EPISODE 313

[EPISODE]

[0:00:07] IP: Hello, and welcome to episode 313 of AvTalk. I am Ian Petchenik, here, once again, as always with –

[0:00:18] JR: Jason Rabinowitz. First of all, Ian, I would like to set the record straight that ice coffee is the best coffee.

[0:00:28] IP: Wait, wait, wait, wait, wait, wait. Hold on. Hold on.

[0:00:29] JR: I need you to understand that. Second off, that should let you know that I listened to the podcast last week.

[0:00:34] IP: I was just going to say, this proves that you've listened to at least two episodes of the podcast, and this is episode 313.

[0:00:39] JR: At least two episodes. I had to know. I had to know. You know what? I'm glad I did listen, because I will not stand idly by and listen to you slander ice coffee like that.

[0:00:51] IP: I mean, no. I'm still going to do it. You don't have to stand idly by. I'm not saying that ice coffee is always a bad choice. I'm just saying, it's the wrong kind of coffee. But that's fine.

[0:01:04] JR: I mean, you're wrong. But thanks for bringing it up. I value your opinion.

[0:01:09] IP: I appreciate that we could have this discussion. Hey, you went to Mexico and A, didn't take me.

[0:01:16] JR: Sorry.

[0:01:17] IP: And B, left on what was a very good week to not be around.

[0:01:22] JR: I mean, to be fair –

[0:01:23] IP: So, well done, sir.

[0:01:24] JR: - every week. Thank you. Every week right now is a good week to be somewhere else, disconnected. I didn't even open social media. I didn't look at blue sky. I didn't even open it. Didn't scroll once. I'm glad I didn't. Until I got back. We were very happy down in Mexico City, eating tacos, tortas, quesadillas, and everything from street food to fine food. It was all very good. I was very happy with it. Less than stellar experience with Delta on the return home, but that's, I guess, what happens when you fly its sixth oldest aircraft in the fleet. If you know anything about Delta, that means it was a very old airplane.

[0:02:05] IP: That's saying something.

[0:02:06] JR: That is saying something. It was a 35-year-old 757-200, which was riddled with mechanical issues on the return flight. Ended up only getting back 35 minutes late. But from the miracle of schedule padding, because we left 90 minutes late. Isn't that fun?

[0:02:27] IP: That's always a good time. You always want to spend –

[0:02:29] JR: But it was good.

[0:02:29] IP: - two hours on an airplane, a broken airplane.

[0:02:31] JR: Oh, yeah. That was after the mad dash to the airport, where, as we're just hanging out in the hotel room, we're waiting to go in the 11.00, because our flight wasn't until 2.30. If you've been to Mexico City, you know that the airport's not far away from town. Actually, its key issue is that it's way too close to the developed area in Mexico City. The hotel slipped a note under the door saying, “Hey, we know you're checking out today, so you're probably headed to the airport. Well, you might not want to do that, because the airport's closed due to a protest.” That's not good.

Of course, I'm home. I got home. The airport wasn't actually closed, but if you were going to terminal one at Mexico City Airport that day, you were going to have a really bad day. Thankfully, terminal two, we just had to exit the car on the main road and walk through the parking lot to get there. All is well that ends well.

[0:03:20] IP: Well, welcome back.

[0:03:21] JR: Thank you.

[0:03:22] IP: Now, we've got plenty to talk about, because while you were away, things happened.

[0:03:28] JR: Yeah. It makes my experience look like a walk in the park.

[0:03:33] IP: Yes. Let's go to London. This was and still is a developing story, because they're still trying to figure out why this all happened the way it did. Let's back up to the beginning and set fire to an electrical substation near Heathrow.

[0:03:55] JR: Or with somebody, us –

[0:03:56] IP: You know what I meant.

[0:03:57] JR: We did not set fire to the electrical substation. If you read some of the reporting, it may have just spontaneously combusted, because sometimes that just happens.

[0:04:07] IP: These things happen in electrical substations, apparently. Right now, it doesn't seem like this was a deliberately set fire, which is very good news on that front. Still very bad news that there was a fire at all. What the fire had the effect of doing was canceling a day's worth, or nearly a day's worth of flights at London's Heathrow airport. Early on the morning of the 21st, so very, very early Friday morning, a fire begins at the electrical substation. That substation is the substation that SEN is the primary substation.

[0:04:49] JR: One of the substations.

[0:04:51] IP: Yeah. One of the substations that sends power to Heathrow, but the primary substation that sends power to Heathrow airport. With that substation offline, Heathrow had to get its power from somewhere else. As we understood it at the time, the reporting from both media organizations in the UK and around the world, and from the operator of the airport itself in what I believe are now deleted posts on Twitter/X, because I went to look for them, and I couldn't find them anymore, the initial announcements of what had happened. They said, they'd lost power. There was a power outage. Because of that, they were canceling all flights for Friday, all roughly 1,350 flights.

[0:05:51] JR: If you are anyone in airline operations, and you hear that Heathrow's closed for the entire day, your heart is going to sink and your brain is going to explode, because this is, I believe, Europe's busiest airports. The knock-on effects –

[0:06:06] IP: One of the busiest airports in the world.

[0:06:08] JR: In the world, having a full day of zero operations at an airport like that, that is going to screw up your operation for potentially, weeks.

[0:06:18] IP: Yeah. To quote the initial post on X that London's Heathrow airport put out, they said that they had a “Significant power outage.” That was me quoting their post in the initial FlightRadar24 post. At that time, there were 120 aircraft in the air bound for Heathrow. All 120 of those diverted.

