

La gestione del carburante

A seguito della introduzione dell'ultima "fuel policy" e della riduzione del contingency fuel da parte di Alitalia, il Dipartimento Tecnico ritiene opportuno fare alcune considerazioni di carattere professionale per rinforzare la cultura della sicurezza, caposaldo della nostra attività.

È nostro obiettivo primario essere garanti dei dettami professionali, anche quando questi paiono scomodi e cozzano contro esigenze di tipo economico.

Riteniamo inoltre utile enfatizzare anche che il benessere delle aziende è un nostro obiettivo; sarebbe impensabile segare il ramo sul quale si è seduti.

Quindi, spingiamo affinché si operi nel rispetto della economicità del volo, attuando tutte le misure idonee a risparmiare carburante.

Tuttavia, di fronte a tematiche che incidono sulle operazioni di volo quotidiane, aggravando il carico di lavoro e riducendo i margini di sicurezza, non possiamo non proporre alcuni spunti di riflessione, rimanendo ancorati al noto principio del "safety first".

Ci è stato sempre insegnato che la sicurezza a bordo dipende dal rapporto tra risorse disponibili e difficoltà del compito. Il carburante presente a bordo fa parte delle risorse. Diminuendo questa quantità, pur nel rispetto della normativa, si aumenta il fattore di rischio, magari di poco, ma lo si aumenta. Non a caso, le compagnie di assicurazione si basano proprio su questo elementare concetto: un piccolo rischio per un'alta frequenza equivale ad un grosso rischio per una bassa frequenza.

Vogliamo qui riassumere in alcuni punti le problematiche che possono nascere dalla riduzione del contingency fuel.

Innanzitutto, cos'è il contingency fuel? È una quantità che deve essere presente a bordo (tranne in alcuni casi codificati) per far fronte ad imprevisti che alterino la traiettoria laterale e verticale, incidendo sul consumo pianificato dal piano di volo. Dato che è stato concepito per coprire tutto ciò che non possiamo prevedere, ne consegue che se prevediamo l'utilizzo di ausili che aumentino il consumo, come per esempio l'antighiaccio, dobbiamo aumentare il block fuel dell'equivalente consumo derivante dal loro utilizzo.

Se sono previste attese a terra durante il rullaggio, il consumo in più va aggiunto al carburante richiesto per la tratta.

Se ci sono holding, o attese, previste da notams, si dovrà considerare questi eventi come previsti.

Come considerare, inoltre, il delta trip? Ci sono aeroporti che hanno un delta trip notevolmente superiore alla quantità del contingency. Una buona *airmanship* permette di contestualizzare, attraverso dati di volo ed esperienza, se su quel determinato aeroporto si consuma sistematicamente più del previsto (Londra, Parigi, Francoforte, Tokyo, New York, etc.).

In sostanza, diminuendo il contingency l'equipaggio ha meno tempo per pensare. A questo fattore tempo, non secondario nella nostra professione, si aggiungono alcune considerazioni di carattere tecnico e gestionale.

Ad esempio, sull'MD80, soprattutto d'estate, la differenza tra carburante imbarcato e quello consumato è, rispetto alla rimanenza, di circa 300 kgs. per un volo superiore ad un'ora.

Ciò è dovuto a problemi legati al compensator, uno strumento che dovrebbe correggere per differente densità del carburante in quota, ma che non è installato su tutti gli aerei della flotta. In soldoni, è come se perdessimo carburante. Vale a dire che a destinazione, quando si tratterà di leggere sul totalizzatore il quantitativo di carburante che determina un dirottamento, sarà quella la quantità su cui facciamo affidamento.

Se ad un contingency di 500 kgs. togliamo 300 kgs. per l'indicatore, ecco che il tempo a disposizione per pensare è diventato quasi nullo.

Infatti, non possiamo immaginare che un equipaggio vada all'alternato con il MDF, in quanto un piccolissimo scarto sui consumi lo metterebbe in condizione di dichiarare emergenza, poiché la quantità prevista all'atterraggio in caso di dirottamento al MDF è proprio il minimum landing fuel.

Quindi, il contingency dovremo portarcelo, se non tutto, ma in buona parte all'alternato, di cui non conosciamo la situazione di traffico e per il quale ci sarà bisogno di un coordinamento da parte dell'ATC che è in funzione della quantità di traffico sull'aeroporto che scegliamo come alternato. Un conto è Lamezia, un conto è Londra Gatwick o Newark.

Un altro problema che deve essere attualizzato secondo l'esperienza dell'equipaggio è la verifica delle distanze riportate sul LIDO per gli aeroporti alternati. Per esempio, Roma Ciampino è stato pianificato per molto tempo con 35 NM di distanza da Fiumicino; oggi la distanza calcolata è circa 90 NM.

I livelli di volo, inoltre, non sempre sono assegnati come pianificato e la situazione di traffico potrebbe imporre tratti di volo livellato che aumentano in modo esponenziale il consumo carburante.

Quando si decide di fare il minimo carburante è imperativo conoscere a menadito la situazione degli aeroporti alternati, in termini di bollettino meteo, procedure particolari, situazione di traffico prevista e quantitativi necessari per un eventuale dirottamento.

Non tutti sono stati ad Izmir, a Gerona o a Katowice, per cui uno studio attento delle cartine di area, eventualmente inserendo nella rotta stby dell'FMS il percorso previsto per l'alternato, evita di trovarsi impreparati di fronte ad un dirottamento improvviso, casomai per un aereo fermo in pista.

Vi sono tematiche human factors che devono essere altresì considerate circa la gestione carburante, in particolare la crew integration, l'effetto della fatica operativa e l'orientamento all'obiettivo.

Per quanto riguarda il primo punto, può capitare che il Primo Ufficiale (o i Primi Ufficiali), in sede di pianificazione, di fronte ad una situazione che percepisce come critica, sia a disagio nell'imbarcare il minimo carburante. E' facoltà del comandante decidere, utilizzando le risorse di equipaggio, il quantitativo richiesto per la tratta. Ciò può creare un conflitto latente che deve essere affrontato per tempo.

Infatti, l'emergency authority non è contemplata in questa fase. Il Primo Ufficiale accetterà la decisione, riservandosi però di intervenire in seguito.

A questo punto però il problema può essere più complesso da gestire, sia per la scarsità di carburante, che induce uno stato di stress, sia per un eventuale conflitto che potrebbe assumere connotazioni più marcate di quelle che aveva in sede di briefing.

Il secondo punto riguarda l'effetto della fatica sulle operazioni di volo.

Abbiamo letto, con molta perplessità, una circolare aziendale in cui si riportano i tempi di esecuzione (8 minuti medi) di una procedura anormale o di emergenza al simulatore di un equipaggio con prestazione good.

Innanzitutto, quale avaria viene risolta in otto minuti?

Sarebbe interessante sapere quale è il campione statistico sul quale è stato effettuato l'esperimento e se tale esperimento ha coinvolto tutti i controllori o solo alcuni.

È evidente comunque che la situazione di "laboratorio", rappresentata dal contesto del simulatore, non possa essere presa come parametro di riferimento per il volo di linea. Infatti, il simulatore differisce dal volo di linea per diversi aspetti.

- Ciò che manca nel simulatore è l'effetto fatica che si genera dopo più di dieci ore di servizio in equipaggio minimo, che sta diventando la norma nel volo di linea.
- Inoltre, un equipaggio che si presenta al simulatore ha una reattività più alta rispetto al contesto del volo di linea, poiché si aspetta di dover fronteggiare un'avaria e opera in un sistema ovattato in cui le informazioni sono immediatamente accessibili, a differenza dello scenario reale, in mezzo ai cumulonembi, con il controllo del traffico aereo che deve gestire decine di altri aeroplani nell'area, con difficoltà di comunicazione per le frequenze intasate.

C'è poi un aspetto che riguarda una predisposizione dell'essere umano ed è conosciuto in letteratura come *plan continuation bias*, cioè la tendenza a continuare con il proprio piano di azione, formulato in precedenza (nel nostro caso: andare a destinazione), anche quando le condizioni sono evidentemente cambiate.

Essendo orientato all'obiettivo, il Pilota tenderà a perseguirlo fino all'ultimo momento. Questo, in condizioni di basso livello carburante, può essere un comportamento rischioso, soprattutto quando anche l'alternato si sta saturando.

È evidente quindi che un cambiamento come quello della riduzione del contingency fuel, deve essere accompagnato da una riflessione sui cambiamenti nei comportamenti a bordo, nella consapevolezza dei livelli di rischio cui si va incontro e nella valutazione attenta dei limiti di sistema.

E' universalmente noto che noi non operiamo in un sistema lineare, prevedibile, sicuro.

Il nostro è un sistema complesso in cui interagiscono uomini, mezzi ed ambiente, ognuno con elementi di incertezza che, nella loro interazione, possono generare risultati imprevisti.

Solo per citare un fatto recentemente accaduto, che rende l'idea della imprevedibilità del sistema, riportiamo un evento successo realmente a Londra Heathrow:

Un equipaggio, in finale sulla pista 27L, si accorge che la frequenza ILS è inoperativa. Prova sull'altro apparato, senza successo. Prova anche a selezionare l'ILS della 27R, anche qui senza successo. Nel frattempo il controllore radar continua ad assegnare prue "strane", chiedendo ripetutamente se l'equipaggio avesse la pista in vista. L'aereo viene istruito, sotto vettoramento radar, a scendere ad una quota inferiore, alla quale finalmente vede la pista. Da quel momento viene autorizzato all'atterraggio dal controllore dell'approach che istruisce il volo a fermarsi su una via di rullaggio, non appena liberata la pista.

Cosa era successo? L'edificio in cui è situata la Torre di controllo di Londra aveva ricevuto un avviso di fuoco e i presenti avevano disattivato tutta l'alimentazione elettrica, compresa frequenza di torre ed ILS.

Questo evento, benché raro, non è isolato e tutti coloro che volano sanno che di eventi imprevedibili ne succedono frequentemente.

Per non perdere di vista il livello di rischio associato a questa tipologia di evento, riportiamo un elenco di incidenti causati dal carburante (*fuel starvation*) come causa principale, cui vanno aggiunti gli altri in cui il carburante ha contribuito a mettere l'equipaggio "dentro l'imbuto".

Fuel Starvation

- 1) 05/18/1935 Knowles Flying Service Flint, Michigan: Negligence on the pilot for not replenishing his fuel supply before it got dangerously low.
- 2) 12/31/1935 Imperial Airways **Alexandria**, Egypt Ran out of fuel.
- 3) 07/02/1937 **Lae**, New Guinea Purdue Res. Found. The aircraft had to be flown higher than expected due to storms which used extra fuel.
- 4) 11/29/1938 Off Point Reyes, Calif. United Air Lines Ran out of fuel forcing a ditching at sea.
- 5) 02/09/1943 **Gander**, Newfoundland British Overseas AW Ran out of fuel.
- 6) 12/28/1946 **Michigan** City, Michigan American AL Ran out of fuel for unknown reasons.
- 7) 01/05/1947 **Carmel**, New Jersey Nationwide Air Trans. Near fuel exhaustion forced the crew to carry out an emergency landing.
- 8) 01/11/1947 **Lympne**, England BOAC Ran out of fuel because of poor weather conditions encountered throughout the flight.
- 9) 01/07/1948 Savannah, Georgia Coastal Air Lines The fuel valves were positioned so that both engines were supplied from only one tank.
- 10) 01/30/1948 Near **Bermuda** British So. Am. AW Ran into strong head winds in the Atlantic and ran out of fuel.
- 11) 08/15/1949 **Lurga Point**, Ireland Transocean Air Lines Ran out of fuel and ditched in the Atlantic.
- 12) 07/28/1950 **Porte Alegre**, Brazil Penair do Brasil Ran out of fuel while in a holding pattern.
- 13) 04/30/1952 Delhi, India Deccan, AW Fuel starvation after the plane banked to make a turn and the tank was almost empty.
- 14) 05/26/1952 **Atar**, Mauritania British Overseas AW Became lost in the desert and ran out of fuel.
- 15) 06/19/1954 **Folkestone**, England. Swissair Ditched into the Atlantic Ocean after running out of fuel.
- 16) 12/22/1954 **Pittsburgh**, Pennsylvania Johnson Flying Service Ditched into the Monongahela River after running out of fuel.
- 17) 05/02/1970 St. Croix, Virgin Islands Antillian AL Ran out of fuel and ditched into the Mediterranean Sea.

- 18) 12/05/1970 Delhi, India Jamair The No. 2 engine failed on takeoff due to fuel starvation.
- 19) 02/01/1972 Tegal, Indonesia Penas Due to a compass error the aircraft became lost and crashed due to fuel starvation.
- 20) 07/24/1973 Honolulu, HI Air Hawaii Fuel starvation. Rear auxiliary tanks not serviced.
- 21) 08/11/1974 Ouagadougou, Upper Volta Air Mali After being diverted and a navigation error the crew circled the wrong city.
- 22) 10/20/1977 Gillsburg, Mississippi L & J Company A malfunction in the No.2 engine caused a higher than normal fuel consumption.
- 23) 12/02/1977 Al Bayda, Lebanon Balkan Bulgarian AL Because of fog, the crew could not find the alternate airport and ran out of fuel.
- 24) 12/28/1978 Portland, Oregon United AL Ran out of fuel while the crew was distracted with a landing gear problem.
- 25) 09/04/1982 Rio Branco, Brazil Cia Bras. de Tratores Ran out of fuel on the third approach in poor weather.
- 26) 07/23/1983 Gimli, Manitoba, Canada Air Canada Accidentally used pounds/liter for the specific gravity factor instead of kilograms/liter.
- 27) 09/03/1989 Sao Jose do Xingu, Brazil Varig The crew flew in the wrong direction for two hours then ran out of fuel.
- 28) 01/25/1990 Cove Neck, New York Avianca Put in series of holding patterns because of heavy traffic and ran out of fuel.
- 29) 09/11/1990 Off Newfoundland, Canada Faucett Ran out of fuel and crashed into the Atlantic Ocean.
- 30) 06/26/1991 Sokotu, Nigeria Okada Air After circling for an hour, unable to locate the air field, the plane ran out of fuel.
- 31) 11/15/1993 Kerman, Iran Magistralnye Avialinii Ran out of fuel while in a holding pattern.
- 32) 09/18/1994 Tamanrasset, Algeria Oriental AL After circling for 1 1/2 hours and aborting four landing attempts the plane ran out of fuel.
- 33) 09/26/1994 Vanavera, Russia Cheremshanka AL After three landing attempts, the crew diverted to their alternate but ran out of fuel.
- 34) 09/11/1995 Jalalabad, Afghanistan Ariana Afghan AL Ran out of fuel.

- 35) 10/31/1995 **Piedras** Negras, Mexico TACSA Ran out of fuel trying to land in fog.
- 36) 04/05/1996 **Petropavlovsk**, Russia Krasnoyarskie AV Crashed into a mountain after running out of fuel.
- 37) 01/13/1998 **Tor Kach**, Pakistan Ariana Afghan AL Crashed into a mountain after being diverted to their alternate due to bad weather.
- 38) 03/24/2000 **Kadirana**, Sri Lanka OMSK After 2 messages they were low on fuel, the plane crashed while attempting to land.
- 39) 08/12/2001 Lajes, Terceira, Azores Air Transat Improperly installed part caused a fuel leak and the plane to run out of fuel.
- 40) 06/11/2002 **Winnipeg**, Manitoba Keystone Air Services Ran out of fuel.
- 41) 11/11/2002 Manila, Philippines Laoag Int. Airlines Failure of the pilot and co-pilot to check the fuel valves.
- 42) 08/13/2004 Cincinnati, Ohio Air Tacoma Flightcrew's failure to monitor the fuel gauges and to recognize a fuel imbalance.
- 43) 08/06/2005 Off **Palermo**, Italy Tuninter The maintenance crew incorrectly installed a fuel gauge for a ATR-42 on the ATR-72.

Da notare che dal 1990 al 2005, anni in cui si è cominciato a parlare di fuel policy, gli incidenti legati al carburante come causa primaria sono praticamente uno l'anno.

La differenza rispetto al passato è che i piani di volo degli anni '30 non erano aggiornati, spesso si scoprivano venti in quota superiori alle attese, non c'erano cartine meteo basate su informazioni del satellite, i bollettini viaggiavano con la linea telefonica e le previsioni erano alquanto aleatorie.

È da riflettere sul fatto che dal 1990 ad oggi, con piani di volo computerizzati, che calcolano il carburante necessario per la tratta e per l'eventuale diversione all'alternato in modo molto preciso, ci siano percentualmente più incidenti legati alla gestione carburante rispetto al passato. Notare che spesso l'esaurimento del carburante avviene durante la diversione all'alternato. In particolare, i voli evidenziati in giallo hanno subito il fenomeno dello spegnimento dei motori per mancanza di carburante.

Riportiamo di seguito una serie di case studies che illustrano, alla luce della problematica carburante, la catena di eventi che può portare all'incidente per la combinazione di diversi fattori: inesperienza, stanchezza, congestione di traffico, imprevedibilità meteo, etc.

Case study 1: racconto da parte di un comandante Americano che riporta la propria esperienza a seguito di un'emergenza dichiarata a Chicago. Sottolineate le pressioni organizzative percepite dall'equipaggio nella gestione del carburante.

Synopsis

An A319 Captain declared minimum fuel on arrival to ORD. A minimum fuel state was reached after enroute delays and vectors for weather as they approached ORD. The flight was dispatched with too little fuel even after the Captain added additional fuel. ATC gave the flight priority handling.

Narrative: 1

Use of Captain's authority, declaration of minimum fuel, no delay to airport.

“We had been rerouted through MCI Center and had received delay vectors several times. The base plan provided by Dispatch had minimum extra fuel of 0.5 and I added 1.1 as a contingency for possible enroute delays, light turbulence descent/climbs and potential reroutes. I tend to add fuel conservatively and not go too much. I add only what my judgment and route experience suggests I will actually use. We touched down in ORD with 4.7, still one hour's fuel, but had we not declared minimum fuel we would have landed with less than one hour forecast fuel. After the declaration there were no additional delays to the field and we were able to execute a successful stabilized visual approach to 27R. The First Officer and I discussed what should be our minimum fuel number for the declaration and we examined fuel consumption due to the reroutes and altitude/speed/vectoring changes. We jointly agreed that if not with Approach Control and more than 30 minutes from the airport, a minimum fuel number for today would be 6.0. Also of consideration and in the back of my mind concerning the uploading of fuel is the rumor mill concerning the monitoring of Captain's and fuel uploads. There is a rumor circulating that says Captains who routinely increase fuel above the planned fuel are subject to disciplinary action. I would suggest that this issue needs to be addressed and the truth about how the

program works sent out as a just the facts or through each Chief Pilot's office. I added fuel because I saw the weather channel the night before, was aware of early morning ORD haze and MCI weather, and saw that this had not been planned for by Dispatch. We had a successful outcome and I thank ATC for their response to a "minimum fuel" declaration.

Case study 2: Questo un altro esempio, sempre riguardante la famiglia Airbus, che ha visto coinvolto un equipaggio in una situazione di emergenza carburante per una situazione imprevista di maltempo. Sottolineate le affermazioni del comandante circa la politica carburante della compagnia.

Synopsis

Lack of alternate fuel for their destination resulted in an A320 flight crew declaring a fuel emergency and diverting to another airport when the destination visibility was reduced below minimums due to a dust storm.

Narrative: 2

“Destination weather went below minimums to 1/4 mile in blowing dust. No anticipated improvement in visibility, expected to hold. We arrived with min fuel no alternate filed. Diverted. Declared min fuel. Enroute FMC showed arrival with slightly less than 45 minute reserve so emergency was declared with ATC. Landed with 3,800#'s, gate arrival fuel 3,500#'s. Dust storm was not forecast. No alternate was filed. Due to ATC delays, fuel at the beginning of the approach to our destination had used much of our holding fuel already. No anticipated improvement in visibility was given so we diverted. A320 flight plans are notorious for showing more arrival fuel than actually occurs. Having no alternate fuel left us few options when an event like this occurs. Holding and praying that the visibility improves is not a reasonable option. There should always be a planned alternate landing site”

Case study n° 3.

