

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.....	33.0
Date of Update	May 31, 2018
Number of Records in Report Set.....	50
Number of New Records in Report Set	50
Type of Records in Report Set.....	For each update, new records received at ASRS will displace a like number of the oldest records in the Report Set, with the objective of providing the fifty most recent relevant ASRS Database records. Records within this Report Set have been screened to assure their relevance to the topic.

National Aeronautics and
Space Administration

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TH: 262-7

MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data

SUBJECT: Data Derived from ASRS Reports

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

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

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

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

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

Linda J. Connell

Linda J. Connell, Director
NASA Aviation Safety Reporting System

CAVEAT REGARDING USE OF ASRS DATA

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

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

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

Report Synopses

ACN: 1511553 *(1 of 50)*

Synopsis

A Piper PA28 Pilot reported that during climb the engine began to lose power and vibrate. Pilot performed a successful precautionary landing at the departure airport.

ACN: 1511367 *(2 of 50)*

Synopsis

Air carrier Captain reported reaching emergency fuel state after multiple vectors for arrival and runway changes at IAH.

ACN: 1511229 *(3 of 50)*

Synopsis

ERJ-145 flight crew reported fuel quantity indication malfunctions during a diversion, that forced them to return to the original destination airport.

ACN: 1511219 *(4 of 50)*

Synopsis

Air carrier Captain reported climbing in response to a GPWS terrain warning on a night approach to ITH.

ACN: 1510999 *(5 of 50)*

Synopsis

A320 First Officer reported diverting due to deteriorating weather and a fuel critical situation.

ACN: 1508049 *(6 of 50)*

Synopsis

B737 Captain reported a fuel pump malfunction during the climb.

ACN: 1507646 *(7 of 50)*

Synopsis

Airbus A300 pilot reported departing with greater than 400 lbs in the center tank while still in payload mode.

ACN: 1507500 *(8 of 50)*

Synopsis

A Cessna Citation pilot reported having to advise ATC of minimum fuel due to deteriorating weather conditions at the destination airport, which necessitated several holding patterns and a missed approach at an alternate airport.

ACN: 1506615 *(9 of 50)*

Synopsis

GA pilot reported becoming lost and low on fuel resulting in a landing at a Class C airport without a proper clearance.

ACN: 1506479 *(10 of 50)*

Synopsis

EMB-175 Captain reported that because of weather conditions and low fuel on board the crew landed below restricted captain minima.

ACN: 1506309 *(11 of 50)*

Synopsis

MD-11 Captain reported landing with minimum fuel onboard following 3 missed approaches and a diversion due to inclement weather.

ACN: 1505970 *(12 of 50)*

Synopsis

D01 TRACON Controller reported an aircraft descended below the assigned altitude and below the MVA.

ACN: 1504683 *(13 of 50)*

Synopsis

B767-300 Relief Pilot reported that they observation of fuel streaming from the trailing edge of the right wing. It was determined that the source of the leak was a wing-tank fuel cap, and an uneventful return to the departure airport was accomplished.

ACN: 1504383 *(14 of 50)*

Synopsis

Air Carrier Captain reported the Terrain Critical Depressurization Procedure conflicts with the ETOPS Critical Point on a specific transatlantic route.

ACN: 1503687 *(15 of 50)*

Synopsis

ERJ-175 flight crew reported not declaring "Minimum Fuel" during assigned go-around vectors for another approach due to congested landing traffic and high workload.

ACN: 1503263 *(16 of 50)*

Synopsis

PA-28 pilot reported mistakenly turning off the Master Switch while selecting fuel tank.

ACN: 1501920 *(17 of 50)*

Synopsis

EMB-145 First Officer reported encountering windshear on final then a GPWS alert on the go-around due to a slow climb rate.

ACN: 1501306 *(18 of 50)*

Synopsis

A319 Captain reported a serious fuel imbalance issue which could not be resolved in flight. A diversion to a nearby suitable airport was successfully accomplished.

ACN: 1501149 *(19 of 50)*

Synopsis

Motor glider pilot reported diverting to an alternate airport after the engine failed due to a fuel pressure issue. Engine was successfully restarted in flight and the aircraft landed safely at the alternate.

ACN: 1498570 *(20 of 50)*

Synopsis

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

ACN: 1497725 *(21 of 50)*

Synopsis

GA flight instructor reported a significant fuel leak after takeoff.

ACN: 1497657 *(22 of 50)*

Synopsis

ATR42 Captain reported that on descent for landing, the right engine flamed out with 900 pounds of fuel indicated in the right tank. Tank was subsequently found to be empty.

ACN: 1497168 *(23 of 50)*

Synopsis

B757 flight crew reported diverting to a nearby alternate after confirming a fuel leak from the left engine.

ACN: 1496506 *(24 of 50)*

Synopsis

CRJ-900 Captain reported that a gust from a nearby thunderstorm caused a right roll during the landing flare, which resulted in a wingtip contacting the runway.

ACN: 1496327 *(25 of 50)*

Synopsis

A319 Captain reported a new TRACON procedure that resulted in increased fuel burn and minimum fuel status on multiple flights.

ACN: 1496073 *(26 of 50)*

Synopsis

MD-11 Captain reported observing a fuel quantity indication anomaly during descent.

ACN: 1494540 *(27 of 50)*

Synopsis

B737 flight crew reported that they had a fuel imbalance after following MEL procedures for one fuel boost inoperative and a fuel quantity indicator inoperative.

ACN: 1494483 *(28 of 50)*

Synopsis

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

ACN: 1493758 *(29 of 50)*

Synopsis

Air Carrier Dispatcher reported assisting a flight in avoiding an area of volcanic ash. Flight diverted to an alternate airport.

ACN: 1493213 *(30 of 50)*

Synopsis

PA32 pilot and flight instructor reported a loss of power and return to the airport apparently due to fuel starvation.

ACN: 1492345 *(31 of 50)*

Synopsis

RV-10 Pilot reported landing at a closed airport after diverting for fuel.

ACN: 1491122 *(32 of 50)*

Synopsis

B747 Captain reported they had a rapid loss of a large amount of fuel within a 30 minute period.

ACN: 1488002 *(33 of 50)*

Synopsis

Center Controller reported that an aircraft declaring Minimum Fuel departed his assigned altitude without notification resulting in a conflict with another aircraft.

ACN: 1486681 *(34 of 50)*

Synopsis

MD-11 flight crew reported they received several warnings "Air Systems" and "A/I Duct", shut down the Number 2 engine, and returned to the departure airport.

ACN: 1486489 *(35 of 50)*

Synopsis

A300 flight crew reported that during approach the flaps became stuck at 20 degrees.

ACN: 1485642 *(36 of 50)*

Synopsis

A300 flight crew reported an engine flamed out during cruise due to possible fuel issue.

ACN: 1482920 *(37 of 50)*

Synopsis

A Navigator of a military aircraft reported that due to a miscalculation of aircraft weight, they received an excessive amount of fuel from the tanker aircraft.

ACN: 1482516 *(38 of 50)*

Synopsis

B767 flight crew reported dealing with a fuel leak from an overwing fuel cap requiring a return to the departure airport.

ACN: 1482338 *(39 of 50)*

Synopsis

B747 Captain reported diverting to an alternate airport after it became clear the fuel system was compromised by improper maintenance at a foreign station.

ACN: 1482271 *(40 of 50)*

Synopsis

Air carrier Captain reported a greater than planned fuel burn on an international flight, likely due to erroneous weight and balance calculations, along with deviations for weather.

ACN: 1481755 *(41 of 50)*

Synopsis

C172 student pilot reported a complete electrical system failure while entering the traffic pattern.

ACN: 1480640 *(42 of 50)*

Synopsis

Grumman American Tiger (AA5B) pilot reported having to divert in a climb out due to a rough running engine. Pilot reported the opinion that a steep climb angle caused the fuel to fall to the back of the tank away from the forward mounted fuel pumps.

ACN: 1480150 *(43 of 50)*

Synopsis

PA25 pilot reported landing safely after running out of fuel after releasing a glider.

ACN: 1479122 *(44 of 50)*

Synopsis

C182 Amphibian pilot reported landing on a lake after experiencing loss of engine power due to fuel starvation.

ACN: 1479090 *(45 of 50)*

Synopsis

American Champion 8KCAB pilot reported executing a precautionary landing on a road after realizing the engine monitoring system fuel indications were incorrect and fuel was inadequate to make airport.

ACN: 1478532 *(46 of 50)*

Synopsis

Air Carrier flight crew reported declaring minimum fuel due to weather hold and windshear go-around.

ACN: 1478376 *(47 of 50)*

Synopsis

Air carrier flight crew reported that following two go-around maneuvers due to windshear, diverting to alternate in a low fuel condition.

ACN: 1477990 *(48 of 50)*

Synopsis

C182 pilot reported making a forced landing short of the destination airport due to loss of engine power.

ACN: 1477588 *(49 of 50)*

Synopsis

Aero Commander pilot reported requesting priority landing due to low fuel condition, and was unable to go-around when a Cessna was slow to turn final approach.

ACN: 1476948 *(50 of 50)*

Synopsis

PA-25 pilot reported fuel exhaustion and an off airport landing in an open field during glider tow operations.

Report Narratives

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 7500

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : FBO
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 : Climb
Route In Use : Direct
Airspace.Class D : ZZZ

Component

Aircraft Component : Engine
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 400
Experience.Flight Crew.Last 90 Days : 90
Experience.Flight Crew.Type : 3

ASRS Report Number.Accession Number : 1511553
Human Factors : Situational Awareness

Events

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

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

The purpose of the flight was leisure flight to attend an airshow.

This was my second flight in Aircraft X, I had been previously checked out as required by the flight school's 141 standardization. During the preflight inspection, I found no abnormalities with the aircraft, and deemed it to be in airworthy condition. During the before takeoff checklist and engine run up, the engine performed normally, all engine instruments were in the green and controls acted properly. I departed and climbed via the class B transition route, leveling off at 10,500 MSL. The aircraft and engine performed normally during the flight up to ZZZ1, all engine instruments were in their green arcs, and the aircraft made the calculated cruise performance. During the climb, I changed fuel tanks every 15 minutes to maintain fuel balance, by turning the fuel pump on, waiting a few seconds, then changing tanks, waiting a few seconds, then turning the fuel pump off. I descended into ZZZ1 and made a normal landing, I parked the aircraft at the ramp and attended the airshow.

When the airshow finished, I returned to the aircraft and performed an inspection focusing on flight controls, landing gear, fuel, engine oil, and the propeller, all components showed no damage. The engine oil showed eight quarts, the right-wing tank was fuller than the left, I departed and initially climbed on the left tank. Both my passenger and I boarded Aircraft X, I performed the appropriate checklists, and started the engine on the right-wing tank. No abnormalities were noted, I received my taxi clearance, and taxi clearance to runway XY. In the run up area I performed the before takeoff checklist and engine runup on the right-wing tank. I performed the engine runup at full power and leaned the mixture until the peak power was reached, I then enriched the mixture slightly to be rich of the peak. The engine instruments all read within their green arcs and no abnormalities were noted. I have a fair amount of experience operating in high density altitude because I conducted my private, instrument, commercial single and multiengine training at ZZZ1 [a high altitude airport].

I elected to do a short field takeoff to give me the best climb performance, I received the takeoff clearance from ZZZ1 tower and took from runway XY. During the takeoff roll I

noted the engine RPM and manifold pressure were indicating full power, the engine instruments were in the green, and the airspeed indicator was alive. After rotation, the aircraft climbed at approximately 700 feet per minute, I was then cleared for a left crosswind departure by ZZZ1 tower. I elected to extend the upwind leg, I turned crosswind over. At 500 feet AGL I reduced power to the climb power setting and at 1,500 feet AGL I performed the after takeoff checklist, and changed radio frequencies to contact Approach to receive VFR flight following.

While climbing through 7,500 feet MSL five miles southeast of ZZZ1, I heard and felt the engine reduce in power and begin to vibrate, also I noticed a reduction in airspeed and climb rate. I started the engine troubleshoot checklist by memory and initiated a left turn towards ZZZ1. I called and [notified ATC] initially on Approach by mistake, then I changed back to ZZZ1 tower. I stated I had an engine failure and would enter left traffic for runway XY. The engine continued to run rough with all corrective action until I changed fuel tanks from right to left. After I changed fuel tanks the engine regained normal power output and the vibration ceased. I entered the traffic pattern completed the before landing checklist and landed on runway XY. I was followed by emergency vehicles and exited the runway and taxied to the FBO ramp. I performed the engine securing checklist and shut down the engine. I performed a post flight inspection and found no abnormalities on the exterior of the aircraft. I was met with ZZZ1 airport officials and provided a statement, they deemed that no further information was necessary.

In the days following the company drove a mechanic and flight instructor up to ZZZ1 to inspect Aircraft X. The mechanic drained fuel from both fuel tanks, drained and cleaned the fuel strainer. The mechanic found an unreinforced duct connecting the engine air intake on the cowling and the carburetor. The unreinforced duct was replaced. As far as I know no abnormalities were found in the fuel system, no cause was found for the engines reduction in power, nor why changing fuel tanks alleviated the power loss. A flight instructor flew Aircraft X from ZZZ1 back to [departure airport] with no problems noted.

Synopsis

A Piper PA28 Pilot reported that during climb the engine began to lose power and vibrate. Pilot performed a successful precautionary landing at the departure airport.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZHU.ARTCC

State Reference : TX

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Thunderstorm

Light : Daylight

Ceiling.Single Value : 6000

Aircraft

Reference : X

ATC / Advisory.Center : ZHU

Aircraft Operator : Air Carrier

Make Model Name : Commercial Fixed Wing

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Flight Phase : Descent

Route In Use : Vectors

Airspace.Class A : ZHU

Person

Reference : 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)

ASRS Report Number.Accession Number : 1511367

Human Factors : Communication Breakdown

Human Factors : Time Pressure

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Diverted
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

On recent flight, I exercise my emergency authority after encountering a fuel emergency and needed an immediate landing. The fuel placed onboard the aircraft was at absolute legal minimum amounts.

Upon arriving at the aircraft, fueling was already completed and truck has gone away. The flight began with an unfortunate maintenance issue as we discovered we had a continuous stuck mic issue that continued about 6-8 times in the flight, which was not the cause but an additional factor in the safety of the flight. As we passed our minimum diversion fuel level the weather in IAH was 7 miles visibility, 4300 feet overcast, and there was no reason to think we would not make it into the airport. We were approaching IAH from the east headed westbound. ATIS indicated IAH was landing east and therefore when approach vectored us past the airport there was still no indication we would have a fuel issue since we were on the proper side of the field for landing.

At this point ATC changed our arrival two more times, and gave us multiple vectors and even took us all the way to waypoint LAMMY then PSX, both 100 miles outside our flight plan. Then vectoring us 100 miles west of the field farther away...this now far outside our flight plan burned all the extra fuel as well as the alternate fuel. Because weather in IAH was still reporting VFR conditions. I still I remained optimistic as long as they turned us back to the field for an east Landing we would still land with a safe amount of fuel.

While still flying away from the field I received a new ATIS that said 10 miles vis and 6000 overcast, BUT now they were landing west and we were 100 miles on the wrong side of the field. At this point, I declared minimum fuel to ATC but my call was ignored. Due to high radio traffic [it] was hard to get in multiple calls. Second time I called minimum fuel, and needed to be turned 180 toward the airport. [Instead] I was given a 65 degree turn just to a make me happy, but still not any closer to the field and given a new fix BELLR 60 miles farther from airport but then direct. As we got closer they gave us yet another vector away from the airport and I told them we were minimum fuel and we can't accept any more deviations. This call was again ignored and were given a handoff.