[0:06:49] JR: Yeah. Let's talk a bit first about the operational impact in the moment. Then we'll get to what may have actually happened with some hindsight. Unfortunately, this happened late enough in the day that the North American bank of flights towards Heathrow had already launched for the day. There were dozens of BA, Virgin, Delta, American, United –

[0:07:14] IP: I mean, not launched. Close to landing.

[0:07:17] JR: Close enough, within range. But the launch window, I guess you would say, for flights from even the Northeast to London is hours long from early in the morning, all the way

until I think, BA has a departure past midnight from New York now. Whatever flights were still on the ground, they stayed on the ground for the day. Many flights were either close enough to Europe, where they couldn't come back. They had to go somewhere. Delta sent a lot of its flights to Amsterdam, I believe. BA sent the lucky UBA flights ended up in Gatwick. Others ended up all over Europe. The very unlucky didn't get to remain at their origin, didn't make it to Europe, but ended up somewhere else entirely, like Gander, or Goose Bay, Canada, if you were really, really unlucky.

I think it's safe to say that this may be one of the biggest diversion events since 9/11, I think. I can't really think of another event that happened so suddenly, where there were so many flights already in the air that all had to go somewhere else.

[0:08:24] IP: Yeah. I mean, the 2010 Icelandic volcanic eruption had an impact on schedules, but I don't think the immediate diversion impact was quite as large.

[0:08:40] JR: If not, it would have been close.

[0:08:41] IP: Maybe.

[0:08:42] JR: But the spread of airports is just crazy. You have a very nice graph on the blog, Ian, that breaks down where aircraft diverted to. Gatwick was the most diversion taking airport, I guess. Eight aircraft went to Gatwick, seven to Amsterdam, presumably all Delta, I would say. Six spread across CDG, Frankfurt, Dulles in there, somehow. Madrid, Shannon.

[0:09:09] IP: Yeah. Dulles was a lot of the, we made it to the coast. Not even United. There was a Virgin flight that went to Dulles.

[0:09:15] JR: Really?

[0:09:16] IP: Yeah. It was those West Coast flights that had made it to the East Coast of the US.

[0:09:23] JR: Ah, and they had to go somewhere.

[0:09:24] IP: When things went south. A lot of them went to other East Coast airports, like Dulles.

[0:09:30] JR: Five across Glasgow, JFK, Manchester, and Munich. You have some more numbers that say, JFK had 28 flights divert. Is that right?

[0:09:42] IP: What do you mean 28 flights divert?

[0:09:44] JR: I'm looking at a total of 120 aircraft inbound to London, Heathrow, have diverted so far. Here are the top five airports by number of diversions, and it's that JFK had 28. Is that saying 28 flights that departed JFK went somewhere else? That is so many flights. I mean, the next nearest is Dulles at 15 JFK. I mean, it makes sense. It's the world's highest profiting route. Yeah, that checks out, but wow.

[0:10:11] IP: The full list of diversionary airports, because it's 50 airports in 21 countries. Some of them make sense, because they were returned to origins, Singapore, Vancouver, places like that. Some of them were just along the way, so you end up with some flights wandering into Cairo. There's car dash involved.

[0:10:31] JR: Nashville?

[0:10:33] IP: Nashville. My favorite is the Japan Airlines flight that diverted to Helsinki.

[0:10:38] JR: Of course. Of course.

[0:10:39] IP: That's a good one. There was a BA flight that diverted to, I think from JFK, diverted to Reykjavik. You just see this 90-degree turn to the left as it's crossing the oceans. “Oh, we're just going to go to Reykjavik.” Lots and lots of places. Lyon, Minneapolis, all sorts of good fun stuff. Yeah, an operational nightmare for airlines, because the problem here is that you've got 120 aircraft with conservatively 150 to 200 people onboard each and every one of them, with a crew between 10 and 25, if we're talking about an A380, all out of place. To have that for an entire 24 hours, and then to say, well, in the initial event, we don't know at least through Friday, then it became more clear, okay, well, Saturday, we might be able to reopen. Okay, it looks like

we're going to be able to reopen on Saturday. Oh, Friday evening, we're going to be able to allow some flights to get out. BA was able to get some aircraft back to Heathrow and to get some aircraft out on some of their ultra long-haul flights to Cape Town, Johannesburg, Riyadh, places like that.

[0:11:57] JR: Yeah. Thankfully, it happened during a good time of year. It's still really the low season, so you're not dealing with majorly oversold flights. The next day, I looked at some standby lists for United fights and American fights and Delta fights leaving the US to go to Heathrow. I expected to see lists that were dozens, if not hundreds of people long. It looked like a completely normal day. People were reaccommodated pretty quickly. I think the timing here on the European side was also miraculously good, because it meant that there were no European network flights for BA in the air at the time. Everything just stayed where it was, whether that was at Heathrow, or at outstations scattered around Europe, it meant that BA could just press a button and start its operation the next morning, basically having just skipped a day. It wasn't like, flights were inbound to Heathrow already and had to scatter all over Europe and be completely at a position. It was just basically a leap day, almost. They didn't have that particular day in the schedule and they just started over the next day as they skipped over a day in the schedule.

[0:13:03] IP: Yeah. I mean, setting aside the fire and having to close one of the world's busiest airports for an entire day. There were a lot of things that went in the operational favor of the airlines. That was certainly helpful.

[0:13:17] JR: Yes. However.

[0:13:19] IP: Yes. Let's shift gears and talk about what we've learned so far. It doesn't make it better. The United Kingdom's government has commissioned a investigation that is going to last some weeks to understand what happened and what lessons need to be learned. The government says the investigation will “Build a clearer picture of the circumstances surrounding this incident” and help them understand the country's “broader energy resilience.”

[0:13:57] JR: Hmm.

[0:13:58] IP: Yeah. Here's the thing. They're saying that the power never actually went out.