Per quanto riguarda l'eventuale diversione all'alternato ecco il racconto di un primo ufficiale che lamenta la scarsa professionalità del flight *dispatcher* e dei quantitativi irrealistici di carburante previsti per fare i calcoli (vi ricorda niente la

quantità di carburante richiesta per dirottare a Bergamo, secondo il piano di volo LIDO?). Da quadro emerge che un dirottamento non è una situazione routinaria e che del tempo addizionale si richiede per portarlo a termine in sicurezza.

Synopsis

First Officer for a commuter air carrier advised that the company's planning for holds and alternates is unrealistic.

Narrative 3

There was a big cell about 20 miles from the airport. We were filed with an alternate of ZZZ. While on the arrival, we were given holding instructions. We were given an expect further clearance time of 20 minutes. As normal practice around here, we were filed with no holding fuel. After getting holding instructions, we contacted dispatch to let them know we were given holding. It took 22 minutes for them to respond to us. At this point, we were approaching our holding fix. We then texted them again to see if they were awake and got a response asking what our fuel on board was. The Dispatcher came back and said ZZZ weather is worse than ZZZ1 and was possible looking at ZZZ2 as a new alternate. We told him we could see in the direction of ZZZ3 and it was clear. We got no response. About 4 minutes later they came back with our enroute fuel to ZZZ as 596. How is the possible to burn 596 LBS of fuel from the holding fix to ZZZ (286 NM)? We got this response while turning base on landing, almost 36 minutes after first contact with dispatch. We were in a critical phase of flight so we didn't respond. Once we got on the ground we called and asked why they didn't give us ZZZ3 as an alternate to begin with its only about 160 miles from ZZZ1 vs. ZZZ where the weather was worst and you would have to go straight through the storm to get there. No common sense being used in at all. The Dispatcher told us that our landing weight was too high for ZZZ3 and ZZZ2. We landed with the 70,000 LBS card. He said that's what the computer told him and the computer said we would burn 596 LBS at long range cruise to go 286 miles from the hold to ZZZ. When filing us for an alternate make sure it makes sense to real time operation. ZZZ was a legal alternate but the weather was heading directly towards that airport. Use common sense. It shouldn't take 32 minutes to respond to a message sent from air to ground. If we are going to rely on a system like these please acknowledge within a timely fashion especially when the weather is questionable.

This isn't the first time and I know I'm not the first person to file a report in relation to response time to ACARS messages. I'm not sure if it is a staffing problem but something needs to be done about this issue. Double-check your work before sending it out. If an airplane on average burn 1500 LBS per engine per hour how in God's name can you only burn 596 LBS for 286 NM. Have another Dispatcher check your work if you are unsure. The company should train dispatchers a little bit better than they are doing. They seem to be trained to the bare minimums and it shows from time to time.

Case study 4: il carburante extra viene correttamente imbarcato come risorsa per supplire alle carenze di esperienza, ma durante il volo, per una holding inattesa, l'equipaggio si infila dentro l'imbuto. Nonostante un avvicinamento destabilizzato, l'opzione migliore è atterrare perché non c'è più carburante per gestire la situazione al meglio. Vettoramenti così ne sperimentiamo ogni giorno nell'area di Fiumicino o di Malpensa.

Narrative: 1

This was my initial trip as an A320 Captain after completing my Initial Operating Experience. The first leg of day 1 went well. Flight planning for this flight was normal, with our decision to add 900 LBS fuel because of my lack of experience. Enroute, we discussed and decided that we would accomplish an auto land in order to accomplish some of the 'new captain' requirements. I reviewed and briefed the First Officer from the briefing guide in the A320 Flight Manual. We also briefed the approach based on the ATIS (VFR) and our arrival direction. On the arrival, descending to 11,000 MSL, we were given holding instructions to hold at as published. We entered holding and were given an EFC for a planned 39 minute hold. The reason given was unexpected heavy rain shower 'crossing the field at this time.' The First Officer sent an ACARS message to Dispatch informing her of the situation and requested weather information for area airports. He also attempted to get a terminal area graphic of local area using the MISC TG message, but the system was down. While the First Officer did this, I flew the aircraft and made a PA to the cabin informing them of the holding situation. We entered the holding pattern with approximately 7,000 LBS. of fuel. ACARS

message was received from Dispatch recommending ZZZ as our best option if a diversion was necessary. A quick bearing/distance check showed destination approximately 50 NM east, ZZZ approximately 110 NM south. The First Officer and I discussed our options and agreed that ZZZ would be our diversion plan. We could see heavy rain shower on the radar between our hold and our destination, but a clear 'corridor' towards ZZZ if we had to divert. We agreed that we would use 5500# of fuel as our 'Bingo' (max hold) to depart holding. At XA30z, with 6100# of fuel, I queried ATC about the EFC estimate, asking if there was any chance that it would be shortened. They answered, 'No.' I told ATC that we did not have the endurance fuel and that we would like to show ZZZ as our new destination and requested to depart holding. ATC response: 'Standby, they think they can get you in to your destination now. They have rain showers on final, but they say they can get you in.' After a quick question to my First Officer ('Are you O.K. with this?'), we were cleared to depart holding with vectors northeast out of holding. I made a PA to the cabin while the First Officer sent a message to dispatch. Fuel was approx. 5900# departing the hold. We flew extended vectors to the northeast and descended per ATC instructions. All PA's were made, passengers seated, checklists accomplished, etc. Monitoring the radar, the First Officer advocated a third airport as a better diversion airport based on our present position and the fact that the heaviest rain showers were now between our destination and ZZZ. I agreed. Approx 20NM northwest our destination, we were given clearance, 'Descend to 4000, maintain 210 KIAS, fly heading 160 to intercept localizer.' With the AP1 engaged, I entered the heading in the FCU, confirmed the altitude on the FD, pulled the FCU altitude knob for open descent and slowed to 210 using speedbrakes and Flaps 1. I told the First Officer that I would use NAV initially to intercept the final because of the distance from the LOC transmitter. I pushed the HEADING/TRACK knob and aurally verified that we had FMAs of HDG and NAV armed. I did not verify course offset value on the ND with NAV armed. ATC amended our heading assignment to 170 and I made the change and verified that NAV was still armed on the PFD. As we approached the course intercept point, ATC transmitted that they were breaking off the approach for another aircraft on final to XXL (parallel to our runway assignment) because of a windshear alert. The radio seemed very busy, and the Windshear

alert obviously got our attention. ATC followed that call with another transmission saying that the XXC final approach course had only heavy rain showers wi (messaggio interrotto).

Narrative: 2

Based of what we saw on the radar and ATC PIREPS I agreed with the Captain to press on to ZZZ1. In my mind, I felt this was a good option so long as things did not get worse. We had planned and briefed a CAT II ILS and we were told to expect the ILS. The Captain, being brand new (first day off IOE, first company Captain, first time flying the A320) flew due to qualification requirements. In addition, flying a coupled approach would allow the Captain to meet one of the two autolands for a CIII status and let us go down to lower minimums if the visibility went down. A goaround would be less likely. Committing to ZZZ1 meant ZZZ2 would not be a good option. I pulled up weather for ZZZ3 and presented to the Captain. He seemed to agree that it would be a better option. We were at 4,000 feet and given a 160 heading, 210 assigned speed and told to intercept the localizer. I had cleaned up the box and made from the point a PPOS followed by an intersection and the FAF. Since we were intercepting some distance out the Captain armed NAV to intercept. I was distracted by the static on the radio due to the rain and was listening hard for our radio call sign. What we did hear was ATC saying they had a windshear report on another runway. At that moment I looked down and saw that we were passing through the localizer in HDG mode. The Captain started a turn back and armed the LOC mode. We were queried by ATC if we would be able to get the localizer. I reported I would. The Approach Controller, who was very busy, began assigning short vectors possibly due to the windshear, but possibly due to our overshoot. I scanned the TCAS to see if there was any impending traffic conflict. I saw no one, but I did see that we were just starting to go above glideslope. The Captain said we needed to get down. I believe that the descent clearance was delayed due to the overshoot and the frequency congestion. We had reestablished ourself on the localizer and were in moderate rain showers. ATC got to us and gave us a clearance to maintain 2000 and that we were cleared for the ILS. The Captain pulled for Open Descent, armed the approach, extended the speed brakes and called for gear down and the final descent checklist. I was involved with the checklist and reporting to the tower

when I made the determination and said that a coupled approach was not going to work. The Captain spun up the mode control panel (MCP) altitude, turned off the autopilot and called for more flaps. I responded to the landing clearance and continued with the checklist. I noted the speed brake was still extended and called it out to the Captain. He did not respond. I knew he was very task saturated. I stated I'm getting rid of the speed brakes and the Captain looked down to see what I was doing. We had a 'SINK RATE' GPWS call with the runway in sight. The call was disconcerting but the Captain had already arrested the sink rate. With the correction and final flaps extended and the runway in sight, I knew that a go-around was appropriate from such an ugly approach, but at the time a landing based off our fuel state and that the weather was moving on to the airport seemed like a safer option. We landed out of the approach and taxied to the gate. We never encountered any windshear on or saw any indications on the approach. The rain continued onto the airport as the Captain and I sat in the cockpit for a time feeling disgusted with ourselves. We start to recount the series of events that had led us to the point where we felt like we had little options other than land. We were cleared to ZZZ1 at the time we requested clearance to ZZZ2. That was our best opportunity to bug out. 'Aircraft are only encountering rain' led us in the ZZZ1 direction as well as the statement that it looked like we would beat it in. I left the PPOS in the box at 1L in the MCDU base of the fact that the Captain wanted it in the box on the last leg. This was an assumption by me. I heard the Captain say that NAV was armed,

Synopsis

A new A320 Captain and an experienced First Officer described an approach into an airport with heavy weather and numerous delays. The Captain's report described a new Captain's task saturated experience and thought processes in a complex high workload aircraft.

Consapevoli che questa breve trattazione non esaurisce il tema della gestione del carburante, ci auguriamo che possa costituire un utile spunto di riflessione per tutti i Colleghi, ai quali raccomandiamo particolare attenzione alle problematiche

subdole che si possono celare dietro un normale volo di linea, ricordando che dobbiamo sempre presidiare la sicurezza, nostra precisa responsabilità.

Per chi desiderasse approfondire ulteriormente il tema, alleghiamo una raccolta di eventi ASRS legati alla gestione del carburante, dalla quale sono stati tratti i casi precedentemente esposti.

Il Dipartimento Tecnico IPA

IPA - Dip. Tec.

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	16.0
Date of Update	November 20, 2009
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.

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 of the following points, which must be considered when evaluating these data.

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.

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 reporting of a specific individual who is describing their experience and perception of a safety related event.

After preliminary processing, all ASRS reports are de-identified. Following de-identification, there is no way to identify the individual who submitted a report. All ASRS report processing systems are designed to protect identifying information submitted by reports, such as, names, company affiliations, and specific times of incident occurrence. There is, therefore, no way to verify information submitted in an ASRS report after it has been de- identified.

The National Aeronautics and Space Administration and its ASRS 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, Director
Aviation Safety Reporting System

CAVEAT REGARDING STATISTICAL USE OF ASRS INFORMATION

Certain caveats apply to the use of ASRS statistical 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, air carriers, or other participants in the aviation system, are equally aware of the ASRS or equally willing to report to us. Thus, the data reflect **reporting biases**. These biases, which are not fully known or measurable, may influence ASRS statistics. 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 supportive of the ASRS program and more inclined to report to us should an NMAC occur.

One thing that can be known from ASRS statistics is that they represent the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 1999 (this number is purely hypothetical), then it can be known with some certainty that at least 881 such events have occurred in 1999. Because of these statistical limitations, we believe that the **real power** of ASRS lies in the **report narratives**. Here pilots, controllers, and others, tell us about aviation safety incidents and situations in detail. They explain what happened, and more importantly, **why** it happened. The values of these narrative reports lie in their qualitative nature. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.

Report Synopses

ACN: 852144 (1 of 50)

Synopsis

A B777 flight crew reported declaring a fuel emergency when they were sent around on approach.

ACN: 850769 (2 of 50)

Synopsis

A B737 flight crew encountered unexpected below-minimum weather at destination, and declared a fuel emergency to assure a successful diversion.

ACN: 850669 (3 of 50)

Synopsis

A PA-44 pilot reported an engine failure near destination due to fuel exhaustion, a safe landing was made at the destination airport.

ACN: 850638 (4 of 50)

Synopsis

A C414 pilot reported a chain of events that resulted in a dead stick landing because of fuel exhaustion.

ACN: 850512 (5 of 50)

Synopsis

B737 Captain discovered that destination which was forecast to be VFR at arrival was below even CAT IIIB minimums, while they were on downwind. An immediate diversion was commenced to another airport 130 miles away. Enroute the reporter was joined by two additional company flights and all three declare fuel emergencies in order to land straight-in.

ACN: 850174 (6 of 50)

Synopsis

Instructor pilot with student reports engine failure after lift off and successful landing on remaining runway. Fuel selector was found to be in the wrong position, which caused fuel starvation.

ACN: 850158 (7 of 50)

Synopsis

The pilot of a C182 suffered engine failure and made a safe, off airport, forced landing.

ACN: 850120 (8 of 50)

Synopsis

Air carrier inbound to IAD, low on fuel and with three other company aircraft on the frequency with similar flight numbers, initiated a turn to the final, was corrected by ATC, controller stating turn was for company aircraft.

ACN: 849755 (9 of 50)

Synopsis

A C152 instructor pilot and student experienced fuel exhaustion and made a forced landing in a field.

ACN: 849661 (10 of 50)

Synopsis

A CL65 Captain laments the low fuel loads that are routinely being used by dispatchers at his airline.

ACN: 848959 (11 of 50)

Synopsis

Weather reroutes for an A319 result in a low fuel emergency declaration and a safe landing at their destination.

ACN: 847713 (12 of 50)

Synopsis

A C210's right fuel tank was empty but the quantity gauge indicated nearly full. While making practice landings, the engine quit because the right tank was the selected fuel source. A dead stick landing was made to the airport.

ACN: 847082 (13 of 50)

Synopsis

Both fuel gauges of a C152 were inaccurate. The pilot relied on the gauges to determine departure fuel and with low fuel quantity the aircraft's engine lost power, forcing a divert where a safe landing was finally made.

ACN: 846454 (14 of 50)

Synopsis

An A319 Captain declared minimum fuel on arrival to ORD. A minimum fuel state was reached after enroute delays and vectors for weather as they approached ORD. The flight was dispatched with too little fuel even after the Captain added additional fuel. ATC gave the flight priority handling.

ACN: 845367 (15 of 50)

Synopsis

PA28-180 pilot is surprised to learn he had only two total gallons of fuel on board his aircraft upon landing following a long cross country flight.

ACN: 844163 (16 of 50)

Synopsis

Lack of alternate fuel for their destination resulted in an A320 flight crew declaring a fuel emergency and diverting to another airport when the destination visibility was reduced below minimums due to a dust storm.

ACN: 843846 (17 of 50)

Synopsis

Confusion reigned between the reporter/dispatcher, the flight crew and maintenance regarding the appropriate planning for maintenance ferry flight for a CRJ-50.

ACN: 843727 (18 of 50)

Synopsis

A B767-300 on a Transatlantic flight declared an emergency and diverted to a nearby airport when the fuel crossfeed could not be opened to correct a fuel imbalance.

ACN: 843444 (19 of 50)

Synopsis

An EMB-145 flight crew departed without sufficient fuel for the flight. They discovered the error in cruise and diverted to refuel before continuing to their destination.

ACN: 843424 (20 of 50)

Synopsis

A wide body cargo flight crew on an international flight experienced an EICAS "X FEED CONFIG" message at top of climb. It became apparent they had mis-positioned fuel crossfeed switches during preflight because of fatigue and distractions.

ACN: 843267 (21 of 50)

Synopsis

An R-22 instructor pilot working with a student experienced a low fuel situation and landed off-airport to refuel.

ACN: 843072 (22 of 50)

Synopsis

Instrument rated aboard a PA46 found himself back in IMC after canceling IFR. Lack of familiarity with GPS system and the apparent anxiety resulted in multiple aborted approaches to a marginal alternate, a low fuel state and an eventual landing followed by a gear collapse.

ACN: 842812 (23 of 50)

Synopsis

A change from a wet wing to a bladder fuel tank causes a Mooney pilot to misjudge fuel quantity prior to departure. When the right tank runs dry the reporter assumed a fuel injector problem had reoccurred and set up for an emergency landing. Fuel selector was moved to another tank on final and engine started but reporter continued to landing.

ACN: 842615 (24 of 50)

Synopsis

An MD80 was dispatched with a wing fuel tank pump inoperative. After takeoff a center tank pump failed preventing center tank fuel from being used. Unable to reach the destination on wing tank fuel alone an emergency was declared followed by an overweight landing.

ACN: 842403 (25 of 50)

Synopsis

B737 Captain discovered enroute that he may have departed with less than required fuel on an ETOPS flight. There was a difference between flight plan fuel and release fuel apparently caused by glitches in new flight planning software.

ACN: 842393 (26 of 50)

Synopsis

A CRJ-200 Captain diverted when his destination airport fogged in. The Dispatcher was unhappy the crew did not go to a different alternate.

ACN: 842281 (27 of 50)

Synopsis

First Officer for a commuter air carrier advised that the company's planning for holds and alternates is unrealistic.

ACN: 841471 (28 of 50)

Synopsis

C182 pilot departs for 15 minute flight with 20 gallons showing on the fuel gages. Within 5 minutes of takeoff the engine quit and the reporter landed on a highway with no damage and no injuries. The fuel tank is found dry with 15 gallons showing on the gages.

ACN: 841240 (29 of 50)

Synopsis

New in type E140 Captain discovered the company planned 45 minute reserve fuel for all flights is more than 1000 LBS below the actual burn at normal cruise speed.

ACN: 841158 (30 of 50)

Synopsis

Dispatcher expressed concern regarding ATC's refusal to allow several company fuel critical aircraft to divert to selected alternates, claiming several prior like events, reporting indicating emergency declarations as future probable solution.

ACN: 841000 (31 of 50)

Synopsis

Air carrier described minimum fuel event due to weather and a reported less than precise ATC plan regarding vectors and probable delays.

ACN: 840843 (32 of 50)

Synopsis

A CL65 flight crew experienced "Fuel Imbalance" warning message soon after takeoff and again later in the climb. They ran the procedure and coordinated with company, electing to divert to the nearest suitable airport.

ACN: 840759 (33 of 50)

Synopsis

Captain of a long range Pacific Ocean crossing takes exception to the Dispatcher's unwillingness to provide information and flight planning data to facilitate circumnavigating volcanic ash.

ACN: 840084 (34 of 50)

Synopsis

An AC50 pilot failed to verify that the fuel cap was installed after a fuel stop. Because the cap was not installed fuel rapidly siphoned from the interconnected tanks resulting in critically low fuel at the destination.

ACN: 840070 (35 of 50)

Synopsis

A PA-28 engine quit from fuel starvation on destination's final following a cross-country flight. The safety pilot gained control of the aircraft and landed safely.

ACN: 840006 *(36 of 50)*

Synopsis

A B737-700 crew was issued preflight release paperwork, which had no payload as part of the weight and balance. The error was caught and corrected before takeoff.

ACN: 839964 *(37 of 50)*

Synopsis

Captain of a light transport believes ATC's declaration of a fuel emergency for their flight wasn't warranted.

ACN: 839758 *(38 of 50)*

Synopsis

Air carrier Captain laments the delays and wasted fuel on a clear day at ORD at peak arrival time.

ACN: 839501 *(39 of 50)*

Synopsis

A DHC8 Captain described the circumstances and causes leading up an early morning departure with less than dispatch fuel onboard.

ACN: 838678 *(40 of 50)*

Synopsis

Corporate jet must make a missed approach at minimums at their destination. Refused the published missed approach due to low fuel state and diverted to land safely at an alternate airport.

ACN: 838589 *(41 of 50)*

Synopsis

A B777's engine fuel filter EICAS message alerted at cruise. An emergency was declared followed by a return to land. An additional fault occurred when the left wing tank pressures blanked.

ACN: 837849 *(42 of 50)*

Synopsis

An air carrier aircraft was given holding instructions on arrival into DEN. No preflight additional fuel was added because the airport had no expected delays, a fuel emergency was eventually declared.

