

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

June 24, 2020

Attachment 1 – Flight Crew Interview Summaries and Statements

OPERATIONAL FACTORS/HUMAN PERFORMANCE

DCA19LA134

Interviewee: Robert Karl Burger

Date: April 26, 2019

Location: Via Teleconference

Time: 1301 CDT

Via Telephone: Shawn Etcher, Sathya Silva, Warren Abrams – NTSB; Patrick Lusch – Federal Aviation Administration (FAA); Jon Witten – American Airlines (AA); Jeff Raines – Allied Pilots Association (APA); Ray Duke – Attorney for the Allied Pilots Association (APA) and representative for Captain Burger

Captain Burger was represented by Mr. Ray Duke, Attorney for Allied Pilots Association.

During the interview Captain Burger stated the following:

He was 58 years old.

He started flying in 1981, took private flying lessons out of Long Beach Airport. Went to college, completed a 4-year degree, and then joined the Air Force from 1985 until 1991 as a T37 instructor. He was hired with American in January 1992 as a DC10¹ flight engineer. He flew as a flight engineer for 8 months and then received a B767² first officer bid, where he remained for most of the next 20 years. Around 1995 or 1996, he flew the FK-100³ out of Chicago for a year then returned to the B767. About three years ago he upgraded to captain on the A320⁴ in November 2015. He has about 25,000 total hours of flight experience and about 3,000 of those hours were in the Airbus, he had about 16,100 hours on the 767, 750 hours in the Fokker, and was not certain how many hours he had as a flight engineer but estimated about 600 or 700 hours. Of the 3,000 hours in the Airbus 320 series he felt the vast majority was in the A321. He normally does Hawaii and transcontinental flights which are done in the A321. He does have some flight experience in the A319 and A320.

He was based in Los Angeles.

He has an Airline Transport Pilot certificate with type ratings in the A320, B757/767 with private privileges in airplane single engine land, and there were no limitations. He does not have an instructor certificate and he has not been a checkairman or instructor at American Airlines. He was a line pilot.

When asked to describe the event he stated that there was nothing out of the normal during the ground operations phase until right at rotation. He felt it was a “typical sequence,” they arrived at the airport an hour and fifteen minutes prior to push time and he went and got a coffee and ham

¹ The Boeing Company DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F, DC10-40, DC-10-40F. Source: FAA 8900.1 Figure 5-88, Pilot Certificate Aircraft Type Designations – Airplane.

² The Boeing Company B757-200, B757-300, B767-200, B767-300, B767-400ER. Source: FAA 8900.1 Figure 5-88, Pilot Certificate Aircraft Type Designations – Airplane.

³ Fokker, Netherlands, Fokker 28 Mk 0100. Source: FAA 8900.1 Figure 5-88, Pilot Certificate Aircraft Type Designations – Airplane.

⁴ Airbus A-318, A-319, A320, A321 Airbus. Source: FAA 8900.1 Figure 5-88, Pilot Certificate Aircraft Type Designations - Airplane

and egg muffin before they departed. He could not recall if the airplane was already there or if it just arrived. He recalled the cleaners were on board once he got to the gate. He did a partial walk around and the first officer did the walk around. He had pulled up the flight documents on his iPad while sitting in the terminal. It was a “good airplane” with no MELs⁵, and he classified it as a nice day to go flying. Nothing significant about their route, it was an on-time operation, and everything was “looking good.” Since the event he has been dwelling on it and there was nothing “extraordinary” that happened until rotation. American Airlines had recently created new flows especially during the pushback and taxi phase. After starting the engines, he asked if the first officer had something to be doing and asked about the trim settings where the first officer said that those were done later. They did a flaps 1 taxi and held short of Runway 31L at taxiway kilo echo. It was a routine taxi and was “exactly the way I had done it before.” The only uniqueness was from brake release, at the gate, until rolling down the runway was about 15 minutes. He stated that despite this, at no time did either of them feel time constraints. He had flown with the first officer about 10 times and the first time was back in 2016. He knew the first officer would have been vocal on any time constraints. He did not feel rushed during the ground operations. They taxied out to the runway 31 intersection and he remembered an airplane he thought was an Envoy being cleared for departure from the intersection. He also noted a JetBlue flight was next to go who reportedly had an issue that they stated to ATC⁶ who told them to hold short of the runway. He was wondering how long they’d be waiting but after a minute, ATC cleared JetBlue to depart. ATC then cleared his flight to line up and wait. He taxied onto the runway and lined up on the centerline and they waited for the clearance to depart. They were subsequently cleared for takeoff; the airplane lights were illuminated, and he released the brakes. The first officer did make note of the windsock and said they were legal to go with the wind component. Captain Burger recalled that the wind sock wind was different from what was on the ATIS⁷ and thought he recalled that the first officer had pulled up the most current ATIS. As they were rolling down the runway with the right crosswind and adding left rudder. He remembered the sensation that it felt like he was using more force with his left leg, but he couldn’t explain it other than he has done it so many times there was just something different. He knew the ATIS was about 40 minutes old but at the time he didn’t think much of it other than the increase in force. He kept the airplane near the centerline. At 80 knots everything was ok. He stated that V1⁸, was about 150 knots and rotation was at 156 knots and only about 2-3 seconds apart. Between those two speeds the aircraft made a significant turn to the left. He was trying to remember all he was experiencing but he thought the nose wheel was still on the ground. The next thing he knew he was looking at the runway edge and he knew they had to take the airplane into the air and go flying. He described runway 31L as having marsh land and a bay at the end, he felt they did not have a lot of choice and he rotated the airplane. As he rotated, the airplane rolled to the left and he added right rudder and right aileron, but it was too late. The left wing contacted the ground and the 5,000-foot remaining marker. They were airborne at this point and he recalled making a comment out loud such as “she’s going to the left” or “it’s turning.” He felt that he made that statement because the airplane was doing something that he was not ready for. He felt it was a shock and awe moment as he was processing what was

⁵ Minimum Equipment List

⁶ Air Traffic Control

⁷ Automatic Terminal Information Service

⁸ The minimum speed in the takeoff, following a failure of the critical engine at which the pilot can continue the takeoff and achieve the required height above the takeoff surface within the takeoff distance. Source Title 14 *Code of Federal Regulations* Part 1.2 “Abbreviations and symbols.”

