Captain and assured him that DEN was getting us in and there was no need to worry. (I did not actually see fuel as a concern at this point as we were descending into DEN.) Upon commencing the visual approach, Captain declared "My controls" and took over as PF. ATC advised us to slow to 190. We were flying at 233. I asked Captain if he wanted flaps to help slow us. He declared negative as he was concerned about drag due to an incorrectly perceived fuel issue. Captain refused to slow as he was concerned about sacrificing speed. ATC advised us to slow to 170. We were still far too fast. We were getting far too close to the plane ahead of us on final. We were advised that if we did not slow we would have to go around. ATC asked if we were [requesting priority] for fuel problem. With 2300 pounds of fuel on short final, I did not agree but Captain declared, "Yes," so I reported "Affirmative." The plane ahead of us was ordered to go around at approximately 200 ft. Experiencing their wake was severe and I believe unnecessary. When we landed, the Flight Attendant (FA) immediately remarked, "What happened?!" We landed with about 2300 pounds of fuel and I do not believe that we truly ever experienced a "[fuel problem]."

Synopsis

EMB-145 First Officer reported encountering wake turbulence on short final at DEN.

ACN: 2020113 (27 of 50)

Time / Day

Date : 202307
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 2500

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Amateur/Home Built/Experimental
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Descent
Route In Use : Visual Approach
Airspace.Class D : ZZZ

Component : 1

Aircraft Component : Fuel Tank Cap
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

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

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 3650
Experience.Flight Crew.Last 90 Days : 45
Experience.Flight Crew.Type : 240

ASRS Report Number.Accession Number : 2020113

Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : 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 : Overcame Equipment Problem

Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Primary Problem : Aircraft

Narrative: 1

During cruise one tank was consuming fuel faster than the other even [though] they are interconnected. Right tank reading empty, but there was almost over an hour in the left tank. Cruise on left tank was sufficient for nearly 15 minutes. During last part of descent into ZZZ, engine sputtered and fuel pressure warning occurred (even though there was still almost 1 hour of fuel in left tank). Fuel boost pump on low seemed to resolve the issue but because I wasn't sure if the engine would stay on at idle throttle settings, and because ZZZ1 was directly in front of me with a large runway, I chose to divert there. Because it is a PPR (Prior Permission Required) airport the only way to get that diversion was to request priority handling (which given the night conditions I sure felt it was appropriate). Landing was without incident, but turning off the boost pump on the ground resulted in sputtering engine. After talking with my local A&P, and a fuel system inspection, he believes the root of the unbalanced fuel consumption was a poorly seated, and older fuel cap. It has since been replaced with new fuel caps. In general I was happy with my decision making during the event, although it may have been a bit overly conservative since the boost pump resolved the issue. In hindsight, it may have been prudent to divert earlier when I noticed the unbalanced fuel consumption between the tanks. I believe with the inspection from my A&P, and the testing of the fuel system (including venting and caps), this issue should be resolved.

Synopsis

Velocity XL pilot reported a fuel reading issue and fuel pressure warning during descent. The engine began to sputter prompting the pilot to divert to the nearest airport. Post flight inspection revealed an old fuel cap poorly seated was a possible contributing factor.

ACN: 2019384 (28 of 50)

Time / Day

Date : 202307
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 36000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Thunderstorm
Weather Elements / Visibility : Turbulence
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 145 ER/LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component : 1

Aircraft Component : Indicating and Warning - Fuel System
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : FMS/FMC
Aircraft Reference : X
Problem : Malfunctioning

Component : 3

Aircraft Component : Communication Systems
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 2019384
Human Factors : Human-Machine Interface
Human Factors : Troubleshooting
Human Factors : Workload
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Other

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.ATC Issue : All Types
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We got rerouted from the northeast entry to the northwest entry. I estimated that we would have approximately 45 minutes reserve at the time of landing. As we progressed further westward the FMS fuel estimation for landing began to decrease. We were being directed from an area of good weather into an area of bad weather. I noticed an increase in the head winds from approximately 75 kts to approximately 125 kts at times. We were then notified that we would have to, more than likely hold. I informed air traffic control that we would be minimum fuel, and they suggested we go and divert. I used company radio to contact Dispatch. At this time we had entered the bad weather, and there was a tremendous amount of static over the radios. During the preceding portion of this flight leg, we were getting VOR fail, dme fail and GPS fail warnings along with Check reserve fuel warnings. Initially I made a mental fuel calculation based on a burn of 50 pounds per minute, and the FMS fuel balanced to the gauges. ETA plus remaining fuel figured against fuel gauges and 50 pounds per minute corroborated each other. I made contact with commercial radio and they patched me through to Dispatch. In the middle of the conversation with Dispatch before completely notifying them of our situation that we were minimum fuel, and looking to divert COM one went dead. I could not raise commercial radio after that point. At the same time, the first officer was starting a turn south, and I asked what was going on since I was off of COM two, and on COM one. I was told that they were turning us in. I looked down and noticed the FMS was stating that we had 1.0 remaining for fuel at ETA. ATC then gave us a turn westward, basically the wrong direction, and started factoring us out. I noticed the FMS quickly said 2.0 on the fuel and then quickly dropped to 0.8. 800 pounds is approximately 16 minutes and at that very moment air traffic control asked us if we needed [priority handling] and I had about five

seconds to think it over at best, and I said yes. They gave us a fix, but I do not remember at this time what it was and put it into the FMS and hit direct to. The auto pilot then started a turn in the opposite direction. I turned off the auto pilot and manually flew the aircraft onto the proper course. I looked down at the FMS and at that point it was saying 2.0 for fuel. That started to confuse me as to why it was fluctuating as much as it was. I looked back down again and it was saying 0.8. Again, the FMS said DME fail, followed by vor fail. And again, for approximately the third time we received a check reserve fuel warning. Progressing toward the airport the FMS fuel estimation fluctuated up and down wildly. I was forced from the start of the event to either believe the FMS calculations, which had been accurate or to trust the fuel gauges. At that time we were out of contact with company and had no Alternate to divert to and we were in bad weather Imc. Since the FMS estimate was dropping lower each time, I opted for safety concerns to go with the most conservative of my fuel indications. I do remember looking down at the FMS fuel estimation a few times the approach. One minute it read 0.9 and then would jump up and read 2.0 and then it would go to a different number. I do remember seeing 0.3 and I was estimating that that would be about six minutes of flying time. At that time I stayed as high as possible with the power set to the lowest possible setting to conserve fuel. I did not extend flaps or gear until close in to the runway, conserving, momentum, and keeping drag at a minimum. I do remember looking for fields and roads coming into the north side of the airport just in case. The very last number that I saw on final approach was 0.3 for the fuel estimation. Upon Rollout I looked down again and the FMS was reading 2.0. Upon arriving at the gate it was either 1.8 or 1.9. Approximately. I really don't remember anything other than my hands and my knees were shaking. After we arrived at the gate, I remember looking down and it was reading 2.0 again.

