

DCA24LA330

OPERATIONAL FACTORS

Attachment 1

Flight Crew Transcripts and Written Statements

April 24, 2025

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UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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BIRD STRIKES SOUTHWEST AIRLINES

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ENGINE NEAR THE LOUIS ARMSTRONG

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Accident No.: DCA24LA330

NEW ORLEANS INTERNATIONAL

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AIRPORT ON DECEMBER 20, 2023

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Interview of: MICHAEL GOODMAN, Captain

Southwest Airlines

Dallas, Texas

Wednesday,
January 15, 2025

APPEARANCES:

SHAWN ETCHER, Investigator
National Transportation Safety Board

DAVID GERLACH
Federal Aviation Administration

JOHN RUMMEL
Southwest Airlines

CHRIS SHAVER
Southwest Airline Pilots Association

JOHN STEINNES
Boeing

CHRISTOPHER CHRISTENSEN, ESQ.
Condon & Forsyth LLP
(On Behalf of Michael Goodman)

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I N T E R V I E W

(10:31 a.m.)

MR. ETCHER: Well, good morning. It is January 15th. It's 10:31 Central Time. My name is Shawn Etcher. I'm an operational factors investigator with the NTSB. So all that means is I look at everything kind of forward of the cockpit door and how it interacts.

We're here to discuss the event that occurred back in December of 2023 so I know it's been a while. I understand memories come and go, and some of the details might not be as crystal clear today as they were then. But I'm hoping you'll be willing to educate me, use small words, big pictures, whatever you need to help me learn everything. I like to be the fly on our shoulder, if you will.

I want to see, feel, hear everything you'd go through 'cause then I can -- it gives me a better appreciation so maybe we can fix this so it doesn't happen again.

But thank goodness, I'm not the sharpest tool in the shed so I have a lot of great experts here with me on my group. And I'm going to go around the table here, have them all introduce themselves and their affiliation, and we'll start with David.

MR. GERLACH: Good morning, David Gerlach. I'm with the FAA Office of Accident Investigation.

MR. RUMMEL: Good morning, John Rummel. One of the check pilots here at Southwest Airlines and just wanted to say thank you

1 for coming in and helping out with this plane, appreciate it.

2 MR. SHAVER: Chris Shaver with the Southwest Airlines Pilots
3 Association.

4 MR. STEINNES: John Steinnes. I'm the 737 chief technical
5 pilot for Boeing. Previous experience with Alaska Airlines and
6 the Air Force.

7 And as I mentioned to your first officer, really appreciate
8 you coming forward, sharing your experience with us. I find it
9 commendable, your skill and ability to deal with such a unique and
10 serious threatening kind of incident.

11 But appreciate your presence and hope to learn from you.

12 MR. ETCHER: So that is everybody that gets to ask you
13 questions today. Is there anybody you don't want here? Go ahead
14 and say me.

15 MR. GOODMAN: No.

16 MR. ETCHER: Just kidding. No, I want to learn, and I
17 appreciate it. Just so you know as far as the interview goes, we
18 do two rounds. The first round is always a lot longer than the
19 second.

20 I usually start with a whole lot of questions and then I --
21 after a while, you're going to get tired of looking at me and
22 talking with me so I'm going to pass it on so everybody has a
23 chance to ask questions.

24 Like I said, we do two rounds. Round two is so much quicker.
25 That's just kind of like follow-up type questions.

1 MR. GOODMAN: Okay.

2 MR. ETCHER: So don't feel like this is just going to go
3 around and around and around. We try and keep it -- we know
4 you're time is valuable as well, and we don't, we want to, we
5 appreciate everything you can teach us and that's why we want to
6 keep it as short as we can.

7 MR. GOODMAN: Okay.

8 MR. ETCHER: As part of our regulations, that you're entitled
9 to a representative of your choosing. Do you wish to have one?

10 MR. GOODMAN: Yes, I do.

11 MR. ETCHER: All righty. Chris, would you be so kind?

12 MR. CHRISTENSEN: Sure, my name is Chris Christensen from the
13 law firm of Condon & Forsyth, and I'm here to represent the
14 captain.

15 MR. ETCHER: Thank you very much. As part of our process, we
16 record our interviews. Those recordings we send to a
17 transcriptionist that transcribe it. About two weeks or so, we'll
18 get it back.

19 I'll go through it with this group. We'll all look at it to
20 correct any misspelled words, any misspelled acronyms. We will
21 not change anything you say. We'll send it back, get it
22 recertified and then we'll send it to your counsel.

23 They will send it to you to review and if you see something
24 that's like, well, that's not exactly what I meant or, ooh, that's
25 not what I meant at all, or I need to clarify that, It's okay.

1 We'll have you write it on a separate piece of paper, and we will
2 attach it directly to your transcript so that we way we have all
3 the facts possible.

4 One thing I was going to do before we started was I was going
5 to have you look over this statement that was provided to me, and
6 I will let you take your time and read through it.

7 MR. GOODMAN: Okay.

8 (Asides)

9 MR. GOODMAN: Yeah, that's factual.

10 MR. ETCHER: Is that statement written by you?

11 MR. GOODMAN: Yes.

12 MR. ETCHER: Okay. It didn't have a name on it so just for
13 the record, we wanted to make sure that statement which is titled,
14 Captain's Statement, was written by you. I will also attach that
15 to the transcript.

16 MR. GOODMAN: Okay.

17 MR. ETCHER: So we just wanted to make sure that it was
18 actually written by you, and it's what you recall.

19 MR. GOODMAN: Yes, it was.

20 MR. ETCHER: So with that in mind, it'll attach to the
21 transcript, and I'll leave it titled, Captain's Statement, so
22 it'll be easy, accessible with the transcript.

23 MR. GOODMAN: Okay.

24 MR. ETCHER: So now that we've talked about the recording and
25 the transcript, is it okay for us to record and transcribe this

1 interview?

2 MR. GOODMAN: Yes.

3 MR. ETCHER: All right. And just so you know, the transcript
4 will be public.

5 MR. GOODMAN: That's fine.

6 MR. ETCHER: The audio portion will not.

7 MR. GOODMAN: Okay.

8 MR. ETCHER: All righty. Now before we get started with the
9 interview, I always say there's a few rules. We're the
10 government, we got to have rules, right.

11 During the interview, I ask a question that you really don't
12 know what I'm asking, ask for clarification, It's okay. It
13 probably sounded really good in my brain, but my brain and my
14 mouth aren't always connected so it didn't come out the same way.
15 So ask for clarification.

16 You give me an answer that I don't quite understand, I'm
17 going to ask for clarification as well. It's that two-way street.
18 I want to learn everything I can, but I also want you to be able
19 to answer the questions as you know.

20 MR. GOODMAN: Yes.

21 MR. ETCHER: If for some reason you realize, oops, that's not
22 what I meant or you had an opinion, just say so, and we can --
23 it's all good. We want to make sure everything we have is
24 factual. We're glad for opinions but -- and I'll take them
25 anytime I can. I just want to make sure that I recognize that

1 it's an opinion when I read through the transcript in a few weeks
2 again. I don't want it to be a fact, it was an opinion.

3 MR. GOODMAN: Okay.

4 MR. ETCHER: If you don't know an answer, I don't know, can't
5 recall, any of that works perfect. It's not a check ride so
6 there's no right or wrong so just feel free -- it's been a while,
7 I know it's been a while so you might not recall everything. It's
8 okay. Just say you don't know, I don't recall, whatever.

9 MR. GOODMAN: Okay.

10 MR. ETCHER: If you need a break, please say so. I'm going
11 to ask you throughout, but if you do need a break, say so. We'll
12 take one if you -- whether it's to go to the restroom, get a
13 drink, confer with counsel. We'll hit pause, take as long as we
14 need, and then we'll resume when you're ready. All righty?

15 MR. GOODMAN: Okay.

16 MR. ETCHER: So before we get started, any questions?

17 MR. GOODMAN: No.

18 MR. ETCHER: Well, I always try and start with some of the
19 toughest questions towards the beginning and then they get easier
20 as they go along; get the hard ones out of the way first.

21 INTERVIEW OF MICHAEL GOODMAN

22 BY MR. ETCHER:

23 Q. For the record, can you please state your name and spell your
24 last?

25 A. Michael Kenneth Goodman, G-o-o-d-m-a-n.

1 Q. And what is your job title?

2 A. Captain, Southwest Airlines.

3 Q. All right. And how long have you been a captain at
4 Southwest?

5 A. Twenty-five years.

6 Q. How long have you been at Southwest as a pilot?

7 A. Thirty years.

8 Q. All right. Congratulations.

9 A. Thank you.

10 Q. It sounds like a great career.

11 So thinking back to December 20th of 2023, coming out of
12 New Orleans, Flight 554, were you the captain on that flight?

13 A. Yes, I was.

14 Q. All right. Were you the pilot flying or the pilot
15 monitoring?

16 A. Pilot flying.

17 Q. Back in December of 2023, I assume you had some certificates
18 and ratings, can you recall what they were?

19 A. ATP, multi engine, 737-type rating, commercial, instrument,
20 helicopter, commercial lighter-than-air, free ballon.

21 Q. Perfect. And did you have a current medical back in
22 December 20th of 2023?

23 A. Yes, I did.

24 Q. Do you remember what class that was?

25 A. Class 1.

- 1 Q. Did you have any limitations or restrictions assigned to it?
- 2 A. Yes, I did. Glasses required.
- 3 Q. On the date of the event, were you wearing your glasses?
- 4 A. Yes, I was.
- 5 Q. Are they for reading, for distance, or both?
- 6 A. I guess both.
- 7 Q. Okay. All right. Perfect. Now the next few questions are
- 8 why we say are the toughest questions for most and then it gets
- 9 easier from here on out.
- 10 Flight time. Can you give me a ballpark back, December of
- 11 2023 of how much flight time you had? It's a big ballpark.
- 12 A. Twenty-eight thousand hours.
- 13 Q. A big ballpark again, about how much of that was in the 73?
- 14 A. Twenty-four thousand hours.
- 15 Q. All righty. And how much of that was captain?
- 16 A. Twenty thousand hours.
- 17 Q. Those are the toughest questions. They get easier from now
- 18 on.
- 19 A. Awesome.
- 20 Q. You got through those just fine. Have you ever been a check
- 21 airman or a line check airman or a SIM instructor?
- 22 A. I'm currently a check airman.
- 23 Q. All righty. How long have you been doing that?
- 24 A. Approximately 12 to 13 years.
- 25 Q. Perfect. And for the event flight, was it a check, a

1 checking event, or was it just a regular flight for you?

2 A. No, regular flight.

3 Q. How do you enjoy being a check -- do you enjoy being a check
4 airman?

5 A. Yes, I do.

6 Q. Why?

7 A. It's a chance to pass on knowledge to fellow airmen,
8 especially the new airmen that we have coming on board, mentor
9 them, and basically being able to pass along knowledge and help
10 guys in our transition here, as well as ensure that guys that we
11 have on the line are following our procedures and protocol the way
12 that they're supposed to.

13 Q. Okay. Perfect. About how often, whether it's how many times
14 a month or how many months, do you have to do check airman duties?

15 A. Each month, normally I do something, whether it be in the
16 airplane, giving a line check; or predominantly every other month,
17 I come out to Dallas to perform simulator evaluations.

18 Q. In December of 2023, what is your base, or what was your
19 base?

20 A. Orlando.

21 Q. Orlando, all righty. Perfect. So let's start getting into
22 that event on that day. Start wherever you want, kind of walk me
23 through the day, whether it's the beginning of the day when you
24 flew from wherever to wherever, or at the gate getting ready for
25 the event flight.

1 You start wherever you want and just kind of walk me through,
2 let me be that fly on your shoulder so I can kind of learn from
3 the best.

4 A. Okay. Well, it's been so long, I can't recall our overnight
5 city prior, but it was either our third, but I think it was the
6 fourth leg of the day. We'd gone Dallas to New Orleans then it
7 was New Orleans, Tampa was the last leg.

8 I was very fortunate to have an extremely experienced first
9 officer. He could have upgraded years ago, a decade ago, if he
10 had to choose, because originally, I was slated to have an IOE, a
11 new pilot on board.

12 It would have been her second day so I'm sure it would have
13 been much more challenging if that had transpired, but it didn't.

14 We had excellent weather; you couldn't have asked for a
15 better day. Clear skies, winds were calm or less than five knots.
16 Unlimited visibility.

17 Do you want me to continue through with the event itself?

18 Q. Please.

19 A. Okay.

20 Q. Continue to wherever you feel like you want to stop.

21 A. We departed New Orleans on Runway 11 and after going from
22 Flaps 5 to Flaps 1, I caught something out of the corner of my
23 eye, and I think I verbalized bird or something to that effect,
24 I'm not sure.

25 But shortly afterwards, I felt an impact. It actually felt

1 like we had hit something, like a provisioning truck had run into
2 you, or you'd hit a light pole or something like that. It wasn't
3 just the -- we heard a thump. The airplane actually felt like it
4 yawed at the impact point or point of time.

5 Once it turned out, obviously, it was a bird. Once we
6 ingested the bird into the number 1 engine, the aircraft
7 immediately started severely vibrating.

8 And we had a really good climb rate going, and the climb rate
9 dropped off as well as, you could sense a deceleration in the
10 aircraft as well to the point where, initially, I thought we'd
11 lost both motors.

12 I remembered looking out to my quartering left and at that
13 time, what I thought was a bayou, which I've flown in and out of
14 New Orleans since, and it's not a bayou; it's a big city park out
15 there about four miles away from the airport. But, initially, I
16 thought we'd lost both motors so I started a general turn towards
17 that open area.

18 Once I looked and saw it and started really assessing what we
19 had, I realized, no, we still got one motor that's still running.
20 And so we're able to level off, accelerate and then start taking
21 care of our issues at hand which, initially, was just the engine
22 failure.

23 I called for the QRC for the Engine, Severe Damage checklist,
24 and we had, I think, just started that checklist, the process of
25 that checklist. Steve was reading it when smoke started coming

1 into the cockpit, heavy, heavy smoke, and fairly rapidly. And my
2 first officer, Steve, stopped the checklist and said, we got to
3 get our masks on. And so I said, okay.

4 So, you know, in the simulators when things like that happen,
5 it's no big deal because you just reach down to pull your mask on,
6 you put it on because there's no stress, there's no severe
7 vibrating of the airplane, there's not that shock of what's going
8 on. Oh my God, the adrenaline and all that stuff pumping through
9 you.

10 So the simulator is pretty straight forward. The airplane,
11 not so much.

12 It's sort of funny how psychologically or mentally your brain
13 processes that event because when the bird first hit, I'm flying
14 the airplane and concentrating on just flying the plane. And I
15 remember thinking, oh my God, this can't be happening, this can't
16 be happening.

17 And I know this didn't occur, but it's almost like I heard a
18 voice say, well, it is happening, deal with it. So then it's like
19 a light switch flipped and, okay, we're back in, we're handling
20 the situation just, you know, doing what we got to do.

21 Putting the mask on, we were very, very fortunate. We had a
22 full-face mask, full-off (ph.) glasses. I have the glasses on.
23 Also a full-off headset. I've got a Bose A20.

24 So, I pulled the mask out. I took and flung the headset off
25 to my left and put the mask on. It went very easily across my

1 glasses and all that sort of -- there was no issues as far as
2 donning the mask.

3 We did have an issue for I don't know how many seconds, it's
4 hard to recall the amount of time, but there was a slight problem
5 getting communication going between the two of us because you
6 think, okay, I'll put my mask on, no big deal.

7 So your SIM, you reach down here and you're doing this stuff
8 and doing a hot mike, and you're turning the speaker volume up,
9 and you're good to go.

10 Well, when you're at low altitude, single engine, your low
11 air speed or energy, I was really, did not want to take my hands
12 off of the controls and lose sight of the horizon and everything
13 outside to do that.