happening and that's what caused a fraction of a second delay for him to apply inputs. They began climbing out. There was nothing they felt or heard that made them think they had hit the ground with part of the aircraft. It felt as though it was out of control for a while. In hindsight, he said it was probably because if they had hit something, the wing was flexing. He felt those forces made the airplane do what he was not commanding it to do. He felt that sensation was for "maybe a second" or two seconds at most. As they were climbing away from the ground the airplane felt "perfectly in control." He called for the gear to be raised. He moved the controls to see what they had. He then asked the first officer what they had and they both started looking at the ECAM⁹. He further stated that the airplane was flying like nothing had happened, especially considering the damage on the left wing that they saw after they were parked at the gate. He stated that he was "a little bit rattled" and he was trying to decompress and get his wits about him. He felt that was a near death experience since he felt like they were "going in" and had never coped with something like that before. It got quiet in the cockpit. The cabin crew called the flightdeck to ask what happened and he answered as they were concerned. He told them he would get back to them. The further they got away from the ground the happier he was. He kept the autopilot off passing 10,000 feet, as he wanted to know what he had with the airplane. He determined that it was responding as it should have. He thought for a moment that it was the worst crosswind takeoff ever since at that point, they did not know they had hit something. At some point the first officer stated they needed to consider going back. He knew the first officer was thinking more clearly than he was. Although returning to JFK¹⁰ wasn't on his mind at the time, and he did a self-assessment. He then decided he was probably not fit for duty after that experience and he told the first officer to get a vector back to JFK and that they would return to JFK. He transferred control and the radios to the first officer. He coordinated with the company and talked with the flight attendants. He was not sure who was calling him, but he knew it was one of the female flight attendants who told him a passenger in business class said it looked like a dent on the wing and if he wanted to look at it. He stated no they were headed back to the airport. He then called the number 1 flight attendant and told them to prepare for the return, they would be on the ground in 20 minutes and it would be a normal landing. He made a passenger announcement, but he could not recall what he said. He knew that everyone was rattled and didn't want to scare them. He thought he told them they had a flight control issue, and everything was ok. They were returning to JFK as a precaution and that they should listen to the flight attendants. He called American Airline's JFK operations, was assigned a gate, and sent an ACARS¹¹ to dispatch. They ran the checklist for runway landing distance. They discussed that runway 4 left was longer and they knew that 5,200 feet was what they needed for landing. The first officer wanted to land on runway 4L as it was longer, and he agreed. He knew they did not run the overweight checklist. He didn't blow the checklist off, but he had been in the airplane long enough to know big picture numbers and he knew they were about 8,000 pounds overweight. He further clarified that until they are over 200,000 pounds, airplane landing configuration was not an issue, so he knew they would be fine landing overweight. They were on a dogleg to intercept final and he wanted to assist in the cockpit, which was another reason they did not run the checklist because he wasn't sure they'd have time and he wanted to get "back inside the cockpit.". He had the first officer continue to fly the airplane as the first officer was more in the loop with how the airplane was responding since he had been flying and he felt the first officer was better fit for landing. He resumed radio transmissions and became the pilot

⁹ Electronic Centralized Aircraft Monitor

¹⁰ John F. Kennedy International Airport, as the departure airport for the accident flight

¹¹ Aircraft Communications Addressing and Reporting System

monitoring. The airplane touched down on runway 4L softly and the airplane came to a stop. He turned off the runway at taxiway "Golf" and taxied to gate 40. Once at the gate was when the maintenance folks came up and said that they had hit something. That was the first he knew he had structural damage with the aircraft.

He gave the first officer his lanyard with the APA safety call in number on one of the cards. He walked around with maintenance and started working the logbook and pulling the circuit breakers. Most passengers had deplaned by the time they had finished – most of them were thankful. He felt they had a lot of support from everyone at the company and APA. They told them exactly what needed to be done. The JFK chief pilot showed up and they were taken care of and given hotel rooms to go rest.

He didn't recall any indication of ground impact during the event. He could not recall hearing any ground impact sounds and felt it was a surprise aspect of this event. He thought he was so focused on trying to control the airplane and that may have been why he didn't hear anything. He also stated that the first officer nor the cabin attendants had any idea they had struck the ground until after they landed.

He recalled that dual input audible alert was heard which was when the first officer was on the control stick with him. He didn't believe it was an attempt to take control from him, but a natural response for the first officer to react. That was the only alert they received. He understood why the first officer got on the control stick with him, but he further understood, especially considering that he said he "couldn't control it."

It was a full flap landing. It was not a weight thing as they landed at 180,000 pounds and he knew the at that weight, it was not a factor in configuration. For him it was a controllability concern as he started to analyze the situation. He asked the first officer if they would like to use Flaps 3, but the first officer was more adamant about full flaps as he liked to use full flaps on his landings. The captain further felt that was good to have the extra 4-5 knots as a buffer.

The sequence trip started on Tuesday night. Prior to that he had his son with him for the weekend. He normally had every other weekend with this son. He had no flying on his schedule and he and his son went to a hockey game on Sunday night, they had a late dinner and then on Monday morning he took his son to school and then didn't do "squat" on Monday. He had breakfast and worked out for about an hour, had lunch, washed his car that afternoon and watched an 1830 Angles game on television. On days that he flies an all-night flight he is very regimented. He tries not to wake up before his body wants to. He had breakfast, showered, and took care of some errands. Took a nap about 1400 to 1500 and by 1800 local time he was up and made dinner, getting ready for his trip. He left his house around 1945 in the evening.

On the day of the event he described the day as a typical sequence for overnight flights as he has done them most of his career. He normally goes straight to bed at 0700 when they arrived at the hotel. He generally gets about 4 hours of rest because of the body clock issue. He had a light breakfast of oatmeal and coffee in his room, went to the gym and did some weight lifting and elliptical. Went back to the room, had a light meal which was a protein bar, and then went back to sleep and tried to get a couple of hours of rest before their van pick-up. This layover was normal,

after he woke up, he got a shower and went to the van pick-up at 1900 for a 1930 show time. He felt he got adequate rest.