ACN: 837840 (43 of 50)

Synopsis

An air carrier aircraft enroute to DEN was assigned an unexpected holding when the weather and traffic were forecast acceptable. Because no holding fuel was onboard, the crew declared an emergency and landed with minimum fuel.

ACN: 837533 (44 of 50)

Synopsis

Dispatched across the Atlantic Ocean with planned minimum fuel reserves at their destination, an A330 flight crew struggled to adapt to higher fuel burn and less favorable winds than forecast.

ACN: 836895 (45 of 50)

Synopsis

An EMB-145 pilot declared a fuel emergency and diverted to an enroute airport because extensive weather prevented proceeding to either the filed destination or alternate.

ACN: 836840 (46 of 50)

Synopsis

C172 pilot planned and executed 3+55 flight with 4+25 fuel on board. Head winds and near maximum gross weight cause flight to run long. Twelve miles from destination at 4+25 flight time fuel runs out. Reporter is able to glide to nearby uncontrolled airport.

ACN: 835531 (47 of 50)

Synopsis

Airbus Captain discovered during climbout that the left wing was heavy and found the right inner tank fuel quantity to be zero on the fuel page. Emergency was declared and flight returned to their departure airport.

ACN: 835276 (48 of 50)

Synopsis

Pitts pilot misjudged fuel available and ran out of fuel 5 miles from destination, a safe landing was made on a highway.

ACN: 835189 (49 of 50)

Synopsis

A new A320 Captain and an experienced First Officer described an approach into an airport with heavy weather and numerous delays. The Captain's report described a new Captain's task saturated experience and thought processes in a complex high workload aircraft.

ACN: 834924 *(50 of 50)*

Synopsis

Dispatched with the left forward main tank boost pump deferred, a B767-300 diverted to an enroute airport when fuel began to burn prematurely from the right main tank, an anomaly that would require running both engines off the one remaining left main tank boost pump.

Report Narratives

Time / Day

Date : 200909
Local Time Of Day : 0601-1200

Place

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

Environment

Flight Conditions : IMC

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B777-200
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Mission : Passenger
Flight Phase : Initial Approach
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 : Pilot Flying
Function.Flight Crew : First Officer
Experience.Flight Crew.Total : 7000
Experience.Flight Crew.Last 90 Days : 8
Experience.Flight Crew.Type : 700
ASRS Report Number.Accession Number : 852144
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 : Pilot Not Flying
Function.Flight Crew : Captain
Experience.Flight Crew.Total : 14000

Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 300
ASRS Report Number.Accession Number : 852149
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Declared Emergency
Result.Air Traffic Control : Provided Assistance
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

ATC directed a missed approach outside of FAF. No reason given due to ATC workload. After the missed approach, ATC initially vectored us for immediate return. ATC then directed a frequency change and we were then given vectors to regain the arrival. We declared minimum fuel due at 11.9k LBS. ATC then directed a climb from 4k to 6k with additional vectors away from the field. Once back on the arrival, we stabilized at 9.0k fuel. Shortly thereafter we received a low fuel EICAS which we accomplished directing us to land with flaps 20. Captain declared emergency fuel at approximately 8.9k remaining when ATC vectored us away from the airport. ATC then told us we could expect a turn to final in two miles. Turn was given and we were cleared for the approach. Changing frequencies we were told if we could not slow to 150kts we would be broken out of sequence. We reminded new Controller that we were emergency aircraft. They came back and told us we would not be broken out but they might have to send another aircraft around. We were now approximately 15 miles out, with @8.5k remaining. Controller switched us to Tower. Checking in with Tower, he told us to slow to 150 for spacing. We reminded him that we were an emergency aircraft and he said this was the first he had heard of it and told us there was another emergency fuel aircraft on a 1.5 mile final. We were cleared to land following another aircraft who was cleared to land after the other emergency fuel plane. At that point we lowered the gear and accomplished an uneventful 20 Flap, 2 engine landing. We touched down with 7.9k fuel remaining. I was pleasantly surprised by the significantly lower fuel burn during final approach while landing with 20 flaps as compared to 25 or 30 Flaps and can see why the irregular procedure directs landing with 20 Flaps.

Synopsis

A B777 flight crew reported declaring a fuel emergency when they were sent around on approach.

Time / Day

Date : 200909
Local Time Of Day : 0601-1200

Place

Relative Position.Distance.Nautical Miles : 50
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Make Model Name : B737-500
Flight Phase : Descent
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
Experience.Flight Crew.Last 90 Days : 188
Experience.Flight Crew.Type : 188
ASRS Report Number.Accession Number : 850769
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.General : Declared Emergency
Result.Flight Crew : Diverted
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

The preflight was normal; weather at destination was not forecast to be below 5SM +/- 1 hour of our arrival. The ceilings were not forecast to be below 2000 FT either. Thus, no alternate fuel was required/loaded. Pushback/takeoff/enroute all normal.

We began descent/arrival planning approximately 50 NM prior to top of descent. Current ATIS had the field VFR. Planned for arrival utilizing visual callouts, backed up by ILS guidance. Passing through 10,000 FT, we were handed off to Approach. Approach then informed us of weather below minimums for all available runways. Approach also informed us that there had been 3 aircraft go-arounds recently. This was the first notification we had received that the field was IMC. We leveled off at 8000 FT and began to weigh our options. With only 6,100 LBS of fuel onboard, we quickly determined that diverting as soon as possible was our wisest option. We informed ATC of the need to divert immediately. We ran the diversion planning feature of the computer and determined the fuel required. Estimated landing fuel was now approximately 4,000 LBS. Upon receiving ATIS we learned that the airfield was landing south. Realizing that the other aircraft had declared an emergency, we then adjusted our fuel planning assuming a terminal delay. This new fuel plan had us landing with emergency fuel also. The Captain and I decided that we had to declare an emergency due to low fuel. ATC decided to turn the airport to a north flow for us and the other emergency aircraft. We landed uneventfully and blocked into the gate with 3,700 LBS of fuel. Unfortunately, this situation is very hard to avoid in the future due to weather forecasting limitations. At our time of departure, the weather was not expected to be anywhere near minimums and thus we did not bring any extra fuel. We arrived in the area prior to any ATIS updates and thus were completely taken off guard when we were informed the field was not only IFR, but that it was also below minimums. A quicker update of ATIS would have made our diversion happen sooner. Also, if Center would have known that the weather was below minimums and then informed us, we would have been able to divert sooner. Another solution would have been for Dispatch to inform us once the first aircraft had to go-around that the weather was worse than forecast. I believe that the weather changed too rapidly and unexpectedly for the normal weather reporting tools to be effective for inbound aircraft. I am very pleased with the Crew coordination that my Captain and I exercised to rapidly decide to divert. This event reaffirms my belief that any delay in deciding to divert will only exacerbate an already deteriorating situation.

Synopsis

A B737 flight crew encountered unexpected below-minimum weather at destination, and declared a fuel emergency to assure a successful diversion.

Time / Day

Date : 200909
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 12000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Haze / Smoke
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : FBO
Make Model Name : PA-44 Seminole/Turbo Seminole
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Nav In Use.Localizer/Glideslope/ILS : 25
Flight Phase : Initial Approach
Flight Phase : Descent
Flight Phase : Final Approach
Airspace.Class D : ZZZ

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 : Instrument
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Last 90 Days : 19.4
Experience.Flight Crew.Type : 117.8
ASRS Report Number.Accession Number : 850669
Human Factors : Situational Awareness

Events

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

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Declared Emergency
Result.Flight Crew : Inflight Shutdown
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

During the initial approach to land phase of the flight I encountered an engine failure. I had 60 gallons total onboard out of 108 gallons upon departure. The fuel required to make the flight was 50.61. The flight had a greater wind than anticipated. Upon turning final the left engine failed. After completing my engine troubleshoot checklist I gained enough power to make it to the airport. When the engine failed I declared an emergency. I did not carry enough reserve and the airplane descended below MDA on the approach. I shall recheck the winds aloft forecast right before the flight. Also, I will have the aircraft filled full of fuel to make sure that this never happens again.

Synopsis

A PA-44 pilot reported an engine failure near destination due to fuel exhaustion, a safe landing was made at the destination airport.

Time / Day

Date : 200909
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 4000

Environment

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

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Personal
Make Model Name : Chancellor 414A & C414
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Landing
Flight Phase : Final Approach
Flight Phase : Initial Approach
Route In Use : Vectors
Route In Use : Visual Approach

Component

Aircraft Component : AC Generation
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 : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 2200
Experience.Flight Crew.Last 90 Days : 25

Experience.Flight Crew.Type : 85
ASRS Report Number.Accession Number : 850638
Human Factors : Situational Awareness

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 in Emergency Condition

Assessments

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

Narrative: 1

During taxi the PIC turned on the air conditioning for the comfort of the passengers. The draw on the electrical system blew the right alternator circuit breaker. After takeoff the battery discharge was discovered and a precautionary return to departure airport was made. The battery discharge was sufficient that the gear had to be cranked down and two fly by's of the Tower were made to determine the status of the land gear. An uneventful landing ensued and the aircraft was inspected by a mechanic who reset the circuit breaker. The aircraft was reloaded, but no additional fuel was taken on. On takeoff the right nose baggage door, which had been opened during the inspection, opened at rotation and the takeoff was aborted. We taxied to the run-up area and shutdown the right engine in order to safely secure the baggage door. The flight then resumed approximately 2 hours behind schedule. During the flight, several deviations for weather were requested and approved which added time to the total flight plan. Just past the mid point of the flight, the effects on the fuel situation of the return to departure airport, the aborted takeoff, and the deviations were noticed and discussed by the PIC and the Aircraft Owner who is also a private pilot. It was calculated that the flight could continue safely, but that IFR reserves would be compromised. At about the same time, ATC amended the clearance into our destination to include a more time-consuming arrival. This change added additional flight time to the approach. During the letdown, PIC notified ATC of minimal fuel status. 20 miles from destination the left engine experienced an interruption in power. Fuel was crossfed from the right main tank and an emergency was declared. Clearance to land on any runway was given by ATC and a high pattern was entered. On short final, both engines experience total fuel starvation. The landing was accomplished and the momentum of the aircraft was used to exit the runway and taxi to the ramp. Subsequently, 97 gal of fuel were added to the 100 gal tip tanks and 37 gal to the 40 gal aux tanks. In retrospect, this sounds like every fuel exhaustion story I have ever heard or read. Each flight should be treated as a separate occurrence and the planning and steps necessary to safely complete that flight should be done in the established order. Improper usage of the air conditioning system was the initial link in the chain of the incident. Failure to recalculate and refuel after the first failed attempt at the trip added to the problem. Abbreviating the aircraft walk around caused an aborted takeoff and use of additional fuel. Several airports were over flown enroute where additional fuel could have been taken on. Each of these events added a link that could have ended the eventual outcome. In the future, I will not shortcut any of the

steps in flight planning when one flight completes and the next one is in close sequence. We were fortunate to have been close to destination when the engines quit.

Synopsis

A C414 pilot reported a chain of events that resulted in a dead stick landing because of fuel exhaustion.

Time / Day

Date : 200909
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 1
Altitude.MSL.Single Value : 19000

Environment

Flight Conditions : IMC
Weather Elements / Visibility.Visibility : 0.25
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-500
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Experience.Flight Crew.Last 90 Days : 112
ASRS Report Number.Accession Number : 850512

Events

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

Assessments

Contributing Factors / Situations : Weather
Contributing Factors / Situations : Company Policy
Primary Problem : Weather

Narrative: 1

Forecast for arrival at ZZZ was 0000kt P6SM FEW050 TEMPO 0409/0413 5SM BR. Arrival ATIS called for CALM 5 BR 4SCT 160SCT 17/16 30.09 Landing ILS XXC and XXR. XXL closed. On the downwind, with approximately 6100 LBS of fuel, Approach Control called the RVR on XXR at 500 RVR and XXC at 1200 RVR. We immediately made the decision to divert to ZZZ1. We called Dispatch, determined that ZZZ1 was VFR and immediately started a climb to FL190. I figured a burn and thought we would land with about 4100-4200 LBS in ZZZ1 if we were allowed to land north there on either XYL or XYR. Two other Company aircraft followed the same plan, one slightly ahead of us and one 15 miles or so behind us. I asked that we be given priority handling upon arrival in the ZZZ1 approach phase. The aircraft behind us was in a much worse fuel state. ATC initially wanted us to land south on either XZL or R. Both of the other flights, I knew, could not accept that and if we were forced to do so, we would have been very close to emergency fuel as well. So we all declared fuel emergencies and were cleared for visual straight-ins to land Runway XYL. We landed without incident. We had a gate assigned to us but elected to give that gate to Company who had landed with approximately 2300# of fuel. We landed with min fuel of 4000 LBS and shut down with 3700 LBS after waiting out for a gate for 15 minutes or so. We refueled and departed back to ZZZ about 35 minutes later as ZZZ had gone back to VFR conditions. The National Weather Service missed the forecast. Initially ZZZ1 Approach Control didn't seem to grasp our need to land north in very short order. Only when we said we must and the other two Company flights said that they would be emergency fuel, and then declared emergencies, did they accommodate all 3 of us.

Synopsis

B737 Captain discovered that destination which was forecast to be VFR at arrival was below even CAT IIIB minimums, while they were on downwind. An immediate diversion was commenced to another airport 130 miles away. Enroute the reporter was joined by two additional company flights and all three declare fuel emergencies in order to land straight-in.

Time / Day

Date : 200908
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : M-20 B/C Ranger
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Training
Flight Phase : Takeoff

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Instructor
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 10000
Experience.Flight Crew.Last 90 Days : 12
Experience.Flight Crew.Type : 3000
ASRS Report Number.Accession Number : 850174
Human Factors : Human-Machine Interface
Human Factors : Training / Qualification

Events

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

Assessments

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

Narrative: 1

Prior to takeoff student failed to switch fuel selector to proper tank. Engine quit. Landed on far end of runway and roll out extended a few feet off end of runway. No damage to aircraft or occupants. Aircraft was inspected and pushed back into taxiway at end of runway and taxied in. Student read checklist but failed to think whether he had actually put fuel selector in proper position. Instructor failed to closely examine what pilot had done.

Synopsis

Instructor pilot with student reports engine failure after lift off and successful landing on remaining runway. Fuel selector was found to be in the wrong position, which caused fuel starvation.

Time / Day

Date : 200908
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 125
Relative Position.Distance.Nautical Miles : 5
Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 30
Light : Daylight
Ceiling.Single Value : 20000

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Skylane 182/RG Turbo Skylane/RG
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Descent
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
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Engineer
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Maintenance : Powerplant
Experience.Flight Crew.Total : 17000
Experience.Flight Crew.Last 90 Days : 200
Experience.Flight Crew.Type : 70
ASRS Report Number.Accession Number : 850158
Human Factors : Time Pressure
Human Factors : Distraction
Human Factors : Other / Unknown

Events

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

Assessments

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

Narrative: 1

I departed in our family Cessna 182RG. With 30 gallons of 100LL for an hour and five minute flight, the flight was flown direct in VFR conditions and light winds. While on descent one hour into the flight and passing approximately 2000 feet, the engine started running rough. I turned on the electric fuel pump and the engine ran smoothly. I then turned toward the closer ZZZ1 and a minute or two later the engine started running rough again. Not wanting to fly over any populated areas or over water to ZZZ, I made an uneventful precautionary landing in an open area. Neither the aircraft nor I received any damage. The next day we pushed the plane to a levee road and had it inspected by an aviation mechanic. We added 23 gallons of 100LL. The following day we smoothed out the road, measured its length, called the ZZZ1 tower on my phone, and with an officer from the Police Department watching I made an uneventful takeoff and flew a short distance to a left base entry Runway XXL at ZZZ1. The next day another mechanic inspected the plane at ZZZ1. I then put in another 24 gallons 100LL and flew the plane direct to ZZZ for further inspection. What went wrong? I do not know, YET! After landing we drained the tanks and got only a few gallons out! (Book unusable is 2 gals per tank.) Did we have 30 gals? Was the calibration of the fuel measuring tube correct? Did the engine burn fuel at a higher rate than normal? To find out I will empty the tanks and put in fuel at 10 gallon intervals until full, making my own measuring tube. And I will make a series of flights creating fuel burn/power charts. What went right: 1) My decision to abandon the approach to ZZZ1 Airport over a populated area and make an uneventful landing in a more rural area. 2) Practicing engine out emergency landings as much as I do made this landing almost routine. What did I learn? I allowed myself to get rushed to depart. I did not dip the tanks on this day, in my rush takeoff I had my son (who is checked out in this plane) dip the tanks, I will never again allow anyone else to check my fuel.

Synopsis

The pilot of a C182 suffered engine failure and made a safe, off airport, forced landing.

Time / Day

Date : 200909
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : IAD.Airport
State Reference : DC

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : PCT
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
Flight Phase : Initial Approach
Route In Use : Vectors
Airspace.Class B : IAD

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
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 850120
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Person : 2

Reference : 2
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : 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 : 850453
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

After having received delay vectors twice enroute, and while my First Officer (pilot not flying) was calling inrange, I declared minimum fuel about twenty minutes from destination when the FMS indicated we'd land with 2100 pounds of fuel, 200 pounds above reserve. Upon checking in with the Approach Controller, we were advised by the controller that he'd turn our base in about two minutes. The approach environment was very busy, with instructions being issued about every three to five seconds. On frequency were Company ABCD, ABCE, and ABCF and many others. Less than two minutes after that (perhaps one to two minutes), the Approach Controller instructed us to turn right to 270 degrees. We complied, and though it was less than the two minutes previously indicated, it made sense in light of our previous minimum fuel declaration. A moment later, the Approach Controller urgently advised that he'd not instructed us to turn base and issued an immediate left turn, while calling out traffic on final. I pickled the autopilot and quickly rolled left to the assigned heading, then taking the radio for a moment, advised that we'd heard the instruction and read it back. Shortly afterward the Approach Controller turned us to our base heading, pointed out traffic to follow, and cleared us for the visual to Runway 1R. He also apologized for not catching our readback. I responded with "no worries, we're over to Tower. Well, of course stressing due diligence on the radio is important, but taking measures to minimize similar call signs arriving in the same bank would help, though that might be impractical. A possible factor here could be controller experience. We don't know what the individual controller's task load or experience might have been, though as previously mentioned it was a very busy environment. We believe we heard our call sign, but only listening to the tape will bear that out. We think it's likely that he used our call sign intending to turn someone else, though it's possible that we BOTH misunderstood the callsign. In any case, the Approach Controller did a great job catching our being out of place, no matter who goofed and all I can think of to prevent recurrences is for us all to stress proper radio discipline.

Synopsis

Air carrier inbound to IAD, low on fuel and with three other company aircraft on the frequency with similar flight numbers, initiated a turn to the final, was corrected by ATC, controller stating turn was for company aircraft.

Time / Day

Date : 200908
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 45

Environment

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

Aircraft

Reference : X
Aircraft Operator.Other
Make Model Name : Cessna 152
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Takeoff

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization.Other
Function.Flight Crew : Instructor
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 1350
Experience.Flight Crew.Last 90 Days : 40
Experience.Flight Crew.Type : 50
ASRS Report Number.Accession Number : 849755
Human Factors : Situational Awareness

Events

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

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

This statement is to depict as accurately as possible all of the actions leading up to the forced landing. When I arrived at the plane my student was walking around the tail performing his preflight inspection, and I supervised his actions. When he completed the visual inspection of the fuel tanks I too inspected the fuel level, and we both confirmed that the fuel level appeared to be half capacity in each tank. No issues were found during the preflight, and no water was found in any sump or the fuel strainer. We started the aircraft, performed a radio check, and taxied out. No issues were found during our completion of the before takeoff checklist. We departed the runway. We then completed two full stop landings. The third landing was preceded by a stabilized approach just like the ones before. Upon touchdown I raised the flaps, and told the student to turn the carb heat off, and apply full power for one more landing. Upon reaching approximately 35 to 45 FT AGL the RPMs decreased substantially, and we began to lose airspeed. At this point there was approximately 500 to 600 FT of runway remaining. I took over the controls, and applied carb heat while also changing the throttle setting to see if this issue could be improved. I also initiated a slight right hand turn to try to stay away from the electrical wires beyond the departure end of the runway. I had only turned approximately 10 to 20 degrees to the right before the engine coughed a couple of times and then quit entirely. I then turned left and planned to put the aircraft down as close to the road as possible in case we needed medical attention. I reduced the throttle to idle, and glided towards my desired touchdown point. I held the aircraft just above the soybeans as long as possible as to dissipate as much speed as possible. The mains settled into the soybeans and I held full backpressure to try to keep the nosewheel from digging into the soil. The aircraft slowed to a walking pace as we approached a drainage ditch on the side of the road, and the aircraft rolled down into the ditch at a very slow speed and settled against the side of the ditch closest to the road. I confirmed with my student that he was unharmed, and we shut off the fuel valve, pulled the mixture to Idle Cutoff, turned off the magnetos and the master switch, and then evacuated the aircraft. Problem: Not enough fuel sufficient for the flight. Cause: Visual inspection of the fuel was inadequate, and a fuel pipette should have been used to determine EXACT amount of fuel on board. Corrective actions: I will never fly a plane unless it is safe and there is more than enough fuel available for the planned flight PLUS extra. Now I will not fly unless it is either topped off, or there is an approved stick to determine EXACTLY how much fuel is in each tank.