14 And you physically have to turn your head over and look
15 because with that mask on, that peripheral vision's gone. Like
16 you're regularly flying, you can just reach down and do that.
17 Well, a mask you can't do that. You physically got to do that.

18 So I finally forced myself to do that and then we got comms
19 established, and then we went back into the checklist.

20 I think Steve, from what I recall, started running the smoke
21 checklist for the QRC, and the checklist have changed somewhat now
22 from when we had this incident.

23 But at the time, he was having trouble finding -- we've got
24 a, in the MAX, a couple switches, cabin utility, in-flight
25 entertainment switches that the panel -- like on the 700s, you

1 just used to have galley power. Well, now that galley switch is
2 gone, those two switches, so they're -- so I can't figure out our
3 answer to his why he was having trouble finding the switches, but
4 it's either because the airplane was different or, more than
5 likely, the smoke was so thick that he couldn't see it over there.

6 I remember looking over and say, hey, we got to get along
7 with this checklist 'cause we have to take care of this engine.
8 And when I looked over at him, the smoke was so thick, I could see
9 his outline, but that was it. I couldn't see anything past him.
10 I couldn't see his side of the instrument panel, and I was
11 starting to have trouble seeing my instrument panel side.

12 But from a prior military time, I'm a HUD baby, F-16s, and so
13 I take off and land 100 percent of the time with my HUD down. So
14 I remember consciously thinking at that time, this is bad.

15 And so I'm going to have to get vectors around and come back
16 and fly the ILS off this HUD. I'm not going to be able to see
17 anything else.

18 So we still had it set up. We'd done the ILS into 11, we
19 came in from Dallas so all that stuff was still, you know, in the
20 NAV box.

21 When I said something to Steve about, we need to press on
22 with this checklist, we got to take care of the motor, I think
23 that's at the point that Steve stopped that checklist, and we went
24 back over to the Severe Damage checklist and started running the
25 Engine, Severe Damage checklist.

1 We worked our way through that checklist then into the QRH.
2 We got vectors on our downwind. We climbed up to approximately
3 3,000 feet, give or take. Air traffic control basically gave us
4 *carte blanche*, you know, go where you needed to go, do what you
5 need you to -- you're cleared to land, I mean, pretty much
6 immediately or from what I recall anyway.

7 So we ran the checklist, came back around, I don't know, an
8 18-mile, 18-mile-ish final, if I had to guess or recall, and
9 landed the airplane.

10 Stopped the airplane on the runway, had a crash rescue check
11 us out for any fire damage, if they could see anything. And they
12 said besides, basically, it looks like there's some damage to
13 your, you know, motor, and everything's fine. There's no fire, no
14 nothing.

15 At that point we -- there was no smoke in the cockpit because
16 the smoke in the cockpit started dissipating pretty rapidly after
17 we pulled the fire handles during the QRH. So we took our masks
18 off at that point and taxied to the gate and deplaned normally.

19 That's it.

20 Q. Okay. That was a lot of detail, I appreciated it. I did
21 kind of feel like I was a fly on your shoulder.

22 I have some gray areas still in my brain so we'll kind of
23 walk through that.

24 A. Yeah, well, that's fine. Ask me whatever you'd like.

25 Q. Oh, give me the winning lottery numbers.

1 A. Yeah.

2 Q. Just kidding. Let's start earlier. Did you fly the airplane
3 into New Orleans, or did you have a plane swap?

4 A. We flew that airplane into New Orleans, from what I recall.
5 I don't recall that aircraft swap there.

6 Q. Okay. Was it a fine airplane going in, no issues, no -- that
7 you can recall?

8 A. No.

9 Q. I know, it's been a year.

10 A. No issues.

11 Q. Okay. Perfect. At the gate, I assume your FO gets the
12 clearance, what is it you're doing while passengers are boarding,
13 you're at the gate on a turn, what is it you as a captain do?

14 A. I'm reviewing the weather, the NOTAMs, the departures, the
15 arrivals that we're going to do, look at the weather for the
16 destination, seeing if we have an alternate or not.

17 And from what I recall, the weather was nice in Tampa that
18 day also so it was a pretty benign, to be a pretty benign flight
19 over Tampa.

20 The only real pressing issue was my wife was waiting on me in
21 Tampa so I didn't want to be late for her.

22 Q. Valid concern. All right. So you're doing all the reviews,
23 you're going to be the pilot flying. I assume you have to brief
24 the takeoff?

25 A. Yes.

1 Q. Did you brief anything about birds, or did you even know that
2 there was birds in the vicinity of the airport?

3 A. I don't recall.

4 Q. Okay, that's all right. Do you normally brief anything about
5 birds?

6 A. If we're in an area that there's a lot of migratory waterfowl
7 and stuff, I will.

8 And that would be, well, depending on the time of the year
9 and if it's on the ATIS or not. If we're calling birds, our --
10 normally, as a good example, you don't have birds, let's say,
11 coming out of Providence, Rhode Island. I just don't recall
12 seeing any up there, but I guarantee you're going to see birds if
13 you're in Omaha, Nebraska, when the cranes are coming through.

14 So that depends on -- how much time I spent on talking about
15 birds depends on the time of the year and the airport.

16 Q. So for my education, let's say there was birds, how would you
17 brief that, how would you talk about it? What would you do
18 different if you knew there were birds, potentially?

19 Like in Omaha when the cranes are migrating, what kind of
20 briefing do you do, or what do you do different?

21 A. I would say, all right, we take off, they're calling for
22 birds on the ATIS. Yeah, there's Sandhill cranes all over the
23 place so if you happen to see a big flock of birds while we're
24 climbing out, speak up, say something earlier than later so that
25 we can avoid them. And that will pretty much be it.

1 Q. Okay. I just wanted to make sure there was no special
2 procedures you guys have to do or anything like that.

3 A. No.

4 Q. All right. So you get all that done, you push back from the
5 gate, engine starts. I'm going to say normal, I'm not trying to
6 put words in your mouth.

7 A. No.

8 Q. It's been a while so I'm going to assume it was normal.
9 Taxied out, nothing wrong during taxi out, I assume?

10 A. No.

11 Q. Okay. Get out to the runway. Did you have to stop or hold
12 short, or was it a, I just don't recall?

13 A. I don't recall.

14 Q. All right. You get clearance to takeoff so you pull out on
15 the runway. Walk me through a takeoff departure, a normal takeoff
16 departure that you would do, you know, on a normal day like that?

17 A. Okay. Well, we're cleared to depart so, okay, final's clear.
18 I would turn -- on my landing, turn off lights, taxi light on.

19 The first officer, he's going to turn on his external lights
20 so we're going to go ahead and enter the runway environment. As
21 soon as we turn and we find ourself on the runway, I'm going to
22 verify that it's Runway 11; I'll call that.

23 And then I'll push the throttles up to, you know, in the
24 40 percent range and hit TOGA, and I'll call for set takeoff
25 thrust 80, 88.5, whatever the number the happens to be, and remove

1 my hand from the throttles.

2 Pilot monitoring, he's going to adjust the takeoff thrust
3 then I'm going to put my hands back on the throttles. We're going
4 to go down to V1. I'm going to remove my hands since I hear V1
5 called and then we're going to rotate and start a climb out.

6 In this particular case, we're at Flaps 5 so we're going to
7 maintain Flaps 5, climbing on flight directors until 1,000 feet
8 then I'm going to call Flaps 1.

9 There's a couple different ways you can program the airplane.
10 You can do it in the FMC, 2L, 3L. You can program in the speeds
11 where they automatically go up to 250 knots, or you can call for a
12 set speed, do speed intervention, Flaps 1, climb, thrust, you can
13 do it that way.

14 So I think this particular day, we did 2L, 3L so the airplane
15 was going to take care of the set speed part for us automatically.

16 Eventually, Flaps 1 and flaps up and climb out.

17 Q. So on this day -- let's back up just a little bit to taking
18 the runway, if you will, getting ready to go. Do you remember,
19 was the bleeds on the engine, or were they on the APU, or the
20 bleeds just --

21 A. They were on the engine.

22 Q. On the engine. Is that a normal takeoff?

23 A. Yes, it is.

24 Q. Is there any reason you'd ever not takeoff with them on the
25 engines?

1 A. Well, if you were -- a good example and it happens fairly
2 regularly up in Chicago Midway, short runways.

3 If you don't have the performance then you would have to do a
4 bleeds off takeoff with the APU providing that the -- that's
5 gotten where in the years past when we flew the 200s here, that
6 was a regular thing, but very rarely do you see that configuration
7 anymore. And if you do this in the supp FOM, supplemental
8 procedures, then you'd go in and look at it before you performed
9 it.

10 Q. Okay. I'm going to ask for a you-ism, if you will, is that
11 something if you were taking off with the bleeds off the engines
12 and on the APU, is that something you would brief as part of your
13 departure briefing?

14 A. Oh, definitely. Yeah, yes.

15 Q. Is it a --

16 A. 'Cause that's an -- that's something we don't normally do.

17 Q. Okay. Is it hard to do?

18 A. No.

19 Q. Is it -- how many more steps is there if you did that?

20 A. Oh, gosh.

21 Q. A lot?

22 A. Well, you're having to, let's see, one, two, three, four,
23 five, six, there's six different switch configurations that you're
24 going to have to change and make sure that you change them in the
25 appropriate order. No, it's not that hard.

1 Q. Okay. All right. So you takeoff, you're climbing out. I
2 think you said you called Flaps 1 --

3 A. Yes.

4 Q. -- on this day? Did you ever get to flaps up before you hit
5 the bird, or where did you --

6 A. No.

7 Q. -- hit the bird in relation to the flaps call?

8 A. From my recollection, we hit the bird almost immediately
9 after calling Flaps 1.

10 Q. Okay. And just a ballpark, that's about 1,000 feet when you
11 do that?

12 A. A thousand feet.

13 Q. Perfect. So you call Flaps 1, hit the bird. And I know, a
14 long time ago, I get it, just a ballpark. I know you said you saw
15 the, something out of the corner of your eye?

16 A. Yeah.

17 Q. From the time you saw it until you knew something was wrong
18 with your engine, ballpark, how long was that?

19 A. Oh. It was quick. We're probably -- a second and a half.

20 Q. Okay.

21 A. I mean, it was quick.

22 Q. Hm-hmm, all right. So, bird hits the engine, the engine
23 starts to shake. I think you said it was, I don't want to put
24 words in your mouth, I think you said severe airframe shaking?

25 A. Yes. The entire airplane. It wasn't just the thrust levers.

1 It was in everything. The glare shield was shaking. The control
2 column was shaking, the thrust levers -- everything was shaking,
3 the entire plane.

4 Q. Okay. All right. Did you ever experience that before?

5 A. Not to that level.

6 Q. So the airplane's starting to shake, severely shaking, and
7 then you said at some point after that, smoke started coming in?

8 A. Yes.

9 Q. About how long? I know. It all happens very quickly, but
10 just a ballpark.

11 A. Less than a minute. I don't know if I had -- probably
12 45 seconds or so. That's just a guess because when the smoke
13 started coming in, I think Steve had already made a call, the
14 first officer had already made a call to tower to tell them that
15 we had an issue, that we're coming back.

16 I think he had already pulled the QRC out of the holder, from
17 what I recall. So that's probably 45 seconds.

18 Q. All right. I know you said smoke started coming in. Again,
19 I don't want to put words, but I want to say -- I visualized
20 heavily, a lot of smoke?

21 A. Yes.

22 Q. Do you know where it was coming in at?

23 A. No idea.

24 Q. Okay. Just all of a sudden --

25 A. There's smoke. It's everywhere.

1 Q. From the time the smoke started until you put on your oxygen
2 mask, are we talking a long time, short time? I know it's hard
3 to, you know, I don't want, hoping for times, but it's hard, I get
4 it.

5 A. A period of time did go by, but I can't tell you how long.
6 It wasn't over a minute or two, I know that, but it started to be
7 fairly thick before the first officer said, we got to get our
8 masks on, but I really can't put a time number on it.

9 Q. Okay. And I know you described the thickness of it 'cause
10 you could barely make out his profile view.

11 A. Well, that was when I looked at him, but it got even worse
12 than that as time went on.

13 I didn't just happen to look back over at him because I was
14 too busy flying the airplane and starting to pay attention to --
15 if I'm going to have to use this HUD or not to fly.

16 So after that initial look to him and say, hey, we got to get
17 on with this checklist and get back to the engine checklist,
18 that's the last time that I recall looking over at him while the
19 smoke issue was going on.

20 Q. When the smoke started coming in, was there any smell you
21 detected, any taste, anything? Just kind of help us understand
22 what, I mean, smoke is smoke.

23 A. You could -- I could smell it. I don't recall tasting it,
24 but I could definitely smell it. It had a weird, a very strange
25 smell. I've never smelled smoke like that before.

1 I don't how you would describe it. It wasn't an electrical
2 smell, I know that. So, it's probably a petroleum-type smell, but
3 I mean, normally I'm not around fire pits, you know, oil burning,
4 but it probably an oil type smell, but I couldn't taste it.

5 Q. Okay. When the smoke was coming in, do you remember what
6 color it was?

7 A. White.

8 Q. A white, all right. Was there any irritant to you, like,
9 making your eyes tear up, making you cough, burning the back of
10 your throat, nasal, you know, was there any kind of irritants that
11 you could, that you were feeling, experiencing?

12 A. I don't recall any, no.

13 Q. Okay. I know you said it got thicker. You were afraid
14 you're going to have come to back to your HUD cripple days and fly
15 on the HUD for a little bit?

16 A. Yes.

17 Q. Was there a point when you could not see out the glare shield
18 because of all the smoke?

19 A. No.

20 Q. Could you always see your screens?

21 A. My screens were hard to see, but I could see them, but they
22 were not clear.

23 By that point, I had stopped flying off my displays, and I
24 was flying off the HUD so I really -- when it started being hard
25 to see on my, I didn't really pay attention to them. I was just

1 looking at the HUD.

2 Q. It has everything you need on it anyway, right?

3 A. Yes.

4 Q. Okay. It's starting to, the smokes starting to fill in, it's
5 getting real thick, I think you said your FO said oxygen masks or
6 whatever?

7 A. Yeah.

8 Q. You get yours on, you said it went on, you know, you took off
9 your headset, but it went on easy over your glasses?

10 A. Yes.

11 Q. When you put that on, could you still smell smoke?

12 A. I don't recall smelling smoke after that.

13 Q. Okay. How was your visibility? I know you said you had
14 problems with your peripheral vision with the face shield on.

15 A. Yes.

16 Q. But looking out with the smoke and everything, did the face
17 shield hinder you from seeing further, or did it improve it?

18 A. I don't think it had any affect at all on the visibility.

19 Q. All right. How was your communications? When you got your
20 oxygen mask on, were you able to communicate easily with the FO?

21 A. Initially, we didn't until I finally -- I don't know the
22 issues that my first officer was having with his but as far as my
23 side of the communications, initially, we were hindered for
24 probably 30 to 45 seconds until I finally rotated my head down and
25 was physically able to set up my comm panel.

1 And from that point on, we had no issues with communications.

2 Q. Okay. All right. Is this oxygen mask comm panel set up
3 different than other 73s at Southwest, or is that all --

4 A. Oh, gosh. We have multiple comm panels at Southwest, and we
5 have multiple masks also. We're very fortunate that they, in my
6 opinion, we have the best mask that you could possibly have.

7 We have the full-face mask so automatically, the microphones
8 going to be activated and it covers everything. We're so
9 fortunate that we didn't have to go digging around trying to find
10 smoke goggles or something like. It was a one-step process. I
11 wish they all had this oxygen mask.

12 Q. It sounds like it's a good thing you had it then so I'm glad
13 you did.

14 A. Yes.

15 Q. So you get your oxygen mask on, you guys get communications
16 established. Is the airplane still severely vibrating, shaking?

17 A. I don't know at what point the vibrations dissipated, but at
18 some point, I noticed that the severe vibrations stopped. There
19 was still a little vibration but not that much.