[0:14:06] JR: Interesting.

[0:14:10] IP: In parliamentary questions, the UK's transport secretary, Heidi Alexander, said that there was no single point of failure. What we initially thought was power substation hit by fire. Power goes out to airport. The initial questions were, well, don't you have backup generators? What's going on here? There was a lot of misinformation about what backup generators worked and didn't work and a switch that Heathrow had made about. That turns all out to be moot, because there was never a power interruption to the airport, because two other substations continued supplying power to Heathrow throughout the entire day. But Heathrow itself did not have the systems in place to keep the entire airport functioning.

The power supplies were designed to basically, gracefully shut everything down. Allow for the graceful shutdown of all of these systems. Then they somehow, and this is where the investigation is going to come in handy, because I still don't quite understand exactly what's going on here, but they had to then gracefully restart the entire airport and test everything and then they could operate flights again.

[0:15:31] JR: Yeah. Any facility, the size and complexity of something like Heathrow, it's going to take a lot to both shut down and then turn back on all the systems. Funny enough, I just watched Jurassic Park on my Delta flight, and a lot of that has to do with shutting down the systems and rebooting them. You got to be very careful. Otherwise, the T-Rex is going to get you. There's no T-Rex at Heathrow. That we know of.

[0:15:54] IP: That we know of.

[0:15:55] JR: We should look into that. However, it raises a lot of questions on how could something like a single source of power, when you have multiple source of power, necessitate having to shut down all of your systems and then bring them back up. Then, why does that take an entire day? That doesn't really pass the sniff test. There are going to be a lot of questions that need to be answered. Some of those questions are coming from our friend Willie Walsh at IATA, the Director General, who you may remember as the CEO of British Airways in the past, who should have intimate knowledge of Heathrow Airport being BA's home, and what their

contingency plans are and how they will recover from such an event. I have a lot of questions for Willie Walsh himself and how do you not know what these plans are? Shouldn't you more than basically, anyone else outside of top management at Heathrow Airport know how to back up your own operation at this hub airport? Because we've seen what happens when BA itself has to take just a three-hour pause in operations due to IT, whatever.

It hampered their operation for literally weeks. You would think that BA under Willie Walsh's leadership would be a little more prepared for a power outage? But apparently, not. They are demanding answers that he should probably have already had.

[0:17:20] IP: I think to Jason's point, it seems a bit blustery. Willie Walsh is nothing if not blustery to demand answers for contingency planning. Who knows, maybe they've completely changed since he was running BA, but that seems unlikely to me.

[0:17:38] JR: Unlikely. If they are completely changed since then, they changed for the worse, we would say.

[0:17:45] IP: There is that.

[0:17:46] JR: Of course, IATA is very, very clear on who's going to pay for all this and all this disruption, because they don't want it to be the airlines. They want it to be literally anybody else. This anybody else in this case would be Heathrow itself, or their insurance. Interestingly, I saw an excerpt, I think from Seth Miller quoting a travel insurance company saying, this is going to cost us millions. We're going to get through it and deal with it, but this is probably one of the biggest dings since COVID on travel insurance, because this was a lot of people impacted.

[0:18:17] IP: Yeah. I mean, and the thing about Heathrow is that O'Hare is busy. Atlanta is busy. But there's a lot of very small airplanes that come through to connect those regional airports to the main hubs. At Heathrow, there are some small aircraft. Those 1,350 flights, the majority of those are not small aircraft.

[0:18:46] JR: Right. There are no 50-seat CRJs going to Heathrow. The smallest aircraft you're probably going to see regularly is what? A 319, still 160 people.

[0:18:57] IP: If I recall correctly, there are a couple ATRs that buzz in for reasons that I still don't quite understand.

[0:19:01] JR: Those hardly count. Yeah.

[0:19:04] IP: I think the point still stands. We'll see what this report says. I'm really hoping it's something super complicated about how power roots through substations and how it needs to travel and where it needs to get switched and things like that. I'm really hoping it's not a we forgot to plug the cord in kind of situation.

[0:19:26] JR: This is why you should always travel with an extension cord.

[0:19:29] IP: Always, yes. Absolutely. I'm sure that would have solved the problem.

[0:19:33] JR: Mm-hmm.

[0:19:36] IP: Let's move on to Canada, where the Transportation Safety Board of Canada last week released its preliminary investigative report into the what we now know to be very, very hard landing wing and gear collapse of a Endeavor Air CRJ900. We've all seen the video. The preliminary report gives us the numbers to contextualize what we all saw with our eyes. I'm going to read from the preliminary report, just a couple paragraphs that start 1.6 seconds before the aircraft contacted the runway. 1.6 seconds before touchdown.

The aircraft's indicated airspeed is 136 knots. The ground speed is 111 knots. Aircraft slightly below the glide slope, but on the visual segment of the approach and tracking the runway centerline. The rate of descent increased to 1,072 feet per minute. The bank angle was 5.9 degrees to the right. Less than one second before touchdown, the aircraft's indicated airspeed was 134 knots and its ground speed was 111 knots. The bank angle was 7.1 degrees to the right. The pitch attitude was 1 degree nose up. The rate of descent was recorded as 1,110 feet per minute.

At 14.12, 43.6, the right main landing gear contacted the runway. The aircraft was in a 7.5-degree bank to the right with one degree of nose up pitch and 3Gs of vertical acceleration at a rate of descent of approximately 1,098 feet per minute.

[0:21:29] JR: Not great.

[0:21:31] IP: Not great. No.

[0:21:32] JR: No.