Synopsis

A C152 instructor pilot and student experienced fuel exhaustion and made a forced landing in a field.

Time / Day

Date : 200908
Local Time Of Day : 0601-1200

Place

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

Environment

Flight Conditions : VMC
Light : Dawn

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet CL65, Undifferentiated or Other Model
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 : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 849661
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : Pre-flight
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Upon arrival to aircraft, the dispatch release was not ready, however the fueler was fueling the aircraft. Fueller stated fuel load was 4100 pounds. Experience indicated this seemed very low and a few hundred more was added. The release was received just prior to departure. The Dispatcher was called and asked about the fuel load, which was 3921 pounds minimum takeoff with zero contingency, zero extra and 150 pounds taxi. He stated "Sorry about that, I usually check that closer." I advised him a few hundred extra was added in the blind before the flight release was received, as it seemed very low. The First Officer and I discussed at length before departure the fact we had very little fuel. We planned in advance, if any unforeseen delays were to occur, minimum fuel would be declared and deviation to another closer airport would be initiated. Upon taxiing were placed in a holding block for flow into JFK. We were able to shut both engines down and conserve our fuel. After approximately a 30-minute wait we were given clearance to depart with a slight re-route. We were still ahead of our minimum fuel, and the re-route was actually a little shorter route than filed and due to the slight extra fuel put on, we were safe for departure. Enroute prior to CAMRN intersection approach advised of holding over CAMRN. I stated we would be good for a couple of turns and then will have to declare "min fuel." The Controller chose to slow us to 210 KTS and kept us on course instead of holding. Dispatch was informed of our minimum fuel and gave the weather for a possible alternate, if needed. We continued onto JFK, and due to ATC assistance, landed safely at JFK, with about 2300 LBS of fuel on board. Emergency was not declared. It is not my intention to single out this Dispatcher, but these are the facts. He has routinely dispatched flights for me with very low fuel loads and numerous times has been asked of his reasoning for giving zero extra. It became apparent, when asked that outside motivators were perhaps at work, placing safe flight completion down the list, during the flight planning process. I got the feeling, during our conversation on this day, that perhaps the flight was not reviewed at all, and the release was sent without any form of review. I understand this is a serious accusation, but this highly unsafe form of dispatching must be addressed. Operating, especially in the northeast, where holding is more the norm than the abnormal, puts another form of un-needed stress on the Captain, always worrying if the flight can even be completed due to lack of fuel. I also understand that airline flying is a business and we are not blessed with the ability to fly around with full tanks, as most pilots would like to. It should be noted that a line on the actual flight release copy that I signed stated "Contingency fuel for delays due to traffic demand NYC metro airports" was clearly printed. Was this a trigger to prompt the dispatcher to add fuel that he missed? It should also be noted this problem is not to be singled out to only this dispatcher. It has been appearing more frequently of late. I have also noticed the early morning taxi fuel has been very low. Are dispatchers aware that by procedure we taxi on both engines the first flight of the day? I know we can shut one down for a delay, but by procedure we taxi on both, unless a delay is foreseen. One hundred fifty pounds of taxi fuel doesn't go very far!

Synopsis

A CL65 Captain laments the low fuel loads that are routinely being used by dispatchers at his airline.

Time / Day

Date : 200908
Local Time Of Day : 0001-0600

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 : A319
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 : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 848959

Events

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Declared Emergency
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Departed with 28095 LBS of fuel. Estimated burn was 18100 LBS with estimated arrival fuel of approximately 9700 LBS. We were advised enroute that ZZZ Center was shut down due to a severe line of thunderstorms and to expect a reroute. Arrival fuel with the new routing was now at 4200 LBS. We advised ATC we would have to divert if they could not shorten the route. We advised the Dispatcher who also attempted to coordinate with the ATC desk to assist us. The route was changed two or three more times, but each time we were projected to land with insufficient fuel. Our final clearance still showed low projected arrival fuel and insufficient fuel for alternate. We finally declared "minimum fuel" in hopes that no further delays would allow us to land with about 5,000 LBS. At that point ATC advised us to expect further delays even though we declared minimum fuel. We then declared an emergency for low fuel. In accordance with FOM the Captain deemed that the projected fuel supply suggested the need for traffic priority to ensure a safe landing. Flight was immediately cleared direct to our destination and an uneventful landing was made.

Synopsis

Weather reroutes for an A319 result in a low fuel emergency declaration and a safe landing at their destination.

Time / Day

Date : 200908
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 600

Environment

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Cessna 210 Centurion / Turbo Centurion 210C, 210D
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Mission : Training
Flight Phase : Initial Climb
Airspace.Class D : ZZZ

Component

Aircraft Component : Fuel Quantity-Pressure Indication
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 : Trainee
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 465
Experience.Flight Crew.Last 90 Days : 2.5
ASRS Report Number.Accession Number : 847713
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.General : Maintenance Action
Result.General : Declared Emergency
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

Cessna returned to service after annual inspection in April 2009. Squawk for annual included intermittently reading right fuel gauge. On evening of August 2009 both tanks were topped off with fuel by trainee. Incident occurred during BFR with CFI in aircraft the following day. Examinee was demonstrating takeoff and landing for short field, soft field, etc with landing to full stop with taxi back. During final taxi back to takeoff: discussed with CFI use a right tank (fuller) tank for takeoff. After takeoff while turning from crosswind to downwind, engine failure noted. Aircraft was approximately 600 FT AGL. Aircraft turned back to airport, Tower notified, fuel pump activated, landing gear extended. Dead stick landing executed while diagonally crossing runway. Landing roll into infield breaking a taxiway light. No aircraft damage or bodily harm noted. Right fuel gauge showed nearly full fuel. Aircraft shut down. Visual inspection of the right fuel tank showed an empty tank. Fuel selector switched to left tank engine restarted and aircraft taxied back to hanger. Appointment has been made for inspection and repair of fuel gauges, examination for fuel leak, and inspection of airframe including landing gear after hard landing. This to be performed before aircraft is returned to service.

Synopsis

A C210's right fuel tank was empty but the quantity gauge indicated nearly full. While making practice landings, the engine quit because the right tank was the selected fuel source. A dead stick landing was made to the airport.

Time / Day

Date : 200908
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 4500

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Personal
Make Model Name : Cessna 152
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Cruise
Route In Use : Visual Approach
Airspace.Class E : ZZZ

Component

Aircraft Component : Fuel Quantity-Pressure Indication
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
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 283.8
Experience.Flight Crew.Last 90 Days : 15
Experience.Flight Crew.Type : 27
ASRS Report Number.Accession Number : 847082
Human Factors : Workload
Human Factors : Troubleshooting

Human Factors : Training / Qualification
Human Factors : Situational Awareness
Human Factors : Human-Machine Interface
Human Factors : Distraction

Events

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

Assessments

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

Narrative: 1

I arrived at the airport with eagerness to finish up one of my 100nm cross countries that were needed to take my commercial check ride. I had already checked my weather and I had already figured my flight plan and had it filed with FSS. During my preflight I visually checked my fuel and couldn't tell if they were full or not, so I checked it with my fuel gauges that read both tanks were full. Relying on the fuel gauges that they were correct I departed. Upon reaching my turn around point I noticed that my left tank was reading empty, but my right tank read completely full. So I continued my flight back. About six miles out from a neighboring airport I started experiencing engine roughness. I notified Center of the engine roughness and directed my flight towards that diversion airport. When trying to figure out the problem of my engine roughness I checked my fuel gauges and my left tank read low and my right tank read half full. Still thinking that fuel wasn't the problem I proceeded to continue to figure out the problem. Finding no solutions to the problem I continued my course and around 500 FT above the diversion runway, I lost my engine power, but was still able to make a smooth landing. When I was safely landed on the ground I checked my fuel gauges and they were still reading low on the left and half full on the right, but when I got out to visually check my fuel tanks they were extremely low. I know this problem could of been avoided if I would have checked to see if anymore fuel could have been added.

Synopsis

Both fuel gauges of a C152 were inaccurate. The pilot relied on the gauges to determine departure fuel and with low fuel quantity the aircraft's engine lost power, forcing a divert where a safe landing was finally made.

Time / Day

Date : 200908
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZAU.ARTCC
State Reference : IL
Altitude.MSL.Single Value : 24000

Environment

Flight Conditions : Marginal
Weather Elements / Visibility : Haze / Smoke

Aircraft

Reference : X
ATC / Advisory.Center : ZAU
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 : Descent
Airspace.Class A : ZAU

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
Experience.Flight Crew.Total : 17500
Experience.Flight Crew.Last 90 Days : 150
Experience.Flight Crew.Type : 7000
ASRS Report Number.Accession Number : 846454
Human Factors : Situational Awareness
Human Factors : Time Pressure

Events

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Air Traffic Control : Provided Assistance
Result.Air Traffic Control : Issued New Clearance

Assessments

Contributing Factors / Situations : Weather
Contributing Factors / Situations : Company Policy
Primary Problem : Company Policy

Narrative: 1

Use of Captain's authority, declaration of minimum fuel, no delay to airport. We had been rerouted through MCI Center and had received delay vectors several times. The base plan provided by Dispatch had minimum extra fuel of 0.5 and I added 1.1 as a contingency for possible enroute delays, light turbulence descent/climbs and potential reroutes. I tend to add fuel conservatively and not go too much. I add only what my judgment and route experience suggests I will actually use. We touched down in ORD with 4.7, still one hour's fuel, but had we not declared minimum fuel we would have landed with less than one hour forecast fuel. After the declaration there were no additional delays to the field and we were able to execute a successful stabilized visual approach to 27R. The First Officer and I discussed what should be our minimum fuel number for the declaration and we examined fuel consumption due to the reroutes and altitude/speed/vectoring changes. We jointly agreed that if not with Approach Control and more than 30 minutes from the airport, a minimum fuel number for today would be 6.0. Also of consideration and in the back of my mind concerning the uploading of fuel is the rumor mill concerning the monitoring of Captain's and fuel uploads. There is a rumor circulating that says Captains who routinely increase fuel above the planned fuel are subject to disciplinary action. I would suggest that this issue needs to be addressed and the truth about how the program works sent out as a just the facts or through each Chief Pilot's office. I added fuel because I saw the weather channel the night before, was aware of early morning ORD haze and MCI weather, and saw that this had not been planned for by Dispatch. We had a successful outcome and I thank ATC for their response to a "minimum fuel" declaration.

Synopsis

An A319 Captain declared minimum fuel on arrival to ORD. A minimum fuel state was reached after enroute delays and vectors for weather as they approached ORD. The flight was dispatched with too little fuel even after the Captain added additional fuel. ATC gave the flight priority handling.

Time / Day

Date : 200707
Local Time Of Day : 1801-2400

Place

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

Environment

Light : Night

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : PA-28 Cherokee/Archer/Dakota/Warrior
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Landing

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 : 261
Experience.Flight Crew.Last 90 Days : 9.1
Experience.Flight Crew.Type : 200
ASRS Report Number.Accession Number : 845367
Human Factors : Time Pressure
Human Factors : Confusion
Human Factors : Human-Machine Interface

Events

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Ground Personnel
Were Passengers Involved In Event : N
When Detected.Other
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Fuel service refilling the aircraft the day after this event reported finding approximately two gallons fuel in one tank, and the other tank dry. I had planned the flight at 2:32 enroute and expected at 10.5GPH fuel burn and departing with fuel to the tabs to have 45 minutes reserve time upon landing; the actual flight was less than 10 minutes different in elapsed time than the plan. There are several PA-181s at the flying club; it had been some time since I'd flown this particular aircraft. I had experienced difficulty in getting reliable EGT reading to guide engine leaning in the previous day's outbound flight. I had been somewhat cautious to run rich of peak due to uncertainty about "peak" because of my difficulty with the EGT. During the return flight I was similarly cautious in leaning -- in retrospect by running rich of peak my fuel burn rate was above 10.5GPH. In planning this flight I had also failed to plan a higher fuel burn during the initial climb phase. During the return I ran one tank dry, which should have told me that my planning was off -- I had expected to leave a 10-minute reserve in that tank. I took action at that point to return by a more direct rather than the more usual return. The fuel gauge for the other tank showed between 7 and 9 gallons remaining as I passed over ZZZ1, which was the last diversion I considered before landing at ZZZ. The gauge reading and the elapsed time told me I had ample reserve. In retrospect I did not have ample reserve, and risked a serious night emergency landing or ditching in the water. I did not adequately question the experience of the tank running dry early. My decision to press on was faulty. My new figure for planning fuel burn is 12GPH for the Piper, and I will review fuel planning and leaning for the Piper with my CFI, as well as this entire flight experience, before flying again.

Synopsis

PA28-180 pilot is surprised to learn he had only two total gallons of fuel on board his aircraft upon landing following a long cross country flight.

Time / Day

Date : 200907
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : IMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : 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 : Initial Approach
Airspace.Class E : ZZZ

Person : 1

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 : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 844163
Human Factors : Time Pressure
Human Factors : Distraction
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
ASRS Report Number.Accession Number : 844162
Human Factors : Time Pressure

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.General : Declared Emergency
Result.Flight Crew : Diverted
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

Destination weather went below minimums to 1/4 mile in blowing dust. No anticipated improvement in visibility, expected to hold. We arrived with min fuel no alternate filed. Diverted. Declared min fuel. Enroute FMC showed arrival with slightly less than 45 minute reserve so emergency was declared with ATC. Landed with 3,800#'s, gate arrival fuel 3,500#'s. Dust storm was not forecast. No alternate was filed. Due to ATC delays, fuel at the beginning of the approach to our destination had used much of our holding fuel already. No anticipated improvement in visibility was given so we diverted. A320 flight plans are notorious for showing more arrival fuel than actually occurs. Having no alternate fuel left us few options when an event like this occurs. Holding and praying that the visibility improves is not a reasonable option. There should always be a planned alternate landing site.

Synopsis

Lack of alternate fuel for their destination resulted in an A320 flight crew declaring a fuel emergency and diverting to another airport when the destination visibility was reduced below minimums due to a dust storm.

Time / Day

Date : 200907
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Icing
Light : Daylight

Aircraft

Make Model Name : Regional Jet CL65, Undifferentiated or Other Model
Flight Phase : Parked

Component

Aircraft Component : Gear Extend/Retract Mechanism
Aircraft Reference : X
Problem : Malfunctioning

Person

Reference : 1
Location Of Person : Company
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
Qualification.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 843846
Human Factors : Communication Breakdown
Human Factors : Confusion
Human Factors : Time Pressure
Communication Breakdown.Party1 : Dispatch
Communication Breakdown.Party2 : Maintenance
Communication Breakdown.Party2 : Flight Crew

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 : Dispatch
Were Passengers Involved In Event : N
When Detected : Taxi

Assessments

Contributing Factors / Situations : Logbook Entry
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : MEL
Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

The flight was originally scheduled for a gear down ferry. When preparing the packet noticed an MEL item advising "flaps half speed". I notified maintenance that we cannot ferry with gear down if flaps system was deferred. I was notified that they would ferry with gear in the well. I prepared the packet with flaps half speed and filed FL230 with gear in the wells numbers. I then received a message from maintenance that they had cleared the MEL item and would ferry the flight with gear down. I started preparing the packet with gear down data and fuel numbers checking on icing conditions. I noticed that flight had an out time that had already passed so I called operations who confirmed he was out. I asked them to get in contact with the flight. I also put in a request with the command center to cancel flight plan and have the crew call dispatch. By the time they got hold of the Tower he was already airborne. I tried to call flight on the commercial radio link but they were not able to reach them. I told them this was an emergency and asked them to go through Center. I was able to finally talk to crew and requested fuel on board and asked about icing. They did not get any icing and had 9000 LBS onboard when departing. This was just 600 LBS more than minimum fuel with zero pounds of contingency fuel. They were able to receive a shortcut from ATC. I then called destination Tower for any icing reports. Destination Tower had no reports and the flight called in and advised they had the required fuel. Flight landed in destination without further incident. There was no communication with crew during the time he was on ground to discuss the ferry flight. The flight crew and dispatch should discuss flight packets before departure. This would clear any discrepancy of flight packets.

Synopsis

Confusion reigned between the reporter/dispatcher, the flight crew and maintenance regarding the appropriate planning for maintenance ferry flight for a CRJ-50.

Time / Day

Date : 200907
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Angle.Radial : 100
Relative Position.Distance.Nautical Miles : 235
Altitude.MSL.Single Value : 33000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain
Light : Night

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B767-300 and 300 ER
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 121
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component

Aircraft Component : Fuel Crossfeed
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
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 843727
Human Factors : Troubleshooting
Human Factors : Human-Machine Interface
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
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.General : Declared Emergency
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Landed As Precaution

Assessments

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

Narrative: 1

Prior to entering the oceanic track system, I tried to open the fuel cross-feed valve to balance fuel. The cross-feed valve would not open. This B767-300 had only one fuel cross-feed valve. I called Dispatch, talked to Maintenance Control and could not get the valve to open. With the concurrence of Dispatch, we chose to divert, as proceeding on was not a safe option. Declared an emergency and proceeded to another airport where we landed overweight at approximately 348,000 LBS with CFR equipment in position. Landing was normal and uneventful. Taxied to the gate and made the appropriate maintenance log entries.

Synopsis

A B767-300 on a Transatlantic flight declared an emergency and diverted to a nearby airport when the fuel crossfeed could not be opened to correct a fuel imbalance.

Time / Day

Date : 200907
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
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 : Parked

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 : 843444
Human Factors : Situational Awareness
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 : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 843445
Human Factors : Situational Awareness
Human Factors : Time Pressure

Events

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

Assessments

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

Narrative: 1

After a last minute aircraft change we left with insufficient fuel to fly to our destination. We noticed the fuel situation about 150 miles east of ZZZ and requested a diversion to ZZZ. After landing we took on more fuel, received a new dispatch release, filled out a new manifest and proceeded to our original destination. Somehow in the effort to leave the gate I missed the fuel quantity on the before start checklist.

Narrative: 2

The error was noticed when we were in cruise. I was looking at the fuel to see if we were balanced and sort of did a double take when I realized something didn't seem right. The fuel was not enough for a landing at our destination. We had somehow unintentionally messed up and missed a checklist item and departed an airport with the fuel being less than what was on the release. I notified the Captain and we then took actions immediately to resolve the problem as quickly and safely as possible. About 25 minutes prior to departure, I was notified by the gate that Dispatch had changed the aircraft we were going to use again. This time it was going to be the plane we had already brought in. I went to the gate and preflighted the aircraft. We were in a rush to get the aircraft out on time, however, we did our jobs properly and ran all the appropriate checklists. However, for some reason, the Captain missed that we didn't have the correct fuel on board when I read "fuel quantity and balance" on the Before Start checklist. I also somehow (given the fact that I always visually check items the Captain responds to) didn't catch the error either. I had my takeoff page up on my MFD and the Captain had the fuel page up on his, so maybe I just didn't notice that what he was reading back wasn't correct. Either way, somehow we both missed that our fuel was below LP. I honestly don't know why the event occurred. I know we were in a rush and we probably just saw on the fuel screen what we expected to see instead of what was actually there. I think that happens sometimes when crews rush. However, one of the two pilots usually catch those type of mistakes. Also, since we planned on having the correct amount of fuel, the FMS performance pages had the correct information inputted in them so therefore the FMS never warned us that we indeed did NOT have fuel for our flight. I have no idea why neither of us noticed it until well after takeoff. All I know is that we unintentionally missed a checklist item and tried to resolve it as quickly and safely as possible once it was noticed. I think in this industry we all rush for the sake of on-time performance. So, I would suggest that we all take an extra second or two (even if in an extreme rush) to read the checklists slowly and thoroughly so to insure that everything is always completed correctly and safely. I think we just made an honest mistake and missed an item because we were rushing and distracted with trying to push back on time. As a further suggestion, I would suggest both pilots respond to each checklist item (similar to how we both respond

to ATC clearances to things like heading changes, altitude changes, etc). Maybe that would lessen the chance of both pilots missing an item, even when rushed. Also, maybe the Captain should not write down the planned fuel on the weight and balance sheet until he or she actually sees the correct fuel on the EICAS or MFD fuel page.