20 But at some point, obviously, the Load Reduction Device
21 activated, and it helped reduce the vibrations, which I didn't
22 know anything about the Load Reduction Device at the time, but it
23 wouldn't have changed the way I flew the airplane so it's sort of
24 a moot point.

25 Q. Okay. So you didn't know about the LRD at the time?

1 A. No.

2 Q. When did you learn about it?

3 A. Probably a couple months later. There was a, I don't
4 remember if it was a Read Before Fly bulletin that Southwest put
5 out or a -- I'm not sure. Southwest put out a bulletin. I think
6 it was a Read Before Fly that told us about the LRD.

7 Q. So, you're flying, the FO's doing a checklist?

8 A. He's doing the checklist, and we sort of muddled the waters a
9 little bit. There's some points in the checklist that tower was
10 talking to us, and I responded to them.

11 But predominant, he's running the checklist and the radio
12 while I'm flying the airplane.

13 Q. And was it the, and forgive me, Engine Severe Fire, Engine
14 Severe Damage in-flight checklist, was that the one you were
15 running --

16 A. Yes, the Severe --

17 Q. -- whatever. It's a --

18 A. Yes.

19 Q. It's a long title to me.

20 A. Engine, Severe Damage, Separation checklist. I can't
21 remember the exact -- there's another, there's three parts to it
22 there, but the Severe Damage checklist is the one that we were
23 running.

24 Q. Okay. Did you ever get a fire bell or any of --

25 A. Oh, yes. Fire bell, illumination of the fire light on the

1 glare shield, and the illumination of the fire T-handle for the
2 number 1 engine.

3 Q. With all the smoke, did that illumination come through the
4 smoke clear enough, easy enough, was it hard to see that you can
5 recall?

6 A. Those lights illuminated almost immediately before there was
7 smoke, and so I really can't answer after the smoke 'cause I
8 wasn't paying attention to them.

9 Q. You had your hands full just a little bit so I get that. I
10 was just trying to --

11 A. Yeah.

12 Q. -- fill in all the pictures I can here in my brain.

13 So he's running the checklist, you're flying, did you have
14 the autopilot on, or were you hand flying?

15 A. I was hand flying.

16 Q. Did you ever think about putting on the autopilot?

17 A. I don't recall if I ever put the autopilot on or not during
18 the whole thing. I could have told you that 12 months ago
19 probably, but not now.

20 Q. Yeah. No, and it's all good. Like I said, it's been a while
21 ago. Your memory, you've recalled a lot of stuff so far, and
22 you've really started helping me fill in the blanks so I
23 appreciate it.

24 I think you said when you were walking me through it that you
25 went out to about an 18-mile final-ish?

1 A. Yes.

2 Q. Was that your guys' doing so you could run checklist, was
3 that --

4 A. Yes.

5 Q. Okay.

6 A. I didn't want to jam ourself as running these checklists
7 because we were -- it was taking a lot of runup. They take a
8 while.

9 So I started a base turn when I thought it'd be appropriate,
10 and I realized, you know what, we still need some more time so I
11 actually flew through the final some and then did a dog leg back
12 up to final to build in a little bit more time.

13 Q. At what point did the smoke start to dissipate for you? Was
14 it turning base final, was it prior to that?

15 A. I don't remember the exact point in the route of flight that
16 it occurred, but I do recall what caused it to stop, and it was --
17 it stopped very quickly was when we pulled the fire handle for the
18 number 1 engine.

19 Q. Okay. All right. So you fly through final, dog leg back up
20 a little bit just to give you a little bit more time. Airplane
21 controllability, pretty controllable in the air?

22 A. The airplane's fine by that time. After the initial stress
23 of, oh my God, what's going on, and working through all that
24 mentally, the airplane flew fine, especially after we got some
25 more speed, you know, once you start getting up in the mid to low

1 200s then it flew nice.

2 Q. Was there any point that you took off your oxygen mask?

3 A. After we landed and the fire department said that they
4 couldn't see anything just besides the engine damage, no fire, no
5 nothing.

6 At that point, once we turned to exit the runway and go to
7 the gate, we took the masks off at that time.

8 Q. Okay. Did both of you still have your masks on? I know it's
9 been a while ago, you probably don't remember, but you did, I
10 assume, for sure?

11 A. Yes.

12 Q. Do you remember if your FO did?

13 A. I think he had his mask on 'til the same time. I know he did
14 not take it off during flight.

15 Q. How was it landing the airplane? I know you had peripheral
16 vision issues looking for your comm stack here with the mask on.
17 How was it landing the airplane, does it add more complexities?

18 A. No. That mask is -- it's got a very wide view. The optics
19 are really good so I didn't notice any changes or difficulty level
20 change in landing the airplane or flying the airplane with it.

21 Q. Okay. So you land, roll out, ARFF comes up, gives you the
22 thumbs up, you're all clear?

23 A. Yes.

24 Q. Taxi to the gate, and park at the gate and then deplane, or
25 did you have to park somewhere else?

1 A. No, we parked at the gate and did a normal deplaning.

2 Q. Was there at any point that you thought about evacuating?

3 A. Once the smoke cleared and it was obvious that we didn't have
4 a fire, no.

5 Q. Okay. Did you pass that knowledge on to your flight
6 attendants at all, that you can recall, or did either of -- I
7 don't mean just you --

8 A. Yes.

9 Q. -- I mean you as a crew?

10 A. There was interaction with the flight attendants after the,
11 well, I warned the flight attendants ahead of time. I told them
12 what the issue was and that we were going to come back around and
13 land and that fire trucks are going to be there, but they're just
14 there as a precaution and so not to worry about them. I chat with
15 them some more once we got on the ground.

16 And so then I made a quick PA to the passengers to tell them
17 that we had lost a motor and that we were returning. And the same
18 thing, I said, fire trucks are going to meet us but that's just a
19 precaution so there's no need to be concerned about that. They're
20 just there for our safety.

21 I don't recall what I told the flight attendants after the
22 fire department left, but I did make an intercom, not a PA, but an
23 intercom call to them and said, hey, we're going to the gate and
24 we'll deplane normally.

25 Q. Okay. All right. When you get to the gate, get everything

1 shut down, passengers start to deplane, was there -- did you
2 notice any effects to you with all that smoke that was around you,
3 did you have any, I'm going to say, coughing or breathing issues
4 or eyes watering or anything along that line for you?

5 A. Not at that time.

6 Q. Did you later?

7 A. Yes.

8 Q. About when?

9 A. Probably a day later, maybe 2 days later. I developed a
10 chronic cough that continued for 5, roughly 5 months.

11 I was in denial, I guess I would say I was in denial because
12 I didn't want to lose my medical certificate so I was going, all
13 right, I'm going to be able to work through this.

14 And eventually, it went to, I ended up hacking up for
15 probably a good 4 months, a white phlegm. I can't -- chunks of a
16 white material, and I thought this is not good.

17 And finally about the fifth month, the white phlegm stuff
18 stopped coming out and then eventually the cough went away.

19 Unfortunately, I'm currently dealing with some potential
20 heart issues which reared itself yesterday. In the process of
21 doing a stress test, my cardiologist was a little concerned about
22 my lung capacity. And so I'm having a CT scan done, actually,
23 tomorrow for the lungs to find out what's going on.

24 Q. Prior to yesterday, did you ever visit a medical doctor, a
25 hospital, urgent care, anything like that about your coughing,

1 your phlegm?

2 A. I had told my cardiologist about it 'cause we talked about
3 the issue during one of my blood pressure monitoring visits and
4 stuff. But, no, I didn't go in for that 'cause I wanted to
5 continue to fly, and I didn't want to ground myself if I didn't
6 have to.

7 Q. I don't want to put words in your mouth, but you didn't, you
8 elected not to go seek medical help just so you didn't have to
9 worry about losing a medical?

10 A. Well, that was a concern of mine. And as far as I know, I
11 guess if you're diagnosed with something like that, just an issue
12 then, yeah, you're only grounded, but there's nothing that says if
13 you're coughing up phlegm that you have to ground yourself.

14 Q. Right, okay. I just, I'm just trying to get it all in head
15 correct 'cause I don't want to assume anything.

16 A. Yes.

17 Q. All right. So let's go back now to the gate. You pulled in,
18 you didn't have any irritant issues?

19 A. No.

20 Q. Did anybody complain, passengers, flight attendants, your FO
21 about, you know, irritants, eyes watering, tickle in the throat?

22 A. No. One thing that I did find interesting was during the
23 debrief process with the flight attendants, we did that in the
24 forward galley, and I'm sitting there looking down the airplane,
25 and there's approximately five rows of seats with the masks down.

1 And I was, what are these masks doing down.

2 And somehow, these five rows of people have the knowledge or
3 figured out how to do it, or whatever, to get their masks down.
4 But we didn't deploy the masks and, well, they didn't know, but
5 the masks weren't going to help them anyway. But they got their
6 masks down, five rows of people.

7 Q. Okay. Interesting. All right. So you're at the gate, you're
8 debriefed, did you go out and look at the engine at all?

9 A. Yes.

10 Q. What'd you see?

11 A. I saw some very significant damage to the fan blades, some
12 damage to the liner. One fan blade was missing. There was some --
13 also bird residue outside of the engine itself on the trailing
14 edge of the flaps as well which I don't know how it got there, if
15 the bird went down the intake. But, nevertheless, it was there.

16 Q. Okay. Do you remember -- I know it all happened in a blink
17 of an eye, if you will, did you see one or two birds, or was it
18 just you saw something?

19 A. I saw something, and my brain, I remember thinking bird, but
20 I can't tell you if it was one or two.

21 Q. No worries. So, after you get off the airplane, you've
22 walked around, you checked it all out, did you guys go to the
23 hotel? Did you wait around, write up the maintenance log?

24 A. We wrote the aircraft up. We were given the option that --
25 we had a conference call with quite a few people here in Dallas.

1 I don't recall who all was on that call; it was a lot of people.

2 But we were given the option of either going to the hotel or
3 just deadheading home, and we both chose to head home.

4 Q. All righty, perfect. Switching gears just a little bit.
5 You're in training, you do training of pilots, how did your
6 training, did it make you feel like you could handle the situation
7 that was given to you easily, or was there something that could be
8 done differently in training for you to have more confidence or
9 feel like, yeah, I got this?

10 A. Well, I don't know how you would simulate that level of smoke
11 in the cockpit on a simulator, but that smoke was significant. If
12 they could figure out how to do that, that would be nice because
13 the smoke in itself, forget about the severe vibrations, just the
14 smoke in itself increased the work load significantly.

15 So if you could somehow figure out how to pump smoke, you
16 know, the simulators over there at that -- without, obviously,
17 injuring the guys that you're giving the training to, that would
18 be much better training.

19 It probably wouldn't be a good idea to make the simulator
20 vibrate that much 'cause that'll destroy all the components in it
21 over a period of time.

22 Q. Yeah, we don't want to have that problem either. Okay. All
23 right. I know you said you were grateful to have a seasoned FO --

24 A. Yes.

25 Q. -- on that flight, do you think -- I'm asking from your

1 opinion here, as a check airman and with what you see, if you'd
2 have had a new FO, would the training that they get have helped,
3 would that have caused you more challenges because of their
4 inexperience than what you had?

5 A. I think we would have been able to handle the problem, and
6 the outcome would have been the same, but I think the workload on
7 myself would have been much higher.

8 Q. Okay. All right. Well answered. Okay. Perfect. The last
9 question for me, and then I'm going to pass it on 'cause you've
10 got to be tired at looking at me.

11 Was there at any point prior to putting on the oxygen mask
12 that you kind of thought, you know, the smoke is kind of thick, it
13 could get to be debilitating any time soon, or was everything
14 happening so fast that was not even a fleeting thought?

15 A. Everything was happening so fast that I was concentrating and
16 concerned about flying the airplane so much that it took the
17 prompting from my FO to put that mask on.

18 But it was absolutely the perfect call to make. I'm glad he
19 did it 'cause we probably should have, in hind sight, put those
20 masks on quicker than we did. But the workload was pretty high.

21 MR. ETCHER: Okay. All right. Perfect. I told you that was
22 my last question for this round, and I will be true to my word.

23 But I know we've been going about 50 minutes. Do you need a
24 break?

25 MR. GOODMAN: No.

1 MR. ETCHER: Doing okay?

2 MR. GOODMAN: I'm fine.

3 MR. ETCHER: All right. Well, with that, David, do you have
4 any questions, sir.

5 MR. GERLACH: Thanks, Shawn. I do have a few.

6 BY MR. GERLACH:

7 Q. You talked about the use of a HUD. Why is it more
8 advantageous to fly on the HUD than your PFDs?

9 A. I'm so used to using it over the years, it's like second
10 nature to me, and all the data's just right there in front of you,
11 especially when you're doing approaches.

12 The HUD guidance is so much more accurate, at least for me,
13 than trying to follow the flight director guidance down final.
14 It's just a personal preference of mine. I just think it's easier
15 for my brain to take in the information from there than it is
16 looking at the displays.

17 Q. If you were to recommend to other pilots dealing with this
18 situation, would you recommend the same thing, fly the HUD?

19 A. I think that's very specific to the pilot because I've had so
20 many years of flying the HUD that my level of comfort would
21 probably be different than, let's say, a guy that's come from a
22 regional carrier that's only been here a couple of years and
23 doesn't have any HUD experience. In his particular case, it could
24 be a hinderance.

25 Q. Yeah. Does the position of the HUD in front of you provide

1 you anymore clarity than looking further out at the PFD?

2 A. Oh, yes. Yes, definitely.

3 Q. So that helps?

4 A. Yes. Well, in this particular case, it helped immensely
5 because the smoke -- I felt like even with the smoke level we had
6 or if would it even have gotten worse, I could have flown that
7 airplane back around just by planting my face up in front of that
8 HUD.

9 Q. Yeah. And when you configure your HUD for takeoff and
10 landing, do you have a particular light intensity that you use?

11 A. I do. I set it manually. So we don't have anything that says
12 20, 30 or 40, 50 percent lighter. You just turn it until it gets
13 to the level that you like.

14 Q. And was that adequate for you, or did you need to crank the
15 intensity up?

16 A. No. No, it was adequate.

17 Q. Yeah, okay. Talk a little bit about the handling qualities
18 of the aircraft right after the engine failure and then all the
19 way down to rolling the Goodyears on the runway.

20 A. The airplane initially flew very nice outside of the extreme
21 vibration. I think the MAX flies much nicer than the Next Gens or
22 even the Classics or the regulars prior to that. But the airplane
23 itself flew very nice.

24 I was just sort of surprised that our performance dropped off
25 when we lost the engine as much as it did. That caught me a

1 little bit by surprise.

2 But as far as the control of the aircraft and the inputs and
3 everything, I don't have anything bad to say about it. It was
4 great.

5 Q. Okay. When you lost that engine, did you notice on the tape
6 a great big deceleration?

7 A. No. I was at that point looking out at the horizon and
8 trying just to hang on to the plane. So I can't recall any
9 instrument indications at that point.

10 Q. Was there any particular pitch attitude that you needed to
11 stop the deceleration, accelerate?

12 A. From what I recall, I can't give you a specific pitch
13 attitude, but I think we came back down to a level flight for a
14 period of time until we built air speed.

15 Q. Yeah. Did that go quickly, or did it take a long time?

16 A. It didn't go quickly, but no, it didn't take a long time. By
17 the time we started turning crosswind, we had already started
18 climbing at that point. I can't give you a minute, 2 minutes or
19 45 seconds, whatever, but it wasn't a significant amount of time.

20 Q. Have you been back into the SIM for recurrent?

21 A. Yes.

22 Q. Reflecting on the engine failure that you had, how do you
23 look at the SIM now?

24 A. I don't look at it any different than I did prior.

25 Q. Do you look at it and say this is spot on, it simulates the

1 engine failure except for vibrations?