When I checked in the new frequency I said, "Heading ... Request priority" and he responded with "are you minimum fuel?" I said, yes, as I declared a long time ago and need priority handling." I was again given a bogus vector nowhere nearer to IAH. Our low fuel light is on now and I hear they are landing west yet we are still east of the airport. Knowing IAH, I knew they were going to fly us past the airport again to get us on the east side and put us number 20 inline for landing west and we had nowhere near that fuel. The only way I could get IAH attention and get any priority handling was to [confirm with ATC] yet ZHU still did not care to help me get into the airport and said "you're better off going to Hobby" at this point we finally got priority handling into Hobby for a safe landing.

Synopsis

Air carrier Captain reported reaching emergency fuel state after multiple vectors for arrival and runway changes at IAH.

Time / Day

Date : 201801

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : IMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : 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 : Climb

Airspace.Class E : ZZZ

Component

Aircraft Component : Fuel Quantity-Pressure Indication

Aircraft Reference : X

Problem : Malfunctioning

Person : 1

Reference : 1

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 : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1511229

Human Factors : Workload

Human Factors : Confusion

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Troubleshooting

Person : 2

Reference : 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)
ASRS Report Number.Accession Number : 1511229
Human Factors : Workload
Human Factors : Time Pressure
Human Factors : Situational Awareness
Human Factors : Confusion
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Fuel Issue
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Executed Go Around / Missed Approach
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 : Weather
Primary Problem : Weather

Narrative: 1

Weather was few 900, and 4100 OVC. After two attempts, we would break out of the clouds at minimums, but with the 1 3/4 mile visibility we could not see the runway in time to allow for a safe landing. After the 2nd missed approach, our fuel was 4400 lbs. The divert fuel was 4100 and the field conditions were getting worse. We decided to divert. After being passed to the 2nd departure control (climbing 10,000 up to 20,000), the right fuel tank went all amber dashes. The left tank showed 1730 pounds. This was lower than the final divert number and half of what the fuel should have been. Without knowing the actual fuel QTY, [advised] low fuel [with ATC] and with a request to land at the closet suitable airport. With the options and distance and runway information given, going back to [our original destination] was the best choice. ATC said ATIS was 500 broken and calm winds. We requested the ILS to ensure we could get in. In the turn back, both tanks went dashes for a few seconds. After leveling, they both came back showing 3400 pounds on board. But, immediately, the right tank went back to all dashes. After landing, the left tank showed 1490 lbs, the right tank showed amber dashes. I rebooted the airplane to see if the fuel numbers would change. The left tank showed 1610 and the right was 1490. (Note, the left tank showed 1490 after landing, now showing 1610).

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

ERJ-145 flight crew reported fuel quantity indication malfunctions during a diversion, that forced them to return to the original destination airport.

Time / Day

Date : 201801

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ITH.Airport

State Reference : NY

Altitude.MSL.Single Value : 2800

Environment

Flight Conditions : VMC

Light : Night

Aircraft

Reference : X

ATC / Advisory.Tower : ITH

Aircraft Operator : Air Carrier

Make Model Name : Medium 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 : Initial Approach

Airspace.Class E : ITH

Person

Reference : 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)

Experience.Flight Crew.Type : 1220

ASRS Report Number.Accession Number : 1511219

Human Factors : Situational Awareness

Events

Anomaly.Inflight Event / Encounter : Fuel Issue

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Automation : Aircraft Terrain Warning

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

During cruise flight, we noticed that the landing fuel was going to be close/over max landing weight. We discussed the potential problem and talked about how to make sure we were below max landing weight before the FAF on the approach into ITH. Our plan was to configure early and use flaps/speed brake to burn extra fuel and if we were still to close we would perform a hold over the FAF (VRNAH) to burn the extra fuel. We began the approach and configured early to try and help with fuel burn. As we neared the FAF we determined that we would need to perform one turn in holding over the VRNAH. We advised tower of our fuel issue and made the request to hold over the FAF (Standard Hold) at 3000 ft. After a slight delay with ATC coordination, the controller came back and said "approved as requested." By this time we were already past the FAF around 2800 ft. I disconnected the Autopilot, added power, began a shallow climb back to 3000 ft, began a right turn to the outbound course, and called for FLAPS 9. After a positive rate was established, I called for GEAR UP. Once we were on the outbound course abeam VRNAH, the aural warning "LANDING GEAR" began to sound. We attempted to silence the warning but it would just come back on. About 20 seconds later, we received an aural "TERRAIN, PULL UP" warning. I immediately responded by adding power and established a climb to the MSA (3700 ft).

I had previously placed the MFD on terrain mode knowing that the Ithaca area was surrounded by shallow hills. During the GPWS event, I never saw any terrain indication on the MFD. Quickly after reaching the MSA, we realized that there were two towers at 2279 ft and 2101 ft that likely caused the GPWS warning. By this time, we knew we were good on fuel and landing weight, and clear of any terrain/obstacles. We advised tower that we were ready to turn inbound and re-intercept the localizer. They cleared us to land, and I began reconfiguring for the ILS. We performed the approach without issue and landed on Rwy 32 without event.

The GPWS alarm went off most likely because of the towers less than 1000 ft below us up ahead. We assumed 3000 ft would be a safe altitude for our holding maneuver since there was a published hold on the approach chart and ATC approved our request at that specific altitude. We also knew the highest obstacle was at 2302 ft far to the NE of the field. We overlooked the fact that we would be flying over those towers and they could potentially trigger the GPWS.

I believe our plan to deal with the fuel issue was good in theory. We were also reassured when ATC cleared us "as requested." We overlooked the fact that even though 3000' was the platform altitude, the two towers at 2279 and 2101 would potentially cause the GPWS to activate. We should have performed the maneuver at a higher altitude (3700 ft).

Synopsis

Air carrier Captain reported climbing in response to a GPWS terrain warning on a night approach to ITH.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : Marginal

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : A320

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Airspace.Class A : ZZZ

Person

Reference : 1

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)

ASRS Report Number.Accession Number : 1510999

Events

Anomaly.ATC Issue : All Types

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Diverted

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Procedure

Contributing Factors / Situations : Weather

Primary Problem : Weather

Narrative: 1

ATC advised of an arrival change. After a few minutes and being passed to another sector, we received another reroute. After established, ATC switched to another sector and started giving vectors away from ZZZ. At that time the arrival fuel in the FMS dropped from around 11000 pounds to around 6.9 in amber color indicating that with these extra vectors we could be starting to burn into our original reserves. The Captain stated to ATC that we needed priority. ATC then gave direct ZZZZ intersection. After various missed approaches at ZZZ by other carriers ATC gave us another vector away from ZZZ. ZZZ1 was also deteriorating, so I concurred with the Captain to [advise ATC] and proceed to ZZZ2 and had an uneventful landing, for refueling.

If weather starts to deteriorate beyond what forecasts show, and the crew asks for priority, have ATC suggest to proceed to alternate or other suitable airport. There will be time for another attempt to the original destination.

Synopsis

A320 First Officer reported diverting due to deteriorating weather and a fuel critical situation.

Time / Day

Date : 201801

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 20000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B737 Undifferentiated or Other Model

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 : Malfunctioning

Person

Reference : 1

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 : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 2792

ASRS Report Number.Accession Number : 1508049

Human Factors : Distraction

Human Factors : Human-Machine Interface

Human Factors : Troubleshooting

Human Factors : Workload

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
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
Primary Problem : Aircraft

Narrative: 1

Climbing out of approximately FL200, we observed the Master Caution Fuel Light illuminate, and assumed our Center Tank was empty. I was the pilot monitoring, and I was surprised to see that we still had approximately 2300 lbs of Fuel in the Center Tank with an associated "CONFIG" Fuel Message on our fuel totalizer. As looked up to our fuel panel switches, I saw both fuel pumps on with both low pressure amber lights on. I thought that maybe there was some sort of electrical glitch, so I selected both Center Fuel Pumps off, and then back to on, with no change in the initial condition. I then pulled out the QRH, and referenced "CONFIG" Checklist. It stated that the checklist be completed in level flight, so I waited until we reached our cruising altitude of 37000 Ft. Once there, we completed the QRH with once again no change in the initial condition. Thinking that maybe we had a circuit breaker popped, I checked for circuit breakers so that [Maintenance Control] would be notified once we got to a repair station. After a thorough look I found nothing. We then we got a phone patch through AIRINC to contact dispatch and [Maintenance Control], to see if they had any suggestions for us try. They had none. We then discussed if we would continue or divert to another airport, and after taking all options into consideration, we elected to continue to ZZZ. We did ask the ATC desk to see if they could give priority into ZZZ over other aircraft, which they did, and we landed in ZZZ five minutes ahead of schedule. Once I the gate, we still had approximately 1600 lbs of fuel in the Center Tank with the "CONFIG" message on the fuel totalizer, and the Low Pressure Fuel Pumps Lights still illuminated any time the Center Fuel Pump Switches were selected to "on". We started with 2300 lbs in the Center Tank at the beginning of the event, and ended at gate with 1600 lbs in the Center Tank, so it seems that we did get approximately 700 lbs out of it, even white these Low Pressure Lights Illuminated, when the switches were selected "on".

Synopsis

B737 Captain reported a fuel pump malfunction during the climb.

Time / Day

Date : 201712

Place

Altitude.AGL.Single Value : 0

Environment

Light : Night

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : A300

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Parked

Route In Use.Other

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Experience.Flight Crew.Total : 6100

Experience.Flight Crew.Last 90 Days : 150

Experience.Flight Crew.Type : 450

ASRS Report Number.Accession Number : 1507646

Human Factors : Workload

Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft

Contributing Factors / Situations : Procedure

Primary Problem : Procedure

Narrative: 1

During preflight, I noted a number of anomalies with the aircraft configuration as a result of MELs on the aircraft as well as a number of other items that were not related to the

MELs. I noted that the aircraft was to be flown in PAYLOAD mode and ensured the switch was in the correct position. I also noted there was fuel in the center tank and intended to address this with the Captain. I continued to move through the MEL procedure items to ensure we were in compliance. Additionally, I noticed that fueling was still in progress. When the Captain returned to the flight deck we discussed the MEL items and associated checklists. We also discussed the plan for deicing and briefed our taxi and takeoff plan. At this point we noted the fueling door had been left open and the fueler was gone. We notified the mechanic and had that situation resolved. While we were dealing with this, the weight and balance arrived and we completed the paperwork and setting up the FMC. We then closed the doors and started coordination for pushback, de-ice configuration, and ensuring we met all of the operational procedures for the aforementioned MELs. After de-icing, all other procedures were conducted normally. We departed and, passing through 18,000ft, our review of the fuel page confirmed we had departed with greater than 400lbs in the center tank while still in payload mode. Contributing factors were the multiple MELs that required a variety of procedures, the distraction of the fueling door, and my failure to remember to bring to the Captain's attention the fuel I had noted when pre-departure preparations increased our workload. To prevent a reoccurrence, I plan on writing down any items that I plan to address with the Captain while he is off of the flight deck.

Synopsis

Airbus A300 pilot reported departing with greater than 400 lbs in the center tank while still in payload mode.

Time / Day

Date : 201712

Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Fog

Light : Night

RVR.Single Value : 1600

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

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

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Flight Phase : Landing

Flight Phase : Descent

Airspace.Class C : ZZZ

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 4500

Experience.Flight Crew.Last 90 Days : 90

Experience.Flight Crew.Type : 500

ASRS Report Number.Accession Number : 1507500

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Situational Awareness

Events

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Diverted
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

I filed a flight plan to ZZZ1, with a required alternate of ZZZ2. I departed with 3,100 LBS of fuel, requiring only 2,900 to make my alternate and 45 minute cruising time. Upon arrival in ZZZ1 class C airspace, I was informed that the RVR had dropped to 1,200. I asked to hold, and was told to hold at [navigational aid], which I did. After 2 turns in holding at 5,000 MSL, I asked to climb to 12,000 for fuel conservation. I elected not to divert to my alternate of ZZZ2 because ZZZ3 (which I was holding over) has an LPV approach, and was reporting 6 SM visibility. I was able to see the runway lights and beacon at ZZZ3 with each turn in holding. After approximately 30 minutes of holding, I noticed that there was a reduction in visibility at ZZZ3 (I could still see the beacon and runway lights, but with less clarity), and checked the AWOS there. It was reporting 2 SM visibility.

I then decided to attempt to land at ZZZ3 before the weather deteriorated any further. I attempted the RNAV Runway XX there, but had to go missed. I then requested vectors to ZZZ4, and began to set up for the approach there, however, their AWOS showed 1/4 SM visibility. With approximately 30 minutes of fuel left, I realized I had boxed myself into a very bad situation. I am very familiar with the ILS XX at ZZZ1, and elected to [advise ATC of minimum fuel] and attempt the ILS there. The RVR was reported to be 1,600, but I was essentially out of options. I landed successfully, and was escorted to the ramp by airport operations.

I will never hold for more than 2 turns before diverting again. I believed that the weather would clear (the RVR would bounce from 1,000 to 1,600 at ZZZ1), but should have erred on the side of caution and proceeded to ZZZ2. I was emboldened to stay in holding because of the weather at ZZZ3.

Synopsis

A Cessna Citation pilot reported having to advise ATC of minimum fuel due to deteriorating weather conditions at the destination airport, which necessitated several holding patterns and a missed approach at an alternate airport.

Time / Day

Date : 201712

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : Mixed

Weather Elements / Visibility : Fog

Weather Elements / Visibility : Rain

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : F11

Aircraft Operator : Personal

Make Model Name : Cessna 152

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Personal

Flight Phase : Cruise

Route In Use : None

Airspace.Class C : MCO

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 125

ASRS Report Number.Accession Number : 1506615

Human Factors : Situational Awareness

Human Factors : Confusion

Human Factors : Time Pressure

Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Landing Without Clearance

Anomaly.Deviation - Procedural : FAR

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Landed As Precaution

Result.Flight Crew : Diverted

Result.Air Traffic Control : Provided Assistance

Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Airspace Structure

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Human Factors

Narrative: 1

I took off. I flew direct to ZZZ , then ZZZ1 but I didn't land in ZZZ1 just see the Airport and turn my heading and on my way back [home], the weather was not good enough, fog and rain too, I keep flying all the way to ZZZ2, the ceiling was very low and I can't see anything. So in order to get out of that I flew to the East and get back to the heading and get back on course and back to [home airport]. I planned that and I flew to the East but I got Lost and I called Approach for help but they didn't respond to my call, but I didn't talk to Approach. At the same time I'm lost and low on fuel too, so when I said low on fuel Approach listened and I told them that I will be landing which ever airport is near me. So Approach asked my altitude and asked me which runway you at, I told them I'm at 1,000 ft and want to land runway 27, I don't know which airport I'm landing, when I was at the ground after landing, I asked the person who refueling my aircraft and he told me, here is ZZZ3, at the same time security came and asked me, and I told them I'm lost and at same time low on fuel, so I just talked to Approach only, I didn't get any clearance to enter here, because I was low on fuel and landing without any clearance. Then they said it's good but now you got all frequencies to contact ground, tower and go back to your home airport? Then I told them Yes, I do, I got everything. Then Security told me again, you have to contact ground, then tower, then if they clear you, then you can fly back home safely, so I did that, After that I contact ground, tower and approach and they cleared me to fly at 1,600 ft until they changed me to Approach, then they cleared me to climbed to 2,500 ft then I flew back to [home].

The point here is I turned on a wrong direction and I lost and landed at a wrong airport without any clearance, the aircraft doesn't have a GPS and I'm also new in this area. I'm a training pilot just completed my private and do my time building and this accident happened. I'm reporting myself because I made a mistake.

Synopsis

GA pilot reported becoming lost and low on fuel resulting in a landing at a Class C airport without a proper clearance.