Synopsis

EMB-145 Captain reported a reroute and increased headwinds caused fuel reserves to drop to minimum. The reporter stated fuel gauge indications fluctuated indicating below minimums at times and FMS was not working properly. Flight crew received priority handling and landed at destination airport.

ACN: 2019231 (29 of 50)

Time / Day

Date : 202307
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Relative Position.Distance.Nautical Miles : 3
Altitude.AGL.Single Value : 1000

Environment

Light : Night

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-700
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Airspace.Class B : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2019231
Human Factors : Communication Breakdown
Human Factors : Distraction
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Automation : Air Traffic Control
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

After the ZZZZZ Arrival, we were cleared for the visual to Runway XXL at ZZZ. The Approach Controller gave us a base turn and asked us to call the field in sight. The Captain called the field in sight and began the base turn and disengaged the autopilot. It was a tight base turn, ultimately inside of ZZZZZ1. Once the PF (Pilot Flying) began the turn, we also began the final configuration changes, switched to Tower, and completed the Before Landing Checklist. During the turn to final, I could tell we were turning tight based on the navigation display. However, my primary attention was on the configuration, radio calls, and checklist. Sitting on the outside of the turn, I trusted that the PF had the field in sight. I considered that there might be a misidentification, but since we were on the left runway and the turn kept us away from [Runway] XXR, I dismissed the idea. After all the tasks were complete, we were left of centerline with a correction. The PF admitted to "biting off" on the wrong set of lights. I suggested turning more right, which the PF did, around 1000 ft. Before 500 ft., Tower issued a Low Altitude Alert. In retrospect, this should have triggered a go-around, especially on a visual at night. At the time, I estimated that the PF's correction was sufficient and that we would make the 500 ft. gate. Visually, we also seemed to be close to glide path, so I thought the altitude alert might have been based more on our lateral path than our vertical path. Identification of the vertical path was complicated during the correction to centerline by conflicting information. The PAPI showed us below path while the ILS showed us above. I was aware that both may be limited to a particular envelope left/right of course and might not be correct until closer to centerline. I made a comment to the PF about not trusting the PAPI yet. However, the visual glidepath indications were probably the more accurate. By 500 ft., we were essentially wings level and on profile and continued the approach. We were also low on fuel. Our planned landing fuel was 4.7 based on the load of 8.2 in ZZZ1. On the arrival, the last number I remember on the Prog page was 4.3. This meant that a go-around would immediately put us into a minimum fuel situation. I didn't have time to do all the math at the time, but I was concerned at the time about running out of options. However, assuming 1.5 for a missed approach and landing, we could have landed with about 3.5 and stayed above the FAR Reserve listed on the Release. I don't have minimal experience managing low fuel states and we probably would have been okay with 3.5, considering the clear weather and nearby airports. Planning a landing fuel that doesn't allow for a go-around without the Fuel Low lights illuminating is a poor plan. However, I hinted and hoped at the situation in ZZZ1 rather than asking directly for more gas. I should have called a go-around for an unstable approach below 1000 ft. due to both the lateral and vertical deviations. Deviations in the lateral path made deviations in the vertical path hard to measure. In the future, if I can't positively determine that we're stable, then we are unstable. A slightly longer final would provide a little more time to deal with the turn before managing the descent and allow a lower rate of descent from the radar altitude to catch the glidepath. It also allows more time to correct the lateral path before reaching

1000 ft. in the event an error occurs. Also, I will insist on enough fuel to do a go-around and land by 4.0 in order to remove the perceived fuel pressure.

Synopsis

Air carrier B737 First Officer reported an unstable approach during a night visual approach after the Captain overshot the turn to final. The First Officer had concerns about fuel remaining and after correcting for the ATC issued low altitude alert, the crew landed.

ACN: 2018511 (30 of 50)

Time / Day

Date : 202307
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 15
Relative Position.Distance.Nautical Miles : 6
Altitude.MSL.Single Value : 7500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 12000

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
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 D : ZZZ

Component

Aircraft Component : Reciprocating Engine Assembly
Aircraft Reference : X
Problem : Malfunctioning

Person

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 : 541
Experience.Flight Crew.Last 90 Days : 42
Experience.Flight Crew.Type : 541
ASRS Report Number.Accession Number : 2018511
Human Factors : Distraction
Human Factors : Time Pressure

Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue
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 : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

I have flown 172s for the last 10 years. I recently purchased a 172G model. Placarded on the fuel selector is a note stating that pilots are to switch to a single tank from "both" after leveling off above 5000 feet. Almost no Cessna pilots do it, myself included until today. The general feeling around the community is that it is not important and that it was a political stunt by Cessna years ago while transitioning to Lycoming engines. I knew about the issue when I purchased the aircraft but don't fly often at higher altitudes and so didn't have it top of mind. I had looked into it at the time and found that it wasn't important based on community comments and so I forgot all about it. I was flying from ZZZ1 back to ZZZ2. As I was flying past ZZZ I noticed a temporary drop in engine RPMs. After about 30 seconds I lost engine power completely but then it would surge to full power and back to zero. Engine power continued to come and go. I followed the checklist, advised ATC and landed at ZZZ without issue. The issue was that the standard loss of engine checklist doesn't follow the required remediation for the issue, so pilots are not able to regain power. The published remediation requires you to fly on one tank for one minute, and then switch to the other tank, but this is not standard practice. The other issue is that the placard is down by the fuel selector, which is not something you look at often, so the issue is out of mind and often forgotten. Contributing factors are: 1. The Cessna pilot community doesn't see the issue as real. 2. The emergency checklist doesn't deal with the issue. 3. The placard is on the fuel selector where nobody is looking in flight. Other comments are that I found myself very distracted in taxiing back to the ramp. Controllers should realize that a pilot is not in his/her normal state of mind after an incident like this and offer more support for taxi at an airfield they are probably not familiar with nor have taxi diagrams ready, etc. A progressive taxi should be standard practice after a situation like this. Its easy to ask for, but I felt the controller was not aware of the compromised mental state a pilot might be in after a flight like this.

Synopsis

C172 pilot reported engine power fluctuations during cruise required a diversion to a nearby airport. Pilot stated the checklist does not provide a procedure for this problem and the placement of the placard for switching fuel tanks is in a location that is difficult to view.