2 A. Well, except for the vibrations, the shock effect and the
3 stress and none of those, you're not going to be able to replicate
4 in a SIM. But the simulator flies very much like the real air, or
5 the real airplane did in that situation.

6 Q. Yeah. So you talked about Southwest Airlines putting out a
7 fly, a Read Before You Fly [sic], did that give you new insights,
8 or had you already learned?

9 A. Well it told me about the LRD which I didn't know anything
10 about, but that's about the only insight.

11 Q. Switching gears a little bit. Your clothes and stuff, did
12 they have that smell to them that you experienced? Did it stick
13 around?

14 A. I don't recall because when I got home, I took them off. My
15 wife washed them, but I don't recall any smell on my clothes.

16 Q. Yeah. Any gear, luggage and stuff still smell like that?

17 A. No.

18 Q. Okay. Do you recall having any open food or anything in the
19 cockpit, coffee?

20 A. No, I think it was late enough in the day, my coffee had been
21 done by then. I probably, this is just a guess, but if I had to
22 guess, I had a can water up there, but that would have been it.

23 Q. Let's see. And if you were to estimate your visibility in
24 the cockpit when it was at its worst?

25 A. A couple feet.

1 Q. Okay. Have you ever hit a bird before in your career?

2 A. Yes.

3 Q. How many birds have you hit over the years?

4 A. Well, I've hit quite a few on a, you know, radomes, wings,
5 tails, things like that.

6 I've had one other bird strike that went down an engine, and
7 it was an MD-80 in Saint Louis in 1993. And it was fairly
8 significant damage to that motor, but we were fully configured to
9 land on short final; it was night time.

10 There was a vibration in that airplane, just a, like a high
11 frequency vibration and throttles. I was the pilot flying. And
12 then a really nasty smell, and we both accused each other, you
13 know, of creating that smell.

14 We didn't realize we'd hit a bird until we got to the gate,
15 and I did the post-flight inspection.

16 Q. Yeah. Your touchdown and landing, did you use autobrakes?

17 A. Yes.

18 Q. And did you use reversers?

19 A. Yes.

20 Q. And you used both reversers?

21 A. No, just the number 2 reverser.

22 Q. Okay. And was the power lever all the way back on that
23 engine?

24 A. Yes.

25 MR. GERLACH: Shawn, those are all the questions I have.

1 Thank you very much. Thank you.

2 MR. ETCHER: Thanks, David. Doing okay, need a break?

3 MR. GOODMAN: No, I'm good.

4 MR. ETCHER: All right. John, sir.

5 MR. RUMMEL: Mike, very thorough. I really appreciate all
6 the detail and your recall of this. Mike, at this time, I don't
7 have any questions, thank you.

8 MR. ETCHER: Thanks, John. Chris.

9 MR. SHAVER: I am amazed that, at what your able to recall,
10 it's pretty amazing so thank you.

11 I just wanted to -- just a couple of quick, really quick
12 ones.

13 BY MR. SHAVER:

14 Q. Do you recall, like, on your departure, were you on a
15 standard departure or vectors, do you remember?

16 A. They had assigned us a heading, but I can't tell you what
17 heading that was.

18 Q. Okay. Were you straight and level when you had, hit the
19 bird?

20 A. Yes.

21 Q. Do you remember doing any kind of specific engine out
22 procedure with regard to track or heading or anything like that?

23 A. Well, the --

24 Q. I know you said you had looked, were looking.

25 A. Well, we -- when I looked over and saw that, what I thought

1 was the bayou, I initially started turning to the left, towards
2 that bayou.

3 But we were not in the middle of any turn. We were just
4 going straight ahead trying to get the airplane cleaned up when it
5 hit.

6 Q. Did you get it -- I know you said it happened between Flaps 5
7 and Flaps 1?

8 A. Yes.

9 Q. You did get it cleaned up eventually, or do you recall?

10 A. You know, I don't think so 'cause I remember calling for
11 Flaps 5 when we got back around the pattern and during the landing
12 process. And I'm pretty sure I looked over, we were still at
13 Flaps 1, and I was thinking, how in the hell that happen.

14 But I'm like 95 percent sure that we never go totally clean.
15 I think it stayed at Flaps 1. Matter of fact, I know it since I
16 had thought, it is Flaps 1.

17 Q. Okay. I know -- so you're VFR that day do you recall, were
18 you able to see the airport pretty much whenever you needed to?
19 Did you ever lose sight of the airport in the smoke?

20 A. Well, the smoke inside of the cockpit, as far as the airport,
21 keeping sight of that wasn't an issue because we're just running
22 the checklist and flying a heading and getting some altitude
23 between us and the ground.

24 When I started that base turn, one of the reasons I started
25 that turn was we were -- I was -- when I looked back over, we're

1 starting lose sight of the airport, and I didn't want to do that.

2 So I turned a little bit sooner than I would have liked to
3 for running the checklist, but I didn't want to go out and then
4 have to guess where the airport was coming back.

5 Q. So at that point, though you --

6 A. Smoke --

7 Q. -- the visibility restrictions you had?

8 A. Had been gone. Visibility restrictions, it was not an issue.
9 We were on base.

10 Q. And then any issues, yeah, I think you said you couldn't
11 recall if you had the autopilot on.

12 A. I don't recall.

13 Q. But no issues there between, you know, crew issues with MCP
14 changes at all?

15 A. No. Not that I recall.

16 MR. SHAVER: Okay. That's all I have.

17 MR. ETCHER: Thanks, Chris. John.

18 MR. STEINNES: Now, Mike, it's obvious you're a passionate
19 aviator. I think whoever you're assigned as first officers or
20 students are lucky to have your background and experience.

21 MR. GOODMAN: Thank you.

22 MR. STEINNES: I'm a HUD cripple too. Learned to fly the HUD
23 at my previous job, and we always says a check airman in my former
24 role at Alaska Airlines, we always wondered if we had a smoke
25 event in the flight deck, this might be a good tool to have and

1 honestly --

2 MR. GOODMAN: Yes, it would be.

3 MR. STEINNES: -- but we never were able to simulate it so
4 it's really good feedback.

5 BY MR. STEINNES:

6 Q. I was just curious about the sequencing of checklists.

7 Obviously, you had the engine failure and the severe damage, and
8 the vibration and everything you've described, and the fire bell
9 and the lights.

10 You started down that Engine Fire, Severe Damage, Separation
11 checklist. Did you shift to the smoke and fumes?

12 A. Yes, we did.

13 Q. And then come back?

14 A. Yes, we did.

15 Q. Did you ever get through the whole Smoke and Fumes checklist?

16 A. I don't think so.

17 Q. I wouldn't think so either.

18 A. No.

19 Q. But, yeah. It's a cumbersome --

20 A. Yes.

21 Q. -- troubleshooting checklist.

22 A. I think that pretty much ended when, at the time, there was a
23 turning off those in-flight entertainment, cabin utility things,
24 and he was having trouble finding that. And I made some form of
25 comment, we got to hurry up with this, we got to get back and take

1 care of this engine so we went back to the engine. I don't think
2 we ever back to the other checklist.

3 Q. Yeah.

4 A. Matter of fact, there wasn't time unless I've done a 360 up
5 there.

6 Q. Sure, that makes sense. Thank you. Most of my questions
7 were answered already so I'm just kind of -- looking back on the
8 non-normal checklist, were any points or steps that were
9 confusing, or that you think should be, could be improved? My
10 team writes these checklists.

11 A. Yeah.

12 Q. Is some way we can improve that?

13 A. No, I think the checklist is very good.

14 MR. STEINNES: Sorry, I just crossed out everything I had to
15 ask 'cause all these questions have been answered. Let's see
16 here.

17 No, I think all my questions are answered. I really
18 appreciate the time you're taking to -- wait a minute, I'm sorry,
19 I have a few more.

20 No, that's good. Thank you.

21 MR. GOODMAN: Thank you.

22 MR. STEINNES: This is very valuable feedback.

23 MR. ETCHER: Thanks, John. Phew, made it through round 1.

24 MR. GOODMAN: There we go.

25 MR. ETCHER: Round 2's always quicker.

1 MR. GOODMAN: Okay.

2 MR. ETCHER: Before we start it, do you want to take a break?
3 Do you need a break?

4 MR. GOODMAN: If we're in the middle, sure, let's take a one.

5 MR. ETCHER: Yeah, your counsel's over there, he's shaking
6 his head up and down so let's go off the record at 11:36 local.

7 (Off the record at 11:36)

8 (On the record at 11:46)

9 MR. ETCHER: And back on the record at 11:46 local time.

10 Well, you did make it through round 1; that's the longest
11 round. You have filled in so many gray areas that I had that I
12 don't have that many questions. So, phew, breathe a sigh of
13 relief.

14 MR. GOODMAN: Okay.

15 MR. ETCHER: I only have maybe 300.

16 MR. GOODMAN: That's fine.

17 MR. ETCHER: No, I'm just kidding. No, I really don't.
18 You've done a fantastic job of drawing a picture for me and
19 educating me so I'll -- somebody had said before we went on break,
20 whoever you teach, you've got some great abilities to teach
21 people. I hope you educate everybody like you've done me.

22 BY MR. ETCHER:

23 Q. Like I said, I don't have a lot, but let's talk a little bit,
24 if you will, on bird training. Do you guys do any bird training
25 around here in your, in the SIM, in ground school?

1 A. Well, a little bit. Like, not this current years but the
2 previous years, LOE, at the end of it for the training side of it,
3 we would give a guy, say, a bird strike on short final into
4 Denver.

5 And, you know, you can do one of two things, well, if an
6 engine failure. You can continue to land; or you can go around,
7 take care of the problem and come back around and shoot another
8 approach. So, yeah, I guess you would say that would be bird
9 training.

10 But as far as bird briefings or anything like that, no.

11 Q. Okay. Now that you've hit a bird and it did some, a little
12 bit of damage and caused issues, do you feel that bird training
13 is, in your opinion, adequate, or is there something that you
14 think needs to be tweaked?

15 A. Well, it's not really bird training. That would be the
16 engine failure training, I mean, the bird just happened to cause
17 it.

18 I can't envision any type of bird-specific training that they
19 could give you besides maybe building a scenario where you
20 ingested a bird, you know, short of that. But the outcome's going
21 to be the same thing, you know, catastrophic engine failure.

22 Q. Okay. Did the engine failure training that they have given
23 you in training, was it adequate to handle this?

24 A. Yes.

25 Q. All right. And the only reason I'm asking 'cause you're a

1 check airman, you see people coming straight out of training. Do
2 you think had this happened, I know you said it was an IOE trip
3 but if it had been, your workload would have increased, which
4 typically IOE check airman's workloads increase anyway.

5 A. Yes.

6 Q. But would it have, do you think the training would have given
7 a new hire, in your mind if this would have happened with a new
8 hire, and you would have given them the experience, the knowledge
9 to deal with the engine severe vibration damage, all that?

10 A. Yes.

11 Q. Okay. Perfect. Have you ever flown with this FO before?

12 A. I don't remember if this was our second trip of the month or
13 the third trip of the month. Prior to this month, I had not flown
14 with him that I recall. But I can't recall now if we had flown a
15 previous trip or not. I don't know.

16 Q. And you made it sound like he was well experienced and, you
17 know, it's good to have him, but how was his communication
18 interaction with you, were you guys on the same page, if you will?

19 A. Yeah, I think so. Yeah.

20 Q. All right.

21 A. It was a good rapport.

22 Q. Okay. Perfect. In my brain, I'm trying to picture when the
23 smoke cleared. I know you said as soon as you guys pulled the
24 fire handle, it started to dissipate right away. But where did
25 you guys do that, do you remember, ballpark?

1 A. I would have to ballpark guess somewhere on downwind, but I
2 can't recall exactly where.

3 Q. Okay. All righty. For a moment, I know you were using, you
4 know, you're a HUD cripple. You love the HUD, very valuable in
5 this case. But for a moment, if that HUD wasn't there, how hard
6 would it have been to fly the airplane with your instruments?

7 A. In our particular situation, I think I would have had enough
8 visibility to, if not the forward window, look out the side window
9 and still fly the airplane.

10 With that being said, I think if this had occurred at night
11 time or if we had been in weather, I think it would have been
12 extremely challenging.

13 Q. That helped a little bit there, I appreciate that. I think
14 my last question for you, I told you I didn't have very many --

15 A. Okay.

16 Q. -- 'cause you've done a fantastic job. I'll say last
17 question, but how about we call it last series of questions in
18 case there's follow ons to that?

19 A. Sure.

20 Q. Ever had an engine failure, or ever had to run the Engine
21 Fire, Severe Damage, Separation checklist in flight before?

22 A. No.

23 Q. Never?

24 A. No.

25 Q. Okay. In the SIM, I assume you've ran it?

1 A. Oh, yes. Multiple --

2 Q. Once or twice?

3 A. -- multiple times, yeah.

4 Q. Once or twice a year?

5 A. Yeah. I had an engine failure in a '65 Horse Taylorcraft,
6 but I didn't have a checklist to run.

7 Q. That has a whole new level of complexity there.

8 A. Okay.

9 MR. STEINNES: You'd find a bayou to land on?

10 MR. GOODMAN: Yeah.

11 MR. SHAVER: Yeah.

12 BY MR. ETCHER:

13 Q. And I know you had said you saw that bayou --

14 A. Yes.

15 Q. -- 'cause you bring it up that that was kind of feeding into
16 that, but you were aiming for it, what was your intent?

17 A. Well, initially when I thought we'd lost both motors, my
18 intent was to put the airplane in that bayou because everywhere is
19 else houses.

20 Q. Okay.

21 A. Yeah, that's not a good feeling either. Yeah.

22 Q. Yeah, I mean, that had to be a tough call to make.

23 A. Yeah, well, you don't, well, if we had lost both motors, it's
24 not like you got a choice I mean you do what you got to do, but
25 yeah. So I was extremely relieved once I looked around and

1 started assessing things and looking inside and seeing that we
2 still had a good motor.

3 Q. Okay. And looking inside, seeing you had a good motor, was
4 it your engine gauges that told you it had a good motor?

5 A. Yes, and it was initially right after the vibrations and
6 telling myself, well hey, you got to deal with it, start dealing
7 with this. At which it was literally seconds of, you know, the
8 event starting so, yeah.

9 Q. And that -- just for my mental timeline, you looked in and
10 saw you had a good number 2 engine running off the engine
11 instruments before the smoke?

12 A. The smoke. That is correct.

13 Q. Okay. I just wanted to make sure in my timeline and my
14 pea-sized brain, I understand it.

15 A. Yes.

16 MR. ETCHER: Like I said, you've answered a ton of my
17 questions. I can't thank you enough for all the input you gave
18 me, but let me go around and make sure everybody doesn't have
19 further questions.

20 MR. GOODMAN: Okay.

21 MR. ETCHER: David.

22 MR. GERLACH: Come back to me 'cause I had a question for
23 you, and you got me going down a path, and I completely forgot
24 what the question.

25 MR. ETCHER: I'll give you a pause then. John.

1 MR. RUMMEL: Thinking through here, Mike, I don't think I do.
2 I don't have any additional questions. Thank you. You've been
3 very detailed so we've covered quite a bit.

4 MR. GOODMAN: Thank you, John.

5 MR. RUMMEL: Thank you.

6 MR. ETCHER: And we'll go back to David before he forgets his
7 question.

8 MR. GERLACH: You know what, I forgot I wrote it down, that's
9 how -- so, stack all the worst stuff up in the environment, what
10 kind of things would make this one of those questionable outcomes?
11 You talked about, weather and other parts of the environment,
12 night time, what would you put out there that would make it bad?