Time / Day

Date : 201712

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : IMC

Weather Elements / Visibility : Snow

Light : Daylight

RVR.Single Value : 4500

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : EMB ERJ 170/175 ER/LR

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Person

Reference : 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)

ASRS Report Number.Accession Number : 1506479

Human Factors : Situational Awareness

Human Factors : Time Pressure

Events

Anomaly.Deviation - 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 : Requested ATC Assistance / Clarification

Result.Flight Crew : Landed in Emergency Condition

Result.Flight Crew : Diverted

Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

ZZZ weather was forecast to be 300/05KT P6SM SCT050 BKN100 at +/- one hour from planned time of arrival. An alternate was not required at the time of dispatch, however it was added enroute when snow conditions began earlier than anticipated. Upon communicating with my dispatcher, he added ZZZ1 as our alternate being that it was the closest acceptable airport with the best weather and we had very little contingency fuel. At that time ZZZ1 reported calm winds, 1-3/4 SM visibility -SN BR BKN024 OVC033 M08/M11. After a few vectors from ATC and when the weather became acceptable we approached ZZZ for the ILS (to the only runway open at the time). The approach controller informed us shortly before the final approach fix that Runway XX was reporting 4500 RVR. As a Restricted Captain I was required to add 1/2SM to visibility in order to be in compliance with FM-1. *Note: The [reporting] system does not allow fractions to be added under the Cause/Weather section of this report, however it was 3/4 SM as reported in the ATIS.* The charted minima for ZZZ ILS XX requires 1/2SM and the weather was above that minima for CAT 1 at, however below the 1 SM/5000 RVR requirement that my restricted status imposed. We therefore abandoned the approach before the final approach fix and notified the approach controller immediately that we would have to divert to ZZZ1. Enroute to our diversion airport, ZZZ1 weather deteriorated to approximately the same conditions we found in ZZZ (4500 RVR for the only runway in use, Runway XY). As we had little other options with the fuel onboard, [ATC was advised] on approach to ZZZ1 Runway XY when the fuel level reached approximately 2100 pounds (near 30 minutes remaining). It was clear that [Captain's] authority was required to land below Restricted Captain Minima and that a go-around would be ill-advised.

The cause of this event is attributed to the lack of fuel due to the early onset of snow conditions at the destination. As no alternate was filed or required at the time of dispatch, an alternate had to be added enroute when weather deteriorated at the destination. The situation became more constricted when the alternate weather also dropped below Restricted Captain Minima, directly driving the need to deviate from the higher minima to safely land the aircraft. At the time of planning, the flight was dispatched with adequate fuel, however preemptively adding an alternate - while not required initially - would have been prudent and given the crew more options for alternate airfields with better conditions.

Synopsis

EMB-175 Captain reported that because of weather conditions and low fuel on board the crew landed below restricted captain minima.

Time / Day

Date : 201712

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Icing

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

Flight Phase : Descent

Airspace.Class A : ZZZ

Person

Reference : 1

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)

ASRS Report Number.Accession Number : 1506309

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Workload

Events

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Result.Flight Crew : Diverted

Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

This event was caused by a severe CB system moving thru the area to the southeast. There were numerous CB's associated with wind changes and moderate turbulence at the landing time. We attempted 3 approaches to land and had to go around all three times, once for winds out of limits due to tailwind and twice for head windshear on final approach. We diverted to our filed alternate but had to deviate around WX (Weather) cells and unforecasted winds aloft were 270/144 which resulted in more fuel burn to the alternate. Initially the FMS predicted landing at [the diversion airport] with 14.8 FOB (Fuel On Board). During the cruise flight we got clearance direct to the airport. We climbed to a higher altitude for better fuel economy. After 15 minutes the FMS now said landing FOB was 12.8 after loading the approach and clearance to the FAF. At that time I declared Minimum Fuel with Center and stated that we could not accept any delays. We began our initial descent and passing FL180 the FMS predicted landing FOB of 11.1 and we got Fuel tanks 3 and 2 LO FUEL alerts. At this time I [advised] Emergency Fuel with Approach control. I elected to auto land the airplane because I thought we would flame out an engine on another GA. On final approach the FMS predicted FOB 10.8. We briefed the approach and what may happen if we lost an engine. The approach and landing were successful and we canceled the Emergency with Tower after landing. When we blocked into [the] ramp and shut down engines the FOB was 9.6. FO (First Officer) performed flawlessly and was of great help in getting this flight safely on the ground. We contacted [Operations Control] and got our new [release] and gas and go to return back to [the original destination] without further problems. Phone contact with our Dispatcher confirmed no recent windshear reports in the area prior to our departure. The entire sortie that night was delayed 1 hour due to the severe weather and divers.

This EMERGENCY FUEL event was caused by excess fuel burn due to very strong unforecast winds aloft and the need to vector around CB's while diverting to our scheduled alternate. ATC was very helpful during this entire event.

[I recommend] divert to Alternate earlier after 2 approach attempts only, also better manage FOB.

Synopsis

MD-11 Captain reported landing with minimum fuel onboard following 3 missed approaches and a diversion due to inclement weather.

Time / Day

Date : 201712

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : D01.TRACON

State Reference : CO

Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : Marginal

Light : Night

Aircraft

Reference : X

ATC / Advisory.TRACON : D01

Aircraft Operator : Air Carrier

Make Model Name : Regional Jet 700 ER/LR (CRJ700)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Airspace.Class B : DEN

Person

Reference : 1

Location Of Person.Facility : D01.TRACON

Reporter Organization : Government

Function.Air Traffic Control : Approach

Qualification.Air Traffic Control : Fully Certified

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

ASRS Report Number.Accession Number : 1505970

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Human Factors : Confusion

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Anomaly.Inflight Event / Encounter : Fuel Issue

Anomaly.Inflight Event / Encounter : CFTT / CFIT

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Became Reoriented
Result.Air Traffic Control : Separated Traffic
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

I was working arrivals doing ILS approaches. Aircraft X checked in on the downwind and declared minimum fuel. I verified the fuel status and advised the pilot to which runway to expect. I continued working through my other aircraft with an awareness that I needed to get Aircraft X in as soon as feasible. It was low IFR and with the parallel runway configuration aircraft were doing at least 20 mile finals. At the opportune time, I based Aircraft X at 9,000 ft. The aircraft took the turn and I then issued the full ILS clearance to the aircraft. The pilot read back the turn and clearance but not the altitude.

As the aircraft approached the localizer, I observed Aircraft X at 8,000 ft. The next hit was below 8,000 ft and now below the MVA. I asked the pilot his altitude to which he did not respond and I tried to climb him but my transmissions were blocked no less than 3 times. The aircraft was now at 7,200 ft. The Low Altitude alert never went off, but I issued a low altitude alert to the pilot and climbed him to 9,000 ft. He read back the clearance but was very slow to climb the aircraft. However the aircraft did accelerate. Due to the fuel situation that the pilot advised me of, I chose not to break the aircraft off the approach but rather to ask if he was able to continue the approach. He replied in the affirmative. I reissued the clearance and reduced his speed. He was now overtaking the traffic in front of him, but I didn't have time to keep him on my frequency due to the altitude of the aircraft next to him. The aircraft climbed while on the localizer until reaching the step down altitude of 9,000 ft and then descended on the approach and landed without further incident.

This may have been a pilot error due to the added stress of performing a minimum fuel landing in IFR conditions. I am glad I was able to be of assistance to the pilots.

Synopsis

D01 TRACON Controller reported an aircraft descended below the assigned altitude and below the MVA.

Time / Day

Date : 201712

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZZ.Airport

State Reference : FO

Altitude.MSL.Single Value : 320000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZZ

Aircraft Operator : Air Carrier

Make Model Name : B767-300 and 300 ER

Crew Size.Number Of Crew : 3

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Route In Use : Oceanic

Component

Aircraft Component : Fuel Tank Cap

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Relief Pilot

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 20000

Experience.Flight Crew.Last 90 Days : 200

Experience.Flight Crew.Type : 7000

ASRS Report Number.Accession Number : 1504683

Human Factors : Distraction

Human Factors : Workload

Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Attendant
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Returned To Departure Airport

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

About 20 minutes after takeoff, Lead flight attendant called the flight deck to inform us that a passenger observed fluid coming from the right wing. I asked, what color of fluid the passenger had seen, she informed me clear fluid.

As relief pilot, I exited the flight deck about 10 minutes later to observe the right wing. I observed what I would judge to be about 1 or 2 gallon per minute of fluid streaming from the trailing edge of the right wing, and could trace the origin to the mid-wing fuel cap. I called the flight deck to inform the Captain of the situation. About 15 minutes later, the Captain called back to the cabin to ask me to reassess the leak. I observed no change in the situation.

I returned to the flight deck to find the duty crew had initiated fuel dumping and had coordinated a diversion. I assisted in calculating our landing fuel, ACARS communication with dispatch, informing the flight attendants and passengers, and reviewing the QRH, as well as making logbook entries.

After an uneventful landing, we were able to get the fuel cap O-ring replaced. Flight attendant duty time was an issue but they voluntarily waved their limit and we were on our way within about 4 hours. Remainder of the flight was uneventful.

Synopsis

B767-300 Relief Pilot reported that they observation of fuel streaming from the trailing edge of the right wing. It was determined that the source of the leak was a wing-tank fuel cap, and an uneventful return to the departure airport was accomplished.

Time / Day

Date : 201712

Place

Altitude.MSL.Single Value : 14000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : Widebody Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Parked

Person

Reference : 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)

Experience.Flight Crew.Total : 6855

Experience.Flight Crew.Type : 2502

ASRS Report Number.Accession Number : 1504383

Events

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

Were Passengers Involved In Event : N

When Detected : Pre-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Procedure

Primary Problem : Procedure

Narrative: 1

Flying [this leg] we are generally over the Terrain Critical Depressurization Procedure (TCDP) area of Greenland. The TCDP is simple, if west of W040 descend to FL140 and proceed to the west coast of Greenland, if east of W040 descend to FL140 and proceed to the east coast of Greenland.

For my flight, the original route had an ETOPS Critical Point (CP) west of W040 with an ETOPS alternate east of W040. Thus the ETOPS solution conflicted with the TCDP. I can find no guidance that says that an ETOPS solution can ignore TCDP requirements, nor does it say that an ETOPS solution must comply with a TCDP, however since both are in the manuals and both address the same contingency, a decompression, it seems a reasonable inference that an ETOPS solution should comply with a TCDP. From a practical standpoint it also seems reasonable.

Synopsis

Air Carrier Captain reported the Terrain Critical Depressurization Procedure conflicts with the ETOPS Critical Point on a specific transatlantic route.

Time / Day

Date : 201712

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : DCA.Tower

State Reference : DC

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Tower : DCA

Aircraft Operator : Air Carrier

Make Model Name : EMB ERJ 170/175 ER/LR

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Landing

Route In Use : Visual Approach

Airspace.Class B : DCA

Person : 1

Reference : 1

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)

ASRS Report Number.Accession Number : 1503687

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1503705

Human Factors : Workload

Human Factors : Communication Breakdown

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

Events

Anomaly.Deviation - 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 : Became Reoriented

Assessments

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

Narrative: 1

After lengthy vectors, and slowing to speeds requiring flap extension we had to perform a go around while on approach with the River Visual 19. Vectored back around for another river visual with same slow speeds at low altitude resulted in us hitting min-fuel numbers mid-approach. Due to the high workload we refrained from attempting to interject on a busy tower frequency to declare min fuel, as we were already well established on the approach.

In retrospect, I should have just delegated to have the First Officer declare min fuel in accordance with Company Policy.

Narrative: 2

After an extended period of vectors and speed changes for sequencing into DCA, we were forced to go-around from the river visual runway 19 at 300ft agl. While being vectored back into sequence and turning back towards the river visual inbound to Fergi, the amber caution for min fuel illuminated. A high workload caused by scanning for dense traffic and setting back up for another approach, as well as considering we were already in sequence, cleared for the approach and inbound to land lead to the decision to focus more on the task at hand rather than waiting and attempting to make a call on the congested frequency.

An attempt by me as pilot monitoring still should have been made to atc to advise them of our min fuel situation as soon as any opening came up after everything was set up for the approach to hopefully prevent yet another go-around.

Synopsis

ERJ-175 flight crew reported not declaring "Minimum Fuel" during assigned go-around vectors for another approach due to congested landing traffic and high workload.

Time / Day

Date : 201712

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : PAO.Airport

State Reference : CA

Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Ceiling.Single Value : 10000

Aircraft

Reference : X

ATC / Advisory.TRACON : NCT

Aircraft Operator : Personal

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

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Route In Use : None

Route In Use : VFR Route

Airspace.Class B :

Airspace.Class D : PAO

Component

Aircraft Component : Switch

Aircraft Reference : X

Problem : Improperly Operated

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 575

Experience.Flight Crew.Last 90 Days : 20

Experience.Flight Crew.Type : 250

ASRS Report Number.Accession Number : 1503263

Human Factors : Confusion

Human Factors : Situational Awareness

Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Became Reoriented
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance
Result.Aircraft : Equipment Problem Dissipated

Assessments

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

Narrative: 1

While enroute with flight following, I turned on the auxiliary fuel pump. I switched tanks, and turned off what I thought was the fuel pump. I experienced a loss of power to the fuel gauges and made note of the time. I calculated that I had plenty of fuel and continued toward my destination. I assumed that the recent fuel tank repair was the cause of the current problem and checked the fuses, which were okay.

At that time, I realized that I was without radios and activated my hand held radio. I contacted approach and told them that I was proceeding to HAF. I requested that approach contact HAF to facilitate visual confirmation of my gear being down. Approach informed me that due to the lack of tower at HAF that SQL would be able to confirm my gear down. I was aware that the master switch could be in the off position but I did not want to add to the already problematic situation by cycling it. I agreed with Approach that proceeding to SQL was appropriate and proceeded there.

Approach tried to direct me to another frequency but I was unable to change the frequency and I requested to stay with them. They asked if I was using my PIC final authority for an emergency and I felt that they were requiring me to do so in order to continue helping me. So to fully cooperate I declared one. I then requested a change to PAO for the landing due to my familiarity with its larger open spaces. I landed at PAO and discovered that when I changed tanks I mistakenly turned off the master instead of the fuel pump. I have now practiced with the emergency backup radio and can change frequencies.

Synopsis

PA-28 pilot reported mistakenly turning off the Master Switch while selecting fuel tank.

Time / Day

Date : 201712
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : IMC

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
Flight Phase : Initial Approach
Airspace.Class C : ZZZ

Person

Reference : 1
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)
ASRS Report Number.Accession Number : 1501920

Events

Anomaly.Deviation - Speed : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
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 departed...on time and headed to [destination]. The current METAR reported winds 190/14 Gusting 26Kts, 9SM, OVC 800 ft. The TAF for our time of arrival reported winds 190/10 Gusting 18kts, 3SM, -RA, BR, BKN 600ft BKN 3500 ft. Upon descending, Approach gave us a PIREP from a King Air that had landed an hour prior. He had reported wind shear with a +/- 25kts. After adding the wind shear escape maneuver to our brief and changing our configuration to land with Flaps 22, we continued with our approach. Around 1,000ft, we started to fly through some turbulence and gusts of wind. By 500 ft, the gust had intensified and it felt like going through wind shear but the plane did not give a warning. Around 400ft, we executed a normal go-around and with max thrust and flaps 9. We got very little climb and set off the GPWS momentarily. We climbed to 2000 ft and reviewed the flight plan to make sure we had enough fuel to come back for a second approach, which we did.

After being cleared for the second approach and on final, Tower gave us an update on the weather and it had deteriorated, putting the ceiling at 200ft (below our minimums). We canceled the approach and told them that our intentions was to divert to our alternate. We immediately advised Dispatch of our intentions, and told them that we had 4500 lbs. All we received was from them was an OK and the Weather at [alternate]. Approach made us fly east bound for a few minutes, while they were getting our clearance. We asked them for a vector towards [alternate]. We monitored the fuel and noticed that we had a 70kts headwind, and with the long arrival, we were going to burn more than the expected fuel. We declared Min Fuel, and asked for a more direct route. We ended up landing with 2500lbs of fuel.