[0:21:33] IP: That's a hard landing. Hard enough that the TSB continues, “The side stay that is attached to the right main landing are fractured. The landing gear folded into the retracted position, the wing route fractured between the fuselage and the landing gear, and the wing detached from the fuselage, releasing a cloud of jet fuel which caught fire.” The TSB says that the precise sequence of those last events is not yet known, but it seems to me that that is a pretty good sequence as we understand what happened. Wow.

[0:22:07] JR: Yeah. To continue your rant from weeks ago about not getting your aviation news from places you shouldn't get your aviation news from, I'm scrolling back to try to find the headline that it was either you, or Jeremy shared about this particular flight. Do you remember what I'm talking about?

[0:22:24] IP: Refresh my memory, good sir.

[0:22:26] JR: The one that said something like, broken wing and detached landing gear contributed to crash landing in Toronto, where those were the cause, the result.

[0:22:38] IP: Yes, yes, yes. The headline was basically, the wing fell off and that's why it crashed.

[0:22:42] JR: Yeah. No, no. Wing fell off, because plane land very hard.

[0:22:47] IP: Yeah. Let's step back and talk about what should have happened and what did not happen in this particular case, based on what we know from the preliminary report. The FOM for the CRJ900 says that a landing flare should be initiated between 20 and 30 feet above ground level. The pilot should increase the pitch of the aircraft and maintain back pressure on the yoke at about 20 feet to hold the altitude, while reducing thrust to the idle setting. What happened in this case was that the thrust was reduced much earlier than the flare at about 500 feet. And there was no flare. The aircraft touched down at one degree pitch up. The pitch at touchdown for the CRJ900 should be between three degrees and eight degrees pitched up, depending on the reference speed for touchdown.

We don't know why the aircraft was not flared, but we do know that it was not. There was a gust involved that increased the aircraft's airspeed. We don't know the exact sequence of events. We don't know why there wasn't a flare. We don't know why there was a high descent rate, because the descent rate of 1,100 feet per minute is well above the standard descent rate and well above the descent rate for a hard landing. That part of the accident is still under investigation.

Also, the right bank is interesting, and that has not been addressed in the preliminary report, just the fact that there was one. That right main landing gear took the entire force of the aircraft and collapsed. We don't know why the aircraft was rolled to the right slightly. We don't know why the descent rate was so great. We don't know exactly why they decreased the throttles when they did. We don't know why there wasn't a flare, but we know that there wasn't. It was a hard landing and now that your plane's in three pieces.

[0:25:06] JR: Yeah. Given what we now know about the force of the landing, it's not entirely surprising the state of what happened to that aircraft.

[0:25:15] IP: I think it is entirely surprising.

[0:25:17] JR: You do?

[0:25:18] IP: Yes.

[0:25:19] JR: Oh, you think it should have been more damaged. Okay.

[0:25:21] IP: Yes. I am honestly surprised how intact that aircraft was based on what happened.

[0:25:29] JR: Yeah. The CRJ series, at least the 900 – this was a 900, or was this a 700?

[0:25:33] IP: It's a 900.

[0:25:35] JR: 900. Yeah. It's not exactly an aircraft known for having tank-like qualities. It's not like an E-190, or any other aircraft that we've talked before that seems to take a hit and just keep on going. Yeah, the whole stayed intact. One of the wings even stayed on and considering it is upside down, I think at least one of the engines is still completely intact here. It's pretty astounding that what is left, but it is not surprising that what damage happened happened. I guess, you're right that it is surprising that there wasn't more damage. The part about the wing coming off, obviously spilling fuel, because the fuel is in the wing and erupting in flames. I guess, we have Canada's climate and snowy planes to thank for putting out the fire. That was lucky.

[0:26:25] IP: And the firefighters.

[0:26:26] JR: And the firefighters. But the snow did a hell of a job before the firefighters were able to get there. Again, just miraculous that nobody was seriously injured is just crazy.

[0:26:37] IP: There is an interesting discussion in the preliminary report about the ability of the passengers and crew to evacuate the aircraft based on how the aircraft came to rest. The pilots, they got stuck on the flight deck, because the flight deck door wouldn't open and the escape hatch is on the top of the aircraft, which is now the bottom of the aircraft. A few passengers were able to help the crew make it out of the aircraft. There was also fuel pouring down the side of the aircraft near one of the emergency exits. That hampered some of the evacuation. Then, some people got sprayed with firefighting foam as they were exiting the aircraft. All around, good that they were able to get out of the aircraft safely.

This, I think, has gone under reported. I'm going to quote directly from the report now. “After the passengers and crew evacuated, ARFF personnel entered the fuselage. Shortly thereafter, an

explosion occurred outside the aircraft in the area of the left-wing root. The cause of this explosion has yet to be determined."

[0:27:52] JR: Huh. I have not heard that either until right now. What could that be?

[0:27:58] IP: I assume fuel either pooled somewhere that wasn't subject to the foam, or something happened in it, like oil pooled in an engine or something. I'm just wildly speculating here at the moment. But I'm very curious to understand what caused the explosion after everyone got out. I'm also very thankful that the explosion occurred after everyone got out.

[0:28:20] JR: Yes. There is one thing concerning the passengers that I would finally have a chance to give kudos for here, and again, a quote from the report, "Although some passengers had evacuated with their carry-on baggage, much of the carry-on baggage was left behind." All right.

[0:28:39] IP: Yay.

[0:28:40] JR: Slow clap. It only holds 76 people. Majority of the 76 people onboard did the right thing, thankfully. Also, happened to be that another company pilot and cabin crew member who happened to be on this flight repositioning, also were onboard assisting with the evacuation. That's right place, right time for that crew.

[0:28:58] IP: Always super helpful to have people who know what they're doing.