ACN: 2016686 (31 of 50)

Time / Day

Date : 202307
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 825

Environment

Flight Conditions : IMC
Ceiling.Single Value : 200

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 145 ER/LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use.Localizer/Glideslope/ILS : ILS
Flight Phase : Landing
Airspace.Class D : ZZZ

Component

Aircraft Component : Trailing Edge Flap
Aircraft Reference : X
Problem : Improperly Operated

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2016686
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 2016687
Human Factors : Training / Qualification
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface
Human Factors : Workload

Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Terrain Warning
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Overrode Automation
Result.Flight Crew : Diverted
Result.Aircraft : Equipment Problem Dissipated

Assessments

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

Narrative: 1

EGPWS "too low, terrain" during go around. ILS XX ZZZ WX 1sm 200 OVC. I flew with the autopilot to DA, no contact, TOGA, announced go-around max thrust flaps 9. Had to prompt low time First Officer (FO) through the profile. As flaps retracted from 45 to 9 EGPWS mode 4c activation occurred as we were no longer in a landing flaps configuration. Upon the EGPWS annunciation I disconnected autopilot and pitched to the FD. EGPWS conflict resolved immediately. Positive rate called gear up and continued the profile. Completed normal checklists and tasks. Entered published hold ZZZ1 and discussed the plan with Dispatch. Prior to reaching decision fuel we diverted to our filed alternate of ZZZ2. The touchdown zone elevation for Runway XX is 640. flight aware shows the lowest altitude during this approach was 825.

Narrative: 2

Into ZZZ, WX 1/2 mile visibility 200 ft. indefinite ceiling, ILS XX, normal ILS approach at mins, both, Captain and myself called no contact, capt initiated GA/Toga, we both confirmed TOGA, max thrust, flaps 9. Captain pulled to follow FD aircraft was in a climb attitude, still sinking, Captain had AP on ZZZ AP and got EGPWS don't sink warning in the climb, positive rate. No other warnings were received. Diverted to ZZZ1.

Synopsis

EMB-145 crew reported an EGPWS event during flap retraction on an autopilot missed approach after conducting an ILS approach to minimums. Crew took manual control of aircraft and diverted due to fuel considerations and weather at destination.

ACN: 2014309 (32 of 50)

Time / Day

Date : 202307
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : MD-11
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight / Delivery
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

Aircraft Component : Fuel
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2014309

Events

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

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Primary Problem : Aircraft

Narrative: 1

Level 2 fuel quantity used check alert. Fuel quantities showed 4500 lb. less than expected according to the fuel log as well as a rapid decrease on the FMS estimated fuel on board at destination. The QRH procedure stopped the leaking. The leaks seemed to happen while the autocontroller was transferring fuel to the wing tanks for balancing purposes. Diverted to ZZZ. Cause [was] alert driven.

Synopsis

MD-11 Captain reported fuel quantities were less than expected compared to the fuel log and FMS estimation and performed a QRH procedure that stopped the leaking.

ACN: 2013989 (33 of 50)

Time / Day

Date : 202306
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : .5
Altitude.AGL.Single Value : 1000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Light Sport Aircraft
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Climb
Route In Use.Other
Airspace.Class D : ZZZ

Component

Aircraft Component : Fuel Quantity-Pressure Indication
Aircraft Reference : X
Problem : Improperly Operated
Problem : Design

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Instructor
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 775.6
Experience.Flight Crew.Last 90 Days : 482.7
Experience.Flight Crew.Type : 595.0
ASRS Report Number.Accession Number : 2013989
Human Factors : Communication Breakdown
Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Human Factors : Workload

Human Factors : Confusion

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Other

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Overcame Equipment Problem

Result.Flight Crew : Returned To Departure Airport

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

During the preflight inspection my student and I visually checked the plane's fuel level and observed that it required refueling. I brought over a fuel truck and refueled both wings so I could see at least 2 inches worth of fuel through the fuel port. Student and I confirmed and agreed that the amount we visually had would be more than sufficient for our 1.5 hour flight and about the maximum we could take with our weight and balance. The previous time this plane was flown was the night before by student and another instructor. The binder did not show any current Squawks or concerns for this aircraft. With both student's and my weights combined, we could only carry about 12 gallons of maximum fuel to not be over max gross weight. With the extra hot temperatures and low-pressure weather, I was extra considerate of this factor prior to our flight. And as a reminder, we do not have an exact way to identify the amount in the tanks, it is all estimations. We are taught that if you visually verify have fuel at the bottom of the tank, this equates to about 7 gallons of fuel. This being said, adding an extra 2 inches of fuel is equivalent to about 7-10 gallons of fuel per wing. This consideration would give us enough fuel for about 3 hours of flight (assuming the 5-gallon per hour fuel flow) more than double what we needed. We got in the plane and went through our preflight checklist. At this time we noticed that the fuel gauge was reading lower than what we had just visually confirmed. In taxiing the plane from the parking spot to the fuel pit area and doing a 180 turn, the fuel quantities fluctuated rapidly, making us skeptical of an accurate reading on the fuel gauge. I re-cycled the EFIS and EFIS backup to see if there was a glitch with the indication on the gauges. After re-cycling the indication on the fuel gauges and the levels still remaining the same, we felt confident in the amount of fuel we saw visually in the tanks and agreed to continue to take off. Student and I did about 3 laps in the pattern together. During this time, there was no indication of any issue other than the fuel gauges still fluctuating to the same amounts it was while on the ground. After 3 laps and perfect landings by student, I felt confident in student's ability and readiness to solo, so we taxied back and I got out of the plane and instructed him to do the full run-up and checklist. I stood by on the ramp with a walkie-talkie to hear communications and record his first solo. Student proceeded on his own and after completing another run up he did 2 laps in the pattern with full stops and taxi backs. He then began his third lap, and after turning downwind I heard on the communications that he reported an engine failure. I tried to respond or hear the tower

response on the walkie, however, he was holding down the push-to-talk button and I could not communicate. I watched as student was able to land safely back down on [Runway] XXL and requested a tow. As soon as he landed I confirmed that he was safe and ok. He then described the details of what happened in the air. He said that upon turning downwind, he experienced engine sputtering and eventual engine shutdown. He attempted to restart the engine but ultimately prioritized landing back on the opposing runway in time. In discussing further details during our debrief, he mentioned he did not switch to the fullest tank on the checklist during the run up. My suggestion for the future would be to always confirm any misreadings with maintenance before continuing to fly, or get a third set of eyes on the levels. I would also make a photo record of gauges before and after flight for confirmation. I would also suggest a more detailed fueling course or run down as a CFI to ensure consistent standards across the board. The fuel truck training consists almost entirely of runway incursions and who passes can be given out to, rather than refueling details such as fuel tank anatomy and behavior. In ground school, we talk about fuel systems but not the unique nature of the aircraft gas tanks and refueling. Just like Club Students need to be checked out every 60 days, instructors should be required to have a similar recurring checkout on these practices. After discussions with management following the event, I learned that if the tanks are more low than usual when you fuel to a level that you are used to seeing, you may come back a few minutes later to see the fuel has settled more to the root of the wing. This causes a delay in the visual appearance of fuel levels. This is not mentioned in the POH. Having this knowledge would have changed my decision-making process for this flight. I followed what I was taught by my instructor during my time as a student. I have also heard from numerous other CFI's that the fuel gauges have a high level of inaccuracy and to always visually confirm the fuel levels before flight. I did that during this flight and should have received a final sign-off from maintenance after seeing a higher discrepancy on the gauges before continuing on, to err on the side of caution. Also when soloing students in the future, after exiting the aircraft I will refuel to the new maximum allowable fuel amount for the new weight and balance without my weight. I would like to also confirm that this airplane reaches the certification that the gauges are accurate at zero. I also hope this instance can help reinforce fueling standards and for others to reconfirm if any instruments are in question.