He classified himself as an evening person and would rather stay up until 0200 than have an alarm clock waking him up at 0400. He is more comfortable with staying up late.

When asked to about the new flows that American had introduced, he stated that there were new flows and that he was not averse to change. When American wanted to standardize Airbus procedures to Boeing procedures, he thought it was a good idea. He felt that pilots do not like change, and they get comfortable with those procedures; however, when changes occur people ask, "why are they making changes". He welcomed the idea of the first officer reading the checklist item and then say the answer, and then he would say "check." He was accustomed from the Boeing philosophy where the first officer reads the checklist item, the captain stated the value, and the first officer cross checked it. He still has first officers doing the checklist procedures the old way, he felt there was some confusion and there is a tendency for people not wanting to change things. An example was when it was Airbus methodology the first officer would read stab trim and rudder, then state "31 percent to 0 percent," and then the captain would check it. Now it's not part of his procedure for him to look at the rudder trim. He felt it was starting to take away potential barriers. He is now going to make sure he looks at the rudder trim. Once everyone gets the flow, he thinks it will be fine. He did not think the new procedure had any effect on the event. The first officer said he does the stab trim later in the sequence, so they started the flaps 1 taxi.

When asked if he had noted the rudder trim, he stated that he did not look at it. He felt he was probably not wrong in doing more when it came to the checklist. Taxiing out he would not think it was something he would be able to determine if the rudder trim was not in the right spot without looking at it as he always taxied with the tiller.

On the accident flight, the flight control check was absolutely normal and taxi out was perfectly normal. There were no status messages during taxi.

He could not recall where his feet were on the rudder pedals. When asked if sets the parking brake on the runway, he stated that he prefers not to set the brake on the runway. He had a situation where he was holding short with the parking brake set and it released, and the airplane began to move. Because of that reason he does not want that to happen on the runway and he prefers to hold the brakes with his feet. If he is told there is a bit of wait like a 2-minute delay, he might set it. He recalled he did not set the parking brake prior to the event takeoff.

Having spent so many hours on Boeings, Airbus was a little different with feet placement and they have to get use to having their feet "up top" on the rudder pedals as in the Boeing they always had their feet on the floor. In the Airbus it's hard to do that because of the rubber on the rudder pedal. He has trained himself to do a hybrid and to have his feet between the on the floor and all the way up position. He thought it was a good solution. He asked a check pilot what they did, and it was similar in that they also keep their feet between on the floor and all the way up. He has not seen a problem with inadvertently applying brakes because of the way the feet should be placed on the pedals. For him he likes his feet low enough that if he pushes, he was only applying rudder.

Doing a crosswind takeoff, the Airbus manual suggested a procedure different from the normal crosswind controls as pilots would do in other airplanes. He used his feet and the pedals to maintain centerline. You might add a little forward stick pressure to keep the nosewheel on the ground as well. Between 80 and 100 knots, he begins releasing the pressure on the control stick. About 130 knots the nosewheel steering was completely disengaged and they can only use rudder to steer the airplane. In other airplanes they would put aileron into the wind but in the A320 series the spoilers would deploy. The technique was to leave the stick neutral and rotate the airplane, once in the air apply some aileron into the wind. He estimated winds were about 60 degrees from the right and they had a 15-knot crosswind component during their takeoff. He kept the aileron neutral until rotation then he added aileron into the wind. He anticipated the need for right aileron and slowly let go of the rudder to establish a crab.

When asked what he could recall of the elevator and aileron computer or ELAC, he stated that he felt it stands between him and the flight controls. The more he flies the Airbus he has found that if he just takes his hands off the control stick, he would fly better. He felt like if you were testing the airplane laws, such as direct, normal and alternate, you were where you shouldn't be, and they should be hidden as a safety net in the background. In the Airbus a pilot tells the airplane, with input, what they would like to have as an outcome instead of control deflection. It felt very different than other aircraft.

When asked what the audible dual input alert meant to him, he stated that the other pilot was putting some kind of control into the sidestick. Which was different than the rudder, which was mechanical. When getting the audible alert it says the other pilot is inputting a command on the stick and the computer added the inputs together and commanded the flight controls accordingly.

When asked if they had declared an emergency at any time, he stated that they did not declare an emergency. He knew it would have been easy to declare an emergency, but in his mind, they were bringing aircraft back as a precaution and he felt like he "was the weak link. If he were to have declared an emergency it would have been for him not feeling fit to fly, not for the aircraft.

When asked if the brake fans were in use that he was aware, he stated that they were not.

When asked if he had ever flown this specific airplane prior, he could not recall flying this airplane previously, he believed he must have flown it in the past given the number of aircraft they have and the flights he typically flies but could not recall.

He had not flown since the event on April 10. He flew in a simulator recently associated with the ASAP¹² program as part of the protocol. He flew with the accident first officer as a crew and they went in the simulator with a check pilot for a corrective action sim. While in the simulator they conducted takeoff and landings under crosswind conditions. Both of them came out of the simulator with a positive experience. He felt he was able to handle the conditions with ease and felt "really good coming out of that simulator."

¹² Aviation Safety Action Program

There have been no issues with crosswind takeoffs during simulator training prior to the event.

His most recent FAA medical examination occurred on January 2, 2019 and he had no limitations.

He had watched the animation created by the company since the event reluctantly. He knew there were differences with what he recalled with what the data showed. He did not remember inputting that much rudder pedal during the departure roll.

He knew American was getting more Airbus 320 series aircraft but estimated that American had several hundred of them.

When asked if a priority takeover button had been pressed, he stated that a priority takeover was not initiated as it would have resulted in an audible and visual alert.

The airplane had just arrived, and they ran a normal preflight crew change checklist. The brake fans were not being used as he would remember that because the fans are normally loud.

He was not sure if the takeoff configuration alert would annunciate if rudder trim was not zero but assumed that it would annunciate. He has in the past noticed that when you press the button to zero out the rudder trim it may not go to zero but maybe 0.1. There was still no takeoff configuration alert, for it as the rudder trim was still in the green.