[0:29:01] JR: Yeah. For them, wrong place, wrong time, personally, for them. But never hurts that at least some additional percentage of that aircraft were trained professionals on how to get people off that aircraft. I haven't scrolled as far down in the report, but I do love that the TSB uses a seat map of the aircraft that they 100% pulled from delta.com to mark what exits were operational or not. That's resourceful.

[0:29:27] IP: You use what's available to you.

[0:29:29] JR: Yup.

[0:29:30] IP: Now, Jason, this next story is one of my greatest travel –

[0:29:36] JR: Fear.

[0:29:37] IP: - worries.

[0:29:38] JR: Straight up fears.

[0:29:38] IP: Fears, that I am going to do this. I check maybe 10 times before, during my way to the airport that I have, if I'm traveling internationally, actually, if I'm traveling generally, I have my passport.

[0:29:55] JR: Even on a domestic US flight.

[0:29:58] IP: No, not generally. Not on a domestic US flight. But it's certainly if I'm traveling internationally. This unfortunately was not the case for a United Airlines pilot last week, when the flight en route from Los Angeles to Shanghai was forced to return and divert to San Francisco, because one of the pilots had forgotten their passport.

[0:30:24] JR: Two hours and 53 minutes in the air from one part of California to another part of California, and markedly not Shanghai, last I checked.

[0:30:35] IP: Thankfully, they didn't get far. That's the only – all in all, I think it was what? A six-hour delay?

[0:30:41] JR: A six-hour delay. It was a pretty good service recovery from United. That's probably actually why they ended up in San Francisco, rather than LA.

[0:30:50] IP: Yes, there was a crew available in San Francisco.

[0:30:52] JR: Exactly. This was someone at United thinking on their feet and setting that aircraft to the right place to put a different crew onboard. I talked to a pilot friend of mine about, hey,

what happens if you're operating an international flight and you don't have your passport? What happens? First of all, it's “retraining,” which is basically, training to say, this is a passport. You make sure it's valid, and bring it with you are the three steps to retraining on having a passport. More importantly asked, hey, what if this flight had gotten so far that they can't come back to the US? They're committed to going to China, or they land in China, or another country and realize, “Oh, no. I don't have my passport. What happens?”

Well, apparently, airlines do, at least in some cases, have the ability to send a digital copy, or some verification. That could be used to get that crew either in the country, or in worst-case scenario, they'll have to sit in the airport and dead head back as crew on the next flight back to the US and not leave the secure area. With a lot of things in life, it being China, the rules might be a little more stringent than they couldn't just send a digital copy of this pilot's passport to China for entry. That probably doesn't work there. But in other cases, I guess, I'm sure this isn't the first time this has happened. It won't be the last time. But a diversion all the way back, must have been a very tense flight deck for about three hours.

[0:32:27] IP: You know, no one's ever going to let them forget it.

[0:32:29] JR: Oh, no. Every flight, this pilot now operates. Whoever else is up there, the cabin crew, the ground workers, the flight deck crew, they're all going to say, “Hey, you got your passport? Is it valid?”

[0:32:43] IP: And is it valid?

[0:32:45] JR: Do you have enough pages to stamp?

[0:32:47] IP: Exactly. This is a good reminder. If you're traveling internationally, make sure that you've got your passport, make sure that it's got enough validity for the entire length of your stay and beyond if required by your destination, and make sure it has enough pages for a Visa to be stamped in your passport. There you go. Some helpful advice coming out of this story.

[0:33:04] JR: I got another one for you. I'll scoot here, but this one comes from One Mile at a Time, has to do with another weird circumstance for a flight diverting. In this case, from Paris to Paris on Air France. Apparently –

[0:33:18] IP: Indeed. Yes.

[0:33:20] JR: Yes. You may have heard this one.

[0:33:22] IP: I got a text last night from my mother-in-law, because she read the story.

[0:33:25] JR: Really?

[0:33:26] IP: No, I did. I did. I got a text last night from my mother-in-law, late in the evening.

[0:33:31] JR: Why don't you tell the story then, as relayed by your mother-in-law? Take it away.

[0:33:36] IP: The text I got last night at about 9.00 was, “I give up. Why did the Air France plane have to turn around when a passenger lost their phone?” Jason, tell me some of the reasons why.

[0:33:47] JR: First of all, thank you, mother-in-law, for providing us with content. We love that. We'll take content from anywhere we can get it.

[0:33:52] IP: We'll take it, yeah.

[0:33:54] JR: But a misplaced anything onboard an aircraft with a lithium-ion battery is a potential risk to flight. If you drop a phone, an iPad, even AirPods, unfortunately, in a business class seat and you can't get it out, you're not supposed to move the seat. It needs to be removed. In this case, they couldn't find the phone. The phone just disappeared. That is a potential fire hazard. In this case, the crew made the decision, unfortunately, to return all the way that 777-300ER with 500 people onboard all the way back to Paris, because they did not know where the phone was. If they couldn't locate the phone, they couldn't be sure it wasn't a

fire risk, and they had to go all the way back. Where, apparently, they found the phone somehow.

The story gets a little unclear there, but man, I hope there was a phone in the first place, and it wasn't like they left it in the lounge, and it wasn't even onboard the plane at all. That would be embarrassing.

[0:34:55] IP: Yeah. That would not be great.

[0:34:56] JR: They departed again two hours later to the detriment of all the fuel onboard and whatever connections were busted at that point, but that is one week with two very interesting diversion stories that you don't really see all that often.

[0:35:09] IP: Yeah. Let's go to Orlando, or let's just talk about Orlando, because I don't think either of us will actually want to go there. But a Southwest flight tried to depart on a taxiway in Orlando last week. The aircraft reached 70 knots before the air traffic controller said, “Hey, wait a minute. What are you doing? You need to stop that and go back and try again.” Which they did, and left later than they were supposed to, but not that much later.