Synopsis

Flight instructor reported their student solo flying a light sport aircraft misread their fuel system and the engine quit while in the pattern. The student landed the aircraft.

ACN: 2013355 (34 of 50)

Time / Day

Date : 202306
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 28000

Environment

Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-700
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Flight Phase : Climb
Airspace.Class A : ZZZ

Component

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

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 166
ASRS Report Number.Accession Number : 2013355

Person : 2

Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Last 90 Days : 173
Experience.Flight Crew.Type : 651
ASRS Report Number.Accession Number : 2014085

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Inflight Shutdown
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

During climb at approximately 20,000 ft., after center tank fuel was exhausted, the First Officer and I began to notice that there was a developing imbalance between left and right fuel tanks. The fuel quantity in the left tank was dropping at a rate of approximately 10 pounds every 20 seconds. We followed the QRH procedure for a suspected fuel leak. Had the Flight Attendants look to see if there was vapor trailing from Engine #1. They said they didn't see anything. In approximately five minutes the fuel quantity in the left tank was reading 7470 (compared to the right tank at about 8000 pounds). We discussed what we were seeing, continued to follow the QRH, and elected to make a precautionary engine shutdown. We communicated via voice with Dispatch and elected to return to ZZZ. Once the engine was shut down, the fuel in the left tank remained roughly the same, at about 7100 pounds until landing. We [requested priority] and had Crash Fire Rescue at the ready just in case they were needed.

Narrative: 2

During climb, at approximately 20,000 ft., after center tank fuel was exhausted, the Captain and I began to notice that there was a developing imbalance between left and right fuel tanks. The fuel quantity in the left tank was dropping at a rate of approximately 10 pounds every 20 seconds. We followed the QRH procedure for a suspected fuel leak. Had the Flight Attendants look to see if there was vapor trailing from engine #1. They said they didn't see anything. In approximately five minutes the fuel quantity in the left tank was reading 7470 (compared to the right tank at about 8000 pounds) We discussed what we were seeing, continued to follow the QRH, and elected to make a precautionary engine shutdown. We communicated via voice with Dispatch and elected to return to ZZZ. We [requested priority] with ATC. They vectored us back for the visual approach to Runway XXR, to which the Captain landed the aircraft. Once the engine was shut down the fuel in the left tank remained roughly the same, at about 7100 pounds until landing.

Synopsis

B737-700 flight crew reported a fuel imbalance and suspected fuel leak during climb. Crew returned to departure airport after shutting down left engine per checklist.

ACN: 2012920 (35 of 50)

Time / Day

Date : 202306
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 24000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Citation V/Ultra/Encore (C560)
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class A : ZZZ

Component

Aircraft Component : Cockpit Window
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Air Traffic Control : Enroute
Function.Flight Crew : Pilot Flying
ASRS Report Number.Accession Number : 2012920
Human Factors : Workload
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Fuel Issue
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.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Aircraft

Narrative: 1

Climbing through FL240, heard loud bang, LH forward side window cracked. Cracked window procedure carried out IAW Emergency/Abnormal Checklist. Halfway through checklist, cabin began to depressurize. Descent to 10000 ft. was requested from ATC, but was not given, so [priority was requested], and [priority] descent to 10000 ft. was executed in accordance with checklist. Subsequently, 10000 ft. was given by ATC. Once at 10000 ft., cracked window checklist was completed. Cabin altitude never exceeded 9500 ft. and passenger oxygen masks did not deploy. [Priority] was cancelled once the situation was under control at 10000 ft. Due to increased fuel consumption, we elected to divert to ZZZ1. Landed without further issue.

Synopsis

Cessna 500 pilot reported a cracked cockpit window during climb to high altitude resulting in aircraft depressurization. The flight crew diverted and landed safely.

ACN: 2012689 (36 of 50)

Time / Day

Date : 202306

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Angle.Radial : 336

Relative Position.Distance.Nautical Miles : 2.7

Altitude.MSL.Single Value : 6500

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 30

Light : Night

Ceiling.Single Value : 12000

RVR.Single Value : 30

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Personal

Make Model Name : DA20-C1 Eclipse

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZZZ

Component

Aircraft Component : Fuel

Aircraft Reference : X

Problem : Improperly Operated

Person

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 : 148

Experience.Flight Crew.Last 90 Days : 46

Experience.Flight Crew.Type : 102

ASRS Report Number.Accession Number : 2012689

Human Factors : Distraction

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation / Discrepancy - Procedural : FAR

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Inflight Shutdown

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Aircraft

Narrative: 1

Person A flight planned a night cross country to ZZZ1, ZZZ2 and back to ZZZ. I landed in ZZZ1, and financially couldn't afford anymore than the legal minimums to complete the leg back, 20 gallons. The leg to ZZZ2 went as planned. However [during] the leg from ZZZ2 to ZZZ, noticed my head wind component doubled. This caused a forced off airport landing on a highway. Myself and the aircraft suffered zero damage. I called Person B and he dispatched an employee to come and tow me 4 miles to the airport down the road.

Synopsis

DA20 pilot flying a night cross country training flight reported unexpected headwinds resulted in them running out of fuel, so they landed on a highway. No damage to aircraft, and they were towed to the nearby airport.

ACN: 2012280 (37 of 50)

Time / Day

Date : 202306
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.AGL.Single Value : 1500

Environment

Weather Elements / Visibility : Thunderstorm
Weather Elements / Visibility : Windshear
Weather Elements / Visibility : Turbulence

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Embraer Jet Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class C : ZZZ

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 3350
ASRS Report Number.Accession Number : 2012280

Events

Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Regained Aircraft Control

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Flight Crew : Diverted

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

We were conducting a flight from ZZZ1 to ZZZ. I was the PM (Pilot Monitoring) and the FO (First Officer) was the PF (Pilot Flying). En-route, we noticed weather along the mountain range west of ZZZ. We had discussed our intentions beforehand in the event of windshear/microburst encounter. We both had our weather radars on and proceeded cautiously. Approach Control had vectored us off our route at one point to set us up behind an inbound Aircraft Y. Eventually, Approach Control had us intercept the final approach course for Runway XXL into ZZZ. Shortly after, we noticed a reduction of 10 to 15 kts on our airspeed. Despite no windshear caution or warning on our PFD displays, the FO called missed approach, and initiated the windshear escape maneuver remaining configured until we had confidently escaped. It was on the climb out that we got a stick shaker followed by a rapid increase in airspeed. Given the high workload environment and go around initiated at roughly 1500 ft., we flew through the ATC assigned altitude by about 700 ft. before leveling off and returning to ATC's assigned altitude. Fuel on board at this point was about 2000 lbs and we knew the safest call was returning to ZZZ1 where we were sure the weather conditions were favorable for landing. We discussed among ourselves, notified the FA (Flight Attendant), and also ATC that we would be diverting back to ZZZ1 and declared Minimum Fuel. Shortly after, I notified Dispatch via ACARs of our intentions. We continued on to ZZZ1 safely and without any undue delay. Upon landing, our fuel was about 1300 lbs.