13 MR. GOODMAN: Challenging airport, weather, night time,
14 inexperienced crew. Yeah, all those things.

15 MR. GERLACH: Yeah, okay. And that's all I have.

16 MR. ETCHER: Okay. Thank you. Chris.

17 MR. SHAVER: You guys got it all. I'm in the same boat. I'm
18 good here.

19 MR. ETCHER: All right. Thanks, Chris. John.

20 MR. STEINNES: Just a couple of things. I'm just curious.

21 BY MR. STEINNES:

22 Q. So you didn't, you don't recall using the autopilot. Are you
23 -- you put the rudder trim in, or do you use, just kept your foot
24 on the rudder or --

25 A. You know, I --

- 1 Q. -- do you recall?
- 2 A. I'm not going to say I did not use the autopilot. I just
3 don't recall if I used it or not.
- 4 Q. Even the rudder trim?
- 5 A. I'm sure I did, but I can't tell you I'll put four units for
6 trim in. I just can't --
- 7 Q. Focusing on --
- 8 A. I can't tell you that.
- 9 Q. Focusing on flying the airplane obviously.
- 10 A. Well, it's been, actually, a matter of time. I could have
11 told you a year ago, but I just don't recall that now.
- 12 Q. Yeah. Did the fire light and the bell go out, I mean, the
13 bell goes out when you punch the master caution, but did the fire
14 lights go off before you actually ended up securing the engine, or
15 did they stay on and you just ran the checklist, the QRC?
- 16 A. They stayed on until we pulled the fire handle and rotate it.
- 17 Q. And rotate it?
- 18 A. Yes.
- 19 Q. I just have, you know, a question about that engine, you got
20 the Severe damage checklist then you got the checklist for one
21 engine inoperative landing, approach and landing. It's a lengthy
22 checklist configuration.
- 23 A. Yeah.
- 24 Q. A lot of things, and you know that the configuration ins and
25 out --

1 A. Yes.

2 Q. -- flaps routine, inhibit the flap, you know.

3 A. Yes, we did that.

4 Q. Yeah, and that's all on the checklist but it's a lengthy
5 checklist, I mean, I've done it in the simulator. I've never done
6 in a 737 like you.

7 Would it be helpful to have it in, say, an immediate return
8 not normal checklist that just gets rid of all the stuff you don't
9 need and focuses on what you do need to get the airplane back on
10 the ground without, obviously, rushing so much that you end up
11 with a high-energy approach or something like that, would that
12 be --

13 A. I don't see how you could shorten that checklist up.

14 Q. I mean, if you just went to the configuration requirements
15 rather than, you know, cleaning up trim and pack off and all that
16 stuff you do.

17 A. Well, yeah.

18 Q. The clean up -- it's basically clean up, I'm just curious.

19 A. I never thought about that, but if you had a fire that was
20 still burning that you couldn't contain and everything, yes, maybe
21 that would be good to have 'cause, you know, seconds count.

22 Q. Yeah.

23 A. But short of that, I think the checklist we got right now is
24 pretty good.

25 MR. STEINNES: Thank you. That's all I have, thanks.

1 MR. ETCHER: Thanks, John. Well, I know we've asked you a
2 thousand questions or nearly, but you knew you were coming to talk
3 to us and you probably thought, ooh, they're going to be talking
4 about this, this and this.

5 BY MR. ETCHER:

6 Q. Is there anything that you thought we would be asking about
7 that we didn't or questions that we should have that might help
8 us?

9 A. No. I thought you guys asked some pretty thorough questions
10 so I can't think of anything, I can't think of anything else. No.

11 Q. Okay.

12 A. It would just be nice if we revised all the systems on the
13 airplanes that we have and stuff prior to going out and flying it.
14 That's about it.

15 Q. Okay.

16 A. Yeah.

17 Q. Perfect. Now I know you're an end user, and you experienced,
18 we'll call it a fun flight, I'll put fun in quotes. But is there
19 anything that you learned in this event that should be, would be
20 helpful, whatever, to be taught to others on what you learned
21 doing this that maybe you didn't learn in training?

22 I know you'd already talked about the LRD and all that.

23 A. Yeah. Well you can talk about it but until -- when I say you
24 can talk about it, the impacts of stress and the surprise factor
25 and the adrenaline and all that, and I'm sure you could sit in a

1 briefing room and tell guys that that's going to happen. They're
2 going to nod their head and go, that makes sense.

3 But I really don't until they personally experience it, I
4 don't see them carrying that out in the back of their brain and
5 utilizing it. So I don't know how you would train that.

6 Yeah, the initial surprise and all that stuff, I think, was
7 initially, and the adrenaline and all that, was, well, the biggest
8 surprise out of the whole thing. For me, anyway.

9 MR. SHAVER: Can I ask one more question too? I forgot to
10 ask this one.

11 MR. ETCHER: Wow. Yes, you can.

12 MR. SHAVER: Was the cabin crew, did they bother you through
13 that?

14 MR. GOODMAN: No. We chatted, I think only the one time
15 while we were in flight, and I told them, you know, what had
16 happened, what our game plan was and everything. But, no, they
17 weren't dinging us and harassing us, that I recall.

18 MR. SHAVER: Okay. And in your debrief, they were happy with
19 the communication from the cockpit as well?

20 MR. GOODMAN: Yes, they didn't lead me to believe that they
21 had any issues whatsoever.

22 All the passengers that got off, everybody was happy to be on
23 the ground. There was nobody that was upset. You know, it's not
24 the typical America that sometimes you see, everybody's looking
25 for something for nothing type thing. Nobody, that I'm aware of,

1 was asking for free vouchers or anything like that. Everybody
2 was, thank you very much, thank you very much, as they got off the
3 plane.

4 MR. SHAVER: Yeah, okay.

5 MR. ETCHER: Anything else?

6 MR. RUMMEL: No. No, sir.

7 MR. ETCHER: For you, David.

8 MR. GERLACH: No. Thank you.

9 MR. ETCHER: I just want to make sure. Sometimes you have
10 that one, one more, just one more. It's all good.

11 Everybody good before we -- all right. Well with that, we'll
12 call this concluded at 12 Noon exactly. Again, thank you very
13 much for all your education you gave me. I greatly appreciate it.

14 MR. GOODMAN: Thank you, Shawn.

15 (Whereupon, the interview was concluded.)
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CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: BIRD STRIKES SOUTHWEST AIRLINES
 ENGINE NEAR THE LOUIS ARMSTRONG
 NEW ORLEANS INTERNATIONAL
 AIRPORT ON DECEMBER 20, 2023
 Interview of Michael Goodman

ACCIDENT NO.: DCA24LA330

PLACE: Dallas, Texas

DATE: January 15, 2025

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.



Christina H. Neilson
Transcriber

Captain Statement (December 6, 2024)
Event Flight: SWA Flight 554 – DEC 20, 2023
MSY Bird Strike Event

I was the pilot flying (PF) for this flight. We departed MSY RWY 11 in day VFR, and had a normal initial climb out. We encountered a bird strike at approximately 1,000 feet AGL on the number one engine, while retracting flaps 5 to flaps 1. The bird strike resulted in excessive airframe vibration along with loss of climb performance and indications of severe damage to the number one engine by illumination of the master caution fire warning light, illumination of the number one engine fire switch, as well as a fire bell and the number one engine EGT temperature gauge indicating solid red. While maintaining aircraft control and assessing our problem, the FO, who was PM, informed ATC of our issue and our plan to return to MSY.

The FO started with the Quick Reference Card (QRC) for Engine Fire or Engine Severe Damage checklist. We had just started going down the checklist when the flight deck started filling with what appeared to be white smoke. We stopped the engine checklist and donned our oxygen masks, established communication and referenced the QRC for smoke and fumes in the cockpit. As we went through the Smoke, Fire or Fumes checklist, the FO was having difficulty finding the CAB/UTIL and IFE/PASS SEAT switches. At this point, I looked over to the FO to say we need to continue running the checklist and realized the smoke was restricting our visibility to the point where I could see the FO holding the QRH, but could not see anything past him. The smoke was making my instrument panel difficult for me to see, to the point where I was expecting to shortly have to start flying the aircraft solely on the HGS.

We then returned to the Engine Severe Damage checklist. As we performed the Engine Severe Damage checklist, the smoke started dissipating rapidly once the Engine Fire Handle switch had been pulled. We declared an Emergency with ATC and requested that ARFF meet us on arrival. We informed the Flight Attendants of our emergency status and that we would be landing shortly, then made a PA to the passengers informing them of our returning to MSY and that Fire trucks would be meeting us on arrival as a precaution. We landed on MSY RWY 11, with ARFF inspecting the aircraft on the runway after we came to a stop. After coordination with ARFF and ATC, we taxied to the gate under our own power and the passengers deplaned at the gate in a normal manner. We made an aircraft logbook write up documenting the damage to the number one engine and informed Maintenance Control, as well as Dispatch and Flight Ops.

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of: *

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BIRD STRIKES SOUTHWEST AIRLINES *

ENGINE NEAR THE LOUIS ARMSTRONG *

NEW ORLEANS INTERNATIONAL *

AIRPORT ON DECEMBER 20, 2023 *

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* * * * *

Accident No.: DCA24LA330

Interview of: STEVE HARDER, First Officer

Southwest Airlines

Dallas, Texas

Wednesday,
January 15, 2025

APPEARANCES:

SHAWN ETCHER, Investigator
National Transportation Safety Board

DAVID GERLACH
Federal Aviation Administration

JOHN RUMMEL
Southwest Airlines

CHRIS SHAVER
Southwest Airline Pilots Association

JOHN STEINNES
Boeing

CHRISTOPHER CHRISTENSEN, ESQ.
Condon & Forsyth LLP
(On Behalf of Steve Harder)

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I N T E R V I E W

(8:11 a.m.)

1
2
3 MR. ETCHER: -- closer to you. Nobody wants to hear me.
4 Good morning.

5 MR. HARDER: Morning.

6 MR. ETCHER: It is January 15th. It's 8:11 Central Time. My
7 name is Shawn Etcher. I'm an operational factors investigator
8 with the NTSB. We're looking at the event that occurred back in
9 December of '23, December 20th to be specific, coming out of New
10 Orleans. And we're here with the first officer to be educated on
11 the events that occurred so we can learn and try and fix any
12 problems that need to be fixed.

13 Thankfully, I don't have to be the smartest person in the
14 room so that's why I have a whole group here with me with really
15 smart people. And I'm going to go around the room and have them
16 introduce themselves to you. We're going to start with David.

17 MR. GERLACH: Good morning, David Gerlach. I am out of the
18 FAA's Office of Accident Investigation in Washington, D.C.

19 MR. HARDER: Good morning, David.

20 MR. GERLACH: Morning.

21 MR. ETCHER: John.

22 MR. RUMMEL: Good morning, John Rummel, one of the check
23 pilots here at Southwest Airlines.

24 MR. ETCHER: Chris.

25 MR. HARDER: Good morning.

1 MR. SHAVER: Chris Shaver with the Southwest Airlines Pilots
2 Association.

3 MR. STEINNES: Morning, Steve. John Steinnes. I'm the chief
4 technical pilot for the 737 for Boeing.

5 MR. HARDER: Morning, John.

6 MR. STEINNES: Formerly of Alaska Airlines. I've been on
7 this airplane for 30 years.

8 Before I ask any, get involved with questions, I'd just like
9 to compliment you and your crew, you and the captain, for a
10 remarkable effort on this, what I consider to be a very serious
11 emergency. None that I've ever experienced in my career.

12 So, anyway, just to let you know we're --

13 MR. HARDER: Thank you.

14 MR. STEINNES: -- here to find out, get answers, improve our
15 procedures that we provide to crews. Hopefully we'll gain some
16 knowledge and insight and try to prevent something like this
17 happening again. Okay, thank you.

18 MR. ETCHER: Well that's everybody on the group that'll be
19 asking you questions. Is there anybody here you don't want to be
20 present?

21 MR. HARDER: No.

22 MR. ETCHER: Please say me. That's okay, I'll go get me some
23 barbeque or something.

24 MR. HARDER: Can I say me?

25 MR. ETCHER: No, sorry, you're the star of the show.

1 MR. HARDER: Okay, and no.

2 MR. ETCHER: Oh, well in that case, then I'll guess we'll all
3 be here then.

4 MR. HARDER: Okay.

5 MR. ETCHER: Perfect. As part of the regulations, you are
6 entitled to a representative of your choosing. Do you wish to
7 have one with you?

8 MR. HARDER: I do.

9 MR. ETCHER: And may I ask who?

10 MR. HARDER: The gentleman to my left, Chris.

11 MR. ETCHER: Chris, would you --

12 MR. CHRISTENSEN: Hi. I'm Chris Christensen from
13 Condon & Forsyth, and I'm here to represent the first officer.

14 MR. ETCHER: All right, perfect. As part of our process, we
15 always go through two rounds of interview questions. I'll start.
16 The first round's always so much longer than the second round.
17 But I'll start with a lot of questions.

18 I really just -- I'd rather you lead the discussion, if you
19 will, 'cause I want to learn from you. I want to know everything
20 you can. I always say I like to be that fly on your shoulder. I
21 want to see, I don't want to always taste everything, but I want
22 to see, feel, hear everything you are.

23 I know it's been over a year ago that this event occurred so
24 the things may not be as crystal clear as they were and that's
25 Okay. But we'll -- everything you can teach us will be a big

1 benefit.

2 But I will start and then we'll just go around the room with
3 the first round, asking questions and then the second round, like
4 I said, is always a lot quicker.

5 MR. HARDER: Okay.

6 MR. ETCHER: We will record this interview. That recording
7 will be sent off to be transcribed. That transcript itself will
8 end up becoming part of the public docket later on. The audio
9 will not so you don't have to worry about hearing yourself on the
10 10:00 news or anything like that.

11 But when we get the transcript back, I go through it. We
12 make sure all misspelled words are spelled correctly, acronyms are
13 spelled correctly. We do not change a thing that you say. We
14 just correct misspelled words.

15 We get it recertified. Once that's done, I send a copy to
16 your legal counsel. They will provide you with that copy to
17 reread.

18 If you want to make an addendum to it, you know, you're
19 reading something and you're thinking, ooh, that's not exactly
20 what I meant or, oh, let me clarify that a little better, feel
21 free. We'll just have you write it on a separate piece of paper,
22 and we'll attach that directly to the transcript so we know
23 exactly what it is that you were trying to say, you know, clear
24 mind later on or whatever. We want to make sure everything is
25 correct to the best of your ability.

1 Is it okay if we record and have this transcribed?

2 MR. HARDER: Yes.

3 MR. ETCHER: Perfect. I always have a few rules, I mean, you
4 got to expect that from the government, right, there's got be
5 rules.

6 But during the interview, I always tell people, if you don't
7 understand a question I'm saying, ask for clarification. It
8 sounds great in my brain, but sometimes my brain and mouth aren't
9 connected so ask for clarification 'cause if I don't understand an
10 answer, I'm going to ask for clarification as well so it's that
11 two-way street.

12 If you need a break, just say so. We'll hit pause, take a
13 break, come back and continue.

14 This is not a check ride. You're teaching me. I'm the one
15 that's on a check ride if nothing else 'cause I want to learn
16 everything I can so we want you as comfortable as you can, if you
17 need breaks, need to confer with counsel, just say so. It's easy
18 enough to hit pause. We'll leave the room if we need or you guys
19 can, whatever, but we'll accommodate that no problem.

20 MR. HARDER: Okay.

21 MR. ETCHER: If you don't know an answer to any questions, I
22 don't know, beats me, who knows, whatever works fine. Again, not
23 a check ride. There's no right or wrong.