Synopsis

An EMB-145 flight crew departed without sufficient fuel for the flight. They discovered the error in cruise and diverted to refuel before continuing to their destination.

Time / Day

Date : 200907
Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : RJTG.ARTCC
State Reference : FO
Altitude.MSL.Single Value : 33000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Heavy Transport, Low Wing, 4 Turbojet Eng
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Nav In Use : FMS Or FMC
Flight Phase : Cruise
Route In Use.Other

Component

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

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Experience.Flight Crew.Total : 11000
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 500
ASRS Report Number.Accession Number : 843424
Human Factors : Fatigue
Human Factors : Distraction

Person : 2

Reference : 2
Location Of Person.Aircraft : X

Location In Aircraft : Crew Rest Area
Reporter Organization : Air Carrier
Function.Flight Crew : Relief Pilot
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 358
ASRS Report Number.Accession Number : 843428
Human Factors : Distraction
Human Factors : Fatigue

Events

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 : Overcame Equipment Problem

Assessments

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

Narrative: 1

I was the acting First Officer on the crew. The flight departed uneventfully at XA06Z with 232.4 LBS of fuel (approx.) at takeoff. At top of climb the Relief Pilot was the first one to go on break. Approximately 2 hours into the flight, the Captain and I started dealing with a "X FEED CONFIG" message. After referring to the QRH "Fuel X feed" valves were selected on to provide fuel from tanks 2 and 3 using override pumps and main pumps. Flight landed uneventfully at about X120Z with approximately 34.0 LBS. This condition could have been avoided. Language barrier, night time fatigue, and crew interruptions all could have contributed to distractions that prevented the 1 and 4 crossfeed buttons to be turned ON as the manual specifies. I have learned a valuable lesson and will correct my own personal habits to prevent this from happening ever again.

Synopsis

A wide body cargo flight crew on an international flight experienced an EICAS "X FEED CONFIG" message at top of climb. It became apparent they had mis-positioned fuel crossfeed switches during preflight because of fatigue and distractions.

Time / Day

Date : 200907
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 800

Environment

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : FBO
Make Model Name : Robinson R22
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Mission : Training
Flight Phase : Cruise
Airspace.Class D : ZZZ

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 : Commercial
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 304
Experience.Flight Crew.Last 90 Days : 104
Experience.Flight Crew.Type : 273
ASRS Report Number.Accession Number : 843267
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 As Precaution

Assessments

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

Narrative: 1

I was instructing a cross-country flight. My student and I planned the flight, checked the weather, and departed. Before taking off we pre-flighted the helicopter (R-22). The aircraft was fueled so that I had a total of 29 gallons on board. I then used a dipstick and visually verified the fuel capacity. We were well within the 20 minute reserve based on the flight plan. On our final leg back the low fuel light "flickered" for a moment and then illuminated. The aircraft was around three miles from our final destination. Once the low fuel light illuminated I checked the fuel gages again. The main tank was indicating a little over 1/4 tank full. I then immediately took command of the aircraft. (The main tank on the R-22 holds 19.2 gallons of usable fuel. Once the low fuel light illuminates the aircraft has five minutes of fuel left at cruise power). Keeping safety first, once the light illuminated I made the decision to land in a safe area that would not harm or damage persons or property. I notified the Tower of my situation and intentions. I located an open grass field and began a high and low recon of the area. Next, I chose a safe spot to land in the open field, and began a normal approach to a hover under full power. I hovered for a moment to find a level spot to land, checked the surface of the field, and then touched down safely. I then again notified the Tower that I had made a safe landing and everything was OK. I then began a normal cool down of the aircraft. Once the cylinder head temperature was low enough I began the shut down procedure. Now that the aircraft was shutdown I called the Tower again on my cell phone to let them know everything was still OK and my plan of action from that point. I did notice on the return flight that the winds had picked up and we had a headwind. Being the pilot in command of an instructional flight, my decision made not only for safety, but to show my student good judgment.

Synopsis

An R-22 instructor pilot working with a student experienced a low fuel situation and landed off-airport to refuel.

Time / Day

Date : 200907
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Fog
Light : Dusk

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : PA-46 Malibu/Malibu Mirage/Malibu Matrix
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Landing

Component

Aircraft Component : Gear Down Lock
Aircraft Reference : X
Problem : Failed

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Private
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 3280
Experience.Flight Crew.Last 90 Days : 40
Experience.Flight Crew.Type : 1620
ASRS Report Number.Accession Number : 843072
Human Factors : Situational Awareness
Human Factors : Time Pressure
Human Factors : Human-Machine Interface
Human Factors : Confusion

Human Factors : Workload
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Unstabilized Approach
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 As Precaution
Result.Flight Crew : Executed Go Around / Missed Approach
Result.Aircraft : Aircraft Damaged

Assessments

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

Narrative: 1

Departed local VFR and picked up IFR enroute. Flew to vicinity of destination without incident in good weather. Canceled IFR short of the destination on the plan. It became apparent that fog had moved in with ceiling 100 FT. Elected to continue VFR to airports indicating VMC and could see visually conditions on the ground in the distance. Two airports selected just prior to arrival (within 1 mile) had become obscured due to very heavy rainfall. Fog had moved inland and presented an obscured deck of 1500 FT. Unable to locate airport frequencies due to name issues on GPS systems (The airport is not named after the City but by another name). It took an additional 10 minutes to contact them. Fuel now was a critical issue and an immediate IFR approach was requested. Gear was dropped and several approaches made. Eventual landing ended with gear failure to engage -- landing on the belly. No injuries and minimal damage to plane except propeller.

Synopsis

Instrument rated aboard a PA46 found himself back in IMC after canceling IFR. Lack of familiarity with GPS system and the apparent anxiety resulted in multiple aborted approaches to a marginal alternate, a low fuel state and an eventual landing followed by a gear collapse.

Time / Day

Date : 200907
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 310
Relative Position.Distance.Nautical Miles : 5
Altitude.MSL.Single Value : 5000

Environment

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : M-20 Series Undifferentiated or Other Model
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Airspace.Class D : ZZZ

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 842812
Human Factors : Confusion
Human Factors : Human-Machine Interface
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.General : Declared Emergency
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

The fuel system was changed from a wet wing having a 66 gallon capacity to a bladder arrangement having a 55 gallon capacity. Further, the dimensions are different and the "dip stick" is not yet calibrated to measure the fuel in each tank. The fuel injector servo was overhauled after having a throttle malfunction. Departed with what appeared to be full fuel in right tank and partial (approximately 3/4 full) in left tank. Trip took 1.5 hours with fuel computer showing 18.8 gallons used. The 18.8 gallons appeared correct, given the normal fuel burn and the actual read-out. All fuel was used from the right tank. The right tank was not visualized. Prior to departing on the next leg, 10 gallons was added to the right tank. I calculated that there was 18.7 gallons in the right tank. The level observed in the right tank appeared correct, but inexperience with the new bladder did not allow accurate measurement. Departed on right tank and at approximately 1 hour into the flight, the engine slowed, then surged and then lost power. I was 5 miles from an airport in VMC at 5000 FT. I immediately turned to the airport, declared an emergency and then started to troubleshoot. My first thought was the throttle system based upon the surge and the recent maintenance. I took me awhile before trying to switch fuel tanks. When I did switch tanks (approximately 800 FT AGL on a short base leg), the throttle was approximately 1/2 closed. This caused the engine to re-start, but there was a large pitch change, which startled me. I retarded the throttle and continued to glide to the landing. The actual approach and landing were without incident. The right fuel tank appeared to be dry and no fuel could be sumped. The first issue may be the "appearance" of the tank being full based upon the different shape, etc. Contributing to this is the fact that the "dip stick" measuring tool is not yet calibrated. The second issue may be the inaccurate fuel computer, either the gallons per minute function or the total fuel consumed on a trip. The third issue and the main cause is my practice of always flying on the right tank for 1.5 hours before switching tanks. I desire to switch tanks as few times as possible on a trip. I always try to have the left wing heavier to compensate a right turning tendency cause by mis-rigging or an autopilot turning tendency. If this practice is continued, it must be done on a full tank (27.5 gallons). With the reduced total fuel capacity. I need to be more precise with the actual fuel in the tanks. I use to have a large margin. I need to calibrate the on board fuel computer and the "dip stick."

Synopsis

A change from a wet wing to a bladder fuel tank causes a Mooney pilot to misjudge fuel quantity prior to departure. When the right tank runs dry the reporter assumed a fuel injector problem had reoccurred and set up for an emergency landing. Fuel

selector was moved to another tank on final and engine started but reporter continued to landing.

Time / Day

Date : 200907
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 28000

Environment

Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ1
Aircraft Operator : Air Carrier
Make Model Name : MD-80 Series (DC-9-80) 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 : ZZZ1

Component

Aircraft Component : Fuel Booster Pump
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 Not Flying
ASRS Report Number.Accession Number : 842615
Human Factors : Time Pressure
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Troubleshooting

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.General : Maintenance Action
Result.General : Declared Emergency
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Flight was dispatched with left forward fuel boost pump inoperative. Center aft boost pump was fixed previous night after multiple repeat write-ups. Shortly after takeoff the center aft boost pump circuit breaker popped. After accomplishing appropriate QRH procedure we were unable to burn any fuel from center tank. Total fuel in main tanks was inadequate to continue flight to the destination. Dispatch advised that the best option for diversion with regard to spare plane availability was departure airport. I elected to land overweight rather than burning fuel and landing at max normal landing weight since remaining main tank fuel would have been critically low and center tank fuel was not usable. I declared an emergency with ATC. Overweight landing was accomplished at 136,500 LBS, including 11,500 LBS of unusable fuel in center tank and approximately 5000 LBS fuel in each main tank. Landing was smooth with minimal braking. Airport rescue and fire fighting advised there was no abnormal indication on wheels or brakes and followed us to the gate as a precaution.

Synopsis

An MD80 was dispatched with a wing fuel tank pump inoperative. After takeoff a center tank pump failed preventing center tank fuel from being used. Unable to reach the destination on wing tank fuel alone an emergency was declared followed by an overweight landing.

Time / Day

Date : 200907
Local Time Of Day : 1201-1800

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-800
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Cruise
Route In Use : Oceanic
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 : 842403
Human Factors : Distraction
Human Factors : Time Pressure

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

We departed with the required fuel on the release. At cruise our fuel calculations agreed with the FMC in that we had sufficient fuel to complete the flight. The fuel at

landing was over 6000 LBS, which was above the minimum but less than usual for the ETOPS flights that we are used too. With the switch to the new flight planning software and fuel savings initiative with the company we thought that was just a new procedure. At the critical point we were within a 1000 LBS of the flight plan and continued. A turn around would have us landing with the same fuel at both ends of the flight plan. We also had sufficient fuel to continue just not the amount we were used too. I received an email from safety representatives for the airline indicating there was a problem with the software. The new flight planning software and the complexity of ETOPS fuel planning created a "Perfect Storm" in which a shortage of required fuel could be masked without detection in the limited amount of time in a normal sequence of events in an ETOPS flight. I discussed the event with the First Officer and we both concluded that we had enough fuel but should have questioned the amount of fuel on the flight plan in more detail. In the future I will take more time to ensure the fuel requirements on the flight plan add up to equal the amount on the release.

Synopsis

B737 Captain discovered enroute that he may have departed with less than required fuel on an ETOPS flight. There was a difference between flight plan fuel and release fuel apparently caused by glitches in new flight planning software.

Time / Day

Date : 200907
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Fog
Light : Night

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet 200 ER/LR (CRJ200)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach

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
ASRS Report Number.Accession Number : 842393
Human Factors : Time Pressure
Human Factors : Workload

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 : Diverted

Assessments

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

Narrative: 1

Before departing, I checked the release, METAR, and TAF as I always do. TAF at our time of arrival was showing: FMXX2200 12004 KT P6SM BKN040 and an alternate was not required. We had about 1000 LBS extra fuel for tankering. On taxi out, ground informed us that northbound departures were stopped, and we burned approximately 300 LBS of that fuel waiting in line for takeoff. We eventually were re-routed around weather and took off for our destination. ATIS winds calm, visibility 10SM BKN040 BKN080 19/18 A2987. We planned on the visual approach, briefed that, and was cleared for that by approach once the runway was in sight. When checking in with Tower, I noted some ground fog. I thought to myself that we made it in at a good time, as soon the airport would fog over. On base turn, Tower informed us that the fog was rolling into the airport, obscuring the end of our runway, however he had the full length in sight from the Tower. Turning final, Tower reported RVR 4000 FT. We executed a missed approach and complied with the Tower assigned heading and altitude, and requested vectors for the ILS. We were handed off back to approach. Checking in with approach, we were told the RVR was now 2200 touchdown, 4000 rollout. We needed 4000 for the ILS w/ ALS INOP. At this point we had 3700 LBS fuel on board. ATC assigned us some headings to fly, and we climbed to 3000 FT. I started checking for alternates, and attempted contact with our Dispatcher but received no answer. I assumed we were too low for radio service. I then sent an ACARS message saying our destination was below minimums and we needed to divert. At this point we climbed to 10,000 FT and entered a hold over the OM as published. I called the Flight Attendant and informed her we would most likely be diverting but I did not know where yet. In the hold we flew 200 KTS to save fuel, min clean speed at 47000 LBS was 182 KTS. We still had no response from dispatch so we decided to head to another airport. I saw that three airports were all in the same direction, give or take. I knew at least two of them were stations we served with passenger handling. We then pulled up the weather on the ACARS. At this point we got a printout from the Dispatcher with a flight plan to ZZZ, showing landing with 2061 LBS with a burnoff of approximately 1500 LBS. We had about 3400 LBS at this point. I thought that was too close for comfort although ZZZ weather was VFR. I sent a message back asking about a different airport, which we saw the weather was 1 1/2 SM 500 OVC. The Dispatcher replied that no airplanes have landed there for 3 hours. Scratch that idea. At this point we were about 40 miles from ZZZ1, which was reporting winds calm 2 SM 300 OVC. We had approximately 2800 LBS fuel remaining, and I elected to divert to ZZZ1. On descent the Dispatcher sent another ACARS message suggesting ZZZ2. According to the FMS that was 104 NM away, and landing with 1700 LBS fuel. I did not answer this message as we were already on approach for ZZZ, using my Captain's authority. We flew the ILS, and landed without incident, approximately 2500 LBS fuel remaining. At this point I parked on the vacant air carrier ramp, completed all checklists, and contacted the Dispatcher. The Dispatcher was irate that I went to ZZZ against her wishes. I informed her that I did not think the options she presented me were viable, and she continued to berate me on the phone over my decision. She claimed that I should have gone to ZZZ2 because it was only an hour bus ride to our destination whereas ZZZ was three hours. I told her that I was more concerned about getting the plane safely on the ground in our low fuel state, and that I would not entertain any further discussion on that topic, however I would like a plan on what to do from here. I did not feel that the

Dispatcher was much help. I would have headed to ZZZZ if I would have been informed that was the best option while we were in the hold, however she took what seemed like a l

Synopsis

A CRJ-200 Captain diverted when his destination airport fogged in. The Dispatcher was unhappy the crew did not go to a different alternate.

Time / Day

Date : 200907

Place

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

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
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 : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 842281

Events

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.General : None Reported / Taken

Assessments

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

Narrative: 1

There was a big cell about 20 miles from the airport. We were filed with an alternate of ZZZ. While on the arrival, we were given holding instructions. We were given an expect further clearance time of 20 minutes. As normal practice around here, we were filed with no holding fuel. After getting holding instructions, we contacted dispatch to let them know we were given holding. It took 22 minutes for them to respond to us. At this point we were approaching our holding fix. We then texted them again to see if they were awake and got a response asking what our

fuel on board was. The Dispatcher came back and said ZZZ weather is worse than ZZZ1 and was possible looking at ZZZ2 as a new alternate. We told him we could see in the direction of ZZZ3 and it was clear. We got no response. About 4 minutes later they came back with our enroute fuel to ZZZ as 596. How is it possible to burn 596 LBS of fuel from the holding fix to ZZZ (286 NM)? We got this response while turning base on landing, almost 36 minutes after first contact with dispatch. We were in a critical phase of flight so we didn't respond. Once we got on the ground we called and asked why they didn't give us ZZZ3 as an alternate to begin with its only about 160 miles from ZZZ1 vs. ZZZ where the weather was worst and you would have to go straight through the storm to get there. No common sense being used in at all. The Dispatcher told us that our landing weight was too high for ZZZ3 and ZZZ2. We landed with the 70,000 LBS card. He said that's what the computer told him and the computer said we would burn 596 LBS at long range cruise to go 286 miles from the hold to ZZZ. When filing us for an alternate make sure it makes sense to real time operation. ZZZ was a legal alternate but the weather was heading directly towards that airport. Use common sense. It shouldn't take 32 minutes to respond to a message sent from air to ground. If we are going to rely on a system like these please acknowledge within a timely fashion especially when the weather is questionable. This isn't the first time and I know I'm not the first person to file a report in relation to response time to ACARS messages. I'm not sure if it is a staffing problem but something needs to be done about this issue. Double-check your work before sending it out. If an airplane on average burn 1500 LBS per engine per hour how in God's name can you only burn 596 LBS for 286 NM. Have another Dispatcher check your work if you are unsure. The company should train dispatchers a little bit better than they are doing. They seem to be trained to the bare minimums and it shows from time to time.

Synopsis

First Officer for a commuter air carrier advised that the company's planning for holds and alternates is unrealistic.

Time / Day

Date : 200906
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 020
Relative Position.Distance.Nautical Miles : 15
Altitude.MSL.Single Value : 2000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

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

Component

Aircraft Component : Fuel Quantity-Pressure Indication
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
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 2100

Experience.Flight Crew.Last 90 Days : 220
Experience.Flight Crew.Type : 75
ASRS Report Number.Accession Number : 841471
Human Factors : Time Pressure
Human Factors : Training / Qualification

Events

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

Assessments

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

Narrative: 1

I arrived to fly a C182RG. I checked the fuel gauges and they read approximately 20 gallons. I taxied to the runway, did a run-up, and departed for the 15 minute flight. About five minutes later, the engine started to sputter. I checked the fuel gauges that still read about 15 gallons. I switched the tanks and turned on the fuel pump, but the engine would not restart. I decided that I would have to land on the highway. I landed on the southbound lanes of the highway and brought the airplane to a stop then moved it out of the traffic. I was not injured and neither was anyone on the ground. The airplane did not receive any damage. On inspection of the fuel tanks, they appeared to be dry, although the gauges still read about 15 gallons. A Mechanic arrived to bring fuel and we did a full run-up. We ran the engine up for several minutes at all power settings, checked the magnetos, as well as other gauges and everything ran normal.

Synopsis

C182 pilot departs for 15 minute flight with 20 gallons showing on the fuel gauges. Within 5 minutes of takeoff the engine quit and the reporter landed on a highway with no damage and no injuries. The fuel tank is found dry with 15 gallons showing on the gauges.