Synopsis

Air carrier EMB-XRJ Captain reported executing a go-around after encountering windshear on approach that resulted in airspeed and altitude deviations before positive control was re-established.

ACN: 2008922 (38 of 50)

Time / Day

Date : 202306
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZZ.Airport
State Reference : FO
Altitude.AGL.Single Value : 0

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B777-200
Operating Under FAR Part : Part 121
Mission : Passenger

Person : 1

Location Of Person : Hangar / Base
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
Qualification.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 2008922
Human Factors : Workload
Human Factors : Time Pressure

Person : 2

Location Of Person : Hangar / Base
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
Qualification.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 2007559
Human Factors : Time Pressure
Human Factors : Workload

Events

Anomaly.Deviation / Discrepancy - Procedural : Hazardous Material Violation
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Ground Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Dispatch
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Forgot to input the dry ice over burn in the fuel calculation for this flight. Made the remarks but somehow I left out the over burn. High workload. End of shift fatigue. 20 plus flights on workload. Take more time to look over my work before sending flight plan.

Narrative: 2

Previous Dispatcher released flight that had dry ice in lower aft and forward compartments without calculating the required fuel over burn. I caught the issue right after take off, communicated with the crew, calculated the over burn and send new fuel calculations. The flight had enough extra fuel for the over burn, and continued to destination.

Synopsis

Air carrier Dispatcher reported he failed to add the dry ice overburn on fuel calculations. After rectifying the calculations it was determined the flight had enough extra fuel to continue to the destination with no issues.

ACN: 2008601 (39 of 50)

Time / Day

Date : 202306

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Environment

Flight Conditions : VMC

Light : Dusk

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Personal

Make Model Name : PA-44 Seminole/Turbo Seminole

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Cruise

Airspace.Class E : ZZZ

Component

Aircraft Component : Fuel System

Aircraft Reference : X

Problem : Malfunctioning

Person

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

ASRS Report Number.Accession Number : 2008601

Human Factors : Troubleshooting

Human Factors : Time Pressure

Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Anomaly.Ground Event / Encounter : Fuel Issue

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

We were flying a cross country from ZZZ to ZZZ1. As we were cruising 10 miles NE of ZZZ3 we experienced a sudden loss of power with 16 inches on the manifold pressure in the left engine. We ran through the emergency engine failure in flight checklist and troubleshooted. We were unable to restore full power to the engine. We contacted ZZZ4 TRACON and informed them of the situation as we decided to divert to ZZZ3 because it was the closest airport. We landed runway XX in ZZZ3 and upon landing the engine completely failed. We were able to vacate the runway using one engine. We entered the ramp where we shut the engine down and parked the aircraft. We inspected the aircraft and noticed there was a fuel leak. The aircraft was squawked for maintenance action.

Synopsis

PA-44 flight instructor reported a sudden loss of power on the left engine during cruise. The flight diverted to the closest airport where a safe landing was executed.

ACN: 2007712 (40 of 50)

Time / Day

Date : 202306
Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.AGL.Single Value : 0

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Challenger 650
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Ferry / Re-Positioning
Flight Phase : Climb
Airspace.Class E : ZZZ

Component : 1

Aircraft Component : Fuel Booster Pump
Aircraft Reference : X
Problem : Failed

Component : 2

Aircraft Component : Fuel Selector
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2007712
Human Factors : Workload
Human Factors : Troubleshooting
Human Factors : Time Pressure

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : 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 : Overcame Equipment Problem
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Had to overweight land in ZZZ due to transfer of fuel valve inop and the primary and secondary pump not operating! Airplane coming out of maintenance and all sign offs correct ! Not able to find out why the aircraft was in maintenance and they were just wanting to ferry it to ZZZ1 for more maintenance! Not sure why they wouldn't tell me why maintenance was done in ZZZ2! We ended up dumping fuel and over weight landing because pumps failed and put us outside the checklist! Came very close to a stall situation because of aft CG!

Synopsis

Air carrier Captain reported a maintenance diversion due to fuel system malfunctions during departure climb. Flight crew diverted to a suitable airport where an overweight landing was made.

ACN: 2006270 (41 of 50)

Time / Day

Date : 202306
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 400

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Corporate
Make Model Name : PA-20 Pacer/PA-22 Tri-Pacer
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Ferry / Re-Positioning
Flight Phase : Initial Climb
Route In Use : Visual Approach
Airspace.Class G : ZZZ

Component : 1

Aircraft Component : Fuel Selector
Aircraft Reference : X
Problem : Improperly Operated

Component : 2

Aircraft Component : Reciprocating Engine Assembly
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 3500
Experience.Flight Crew.Last 90 Days : 120
Experience.Flight Crew.Type : 130

ASRS Report Number.Accession Number : 2006270

Human Factors : Situational Awareness

Human Factors : Confusion

Human Factors : Human-Machine Interface

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Automation : Aircraft Other Automation

Detector.Person : Flight Crew

Were Passengers Involved In Event : N

When Detected : In-flight

Result.General : Maintenance Action

Result.Flight Crew : Requested ATC Assistance / Clarification

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

Was departing the airport when I looked down and thought the fuel selector had moved to off by my leg. Switched to the left tank, but inadvertently turned off the fuel. Shortly after, the engine lost power. I switched the selector back and started the turn back towards the airport where I knew there were two par 4 golf holes just behind me that was somewhat flat. I was able to land on the golf course without incident or getting near any people. There was no damage so I restarted the engine and taxied down the cart path away to ensure plenty of distance to take-off from. I then preformed a short field take-off well clear of any people and departed.

Synopsis

PA22-150 Pilot reported mistakenly moving the fuel selector to off, causing fuel starvation and engine shut down in cruise. The pilot made a forced landing on a golf course and was later able to take-off and continue the flight.