We could have skipped the second approach and decided to go back to divert with more fuel, especially after going around for wind shear. Dispatch could have been a bit more involved, especially after we reported to them our intentions, with the amount of fuel we had on board, and the headwind we were experiencing.

Synopsis

EMB-145 First Officer reported encountering windshear on final then a GPWS alert on the go-around due to a slow climb rate.

Time / Day

Date : 201712
Local Time Of Day : 1801-2400

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 : A319
Crew Size.Number Of Crew : 2
Flight Plan : IFR
Mission : Ferry
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

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

Person

Reference : 1
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)
ASRS Report Number.Accession Number : 1501306
Human Factors : Workload
Human Factors : Confusion
Human Factors : Distraction
Human Factors : Time Pressure
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : MEL
Anomaly.Deviation - Procedural : Weight And Balance
Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Diverted
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : MEL
Primary Problem : Ambiguous

Narrative: 1

Aircraft was late and upon arrival my first impression was why are we flying an A319 coast to coast? Flight delayed one hour due to weight and balance. 41000 pounds of fuel were loaded on Aircraft X with 146 passengers. We had an MEL for one center tank pump #2. My thought then was can one center tank pump handle all that fuel. It took an hour of moving people, kids, bags and counting half weights to finally get a solution for takeoff. First, ramp folks improperly filled out load sheet filling in weights for bins that clearly stated only for 320/321 when we were in a 319. This led to a new form fill out after multiple negative solution requests in the box and finally a call to dispatch and load planning. When putting 41k pounds of fuel on a 319, some form of guidance and/or oversight must be given to ramp folks loading the aircraft; it was not and we paid the price.

We took off. Climbout was uneventful and we reached cruise altitude without incident. About an hour and a half into the flight we received an ECAM for Fuel Auto Feed fault. We proceeded to methodically go through memory items, the ECAM itself and the QRH. The ECAM was telling us to turn on the #2 center tank pump which we could not do since it was MEL'd to keep off. We proceeded at that point to the MEL operational procedures which I'm going to say up front here are very poorly written and hard to understand. If you read the steps and follow the indents there is no clear, logical flow to what should be done and more importantly when. That has to be left for a separate conversation...too much detail for this incident report. See bottom for increased details.

The bottom line was that by the time we did get to this, the left side was over 12k pounds and the right side was under 10k pounds with nearly 9k pounds in the sump. The procedure gave us two separate, conflicting actions for the two situations we had. It was very difficult to clearly discern a course of action. I also did not like the fact that not only were we flying an aircraft that was not perfectly suited for the flight, but the operational procedures appeared aimed at "tricking" the system into working. These two factors again made me uncomfortable. The left side fuel was not flowing...period. The right side was draining faster than the sump. None of this made any sense but it became apparent that in a very short period of time we were going to have a major fuel split. I also opened the crossfeed valve and secured the #2 engine fuel pumps in the hopes of then draining left side fuel. NO fuel would transfer from the left side...period. There was no way we could even consider pressing on; a divert was imminent. I then contacted maintenance and explained the situation. They never even mentioned or asked about the operational procedures. We were directed to return to [Departure Airport]; however, when I mentioned we were already over halfway across and [an alternate] was 150 miles off the

nose ie. much closer, we were then directed to go there. At that point we proceeded to divert while setting up the arrival and reviewing the QRH for overweight landing as we were close to 14k pounds overweight at landing (approximately 151k pounds). Uneventful landing around 300 FPM. We landed with nearly a 6000 pound fuel split. You could feel the wing dip on the left side and rudder trim was pushing 4.0 degrees. I never saw the need for declaring an emergency so we never did. At the gate we had the passengers deplane and maintenance started working the problem.

Fuel was transferred manually and the split eliminated but no one ever could pinpoint why this happened. I was extremely leery of taking this aircraft up again. The maintenance guy said the refueling panel had a center tank pump switch in the open position. I don't know if this had any effect on the situation; it is my understanding that once the refueling panel is closed, it is rendered inoperative? Not one but two maintenance personnel were extremely curious as to why so much fuel was put on a 319 with one center tank pump inoperative? I agreed whole heartedly and really beat myself up for not pushing the issue prior to departing [Departure Airport]. It did not feel right to me. One of those maintenance guys said he did not feel that the single center tank pump could handle that much fuel. That aircraft was perfect for east coast flights. Low sump if any fuel and wing tank fuel only. Going to [Original Destination Airport] was a mistake in my eyes.

This was why I did not want to take the aircraft up again for [Original Destination Airport]. After multiple discussions with crew schedulers and the Chief Pilot, I called in fatigued as we had been on the ground for near three hours. A plan was discussed to move all the remaining sump fuel to the wing tanks and fly to [another airport] where a new crew/aircraft would fly the people on to [Original Destination Airport]. I was willing to do this to help out the situation but crew schedulers said if you're too fatigued to fly to [the Destination Airport] then you are too fatigued to fly to [a connecting airport]. We agreed to disagree at that point and we left for the hotel. We had flown the redeye the previous evening and had minimal rest prior to [the Destination Airport]. I was tapped out by the entire evolution.

This morning we repo'd Aircraft X back to via ferry flight. Had no issue with a light sump load of less than 2,000 pounds. No ECAMs, and although we did develop a fuel split of over 2,000 pounds, the sump tank bled down normally and the split over time corrected itself somewhat. I'm no maintenance guy but I feel it was the heavy sump load and one center tank pump inoperative that led to these issues. I'm hoping an answer can be provided.

As a side note, the Flight Attendant (FA) crew said they had been on the same aircraft previously and had to do the same thing....divert for inoperative fuel transfer.

Synopsis

A319 Captain reported a serious fuel imbalance issue which could not be resolved in flight. A diversion to a nearby suitable airport was successfully accomplished.

Time / Day

Date : 201712
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 4500

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

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

Component

Aircraft Component : Engine
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Flight Engineer
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 11000
Experience.Flight Crew.Last 90 Days : 25
Experience.Flight Crew.Type : 25
ASRS Report Number.Accession Number : 1501149

Events

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

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

While in cruise flight, began to have a fuel pressure fluctuation. This is a new aircraft to me and I had had this before. This time the engine failed and then restarted.

I diverted to [a nearby alternate airport] rather than continue to my original destination.

It appears that while I had fuel on the aircraft, the flow was interrupted. I added fuel and it worked without event the rest of the way.

I will keep closer track of my flight time to ensure there is no re-occurrence.

Synopsis

Motor glider pilot reported diverting to an alternate airport after the engine failed due to a fuel pressure issue. Engine was successfully restarted in flight and the aircraft landed safely at the alternate.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 800

Environment

Flight Conditions : Marginal

Weather Elements / Visibility.Visibility : 5

Light : Daylight

Ceiling.Single Value : 1000

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Personal

Make Model Name : Cessna 150

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Ferry

Flight Phase : Initial Approach

Route In Use : Direct

Airspace.Class E : ZZZ

Component : 1

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Air/Ground Communication

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Rotorcraft

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1750

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

Events

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

Assessments

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

Narrative: 1

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

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

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

Synopsis

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

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : FBO

Make Model Name : SR20

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Mission : Training

Flight Phase : Climb

Airspace.Class C : ZZZ

Component

Aircraft Component : Fuel Tank Cap

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

ASRS Report Number.Accession Number : 1497725

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Returned To Departure Airport

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

After taking off we were asked to contact departure, and as we were climbing to assigned altitude Instructor started smelling fuel and looked out the window. The left fuel tank had significant fuel leak through the fuel cap (the fuel cap was tightly secured in place) and instructor notified ATC of the incident and requested visual approach back to [departure airport].

Synopsis

GA flight instructor reported a significant fuel leak after takeoff.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : ATR 42

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Flight Phase : Climb

Airspace.Class B : ZZZ

Maintenance Status.Released For Service : Y

Component

Aircraft Component : Fuel Quantity-Pressure Indication

Aircraft Reference : X

Problem : Failed

Person

Reference : 1

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)

ASRS Report Number.Accession Number : 1497657

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Maintenance

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : Maintenance Action

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

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

When I arrived for duty, I put a fuel request in for 3000 LBS. I was informed that the current fuel load was 3900LBS with a 900-1000LBS fuel imbalance. I was informed that since the imbalance was less than the limitation of 1212LBS that I was good to dispatch. I questioned why the aircraft had 3900LBS of fuel on board, and was informed that due to maintenance/engine runs during the previous night, the night maintenance fueled the aircraft incorrectly.

I contacted Dispatch, informed [them] that the aircraft was fueled incorrectly, and now had 3900LBS of fuel on board. I explained that I would have to balance the fuel load and that there could be a loading issue/delay...due to the reduced payload capacity because of the higher fuel load. This was all noted and my flight was released for departure. My first turn...was completed with no additional issues.

I refueled for my [next] flight...with 3100LBS of fuel and departed. No issues were detected on the first leg. On the second leg on climb out a "Low Level Fuel Light" local alert illuminated with fuel light on the Captain`s [side] and Right Engine Electric Fuel Pump turned on. We performed the Fuel Lo LVL following Failures Procedures. We checked the Fuel Quantities and had over 1000LBS of fuel in both tanks (Total Fuel on board over 2000LBS). We completed the procedure for "If LO LVL light on one side only." We had no indication of a Fuel Leak. We completed the procedure per "No Fuel Leak and if FQI (Fuel Quantity Indicators) is equal or greater than 352 LBS," "Feeder Jet pump malfunction is suspected." We monitored Fuel consumption and burn rate was normal in both engines. We contacted Dispatch and informed them of the malfunction, indications, the procedure performed and our ETA.

During the descent at around 900LBS of fuel in the right tank (Total Fuel On board over 1800LBS) the right engine flamed out. We contacted Center.... We performed the Engine Flame-Out procedure then the Single Engine Operation Procedure. We received or clearance to land...and executed the landing with no further issues. Maintenance inspected the aircraft and found the right fuel tank showed 900LBS of fuel indicating on the FQI but no fuel in the right wing.

Synopsis

ATR42 Captain reported that on descent for landing, the right engine flamed out with 900 pounds of fuel indicated in the right tank. Tank was subsequently found to be empty.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 39000

Environment

Flight Conditions : VMC

Aircraft

Reference : X

ATC / Advisory.Center : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : B757 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Airspace.Class A : ZZZ

Person : 1

Reference : 1

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 : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 909

ASRS Report Number.Accession Number : 1497168

Person : 2

Reference : 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)

Experience.Flight Crew.Total : 14056

Experience.Flight Crew.Type : 10861

ASRS Report Number.Accession Number : 1497158

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 : Diverted
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Approximately 1.5 hours into the flight, crew was alerted by CDU message "FUEL DISAGREE - PROG 2" and observed 3,600 lb difference between Total and Calculated fuel quantity. Fuel leak was suspected and QRH checklist referenced. Center tank fuel had just been exhausted. Slowly increasing fuel imbalance between left and right main tank and visual inspection of left engine confirmed fuel leak. Decision was made to divert to [a nearby alternate]. ATC [was advised] and diversion requirements communicated. Diversion coordinated with Dispatch and cabin crew; passengers advised. Landing performance data obtained for overweight landing and appropriate checklists referenced. Uneventful landing.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

B757 flight crew reported diverting to a nearby alternate after confirming a fuel leak from the left engine.

Time / Day

Date : 201605
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Thunderstorm

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet 900 (CRJ900)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Landing
Route In Use : Vectors
Airspace.Class C : ZZZ

Person

Reference : 1
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 : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1496506

Events

Anomaly.Ground Event / Encounter : Ground Strike - Aircraft
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Aircraft : Aircraft Damaged

Assessments

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

Narrative: 1

An unforecast thunderstorm left us making decisions with less fuel than we often would have had in this situation. Had we more fuel, holding and waiting for the weather to pass and knowing we could still divert if it didn't would have been ideal. That is not the situation in which we found ourselves. We had enough fuel for one approach, a missed, and a diversion. I feel that under the circumstances, our decision-making was appropriate. Our timing was unfortunate. Gusty, shifting, changeable winds in the flare are an extreme hazard. By the time its extent was apparent, we were well past the point at which a go around would have been safe or even successful.

There was no alternate for [the] flight, as current and forecast conditions at our time of departure were excellent. The fuel planning was adequate for the expected conditions. The flight was routine and uneventful until we spotted lightning while inbound. We immediately turned on the radar, revealing several cells northwest and moving towards the airport. The ATIS still showed calm winds at the surface. While the FO (First Officer) continued to analyze the TWIPS and the radar images, I assessed our fuel situation, including ability to hold and/or divert, and seated the flight attendants with the advice that it may be rough ahead. As no alternate was planned, our fuel situation would not allow for holding long enough to be confident that the weather would have passed. I determined that an approach, a missed, and the necessary diversion around the weather (which was between us and our impromptu planned diversion airport) was possible, though we would arrive with minimum fuel. As we continued inbound, the storms also continued their advance. I queried approach about the surface winds, and finding them insignificant (less than 10 knots,) requested landing on the Runway XX instead, thus saving us the requisite time to fly a downwind and getting us on the ground with a greater distance between us and the oncoming weather. The request was denied due to traffic considerations. The FO and I briefed the new plan and potential go around.

We continued inbound, now via vectors. We remained in VFR conditions throughout. We called the field in sight approximately abeam it, and were cleared for the approach with instructions to follow the preceding aircraft. As anticipated, the FO kept the speed up until the base turn. We were busy configuring and turning and triple checking everything. On the base turn, we began to experience light turbulence. The Tower Controller gave us an imprecise wind update, something along the lines of feeling the wind increase. I had to ask him to say again due to workload. We turned approximately a 3 mile final with the storm approximately 6 miles from the field. The FO rolled out right on localizer and glideslope. We were cleared to land with all checklists complete and increasing turbulence, plus and minus 5 knots. The FO flew it well, maintaining pitch and airspeed admirably under the circumstances, and I added occasional advice about power settings and speed maintenance due to the challenging conditions and my strong interest in making sure that he continued to fly it well. I followed him on the controls in case I needed to take them at any point, but at no point did I take the controls or did he think that I had. We were alert to the possibility of, and ready for, a windshear caution or warning, but there was none. As he entered the flare, a sustained gust pushed us a bit high and elongated the flare. As the aircraft slowed and the ailerons became less effective, greater control movements were made to maintain control. Quickly shifting winds as the aircraft slowed induced a right roll and contact between the surface and right wingtip just before touchdown.

We landed at approximately 69,000 lbs. with 3,700 lbs. of fuel on board, almost exactly

what the flight was planned to land with. We were advised that on landing, the storm was approximately 4 miles from the field.

I know weight and fuel savings are an important consideration when running an airline, but a slightly greater fuel buffer might offer pilots more options, particularly as we head into the summer months when storms, including the unforecast variety, will be more frequent.

Synopsis

CRJ-900 Captain reported that a gust from a nearby thunderstorm caused a right roll during the landing flare, which resulted in a wingtip contacting the runway.

Time / Day

Date : 201711

Place

Locale Reference.ATC Facility : I90.TRACON
State Reference : TX
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC
Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.TRACON : I90
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 : Final Approach
Route In Use : Vectors
Airspace.Class B : IAH

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 4752
Experience.Flight Crew.Type : 1950
ASRS Report Number.Accession Number : 1496327
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Dispatch

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue

Assessments

Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

New policy for IAH TRACON, ALL arrivals are to be treated as IFR (even on clear days) and expect a 30 nm downwind leg prior to turning final. Twice today we got these extended finals. Coming from the west and landing west (eastern downwind leg), not knowing this as a new policy we flew at 3000 ft, 210 KIAS for some 100 +/- extra miles, burning an estimated additional 2500 lbs. of fuel for the endeavor. As a result we were at min fuel for the first landing (not declared as we had been visual of the airport for 30+ mins) and near the same for the second landing (clear skies both events, 1st landing 8-10 nm behind interval and 2nd landing 17 nm behind interval!) This new policy needs to be communicated to crews and dispatchers to fuel plan accordingly!