[0:35:35] JR: With the different crew, because that crew, I'm sure, was not operating that flight. I think we know that for a fact that a new crew was brought in, because that’s bad.

[0:35:43] IP: Yeah, they went back to the gate for a couple of hours.

[0:35:45] JR: That's bad. Taxiways do not look like runways.

[0:35:47] IP: You're not supposed to do that.

[0:35:49] JR: No, they are very different. This could have been a very bad, very different story. Man, a lot of questions on how something like that could happen. Orlando isn't exactly a small airport, where markings might be unclear, or unknown to the flight crew. Taxiways are not runways, and they do not look the same. To make that mistake, I'm sure there were some circumstances, sun glare, distraction, or whatever.

[0:36:15] IP: Swamp gas off a weather balloon.

[0:36:17] JR: Thank you, men in black. But that's, man, you really have to stretch to come up with a reason how this could possibly be acceptable. That's really bad.

[0:36:26] IP: I don't think it's acceptable, but I'm sure there will be some more information.

[0:36:30] JR: Acceptable is not the right answer, but forgivable. That's bad. That can't happen. Not at a busy airport like Orlando.

[0:36:38] IP: Well, here's an interesting update. We've been following the story of Boeing's plea deal for, well, frankly, years now, because it began as a deferred prosecution agreement, then the door plug came off the Alaska Airlines 737 MAX 9. The Department of Justice said, “You know what? You didn't do what you said you were going to do, so now we're going to charge you with a bunch of crimes.” Boeing said, “We’ll plead guilty.” the Department of Justice said, “Okay.” Then the judge said, “No, we don't like the agreement that you've reached for a couple of different reasons. Go back, try again.”

They've been trying. Then they said, well, there's going to be a new administration, so let's pause this and we'll delay it. Then we'll let the new lawyers with Justice Department take over. Then we'll deal with them. They said, okay. Then last week, they said, “We need more time.” The judge said, “Okay. April 11th, let me know what's going on.” Then the Wall Street Journal reported that Boeing wished to withdraw from the plea deal.

[0:37:39] JR: Huh?

[0:37:40] IP: Yeah. They said, “We don't want to plead guilty anymore.” The Wall Street Journal was reporting that Boeing was trying to not plead guilty, or plead to other charges. Then yesterday, the 25th of March, the judge vacated his existing order that said, “Give me an update on April 11th.” And said, “You know what? No. We're going to trial. The trial starts at 9 AM on Monday, June 23rd.”

[0:38:06] JR: All right. Let's do it. Let's do it. Let's see what happens. Let's roll these dice and see if Boeing becomes barred for being a federal contractor. Not that the rules matter, or anything matters at this point. But I'm here for it.

[0:38:20] IP: I couldn't see that happening six months ago, but I really can't see it happening now. It'll be interesting to see what happens here.

[0:38:29] JR: It's uncharted territory. The playbook for this doesn't exist as far as I know. Or if it does, it doesn't exist to the degree that Boeing will need to be following this by. I do love the judge just saying, “No. I'll see you in June.”

[0:38:45] IP: Yup. He has laid out some very specific details and instructions about discovery and motions and timing. It's like the judicial version of dad looking back into the backseat going, “Do not make me turn this car around,” and he turned the car around.

[0:39:03] JR: That never happens.

[0:39:04] IP: He did it. He turned the car around.

[0:39:05] JR: No dad's ever turned the car around. But in this case –

[0:39:07] IP: He turned the car around, Jason.

[0:39:08] JR: One did. Wow. Okay. Good luck to you, Boeing. You're going to need it. Or not. No one knows these days. Nothing matters.

[0:39:14] IP: We don’t know.

[0:39:15] JR: We'll see. We realize that we're at 45 minutes now. We're going to have a speed run of the back half –

[0:39:22] IP: Let's do it.

[0:39:23] JR: - of the less important things, but still interesting.

[0:39:27] IP: Is still interesting enough.

[0:39:29] JR: Let's move from Boeing to Airbus. They announced a whole bunch of things, a lot about hybrid and hydrogen. Ian, what did they say about hydrogen stuff?

[0:39:38] IP: They basically said, hydrogen is not dead. They're still pursuing it. Last two, three episodes ago, we talked about how Airbus said, “You know what? We're going to withdraw some investment from our hydrogen program. We're going to move things back about 10 years, because the technology is still not there.” At the Airbus Summit this week in Toulouse, they announced that they are in fact still pursuing hydrogen. They actually have a new architecture. Instead of using six 1.25-megawatt power plants, they're going to use four 2.5-megawatt power plants to power what is basically, an ATR. It'll be a 100-seat aircraft that is capable of flying 1,000 nautical miles. That'll be their –

[0:40:18] JR: That's not like the same. That’s pretty good range.

[0:40:19] IP: No, nothing’s changed, but that'll be their entrance into the hydrogen propulsion system. They're still going to operate, or they're still going to work towards that goal, though it is now further afield. They also unveiled a new open fan architecture for the next generation Airbus narrowbody. This is the aircraft that they're going to start building, or launch at the end of this decade, early next. To that end, they're partnering with CFM on the RISE program. Remember, we talked about the RISE, I think, November when I was visiting the kind folks at GE Aerospace, who are partners in CFM. They're going to run a demonstration of the RISE platform.

The RISE isn't a single engine. It's basically, Lego pieces that you assemble to get the engine you want. They're going to run a demonstrator on an A380 later this decade. That'll be an interesting bit of kit to see flying around on the A380. But we aren't going to see the hydrogen-powered engine on the A380 anytime soon. This'll just be the –

[0:41:23] JR: As long as we eventually get something weird bolted onto the side of an A380, I’ll be happy.