ACN: 2006053 (42 of 50)

Time / Day

Date : 202306
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZZ.ARTCC
State Reference : FO
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZZZZ
Aircraft Operator : Air Carrier
Make Model Name : B787 Dreamliner Undifferentiated or Other Model
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Route In Use : Vectors

Component : 1

Aircraft Component : PFD
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : FMS/FMC
Aircraft Reference : X
Problem : Malfunctioning

Component : 3

Aircraft Component : PFD
Aircraft Reference : X
Problem : Malfunctioning

Component : 4

Aircraft Component : VHF
Aircraft Reference : X
Problem : Malfunctioning

Component : 5

Aircraft Component : PFD
Aircraft Reference : X
Problem : Malfunctioning

Component : 6

Aircraft Component : Hydraulic Main System
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 4563
Experience.Flight Crew.Last 90 Days : 122
Experience.Flight Crew.Type : 1835
ASRS Report Number.Accession Number : 2006053
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Deviation / Discrepancy - Procedural : Weight And Balance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Returned To Departure Airport

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We encountered several system malfunctions while climbing from ZZZZ airport at 10,000 ft. These included the loss of the Captain's Primary Flight Display (PFD), a failure in the Flight Management Computer (FMC), the right VHF radio, and the First Officer's Nav Display and center console displays. Alongside these malfunctions, we detected a smell of fumes in the flight deck, which we believed to be caused by electrical equipment burning. We coordinated with ZZZZ to assess the situation, follow appropriate checklists, and level off at 14,000 ft. Meanwhile, the Captain informed our Dispatcher that we were returning to ZZZZ and requested landing data for an overweight landing. The Captain also notified the

Purser and passengers about our decision to return to ZZZZ. Before landing, we jettisoned fuel to reduce the aircraft's weight as close to the Maximum Landing Weight as possible. Reviewing our synoptic system pages, we discovered that the left hydraulic system indicated zero fluid quantity and no pressure. The left hydraulic system readout led us to suspect that specific flight controls and the engine reverser might not function properly. Considering the potential loss of the left hydraulic system, the Captain decided to halt the fuel jettisoning, requested priority handling, and immediately return to the airport for an overweight landing. The Captain communicated this request to ZZZZ Approach Control, asking for Airport Rescue and Firefighting (ARFF) equipment to be on standby upon our arrival, as we were unsure if we would have nose-wheel steering and sufficient braking to stop the aircraft on the runway. We conducted a briefing for an ILS approach and completed the appropriate descent and landing checklists. As an extra safety precaution, the Captain opted to configure the aircraft for landing early to assess the functionality of the flight control and landing systems. We would abort the approach and develop an alternate plan if any issues arose. We executed the approach, landing, and landing rollout without incident. We could maintain control of the aircraft's direction and bring it to a stop on the runway. The Captain cleared the runway and taxied to the terminal, where Company ground crew, airport fire and rescue personnel, gate agents, and maintenance staff were waiting to meet the aircraft. The crew members worked well together during the non-normal event. All crew members conducted themselves professionally and per Company Standard Operating Procedures. Captain, First Officers utilized Crew Resource Management (CRM) and Threat and Error Management (TEM) tools well.

Synopsis

B787 First Officer reported various malfunctions including loss of the right VHF radio after takeoff. The flight crew coordinated with ATC and returned to the departure airport.

ACN: 2005830 (43 of 50)

Time / Day

Date : 202306
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Distance.Nautical Miles : 8
Altitude.MSL.Single Value : 1800

Environment

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

Aircraft

Reference : X
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 : Descent
Route In Use : None
Airspace.Class G : ZZZ

Component : 1

Aircraft Component : Fuel System
Aircraft Reference : X
Problem : Improperly Operated

Component : 2

Aircraft Component : Fuel Selector
Aircraft Reference : X
Problem : Improperly Operated

Component : 3

Aircraft Component : Reciprocating Engine Assembly
Aircraft Reference : X
Problem : Malfunctioning

Person

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 : 157
Experience.Flight Crew.Last 90 Days : 33
Experience.Flight Crew.Type : 140
ASRS Report Number.Accession Number : 2005830

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Ground Event / Encounter : Other / Unknown
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Ran out of fuel on the way from ZZZ to ZZZ1. Checked fuel when departing from ZZZ to ZZZ1 and got 8 and 5 gallons left and right. Landed in a field, no damage to the aircraft, measured fuel after getting out, 4 gallons in one tank and zero in another. Got about 3.2 tach hours since measuring ranks in the morning at 10 and 11.

Synopsis

C150 Pilot reported fuel exhaustion caused engine failure and a forced, off airport landing in a field.

ACN: 2004063 (44 of 50)

Time / Day

Date : 202305
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 067
Relative Position.Distance.Nautical Miles : 4.5
Altitude.MSL.Single Value : 3500

Environment

Flight Conditions : VMC
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Training
Flight Phase : Descent
Route In Use : None

Component

Aircraft Component : Fuel System
Aircraft Reference : X
Problem : Improperly Operated

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Instructor
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 3296
Experience.Flight Crew.Last 90 Days : 125
Experience.Flight Crew.Type : 964
ASRS Report Number.Accession Number : 2004063
Human Factors : Troubleshooting
Human Factors : Confusion

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : Maintenance Action

Result.General : Flight Cancelled / Delayed

Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Aircraft

Narrative: 1

Took off from ZZZ with full fuel (48 gallons usable) and made an uneventful flight to ZZZ1. Before departing ZZZ1, checked the fuel level and estimated 30 usable gallons on board based on the previous flight's fuel burn and visual inspection of the fuel tanks. Departed ZZZ1 uneventfully to return to ZZZ and experienced an engine failure 5 miles northeast of ZZZ immediately upon switching fuel tanks. Instructor took control and attempted to troubleshoot, including switching back to the previous working tank to no avail, and subsequently executed a forced landing in a dirt field. No injuries or aircraft damage occurred. Visual inspection of the fuel tanks revealed no fuel remaining in the tanks. Total hobbs elapsed was X.X since receiving a top off (50 gallons) at the original departure airport. Instructor suspects a fuel leak since reaching fuel exhaustion after X hours would have required a fuel burn of approximately 16 gal/hr when the normal planned burn for the aircraft type is only 10 gal/hr. Maintenance findings thus far have been inconclusive.

Synopsis

PA28 Flight Instructor reported fuel exhaustion resulted in a forced landing in a field without damage or injuries.

ACN: 2001970 (45 of 50)

Time / Day

Date : 202305
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Initial Approach
Route In Use : Visual Approach

Component : 1

Aircraft Component : Fuel Selector
Aircraft Reference : X
Problem : Improperly Operated

Component : 2

Aircraft Component : Reciprocating Engine Assembly
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 280
Experience.Flight Crew.Last 90 Days : 60
ASRS Report Number.Accession Number : 2001970
Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Human Factors : Troubleshooting

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation / Discrepancy - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : Flight Cancelled / Delayed

Result.General : Maintenance Action

Result.Flight Crew : Landed As Precaution

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 : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Human Factors

Narrative: 1

We are flying VFR flight from ZZZ1 to ZZZ, its a time build flight, I flew with another pilot who is PVT with IFR rated, he is the one who flying the airplane, he haven't flew for a very long time, so his flying skill is not great, so I monitor the entire flight, as we get cleared into the Bravo airspace, ATC told to lower the ALT 2 times, which we did compiled , when we were 10 NM away from ZZZ, ATC told us to decent 2,500 ft. and contact Tower, when we report to Tower, the engine suddenly lost power, the RPM dropped, and the airplane start to decent, so I took over the control immediately, and start to pitch for VG, and [requested priority handling] with Tower, at the same time, I was also trying to restart the engine and looking for place to land, unfortunately we are over the lake, and we are too low, around less than 2,000 ft. MSL, no way we will make it to the runway, and I lost sight of the airport and the other pilot just froze. I asked for a heading from Tower, and got runway insight immediately. At the same time, my engine started to come back, but it was on and off. I was trying to maintain the RPM and my ALT, that extra RPM allowed me to stop sinking, and I told Tower that we will be able to make to the runway, but only straight in. With 13 kts. tailwind, the Tower cleared the area for me. When I was may be 2-3 NM away from final, my engine came back. I did not touch the throttle anymore, because I don't want my engine to shut off again, and I would rather be high and fast into the runway then low and stalled. I managed to land safe and soft. After we parked the airplane, I check the both tank, right tank fuel was totally empty and right tank has about 17 gallons at least, however the fuel selector was on left when the engine shut off, and we did set a timer to switch the tank every 22 minutes. I was the one who set the timer on the phone and reminded my copilot to switch the tank. The flying time is about 3 hours which is the same time on the way there, we were full fueled at ZZZ1, and we fueled about 22.5 gallons, which is how much fuel that we used to fly here. Out of a fuel tank capacity of 48 gallons of fuel, so we suspect a fuel leak.