He remembered the rudder feeling a little heavy but did not really know why but choked it up to a stronger crosswind. On the playback he noticed some modulation on the rudder. He was surprised how much left rudder it was taking but at the time he felt the airplane was controllable. At the time he did not see any reason to believe that he would not be able to maintain the aircraft on or near the centerline. It was taking a lot of physical force and energy to hold the rudder during the takeoff roll.

When asked what he thought initiated the event, he stated that it was “definitely an unexpected yaw.” Once the airplane was airborne then the roll rate came in and by the time right rudder and right aileron were applied, they had already contacted the ground.

They do not train in the simulator with calm winds and normally train with at least a 10 knots direct crosswind component, with 35 knots being the maximum. The only time he could recall in training that they set the crosswind component to 35 knots was for a specific event on how the airplane handled max crosswind conditions. Usually the crosswind component in the simulator was set to about 10 knots.

When asked to clarify what mechanically linked rudder pedals meant, he stated that meant that when the captain pushed the left rudder pedal the first officer’s rudder pedal would move the same direction and amount.

When asked if any part of the animation he observed of the event surprised him, he stated that he felt it started with the airplane a little to the right of centerline and he only remembers being right on the centerline during takeoff. There was another animation that showed them left of centerline which confused him as well. He was being vigilant to hold the centerline and the animation showed him a little to the right, everything else with the animation looked like it could be realistic as to what he could recall.

He engaged the autopilot about 15,000 feet. The flight directors were on during takeoff as well as the autothrust and it was working. It was just like it was always used.

He flew into JFK a lot, when in the B767, that was all he did was flew into JFK. He would not be surprised if he flew in there close to 1,000 times. For about 7-8 years he was flying to Hawaii with the Airbus almost exclusively, but outside of that he was doing transcontinental flights to JFK. He had received commendation in the military

He had no accidents or incidents nor commendations. He received an award for “outstanding T38 instruction” in the Air Force.

He had a few gear malfunctions and engine roll backs in the Air Force. In the B757 he had a flap issue, but no other abnormal events that he could recall.

When asked if he had any life changing events within the past year, he stated that he moved in November 2018, but it was only a move of about 4 miles, and he was much happier at the new place.

He described his health as “excellent.” He exercises at least 4 times a week. He has a healthy diet and found it easy to maintain a good health. He said his vision was “awesome.”. His hearing is ok he does have high frequency hearing loss from what he estimated was his time flying the T37. At night when it’s really quiet he has a little ringing in his ear.

He was not on any prescription medication. He drinks when enjoying a sporting event or in the evening. Usually he has a couple of beers. He sometimes will go quite a while without keeping any beer or wine in the house. He could not recall when his last drink was, but he thought it might have been the Monday evening watching a game. He did not smoke tobacco but did enjoy a cigar on occasion. He does not use illicit drugs.

His workload prior to the event was “completely normal.” He was flying with an experienced first officer that he has flown with several times. While a 15-minute taxi was odd for JFK, it’s not odd for many other airports they fly out of. He felt the time they had for ground operations was not rushed, and 15 minutes was pretty much exactly what they needed, in order to do everything at a normal pace.

He loved his job. He loved the airline, aircraft and loved to fly. He gets a long well with everyone he works with. With the routes he typically flies, he gets to fly a lot with the same flight attendants. The most stressful part of his job is getting to and from the airport.

He would like to do more day trips, but he has gotten use to the night flying. He wished the ground crew and gate agents less stress to deal with. He tried to do what he could to alleviate their burden whenever he could.

When asked if what he experienced was anything like an uncommanded roll or uncontrollable aircraft on takeoff, he stated that during training, the events like windshear and wake turbulence may have been the closest. In real world wake turbulence was always an eyeopener its just a different feel when trying to counteract. The airplane does a great job leveling itself out. The computers are already trying to get things straight. Although unsettling, training would kick in and they would fly out of it. He has had turbulence where he has wondered if the computers were doing what they were supposed to. He had sometimes had turbulence when flying in the islands but nothing resembling the event.

When he stated to the first officer that he couldn't control the aircraft, he did not mean that the airplane was actually out of control he was only verbalizing the sensation he was feeling. He was moving the sidestick around trying to get it to do something and he did not feel like he got the immediate response he was expecting.

At no point he never equated the event with wake turbulence it was not that type of sensation. The left veering of the aircraft on the ground was the start of the event and that put everything else into play. This event was nothing like a wake turbulence. Wake was normally at slow speed; gentle roll rate and he did not feel the roll was the problem during the event. They had not established a climb; he felt the airplane impacting the ground caused the reverberation through the aircraft and those forces were causing the aircraft to do other things. He said it was startling to be looking at the ocean and for a split second he thought they were going in. He never thought he was fighting the plane for roll but for pitch.

He further/ explained that the purpose to leave the autopilot off was he wanted to get the feedback on if the airplane was giving them what they asked for when they inputted commands. They looked at the ECAM and checked the pages. The flight control page was ok, and the pitch and roll control were working. There was not adverse control feedback from the aircraft. The airplane was behaving as expected. Normally when airborne you don't apply rudder, so he did not apply rudder pedal after the event or test it in the air. The turns felt coordinated when they made them.

He had noted feeling nothing different taxiing in and they taxied in on both engines.

At the time of the return, they believed it was precautionary, so they ran normal checklists. They never got to cruise altitude, but all the normal checklists were conducted. They conducted the landing and approach checklists. The landing assessment was done as well because it was an overweight landing. He thought maybe they should have done the overweight checklist.

When asked if there was anything that we should have asked, and didn't he stated that he wished he had taken better care of the cabin crew and sequestered them on the airplane. They ended up leaving the accident airplane thinking they would be working that same flight out on a different aircraft.

Interview concluded at 1519 CDT

Interviewee: Robert James Cerniglia

Date: April 26, 2019

Location: Via Teleconference

Time: 0959 CDT

Via Telephone: Shawn Etcher, Sathya Silva, Warren Abrams – NTSB; Patrick Lusch – Federal Aviation Administration (FAA); Jon Witten – American Airlines (AA); Jeff Raines – Allied Pilots Association (APA); Ray Duke – Attorney for the Allied Pilots Association (APA) and representative for First Officer Cerniglia

First Officer Cerniglia was represented by Mr. Ray Duke, Attorney for Allied Pilots Association.