[0:41:28] IP: Then we're happy. There you go.

[0:41:30] JR: I don't care what it is. It could be a wacky waving inflatable arm tube guy. If they put that on the wing of an A380, I'm happy. It doesn't even have to be an engine. What we did learn, I think the biggest takeaway from this is that Airbus is no longer pursuing anything battery electric at this point. It's hybrid, SAF, or bust. Battery technology, at least for a commercial airliner, it ain't there.

[0:41:54] IP: Yeah, there's nothing solid electric. The other thing that we learned about the proposed open fan concept is that they will also be exploring, and this is part of the wing program that they've been working on for the past few years now, folding wings. Not like the 777X where it's a folding wing tip, but a folding, like a whole wing thing, I think in half, kind of thing.

[0:42:20] JR: Like an F16, or something like that of F18 to fit in an aircraft carrier. That could be –

[0:42:26] IP: Basically.

[0:42:27] JR: - complicated.

[0:42:29] IP: Long growing span, increasing lift, reducing drag, and you can still fit it in an airport gate. All these planes will be doing the YMCA as they taxi to the gate.

[0:42:39] JR: Okay. And you thought wing tips alone.

[0:42:40] IP: You want to go to London City, or Belgium next?

[0:42:44] JR: London City. Let's go to London.

[0:42:45] IP: London City it is. Tell me what's happened in there, Jason.

[0:42:48] JR: Well, we knew this was coming, but London City has a new biggest aircraft, largest aircraft operating in the E195 E2. Because unlike Toronto City Airport, which has stupid rules for stupid people about not having anything jet powered, London City doesn't have that rule. You can operate anything you want in there, as long as it's capable of landing in there, which now we know the E195 E2 is now the largest aircraft certified for the steep approach into London City, which is great because it offers an increased range of 3,200 kilometers. Possibly someday in the near future, even more with some refinements and stuff they'll make could push it to 4,000 kilometers. But that's a big deal for a very little airport, where every additional passenger you can get on a flight mix and actually pretty big difference.

[0:43:39] IP: Yeah, very cool. Brussels Airlines has unveiled its latest Belgian icon livery, and I like it.

[0:43:47] JR: Yeah. I like it. It strays pretty significantly from the artist's original concept. Doesn't look anything like it, but I guess, the concept is there. Close enough.

[0:44:02] IP: I like the concept much better than the actual livery.

[0:44:06] JR: Yes. There's limitations to what you can do with actual aircraft. I mean, there aren't, but there's limitations in the economics of what you can do with aircraft paint. The aircraft in question, I believe, is Finn NM. OOSNM, I believe. I think it's already back in service after being very touted in a hangar today. I think it was even open to the public, was that right?

[0:44:37] IP: I don't know if it was open to the public, but I definitely know there was a viewing. The livery is called Atomium after the sculpture/structure in Brussels. Very cool.

[0:44:48] IP: Neat. Yeah. Love a good competition.

[0:44:52] IP: Yeah. This next story, Jason, is all yours. It is the Venn diagram of your interest, so I will let you run with it.

[0:44:59] JR: Yes. The show notes just says, Condor goes choo-choo. That would be Condor, the German airline. We know what we've talked about in the past has had potentially some

issues with European connectivity, where they had this preferred agreement with Lufthansa, because the courts there made Lufthansa offer them preferential rates, and then they didn't, and then they did. Well, Condor says, “We need to protect our future, and we're just going to partner with Deutsche Bahn and offer an air rail expansion,” which previously, I believe, in Germany was really only offered from a German airline by Lufthansa.

This puts Condor in a good position to offer rail connections out of Frankfurt to a good number of German cities, like Hamburg, Hanover, Dusseldorf, Nuremberg, Munich, Mannheim, Stuttgart, all over the place, so they no longer absolutely have to rely on Lufthansa to provide that last couple 100-mile lift. They'll now have a rail connection, unfortunately. Still Deutsche Bahn, so your train's probably going to be canceled, or significantly delayed, but it's better than nothing, right?

[0:46:07] IP: I'll take it. I will take it. Let's talk about a couple FlightRadar24 things, because this is – it's been a fun week for FlightRadar24.

[0:46:18] JR: You never tell me about any of these things before they happen either.

[0:46:23] IP: That might be fair. Let's talk about what's coming soon to an aircraft possibly near you, depending on where you live and who decides to adopt it. We've partnered with Panasonic to put FlightRadar24 into their Arc Maps platform in the seatback screen. This will power what Panasonic is calling live fleet view, which will basically show you all of the other aircraft that are active on the airline that you are flying on.

[0:46:58] JR: Neat.

[0:46:59] IP: Yeah, so you'd be able to tap around and see where your plane is and where all of the other planes for the airline are.

[0:47:07] JR: That's pretty cool. Yeah, Panasonic only somewhat recently launched Arc a couple years ago, which is their new in-flight map, which if you don't know, it's actually one of, if not the most looked at things on an aircraft seatback entertainment system. People love the in-flight maps. There are different providers for those maps, be it an incumbent like Panasonic, or

a couple other third parties that integrate onto it. There's some interesting features, but as far as I know, showing live other aircraft, aside from your own, is a very new recent thing that only a couple systems do. This is really cool to be able to see your other airline fleets.

I guess, it'd be great if one day that could be expanded to everything, because I can't tell you how many times I've looked out the window and pulled up the app on the not so great Wi-Fi to see who is that off to our right off a couple miles, maybe a thousand feet below. To have that information on the seatback screen where I don't have to do anything else, that's pretty cool.