Time / Day

Date : 200906
Local Time Of Day : 1801-2400

Environment

Light : Night

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 140 ER&LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Phase : Cruise

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 : 841240

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight

Assessments

Contributing Factors / Situations : Manuals
Contributing Factors / Situations : Company Policy
Primary Problem : Company Policy

Narrative: 1

We departed with the required release fuel. While enroute I was performing some fuel calculations and realized that the fuel detailed on the release and on board the aircraft was in violation of our operations manual and the FARs that state reserve fuel should be enough to fly for 45 minutes at normal cruising speed. The reserve fuel on all E140 releases is 1700 pounds. I calculated that at 313 KTS, the planned normal cruise speed for this flight, the fuel required for 45 minutes of flight was 2750 pounds. At this point I checked to see if we had enough hold fuel to make up

the difference. We did not. Reserve plus hold plus additional hold was 2344 LBS. At this point I checked the long range cruise chart and the fuel required for 45 minutes at long range cruise speed was less than 2344 LBS. It was time to slow the aircraft for descent and so I continued at a reduced cruise speed to comply with the intent of the regulation. It appears that currently all company Embraer flights are dispatched in violation of the regulation, which defines reserve fuel as 45 minutes at normal cruise speed. It appears that 1700 LBS is not 45 minutes at normal cruise speed unless I am missing something. I am new to the aircraft, and believed 1700 pounds had been analyzed by the company and found to be an accurate estimate of 45 minutes at normal cruise speed. The company should either change the operating manual to reflect the current apparent use of Long Range cruise fuel flow or correct the way our flights are dispatched. In the meantime, I am attempting to maintain compliance by requesting additional fuel to insure at least 45 minutes reserve at normal cruising speed.

Synopsis

New in type E140 Captain discovered the company planned 45 minute reserve fuel for all flights is more than 1000 LBS below the actual burn at normal cruise speed.

Time / Day

Date : 200906
Local Time Of Day : 1801-2400

Place

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

Environment

Weather Elements / Visibility : Thunderstorm

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Mission : Passenger
Flight Phase : Descent

Person

Reference : 1
Location Of Person : Company
Reporter Organization : Air Carrier
Function.Dispatch : Dispatcher
Qualification.Dispatch : Dispatcher
ASRS Report Number.Accession Number : 841158

Events

Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Dispatch
Were Passengers Involved In Event : N
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

ZZZ1 got hit with thunderstorms and we had numerous flights holding for ZZZ1 in particular I had 4 flights holding. Alternates for these flights were ZZZ2/ZZZ3 ZZZ2/ZZZ4 or ZZZ2/ZZZ5 after flights were in hold and due to fact ZZZ2/ZZZ6

were thunderstorms free we looked at shortening up to ZZZ2. Then Captain on one of the flights called me and advised ATC told him that ZZZ2 was closed and we couldn't go there either. I was looking at flights land ZZZ2 the entire time. This it the 2nd time ATC has refused to allow my flights to divert to an airport with perfectly good weather. About a month ago I had 2 flights holding ZZZ7 area...shortened up to ZZZ6 because weather was good there only to have ATC refuse to accept the flights to ZZZ6. I had to scramble and change alternates again to ZZZ8/ZZZ5 and we ended up landing there with thunderstorms around the airports with what I consider minimum fuel good weather. I came real close to having to declare a minimum fuel emergency that night. This situation is completely unacceptable and could result in having flights land with critical fuel into stations with less than optimum weather conditions. The only solution I see is to have Captain or myself declare an emergency and go to the alternate we need within fuel range of aircraft. We ended up having to divert flights to ZZZ4/ZZZ9 due to ATC's refusal to allow us near ZZZ6 or ZZZ2.

Synopsis

Dispatcher expressed concern regarding ATC's refusal to allow several company fuel critical aircraft to divert to selected alternates, claiming several prior like events, reporting indicating emergency declarations as future probable solution.

Time / Day

Date : 200906
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : FO
Altitude.MSL.Single Value : 33000

Environment

Weather Elements / Visibility : Thunderstorm

Aircraft

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Experience.Flight Crew.Total : 16000
Experience.Flight Crew.Last 90 Days : 250
Experience.Flight Crew.Type : 4500
ASRS Report Number.Accession Number : 841000

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.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Weather
Contributing Factors / Situations : Procedure

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

Narrative: 1

Forecast showed chance of thunderstorms in vicinity. Captain and crew decided to increase fuel at takeoff to 24K. We got to a high altitude for crossing FL380 vs FL340. Severe thunderstorms and windshear, we got holding and vectors all over the place. We told ATC we cannot take delay. They had no plan! After again stating we cannot take delay, Captain declared minimum fuel. Very poor reaction from ATC. We are east of the airport and are asked to go direct another VOR. We advised ATC we cannot go to that VOR and then to the airport. ATC asks if we are declaring an Emergency? We say if you are insisting on sending us to that VOR we will! We finally get a vector to the south and break out in the clear. We landed with 13.5K. If ATC does not have a plan, they need to get one. Next time we will declare an emergency. The tense situation could have been eliminated by ATC having a plan and telling us what it is. They actually told us, I don't know what their plan is. Due to experienced crewmembers and excellent CRM this event did not become a statistic event

Synopsis

Air carrier described minimum fuel event due to weather and a reported less than precise ATC plan regarding vectors and probable delays.

Time / Day

Date : 200906
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : DC
Relative Position.Angle.Radial : 328
Altitude.AGL.Single Value : 400

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 25000

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet CL65, Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Climb
Route In Use : Vectors
Airspace.Class B : 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 : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 6000
Experience.Flight Crew.Last 90 Days : 220

Experience.Flight Crew.Type : 2000
ASRS Report Number.Accession Number : 840843

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
When Detected : In-flight
Result.General : Declared Emergency
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

After takeoff at approx 400 FT AGL we made a left turn to 310 degrees. During the turn master caution "Fuel Imbalance" came on. Fuel imbalance was 900 LBS additional fuel in the left tank. After wings went level message went out and R AUTO Cross Flow pump came on. Then at 9,000 FT we were given a left turn to the southwest and same FUEL imbalance message came on, this time showing 1000 LBS heavy on the left side. Captain asked for the QRH for Fuel Imbalance and after the checklist was complete, Captain decided to divert and asked me to contact the company. Initially we had discussed Airport 1 for diversion, the company wanted Airport 2. We were approx in the middle of the two airports and we elected to go to Airport 2. An emergency was declared by the Captain and we were limited to very shallow bank turns to the left and normal turns to the right. We over flew Airport 2 heading east and made a right downwind entry for the runway. By that time the fuel imbalance was just about fixed by cross flow pump and made a normal landing, then proceeded to taxi under our own power to the gate. 3.5 hours later we had the passengers on a different airplane finishing our flight to our original destination.

Synopsis

A CL65 flight crew experienced "Fuel Imbalance" warning message soon after takeoff and again later in the climb. They ran the procedure and coordinated with company, electing to divert to the nearest suitable airport.

Time / Day

Date : 200906
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ANC.ARTCC
State Reference : AK
Altitude.MSL.Single Value : 34800

Environment

Weather Elements / Visibility : Windshear

Aircraft

Reference : X
ATC / Advisory.Center : ZAN
Aircraft Operator : Air Carrier
Make Model Name : B747-400
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZAN

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
Experience.Flight Crew.Total : 15000
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 1000
ASRS Report Number.Accession Number : 840759
Human Factors : Workload
Human Factors : Time Pressure
Human Factors : Fatigue
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Dispatch

Events

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

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : Pre-flight
When Detected : In-flight

Assessments

Contributing Factors / Situations : Weather
Contributing Factors / Situations : Manuals
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Airport
Primary Problem : Environment - Non Weather Related

Narrative: 1

Crew desk awakens me early in the morning to tell me the flight is delayed about 1 hour. In flight operations, no paperwork for trip, desk clerk has none from dispatch. 50 minutes before departure call dispatch to see what is wrong. She forgot to do our paperwork. Sends paperwork. Asked for volcano SIGMETS and other warnings. She did not want to include volcano data I had collected on my private weather service maps, saying that it did not apply. Requested that volcano data be included in our weather documentation. Plotted volcano data on polar plotting map. Ash prohibits use of some enroute suitable landing airports. Crew agrees that this needs to be monitored enroute. Enroute no updated volcano or SIGMET data provided by dispatch. Prior to going on break and entering unreliable communication airspace I check all METAR and TAF weather for all suitable landing airports and destination/possible alternates, SIGMETS and volcano reports via ACARS. Volcano ash now has greatly enlarged and covers our course in Russia to FL350 on satellite, which does not always include the end of volcanic hazard to flight. Contact dispatch regarding SIGMETS and volcano reports and ask why we received no severe weather updates or reroute around ash cloud. Dispatcher indicates that ash is not relevant as it stops at FL350 on and beyond our course upwind. The ash is spreading upwind well over our course. Dispatcher indicated that we are planned to climb to FL380 in that area of Russia and no course deviation is required around ash. Crew soundly disagrees. We demanded flight around the ash cloud growing upwind well across our route. The Dispatcher's opinion that whatever the satellite picture says is the total risk of growing volcano ash was not agreeable to me. Volcano risk extends beyond the nighttime ash picture from a satellite. At this point I cannot take my break. Still talking to Anchorage, the first reroute from dispatch arrives. We were told by dispatch that this reroute was accepted by ATC, it is a new clearance. But we need ATC to issue a new clearance. Anchorage knows nothing about it and refuses to get involved in a reroute. Call Magadan SATCOM and they know nothing about a reroute request and when we read them the route desired they refuse to change routing. Wait 20 minutes to see if route request gets to ATC. Nothing arrives after calling Anchorage and Magadan again. 9. Multiple SATCOM calls for over an hour to dispatch, Magadan and Anchorage trying to get this solved results in no new ATC CLEARANCE. Dispatch says we have a clearance, but we do not have ATC authority to fly a new course. 10. Prepare for diversion to Fairbanks or Anchorage, as we are getting zero cooperation to fly a safe route around volcanic ash. We do not wish to be NORDO in Russia, attempting to obtain a

reroute through several control centers or trying to arrange a diversion to the USA. 11. Dispatch issues another route (second reroute) and says we have a new clearance. Now in Magadan airspace. More SATCOM calls yield that Magadan still knows nothing of this, we are given NO NEW ATC CLEARANCE despite what dispatch says is a new clearance. More SATCOM calls. Ask for new flight plan for fuel study if we do get a clearance with more flying miles. More SATCOM calls as the flight plan does not come through for evaluation, then some other copies come through stopping over 600 miles from destination. Load new possible route as route 2 in FMS. Dispatch says the new route is only a minor deviation, but in fact it is about 30 extra minutes flight time. Fuel is now an issue for study given RJAA and RJTT weather remaining below the TAF, and nightfall coming. Finally receive a full printed copy of the new flight plan. Most all text is unreadable, prints off the side of the page or stops well short of destination. SATCOM Magadan again. Finally get a new ATC Clearance before leaving Magadan ATC into the Russian continent where the new route immediately sta

Synopsis

Captain of a long range Pacific Ocean crossing takes exception to the Dispatcher's unwillingness to provide information and flight planning data to facilitate circumnavigating volcanic ash.

Time / Day

Date : 200906
Local Time Of Day : 1801-2400

Place

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

Environment

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

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Taxi
Make Model Name : Aero Commander 500 Series
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Cargo / Freight
Flight Phase : Landing
Route In Use : Visual Approach
Route In Use : Direct

Component

Aircraft Component : Fuel Tank Cap
Aircraft Reference : X
Problem : Improperly Operated

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 2400
Experience.Flight Crew.Last 90 Days : 180
Experience.Flight Crew.Type : 1400
ASRS Report Number.Accession Number : 840084
Human Factors : Training / Qualification
Human Factors : Time Pressure
Human Factors : Distraction
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Passenger
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

I was flying this route for the last 3 nights and it's pretty simple, there and back deal. I always get a top-off at my destination since it's about \$0.50 cheaper. I noticed two line guys working on my plane tonight, but figured they did the job. Did a quick glance to check the cap and it looked like it was there, but it was dark so I wasn't 100% sure. I did not double-check the cap. My cargo showed up so I fired up the engines and took off. About 25-30 minutes into the flight I saw my gauge show 90 gallons. The Commander has 5 fuel cells all interconnected, one fuel inlet, 2 outlets to the engines in the central tank, so the cap is pretty important since one tank can't be isolated from the rest. Looking back at my gauge, I began to think it was showing right. But another 10 minutes in, I was down another 20 gallons. I was using around 120 gallons per hour, the normal flow is 30 per hour. I was immediately thinking for outs in case I wouldn't be able to make it back to base. In the end, I landed with about 20 gallons in the tank or about 10 minutes left. My inattentiveness to doing a thorough pre-flight during my turnaround and the fact I did not physically check the fuel cap caused this event. Also when I realized I did have a problem, I continued the flight rather than divert pushing the safety margin.

Synopsis

An AC50 pilot failed to verify that the fuel cap was installed after a fuel stop. Because the cap was not installed fuel rapidly siphoned from the interconnected tanks resulting in critically low fuel at the destination.

Time / Day

Date : 200906
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 040
Relative Position.Distance.Nautical Miles : 05
Altitude.MSL.Single Value : 3500

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Haze / Smoke
Weather Elements / Visibility.Visibility : 10
Light : Dusk

Aircraft

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

Component

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

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization.Other
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 202.6
Experience.Flight Crew.Last 90 Days : 29.7
Experience.Flight Crew.Type : 202.6
ASRS Report Number.Accession Number : 840070
Human Factors : Situational Awareness
Human Factors : Training / Qualification

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : Y
When Detected : In-flight
Result.General : Declared Emergency
Result.Flight Crew : Landed in Emergency Condition
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

On a Cross Country to ZZZ. I was a passenger on this flight as well as a safety pilot for the beginning portion of the flight. At the time of the incident I was just a passenger. On decent to land at ZZZ, at roughly 5 miles and 040 bearing to another airport, I heard the engine cease to run. I asked the pilot what he had done to which we replied "nothing", I reached up and checked the throttle and said "I think we just lost our engine" the pilot seemed to freeze up and I said, "hey you got it" and he just said, "no take it". After taking control of the plane I tried to restart the engine, quickly going through the checklist in my head, fuel pump on, swapped tank with no effect. We were with Approach and called mayday mayday emergency we just lost our engine. The Controller responded quickly and confidently calling out my "outs" telling us that we were directly over the highway and had an airport off our right at a bearing of about 040. After a few moments I was able to bring the engine back and began a climb. Lost the engine a second time and brought it back yet again. After following the highways to ZZZ the engine died again right as we were swapped over to tower. The plane was able to glide into the airport without incident and taxi clear of the runway at ZZZ. What I feel happened: During the portion of the flight after I was no longer the safety pilot (only the first hour maybe of the flight) the mixture could have been too rich or the power run to high that led to fuel miss management. And I think we simply ran out of fuel, were able to switch tanks and get the engine running again then ran out of fuel again. The Controller as well as Tower Controller did an outstanding job of bringing us in and walking us through our "outs" all along the way. While I was just a passenger at the time of the event. At the moment I realized that we had lost our engine and by judging the reaction of the PIC, I took over the flight controls, radios, and was able to bring about a safe landing at the field.

Synopsis

A PA-28 engine quit from fuel starvation on destination's final following a cross-country flight. The safety pilot gained control of the aircraft and landed safely.

Time / Day

Date : 200906
Local Time Of Day : 0601-1200

Place

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

Environment

Light : Daylight

Aircraft

Reference : X
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 : Taxi

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
ASRS Report Number.Accession Number : 840006
Human Factors : Situational Awareness
Human Factors : Time Pressure

Events

Anomaly.Deviation - Procedural : Weight And Balance
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 : Release Refused / Aircraft Not Accepted
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Human Factors

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

Narrative: 1

We departed on flight with the paper work for the return flight in hand because of numerous reports of their failure to print the dispatch in a timely manner which has caused delays. When we arrived at the outstation and started boarding the passengers I noticed that the takeoff weight seemed pretty low but didn't notice that the payload was shown as zero on the flight planning page until we sent our ACARS message and awaited the numbers to return for our passenger loading configuration. Upon receipt of this information we both realized that there was a greater than 10% difference being shown on the display screen and that alerted me to check the payload. It read zero. This was around XA:00 as we prepared to depart and return. I emailed the chief pilot and the First Officer was finally able to contact operations via ACARS and get new numbers with the payload we had. Originally the computer flight plan read zero but we ended up with 126 passengers! The planned takeoff weight was 96,700 but we ended up with an actual weight of 123,500! Both the First Officer and I checked that the numbers we had were correct and then ensured that our operations were notified and credible and reliable information was transferred before operating the flight. We do not know why the zero payload occurred. We can only guess that this happened as a result of an oversight by a Dispatcher. However we have heard numerous reports of cost cutting by Dispatchers by failing to delineate a payload in order to cut the overall fuel required for a flight. We can only suggest an inquiry as to the reason for such an event to occur. Especially on an international flight with a greatly increased workload we as a crew would only hope to have the best Dispatchers working on such a flight as to minimize any and all errors. The short flight and additional duties beyond the normal domestic flight routine can lead to oversight when trying to accomplish the schedule in a timely fashion. We would like to suggest that whatever punishment or action that would have been given towards the flight crew for failing to adhere to safety issues like this be administered equally to the Dispatchers who fail to abide by standard practices if in fact this event turns out to be something other than an honest mistake.

Synopsis

A B737-700 crew was issued preflight release paperwork, which had no payload as part of the weight and balance. The error was caught and corrected before takeoff.

Time / Day

Date : 200906
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : DTW.Airport
State Reference : MI

Environment

Flight Conditions : IMC

Aircraft

Reference : X
ATC / Advisory.Center : ZAU
Aircraft Operator : Air Carrier
Make Model Name : Light Transport
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Route In Use.STAR : Polar 3
Airspace.Class E : DTW

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)
Experience.Flight Crew.Total : 3800
Experience.Flight Crew.Last 90 Days : 1
Experience.Flight Crew.Type : 600
ASRS Report Number.Accession Number : 839964
Human Factors : Communication Breakdown
Human Factors : Confusion
Human Factors : Training / Qualification
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Declared Emergency
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Due to the weather, we were forced to divert well north of Grand Rapids before we could continue onto the POLAR3 arrival into DTW. We left with just 2250 LBS of fuel onboard. Minimum fuel was 2186 LBS. The burn to DTW was 728 LBS; hold fuel of 358 (25 minutes), reserve of 800 LBS, and alternate (FNT) of 300. We were instructed that after diverting around weather, to head direct to the BUTTR intersection when able. When we were able to head direct, we advised ATC, who then gave us a change in routing. We were directed over MBS and the POLAR3 arrival. We had done considerable diverting, so I did some fuel calculations, and determined that with our current fuel load, we would arrive in DTW with 1200-1300 LBS of fuel. The ATIS was reporting 12,000 foot overcast and 9 SM visibility at DTW with ILS 4L the expected approach. The forecast for DTW was calling for BKN 5000 and BKN 10,000 FT with more than 6SM visibility. Based on the good weather, both at DTW and our alternate FNT, I did not feel it was necessary to declare minimum fuel, since we would be landing with 100 LBS more than our minimum fuel of 1100 LBS. After crossing MBS, and 5 minutes from POLAR intersection, Cleveland Center asked if we could hold over POLAR. I advised them that the weather was fine, but that our fuel situation could become an issue. He then checked with DTW Approach, and then queried about our alternate. Upon reaching POLAR, we were told to contact DTW Approach and that ATC was declaring a fuel emergency for us. I advised him that if we had to hold, we would be in a minimum fuel situation, not an emergency situation. We contacted DTW Approach; ATC did not query us as to our fuel. We continued to DTW under normal flight operations and landed without incident. Upon landing, we had 1250 LBS of fuel onboard, and upon parking at the gate, we had just less than 1200 LBS of fuel on board the aircraft. ATC declared emergency fuel for us, and advised us of this on descent into DTW. Cleveland Center and DTW Approach never mentioned what the cause for the delays into DTW, despite being asked by other aircraft. Had I known that these delays could have been possible, I would have been quicker to declare a minimum fuel situation. I did not believe that an EMERGENCY fuel declaration was warranted, considering the weather conditions at DTW and our close alternate, FNT. If we would have been unable to get to DTW and would expect holding and other delays on approach, we could easily head to FNT, since we were directly overhead of FNT. I was on the fence about declaring minimum fuel, and I probably should have declared it, since I would have only been able to hold for a few minutes. In the end, it was ATC who declared the emergency fuel situation, which we never were in. In the future if there is any doubt whatsoever, I will declare minimum fuel.

Synopsis

Captain of a light transport believes ATC's declaration of a fuel emergency for their flight wasn't warranted.