First Officer Cerniglia stated the following:

He was 58 years old and a first officer in the Airbus A320. He original date of hire was with TWA in April of 1990 and then they merged with American Airlines.

He was a line pilot and based at Los Angeles. After they merged with American, he had been based in St. Louis until he was furloughed in 2003. When he was recalled from furlough, in 2008, he was first based out of San Francisco, subsequently returned to St. Louis, and then transferred to Ontario California where he flew the MD80s in 2012 and then transferred to Los Angeles where he has been ever since.

He had an Airline Transport Pilot certificate and a Flight Engineer certificate. He had flown B747 with TWA when he was first hired. He had type ratings in the L-188, because he flew the P-3s in the Navy, CE500, B757, B767, A320, and DC-9. He had never been a checkairman or instructor. He had also flown, as a flight engineer, in the B747 and B727 which was for about 6-months.

He estimated that he had about 3,000 – 3,500 hours of total flight experience in the military and about 12,500 total hours of civilian flight experience. He estimated that all of his military experience was in the P3s which he flew from 1983 when in the Navy and continued flying them in the reserves until he retired from the reserves in 1998. He estimated that he had flown as a flight engineer for about 5 years he accumulated about 2,000 hours of experience. He further estimated that he had about 2000 hours in the B747, between 3,000 and 4,000 hours of total flight experience in the MD80, about 2,000 hours in the B757/767, and a couple thousand hours in the Airbus 320, of which he estimated about 99% of that experience was in the A321.

He had flown with the event captain about 7 times prior to the accident flight, although he could not recall his most recent experience with the captain, but thought it was a few months prior.

He had an FAA first-class medical certificate issued April 9, 2019. He did not have any limitations but was told he would probably need corrective lenses in the future. He did have a Special Authorization medical certificate.

He was the pilot monitoring for the accident flight until after they were airborne then the captain transferred controls to him, and he subsequently landed the airplane.

He had flown in the Navy from 1983 – 1989, then the reserves until 1998. He was hired on at TWA in 1990 and worked there until they were bought by American Airlines in 2001, he was subsequently furloughed in 2003 and went to fly for Transmeridian Airlines in the B757 until they went bankrupt. He further stated that he flew for WestAir in 1991 for a brief period.

When asked to describe the accident flight he stated that he had flown this trip regularly and he thought it was his favorite trip. It left Los Angeles around 2100 and he flew the redeye to New York which landed about 0500 in the morning, where they go to the hotel to get rest and then operate the flight back to Los Angeles which departed around 2000. The day of the accident he had slept at the hotel and when he woke up, he went to work out. He felt that he had gotten some good rest. They arrived at the airport on time and he went and grabbed some pizza before going to the airplane. Once at the airplane he began his preflight checklist, beginning in the cockpit and then he performed his exterior walkaround of the airplane, he stated they were set for an on-time departure.

He further stated that he liked flying with the captain, as he was easy to work with. The airplane was pushed back from the gate and they were given their clearance to taxi via Bravo to runway 31L at intersection Kilo Echo.

He stated that he felt they did every checklist they were supposed to do; the flight was cleared into position and the winds at the time were 010 degrees at 17 knots, they commented that the windsock was a “little stiffer” and the crosswind was about half of their crosswind limit. The applied standard thrust for the takeoff, flaps 1, and he stated it was a standard operation to the best of his recollection. He further recalled rolling down the runway on centerline, the engines were normal and there were no status messages on the ECAM. He called out 80 knots and verified the airspeeds were the same, he called V1, which he had been told was about 150 knots, then VR, which he had been told was about 156 knots. When he called “rotate” he then looked up from the airspeed display and noticed that the airplane was pointing about 30 degrees to the left of the runway heading and was banking approximately 30 degrees, although he could not recall if it all occurred at the same time. He stated he had seen the animation of the flight and that showed it was a maximum bank of 36-degrees. He described it as “rolling hard” and for a brief time he thought the airplane was going to roll over; it was a steep bank and it caught him by surprise. He saw in the animation that it showed he had grabbed the sidestick, but he did not realize he had done that. They were able to level the wings; however, the airplane was not climbing nor was the airspeed increasing. He recalled the captain saying, “I can’t control it.” He recalled grabbing the control stick, adding right aileron, applied back stick pressure, and the airplane began climbing. He felt that once they began climbing “all was good” and subsequently the tower requested that they flight contact the departure controller. He felt that he stated to the captain that the controllers must not have seen the aircraft in an unusual attitude. He radioed departure and the flight continued on the SKORR departure, and he thought that about when they began the left turn to RANGR transition was when they switched the radio frequency to the departure controller.

He felt like they had cheated death and didn't feel like they'd be flying too far. Both he and the captain, were attempting to determine what had happened as they continued to climb out; however, everything in the cockpit appeared "normal." Although he was not certain of the altitude, he thought that as the airplane was passing through 10,000 feet he suggested returning to and landing at JFK, the captain agreed a short time later and asked the first officer to coordinate the return with ATC. They discussed that the airplane was fine even though it had banked at a low altitude. The captain transferred control of the airplane to the him, "your airplane, your radios" and the captain contacted the cabin crew. He, the first officer, notified New York center that they needed to return to JFK and informed them of the aircraft's roll at rotation when center asked why. The center controller inquired if it could have been due to another airplane's wake turbulence, which they did not think that was the case. A JetBlue aircraft had departed before them, but he did not feel the event was due to vortices. He reported that their bank angle during the event went to 45 degrees. The controller gave the crew an immediate turn back towards JFK. While the captain was informing the flight attendants and the passengers, and maybe the company of the return, he input their new destination into the FMC and set up for an approach to runway 4L at JFK. He started slowing and called for the descent checklist and it took a few times before the captain responded. He felt that he did everything he could at that point and requested the descent checklist when the captain was finished making the PA announcement. He requested that the autobrakes be set to "low" for the landing. They knew they were landing overweight; however, runway 4L was a long runway and they knew they only needed about 6,000 feet of runway to land. He felt the vectors for the approach were expeditious the captain had also mentioned to him that a passenger told a flight attendant that the left wing did not look normal. He was not surprised to hear that. They made a full flap landing and it felt "normal". He further stated that he had left the autopilot engaged until about 500 feet above the ground. After landing they exited the runway at taxiway Foxtrot and taxied via taxiway Bravo to their gate. As soon as the door to the airplane opened up, at the gate, maintenance personnel came on board and informed them of the damage to the airplane. He then conducted a postflight checklist and he noticed a bar hanging off the left wing.