[0:48:10] IP: Yeah. A great first step, shall we say. I'm excited to see how this develops and which airlines adopt it and where we go from here. The other thing we did this week is changed how we display flights on flightradar24.com. For a while now, we've been working on switching over to using WebGL to display the map and the icons and the flight routes on the web version of FlightRadar24. That launched this week, which means a couple of things.

One, the map is now vector-based. You can infinitely scroll in and out and it's so much faster. I've just been having a lot of fun playing with it over the past couple of weeks in the final beta form and now that it's live on the site. The other thing is that when you click on a flight, you're going to see every single data point for that flight on the map, and then the lines are going to fill in around that. You're going to see where the ADS-B ping is, and then you're going to see the colored line for the trail fill in through that. I'm excited to see that play out and people start to understand, okay, this is where the data is coming in and this is how we're displaying it. I'm excited about that.

The other big change here and this is across all of the platforms. This change affects the web and the iOS and Android app. Updates used to come every eight seconds, as far as the real-time data. The position of the aircraft, altitude, speed, heading, weather, information, extended bonus data, things like that, we used to update it every eight seconds. We've updated how that data is served, and so now it's down to between two and three seconds updates. It's much faster when we're talking about seconds and milliseconds and how websites are showed. It's incredibly, incredibly fast now and of course, we're going to continue to work on making it even faster.

The nice thing about all of these things is it enables a bunch of the projects that we've been wanting to work on for a while now. It sets the stage, now that we've done the display changes, now that we've done the rendering changes, it sets the stage for a lot of really cool stuff that I'll hopefully be able to talk about in the next few months. I'm very, very excited about this. Check it out and let us know what you think. Caveat here is that if you're running an older machine, so you have an older, slower laptop, there could be some problems with WebGL. We've got some troubleshooting. We'll put a link in the show notes to walk you through some of the things that you can do to either install WebGL on your browser, or adjust some of the things on your device to make it work a little bit better for you. Check that, link in the show notes, if you're having any problems and we'll hope to have you on your way. For the vast majority of users, the site's going to be a lot faster and a lot smoother. I'm super excited about this.

[0:51:12] JR: Yeah. I really like seeing the dots on the WebView that you can hover over to see the exact time, the ground speed and altitude and see the frequency of dots, how when an aircraft is at cruise, or really, just flying in a straight line, that the dots are not infrequent, but they're lesser, because you estimate between those dots. When an aircraft is on the ground or turning, there are so many dots about, like you said, every two seconds. It's a big difference.

[0:51:42] IP: The thing is is that ADS-B data is a constant. It's constantly coming at us about twice per second. If we showed every single point that we received, nothing would work, because it's an incredible amount of data. What we do is on the ground and in turns, we show much, much more data, because that increases the fidelity. But when the aircraft’s in cruise, we don't need to show as many points to provide an accurate representation of the flight path. We lengthen that stretch of time when the aircrafts is in cruise and not turning, so that we can basically, data economy, so that the site can still function.

[0:52:22] JR: Very cool.

[0:52:25] IP: This last one is, I'm surprised that hasn't happened before. Maybe it has happened before, but –

[0:52:29] JR: It has to, right? It has to have happened.

[0:52:33] IP: I absolutely love it.

[0:52:34] JR: Again, coming to us from one mile at a time, because they like to pick up fun stuff like this, and I'm not going to see elsewhere. If you had the opportunity to troll Ryanair CEO Michael O'Leary and you were a restaurant, what would you do?

[0:52:49] IP: I'm going to charge him to walk in the door. I'm going to charge him to stand while he waits for a table. I'm going to charge him to sit down. I'm going to charge him for the chair. I'm going to charge him for the plate. I'm going to charge him for his food. Then I'm going to charge him after the fact, too.

[0:53:00] JR: That's exactly what they did as a joke. Aside from the Pinot Grigio, 31 euros, or pounds, not sure, battered prawns for 12.15, mushroom on toast for 10.15, sea bass for 24.95. Very tasteful menu, I'd like to say. They also stuck on the check for this dinner. Extra leg space, 7.95. Priority booth seating, 9.95. Quiet area reservation, 19.95. Man, those ancillaries really start to add up.

[0:53:33] IP: They do, they do.

[0:53:34] JR: Of course, this was a joke and they didn't actually charge Michael O'Leary these things, but they did make a nice gesture to say, “Hey, it's not so nice when you get all these things charged to you. Is it?” Of course, he can afford it, and it's fine. They took a picture and then all was well. I wish I had that opportunity to charge Ed Bastian $14 for something for my Delta flight.

[0:53:59] IP: A mediocre sandwich.

[0:54:00] JR: Terrible sandwich onboard. I'd like to charge Ed Bastian $14 for, I don't know, priority booth seating at his next lunch. But that someone actually got the chance this time. That's fantastic.

[0:54:12] IP: You got to take your moments where you can. On that note, we're done with episode 313. If you've enjoyed this episode, or any of the other episodes you've listened to, you

might be among the one million listens to this podcast on Spotify. We crossed that this week. I just got a notification that there have been a million listens on Spotify.

[0:54:36] JR: Hey, do we get a black or something?

[0:54:38] IP: I don't know. I got an email. I think that's about all we're going to get. Thank you to the increasing number of you that have listened to this podcast on Spotify, chipping away at the Apple Podcast dominance. Whatever platform you listen to this podcast on, thank you. We appreciate it greatly. Go ahead. If you're listening on Spotify, leave a comment on Spotify, or a rating, or a review, if you're listening elsewhere, like Apple podcast, do the same. We love to see it. It helps other people find the podcast and we so very much appreciate it. In the meantime, I am Ian Petchenik, here, as always with –

[0:55:13] JR: Jason Rabinowitz. Thanks for listening.

[END]