

DCA23LA384

OPERATIONAL FACTORS

Attachment 1

Flight Crew Written Statements

May 1, 2024

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Captain Statement

Pilot Monitoring

UAL 702 EWR-IAH

July 29th 2023

I arrived for flight 702 one hour before departure time. I was well-rested and ready for my flight to Houston. The first officer was already in the flight deck beginning cockpit preparations. I introduced myself, stowed my bags, and then proceeded to brief the flight attendants on the upcoming flight. There were a couple of cabin issues that needed to be talked about and some possible turbulence on the route.

I returned to the cockpit and proceeded with my cockpit preparations. The first officer and I discussed the flight plan and the weather fuel requirements. I added some additional fuel in anticipation of weather deviation. We received a new release, number 2, for an increase in takeoff gross weight.

During our conversation while in the cockpit the first officer mentioned that he did not have much time in the aircraft. I suggested at that point that he be the flying pilot to Houston as the weather was currently forecast to be good. I thought it might be better for me to be the flying pilot back to Newark as the weather was forecasted to have gusty winds and possible thunderstorms.

After receiving our ATC clearance, I began the briefing. The threats first. For personal threats, I mentioned that I was well rested. The first officer said the same, and as he had already mentioned, he was new to the aircraft. There was very little in the way of environmental threats, as the weather was very nice for our departure. There were no technical issues affecting our departure. I did mention that I had not been to Houston in a while and that we will have to be diligent.

We pushed off the gate close to the scheduled departure time. The initial plan was to taxi out on two engines. After pushback I saw that there was quite a long line of aircraft ahead. I asked the first officer if he is comfortable with a single-engine taxi. He said that he was, and that is how we taxied out for departure.

The departure was uneventful. I did confirm an altitude and heading with ATC shortly after departure.

The cruise phase of the flight was generally uneventful. We did end up having to deviate around some weather and we changed flight levels due to turbulence. I was keeping an eye on the weather in Houston as the original flight plan showed us landing on Runway 09. The ATIS kept on showing landings were to the west. We talked at length about which arrival we would be receiving and which runway we would be landing on. We were eventually given the DOOBI2 RNAV. We then selected Runway 26R. The briefing was completed for the DOOBI2 arrival with the approach. When we checked in with the IAH approach controller, we were advised that it would be the ILS 26L approach. I changed the runway in the FMC, reset the navigation radios and we re-briefed that approach and the new taxi strategy.

During the descent, ATC was giving us level-off altitudes. The first officer was pulling the altitudes in the FMC for the descent. I said that is one way of doing it but being so close to top of descent another way of doing it would be to use the descend now prompt. We also had a discussion on ALT CAP/HOLD FMA indications and the speed window coming "open."

The weather was good for our approach. It included SCT-BKN clouds at around 2,400' MSL, visibility was 10SM, and the winds were about 8kts.

We continued with the ILS 26L approach initially using VNAV, to make the altitude constraints and LOC was armed then captured. The glide slope was armed and captured passing KERN5 waypoint. The first officer descended the aircraft on the glide slope. He had the aircraft fully configured by 1,500' and on target speed. The landing checklist was complete.

The autopilot was disconnected about 1,000 feet. The aircraft went slightly high on the PAPI. He stated that he was correcting and quickly returned to profile. The first officer was on target speed and stable at the 500 foot call out. The descent rate was normal. Thrust reduction was at about 40 feet.

On landing, the main wheels touched down in a normal manner and at normal pitch attitude. He began to lower the nose, but had not yet deployed the reversers. What happened next occurred very quickly. What I believe happened was the speed brakes deployed bringing the nose down rapidly into contact with the runway. The first officer was pulling back on the control column which brought the nose wheel back off the runway, then the auto brakes engaged, and that brought the nose wheel down again. I was reaching for the controls after the first nosewheel contact, and

when the nose came up again, my hands literally flew into the air. As the nose came down the second time, the reversers were being deployed as I took control. We taxied to the gate with no further incident.

At the gate I checked with the flight attendants for any injuries. None were reported. The aircraft was deplaned. I wrote up a hard landing and some loose ceiling panels from the main cabin. We waited for maintenance to also make a verbal report. When I spoke with maintenance, I explained that it was a hard landing, not on the nose wheel, but that the nosewheel came down hard. I was asked if it was a bounced landing, as that requires different checks. I replied that it was not a bounced landing. Maintenance then proceeded with aircraft inspections.

First Officer Statement

NTSB - Statement - United Airlines Flight 702 EWR-IAH

I was the First Officer and the Pilot Flying.

Flight UAL702 Newark to Houston International was assigned to me a day prior via a phone call from scheduling. Contact was made and I was notified of the assignment.

The morning of the flight I was well rested and feeling fine. I arrived at the employee parking lot with 30 minutes to spare give or take.

I made my way to the gate where flight UAL 702 was scheduled to depart. Upon arriving at the gate area, I waited for the cabin crew and the captain. This was my first time flying with the Captain. When he arrived at the gate, I introduced myself to him and we carried on with small talk and proceeded into the aircraft and onto the flight deck to start preparations.

Once the flight deck inspection and setup were completed, I gathered my vest and went to conduct the walk-around. When I arrived back at the flight deck, I proceeded to do my flow for the initial preflight.

Once I finished that initial preflight on the overhead panel, I programmed the FMC, reviewed the ATIS and set up the ACARS and CPDLC to finish setting it up for the flight. The Captain and I made introductions, and I told him that I was a new hire and would very much like to learn from his experience and knowledge of the aircraft.