Synopsis

A319 Captain reported a new TRACON procedure that resulted in increased fuel burn and minimum fuel status on multiple flights.

Time / Day

Date : 201711
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 50
Altitude.MSL.Single Value : 16000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : 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
Nav In Use : FMS Or FMC
Flight Phase : Initial Approach
Airspace.Class E : ZZZ

Component

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

Person

Reference : 1
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 : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 8000
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 3400
ASRS Report Number.Accession Number : 1496073

Events

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

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

Narrative: 1

On descent we received a L2 FUEL QTY/USED CHK alert. We requested priority handling. While running the checklist we were switched to Approach and were told they were handling it as an emergency and we acknowledged. Finishing the checklist, it did appear we had "lost" 3000 pounds, but there was not enough time to determine where from (idle descent). The aircraft fuel increased as we descended to where we were only 1000 pounds low, then 2000 pounds low on shutdown. Lowest tank was #2, approximately 1400-1600 pounds lower than #1. Approximately 24000 pounds total.

Synopsis

MD-11 Captain reported observing a fuel quantity indication anomaly during descent.

Time / Day

Date : 201711

Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.Tower

State Reference : US

Environment

Flight Conditions : IMC

Light : Dawn

Aircraft

Reference : X

ATC / Advisory.Tower : 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 : Takeoff

Airspace.Class C : ZZZ

Maintenance Status.Maintenance Deferred : Y

Maintenance Status.Records Complete : Y

Component : 1

Aircraft Component : Fuel Booster Pump

Aircraft Reference : X

Problem : Failed

Component : 2

Aircraft Component : Fuel Quantity-Pressure Indication

Aircraft Reference : X

Problem : Failed

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Experience.Flight Crew.Last 90 Days : 484

Experience.Flight Crew.Type : 16000

ASRS Report Number.Accession Number : 1494540

Human Factors : Troubleshooting

Human Factors : Situational Awareness

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Experience.Flight Crew.Last 90 Days : 520
ASRS Report Number.Accession Number : 1494884
Human Factors : Situational Awareness
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : MEL
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

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

Narrative: 1

We flew the flight with the following conditions: Right Center Tank Fuel Boost Pump - Inop/MEL, Left Main Fuel Quantity Indicator - Inop/MEL (blank), Center Tank fueled to 3300 pounds.

Following the relevant right Center Boost Pump MEL procedure, we opened the cross feed valve after takeoff, leaving all main fuel pumps, and the single operating (left) center pump, ON. We normally see the center tank decrease before any main tank fuel is used, given the center pump's higher operating pressure. However, we quickly noticed the center and operating right main tank fuel quantity BOTH decreasing EQUALLY. We surmised this was because, while an operating center boost pump would "overpower" both main pumps on that side, saving the (left) main tank, it would NOT keep the far side main tank fuel (right) from being used, even with the cross feed open (this was confirmed in a subsequent conversation with MX Control).

We used the Fuel Used switch to confirm the total fuel used for both engines matched the fuel used only from the center tank and the right main. In other words, the left main tank's fuel was NOT being burned and an imbalance was rapidly developing, though, in this case, we could not SEE the imbalance because the left main quantity display was inop.

We solved the problem by continuously monitoring the Fuel Used switches as the center tank depleted, then using conventional cross feed techniques based on fuel flow rate, elapsed time, and repeated fuel audits, to prevent an imbalance, and rebalance the main tanks as best we could, by cross feeding for what we calculated was the correct minutes and seconds, and then confirming with total fuel used versus the quantities we could see.

The problem was that while the Center Tank Boost Pump MEL contained a rather cryptic

note to "be aware of a potential fuel imbalance developing," it did not contemplate that the Pilot might not be able to "see" the imbalance developing due to a second Fuel Quantity Indicator Inop MEL. It also did not note that single side main fuel might be used while the other main tank remained undetectably full, resulting in a 1,000 pound imbalance developing very rapidly, well before reaching cruise in a crowded terminal area or delayed climb (by my calculations, in only 10 to 12 minutes). Further, I was not certain whether the Crew would get an IMBAL Alert without both fuel quantity indicators; or, if they would, how difficult it would be for them to diagnose the problem correctly, especially if there was still center tank fuel in that tank complicating the math.

I suggest that the Fuel Quantity Indicator and Center Boost Pump MEL's should not be allowed simultaneously, center tank fuel be disallowed with both MEL's; or, at minimum, that Crews be made aware of this risk with a more strongly worded vigilance note in the MEL, explaining the risk of an undetected imbalance rapidly developing after takeoff and how to monitor for it.

Narrative: 2

Dispatched on flight with an inop Left Main Wing Tank Quantity Gauge MEL (display blank) AND a Right Center Tank Pump inop MEL. During climb out as MEL procedures indicated, the fuel cross feed was opened. This should have allowed the center fuel tank with the SINGLE pump to fuel both engines due to the center tank pumps on the newer model aircraft producing a higher line pressure. We almost immediately noticed that although the center tank continued to drain so did the right main tank!

With the right main draining at a fast rate of approximately 4,500 pounds per hour we quickly would have found ourselves in an imbalanced situation between main tanks. Compounding that problem is the unclear verbiage in the MEL as to whether an imbalance warning would even be triggered with a blank main tank display, and if it is triggered how would you police where the imbalance lies and by how much as there is no way to know quantity in left main tank and no way to know with center pump pressure suspect if any has been used from left main (as it clearly was being used from the right main).

By quickly doing a fuel audit (fuel used from push versus sum of displayed center and right main quantity), we determined that the left main was untouched and suspected an approximate 600 to 700 pounds main tank imbalance. The right wing main tank pumps were turned off and the center (with cross feed still open) was drained almost to zero. Another fuel audit was completed with same end result of an estimated 600 to 700 pound imbalance. We balanced the main tanks by using indicated cruise burn rate versus clock and got down to within an estimated 100 pounds.

Reason for the ASAP is that there is, in my opinion, a huge "gotcha" in the combination of these two MEL's when combined and needs to be reviewed.

Does the Imbalance Warning still function, and if so then how can you accurately police it with a blank gauge.

MEL verbiage info to Crew change to reflect number 1 above.

Policy change to consider the center tank remain empty alleviating the above.

Info addition to MEL if Center is fueled to state that the single center tank might not provide enough pressure to feed BOTH engines with cross feed open (as Maintenance

Control subsequently explained to us was our situation and a known situation with the Newer Model Aircraft. This information will at least allow the Crews to be hyper aware of the potential problem of a quick imbalance. We were forced to deal with an unknown variable with a rapidly approaching imbalance while trying to climb on a SID out of [a busy terminal environment] with multiple prohibited airspace in a dynamic flight environment.

Synopsis

B737 flight crew reported that they had a fuel imbalance after following MEL procedures for one fuel boost inoperative and a fuel quantity indicator inoperative.

Time / Day

Date : 201711
Local Time Of Day : 1201-1800

Place

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

Environment

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

Aircraft

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

Person

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

Events

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

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

Assessments

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

Narrative: 1

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

Synopsis

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

Time / Day

Date : 201711

Place

Locale Reference.Airport : MMGL.Airport
State Reference : FO

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Other
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : MMFR
Aircraft Operator : Air Carrier
Make Model Name : Widebody Transport
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Nav In Use : FMS Or FMC
Flight Phase : Cruise

Person

Reference : 1
Location Of Person : Company
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
Qualification.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 1493758

Events

Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Dispatch
When Detected : In-flight
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

While enroute [to] MMTO approximately 15-20 min before top of descent, received following SIGMET for volcanic ash from Volcano. SIGMET area depicted on Flight Explorer was within 20 NM of MMTO airport. It was still dark down in MMTO, so no way to visually assess actual presence of ash. Flight not tankered due to payload, so out of abundance of

caution, coordinated with crew and service recovery to divert flight to filed alternate of MMGL. Shortly after making the turn to MMGL, MMGL forecast amended to ¼ SM for our time of arrival so subsequently amended to add further alternate of MMMY. At time of [reporting], MMGL weather holding and Aircraft X in descent for landing at MMGL. Shift note written and duty officer as well as manager on duty notified.

Synopsis

Air Carrier Dispatcher reported assisting a flight in avoiding an area of volcanic ash. Flight diverted to an alternate airport.

Time / Day

Date : 201711

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 200

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 5000

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

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

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Initial Climb

Route In Use : Visual Approach

Airspace.Class D : ZZZ

Component : 1

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Fuel System

Aircraft Reference : X

Problem : Improperly Operated

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : Trainee

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 390

Experience.Flight Crew.Last 90 Days : 10

Experience.Flight Crew.Type : 2
ASRS Report Number.Accession Number : 1493213
Human Factors : Training / Qualification
Human Factors : Situational Awareness

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Instructor
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 230
Experience.Flight Crew.Last 90 Days : 40
Experience.Flight Crew.Type : 1.5
ASRS Report Number.Accession Number : 1493223
Human Factors : Situational Awareness
Human Factors : Training / Qualification

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 : Took Evasive Action
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

This was only the 2nd time I've flown a Cherokee Six. I had checked out in the same aircraft a few days prior, but wanted more time with an instructor to familiarize myself with the avionics, autopilot, and the general "feel" of the aircraft. The instructor who had checked me out was unavailable, so I flew with a different one. During preflight inspection, we noticed that the inboard right main tank was a bit below the tab. But, since the flight would be an hour or less, since the tip tanks were better than half full, and since the POH says to deplete the mains before the tips, we proceeded without additional fuel. During the flight, we switched from the left main to the right main. And, the gauges never indicated that we were flirting with the line.

After 15-20 minutes of casual flying in the practice area, we entered the pattern at ZZZ for some touch-n-goes. My instructor explained the landing characteristics of the aircraft and I suggested he perform the first landing. At that time (on our base leg), he became the pilot flying. After landing on RWY XX, he applied full power for the touch-n-go. After rotation, at

maybe 100 or 200 feet AGL, the engine sputtered. It was clear we didn't have enough runway to land straight ahead, so he left everything at the firewall to get as much altitude as possible in case the engine failed. While the instructor flew, I radioed the tower, notified them of our engine roughness, and asked for an immediate left turn to the intersecting runway YY. By the time we were on our base to RWY YY, we had no power. But, we had plenty of altitude and the runway made. The instructor landed without incident and we coasted to a hold short line just off of RWY YY. The aircraft had to be towed off the taxiway. Upon inspection, it became clear that the right inboard main tank was almost dry.

Clearly, we should have been more concerned about the low tanks before we took off. They didn't look dangerously low and the flight was planned for short duration. But, we obviously erred. This was also a good reminder never to put too much trust in steam fuel gauges.

Narrative: 2

Upon takeoff at ZZZ our aircraft sputtered some, I pushed all three levers (throttle, prop and mixture) full forward to verify, and the engine ran smooth up to 1200 feet MSL. Then as I pulled the throttle back, we had a loss of power and made an immediate left turn onto runway YY. Then we turned off onto the taxiway, and shut down the aircraft. Upon further inspection, on the ground, we noticed that we had low fuel in the right tank. We did not burn solely from the right main tank in flight, we had switched tanks once prior due to the short flight. I believe to prevent this from happening again, there should be a regulator indication of changing fuel tanks so many minutes, also I was unaware you need the tip tanks topped off prior to a flight, which I now know.

Synopsis

PA32 pilot and flight instructor reported a loss of power and return to the airport apparently due to fuel starvation.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Personal
Make Model Name : RV-10
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Mission : Personal
Flight Phase : Initial Approach
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 169
Experience.Flight Crew.Last 90 Days : 72
Experience.Flight Crew.Type : 169
ASRS Report Number.Accession Number : 1492345
Human Factors : Communication Breakdown
Human Factors : Time Pressure
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Ground Personnel

Events

Anomaly.Ground Incursion : Runway
Anomaly.Ground Event / Encounter : Other / Unknown
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

I intended to land at ZZZ. However, fuel consumption had been greater than expected as a result of a greatly strengthening headwind over the last couple hours. I diverted to ZZZ1 to refuel. The problem is that the airport was closed. On approach I listened to the AWOS and there was no mention of the airport being closed. On the CTAF, I listened to a helicopter announce its approach and landing. I announced my approach multiple times on inbound and in the pattern. As I approached for landing, I could see an X at the end of the runway. Then an individual stated the runway of intended use was closed. I asked multiple times if the other runway was open but there was no response. I stated we were low on fuel and a response would be greatly appreciated. A new person came on the radio and stated that there was no activity on the runway and that we could land avoiding the X at the end of the runway. We then landed and discovered the person speaking on the radio was the head of the construction crew that was working in the parking lot and near the taxiway at the airport. He stated the airport had been closed for the winter. We called the local FBO and found we were not able to fuel there as they had left for the winter. We found the helicopter that had landed was using jet fuel. With about 10 gallons of fuel remaining, dark approaching with little moonlight and clouds, I had determined it would be safest to land at ZZZ1 rather than push to the next airport and risk running out of fuel. We hitched a ride to the next airport ZZZ2. The next morning, we rented a car, obtained fuel, and returned to ZZZ1. We met with the onsite construction manager who announced to those working near the taxiway to clear the area. Then the construction manager removed the X at the end of the runway and stated we could take the runway for departure.

Synopsis

RV-10 Pilot reported landing at a closed airport after diverting for fuel.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

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

Environment

Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B747-400
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Check Pilot
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1491122

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Weight And Balance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Fuel Imbalance Main Tanks 1-4. Abnormal condition occurrence shortly prior Top of Decent point. Result, close flight plan fuel monitoring and QRH action reveals a sudden substantial loss of fuel related to Main Tank Number 01 within a 30 minute period during the final phase of flight.

Research and Inquiry of previous flights into Maintenance logbook with inquiry amongst other crews also reveal an irregular intermittent trending history of fuel Imbalance 1-4 events with moderate to heavy fuel over-burns for those flights also. I am unsure if these events of other crews have been reported. Suspect cause is a possible insidious fuel leak of Main Tank Number 01 that may have increased in severity causing the rapid loss of a large amount of fuel within a 30 minute period prior to arrival, recommend serious MX investigation.

Planned flight time of 04:20 minutes, actual flight time of 04:50, additional 30 minutes of flight time due to ATC and some wind differences taken into account however is not a trigger for an imbalance event with an over-burn that does not match the additional time considered. Fuel monitoring from takeoff to prior the top of decent point over a distance of 2000 nautical miles constant at -0.1 KGS then within a 19 nautical mile distance block prior the top of decent point fuel trends to -0.3 KGS vs computer flight plan fuel. Shortly afterwards EICAS message 'FUEL IMBAL 1-4' reveals main tank Number 01 at 2,200 KGS vs main tank #04 at 4,100 KGS.

Initial covering of the QRH procedure was covered leading to meeting all the parameters of a suspected fuel leak. Further ORH procedures directs an engine shutdown due to the suspected loss of fuel. Sensible judgment dictated that in this area due to the heavy pilot workload during decent and arrival phase within the heavy traffic terminal area and shortly before a landing with sufficient Main Tank 1 fuel, completion of a long complicated engine shutdown checklist would not be a viable option. An alternative attempt to troubleshoot within a short period was made leaving Cross-feed valves open during descent and a constant main tank 1 monitoring program put into effect. This revealed a more rapid decrease in fuel in Main Tank #01 prior to landing and after approximately 10-12 minutes the cross-feed valves were subsequently closed to end the event.

A non-eventful landing completed at destination however arrival occurred at approximately 5.7 tons below the recommended flight plan arrival fuel with a block in fuel of company minimum occurring at 9.0 tons. In the event an actual diversion to alternate had been required the estimated arrival would likely be an approximate total remaining fuel of less approximately 5.0 tons, this would be a fuel emergency event.