Time / Day

Date : 200906
Local Time Of Day : 0001-0600

Place

Locale Reference.ATC Facility : C90.TRACON
State Reference : IL
Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.TRACON : C90
Aircraft Operator : Air Carrier
Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Route In Use : Vectors
Airspace.Class B : ORD
Airspace.Class E : ZAU

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
Experience.Flight Crew.Total : 17500
Experience.Flight Crew.Last 90 Days : 130
Experience.Flight Crew.Type : 7000
ASRS Report Number.Accession Number : 839758

Events

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

Assessments

Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Airport
Primary Problem : Ambiguous

Narrative: 1

Prolonged vector at slow speed, ATC saturation, low landing fuel. We received an inordinate number of speed changes and odd, unusual vectors getting to ORD, and once in TRACON's hands, we expected that we would be sequenced efficiently. Instead, a B757 and an RJ were stuck in front of us, and we were held back at 170 KTS from the eastbound turn off the arrival until SIBLY on the inbound approach. The vectoring took us well outside Class B airspace, and we used an additional 1400 LBS of fuel getting from roughly the airspace over Rolling Meadows up to the airspace over south Park Ridge. I'm putting in this report not because of anything special but because it is so easy for our minimum fuel that dispatch provides us to get burned up by C90 TRACON and ZAU Center. We blocked in with 4300 LBS - much lower than the FAT of 6000 LBS expected. There were no other delays and we were ahead on fuel number over Mason City VORTAC (MCW). From that point on, Center began using the "speed up, slow down, vector off course" technique of separating aircraft. There was no weather to speak of, just a cloud layer over ORD. All three west landing runways were in use, and it was peak arrival time.

Synopsis

Air carrier Captain laments the delays and wasted fuel on a clear day at ORD at peak arrival time.

Time / Day

Date : 200906
Local Time Of Day : 0001-0600

Place

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

Environment

Flight Conditions : VMC
Light : Dawn

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Dash 8 Series Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Takeoff

Component

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

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
ASRS Report Number.Accession Number : 839501
Human Factors : Human-Machine Interface
Human Factors : Distraction
Human Factors : Fatigue
Human Factors : Situational Awareness

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

Assessments

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

Narrative: 1

Description On Saturday we reported at XA15 for day two of our three day trip. Everything about the start of the day was normal. We checked in and received the release. We printed our daily reports and proceeded to the aircraft to begin our preflight duties. The only thing that may have been a bit abnormal about this flight was the fact that we had no passengers. The weather at our departure airport was VFR, the weather at our destination was VFR but required an alternate due to the forecast calling for some lower ceilings later that morning. We completed all of our preflight duties and the First Officer and I completed all of the appropriate checklists and prepared to go to our destination. We departed the gate on time and had a very short taxi. We were cleared for takeoff while taxiing and had a normal takeoff. Everything seemed to be normal until completion of the after takeoff checklist by the First Officer, he brought to question our fuel. I looked down at our fuel gauges and was in disbelief to see only about 3,000 LBS onboard. Our min fuel for takeoff according to the release was 3,537 LBS. My first reaction was the fuel gauges were not working properly. I tested the gauges and they seemed to be normal, then I thought maybe we are having some type of fuel loss or abnormal fuel burn. Everything seemed to be normal. We were both shocked to realize we had departed with the wrong fuel load. The First Officer and I assessed the situation and reviewed all of our options. We examined the release to see if we had proper fuel to continue to our destination or if we needed to return to our departure airport. After looking over the numbers we subtracted our holding fuel from the min fuel and determined we needed 3,014 LBS at takeoff (if we had approval from Dispatch to use the holding fuel). This gave us the fuel to fly to the destination, to our alternate and our reserve of 45 min (which we were given 52 min on the release). Given our fuel on board at that time of around 3,000 LBS plus the fuel that we burned on climb (150-200lbs) we decided we departed with 3.1-3.2lbs. We used the KNS to factor in the current winds and have the most accurate time enroute. Given our fuel flow and the ETA we both agreed we had adequate fuel. It was safe to continue to the destination given the weather at the time was VFR, and we did not anticipate any holding. Also, having our alternate along our route and not having passengers were factored into the decision. The First Officer tried to call departure station operations to call the times and correct the fuel but they did not answer after several attempts. I thought about using the SELCAL but since we were below 10,000 FT I had very little confidence we would reach him. Looking back I should have tried to contact him after reaching our cruise altitude. We landed with no further incident and parked at the gate with 1,800 LBS of fuel. We continued on and tried to put this incident behind us until we finished the other two legs of our day. We did not want this to distract us from completing the rest of our legs safely. It was determined that we did not have the proper fuel on-board when the First Officer was going to call the times into operations. He told me to look at the fuel and we reviewed the release. I believe the failure of myself to identify the proper fuel load was caused by a few different factors. First, I was transitioning from PM trips to AM trips and was having a hard time adjusting to the early to bed and early

wake-ups. I feel this is why when running the checklist I failed to see the actual fuel and saw what I knew should be on-board. Second, I think that human factors played a roll in the ease of determining the fuel that is on-board. The separate gauges do not have a digital readout and there is no single gauge that shows the total fuel on-board. The gauges also are very ambiguously marked. The line that is used to identify the 1.5 mark is identical to the rest of the marks unl

Synopsis

A DHC8 Captain described the circumstances and causes leading up an early morning departure with less than dispatch fuel onboard.

Time / Day

Date : 200906
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 1700

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Fog
Light : Daylight

Aircraft

ATC / Advisory.Tower : ZZZ
Aircraft Operator : Corporate
Make Model Name : Citation Excel (C560XL)
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Route In Use : Vectors
Airspace.Class D : ZZZ

Person : 1

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 6800
Experience.Flight Crew.Last 90 Days : 63.40
Experience.Flight Crew.Type : 1100
ASRS Report Number.Accession Number : 838678
Human Factors : Communication Breakdown
Human Factors : Distraction
Human Factors : Time Pressure
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 : Corporate
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 7000
Experience.Flight Crew.Last 90 Days : 60
Experience.Flight Crew.Type : 500
ASRS Report Number.Accession Number : 838675
Human Factors : Communication Breakdown
Human Factors : Distraction
Human Factors : Time Pressure
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

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
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Planned landing fuel was approximately 1,450lbs of fuel. Approximately 25 miles from our destination, the ATIS was reporting adequate conditions for an ILS approach with 500 to 800 broken clouds and visibility 8 miles. Joining the localizer, for the ILS Runway 16, we were informed that the aircraft ahead of us had landed and reported breaking out 100 feet above minimums. We continued the approach, proceeded to minimums, and commenced a go around. On climb out we were cleared to fly the published missed procedure. We declined to fly the published missed due to concerns from other aircraft via radio transmissions of the weather conditions at other local airports. Concerned with the ATIS not reporting exact conditions, we did not want to take a chance at going into holding from a missed approach and attempting another approach with possibly deteriorating weather conditions in the area. At approximately 1,700 FT and climbing we elected to call minimum fuel (Emergency) due to the weather conditions and air traffic in the area. The First Officer made the transmission with TRACON, and reported fuel and passengers as requested. During that transmission, we were climbing out at takeoff power and the fuel flow indications were reading minutes left of endurance at MAX TRUST. This was an inaccurate indication of the amount of endurance available, due to the fact we were not at a cruise setting, which was reported to TRACON at 20min. We were vectored to our alternate for ILS. We landed with adequate reserves showing 50min.

Narrative: 2

When we landed the emergency equipment was out and we were told that we declared an emergency but we declared minimum fuel, not an emergency and wanted priority handling before it became an emergency.

Synopsis

Corporate jet must make a missed approach at minimums at their destination. Refused the published missed approach due to low fuel state and diverted to land safely at an alternate airport.

Time / Day

Date : 200906
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 34000

Environment

Weather Elements / Visibility.Other
Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ1
Aircraft Operator : Air Carrier
Make Model Name : B777-200
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

Component : 1

Aircraft Component : Engine Fuel Filter
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Fuel Quantity-Pressure Indication
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 : Pilot Not Flying
Function.Flight Crew : Captain
Experience.Flight Crew.Total : 15000
Experience.Flight Crew.Last 90 Days : 70
Experience.Flight Crew.Type : 1100
ASRS Report Number.Accession Number : 838589
Human Factors : Troubleshooting

Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Training / Qualification

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Maintenance Action
Result.General : Declared Emergency
Result.Flight Crew : Returned To Departure Airport
Result.Flight Crew : Landed in Emergency Condition

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

FL340, upon level off left engine fuel filter EICAS message appeared. Declared emergency and performed checklist. Called Dispatch and Maintenance. On return to our departure airport we dumped approximately 110,000 LBS of fuel to max landing weight EICAS message kept reoccurring. Also fuel schematic showed left wing tank pump pressures both blanking out. Landed with equipment standing by. I was notified prior to departure that left engine fuel pump had been replaced the night prior.

Synopsis

A B777's engine fuel filter EICAS message alerted at cruise. An emergency was declared followed by a return to land. An additional fault occurred when the left wing tank pressures blanked.

Time / Day

Date : 200906
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.TRACON : ZZZ
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
Mission : Passenger
Flight Phase : Descent
Airspace.Class E : ZZZ

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
Experience.Flight Crew.Total : 17400
Experience.Flight Crew.Last 90 Days : 260
Experience.Flight Crew.Type : 7030
ASRS Report Number.Accession Number : 837849
Human Factors : Communication Breakdown
Human Factors : Time Pressure
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Dispatch
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.ATC Issue : All Types
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation

Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Declared Emergency

Assessments

Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Airport
Primary Problem : Ambiguous

Narrative: 1

Release 2 showed landing with 5.6. I bumped it .4 to land with 6.0. Received Release 3 that showed arriving with 6.1 and felt good with that figure, as our destination was VMC. At enroute VOR we received a holding clearance. After figuring our alternates and destination fuel we told ATC we could only take a couple laps in holding. They indicated that this was all right. We were released after one lap in holding and given some vectors. Fuel was getting tight landing with 4.4, then after vectors 3.9. We declared minimum fuel. We kept the speed slow and descended at the most efficient way we could. Dispatch gave us two alternate destination fuel burns but we felt good landing at our destination with 3.9. Near ZZZ1 VOR we were told ATC needed four minutes and we gave it to them. We were making a little fuel in the descent. We got multiple vectors and finally told them we needed direct. By this time we were committed. We started getting vectors. Abeam Runway XXR at our destination our fuel was 3.8 and we ask how long the downwind leg was. We were told 20 miles. This would have us landing under my minimum of 3.0 and we declared an emergency. We landed with 3.6. Landing and taxi in were uneventful. Weather was no factor. One runway was shutdown. I felt mishandled by ATC. The trucks were rolled by the tower which I feel just scares people for no reason.

Synopsis

An air carrier aircraft was given holding instructions on arrival into DEN. No preflight additional fuel was added because the airport had no expected delays, a fuel emergency was eventually declared.

Time / Day

Date : 200906
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZDV.ARTCC
State Reference : CO
Altitude.MSL.Single Value : 40000

Environment

Weather Elements / Visibility.Other
Ceiling : CLR

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
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZDV

Person : 1

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 : 11500
Experience.Flight Crew.Last 90 Days : 125
Experience.Flight Crew.Type : 3000
ASRS Report Number.Accession Number : 837840
Human Factors : Communication Breakdown
Human Factors : Time Pressure
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party1 : Dispatch
Communication Breakdown.Party2 : Flight Crew

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

Experience.Flight Crew.Total : 18000
Experience.Flight Crew.Last 90 Days : 45
Experience.Flight Crew.Type : 3000
ASRS Report Number.Accession Number : 837983
Human Factors : Communication Breakdown
Human Factors : Time Pressure

Events

Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : Declared Emergency
Result.Flight Crew : Landed in Emergency Condition

Assessments

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

Narrative: 1

The Weather in DEN was forecast to be VFR. Dispatch noted on flight plan "No SIG WX Enroute. ARPT ARVL Demand below capacity for your ETA. NO ARVL DLYS XPCTD". Just after reaching cruise Dispatch sent a message that DEN had shut the airport for arrivals and then immediately sent another message canceling that report. We immediately checked the ATIS for DEN and I believe it was 10 miles and 9000 BKN. We continued on knowing that our arrival fuel for DEN would be 6.3 and the weather was good. Upon switching to DEN center we heard ATC tell another aircraft that they were holding for Denver. We became concerned at this point knowing we did not have much extra fuel. We began checking weather for COS, PUB, CYS. Sometime after we were given delay vectors for DEN to be able to avoid holding. After Vectors of up to 90 degrees off course we were given direct TBE (I think that is the ident for this fix) then HUGO. About ten minutes before HUGO we were given holding for HUGO EFC XA: 35Z. We constructed the hold and Captain called Dispatch. COS was 1/4SM FG OVC001. This was not an option. PUB was okay but we did not have plates for the approach there. After entering data for hold the FMC showed we would land with 1.7 with an EFC of XA: 35Z. We made two turns in hold and when the FMC showed we would land with 4.7 we declared an emergency. ATC gave us a clearance to DEN and we landed with 4.9. The low fuel light came on at touchdown.

Narrative: 2

Dispatched with no alternate to DEN. Planned landing fuel was 6.3 (1:04 minutes). Just after reaching cruise got an ACARS message from Dispatch stating to expect holding at HGO. Followed almost immediately by message to disregard. Pulled up area weather which showed VFR in DEN but 1/4 MI in COS. Approximately 200-300 miles from DEN got a heading approximately 90 degrees off course due to slowing and possible holds into DEN. Notified Dispatch and asked for burns to COS and PUB just in case. He sent back 1.8 burn from HGO to COS and PUB and advised that we

would have to use emergency authority to go to PUB due to no approach plates. I asked for the burn from DEN to COS and PUB being concerned about a last minute missed approach in DEN. He replied with 2.8 burn for PUB and a little less for COS. Pulled up area weather and noted COS 1/4 mile and PUB VFR. DEN was also reporting winds 240/10, 10 miles visibility with scattered clouds at 2600, broken at 9000, temp/dewpoint of 13/08 ILS approaches 16L and 17R with 17L/35R closed. First Officer and I discussed bingo fuel close airports such as APA and Front Range and alternatives. After several delay vectors, they cleared us direct TBE direct HGO and gave hold clearance of about 40 minutes. After plugging numbers in box we determined that even with no hold, if we missed approach and went direct to PUB we would be landing with barely 45 minutes of fuel. Advised ATC min fuel and had dispatch call me. His reply was very scratchy and almost unreadable. Dispatch was saying that no more than 5 minutes in the hold was occurring. When we queried ATC, he did not give us that impression at all!! We entered the hold with 15 mile legs while talking with dispatch. First Officer stated that if we were going to have to use Emergency authority to divert to PUB, why didn't we just declare and go direct to DEN where it was VFR. Great idea. Talked to Dispatch and told him our plan to declare EMER FUEL due to COS below minimums and landing at PUB with less than 30 minutes of fuel obvious at this point. Dispatch agreed that we should have no problem getting into DEN where it was VFR, the only problem was traffic saturation and the holding going into DEN. Advised EMER fuel with ATC and requested direct Denver. This was just after 2nd turn in holding pattern at HGO. ATC cleared us straight in on QUAIL arrival. I advised we would fly 210 KTS to conserve fuel. After descending out of FL300, winds became much more favorable and we started "making gas". Box now showed landing with approximately 45 minutes of fuel at DEN. So advised we were just above EMER fuel and could pick up speed for the guys behind us as everyone was declaring minimum fuel. ATC wanted to keep the EMER and assigned speed of no more than 230 knots. We did not argue and got priority handling to DEN. Landed with approximately 4800 LBS (45 min) with low "fuel light" EICAS on due to 2200 LBS in one tank. ATC must have some sort of slowdown going on! I know at least 1 more company flight that declared Emergency Fuel today also. The next day while passing over Denver, we heard ATC giving holds due to arrival rate in Denver. Weather on ATIS was wind 070/04 10SM vis and 2800 overcast!!!! Almost exactly the same weather we had the day before!

Synopsis

An air carrier aircraft enroute to DEN was assigned an unexpected holding when the weather and traffic were forecast acceptable. Because no holding fuel was onboard, the crew declared an emergency and landed with minimum fuel.

Time / Day

Date : 200905
Local Time Of Day : 1201-1800

Place

Locale Reference.Navaid : ZZZ.VOR
State Reference : US
Altitude.MSL.Single Value : 36000

Environment

Flight Conditions : VMC
Light : Dusk

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : A330
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
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 : Pilot Not Flying
Function.Flight Crew : Captain
ASRS Report Number.Accession Number : 837533
Human Factors : Situational Awareness
Human Factors : Time Pressure

Events

Anomaly.Deviation - Procedural : Other / Unknown
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 : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

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

Narrative: 1

Flight departed expecting to land with 14,100 LBS of fuel. However, throughout flight, fuel consumption was higher than planned, despite many efforts by crew, enroute, to change cost index, fly at max altitudes available, reduce cabin air flow to low flow, change alternate airport, communicate the problem to the company and invite feedback, as well as other steps outlined in manuals. In addition, an ACARS message was sent to our Dispatcher asking for our ATC Desk to contact the TRACON Supervisor to advise that our flight could be declaring "Minimum Fuel" when checking in with Approach Control. Unfortunately, Center required us to descend from FL400 to FL280. This resulted in our estimated fuel on board at landing to be reduced to 11,200 LBS of fuel which was calculated to be 49-55 minutes of fuel projected at landing. Minimum fuel was declared at that time with Center rather than waiting to reach TRACON. This declaration benefited us because we were allowed to fly at FL340 for an extended period of time and allowed us direct routing with three Centers. After changing to Approach Control, an idle thrust profile descent was provided from 6000 FT to 1500 FT, resulting in minimum fuel burn. We landed with 13,100 LBS of fuel and reached the gate with approximately 12,400 LBS. Since departing with full knowledge that we were dispatching with no holding fuel, no tanker fuel, and just 1000 LBS of extra fuel, the crew kept exceptional fuel records not only over the Atlantic Ocean as required, but at fixes en route for the entire flight. Both the Master and second Flight Releases were completed by different pilots so that results and conclusions could be contrasted and compared even prior to leaving the European Continent. We knew less than half way across the ocean that a problem was developing and began communications with the company at that time by requesting the change of alternate airports and requesting that we all focus added attention to the re-release fuel requirements (since it was projected to be acceptable by just 300 LBS which is less than 90 seconds for the A-330 aircraft). We were legal to continue and were re-released at SEAER Intersection. We also consulted the FOM and PH to review policy and procedural barriers. The team worked together extremely well and we were able to reach unanimous agreements with adjustments necessary to reduce fuel burn throughout the flight. We also reviewed at each crew break interval how the problem was developing and what steps were warranted as the flight progressed. Although dispatch had conducted excellent fuel planning in advance of our flight, winds were not as favorable as planned, resulting in a need to change plans and use all available resources. All parties reached unanimous agreement to dispatch with this fuel load even though it is lower than we normally receive. This was in accordance with the company's desire to reduce fuel burn en route by operating with minimum dispatched fuel loads. Weather was excellent en route and at the destination and alternates. Therefore, we believed we could complete this flight safely from the preflight until landing and possibly delete alternate airports altogether if it became necessary. Unfortunately, the winds were not as forecast and the flight planning considerations proved not to be totally correct. I have no suggestions since I believe we did the best job we could under the circumstances, and so did the Dispatchers.

Synopsis

Dispatched across the Atlantic Ocean with planned minimum fuel reserves at their destination, an A330 flight crew struggled to adapt to higher fuel burn and less favorable winds than forecast.