He felt the captain may have been in "shock" as the captain was quieter than normal after the event as if he knew that this wasn't good for his career. He also stated that the captain told him later that he was "a little rattled" and was self-assessing at the time. He contacted the union safety hotline as well as notified the ATC ground controller that they had struck something on runway 31L during their departure about 50 minutes earlier. He could see a part of the sign hanging on the wing. They were given a phone number to call the tower, which the captain did. ATC said they would send someone out to sweep the runway. The union personnel on the phone wanted to ensure that the circuit breakers were opened for the CVR and that the tower was notified. The company (New York and Los Angeles chief pilots) began to contact them as well and subsequently they had to wait at the airport for a few hours for drug testing. The JFK chief pilot was also at the gate with them and made sure they had hotel rooms for the night.

When asked if he could describe the taxi out, he stated that it was a normal taxi out and he would classify it as an "easy" taxi out. He has flown to JFK enough that he knows what to expect from ATC and they waited for maybe 1 or 2 aircraft to depart before they did. He described his workload as "no big deal." ATC stated ATIS information "Golf" was current as they taxied, and they recalled that they had briefed information "Foxtrot." He said it was a 5-step process to get ATIS information through their FMC. He intended to get the updated ATIS but did not realize

until the tower controller gave them the winds that he forgot to get information “GOLF.” Previous winds were 340 at 15 knots which was 30 degrees off of the nose at 15 knots compared to 010 @ 17 knots that tower notified them of when they were on the runway. He recalled talking with the captain about the crosswind component.

When asked what the crosswind limitation was for the airplane, he stated that it was 35 knots. The crosswind limit and his personal limit were the same. He had recently flown a 35-knot crosswind takeoff in the sim and found it to be “easy.”

When asked if they noticed any abnormal flight control inputs, he stated that it wasn’t until they were safely back on the ground that the captain stated that he had used “a lot of left rudder” on the takeoff roll. The captain didn’t say anything during taxi. He further stated that the sidestick felt the way it always did and seemed to react normally. He wondered if it could have been an issue with the captain’s sidestick, but the captain seemed to have it under control. He was thinking that his control stick did work as well just in case. He said it happened very fast.

He noted on the animation that was shown to him after the event that he had input side stick twice during the takeoff. He didn’t recall doing it the first time while they were rolling nor hearing an aural alert. The 2nd time was after the captain had stated that he couldn’t control the aircraft, so he got on the stick and heard “dual input.” That alert meant that both pilots were moving the side sticks and the computer would sum inputs to a max bank limit. There was a way to take control from one stick if you hold the autopilot switch (red button) for 45 seconds.

No other aural alerts and no messages were observed, that he could recall.

The captain flew the aircraft manually until about 10,000 feet and the captain stated that “it felt normal.” The captain engaged the autopilot about 10,000 feet and it was already on autopilot when the captain transferred control to him as they were passing through FL180. He never checked if the right-side stick worked normally. The aircraft felt fine without the autopilot.

When asked if he could elaborate on what he could recall when he first looked outside after he called “rotate,” he stated they were not climbing adequately and that it all happened so fast. He thought they were on runway centerline at the time; however, the animation showed them to the left of centerline. The airplane could only bank about 14 to 15 degrees that close to the ground before they would strike their wingtip, he recalled the airplane “rolling hard” and he thought that the airplane was going to roll over.

When asked who inputted the initial thrust power on takeoff, he stated that the pilot flying will initially apply the power, when the airplane’s engines are stable the pilot monitoring will continue to apply power until takeoff thrust was set. This takeoff was flex and flex was standard. Both crewmembers will look at the power setting and the pilot flying will say “flex set” and the pilot monitoring will verify that flex power was set and will scan all of the instruments. During the takeoff roll the pilot monitoring will monitor all of the instruments from engine to the airspeed. At 80 knots the pilot monitoring will announce “80 knots,” the pilot flying will respond “check.” As pilot monitoring, he will look both inside at the instruments and outside, then call V1 at the appropriate airspeed subsequently he will call “rotate,” which he stated will usually occur quickly

since they are only about 5 knots apart. During that time he will be primarily looking at the airspeed until he calls “rotate” then he will look outside. Normally when he called rotate the pull up was nice; however, this time it was not “normal.” He initially thought they were on centerline but then they started rolling.

When asked if he recalled grabbing the sidestick the first time, he stated that he didn’t remember grabbing the sidestick; however, the data showed that he had.

When asked if there were any MELs or maintenance issued he stated that they looked at the logbook while at the gate before departure and it was “clean” there was no status messages nor was the airplane telling them it was broken before or after the event.

When asked if they used autothrottles during the takeoff, he stated that autothrottles were always used for takeoff unless they were deferred, but they were not deferred on this flight. The flight directors were also both on.

When asked how often he flies in and out of JFK, he stated that he operated out of there 4 to 5 times a month – at least once per week. He typically either does JFK trips or Dallas trips and tries to get a Honolulu flight sometimes.

There were no cockpit jumpseaters on this flight.

When asked how he liked working for American Airlines, he stated that he liked working there as it “pays the bills.” He felt he never got a fair seniority integration; however, he could upgrade to captain but does not have the seniority to hold the good trips. If he could change anything it would be his seniority. His favorite thing was the comradery. He liked not working in an office and liked the challenge and discipline of flying airplanes also.

When asked how he got along with the captain he stated that he was an easy person to be with and work with. He liked flying with the captain. He described the captain as no nonsense, a good pilot, and funny. He felt that the captain would be receptive to inputs from a first officer and would reach out to first officers for input. When the captain was quiet after the event, it was a quiet phase of flight and he felt they both were in “shock”. He was thinking the captain would say something about what happened, and he was waiting for him to say something; he thought he would have mentioned it earlier. About 18,000 feet, the captain transferred control to the first officer. He did not know that the captain had called the company after they transferred control, as he had already sent them a message via their FMC that they were returning. He further stated that the captain “just didn’t seem himself” after the event.