Synopsis

PA28 pilot reported loss of engine power during approach. The flight crew executed an immediate landing at the airport.

ACN: 2000942 (46 of 50)

Time / Day

Date : 202305
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 900

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Sierra 24
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Cruise
Route In Use : None
Airspace.Class D : ZZZ

Component : 1

Aircraft Component : Fuel System
Aircraft Reference : X
Problem : Improperly Operated

Component : 2

Aircraft Component : Reciprocating Engine Assembly
Problem : Malfunctioning

Person

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 : 337
Experience.Flight Crew.Last 90 Days : 18
Experience.Flight Crew.Type : 5
ASRS Report Number.Accession Number : 2000942
Human Factors : Human-Machine Interface
Human Factors : Time Pressure

Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
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

Assessments

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

Narrative: 1

I was headed to ZZZ1 from ZZZ to fill my tanks of which were 7 - 8 gallons per side. There was a band of heavy rain outside of ZZZ1 so I decided to try ZZZ2. There was rain that showed on the radar after turning toward ZZZZZ, so I decided to go back to ZZZ. About 7 miles out I was set up for landing and told by ZZZ Tower to report 3 miles. At 4.5 miles they cleared me to land and my engine sputtered, came back for 4 seconds, then sputtered and died. Because my mind was set on a fuel gauge reading on the fullest tank, left, I didn't try to switch tanks and knew that the Sierra goes down at 900 ft./minute, I had very little time to make a decision and set 85 kt. and looked for a landing spot. I was able to land uneventful in a field with no injury and gear down with no damage in the field. After landing the tank gauges were still not showing empty on their readouts. I have just under 6 hours in this plane and still reviewing its operating characteristics. I needed to do a better act of piloting on emergency procedures by switching tanks first. However, being so low to land at airport, in that moment felt that a landing spot was priority with a plane that has such a bad glide ratio.

Synopsis

Sierra 24 pilot reported an engine failure occurred just after ATC cleared the aircraft to land. The pilot then safely performed an off-airport landing at a nearby field.

ACN: 2000206 (47 of 50)

Time / Day

Date : 202305

Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : A321

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Climb

Flight Phase : Climb

Route In Use : Vectors

Component : 1

Aircraft Component : Fuel System

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Fuel Quantity-Pressure Indication

Aircraft Reference : X

Problem : Malfunctioning

Person : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 2000206

Person : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 2000218
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.General : Maintenance Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Climbing through about FL240 we got an ECAM caution: FUEL FLOW/USED/FOB DISAGREE - FUEL LEAK PROC.....APPLY. We stopped the climb at FL260 and ran the appropriate checklists and ECAM actions. Captain assigned me pilot flying (PF) role while he works through the QRH. Due to suspected fuel leak we [requested priority handling] and in accordance with the QRH procedure informed ZZZ Center that we would be returning to ZZZ. I had set up the aircraft for a return to ZZZ and informed Dispatch of our return and situation while the Captain was working through the QRH and non normal landing checks. We returned to ZZZ with no further incident and after being checked and cleared by Airport Rescue and Firefighting (ARFF) we taxied to the gate without issues. Captain made an Aircraft Maintenance Logbook (AML) entry and the aircraft was taken out of service by Maintenance.

Narrative: 2

Aircraft X. ZZZ-ZZZ1. ATB (Air Turn Back) ZZZ. Captain-pilot flying (PF). First Officer (FO)-pilot monitoring (PM). Departed ZZZ XXL. SID ZZZZZ 3. ATC cleared to FL350. Climbing through FL240: ECAM: FUEL F. USED/FOB DISAGREE - FUEL LEAK PROC.....APPLY. Applied initial steps of strategy to resolve ECAM. Assigned FO-PF and ATC radios. Leveled off FL260. Continued applying strategy, ECAM and QRH procedure (Fuel leak procedures). First step of the procedure: LAND ASAP. Directed FO to [request priority handling] and briefly discussed closest landing option. Determined ZZZ was the best option. Directed FO to get vectors back to ZZZ. Informed flight attendants (FAs) we are returning to ZZZ stand by for more information. Completed FUEL LEAK procedure and non-routine landing considerations. Directed FO to communicate to the Dispatcher of our divert (task and time permitting). Communicated with FAs and

passengers of a precautionary landing and presence of safety vehicles after taxiing clear of the runway. FO coordinated landing ZZZ XXR. Assumed PF duties. Completed normal checklist procedures. Landed, taxied clear XXR for Airport Rescue and Firefighting (ARFF) inspection. Reminded passengers to remain seated with seat belts fastened. Directed by ARFF to shut down #1 Engine for suspected leak. ARFF determined fluid to be a nonflammable substance. Taxied to the gate with ARFF following. System malfunction or actual fuel leak. Followed QRH checklist procedures and did not notice any excessive fuel depleting from the fuel tanks after the checklist was complete.

Synopsis

A321 flight crew reported an ECAM Message FUEL FLOW/USED/FOB DISAGREE - FUEL LEAK PROC... APPLY in flight. The flight crew elected to perform an air turn back to the departure airport.