We started to talk about the flight ahead of us and I told him I was once based out of Houston with a previous company, so I was familiar with the airport and surrounding

terminal area. We decided I would fly the leg to IAH. If I remember correctly, we then completed the preflight checklist. With that done we next went through the pre-departure briefing card. Captain started talking about the threats going forward and mitigation of those. He went through all the items on the briefing card, and we talked about the extra fuel we had. I then continued the brief as a pilot flying. I mentioned to the captain that I was new to the plane, a new hire at United, and thus my experience level on the aircraft could be considered a "threat." I asked the captain to let me know if I did something that I shouldn't or to teach me something new. Item by item we went through the briefing card and talked about it. Including the threat of a low level off at 2,500ft on the departure out of EWR. We discussed how to mitigate that threat.

We got clearance, pushed back, and started the engines. The flight then proceeded normally, consistent with any other flight. We taxied out to runway 22R. The departure sequence was uneventful.

The cruise phase of the flight occurred without any issues. Captain and I were served breakfast, we ate, and continued to talk about the day. We also talked about the conditions in Houston, and we started to look into the arrival phase. We were planning for Runway 9 according to our flight plan, but the airport was presently operating in the west bound configuration. That made us start to study the procedure arrivals into Houston. Looking into the arrivals, I expected to receive DOOBI2 RNAV or ZEEKK2 RNAV which was different from the GESNR 1 RNAV we had programmed. I advised the Captain, and we went ahead and looked at the approach plate for runway 26R as well. I anticipated being assigned the far runway (26R), and was planning to brief that, but if we had a change, the captain could easily reprogram the FMC and the Frequency for the new runway. I requested landing data for 26R. Once that was returned, I looked at the numbers and elected to set the autobrakes to the "2" setting.

After a few minutes, we began the arrival briefing. I communicated to the captain, we covered the points on the briefing card, which included the weather in the Houston terminal area, the runway selected, and the threats that we faced ahead. Mid-briefing, we received a descent clearance from ATC, which we executed. After that we continued the briefing, and we agreed that any changes to the FMC would be accomplished by the captain as I was flying the aircraft. We completed the Descent Checklist.

After we passed ALEXANDRIA (AEX), we received a vector from ATC with a speed restriction of 250KT, and subsequently received a frequency change. The new frequency instructed us to descend via the DOOBI2 arrival landing runway 26L to fly

direct to the fix and resume speeds at that point. I don't recall if was BEATL or DOOBI intersections. But the speed and altitudes were following the descent profile. The captain finished programming the FMC with the new arrival and the expected runway. I then quickly briefed the new approach plate for runway 26L. Mentioning the new ILS frequency, approach course, new GS intercept, etc.... I typically brief approach plates methodically from top to bottom, left to right on all pertinent information.

During the arrival phase, no issues arose, and the plane was always in the desired state. The teamwork between me and the captain seemed to be working pretty well. We then transitioned to the approach phase. All briefings and checklists were completed before the top of descent, in preparation for the DOOBI2 arrival and anticipated approach, ILS 26L. In preparation for landing, the landing data was acquired from ACARS, and the auto brakes were set to "2."

The arrival and approach were flown without any abnormal or unexpected occurrences. The change in configurations and the reduction of speed for landing were done on profile. During the final segment of the approach, the aircraft was cleared to land by ATC, and we were fully configured, on speed, in conjunction with company set stable approach criteria.

During the approach to 26L, a few gusts of wind were noted, however, the weather was clear. The approach speeds were set at 137kts (VREF), and the target speed was 143kts. The engines were spooled and with good power. The vertical speed of descent was within limits (V/S 400 -700 ft/m) The Autopilot was disconnected between 700ft - 450ft and hand flown for the remainder of the approach. The autothrottles remained engaged until approximately 250ft -350ft. Minor flight control corrections were made to keep the plane on the profile without any major deviations of the approach.

Once the audio calls of the radio altimeter started to "countdown," at the altitude call of "30," I started to reduce power on the thrust levers to touch down and to initiate the flare. The main landing gear touched down without any issues on what appeared a normal smooth touchdown. The touchdown occurred around the touchdown zone markings and was not firm or violent. When the main landing gear touched down, I flew the nose until the landing gear wheels touched down. What I mean is, I had the flare established and I was holding some pressure aft on the yoke to prevent the nose landing wheels from hitting the runway. At some point the nose landing gear wheels made contact with the runway, with abnormal force and an abnormal touch down with loud noises. At this point it appeared to me to be a bounce, and I reacted by

holding the yoke aft to try to hold the nose from going down again. At this point, I believe the speed brakes deployed and the auto brakes then engaged. At this point, after what appeared to be a bounce of the nose landing gear up and down for a second time, I started to deploy the thrust reversers. Deceleration of the airplane then appeared to take place, and the captain took control of the aircraft.

After deceleration and exiting the runway at taxiway NF, I made contact with ground control to receive taxi instructions. We were instructed to make a left turn on NA, take taxiway NA to NG, and then to gate (C8). After that, I proceeded to do the after-landing flow. We taxied to Gate C8, came to a stop, and completed the parking checklist.

After the parking checklist was completed, the Captain called the cabin to check on passengers, the cabin crew. They answered the call and said that all passengers and crew were ok, but a few ceiling panels were dislodged in the forward cabin.

The Captain called maintenance personnel to report a hard landing and get an inspection of the aircraft. The Captain and I remained in the flight deck through all communication with maintenance, company, and associated personnel. After the maintenance technicians arrived, we were told they would perform the appropriate checks and inspections. The Captain explained to them that there may have been a hard landing on the nose gear, and he was instructed to change the maintenance logbook write-up to include the additional details that were relayed to the maintenance technicians. Maintenance proceeded with inspections and we left the aircraft.