When asked to if he felt rested for this flight, he stated that he felt he was rested for this particular flight. He had flown in the night before and he slept at the hotel; when he woke up, he felt great and went for a workout.

When asked to describe his day before he started his trip, he stated that he flew on April 8, which was a turn to Dallas and then on the 9th he flew the 2230 departure out of LAX, he stated that normally he would fly the earlier flight on the same route. He slept in on the morning of the

9th as he was at his house and then went to work. His report time was about an hour prior to departure at 2130. He normally arrived at the airport about an hour and fifteen minutes before departure. He could not recall when he awoke that day.

He tries to sleep as long as he can when he has a late flight. His normal sleep schedule in Los Angeles was he would go to bed at 2200-2300 and then would wake up around 0700 unless he has a late flight, then he tries to sleep in a little. When flying the redeye flights, he usually arrived at the destination about 0200 his normal body clock time. He got about 6 hours of sleep at the hotel. He has used a CPAP machine for the past 3 years and feels “great.” He does travel with the CPAP machine.

When asked about his special issuance medical, he stated that it was for hypertension, he takes 50 mg of Losartan, and his blood pressure was 120/75. He had a pulmonary embolism about 3 years ago, which was the other reason he has a special issuance. He has to go to a doctor every year and he also takes 10mg of Zolotov every day.

He has not been involved in accidents or incidents and has not received any commendations. When asked if he had every encountered any abnormal situations in his flying past, he stated that he had in an MD80 when they got a start valve light flickering and they returned to the departure airport with one engine at idle. In the B757, on a flight from LAX to Puerto Rico, they had compressor stalls since takeoff and returned with one engine throttled back. When on a 727 he had an engine failure out of Oklahoma City and on the B747 he had lost auto pressurization and had to manually pressurize over the Atlantic and had hydraulic issues. He noted that in the 5 years he flew the B747, he became more junior as retired pilots came back to fly.

When asked to describe where his feet are normally positioned during takeoff roll as a pilot monitoring, he stated that, as pilot monitoring, on takeoff his feet were on the ground and not near the rudder but he thought he had his toes ready to apply pressure if necessary. During a critical phase of flight his hand was guarding the sidestick, but he does not want to touch it when someone else was flying. He could not recall if he had his feet on the rudder when he inputted sidestick, but though he did not touch the rudder pedals during the event. During an engine failure and a crosswind is when they use rudder.

When asked what their flap was setting for landing, he stated that the captain had suggested doing a flaps 3 landing and he suggested flaps 4, or full flaps. They decided to go full flaps because they were heavy. There were no restrictions with landing full flaps overweight.

He felt the captain hand flew the airplane to altitude and the captain was just quiet and maybe “shock” was the wrong word. When talking with the chief pilot the captain said he was rattled, and he told the chief pilot he was just “happy he was alive.” He thought the captain was taking it harder than he was.

He could not recall what distracted him when he should have obtained ATIS information “Golf.”

When asked if they had used the takeoff override button, he said they did not nor did they hear any associated “priority L/R” alert.

When asked if the airplane was at the gate when he arrived prior to departure and if he could recall if there were any brake overheating lights, he stated he was not sure if the airplane had flown in earlier. He was not sure if there were any brake overheating lights and all the brakes have brake cooling fans.

When asked when they normally check their flight controls, he stated that both crewmembers check their flight controls on the ramp, after the engines were started. The captain goes first using his sidestick full left and full right, then the first officer will do the same. The captain will then check the elevator and rudder and then the first officer will check his elevator, the first officer will not check his rudder and checks his flight controls without verbalizing it. They used to do this procedure during taxi.

When asked if the captain mentioned anything about his flight controls, he stated that the captain had mentioned it took a lot of rudder to keep in on the centerline and he did not hear any weird sounds that got his attention.

The rudder trim was checked right after engine start (they don’t have an after start) via a silent checklist for the first officer which he stated that the rudder trim was set at zero.

He could not speculate what caused this event but stated it would be possible that there could have been a gust of wind or jet blast. He was not working the rudder like the captain was, so he was not sure. He noted that the windsock indicated a good crosswind wind when they lined up on the runway.

When asked if they accomplished the overweight checklist, he stated that he did not think they did the overweight landing checklist that was located in the QRH. He could not recall if there were any performance tables in that checklist.

When asked if he had ever flown that particular airplane previously, he stated that he thought he had but could not recall for sure.

They do have new flows and procedures such as no verbalizing parts of the checklist and they recently changed the name of some of the checklist. They used to call out 10,000 feet when passing through that altitude, now they don’t. He felt the new checklists didn’t seem to flow as well as the old ones. He felt the captain did nothing different than what was required.

When asked how he normally does a crosswind takeoff, he stated that crosswind takeoffs, with a right crosswind, the aircraft will want to pull right into the wind, he would expect left rudder input in order to maintain runway centerline. As airspeed increased, he would know there would be less rudder needed as the aircraft would be going faster increase the rudder effectiveness and that not as much rudder would be needed at rotation. As he would apply back stick pressure to rotate the airplane, he would add a little right aileron in order to crab into the wind. He might delay at rotation a “microsecond” if there was a crosswind.

When asked if they performed any emergency or abnormal checklists, he stated that he did not open up the QRH, because they thought they had a good airplane. He had forgotten about the overweight landing checklist.

When asked if he could describe the various laws the Airbus used, he stated that the direct law would only occur during landing but was not certain as to how or when it transitioned to direct law. He further stated that the aircraft was in normal law throughout this flight.

When asked what he could recall about the elevator aileron computer or ELAC, he stated that the Airbus has numerous computers, but he was not able recall specifics about the ELAC. He further provided that if it malfunctioned in flight he knew where to look for the checklist and they can separate or disconnect various computers in flight if needed.

When asked if he could recall his post event drug test outcome, he stated that he assumed the drug tests were negative as he had not heard otherwise and that his blow test result, he could see was 0.0%.

When asked about the crosswind limit for the airplane and what was trained, he stated that the aircrafts crosswind limit was 35 knots. He had trained with 35 knot crosswinds in the simulator, both steady winds and with the gusts. He was given scenarios in the simulator with 15 knot crosswinds with gusts to 35 knots; which he felt was worse than a steady wind.