Time / Day

Date : 200905
Local Time Of Day : 1201-1800

Place

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

Environment

Light : Daylight

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 140 ER&LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Cruise
Airspace.Class A : ZZZ

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
ASRS Report Number.Accession Number : 836895
Human Factors : Workload
Human Factors : Time Pressure
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Attendant
Communication Breakdown.Party2 : ATC

Events

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.General : Declared Emergency
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

Event began as a "minimum fuel" advisory to ATC due to numerous vectors, speed and altitude changes due to weather and large amounts of deviating traffic. By working with my dispatch, we were able to work out a new fuel plan, which allowed us to continue as ATC led us to expect. However, the situation kept changing as ATC continued to vector us, along with everybody else, further south due to extreme weather blocking direct flight to destination. Frequency congestion increased as more and more aircraft encountered problems or began to collect in a region to the southwest. Our FMS projected fuel for landing continued to decrease towards critical levels. Due to the large number of unknown factors remaining, I wanted to divert. Unable to get a word in edgewise on the frequency I continued to maintain course as cleared by ATC. Once a small break in the frequency congestion appeared I quickly stated "Aircraft X Emergency Fuel" and initiated a 180 degree right hand turn north to the diversion airport. ATC inquired about who declared the fuel emergency and I brought him up to date plus our intentions, fuel state, souls on board, etc. Flight proceeded to diversion airport without further complications. In flight monitoring of fuel situation plus coordination with Dispatch and ATC. Large amount of traffic combined with a very large severe weather system forced traffic to congest in one sector. Due to ATC directed routing, we were on the wrong side of the weather for our alternate. Coordination with Dispatch and ATC on routing and expectations. Worked with Dispatch on new fuel plan after Min Fuel advisory initiated. Once the plans fell apart, we were forced to divert to the nearest suitable airport. Landing fuel was about 2500 LBS, which is 800 LBS above normal reserve of 1700 pounds. Once I was able to declare emergency fuel and deviate from assigned course, I immediately initiated a 180 degree right turn toward the diversion airport. After landing, a deadheading air carrier Captain asked about the "hard right turn" which he estimated to be 45 degrees AOB from the back over water and in broken cloud layers. Due to the Embraer's high roll rate and my previous experience with the aircraft and aerobatic flight, it is highly possible that the turn itself may have felt "hard" to my passengers although I didn't think so at the time. Quick, yes, but not hard. I do recall seeing going over 30 degrees AOB, but did strive to maintain a 30 degree AOB turn direct to our diversion airport. Better computer models of ATC intentions for Dispatch in flight planning stages. More realistic estimates from ATC on expectations. We flew right over. If I knew they were not going to turn us as planned, but would continue to take us south towards the ADIZ, I would have diverted sooner for fuel.

Synopsis

An EMB-145 pilot declared a fuel emergency and diverted to an enroute airport because extensive weather prevented proceeding to either the filed destination or alternate.

Time / Day

Date : 200905
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Descent
Airspace.Class E : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : Z
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 510
Experience.Flight Crew.Last 90 Days : 15
Experience.Flight Crew.Type : 275
ASRS Report Number.Accession Number : 836840

Events

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

Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

On the date listed, I was flying cross country to my destination. I calculated my flight time to be approximately 3 hours and 55 minutes at 90 KTS. I calculated fuel burn at 7.5 GPH. My aircraft carries 34 gallons usable fuel and that gave me 4.5 hours flight time. I carried 2 adult male passengers and calculated that I was only 25 pounds under gross weight with full fuel. Due to the weight of the aircraft, I had to circle over LA Harbor and Torrance to reach 4500 FT to go through the LAX special flight rules area. I had to use full climb power until well past Fillmore VOR to reach my cruising altitude of 8500 FT to clear the mountains. I remained at 8500 FT and leaned the mixture for cruise. Another aircraft who was to meet with us at our destination contacted me. He stated he was northbound, parallel with my course approximately 15 NM east of me. His GPS was reading at 22 KT headwind component. He eventually flew on ahead of me and we broke off radio contact later. Both of my passengers had never been in a small aircraft before and I allowed myself to be distracted answering questions about the flight and about our business that evening. I descended to 6500 FT and continued to descend to 3500 FT as I passed over ZZZ airport. I noted both the airport I had just passed and destination ATIS reported 25 KT surface winds opposite my direction of flight. I believed I had been in the air 3 Hours 30 minutes. I contacted Tower and reported approximately 12 miles south. The controller gave me instructions to enter the traffic pattern. About one minute later, I had a significant loss of power. The engine was running 800 RPM at full power and rich mixture. I knew I had recently over flown ZZZ, so I put the nose down for best glide and turned 180 degrees, The Controller immediately noted my course change asked my intentions. I told him I had lost power and was heading to ZZZ. He asked me if I 'needed assistance,' to which I stated, 'yes, I have lost power.' I did not really understand what he meant by needing assistance, but I was just concentrating on flying the airplane and finding a place to land. I am not sure the Controller ever heard my response as I never heard a response back from him. I did not declare an emergency as the airplane was flying very well with the engine idling and I was lined up on a long straight country road that was leading toward ZZZ Airport. I told my passengers that we would either land on the road or the airport, if we could fly that far on our limited power. When I was sure I could make the field, I turned east and landed safely at ZZZ Airport, which is uncontrolled and unattended. As we rolled down the runway, the engine quit completely. I attempted to contact the my original destination airport Tower, but could not raise him on the ground. I used my cell phone to call my friend who had landed there. My friend advised the Tower that I had landed safely and they told him I was fine and did not take any further action. My passengers and I pulled my airplane to a tie down spot. I then looked at my watch and realized we had been in the air 4 hours 25 minutes. I had failed to keep track of time and had flown almost one hour longer than I realized. I should have also realized that with the added time to climb and the headwind, I could not have been as far along my route as I believed I was in 3 hours and 30 minutes. After fueling the airplane and calculating the burn rate on that trip was actually 8 GPH. Due to the weight of the aircraft, I had also underestimated my fuel burn rate. It took 35.5 gallons to refuel the airplane and the engine ran fine. As I had no damage or injury and did not declare an emergency, I did not file an incident report. I don't believe I ever entered Class D airspace, which is probably why the Controller was not that

concerned with me. In spite of mistakes I made which allowed the aircraft to run out fuel, my prior training of situational awareness and always having a plan of where to

Synopsis

C172 pilot planned and executed 3+55 flight with 4+25 fuel on board. Head winds and near maximum gross weight cause flight to run long. Twelve miles from destination at 4+25 flight time fuel runs out. Reporter is able to glide to nearby uncontrolled airport.

Time / Day

Date : 200905
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Angle.Radial : 272
Relative Position.Distance.Nautical Miles : 50
Altitude.MSL.Single Value : 27000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Airbus Industrie Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Cargo / Freight
Flight Phase : Climb
Route In Use : Direct

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 : 18600
Experience.Flight Crew.Last 90 Days : 75
Experience.Flight Crew.Type : 3600
ASRS Report Number.Accession Number : 835531
Human Factors : Other / Unknown
Analyst Callback : Attempted

Events

Anomaly.Deviation - Procedural : FAR
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.General : Declared Emergency
Result.Flight Crew : Landed in Emergency Condition
Result.Flight Crew : Diverted

Assessments

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

Narrative: 1

Climbing out I first noticed the control wheel displacing right about 2 units. I started checking the ECAM pages, first I zeroed all trim settings and found indeed the left wing was heavy. I turned off the autothrottles and matched power. Next I looked at the doors page, then went to the fuel page and saw that the right inner tank was reading zero. It was the First Officers leg so at this time I took control of the aircraft and called for the checklist. While the First Officer was working through the checklist I called Center and requested a return to our departure airport and declared an emergency. Landing for the most part was normal except for the very heavy left wing due to a gross fuel imbalance.

Synopsis

Airbus Captain discovered during climbout that the left wing was heavy and found the right inner tank fuel quantity to be zero on the fuel page. Emergency was declared and flight returned to their departure airport.

Time / Day

Date : 200905
Local Time Of Day : 1801-2400

Place

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

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 20
Light : Dusk
Ceiling.Single Value : 25000

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : S-2 All Series
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Cruise
Route In Use : None
Airspace.Class E : ZZZ

Component

Aircraft Component : Fuel System
Aircraft Reference : X

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 21000
Experience.Flight Crew.Last 90 Days : 100
Experience.Flight Crew.Type : 5000
ASRS Report Number.Accession Number : 835276
Human Factors : Human-Machine Interface

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

Assessments

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

Narrative: 1

We departed at approximately XA45 local and flew to a prebriefed area for a photo shoot 35nm south-southeast. After spending about 40 minutes in the area, I was told that the photos were complete and then headed back with my wingmen. As I was descending for landing, about 5 miles from the field, the engine suddenly began to run roughly. I checked the instruments and oil appeared to be normal. The engine continued to run rough and I wasn't certain if it would continue to run long enough for me to make it back to the airport. Rather than risk injury to myself or others in the town I decided to make a precautionary landing on the northbound lane of a Highway. One of my wingmen stayed with me as an extra set of eyes while the other two continued to the airport. Being a Sunday, the traffic was light and I was able to easily put the aircraft down safely on the highway. Once stopped I pushed the aircraft clear of the lanes so as to not impede traffic. The Highway Patrol arrived and I explained the situation. I determined that the aircraft was almost completely out of fuel. One of my mechanics quickly arrived, inspected the aircraft and determined that the aircraft suffered no damage and was safe to fly. I had a coworker bring out 14 gallons of fuel, which we put into the aircraft. I explained to the Highway Patrol that the aircraft was safe to fly and my Mechanic verified that for them. I explained that if I wasn't able to takeoff soon, the aircraft would have to be either towed back to the airport through town or dismantled and trucked back to the airport because I would be dark in about another 45 minutes. After making several phone calls Highway Patrol told me that I had their permission and that I had to takeoff immediately. They briefly stopped the northbound traffic and allowed me to takeoff. I was less than 2 miles from the runway and was back on the ground at my airport in less than 90 seconds. I am not sure if I took off after legal sunset, but it was still light enough to safely conduct the flight. Chain of Events: 1) Over the winter when the aircraft was being rebuilt, we had the fuel tank and its plumbing modified. The primary fuel level instrument is a sight gage made out of tubing. I was not aware that the very top of the sight gage no longer indicated when the fuel tank was completely full as it did last year. With the redesign the tank will actually hold about 9 more gallons of fuel after the fuel reaches the top of the sight gage. I made the mistake of assuming that the tank was full and did not verify by visually looking inside of the filler cap before flight. 2) The tubing that was used for the sight gage is used because it is highly resistant and remains flexible over time. This particular type of tubing has a deep green tint to it and is easily readable in the daylight. The flight was conducted late in the afternoon when the light was low and it became much harder to read the level accurately due to the tinting. 3) I have a digital fuel computer installed that displays the fuel flow and fuel quantity remainder. It is a highly accurate instrument, but it requires that the correct amount of fuel in the tanks be entered manually prior to flight. I had entered an incorrect amount and was therefore

getting false indications of the amount of fuel that I had remaining. Corrective Actions Taken: 1) I have had my mechanics replace all of the green-tinted tubing with clear tubing that is much easier to see, especially in low light. 2) I have verified exactly how much fuel the tank holds and how much more needs to be added and reach full capacity once the fuel level disappears from the top of the sight gage. 3) I have completely re calibrated the sight gage. 4) I will always visually confirm the fuel level by dipping the tanks.

Synopsis

Pitts pilot misjudged fuel available and ran out of fuel 5 miles from destination, a safe landing was made on a highway.

Time / Day

Date : 200905
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 1000

Environment

Weather Elements / Visibility : Rain
Weather Elements / Visibility : Windshear

Aircraft

Reference : X
ATC / Advisory.TRACON : 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 : Initial Approach
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
Experience.Flight Crew.Total : 9000
Experience.Flight Crew.Last 90 Days : 39
Experience.Flight Crew.Type : 39
ASRS Report Number.Accession Number : 835189
Human Factors : Distraction
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Training / Qualification
Human Factors : Workload
Human Factors : Communication Breakdown
Human Factors : Time Pressure
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

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
Experience.Flight Crew.Total : 12000
Experience.Flight Crew.Last 90 Days : 238
Experience.Flight Crew.Type : 4200
ASRS Report Number.Accession Number : 835193
Human Factors : Distraction
Human Factors : Human-Machine Interface
Human Factors : Communication Breakdown
Human Factors : Situational Awareness
Human Factors : Workload
Human Factors : Time Pressure
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Unstabilized Approach
Anomaly.Inflight Event / Encounter : Fuel Issue
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

This was my initial trip as an A320 Captain after completing my Initial Operating Experience. The first leg of day 1 went well. Flight planning for this flight was normal, with our decision to add 900 LBS fuel because of my lack of experience. Enroute, we discussed and decided that we would accomplish an auto land in order to accomplish some of the 'new captain' requirements. I reviewed and briefed the First Officer from the briefing guide in the A320 Flight Manual. We also briefed the approach based on the ATIS (VFR) and our arrival direction. On the arrival, descending to 11,000 MSL, we were given holding instructions to hold at as published. We entered holding and were given an EFC for a planned 39 minute hold. The reason given was unexpected heavy rain shower 'crossing the field at this time.' The First Officer sent an ACARS message to Dispatch informing her of the situation and requested weather information for area airports. He also attempted to get a terminal area graphic of local area using the MISC TG message, but the system was down. While the First Officer did this, I flew the aircraft and made a PA to the cabin informing them of the holding situation. We entered the holding pattern with approximately 7,000 LBS. of fuel. ACARS message was received from Dispatch recommending ZZZ as our best option if a diversion was necessary. A quick bearing/distance check showed destination approximately 50 NM east, ZZZ

approximately 110 NM south. The First Officer and I discussed our options and agreed that ZZZ would be our diversion plan. We could see heavy rain shower on the radar between our hold and our destination, but a clear 'corridor' towards ZZZ if we had to divert. We agreed that we would use 5500# of fuel as our 'Bingo' (max hold) to depart holding. At XA30z, with 6100# of fuel, I queried ATC about the EFC estimate, asking if there was any chance that it would be shortened. They answered, 'No.' I told ATC that we did not have the endurance fuel and that we would like to show ZZZ as our new destination and requested to depart holding. ATC response: 'Standby, they think they can get you in to your destination now. They have rain showers on final, but they say they can get you in.' After a quick question to my First Officer ('Are you O.K. with this?'), we were cleared to depart holding with vectors northeast out of holding. I made a PA to the cabin while the First Officer sent a message to dispatch. Fuel was approx. 5900# departing the hold. We flew extended vectors to the northeast and descended per ATC instructions. All PA's were made, passengers seated, checklists accomplished, etc. Monitoring the radar, the First Officer advocated a third airport as a better diversion airport based on our present position and the fact that the heaviest rain showers were now between our destination and ZZZ. I agreed. Approx 20NM northwest our destination, we were given clearance, 'Descend to 4000, maintain 210 KIAS, fly heading 160 to intercept localizer.' With the AP1 engaged, I entered the heading in the FCU, confirmed the altitude on the FD, pulled the FCU altitude knob for open descent and slowed to 210 using speedbrakes and Flaps 1. I told the First Officer that I would use NAV initially to intercept the final because of the distance from the LOC transmitter. I pushed the HEADING/TRACK knob and aurally verified that we had FMAs of HDG and NAV armed. I did not verify course offset value on the ND with NAV armed. ATC amended our heading assignment to 170 and I made the change and verified that NAV was still armed on the PFD. As we approached the course intercept point, ATC transmitted that they were breaking off the approach for another aircraft on final to XXL (parallel to our runway assignment) because of a windshear alert. The radio seemed very busy, and the windshear alert obviously got our attention. ATC followed that call with another transmission saying that the XXC final approach course had only heavy rain showers wi

Narrative: 2

Based of what we saw on the radar and ATC PIREPS I agreed with the Captain to press on to ZZZ1. In my mind, I felt this was a good option so long as things did not get worse. We had planned and briefed a CAT II ILS and we were told to expect the ILS. The Captain, being brand new (first day off IOE, first company Captain, first time flying the A320) flew due to qualification requirements. In addition, flying a coupled approach would allow the Captain to meet one of the two autolands for a CIII status and let us go down to lower minimums if the visibility went down. A go-around would be less likely. Committing to ZZZ1 meant ZZZ2 would not be a good option. I pulled up weather for ZZZ3 and presented to the Captain. He seemed to agree that it would be a better option. We were at 4,000 feet and given a 160 heading, 210 assigned speed and told to intercept the localizer. I had cleaned up the box and made from the point a PPOS followed by an intersection and the FAF. Since we were intercepting some distance out the Captain armed NAV to intercept. I was distracted by the static on the radio due to the rain and was listening hard for our radio call sign. What we did hear was ATC saying they had a windshear report on another runway. At that moment I looked down and saw that we were passing through the localizer in HDG mode. The Captain started a turn back and armed the LOC mode. We were queried by ATC if we would be able to get the localizer. I reported I would. The Approach Controller, who was very busy, began assigning

short vectors possibly due to the windshear, but possibly due to our overshoot. I scanned the TCAS to see if there was any impending traffic conflict. I saw no one, but I did see that we were just starting to go above glideslope. The Captain said we needed to get down. I believe that the descent clearance was delayed due to the overshoot and the frequency congestion. We had reestablished ourselves on the localizer and were in moderate rain showers. ATC got to us and gave us a clearance to maintain 2000 and that we were cleared for the ILS. The Captain pulled for Open Descent, armed the approach, extended the speed brakes and called for gear down and the final descent checklist. I was involved with the checklist and reporting to the tower when I made the determination and said that a coupled approach was not going to work. The Captain spun up the mode control panel (MCP) altitude, turned off the autopilot and called for more flaps. I responded to the landing clearance and continued with the checklist. I noted the speed brake was still extended and called it out to the Captain. He did not respond. I knew he was very task saturated. I stated I'm getting rid of the speed brakes and the Captain looked down to see what I was doing. We had a 'SINK RATE' GPWS call with the runway in sight. The call was disconcerting but the Captain had already arrested the sink rate. With the correction and final flaps extended and the runway in sight, I knew that a go-around was appropriate from such an ugly approach, but at the time a landing based off our fuel state and that the weather was moving on to the airport seemed like a safer option. We landed out of the approach and taxied to the gate. We never encountered any windshear on or saw any indications on the approach. The rain continued onto the airport as the Captain and I sat in the cockpit for a time feeling disgusted with ourselves. We start to recount the series of events that had led us to the point where we felt like we had little options other than land. We were cleared to ZZZ1 at the time we requested clearance to ZZZ2. That was our best opportunity to bug out. 'Aircraft are only encountering rain' led us in the ZZZ1 direction as well as the statement that it looked like we would beat it in. I left the PPOS in the box at 1L in the MCDU base of the fact that the Captain wanted it in the box on the last leg. This was an assumption by me. I heard the Captain say that NAV was armed,

Synopsis

A new A320 Captain and an experienced First Officer described an approach into an airport with heavy weather and numerous delays. The Captain's report described a new Captain's task saturated experience and thought processes in a complex high workload aircraft.

Time / Day

Date : 200905
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 600
Altitude.MSL.Single Value : 34000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B767-300 and 300 ER
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Cruise
Route In Use : Oceanic
Airspace.Class A : ZZZ

Component

Aircraft Component : Fuel Trim System
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 : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 12000
Experience.Flight Crew.Last 90 Days : 210
Experience.Flight Crew.Type : 2700
ASRS Report Number.Accession Number : 834924

Person : 2

Reference : 2
Location Of Person.Aircraft : x
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Engineer
Experience.Flight Crew.Total : 15000
Experience.Flight Crew.Last 90 Days : 200
Experience.Flight Crew.Type : 2800

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.General : Declared Emergency
Result.Flight Crew : Diverted

Assessments

Contributing Factors / Situations : Incorrect / Not Installed / Unavailable Part
Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

We were dispatched with left forward fuel boost pump 'inop' and deactivated per MM. Subsequently flight experienced significant premature main right tank fuel burn and main tank imbalance. QRH procedure called for turning off right side boost pumps and feeding both engines from the only remaining left aft fuel pump due to the placarded left forward boost pump. Due to QRH conditional statement Captain queried maintenance about premature main fuel tank burn history on this aircraft. It was discovered that the aircraft had a significant history of this problem. Captain elected to divert for repairs prior to oceanic crossing. Concern was continuing to correct premature fuel burn would have meant continuing the flight across the Atlantic Ocean with both engines feeding from a single boost pump, an unacceptable risk. Emergency was declared and flight "not in jeopardy" message transmitted to ATC. An amended clearance was requested and received. Flight proceeded to divert airport. Emergency was declared due to anticipated overweight landing. Flight elected to use the longest runway length beyond glideslope into the wind. Landing was made at 330,000LBS at 200 FT/min sink rate. ARFF equipment was requested and employed to check brakes after clearing the runway. It was also discovered that the flight experienced a bird strike of the right engine during approach.

Synopsis

Dispatched with the left forward main tank boost pump deferred, a B767-300 diverted to an enroute airport when fuel began to burn prematurely from the right

main tank, an anomaly that would require running both engines off the one remaining left main tank boost pump.