Additional factors

1. It was also noted during the preflight that the airplane DRAG/FF Factor was incorrect at -0.3 however this relates to calculated vs totalizer FMS calculations and has no effect on the actual physical rate at which fuel decreases in a main tank.
2. ATC arrival had changed the published arrival 3 times during the actual descent resulting in the aircraft finally being routed south of the airport then back with some speed control for the southern runway a benefit gaining a very short taxi time after landing, however most of the arrival changes occurred during high altitude resulting in more direct routing during the descent with little to idle power settings.

3. Previous Flight Analysis example data from other crew;

Computer Flight Plan Fuel 74.0,
Actual Ramp Fuel 77.1 (3.0 tons extra requested)
Computer Flight Plan Recommended Arrival Fuel 14.6
Actual Arrival Fuel 12.7

This crew also experienced a brief Fuel Imbalance 1 -4 event during the departure phase with no further action required. The focus here needs to be on the time and rate at which Main Tank Number 01 decreased in fuel prior to landing as the problem may be insidious in nature and difficult to fully detect and based on apparent past events and log book fuel history the focus and basis to trouble shoot should be on the EICAS message 'FUEL IMBAL 1-4' and not the fuel burn itself.

Actual Fuel Analysis of the flight is as follows also with picture attachments;

1. Computer Flight Plan total fuel (with 2.7 ton extra) 63.0
2. Captain decision fuel (1.0 ton extra) 64.0
3. Planned flight time/ Actual flight time 04:20/04:50 (Difference 30 minutes)
4. Computer Flight Plan Planned Burn/Actual Burn 47.6/53.9 (Difference 6.3 tons)
5. Computer Flight Plan estimated burn 48.3 (P/M Score -5.6 tons)
6. Logbook Fuel Remain/ Logbook Burn 9.0/54.9

Synopsis

B747 Captain reported they had a rapid loss of a large amount of fuel within a 30 minute period.

Time / Day

Date : 201710
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 25000

Aircraft : 1

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

Aircraft : 2

Reference : Y
ATC / Advisory.Center : ZZZ
Aircraft Operator.Other
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Crew Size.Number Of Crew : 2
Flight Plan : IFR
Flight Phase : Descent
Route In Use : Vectors
Airspace.Class A : ZZZ

Person

Reference : 1
Location Of Person.Facility : ZZZ
Reporter Organization : Government
Function.Air Traffic Control : Instructor
Function.Air Traffic Control : Enroute
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 6
ASRS Report Number.Accession Number : 1488002
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Air Traffic Control
Miss Distance.Horizontal : 15000
Miss Distance.Vertical : 300
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

Aircraft Y (FL270) was above Aircraft X (FL250). Aircraft Y keyed up and said he was declaring a fuel [shortage] and would like to divert to ZZZ. My Trainee keyed up and assigned heading 080 vectors for descent. I did not like that heading so I reassigned heading 110. Aircraft Y read that back, then we proceeded to gather more info. The next update, Aircraft Y had descended to FL262 and the next update we lost separation. He was not assigned a descent, nor did he report out of FL270. As soon as we noticed the altitude change, I advised Aircraft X of the traffic who at this point was diverging and not a factor. I believe the closest the two aircraft got was 300 feet and 3 miles diverging.

Pilot needs to be more informed on what he is responsible to say if he needs an altitude change, or decides he needs to change altitude without assignment.

Synopsis

Center Controller reported that an aircraft declaring Minimum Fuel departed his assigned altitude without notification resulting in a conflict with another aircraft.

Time / Day

Date : 201710

Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 31000

Environment

Flight Conditions : VMC

Light : Night

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

Flight Phase : Cruise

Airspace.Class A : ZZZ

Component : 1

Aircraft Component : Fuel Drain

Aircraft Reference : X

Problem : Malfunctioning

Component : 2

Aircraft Component : Pneumatic System - Indicating and Warning

Aircraft Reference : X

Problem : Failed

Component : 3

Aircraft Component : Pneumatic Ducting

Aircraft Reference : X

Problem : Failed

Person : 1

Reference : 1

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)

Experience.Flight Crew.Total : 10000
Experience.Flight Crew.Last 90 Days : 160
Experience.Flight Crew.Type : 600
ASRS Report Number.Accession Number : 1486681
Human Factors : Situational Awareness

Person : 2

Reference : 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)
Experience.Flight Crew.Total : 12000
Experience.Flight Crew.Last 90 Days : 65
Experience.Flight Crew.Type : 2000
ASRS Report Number.Accession Number : 1486682

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Inflight Shutdown
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Returned To Departure Airport
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

While climbing, at about 31000 feet, we received a level alert, "Air Sys 2 Off". Referenced the checklist, noticed on the overhead panel the Number 2 Main light was also illuminated. Then a second level 1 Alert was displayed within a couple minutes of the first, "Air Sys Man". We ran the checklist for that which leads you to selecting air system into manual. However, before we were able to select manual, we got a level 3 "Engine Number 2 Anti Ice Duct". This went away after about 10-15 seconds. The captain then got on Satcom to discuss the situation with dispatch and Maintenance Control. The decision was made by all to divert back to ZZZ instead of continuing into ZZZZ where there was possible icing on descent and a lack of parts and hotel availability, etc. (There was no tail anti-icing capability). We were showing a landing weight of about 520,000 lbs, so we decided to dump about 30K worth of fuel once we were in range to ZZZ. We coordinated this with ATC. Upon the completion of the fuel dump, we got a "Dump Valve R Disagree" level 2 message. The checklist lead us to select the emergency stop switch. The fuel dump appeared to have stopped although we were unsure of the right dump valve position. Once

on communication with tower, we asked for a vehicle to inspect the runway and aircraft upon landing to check for fuel leaking out of the right dump nozzle. We stopped the aircraft off the landing runway, and the airport authority inspected the aircraft. No fuel was leaking at that time. As we taxied in, the captain noticed we had 10K of fuel left in the tail, he asked me to go to manual mode on the fuel system in an attempt to pump the fuel out of the tail so the plane could be safely offloaded. As soon as we selected manual, the airport authority saw fuel dumping out of the right dump nozzle, so we immediately selected automatic again to stop the fuel from spilling. We probably dumped 300-400 lbs on the taxiway, and the airport authority took proper action to clean the fuel spill. We blocked in, and wrote everything up.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

MD-11 flight crew reported they received several warnings "Air Systems" and "A/I Duct", shut down the Number 2 engine, and returned to the departure airport.

Time / Day

Date : 201710
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : A300
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Flight Phase : Final Approach
Airspace.Class B : ZZZ

Component

Aircraft Component : Flap Control (Trailing & Leading Edge)
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Reference : 1
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 : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1486489
Human Factors : Troubleshooting

Person : 2

Reference : 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)
ASRS Report Number.Accession Number : 1486493
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Burned more fuel than planned due to long taxi to [departure runway], then change of arrival [STAR] from ZZZZ1 with Runway 27 to the ZZZZ2 and Runway 36R. We were also told to maintain best forward speed. Our arrival fuel became a concern, but we were still planning on arriving with about 10,000 lbs. Originally we would have arrived with better than 12,000 lbs. FO optimized flying the arrival as best as possible to conserve fuel. On approach to Runway 36R approximately at 1500 feet FO called for flaps 30/40. We received an ECAM of System 1 & 2 Flaps stuck. I called out the ECAM and completed the phase one of recycling the flap handle. The flaps remained stuck at 20 degrees. With a brief discussion we concurred that continuing in to land was the safest course of action considering the problem and our low fuel state. We completed the before landing checklist, bumped the approach speed up to 136 kts and selected the flap selector switch to 15/20. I [advised ATC] due to the problem with the flaps. Tower asked if we needed to roll the trucks, since we did have 20 degrees of flaps, which is normal for the windshear configuration, I felt we didn't need the fire rescue vehicles. Landing was uneventful. The malfunction was written up for maintenance, Operations, and the duty pilot were notified. There is a previous write up for this aircraft of the slats getting stuck.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

A300 flight crew reported that during approach the flaps became stuck at 20 degrees.

Time / Day

Date : 201708
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 10
Altitude.MSL.Single Value : 28000

Environment

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

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : A300
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Ferry
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class A : ZZZ

Component

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

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 12600
Experience.Flight Crew.Last 90 Days : 30
Experience.Flight Crew.Type : 4400
ASRS Report Number.Accession Number : 1485642
Human Factors : Troubleshooting

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 13000
Experience.Flight Crew.Last 90 Days : 240
ASRS Report Number.Accession Number : 1485680
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.Flight Crew : Diverted
Result.Flight Crew : Inflight Shutdown
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

In rear of Aircraft for Crew meal, First Officer flying the aircraft, came to cockpit and noted Fuel flow needles flickering. Noted fuel flow indicator-as well as Outer tank indicators show zero-however, Inner tanks had good quantity and burning normal-tank to engine, valves green, all ok. Earlier in the flight the outer tanks (both LH & RH) had ECAM message which showed low, however we did not burn from Outers and did not transfer fuel. No fuel leak was indicated, so continued as per checklist. #2, RH engine flamed out. [Advised ATC] and requested divert. ATC gave good vectors and landed uneventful.

Aircraft is designed to fly tank to engine and burn from all tanks, thus tank to engine inner tank is good.

Narrative: 2

[Report narrative contained no additional information.]

Synopsis

A300 flight crew reported an engine flamed out during cruise due to possible fuel issue.

Time / Day

Date : 201709
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 21000

Environment

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

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Military
Make Model Name : Military
Crew Size.Number Of Crew : 4
Operating Under FAR Part : Part 91
Mission : Refueling
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Military
Function.Flight Crew : Check Pilot
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 2900
Experience.Flight Crew.Last 90 Days : 64
Experience.Flight Crew.Type : 2800
ASRS Report Number.Accession Number : 1482920
Human Factors : Time Pressure
Human Factors : Human-Machine Interface

Events

Anomaly.Deviation - Procedural : Weight And Balance
Anomaly.Deviation - 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.Aircraft : Equipment Problem Dissipated

Assessments

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

Narrative: 1

During aerial refueling (A/R), our augmented crew (composed of an extra pilot and an extra navigator) noticed the incremental fuel onloads passed by the tanker were not matching the planned gross weight of our aircraft given the fuel taken from the tanker at each increment. The navigator recalculated the fuel in the totalizer and checked it against the planned gross weight for that fuel quantity and noticed a discrepancy. The crew was not able to identify the source of the error and elected to continue taking fuel required for the remaining mission. The tanker crew was sympathetic to our fuel requirement and passed us an additional 10,400 pounds for a total of approximately 91,400 pounds of JAA. The pilot flying noted shortly after completing the post A/R checklist that the aircraft was sluggish in its handling. After thinking about the disparity in the numbers for another 10 minutes, the crew reached the conclusion that the basic aircraft weight was entered into the aircraft performance computer incorrectly. Upon closer examination, the actual number and the entered number differed by 20,000 pounds, making the performance computer think that the aircraft was 20,000 pounds lighter than it actually was. As a result, the extra fuel taken from the tanker resulted in the crew exceeding the published aircraft gross weight listed in the aircraft's technical order and caused a potentially dangerous situation. The crew then contacted our dispatcher (Operations Supervisor) for assistance while keeping the aircraft in smooth air and at 1 G. The dispatcher contacted base maintenance, depot engineers, manufacturer engineers, and the depot test pilot all for input, assistance, and guidance. The consensus was that our aircraft limit was predicated on a 2 G increment and that since the aircraft did not experience turbulence or exceed 1 G, the structure of the aircraft was fine and there was no structural event to worry about. In fact, the consensus from all parties, now including unit leadership, was that we could elect to continue the entire planned mission, including a subsequent A/R should the crew choose. At this point, the crew elected to decline the second aerial refueling and accomplish as much of the mission with the fuel we had in order to return to base within a comfortable fuel margin.

In the future, the navigator (or another crew member) should verify the basic aircraft weight variable entered into the aircraft's performance computer during preflight. In this situation, the copilot accomplishes this task while the left-seat pilot accomplishes the exterior walk-around. The navigator would be the obvious choice to verify this data. In this case, the navigator elected to enter the weight and balance information but did not verify the basic aircraft weight entry made previously by the copilot. Again, in this case, the basic aircraft weight had already been entered into the APC by the copilot (indicated by a color change in the entry field from yellow to green) and the aircraft weight and balance data publication was sitting on the navigator's table. Given these two pieces of information, the navigator assumed that the data had been entered and verified against the aircraft weight and balance data publication. In hindsight, this would have been the easiest link in the chain to break.

Synopsis

A Navigator of a military aircraft reported that due to a miscalculation of aircraft weight, they received an excessive amount of fuel from the tanker aircraft.

Time / Day

Date : 201709

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Center : ZZZZ

Aircraft Operator : Air Carrier

Make Model Name : B767 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Component

Aircraft Component : Fuel Tank Cap

Aircraft Reference : X

Problem : Malfunctioning

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Relief Pilot

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1482516

Human Factors : Troubleshooting

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : Maintenance

Person : 2

Reference : 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)
ASRS Report Number.Accession Number : 1482526
Human Factors : Troubleshooting
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Maintenance

Person : 3

Reference : 3
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 : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1482535
Human Factors : Troubleshooting
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Maintenance

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Returned To Departure Airport

Assessments

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

Narrative: 1

We arrived at the aircraft unaware of the fuel system problem that had occurred on the inbound flight. The inbound defect report was empty and there were no fuel system deferrals. During my walk-around a mechanic approached me and said that the right wing gravity refueling cap was leaking and that they were in the process of replacing the seal. I immediately brought this information to the captain and we both went out on the ramp to have a better look and to speak with maintenance. Nothing abnormal was visible from the ground. The maintenance technician said that the existing seal appeared to be degraded and that this could explain the leak. From inside the cabin I could see that the top of the wing near the fuel cap appeared damp with fuel and that maintenance had been swabbing a bit with a towel as they worked. Maintenance completed the seal replacement and then checked the fuel cap for leaks after the wing tanks were filled for flight. We delayed boarding until the tanks were full and the aircraft was signed off.

While the Captain, the flying FO, and I were waiting for repairs, we discussed how a fuel leak might affect our flight. This was a 180 minute ETOPS flight with one critical point and two ETOPS alternates, both of which were more than one thousand miles from the flight path. Our route also took us over [another alternate], but gusty winds and IFR were

forecast shortly after our scheduled time of passing. We studied the fuel leak QRH and that lead us to question precisely when the fuel leak appeared on the inbound flight and how the previous crew's experience might help us should the problem reappear. The captain made several phone calls to get more information while the flying FO and I had a productive argument about whether it would be acceptable to continue the flight with fuel misting from the fuel cap. In my experience with other aircraft it is not uncommon that fuel can temporarily mist from fuel vents shortly after takeoff with full fuel. But continuing the flight, even over land with suitable alternates, was a difficult position to defend. A leaking fuel cap would be an abnormal case. We wouldn't know where all of the leaked fuel is going and if it might cause other systems problems. The Fuel Leak QRH has a step instructing us monitor the fuel imbalance to confirm a leak but we determined, I believe correctly, and that this guidance does not override a following step that asks us to visually check for a leak. In the case where a fuel leak is confirmed the QRH leads to a "land at the nearest suitable airport" statement.

The captain briefed us and the company of the plan: that should a fuel leak be discovered after takeoff we would be returning to [the departure airport]. He asked one of the flight attendants to observe the wing after takeoff and I went to the cabin with her to point out where she should look. A passenger in the exit row overheard our conversation.

After takeoff the flight attendant reported that there appeared to be a stain on the wing, or that it was wet with fuel. I knew the wing had been wet before so I was unsure if she was referring to a residual stain that perhaps appeared differently under different light or if there was actually a leak. The captain asked me to go check things out near 10,000 ft in the climb.