ACN: 1999249 (48 of 50)

Time / Day

Date : 202304
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : 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
Airspace.Class D : ZZZ

Component

Aircraft Component : Reciprocating Engine Assembly
Aircraft Reference : X
Problem : Malfunctioning

Person

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 : 877
Experience.Flight Crew.Last 90 Days : 32
Experience.Flight Crew.Type : 609
ASRS Report Number.Accession Number : 1999249
Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Ground Event / Encounter : Other / Unknown
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Diverted
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Normal climb initially, then first indication of low fuel flow approximately 10 minutes into the flight. The aircraft had a recent history of fuel flow and manifold pressure indication issues and was just tuned/checked/cleared at a Cirrus maintenance facility in ZZZ3 2 days prior and following 3 visits within a few weeks to the Cirrus maintenance shop - at my home airport in ZZZ1 for the same reason, including the replacement of the propeller governor. I decided to carry on with the flight and monitor all indications to better assess the issue, and started developing alternative scenarios. Fuel flow indication (GPH) dropped to the mid-20s in climb while on normal power settings of ~100%, normal RPM indication of 2,450 and normal Man HG pressure of ~35 (fuel flow on full power climb should be closer to 40GPH). The manifold pressure indicator then started showing rapid variations up and down, including in the yellow/caution zone; the fuel flow indicator dropped further to ~22GPH while on full mixture and climb setting of 100%, well below normal/expected. I reduced the power setting to keep the manifold pressure in the safe/green range, probably around 80%, essentially moving to a cruise climb setting. Climb was slow, but oil pressure and temperature were all within range At cruise altitude of 7,000 the aircraft accelerated to normal speed. Approximately 10 minutes into the cruise, the indicated cruise speed started dropping slowly with no change in power or mixture setting (80% power) and fuel flow in the green range. Within 5 minutes, speed dropped by ~40 KTS. I called ATC to advise that I was unable to maintain filed speed of 175 KTS. I believe I gave them a 140 KTS. new speed, which was the indication when I made the call. Within another few minutes, the airspeed dropped to close to VREF (30% above stall speed), getting closer to stall speed. Loss of speed was at constant power and mixture settings, indicating a loss of engine power. I called ATC and asked to vector to land immediately and they pointed to ZZZ which I had just passed. I had an earlier exchange with ATC a few minutes prior, asking for vectors to ZZZ4, where a Cirrus maintenance facility is located; ATC had mentioned the ZZZ option if needed. Before I could get the vectors, I realized I would not make it to ZZZ4 and asked ATC for ZZZ landing. I initiated an immediate descent at idle power from 7,000 ft., dropping quickly with the field just under me. ATC switched me to ZZZ Tower, and I was immediately cleared to land. Emergency vehicles were lined up. Tower asked if I needed equipment to get me off the run-way upon landing, and thinking I would still have minimum power to taxi, I declined. Gliding towards the field on short approach into strong head winds (I believe it was gusting close to 40 KTS.), I attempted to add power to avoid a stall and there was little response. I dropped the nose further to

avoid a stall and make the threshold and felt that my ground speed was becoming idle into the headwind. I made it to the threshold and trying to land softly, the aircraft stalled and dropped on the runway in the last few feet. Landed on the main gears hard, and I am guessing from approximately from 10 ft. I could taxi (with difficulty; felt like little power). Personnel checked me from the outside and cleared me to taxi to the FBO where I was met by authorities. No injury. Visible damage to the main gear fairings, right and left. Under cracks on fairings, apparent damage to one the brake disks. The aircraft which is just one year old is under the Cirrus nose-to-tail warranty and maintenance program. The service manager is now in charge of assessing damage and addressing repairs. I believe an inspection was performed at ZZZ and a parts list is under development. I expect to hear more details this week.

Synopsis

SR22 pilot reported engine fuel flow and power loss in cruise and a diversion was necessary for a safe landing.

ACN: 1996107 (49 of 50)

Time / Day

Date : 202304
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Relative Position.Angle.Radial : 310
Relative Position.Distance.Nautical Miles : 11
Altitude.MSL.Single Value : 7800

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Corporate
Make Model Name : PA-31 Navajo/Chieftan/Mojave/T1040
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb

Component : 1

Aircraft Component : Fuel
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Reciprocating Engine Assembly
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 1630
Experience.Flight Crew.Last 90 Days : 27
Experience.Flight Crew.Type : 126
ASRS Report Number.Accession Number : 1996107

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.General : Maintenance Action

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

It's suspected that there may have been fuel contaminated by water which caused the engine stoppage.

Synopsis

Pilot reported an engine failure in climb was caused by fuel contaminated with water.

ACN: 1994807 (50 of 50)

Time / Day

Date : 202304

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Weather Elements / Visibility.Other
Ceiling.Single Value : 4000

Aircraft

Reference : X
ATC / Advisory.Tower : 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 : Climb
Route In Use : None
Airspace.Class D : ZZZ

Component

Aircraft Component : Fuel Tank
Aircraft Reference : X
Problem : Failed

Person

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 : Commercial
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 6800
Experience.Flight Crew.Last 90 Days : 20
Experience.Flight Crew.Type : 800
ASRS Report Number.Accession Number : 1994807
Human Factors : Situational Awareness
Human Factors : Time Pressure
Human Factors : Communication Breakdown

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

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Flight Deck / Cabin / Aircraft Event : Smoke / Fire / Fumes / Odor
Anomaly.Flight Deck / Cabin / Aircraft Event : Illness / Injury
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Flight Cancelled / Delayed
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

On or about Day 0, I departed ZZZ in a C172 with a student working on his instructor rating. Shortly after takeoff we smelled raw fuel fumes and returned for a landing. The scent of the fumes got stronger in our descent. The student asked me to land. On the ground he told me he got a migraine headache from the fumes. It appeared he was incapacitated from the fumes. If he was by himself this could have been deadly. The plane was withdrawn from service and the fuel tank sent to a welding shop. Apparently the filler tube developed a crack where it is welded to the gas tank. We were lucky that there was no fire or explosion, as in Aircraft Y. This was the second time this year that this fuel tank leaked. Last [eight or nine months ago] I refused to fly the plane after smelling fumes on another training/demonstration flight. The plane continued to be operated by other instructors and students, despite my emailed warnings to them, until it was pulled from service for its 100-hour inspection. The fuel tank was apparently sent to a welding shop for repair. I spoke with another Aircraft Inspector who works for a different school and was told that this was a common problem in their Cessna aircraft. This Inspector believes the problem is caused by the fuelers letting the fuel nozzle apply too much force on the filler neck. Our Inspector/Director of Maintenance thinks is caused by the fuel tank walls or top flexing, and causing stress cracks where the nozzle is welded. Person A at Company confirmed that a lot of Cessna fuel tanks have cracks where the filler neck joins the top of the tank. They seem to think it is from the fuelers letting the nozzles put too much pressure on the filler necks. However, they said the top of the tanks also develop cracks. The Cessna leaking fuel tanks appear to be a systemic problem and it is inconceivable that the FAA is unaware of the problem and obscene that there have been no ADs issued to warn pilots to have mandatory fuel tank inspections [and] ground the aircraft anytime there is the smell of fuel in the cockpit or fuel stains behind the filler caps or under the wing above the door. Some operators have taken the step of not filling the fuel tanks to the top. However, in a descent, there will be fuel behind and consequently above the filler neck to create a pressure head to drive fuel through the crack in the neck weld. Partially

filling a tank with a known leak should be considered operating an aircraft in a reckless manner and consequent violation of FAR 91.13.

Synopsis

C172 Flight Instructor reported smelling strong fuel fumes in the cockpit during a training flight. The flight crew performed an air turnback with the Flight Instructor assuming control as the Student Pilot was affected by the fumes. Maintenance found the aircraft's filler tube developed a crack in the area welded to the gas tank.