When asked if he could recall the rudder trim setting prior to taxi out or takeoff, he stated that there was a procedure to zero out the rudder trim, it was something they couldn't miss. He was sure that it was set at 0 trim. Sometimes the rudder trim might be 0.1 but normally its 0 and 0.1 would still be ok and would not give them a takeoff configuration alert.

When asked what he could recall about how the flight controls felt, he stated that they felt normal when he tested them prior to taxi.

When asked what the ambient light was like at the time of takeoff, he stated that it was "dark" at the time.

When asked if he could recall when they arrived at the airport, he stated that he could not recall when he arrived at the airport for the event flight. Normally they show up at the airport an hour prior to departure. He thought they would have caught the 1900 van from the hotel to the airport.

He estimated that he had about 3,000 hours of flight experience in the military and about 12,500 – 12,600 hours of flight experience of civilian flying. He normally flies about 400 hours of flight time every 6 months.

He did not take any prescription medications in the 72 hours prior to the event that would have affected his performance. He does drink alcohol occasionally and clarified that he may have

a couple of beers once in a while but doesn't drink very often. He guessed his last drink was at least 2 days prior to the incident. He does not smoke tobacco, nor use illicit drugs.

When asked if they had performed an arrival briefing, he stated that he could not recall if they did, he remembered they were both busy and he requested approximately three times to do the descent checklist, which the captain did accomplish. It was a clear night and they both were very familiar with landing on runway 4L, so he was not certain if they did an arrival briefing.

When asked to clarify if there would be any indications if the airplane went into alternate law, he stated that he would expect the airplane to give him the amber "X's" on the PFD if the airplane was operating in a degraded mode, and he also felt there would have been a message on the ECAM.

Interview concluded at 1152 CDT.

I was the Captain and PF for AA Flight 300 (JFK-LAX) on 4/10/19. We pushed back from Gate 33 at 2025L. We were subsequently cleared to RWY 31L/KE via Bravo. During the taxi out, all checklists were accomplished per new AA procedures. Weight (182936), wind (340/15), and temperature (11/M03) were all within prescribed limits. As we approached the KE intersection, an RJ was cleared for takeoff from 31L/KE. A few minutes later we received clearance for takeoff from the same intersection. I aligned the aircraft with the centerline and we began the takeoff procedure.

The takeoff roll was normal up to approximately V1/VR speed, at which time the aircraft began to turn to the left at an alarming rate. I immediately began to rotate the aircraft and we became airborne near the runway edge. At this point, the aircraft seemed difficult to control in both pitch and roll axes. The aircraft rolled left and we apparently struck an unknown object with the left wingtip as we became airborne. After gaining some altitude and airspeed, the aircraft returned to normal flight characteristics. We subsequently returned to JFK, landed uneventfully on RWY 04L (8000lbs overweight) and returned to Gate 46. All post-incident checklist items were accomplished and an ASAP report was filed.

Captain [REDACTED]

Statement by First Officer [REDACTED] on incident AA300 JFK-LAX 10APR19

Captain [REDACTED] and I have flown together numerous times over last three years and have a good working relationship. I was the PM, and the Captain was the PF. We completed Before start checklist, pushed back and started engines normally, set flaps 1, completed flight control checks, set autobrakes MAX, completed After Start checklist and received clearance by ATC to taxi on "B to KE for Runway 31L". We received our closeout while taxiing and I loaded ZFW, CG, and pitch trim in FMU, and set correct stabilizer trim on trim wheel. Additionally, we spoke about the wind being favorable (340/15) and our takeoff weight being slightly under planned making our TPS legal for a KE intersection takeoff on 31L. We completed the Before Takeoff checklist and were cleared to line up and wait, and then took off on runway 31L at KE. Captain [REDACTED] set flex power and I replied "flex set". All engine and systems were normal and remained on centerline for takeoff until I called out "V1" and "Rotate". When I looked outside after VR we rolled abruptly to left about 30 degree bank and departed runway approximately 30 degrees left of runway heading and we were not climbing adequately. As the landing gear was retracting, Captain [REDACTED] said "I can't control it" as aircraft continued to bank hard left without gaining altitude. I noted and told Captain [REDACTED] our engines were operating normally and with my sidestick tried to level wings and pull up and we heard the audible warning "duel control input". Just about then Captain Burger was able to level wings and climb aircraft and correct on course for the JFK Skorr departure. ATC did not mention that they had seen our abrupt maneuver and switched us to ATC Departure. After cleaning up aircraft configuration we proceeded to check all aircraft systems during climb out. Nothing abnormal was indicated and Captain [REDACTED] hand flew aircraft and indicated everything felt normal. After passing 10000 ft we discussed incident and Captain [REDACTED] decided to return to JFK. Captain [REDACTED] transferred control of aircraft and radios to me while he spoke with FAs and made a PA to passengers. I coordinated a return to JFK with NY center and informed them of our abnormal rolling incident on takeoff. I also sent a Diversion message to company and set up new destination in FMC, and set up for a runway 4L ILS to JFK. Eventually Captain [REDACTED] took over on radios but elected to have me fly aircraft and land it. Captain [REDACTED] completed descent checklist sometime before we entered the final approach. Additionally Captain [REDACTED] checked the LAND app for Runway 4L since we were landing overweight. I believe it was during the approach that Captain informed me that a passenger had mentioned to FAs that left wing did not appear normal. We continued and landed overweight with Flaps Full on runway 4L, exited runway at F and taxied B to the gate. After arriving at gate and shutting down aircraft, AA maintenance mechanics showed up in cockpit and informed us of damage on left wingtip. I proceeded outside to see damage and reported what I saw to Captain. Captain told me to call ATC and report that we had hit something on 31L when we had departed 50 minutes prior. I informed the JFK Tower and they indicated runway 31L would be "swept" and gave me a phone number to call to report incident in more detail. Captain subsequently called that phone number and made full report. Captain wrote up incident in log book, wrote up overweight landing and pulled CVR recorder circuit breakers. Captain and I spoke with APA safety and Chief pilots and conducted a drug/alcohol test prior to leaving airport.

[REDACTED]