From the right front overwing exit window I saw fuel running aft from the fuel cap and turning to mist near the trailing edge. The passenger who had earlier overheard me briefing the flight attendant said that he didn't notice very much flow immediately after takeoff but now the leak was very apparent. As I understand it, the flight attendant checked right after liftoff when there was little to no flow and the passenger asked her to come and have another look once he noticed the wing appeared wet. At that point she called us. I asked this passenger to let us know if anything changed, snapped a photo of the leak with my phone, and returned to the flight deck.

Since we had already decided to return in case of a leak things went pretty smoothly. I'm glad the captain briefed a good plan for the contingency. Immediately after takeoff I had observed 500 lbs more fuel on the right wing totalizer than the left. After I returned to the flight deck less than 5 minutes later the indicated imbalance was 300 lbs. I don't know if this was gauge fluctuations or an actual reading of leaked fuel because the imbalance stayed constant after that.

As IRO I ran the fuel leak QRH with the captain while the FO flew the aircraft. The Fuel Leak QRH has some drastic measures once a fuel leak is confirmed and we felt that following these would increase our workload unreasonably and decrease our safety margins given what we knew about the leak. We did not turn off autothrust nor shutdown an engine. Once we had taken as much guidance from this checklist as was reasonable the captain began coordinating with ATC, company, and flight attendants. I calculated our maximum landing fuel to avoid an overweight landing. We dumped center tank fuel and then put the gear down to burn the wing tanks down to maximum landing weight. In retrospect I feel that the captain made the best choice in choosing to land under the maximum landing weight. There was no point in adding brake energy and other considerations to our palate given what we knew about the leak. We didn't feel it was an

emergency, but we didn't want to continue across the Atlantic either. In total we dumped approximately 17,000 lbs from the center tank and once that was complete we had a little more than 10,000 lbs to burn from the wing tanks before landing. Once we had burned some fuel out of the wing tanks the captain asked a flight attendant to check the leak. It had stopped. The captain told the flight attendants to expect a normal landing. We did not declare an emergency. We covered our bases with diversion planning guide in the QRH and landed. The authorities directed us to park at a remote stand and passengers were bussed to the terminal.

Narrative: 2

[Report narrative contained no additional information.]

Narrative: 3

[Report narrative contained no additional information.]

Synopsis

B767 flight crew reported dealing with a fuel leak from an overwing fuel cap requiring a return to the departure airport.

Time / Day

Date : 201706
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZZ.Airport
State Reference : FO

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZZZZ
Aircraft Operator : Air Carrier
Make Model Name : B747-400
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Flight Phase : Cruise

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Check Pilot
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1482338

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Deviation - Procedural : Maintenance
Anomaly.Deviation - Procedural : MEL
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

Assessments

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

Narrative: 1

Prior to departing, maintenance was being performed to address a status message regarding the number four fuel transfer valve. The mechanic and maintenance control had elected to defer the item. During this period, the local mechanic ask the senior FO and myself, which valves he should safety wire closed. We both replied to him that we were not mechanics and that he should refer his question to [Company] maintenance control. It occurred to me then that perhaps this mechanic did not fully understand the [maintenance document], since English was not his primary language and the manual was written in English. Losing confidence in his ability to successfully complete the procedure, I called [Company] maintenance control to speak with the administrative mechanic on duty. The mechanic on duty told me that he was working with the local mechanic. He told me that the local mechanic had understood which electrical cannon plugs to remove, which fuel transfer valves to close and assured me that it was safe for us to depart. After an hour and fifty minutes past our scheduled departure time, with the maintenance log book signed off, we pushed back, started engines and began our flight.

After reaching cruise altitude while resting in the crew bunk, I received an unscheduled wake-up call from the cockpit asking me to come forward to address a problem. [The other crewmembers] explained to me that an uncontrollable fuel imbalance existed between main tanks one and four as well as between main tanks two and three as shown on the fuel synoptic page as well as EICAS messages. They further explained that the number four main tank quantity was dropping significantly more than the number one tank. It appeared the number one tank fuel quantity was being burned at a normal rate. Furthermore, the fuel quantity in main tank number three was increasing over time and the fuel quantity in main tank number two was dropping at a normal rate. Please note that the center fuel tank was now at 1.0 and the center fuel tank boost pump switches were off in accordance with procedures. Additionally, the calculated fuel versus the fuel quantity on Progress page 2 showed nearly the same amount, indicating that a fuel leak was unlikely.

[They] also explained that even after manipulating the fuel cross feed valves and boost pumps on the fuel panel, they were unable to stop the increasing fuel imbalance between all four main fuel tanks. I also attempted to correct this situation by opening fuel cross-feed valves one and four, closing cross-feed valves two and three and switching off both boost pumps in the number four main tank, thus trying to feed engines one and four from main tank number one. Even under these conditions, the fuel quantity in the number four main tank continued to drop. We tried other combinations of opening and closing fuel cross feed valves and switching on and off fuel boost pumps to correct the increasing imbalance to no avail.

At this time, after our crew exhausted QRH and [flight manual] procedures available to us, I called Dispatch via satellite phone to speak with maintenance control. I explained the situation to them and they advised me to follow the procedures outlined in the QRH and [flight manual]. I told them we had, but that the procedure was not working. Dispatch then added [the] Chief Pilot to our sat phone conversation. We had a detailed conversation to troubleshoot the problem. He came to the same conclusion that our crew had already come to; that the number four transfer valve had been mistakenly safety wired to the open position rather than the closed position as had been directed by the [manual

procedure] by the mechanic in [departure station]. This was causing the fuel in the number four main tank to gravity feed into the number three main tank, as space became available in the number three main tank. Naturally, all of us realized that we could not continue with this situation. I asked Dispatch to select a diversion airport.

ATC was notified and we were rerouted to [the diversion airport]. Upon arriving into Approach Control airspace, we asked for and were given holding instructions to jettison fuel down to a landing gross weight below the max landing weight. This action of jettisoning fuel also resolved most of the fuel imbalance issue. An additional 10 knots was carried on final to remain just above the maneuvering caution zone on the airspeed indicator ("yellow pencil") which was needed due to the remaining fuel imbalance between main tanks one and four. The approach and landing was uneventful.

After securing the aircraft in the parking bay, I spoke with the mechanic on duty to explain the problem. He investigated and discovered that the number four transfer valve had indeed been mistakenly safety wired in the open position rather than the closed position. Our crew went into crew rest. The next day, the local mechanic explained to us that he had replaced the number four transfer valve and the deferral was now cleared. It is clear to our crew that this event could have been easily avoided by following the proper maintenance procedures by the local mechanic and by proper oversight by [Company] Maintenance Control.

It is important to note that upon landing in [the diversion airport], we still had about 1.1 of fuel in the number four main fuel tank. Had this situation occurred further away from a suitable airfield, it would have required more fuel burn to reach such an airport. The fuel quantity in main tank number four would inevitably drop to zero, due to the uncommanded fuel transfer and fuel burn prior to making an approach. In such a scenario the number four engine would have continued to run due to fuel flowing from main tank number three through the number three and four cross-feed valves. However, once the flaps begin to extend in preparation for landing, the number three cross-feed valve closes automatically by the fuel management computer. This would cut off the fuel supply to engine number four, causing an engine flameout. Obviously, this would have added to the complexity of the situation. Luckily, we were fairly close to a suitable landing airport.

Synopsis

B747 Captain reported diverting to an alternate airport after it became clear the fuel system was compromised by improper maintenance at a foreign station.

Time / Day

Date : 201708

Environment

Flight Conditions : VMC

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : Boeing Company Undifferentiated or Other Model

Crew Size.Number Of Crew : 4

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase.Other

Person

Reference : 1

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 : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1482271

Human Factors : Confusion

Human Factors : Distraction

Human Factors : Troubleshooting

Events

Anomaly.Deviation - Procedural : Weight And Balance

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Company Policy

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Weather

Primary Problem : Company Policy

Narrative: 1

Aircraft X was dispatched to ZZZ with a Planned Gate fuel of 183,385 pounds, with a projected landing fuel of 14,061 pounds. Aside from planned burn, additional fuel was included for FAR's, weather deviations, taxi and contingency. The crew was in agreement with Dispatch that the fuel load was appropriate for the flight.

Dispatcher remarks included that our crossing time at ZZZZZ Intersection (arrival fix into ZZZ), should be no earlier than XA18.

Total SOB was 215, which included the crew and passengers. Payload was primarily the gear and equipment.

We departed approximately 30 minutes after an on-time pushback.

After Takeoff the First Officer (FO), who was Pilot Flying (PF), remarked that the airplane seemed heavier than normal during the take-off.

During the climbout, we set the PERF INDEX to 5, in anticipation of being very early at the ZZZZZ Intersection fix, an action which would normally contribute to a lower fuel burn than planned.

The flight was normal but a trend started developing that fuel burn was higher than planned. For the most part, we crossed the sequential waypoints on, or within a minute or two, of flight plan. There was some convective weather en route which entailed deviations up to 50 nm left and/or right of course, which may have increased the burn.

At the time that the relief crew took over flying duties from the Captain and First Officer (FO), the fuel burn was about 2000 pounds higher than planned. We were about 4 minutes behind flight plan, which was intentional, to avoid arriving at ZZZZZ Intersection early.

On return from crew break, the relief crew advised that the trend in higher fuel burn had continued. It had also been exacerbated by an inability, due to ATC conflicts, to climb to a higher altitude, and by further weather deviations.

The fuel at the refile point, had been 34,000 pounds which was slightly higher than the minimum required for redispach, but substantially off the planned fuel of 38,000 anticipated at that point.

We advised Dispatch of the disturbing trend in the fuel burn and mentioned the possibility of diverting into Brisbane which at that point showed fuel on arrival of 14,500. After deliberation between the crew, ATC and Dispatch, we elected to continue with a planned arrival fuel of 9,600.

Given the excessive burn, and the perception by the FO that the plane had seemed heavier on take-off, we contemplated the possibility that the aircraft was indeed heavier than planned. The rationale for this consideration was that, if the standard passenger and baggage weights had been used for determining the weight and balance data for the flight, instead of using weights more appropriate to a [sports] team traveling with equipment and gear, it was indeed possible that the payload had been miscalculated, and that the aircraft the was possibly several thousand pounds heavier than indicated in the W&B data.

The FO elected to land at a slightly higher reference speed than the computed data which, given our suspicion of the validity of the landing data, seemed a prudent idea. The arrival and landing was uneventful and we landed with approximately 8300 pounds of fuel, well below the planned landing fuel of 14,000 pounds.

We compared our fuel burn to [a similar flight], which was slightly behind us and on the same route, at a similar altitude and with similar weather deviations, and they reported their fuel burn of being more typical, with a positive trend of burning less fuel than

planned. This suggested that our excess fuel burn was not due to any environmental factors, but probably due to being heavier than flight plan.

We would appreciate if this incident could be passed to load planning, that they may consider if the unusual circumstance concerning the passengers and pay load of this particular flight, may have led to a miscalculation of weight and balance data.

Synopsis

Air carrier Captain reported a greater than planned fuel burn on an international flight, likely due to erroneous weight and balance calculations, along with deviations for weather.

Time / Day

Date : 201709

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.Tower

State Reference : US

Altitude.MSL.Single Value : 1500

Environment

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Tower : 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 : VFR

Mission : Training

Flight Phase : Descent

Route In Use : Visual Approach

Airspace.Class D : ZZZ

Component : 1

Aircraft Component : Electrical Power

Aircraft Reference : X

Problem : Failed

Component : 2

Aircraft Component : Air/Ground Communication

Aircraft Reference : X

Problem : Failed

Person

Reference : 1

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 : Student

Experience.Flight Crew.Total : 75

ASRS Report Number.Accession Number : 1481755

Human Factors : Communication Breakdown

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

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Landing Without Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I am a student pilot taking [flying] lessons. I was on the final leg of my solo cross country flight and was given runway 15 to land. I was asked to enter traffic pattern right downwind and report mid-field. However, when I reached mid-field and was about to report my position, all communications went dead and shortly thereafter all avionics shut down.

I was unable to communicate at all. All avionics including transponder went dead and I couldn't squawk 7600 for communications failure. I decided to move away from the airport and gain altitude and perhaps land at a non-towered airport and as I was taking that action, my fuel gauge had me at almost empty. This could have been part of the electrical issue (I had more than enough fuel for the entire flight) but not taking any chances, I circled the airport to visually check for any traffic and landed [on another runway]. After that I called the tower on my cell phone once I was clear of the runway. Under instructions from the tower, I was able to taxi to parking.

At this point not sure what happened that caused the failure. Prior to take-off I checked the ammeter which indicated normal readings.

Synopsis

C172 student pilot reported a complete electrical system failure while entering the traffic pattern.

Time / Day

Date : 201709
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 3500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 7000

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Personal
Make Model Name : Cheetah, Tiger, Traveler AA5 Series
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Climb
Route In Use : Direct
Airspace.Class E : ZZZ

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 1000
Experience.Flight Crew.Last 90 Days : 250
Experience.Flight Crew.Type : 300
ASRS Report Number.Accession Number : 1480640

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

Narrative: 1

I, pilot flying pilot 1, along with a non-required flight crew member pilot 2 who was assigned to assist navigating and working radio communications, departed to ZZZ for a practice instrument approach and then to proceed to [another airport] for a fuel-stop. We (pilot 1 and pilot 2) departed with approximately 32 gallons of fuel on board. En route, we averaged 8 gallons an hour of fuel burn, comprising of 30 minutes of burn on the left tank, and an hour and fifteen minutes on the right tank, including an increased burn due to takeoff. Upon arrival at ZZZ for our practice approach, we calculated 7.0 gallons in the left tank and 10.0 gallons in the right tank, enough for an hour and a half of flight.

After our practice approach into ZZZ, we proceed to climb out in a left turn. We were expecting and experienced a 25 knot tailwind to assist us on our way to [get fuel], resulting in an estimated arrival in 25 minutes. We calculated to land with six gallons of fuel, approximately 45 minutes of fuel at cruise.

On the climbout, I began to notice abnormal Engine Exhaust Gas Temperatures on the Number 4 cylinder. Normal readings range from 1,300-1,450 degrees, whereas I was reading 1550 degrees and climbing. I also noticed an abnormally high reading from the fuel flow indicator whereas in a climb the normal readings ranged from 14.0 GPH to 17.0 GPH. I was reading 22.0 GPH. At the same time, I experienced an error message with one of our GPS units. As I was working through the situation, I asked pilot 2, "Are you seeing these numbers?" at which he replied "Yeah, do you feel that?" At that time, I felt the engine running rough and immediately increased full mixture (it was leaned for 1,400 degrees EGT after 3,000 feet), ensured that the fuel pump was on, and switched fuel tanks. I leveled the aircraft into a straight and level cruise and immediately searched for a nearby airport.

There were no airports in front of the aircraft, which would have been the favorable glide direction, and ZZZ was the closest airport to our location. I informed pilot 2 that I was [requesting priority handling] with Center and returning to ZZZ, which we completed a safe and successful landing. Approximately two minutes after leveling the aircraft, the conditions ceased. We were met and escorted by the local Airport Rescue and Fire Fighting (ARFF) unit to the FBO.

Upon landing, we performed a visual inspection of the engine and engine compartment. Other than a slightly low oil level (to which we added a quart of oil), we did not notice any issues with the engine exterior. We called for fuel from the local FBO and asked for a top off. We received 19 gallons in the right tank, and 17 gallons in the left tank, leading us to calculate having 7 gallons remaining in the right tank, and 9 gallons in the left tank upon landing (a normal two hours at cruise). After receiving fuel, we performed a through engine run-up and determined that there was no further issue concerning safety of flight and we departed.