24 MR. HARDER: Right.

25 MR. ETCHER: All righty?

1 MR. HARDER: Okay.

2 MR. ETCHER: Any questions before we get started?

3 MR. HARDER: No.

4 MR. ETCHER: All right. Well I always start with the
5 toughest ones first.

6 INTERVIEW OF STEVE HARDER

7 BY MR. ETCHER:

8 Q. So, can you please state your name and spell your last?

9 A. Steve Harder, H-a-r-d-e-r.

10 Q. And what is your job title?

11 A. First officer.

12 Q. All righty. And are you a first officer for Southwest?

13 A. Yes, first officer, Southwest Airlines.

14 Q. Perfect. What was your date of hire with Southwest?

15 A. Officially September 25th, 2000. Technically that was at
16 AirTran Airways.

17 Q. Okay.

18 A. I came to Southwest, transition training in May of 2014.

19 Q. Perfect, excellent. Back in December of '23, what
20 certificates and ratings did you have?

21 A. Airline transport pilot. Multi engine land.

22 Q. Okay. Have you ever been a check airman?

23 A. No.

24 Q. All righty, perfect. Now I always say I start with the
25 toughest questions first, and this is probably the toughest

1 question for most pilots. Thinking back almost a year ago, you
2 got a ballpark on how much flight time you had?

3 A. Twenty thousand hours.

4 Q. Okay. How much of that was in the 73 at the time? I tell
5 you, these are the toughest questions.

6 A. Probably 7,000 hours.

7 Q. And of that 7,000, was all that in the first officer seat?

8 A. Yes.

9 Q. Okay, perfect. Back in December of '23, what was your
10 current medical at the time, do you recall?

11 A. First class.

12 Q. First class. Any limitations?

13 A. Corrective lenses.

14 Q. All righty. Were you wearing them at the time of the event?

15 A. Yes.

16 Q. All right, perfect. Before we started the recording, I had
17 put a typed statement in front of you, and you had a chance to
18 read through it, and it was titled, The First Officer's Written
19 Statement, or something to that effect. Was that your statement
20 that you had written for us?

21 A. Yes.

22 Q. It'll be attached to the end of this transcript for
23 reference, and it'll keep that same title as First Officer's
24 Written Statement.

25 So now I'm going to ask you to kind of think back to December

1 of '23, on that flight, were you the pilot flying or the pilot
2 monitoring?

3 A. Pilot monitoring.

4 Q. All righty. And kind of, if you will, walk me through that
5 day that you can recall, wherever it's easier to start, if it's at
6 the beginning of the day, that flight, just kind of walk us
7 through what you can remember?

8 A. Yeah, I know that that was from New Orleans, our destination
9 was Tampa, and I know that was not our first flight of the day.
10 We had flown from Dallas to New Orleans on the previous flight,
11 and I believe we started someplace else that morning, but I don't
12 recall for sure where it was.

13 Tampa was going to be our final stop for the day, and I don't
14 know how many people were on the airplane.

15 I do remember that it was a good weather day. There were no
16 problems with the airplane at all. It was normal taxi out, normal
17 boarding process.

18 Everything was completely normal until, you know, after the
19 takeoff when we hit what apparently has been determined was a bird
20 in the left engine. And then things went kind of sideways, you
21 know, in terms of, well, it's in the statement, but violent
22 aircraft shaking, smoke in the cockpit, emergency declaration,
23 returning back to New Orleans and landing uneventfully, taxiing
24 back to the gate and, you know, rounds and rounds of phone calls
25 and things like that and eventually ended up deadheading back to

1 Orlando to complete the trip.

2 Q. Okay. Is Orlando your base?

3 A. Yes.

4 Q. So let's kind of break down what you just kind of walked us
5 through. We'll start with just the event flight itself. You said
6 it was uneventful. Did you fly the airplane into New Orleans?

7 A. Yes.

8 Q. All righty. How about that flight --

9 A. I expect -- I don't remember that I -- my assumption is that
10 I did, yes.

11 Q. Nothing abnormal in your brain from that flight, I assume?

12 A. No.

13 Q. Okay. So you're at the gate getting ready to depart,
14 everything's normal. Push back, start up's normal.

15 Please don't ever let me put words in your mouth. I'm just
16 trying to --

17 A. No, that's fine. I agree.

18 Q. Okay. Taxi out was normal?

19 A. Yes.

20 Q. Now on the takeoff role, as pilot monitoring, do you set the
21 thrust, or does the captain just set the thrust?

22 A. It's advanced, and then the auto throttles are activated.
23 And then the takeoff thrust setting that has been calculated is
24 set automatically and verified by both pilots.

25 Q. So takeoff, roll, everything's, what you can recall, normal?

1 A. Yes.

2 Q. No abnormalities, no slow picking up speeds, nothing that's -

3 -

4 A. No.

5 Q. -- nothing to draw your -- all right. You depart. About
6 what time did you get the shaking? You described shaking, you
7 said you eventually found out it was a bird you hit?

8 A. Yes.

9 Q. Did you, I guess, I'm going to assume that you did not see
10 any birds?

11 A. I did not see any birds, no. And the reason for that is, I
12 was heads down doing something in the cockpit, some sort of -- I
13 don't know if I was turning off the autobrakes or moving the flaps
14 -- or what I was doing. I don't recall that so I did not see, but
15 I -- it was -- the captain made a comment of birds.

16 And that alerted me to the fact that, you know, something's
17 not quite right which was backed up by the violent shaking of the
18 airplane and followed fairly shortly with the smoke in the
19 cockpit.

20 Q. Okay. Now I love the phrase, fairly shortly, but in my
21 brain, fairly shortly could be like a millisecond or it could be
22 so many seconds.

23 A. I would say within 5 seconds time.

24 Q. Okay. The smoke started to come in it --

25 A. Yes.

1 Q. -- or it filled the cockpit?

2 A. I would say within 5 seconds time, the cockpit was full of
3 smoke. I was probably more, initially, I was more concerned with
4 the violent shaking, and I knew that we were close to the ground
5 still.

6 But then the smoke became probably the more important threat
7 in my estimation.

8 Q. Why do you say that?

9 A. It's hard to do checklists, I mean, it's hard to do just
10 about anything in the airplane if you can't see. You know,
11 communication wasn't really a problem, and the smoke didn't affect
12 our ability to speak to each other. But it's just, it's very
13 disorienting as well.

14 Q. Can you recall where that smoke was coming from?

15 A. No.

16 Q. Okay. All righty. Now just a second ago, you had said that
17 you knew you were fairly close to the ground?

18 A. Hm-hmm.

19 Q. Do you have a ballpark idea of how high up you were when you
20 first hit the birds, or it all began?

21 A. In my recollection, probably 1100 feet above the ground.
22 Yeah, a little bit above 1000.

23 Q. And the airplane was shuddering, everything was going on that
24 was. Was the airplane still climbing, or was it having problems?

25 A. It was still climbing.

1 Q. Okay. Do you remember about how much it was going up, about
2 how quickly it was climbing?

3 A. No.

4 Q. Okay, no problem. So, smoke's filling up. Kind of walk me
5 through. Once the smoke started coming, what'd you do 'cause I
6 want to learn kind of how everything happened?

7 A. Frankly, initially, I was scared. And then I realized that
8 this is a situation where oxygen masks certainly are required.

9 So I verbally said, and I looked at the captain, and I said,
10 masks. And as we were both reaching for the oxygen masks and
11 putting the masks on.

12 Once I got my mask on and seated, there was some difficulty
13 in communication over the interphone. I know that there were --
14 it was not normal conversation that we, that he and I were able to
15 have and meaning in a normal volume and a normal tone.

16 But we were able to communicate, and so we were able to do
17 what we needed to do in terms of QRC and QRH checklists.

18 Q. So let's talk about the oxygen masks just a little bit. How
19 often do you, have you used oxygen masks in the past?

20 A. Outside of this building, or in the training department? In
21 the aircraft, I think one other time.

22 Q. So how about in training, how often do you use it training?

23 A. Annually.

24 Q. Annually?

25 A. Hm-hmm.

1 Q. You guys pull them out in the SIM, put them on?

2 A. There's a separate facility for doing the oxygen mask
3 training, or the using of the oxygen mask not -- pulling the mask
4 out, putting it on, it's not done in the simulator device itself.

5 Q. Okay. All right. How'd that training, did you feel like
6 that training had you well aware of how to don the mask and get
7 everything to work perfectly fine?

8 A. Yes.

9 A. Okay. So when you put on the oxygen mask, I know you said
10 you had a little trouble communicating in a normal tone?

11 A. Hm-hmm.

12 Q. Do you know why you had difficulty doing that? Was it just
13 the oxygen coming in and forcing you to exhale, was it the
14 intercom system, the radio wasn't turning on?

15 A. There was a lot going on. I mean, it was a chaotic
16 environment so that's -- I don't have a specific reason that I can
17 put, you know, that I can tell you this is why we had trouble
18 communicating. I just do, I do know that initially that was,
19 there was some difficulty.

20 Q. Okay. All right. You get the oxygen mask on, did that.
21 Does your mask, is it one piece so it has goggles as well as a
22 mask?

23 A. Full-face mask.

24 Q. Full face?

25 A. Hm-hmm.

1 Q. All right. Prior to putting on your oxygen mask, I know
2 smoke was coming in, filling up the cockpit, did you have any
3 irritants? Was your eyes watering, have trouble breathing,
4 coughing, any irritants that you can recall?

5 A. No. I do remember smelling and, I guess, I would kind of
6 describe it as tasting the smoke. It had a very acrid smell, I
7 mean, it smelled like burning oil. I mean, I have smelled that
8 before, not to that extent, and it was very white in color.

9 So, no, I wasn't coughing or anything along those lines.

10 Q. Once you had the O2 masks on, could you taste that smoke
11 again?

12 A. Not that I recall.

13 Q. I mean, I'm sure you were busy doing plenty of other things.

14 A. Yes.

15 Q. Okay. Is the oxygen mask in this airplane, is it the same as
16 all the other 73s that Southwest has, or is it, is there a
17 difference to those?

18 A. There's a difference.

19 Q. What kind of difference does it have?

20 A. I believe there's still some aircraft that are not a
21 full-face mask and if needed, you would put, the pilot would put
22 on smoke goggles. That was not the case in this airplane.

23 Q. Okay. But the functionality of the mask, the intercom
24 system, they're all similar?

25 A. Similar.

1 Q. All right, perfect. So you get your oxygen mask on, you guys
2 get your communication established, then what'd you do?

3 A. Controlled the aircraft and that was Mike. I'm the pilot
4 monitoring so it was my duty to support him, you know, make sure
5 that the aircraft, one, was under control, which it was, and begin
6 the checklist that he commanded which, in my recollection, was the
7 Engine Fire, Severe Damage Separation checklist, or from the QRC,
8 pardon me.

9 Q. Okay. So he commanded that checklist, and you started to
10 perform it, or is that a memory item type thing, or is it just
11 grab the card and start going down it?

12 A. I recall him saying that's what we needed to do or commanded
13 it.

14 Q. And were you able to accomplish that?

15 A. Yes.

16 Q. Okay. How easy was that to accomplish?

17 A. Describe easy. What do you mean by easy?

18 Q. Were there any challenges going through that checklist that
19 maybe caused you to question, do I need to do this, do I do not?

20 A. I don't believe so, no.

21 Q. Okay. It was pretty self, you know, clearly understood?

22 A. The checklist is clear. The items that need to be
23 accomplished are clear, yes.

24 Q. Do you remember what those items were that it required you to
25 accomplish, ballpark? You don't have to quote the checklist.

1 A. Yeah, I mean, it's getting to securing the engine,
2 identifying and securing the engine.

3 Q. Okay. Was the engine still out there shaking, or did it
4 start to slow down the shaking?

5 A. It was still shaking. And I will qualify, I will say also,
6 it wasn't just the engine that was shaking. I mean, everything in
7 the cockpit was shaking. The yoke was shaking. There were
8 vibrations throughout everything, that it was, that I could see
9 and feel at that moment and that continued. I don't know for how
10 long, but it did.

11 Q. Okay. So you started to run the checklists?

12 A. Hm-hmm.

13 Q. How does smoke -- how easy was it to do the checklists with
14 the smoke in the cockpit?

15 A. I don't really recall the smoke specifically interfering with
16 accomplishing the checklist so I don't know how to answer that,
17 whether it was easy or not.

18 Q. Visibility was good enough that you didn't have to hold the
19 card right up to your eyes so you can read?

20 A. Not that I remember, no.

21 Q. So you start the checklist, did you get the engines secured?

22 A. Yes.

23 Q. When you did that, did it continue to fill the cabin with
24 smoke, or did the smoke start to dissipate?

25 A. At some point, the smoke started to dissipate. When exactly

1 that happened, I don't recall, or what precipitated, what action
2 that we did. Was it a specific action that we did as called for
3 by the checklist? I don't know for sure. I just knew the smoke
4 eventually dissipated, and I was happy about that.

5 Q. All right, perfect. Kind of ballpark it, if you will. You
6 know, you said the smoke dissipated. Did you notice the smoke
7 dissipated on short final to come in and land, or was it, you
8 know, I'll say on the downwind?

9 Kind of give me, if you can, just a ballpark where you
10 recognized the smoke was dissipating?

11 A. I would recall that it was somewhere on the downwind leg. I
12 haven't really thought about that when, that question
13 specifically. Certainly before we were on final.

14 Q. Okay. When it dissipated, did you guys take off your oxygen
15 masks, or did you keep them all the way to touchdown?

16 A. I believe we took, I believe I took my mask off. I don't
17 specifically recall.

18 Q. Just out of curiosity, why do you think you took it off?

19 A. 'Cause I didn't need it anymore.

20 Q. Again, I don't want to put words in your mouth, the air was
21 clear enough?

22 A. Yes.

23 Q. Does having the oxygen mask on hinder you doing your work?
24 Does it slow you down, hinder your vision?

25 A. Vision, no. In this instance, I would say because it was

1 emergency oxygen, the pressure breathing is, it's different. It's
2 not like normal breathing in and out that you normally do. But I
3 wouldn't say that that hindered me from doing anything, it's just
4 different.

5 Q. Okay. Have you ever had to land with an oxygen mask on?

6 A. No.

7 Q. Okay. So you're on downwind, by final, whatever, the smoke's
8 dissipating, did you have to run any additional checklists?

9 What kind of, you know, what were you doing? I know you
10 weren't just sitting there, you were busy, but what were you kind
11 of doing? Kind of, like I said, let me be that fly on your
12 shoulder, if you will.

13 A. I know that as the pilot monitoring, I was trying, I was
14 coordinating with the air traffic control people that we did have
15 an emergency, we did need assistance, that we were planning to
16 return to New Orleans and land on the active runway which, in this
17 case, was Runway 11.

18 I know that at some point it was necessary for us to -- and
19 the weather was good, the weather was VFR so it was not
20 problematic for having to do a, you know, precision and
21 non-precision approach or anything along those lines. It was a
22 VFR traffic pattern with complications, if you will.

23 So that's what I was doing, making preparations for return.

24 Q. Okay. Did you have plenty of time to get the aircraft all
25 configured, or would you feel rushed to get everything done so you

1 can get it on the ground?

2 A. Again, it was a chaotic environment so I don't think that it
3 was anything that didn't feel abnormal, whether that would be
4 rushed. I don't think I felt rushed. I don't remember feeling
5 rushed.

6 I do remember feeling that things were under control or at
7 least I felt like things were under control, but it would be good
8 to get back on the ground. And it was, it was.

9 Q. Okay. Once you secured the engine, did the airplane
10 vibration stop, was it still there, that you can recall? I know,
11 you were busy, like you said, it was chaotic, I get it.

12 A. I don't recall when the vibrations stopped.

13 Q. Can you recall when you stopped feeling it? I know, you were
14 -- I know that's splitting hairs but, you know, it's just kind of
15 like just one of those things I was wondering, on final, you're
16 like, oh, nice and smooth now.

17 A. No, 'cause to me, again, as I look back on it, there was
18 still a lot going on, and the elimination of something in my mind
19 wouldn't have been, yeah, I don't know how to describe -- I don't
20 recall when it stopped.

21 Q. Okay, that's perfectly fine.

22 A. Okay.

23 Q. I was just trying to, I just wanted, like I said, I want to
24 feel everything you're feeling and just -- 'cause I can only
25 imagine what it felt like.