Prior to departure, we determined that the engine roughness, high EGT indications, and high fuel flow indications were caused by a partial fuel starvation of the engine induced by a steep climb attitude causing the fuel to fall to the back of the fuel tank. In the Grumman Tiger, fuel pumps are located at the forward position of the fuel tank. Therefore, in a steep climb, fuel will have difficulty being pumped to the engine if there is less than approximately 7 gallons.

In my personal opinion, I believe that the situation was handled with care and safety in mind. The limitation of low-fuel levels in a climb was unknown to myself, and to my current knowledge, is not published in the aircraft POH or other information manuals. Pilot 1 and pilot 2 both performed pre-assigned duties during the emergency and handled the aircraft in a safe manner.

Synopsis

Grumman American Tiger (AA5B) pilot reported having to divert in a climb out due to a rough running engine. Pilot reported the opinion that a steep climb angle caused the fuel to fall to the back of the tank away from the forward mounted fuel pumps.

Time / Day

Date : 201708

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 3000

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling : CLR

Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : PA-25 Pawnee

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 E : ZZZ

Component

Aircraft Component : Engine

Aircraft Reference : X

Problem : Failed

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 1300

Experience.Flight Crew.Last 90 Days : 40

Experience.Flight Crew.Type : 50

ASRS Report Number.Accession Number : 1480150

Human Factors : Situational Awareness

Events

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

Assessments

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

Narrative: 1

I was towing a glider at 3,000 feet when the Piper Pawnee I was flying ran out of fuel. The standard practice at our glider field is that when a tow pilot finishes the day, the aircraft is refueled before it is returned to the hangar. The Pawnee has a plexiglass sight gauge that had become yellowed and was difficult to see the float fuel indicator. Unknown to me, the fuel tank at the field was empty at the end of the previous flights, and the plane was not refueled. I towed a glider to an altitude of 3,000 feet and the engine quit. The glider released and I circled the field and made an uneventful landing.

Our practice at the field is to make ten tows and then get fuel. I did not visually inspect the sight gauge and there was not a note on the aircraft that it was not refueled after the last flight of the previous session. I did an inadequate preflight and was fortunate to have a successful conclusion of the flight. The fuel sight gauge has been replaced and it has been emphasized to all pilots to do a thorough preflight and if a pilot discovers anything out of the ordinary, leave a note in the aircraft.

Synopsis

PA25 pilot reported landing safely after running out of fuel after releasing a glider.

Time / Day

Date : 201708

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 1000

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 1500

Aircraft

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Seaplane or Amphibian

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class G : ZZZ

Component

Aircraft Component : Engine

Aircraft Reference : X

Problem : Failed

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 1500

Experience.Flight Crew.Last 90 Days : 50

Experience.Flight Crew.Type : 150

ASRS Report Number.Accession Number : 1479122

Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Terrain Warning
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Inflight Shutdown
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

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

Narrative: 1

I was flying my Cessna 182, an amphibious float plane, at 1000 feet AGL. When I was 14.5 NM out from [the destination airport] my engine stopped running. I called 121.5 to make them aware I was going to be making a forced landing into [a lake]. Upon landing on the lake, once we realized that we weren't taking on water and had no injuries, I powered down the master on the plane to conserve battery and called the Coast Guard. Once the Coast Guard arrived they towed us in. The reason for the engine failure was identified as fuel starvation.

Synopsis

C182 Amphibian pilot reported landing on a lake after experiencing loss of engine power due to fuel starvation.

Time / Day

Date : 201707

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 6500

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Personal

Make Model Name : Decathlon 8KCAB

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 D : ZZZ

Maintenance Status.Maintenance Items Involved : Installation

Component

Aircraft Component : Monitoring System

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 370

Experience.Flight Crew.Last 90 Days : 10

Experience.Flight Crew.Type : 74

ASRS Report Number.Accession Number : 1479090

Human Factors : Situational Awareness

Human Factors : Human-Machine Interface

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation - Procedural : Maintenance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

I recognized that fuel calculations/usage was incorrect and elected to make a precautionary landing on a clear straight road with control rather than proceeding the 6 miles over housing to airport. While this situation is 100% my responsibility there are a few factors that worked against me in the lead up to this situation.

1. Aircraft was "rushed" out the door by [maintenance facility] due to pressure from aircraft owner. This was due to the [maintenance facility] taking a far longer time to repair than originally quoted. The aircraft underwent an annual inspection however I was never informed that they had changed the EDM930 engine monitoring system. Fuel tanks filled at [maintenance facility].

2. Departed VFR with the possibility of weather closing in. After 30 minutes flight time aircraft started a pronounced right roll that had to be held off. Elected to land at [at a nearby airport] due weather and to inspect aileron roll problem.

3. [The maintenance facility] found the right aileron linkage jamb nuts loose and vibration was pulling out of adjustment. Adjusted 3 full turns and tightened these nuts and flight the next day was improved with only slight correction required. **Should have filled tanks [there] as I had no weight and balance restrictions**

4. Submitted my flight plan trusting the EDM930 fuel flow results of 6.5 GPH. Not sure why I believed this figure however the EDM930 has always been VERY accurate. I did not know at the time that the [maintenance facility] had messed up this unit. Departed with sight gauges reading 3/4 on the ground and full in flight.

5. Inflight I noticed the EDM930 reading 35% power and started to mistrust this unit. After referring back to the wing tank sight gauge I noticed it quickly moved from 1/4 tanks to Empty. Diverted my plan towards [a nearby alternate] and notified ATC that I had a fuel problem.

I continued flight towards [the alternate] and had landing clearance. Engine started to run lean and rough. Notified ATC of location and landed with power and control. [ATC assisted with services required]. I refueled [and continued uneventfully].

Synopsis

American Champion 8KCAB pilot reported executing a precautionary landing on a road after realizing the engine monitoring system fuel indications were incorrect and fuel was inadequate to make airport.

Time / Day

Date : 201709

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : VHHH.ARTCC

State Reference : FO

Environment

Weather Elements / Visibility : Rain

Weather Elements / Visibility : Windshear

Weather Elements / Visibility : Thunderstorm

Aircraft

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Final Approach

Person : 1

Reference : 1

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)

ASRS Report Number.Accession Number : 1478532

Human Factors : Workload

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Relief Pilot

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1479436

Human Factors : Workload

Human Factors : Confusion

Events

Anomaly.Inflight Event / Encounter : Fuel Issue

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Person : Flight Crew

Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

We were to land with [2 hours] of fuel in VHHH. While enroute dispatch wanted to change alternate to ZZZZ. Original alternate ZZZ was not usable now due to lack of support at airport but could be used in emergency. I asked for more options besides ZZZZ and was told ZZZ3 was an option. I accepted release 3 with ZZZZ as alternate. A new TAF moved Tempo TS to start 2 hours after arrival for VHHH and ZZZZ. We held :15 minutes on arrival to VHHH. On approach we had to go around for wind shear as did the previous airplane. We were vectored around weather and put into a hold. It would be 15 to 20 minutes for another approach to VHHH. We considered our options. We were unable to get a hold of dispatch. My [Relief First Officer] was able to get ATIS for ZZZZ. Our ACARS was very slow but managed to get a message to dispatch that we were diverting to ZZZZ. Approach said ZZZZ could not accept because ramp full. And said ZZZ would not take us. I considered ZZZ3. Approach now said planes have landed at VHHH and the weather has moved off the airport. Now VHHH was best option. Started getting delay vectors. We landed with 9800lbs of fuel.

Narrative: 2

I vocalized the option of ZZZ due to its location inland and potential for better weather and relative distance of 70-80 nm. Our fuel did not leave us any other options...and we would have to go sooner than later to have fuel for the divert and approach.

Because of the circumstances of fuel, weather still affecting VHHH, the Captain and crew thought ZZZZ would be best. We changed our destination in the FMC, ATC changed our new destination and we were given new altitude and heading from ZZZZ. A minute later ATC said ZZZZ could not accept us. No ramp space. Captain then initially asked about ZZZ3...the response from ATC was the airport was closed due to weather.

No discussion was had before the approach about our plan if we had to go missed or the viability of the alternate - ZZZZ. Which is less than 15 nm from VHHH. Multiple airplanes behind us went around as well for wind shear and micro bursts.

Captain was still Pilot Flying (PF). There was a lot of radio communication with ATC, and confusion with ATC about our intentions. We were given climbs to 9000, descents to 4500, radar vectors and requests by ATC for Holds. All this overloaded the PF and Pilot Not Flying (PNF) and inhibited the Captain's ability to gather information and make a plan. At this time levels of stress and confusion were very high. Fuel on Board (FOB) was now close to 11.5-12.0. We were in the vicinity of ZZZZZ intersection.

Captain agreed to go to ZZZ. Voiced our intentions to ATC and asked them for the weather

there. At this time a controller told us that aircraft were now getting into VHHH and said we would have "Priority". ATC was previously made aware of our min fuel status.... We had no options left if we committed to another approach in VHHH. Captain eventually had [other First Officer] declare [minimum fuel]. Captain said we were going to go into VHHH for another approach. I voiced my concern that we don't have any options to divert, and we continued to get vectors to final.

On final, radar was again red with another cell coming through the localizer. Heavy rain. And we now had an EICAS - FUEL QTY LOW. No checklists were run as we were on final. We made a landing in heavy rain, and arrived with just under 10.0 FOB.

Synopsis

Air Carrier flight crew reported declaring minimum fuel due to weather hold and windshear go-around.

Time / Day

Date : 201709

Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.ARTCC

State Reference : US

Environment

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility : Windshear

Light : Night

Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : Air Carrier

Make Model Name : Widebody, Low Wing, 3 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight

Flight Phase : Climb

Airspace.Class B : ZZZ

Person : 1

Reference : 1

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)

ASRS Report Number.Accession Number : 1478376

Human Factors : Time Pressure

Person : 2

Reference : 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)

ASRS Report Number.Accession Number : 1478380

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Flight Crew : Diverted
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Weather
Primary Problem : Weather

Narrative: 1

The Captain was Pilot Flying (PF) for this leg. After takeoff, climb, and cruise, we were cleared for the arrival, as filed. We were subsequently issued holding instructions, due to weather conditions over and in the vicinity of the airfield. We were initially issued an expect further clearance (EFC) time of 30 minutes. This was then revised to 60 minutes. After 35 minutes in holding, we were released via radar vectors to approach control. Our expected landing runway was changed, since our vectors would take us around the east side of the field.

On short final, we accomplished a go-around due to a windshear alert cue. We received radar vectors for a second approach to [the] runway. We accomplished a second go-around on short final, due to a "headwindshear" cue. Another aircrew attempting landing reported a 15 knot airspeed gain to tower. We then declared "minimum fuel," and declared our intentions to proceed to our alternate airport. While proceeding to [alternate], we evaluated with our flight dispatcher whether [a secondary alternate] would be a viable option. Considering the poor weather conditions, we elected to continue, which reported more favorable weather conditions.

Enroute to [diversion airport], we [notified ATC of our urgency] since our projected fuel state at landing would be close to 12,000 pounds, based on a flight management system (FMS) routing [for an approach].

Due to calm winds, we requested vectors to one of the [runways], to facilitate a straight-in approach and further economize our fuel. Approach was unable to grant this request, due to traffic flow. We requested vectors to intercept [the] final approach course just outside the waypoint. We reasoned this would provide a good mix of fuel economy, while providing a stable final approach leg length of 11.5 nautical miles. We accomplished a visual approach, backed up by the ILS approach guidance to [the] runway. We landed, taxied to [the] gate and shut down the aircraft. The fuel quantity on short final was over 13,000 pounds. The fuel quantity at block-in was approximately 12,200 pounds.

Event caused by windshear encounters on short final approach on both approach attempts, requiring missed approach and subsequent diversion to scheduled alternate..

Narrative: 2

[Report Narrative Contained No Additional Information.]

Synopsis

Air carrier flight crew reported that following two go-around maneuvers due to windshear, diverting to alternate in a low fuel condition.

Time / Day

Date : 201708

Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 1500

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 20000

Aircraft

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Skylane 182/RG Turbo Skylane/RG

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Personal

Flight Phase : Descent

Route In Use : Visual Approach

Route In Use : Direct

Airspace.Class E : ZZZ

Component

Aircraft Component : Engine

Aircraft Reference : X

Problem : Malfunctioning

Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 70

Experience.Flight Crew.Last 90 Days : 20

Experience.Flight Crew.Type : 20

ASRS Report Number.Accession Number : 1477990

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

[While] preparing for arrival, I made a precautionary forced landing approximately eight miles west of ZZZ due to engine sputter and lack of power.

Prior to landing, I transmitted 7700 and broadcast my intentions of a forced landing on CTAF. No injuries, damage to aircraft, or property were encountered during landing so I reset my transmitter to 1200 and made a call on CTAF that I was safely on the ground.

Suspecting fuel contamination, I purged both tanks of the remaining 10 gallons on board into a 5-gallon bucket and found a small amount of unknown debris. I subsequently refilled the tanks and confirmed full power to the engine before continuing on.

Synopsis

C182 pilot reported making a forced landing short of the destination airport due to loss of engine power.

Time / Day

Date : 201708
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Altitude.MSL.Single Value : 1500

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Turbo Commander 690 Series
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Final Approach
Route In Use : Vectors
Airspace.Class C : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 1200
Experience.Flight Crew.Last 90 Days : 20
Experience.Flight Crew.Type : 800
ASRS Report Number.Accession Number : 1477588
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue

Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Landed As Precaution
Result.Air Traffic Control : Provided Assistance
Result.Air Traffic Control : Separated Traffic

Assessments

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

Narrative: 1

I arrived at the [airport] area with about 900Lbs of fuel, 450 per side. As a precaution I asked the controller for priority due to low fuel. I have an old plane with analog gauges and although I've never had a fuel problem I didn't want to test the accuracy of the gauges.

The Approach controller was supportive and gave me good vectors for [the airport].

On the handoff to the tower I checked in with the tower and advised the controller on my low fuel situation and he cleared me to land number two following a twin on final.

Well within the FAF and doing about 135 kts, I hear the controller tell a Cessna to turn base immediately for his touch and go, the Cessna replied that he was landing. The controller tells me I'm number two. I didn't look exactly, but it seemed I was less than three miles and still fast.

I told the controller again of my low fuel and that I would much rather not go around. The controller again told me I was number 2. By that time I'm confident that I was under 2 miles out. I told the controller to have the Cessna go around. He insisted I was number two. I told him I was not going around. The Cessna went around, and I landed. I was focused on the runway and never saw the Cessna.

Upon landing I was greeted by ground safety equipment and I talked to a supervisor about it.

I am always appreciative of advice or instruction and I would welcome an evaluation and learning of the actions.

Synopsis

Aero Commander pilot reported requesting priority landing due to low fuel condition, and was unable to go-around when a Cessna was slow to turn final approach.

Time / Day

Date : 201708
Local Time Of Day : 1201-1800

Place

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

Environment

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

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Personal
Make Model Name : PA-25 Pawnee
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Banner Tow
Flight Phase : Climb
Route In Use : None
Airspace.Class E : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 2575
Experience.Flight Crew.Last 90 Days : 52
Experience.Flight Crew.Type : 2250
ASRS Report Number.Accession Number : 1476948
Human Factors : Situational Awareness

Events

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

Assessments

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

Narrative: 1

During Glider towing operations and with a glider on tow, the engine started running rough and then stopped completely. I signaled the glider to release and after release, made a 180 degree turn back to the airport. However there was not enough altitude to make it back and I landed in an open field with no damage and no injuries. The Glider returned to the field without damage and without injuries. I added 10 gallons of fuel and flew the aircraft the remaining 1/8 mile to the field and landed without damage or injuries.

The problem was caused by me misjudging the fuel sight gauge and not counting the number of tows that had been accomplished on this tank. I departed without enough fuel to accomplish the complete tow and return with at least a 20 minute reserve.

Synopsis

PA-25 pilot reported fuel exhaustion and an off airport landing in an open field during glider tow operations.