1 At any point did you guys notify the cabin attendants?

2 A. I believe the captain did, yes. I did not.

3 Q. Okay. Is that normal protocol --

4 A. Yes.

5 Q. -- for the pilot flying to -- is it the pilot flying or the
6 captain that talks to the back?

7 A. That is a captain responsibility unless it's delegated. But,
8 yes, I did not do that.

9 Q. It sound like you had a few things going on --

10 A. I did.

11 Q. -- for you so I get it. I was just curious.

12 On final, got the airport in sight, configured to land, was
13 there any issues that you were aware of as a pilot monitoring that
14 the controllability to the aircraft?

15 A. No.

16 Q. Everything looked stable, everything looked, I don't want to
17 say normal because it's not normal --

18 A. Right, no.

19 Q. -- but nothing that you hadn't dealt with in the SIM?

20 A. Yes.

21 Q. Have you dealt with a situation like this in the SIM before?

22 A. Emergency situations, yes. Single-engine landings, yes.
23 Actually, after a bird strike, yes, in the simulator,
24 specifically.

25 Q. Do you ever have to deal with smoke in the simulator?

1 A. No.

2 Q. Okay. So you mentioned bird strike in the SIM, how do they
3 -- kind of walk of me through what that was like in the SIM?

4 A. As part of an annual training within the last couple of
5 years, I recall the scenario of being on final for an airport and
6 flying through a flock of birds, having some damage and landing.

7 Q. Was this event -- was the training event that you can recall
8 similar to what you experienced in real life?

9 A. No.

10 Q. How was it different?

11 A. Well one was in the SIM.

12 Q. All right. But did the SIM shake?

13 A. Probably a little bit.

14 Q. Okay. Did your training dealing with bird strikes from the
15 SIM, did it have you prepared to deal with it in flight, or did it
16 feel like, woah, this is way abnormal, this is way beyond what I
17 know, trained, feel comfortable with?

18 A. I don't know.

19 Q. Okay. All right. I know it's been a while so I was just,
20 just trying to make sure that is the training giving you what you
21 need to deal with situations like you had.

22 A. Okay.

23 Q. So you're on final, everything's stable, you land. What
24 happens next?

25 A. We rolled out on the runway and just came straight on a stop,

1 straight out on the runway, no turnoff at any of the intersections
2 which the captain and I had talked about that that was -- that was
3 the plan was to stop straight ahead on the runway and have the
4 firefighting personnel, the emergency personnel on the ground,
5 evaluate from the outside of the aircraft what the situation was
6 before we decided if we were, what we were going to do next.

7 So, that's what we did. We landed and rolled straight out.

8 Q. So once you stopped and ARFF had a chance to look you over,
9 was there any -- did they have to spray anything on you, was
10 everything secured?

11 A. No. Everything was secured.

12 Q. Okay. Then what'd you do? What did you guys do? Not just
13 you, but what did you guys do?

14 A. Well what I did was I called the operations people and
15 arranged for us to taxi back to a gate and as it turned out, it
16 was the gate that we had left from, I think. I don't remember
17 what the gate number was, but we taxied back to the same gate
18 under our own power.

19 You know, we weren't towed, and we taxied in, completed
20 normal shut down checklists, and that was it.

21 Q. Okay. All righty. You're stopped at the gate, everything's
22 shut down, the doors open, passengers are getting off I assume.

23 Did you have any residual effects of the smoke that you
24 occurred in flight? Did you notice your throat --

25 A. No.

- 1 Q. Any issues with you personally?
- 2 A. No.
- 3 Q. Did you hear of anybody having issues?
- 4 A. No.
- 5 Q. Okay. All right. Now I know you described the smoke as a --
- 6 you could taste it, if you will?
- 7 A. Hm-hmm.
- 8 Q. Was there any of that residual smell or taste in the air that
- 9 you recall?
- 10 A. I would have to say yes, but I don't recall that. I don't
- 11 recall noticing that once we were on the ground.
- 12 Q. All right, perfect. Did you guys have to go to -- did you
- 13 get checked out by EMS or a hospital or anything?
- 14 A. No.
- 15 Q. Okay, perfect. So people are getting off, did you go
- 16 downstairs to look at the engine?
- 17 A. I did.
- 18 Q. What'd you see, besides a big engine sitting there on your
- 19 wing?
- 20 A. I saw a lot of damage to the fan blades, the inside of the
- 21 cowling, the shroud, and the liner that's in there. That's mostly
- 22 what I saw, or that is what I saw.
- 23 Q. Okay, perfect. So you shut down the engine, you do a post
- 24 flight. I assume you did a post flight?
- 25 A. Hm-hmm.

1 Q. Wrote it up, or the captain probably wrote it up?

2 A. Yes.

3 Q. Somebody wrote up the airplane. Did you guys have to stick
4 around a while, did you guys leave? Kind of walk me through
5 the --

6 A. Well we left, we never -- we did not go up into the gate
7 area.

8 In New Orleans, what the station personnel did for us, is
9 they took us down into their operations area. By us, I mean the
10 captain, myself and the flight attendant crew.

11 I guess it would have been, that was a MAX, so the six of us
12 were taken down there just to, just for someplace not in the view
13 of the public or with the public, you know, up in the terminal
14 area.

15 And that was predominantly just to have a place to sit
16 talking, and I guess, I know that I was happy to just, you know,
17 have a little time to decompress, if you will. And also to wait
18 for a deadhead flight to Orlando 'cause, you know, it was going to
19 be -- as I recall, it was a couple of hours' time in New Orleans
20 before the next Orlando flight that actually the captain and I
21 both got onto complete our trip, I guess complete our duty for
22 that day.

23 Q. So you guys flew home that night?

24 A. Yes.

25 Q. Okay. All right. You guys and your flight attendants?

1 A. I don't know about the flight attendants. The captain and I
2 are both based in Orlando so that's where we would have ended up.
3 I don't recall if the flight attendants were based there or not.
4 So they would -- if they weren't, they would not have gone to
5 Orlando.

6 Q. Perfect. So you guys have a chance to decompress?

7 A. Hm-hmm.

8 Q. Did you and the captain converse about what went on, or did
9 the flight attendants tell you what they felt or heard, that you
10 can recall?

11 A. I know the captain and I discussed it some. I know he was on
12 the phone quite a bit probably -- I don't know who he was talking
13 to. He was on the phone quite a bit. I had a couple of phone
14 calls that I needed to make.

15 We did talk about it, the event some, but not a great deal.
16 And I don't remember talking to the flight attendants about it
17 much, if at all.

18 Q. Okay. You never heard any of them say that, oh yeah, the
19 smoke was in the cabin?

20 A. Not that I recall.

21 Q. And it's okay. I know it's been a long time ago so the
22 amount of stuff you have remembered so far is just amazing so I
23 appreciate you giving me -- like I said, I kind of felt like I was
24 fly on your shoulder for a little bit. Don't necessarily like
25 that feeling, but I appreciate the details you were able to give

1 us.

2 Now let's talk just a little bit about while you were at the
3 gate getting ready to push back for this quick little flight. You
4 got the ATIS, I assume, or the weather?

5 A. Hm-hmm.

6 Q. Was there any notice of birds in the vicinity of the airport?

7 A. Not that I recall.

8 Q. Okay. Do you get that very often at airports?

9 A. I wouldn't say very often. I don't know. Occasionally, yes.

10 Q. Right.

11 A. Occasionally, but very often, I'm not sure how to quantify
12 that. Occasionally.

13 Q. That was kind of bad question on my part, I apologize.

14 A. Okay.

15 Q. When you get a notice on the weather, the ATIS, of birds in
16 the vicinity, do you guys do anything different, you as the
17 pilots, as the crew?

18 A. I would say that me, personally, I'm more aware of it now
19 after this incident when I hear it. But differently and --
20 procedurally, no.

21 Q. You guys brief it at all? Is there any briefing item about
22 birds?

23 A. No.

24 Q. Okay. All right. Walk me a through a normal takeoff, and by
25 walk me through it, I mean, kind of how you configure the airplane

1 for a normal takeoff?

2 A. Well the configuration is done prior to taxi as far as
3 setting flaps. The programming of the departure procedure, if
4 any, is already taken care of before we leave the gate. Power
5 setting that we're going to use for takeoff, the V speeds are
6 already calculated prior to leaving the gate.

7 So it's -- configuring is done, you know, before we start our
8 taxi.

9 And then from then on, it's more of a confirmation of proper
10 configuration, proper switch settings and so forth prior to
11 getting to the runway.

12 Once we get on the runway, whomever is -- assuming clearance
13 for takeoff and all the normal stuff that would take place, you
14 know, we're cleared out onto the runway.

15 Lining up with the runway if it is, you know, if I am the
16 pilot monitoring, the captain advances the throttles, you know,
17 set takeoff thrust. After hitting the TOGA button, the auto
18 throttles come up, you know, I verify the programmed or
19 precalculated takeoff thrust setting.

20 And that is verbalized. We call the V speeds going down the
21 runway rotation and take off.

22 Q. Okay. Do you normally do takeoffs with the bleeds on the
23 engines, bleeds off, bleeds on the APU?

24 A. Bleeds -- engine bleeds on, APU bleed off.

25 Q. Okay. Do you ever do it with engine bleeds off?

1 A. Occasionally.

2 Q. What for? Why would you do it with, for engine bleeds off?

3 A. Performance reasons.

4 Q. What would cause the need for that, short runway?

5 A. Yeah, short runway typically. I mean, the other place I've
6 ever done it is Chicago Midway. Hot day, heavy airplane, and then
7 it's necessary.

8 And that's not -- that's called for by the performance
9 calculations. It's not something that -- it's called for by the
10 performance calculations.

11 Q. So when you do a bleeds-off takeoff, bleeds off the engines,
12 do you leave the APU up, or do you just bleeds off completely and
13 takeoff?

14 A. The APU is running, and the APU bleed switch is on.

15 Q. Okay. Have you ever had a takeoff with the bleeds off and
16 the APU's deferred?

17 A. No.

18 Q. Okay. Would that be any problem? That was terrible. I'm
19 sorry, that was a horrible question. Let's start it slower.

20 When you have to takeoff with the bleeds off the engines, is
21 that a briefing, the bleeds closed, is that a briefing item for
22 you?

23 A. Yes.

24 Q. Does it add any additional risks assessments for you guys
25 because you're on the APU bleeds versus the engine bleeds?

1 A. It's just, it's unusual. I don't know if that increases
2 risk. It's just, it's unusual. It's not part of the normal
3 process.

4 Q. Okay. Is there a procedure that allows you to takeoff with
5 the bleeds off and the APU's deferred?

6 A. I don't know.

7 Q. That's okay, I don't know is fine. I was just wondering,
8 obviously, it's nothing you've ever had to do so I appreciate
9 that.

10 Since the event, have you been back to New Orleans?

11 A. Yes.

12 Q. All right. How many times since that event, ballpark?

13 A. Four.

14 Q. Four. Anything you've noticed -- have you noticed birds on
15 departure there since then? I mean, I know they're on the Gulf or
16 close to it.

17 A. There, I don't know. I think that I have probably just, in
18 general, noticed birds a little bit more often.

19 Q. Okay, all righty. My last little question then I'll --
20 'cause you got to be getting sick and tired of talking with me by
21 now.

22 When you've come out of New Orleans since the event, is it
23 something that's in the back of your mind -- have you replayed
24 what you've done for this event when you've been in New Orleans
25 going, is there anything we could have done different?

1 A. No.

2 MR. ETCHER: Okay, perfect. I told you that was my last for
3 this round. I'll have some more, don't worry, but you got to be
4 tired of me.

5 I know you've been going for almost 40 minutes. Do you need
6 a break?

7 MR. HARDER: I'm good.

8 MR. ETCHER: You're good?

9 MR. HARDER: I'm good.

10 MR. ETCHER: Anybody else need a break? No? All right.
11 Then David, any questions, sir.

12 MR. GERLACH: Shawn, I do have a few, but you covered most
13 everything though.

14 BY MR. GERLACH:

15 Q. I'll take you back to your mask discussion. Can you describe
16 the differences between, say, flying the 800 and the MAX on the
17 mask?

18 In the cockpit, what does the -- is there anything that you
19 have to do differently, say, you're in an old Classic or an NG,
20 you put on your mask, how do you configure interphone, speaker,
21 microphones, those kind of things versus being in the MAX and
22 using that mask?

23 A. From the standpoint of interphone, I believe the procedures
24 are the same. The mask is -- the main difference between the
25 masks are that the mic is automatically hot when you pull it out

1 of the box initially, initially pull it out of the box.

2 The difference between the masks are, you know, between the
3 full face and just here and then having to don the smoke goggles,
4 you know, it's a multi-part process versus the full-face mask that
5 we have in the MAX and, I guess some of the 800s as well.

6 So that's the difference.

7 Q. Okay, good. And when you donned your mask, you said that the
8 captain was doing it at the same time.

9 Can you talk about what you were doing with the mask, the
10 process that you went through to don it and then what the captain
11 was doing, he was flying pilot?

12 A. Well I wasn't watching him. I know that he was putting on
13 and eventually had his mask on. So what he was doing other than
14 -- I know he was putting his mask on is about all I could speak to
15 for him.

16 And what I would have, I'm sure that I did do is, I had to do
17 something with the headset that I was wearing. And what has been
18 developed is to just pull the headset down and put it around your,
19 leave it around your neck so that you don't have cords that get
20 clogged up or tangled up, you know, reach over and grab the mask
21 and it inflates. Put it down over the mask -- over my face,
22 release it and then try to get it to where it is seated properly.

23 So I know that, that's what I was doing in order to don the
24 mask property to be able to use it.

25 Q. Yeah. When you got your mask out, do you recall how many

1 potatoes, one potato, two potato, four, before you started
2 getting O2?

3 A. No.

4 Q. It happened quick?

5 A. I'm certain it was quick. I don't recall a timeframe
6 involved so no, I don't know.

7 Q. Okay. And then as you were donning your mask, anything in
8 the way, anything that kind of obstructed you from being able to
9 go immediately from retrieving the mask and putting it on your
10 head?

11 A. Not that I recall.

12 Q. The octopus went right over your head, and it slipped right
13 down to where it needed to be?

14 A. I'm going to say yes. I don't recall having any difficulty
15 doing that at all.

16 Q. Okay, good. And adjusting the mask?

17 A. I do -- it seems to me looking back, since you asked that
18 question, I wear sunglasses a lot. I know it was a sunny day so I
19 seem to recall on first attempt, my glasses, my sunglasses getting
20 fouled up, or at least not seamlessly slipping over or inside the
21 mask.

22 So I think that I probably had to pull it out, take my
23 glasses off and then reseal the mask.

24 Q. Sure. And it was configured such that you instantly had
25 pressure in the mask?

1 A. Typically, the masks are set on 100 percent and not to
2 emergency so I would have needed to move it to the emergency
3 selection.

4 Q. Okay. And do you recall doing that, needing that --

5 A. No, I don't.

6 Q. -- or you just started breathing and everything was --

7 A. I don't recall.

8 Q. How about talking on the radio, how did that work for you?

9 A. Reasonably well.

10 Q. Okay. Go ahead since you've already been -- I know how it
11 is, but go ahead.

12 A. I know that it was not like not wearing the mask.

13 Q. Yeah.

14 A. You know, it was not normal.

15 Q. Right.

16 A. But I believe that I, well, I don't know. I know that there
17 was some difficulty doing that so that -- I can't say for certain
18 what exactly what the problems were.

19 Q. And at one point, or did you, put your headsets back on?

20 A. No.

21 Q. Just stayed over the --

22 A. The speaker.

23 Q. And when you talked, you could hear yourself in the speaker?

24 A. I don't know.

25 Q. No, okay. Talk a little bit about kind of your cadence and

1 communication between the captain with the masks on? Easy,
2 challenging, difficult, screaming?

3 A. I know that, I remember speaking -- I don't remember yelling,
4 but I do remember needing to speak loudly. Again, I think because
5 of the vibration that was occurring. I don't recall the vibration
6 being loud, but it was a chaotic environment.

7 I do remember speaking loudly while covering the items of the
8 checklist.

9 As far as cadence or anything along those lines, I think it
10 probably -- my assumption is, well, I do recall it being rather
11 frantic to begin with just because of the situation we were in.

12 Q. Yeah. And then as you are doing the checklist, did you find
13 yourself using hand signals, pointing to things?

14 A. Not that I recall.

15 Q. Okay. What checklist did you go to immediately?

16 A. Well, from the QRC, the Engine Fire, Severe Damage Separation
17 checklist.

18 Q. Okay. And you chose that because why?

19 A. I did not choose that.

20 Q. The captain?

21 A. Yes, he did.

22 Q. And he called out?

23 A. The name of the checklist, the title of the checklist.

24 Q. He read, he said to you --

25 A. The communication took place, that's what he wanted to have

1 read. I mean, I don't recall exactly what he said, but I knew
2 what he was looking for, and he may have pointed to the QRC. I'm
3 not real sure, but that's -- I knew that's where we were going in
4 terms of what we needed to do next.

5 Q. And that was obvious because of?

6 A. What was happening.

7 Q. Okay. And what was it that you said, hey, I agree, that's
8 the right checklist?

9 A. Severe damage to the engine.

10 Q. Yeah, because you could --

11 A. I could feel it.

12 Q. -- feel it, okay.

13 A. Hm-hmm.

14 Q. And did you get all the way through the checklist?

15 A. I don't know.

16 Q. Did you start a different checklist?

17 A. From the QRC that leads to the QRH, a continuation of that
18 checklist into the QRH.

19 So as I recall, we finished the items on the QRC, and I then
20 went to the QRH, and we began working through that checklist to
21 the point where we were configured for landing.

22 Q. Are there any memory items you're supposed to do?

23 A. No.

24 Q. It's all QRC?

25 A. Hm-hmm.

- 1 Q. And then QRH?
- 2 A. Yes.
- 3 Q. When was it that you pulled out the QRH?
- 4 A. When directed by the QRC.
- 5 Q. Okay. And when was that during the event? What was going on
- 6 during that event?
- 7 A. Well, once it was, well, it was early in the event to answer.
- 8 I guess, what you're asking is, is that -- the captain determined,
- 9 that's what we needed to do in order to accomplish, I guess, not
- 10 really fixing or dealing with the situation that we had.
- 11 Q. Yeah, okay. Had smoke already filled the cockpit when you
- 12 had the QRC out?
- 13 A. It may be simultaneous. I don't know if the smoke came first
- 14 before I had my hand on the QRH and began reading it or what.
- 15 There was smoke with the QRC.
- 16 Q. Yeah. QRC's out in front of you, did the smoke make it
- 17 challenging to read the QRC?
- 18 A. Not that I recall.
- 19 Q. And how about having the mask on, did you have the mask on at
- 20 that point?
- 21 A. Yes.
- 22 Q. Okay. And did you have to hold the QRC up like this to read
- 23 it, or did you have it down?
- 24 A. I don't recall.
- 25 Q. Okay. And did you get all the way through the QRC checklist?

- 1 A. Yes.
- 2 Q. Did you use the QRC for the configuration for landing?
- 3 A. No.
- 4 Q. Talk about why you didn't use that and what transpired.
- 5 A. Because the QRC is only, only has a few items on it, and it
- 6 directs you to go to the expanded items that's in the QRH so
- 7 that's where the configuration and so forth.
- 8 Q. And then did you use the QRH all the way through
- 9 configuration for landing?
- 10 A. As I recall, yes.
- 11 Q. Were you able to do performance numbers or anything?
- 12 A. To the extent necessary, yes.
- 13 Q. Okay. If you were to reflect back, and I know this is
- 14 challenging, as Shawn said, it's been a long time; what was the
- 15 worst the visibility got in the cockpit?
- 16 A. I don't recall ever not being able to, I mean, it wasn't I
- 17 can't see farther than this. It was restricted. I would say that
- 18 at all times, I was able to see the captain who's basically this
- 19 far away so it was, you know, how many feet was it, I could see
- 20 the other side of the cockpit.
- 21 Q. Yeah.
- 22 A. Yeah.
- 23 Q. Looking down at FMS, would that have been a challenge because
- 24 of the visibility?
- 25 A. I don't recall having any trouble seeing anything on the FMS.

1 Q. Yeah, okay. And PFD, MFDs all shined brightly through the
2 fog -- leading question.

3 A. Enough to be usable, yes. I don't recall having any, again,
4 it's day time VFR so that -- but, no, I don't recall having any
5 difficulty seeing any of that.

6 Q. The moment that that engine failure occurred, was there --
7 did you have any kind of desire to reach up quickly and try to
8 return the aircraft to a pitch, roll, yaw? Did the attitude of
9 the aircraft change enough that it frightened you?

10 A. No.

11 Q. In your whole career, have you ever hit a bird before?

12 A. Not knowingly.

13 Q. Yeah. Have you got out and walked around and said, oh, I
14 think we had a bird strike?

15 A. Yes.

16 Q. How many, do you know?

17 A. Four.

18 MR. GERLACH: Yeah, okay. All right. Shawn, those are all
19 my questions. Thank you very much. Thank you.

20 MR. HARDER: You're welcome.

21 MR. ETCHER: Before we go on, do you need a break? You doing
22 okay?

23 MR. HARDER: I'm doing all right.

24 MR. ETCHER: All right. Well with that, John.

25 MR. RUMMEL: All right. First of all, Steve, thank you very

1 much for your recall of this event. I know it's been a while, and
2 your level of detail has been very helpful so far.

3 BY MR. RUMMEL:

4 Q. I just have a couple of clarifying questions about the
5 O2 mask itself. I know you mentioned being exposed to the mask in
6 different variations here in the training center. We'll call it
7 our emergency equipment room where we visit annually, right, and
8 get a chance to experience the variations in our mask and what
9 not.

10 Can you also recall any other simulator events? I know it's
11 been a while, and you probably don't remember every one 'cause I
12 assume when you leave the building, it's kind of, you know, behind
13 you at that point.

14 But can you recall any other simulator events where we, where
15 you actually got a chance to have a little experience with the
16 mask in the simulator?

17 A. I remember, well, an emergency descent scenario where the
18 masks were used. That's the only one, other one that I recall
19 specially.

20 Q. Okay, good. We were talking a little bit about bleeds off,
21 takeoffs, and you recall just infrequent but the performance
22 reasons, I think you said. I think you even might have mentioned
23 Midway as kind of maybe a place where we might see that once in a
24 while.

25 Would you describe, or do you have a feeling when you have to

1 do those, would there be an increase in the task loading, would
2 that be a fair statement?

3 A. Yes.

4 Q. Okay. Also when it comes to our oxygen mask, is there
5 something we're required to do procedurally before every flight to
6 kind of pre-flight that system in regards to the microphone and
7 kind of testing it that we do routinely for each departure?

8 A. Yes.

9 MR. RUMMEL: Okay. I think that's all I have.

10 MR. ETCHER: Thanks, John. Chris.

11 MR. SHAVER: Thanks, Steve.

12 MR. HARDER: Okay.

13 MR. SHAVER: I know it's going to be a, you know, you're
14 doing a really good job recalling.

15 BY MR. SHAVER:

16 Q. Just a couple things, like, on the departure. You said that
17 you were probably right above 1,000 feet, right, or so when the
18 bird strike happened?

19 A. Yes.

20 Q. So, at Southwest, right, 1,000 is our normal clean up
21 altitude, right?

22 A. Hm-hmm.

23 Q. So do you recall at, like, were you in the process of raising
24 the flaps, getting the airplane cleaned up, do you recall kind of
25 where it, where you were?

1 A. That would be my assumption. I don't recall specifically what
2 I was doing when the event occurred, but I do know that I was not
3 looking outside.

4 Q. Do you know if you ever -- did you get the airplane clean, do
5 you know?

6 A. Yes.

7 Q. Okay, you did?

8 A. Yes.

9 Q. Somewhere in the process you were able to get it cleaned up?

10 A. Hm-hmm.

11 Q. Okay. Also, you know, so we have engine-out procedures,
12 right, for every airport, every runway that we takeoff from. Do
13 you recall if the captain, did you guys comply with our company's,
14 with Southwest's engine-out procedure, or did you just --

15 A. Yes.

16 Q. You did, okay. Do you recall what that is?

17 A. I believe -- I don't recall a specific procedure so my
18 assumption is that it was straight out.

19 Q. Straight out, okay. With the masks, I think -- you mentioned
20 that you guys decided -- you didn't get your headsets back on, is
21 that right?

22 A. Correct.

23 Q. Okay. Was that like a -- just didn't happen, or was that a
24 conversation of, like, you'd be better off without it?

25 A. It was not necessary to do that. Communication was

1 sufficient, and it wasn't going to -- we weren't going to be in
2 the air long anyway so that's the reason why.

3 Q. Did you have a conversation, like, when you got, like, I know
4 when you got on the ground, do you know, obviously, it was the
5 captain making, you know, probably talking to folks in the back.
6 Do you recall him making any comments to the flight attendants or
7 anything about or considering evacuations or telling people to
8 stay seated?

9 Do you remember if you got that done, or if you did any
10 communicating to the back-end crew?

11 A. I did not hear the communication that he had with the flight
12 attendants while we were airborne, so I can't speak to that at
13 all. And I don't know what type of a PA he would have made to the
14 passengers, if any. So I don't know.

15 And if he and I talked about it, it was certainly, well, I
16 don't know, I don't recall if he and I talked about a potential
17 evacuation or not.

18 Q. And last one for me. So you guys, on the checklists, when
19 you were going through the checklists, did you ever move to the
20 smoke/fumes checklist at all?

21 A. I don't know.

22 MR. SHAVER: That's all I have.

23 MR. HARDER: Okay.

24 MR. ETCHER: Thanks, Chris. John, any questions?

25 MR. STEINNES: I have a few. Good morning.

1 MR. HARDER: Hi.

2 MR. STEINNES: Most of them have been answered, thank you.

3 BY MR. STEINNES:

4 Q. And just to answer one, I was going to ask about the
5 smoke/fire/fumes checklist if you -- there are some steps in there
6 and, obviously, with the oxygen mask and established
7 communications which you did do.

8 You mentioned that you wear glasses for reading. Did you
9 have any issues getting the oxygen mask on and adjusting your
10 glasses, or any idea how long it took you to get them -- once you
11 decided to go for the mask, how long it took to establish, all the
12 way to establish communications?

13 A. A short period of time. A matter of a few seconds, I would
14 guess.

15 Q. Yeah, I've been asked, I've been peppered with questions from
16 engineers for a year about oxygen masks, how long it takes --

17 A. Okay.

18 Q. -- and this sort of thing. And as a pilot, I recognize --
19 especially if it's a two-piece ensemble with the separate goggles.

20 From my experience, sometimes you have to search for those
21 goggles so it's a good thing they had the full-face mask. I'm
22 sure you appreciate that. Adjusting headwear and all that takes
23 time so thank you.

24 And I think you've answered this, but were there any points
25 where you were confused as to what was happening and what actions

1 to take, at least initially, high vibration and noise?

2 Was there any engine indications that helped you identify the
3 engine --

4 A. I'm sure there were, but it was, I recall it being obvious.
5 Not necessarily what had happened, but there was a problem with
6 the number 1 engine, and it was not producing thrust.

7 That was evident from initially the yaw that I felt, and so
8 that was a pretty straight forward -- there was nothing subtle
9 about it.

10 Q. This kind of goes back to us, we write the procedures. At
11 any point was accomplishing the QRC items or the QRH items on the
12 checklist or steps, do you think that those retrospectively are
13 needing improvement?

14 You felt at any time during the, executing the checklist that
15 you felt like you should be doing something else or might lead to
16 confusion or anything like that?

17 A. It would have been easier to do if the cockpit wasn't full of
18 smoke.

19 Q. Yeah.

20 A. To answer your question, no, I'm sorry.

21 Q. No, that's okay, I agree. And I wish we could train more in
22 those kinds of, that type of scenario more effectively but that's
23 a challenging scenario obviously.

24 I think I know the answer to this question, at least I didn't
25 know, but were you aware there was an LRD on the LEAP-1B engine --

1 A. No.

2 Q. -- or the effect that might have with severe damage of this
3 kind?

4 A. I was not.

5 MR. STEINNES: That's all the questions I have right now,
6 thank you.

7 MR. HARDER: You're welcome.

8 MR. STEINNES: All the rest of mine were answered earlier.

9 MR. ETCHER: Thanks, John. Phew, made it through round 1.
10 It wasn't too bad, was it? Be honest.

11 MR. HARDER: I'm okay.

12 MR. ETCHER: Do you need a break before we go to round 2?

13 MR. HARDER: I would like a break, yes.

14 MR. ETCHER: All right. Let's go off the record at
15 9:12 local time.

16 (Off the record at 9:12 a.m.)

17 (On the record at 9:29 a.m.)

18 MR. ETCHER: And back on the record at 9:29 local time.

19 You made it through round 1. Round 2, I only got 25 pages of
20 questions left. No, I'm just kidding, I don't.

21 You've actually helped a ton with answering all my questions.

22 MR. HARDER: Good.

23 MR. ETCHER: I have a few follow ups just to kind of make
24 sure I have it clear in my brain so I apologize, I'm a slow
25 learner. I always tell people, use small words, big pictures,

1 help me. But you really have helped a lot.

2 BY MR. ETCHER:

3 Q. Just for a little bit, I know you said you pulled out the QRC
4 and the QRH?

5 A. Hm-hmm. Yes.

6 Q. The QRH, was it paper or electronic?

7 A. Paper.

8 Q. Okay. Do you like paper versus electronic, or does it really
9 matter to you?

10 A. I hadn't really thought about it.

11 Q. I wasn't sure if you find one working better than the other.

12 A. I have only ever used a paper QRC.

13 Q. Okay. I know we've talked a little bit about the smoke, how
14 much visibility you had in the cockpit and all that, 'cause you
15 can tell that's one of those things that it kind of gets us a
16 little excited here, just we want to learn from it, see what we
17 can improve, make it better.

18 Was there at any point before you got your oxygen mask on, or
19 even maybe when you had it on, when you smelled the smoke, that
20 you thought, ooh, this could be debilitating, this could have
21 adverse effects to me, was that anything that ever even crossed
22 your brain?

23 A. The smoke having --

24 Q. Yeah. The smoke, the taste, that you're tasting the --

25 A. Right. To me personally?

1 Q. Hm-hmm.

2 A. Not -- did I feel like the smoke was dangerous to me, is that
3 what you are asking?

4 Q. Yeah, let's go with that for the start.

5 A. I would -- no.

6 Q. Okay. I know you had said you had taken off your oxygen mask
7 at some point?

8 A. I believe so, yes.

9 Q. And when you did -- and again, I don't want to put words in
10 your mouth, I just want to make sure I have a clear understanding.

11 The smoke had dissipated enough, you didn't feel like there
12 was a need for it. When you took it off, was that confirmed that
13 there was no need? You felt like you could breathe easy, you felt
14 like there was nothing --

15 A. I'm going to say yes because I didn't put it back on. If I
16 took it off and I believe that I did take it off prior to landing.
17 I can -- looking back at it, I would say that I felt that it was a
18 good decision to not have the oxygen mask on anymore.

19 Q. All righty. I know -- I think it was John asked if there was
20 a pre-flight procedure that you do on the oxygen mask, what is
21 that pre-flight procedure?

22 A. We're just verifying oxygen pressure, that the mask --
23 there's a test button on the mask itself or the housing of the
24 mask, and you check to make sure there's pressure, make sure
25 there's flow; there's a flow indicator.

1 And there is also a point where you cause the oxygen to flow.
2 There's a test feature, and you test the microphone over the
3 speaker.

4 Q. All right. Anything else you do to it? Do you pull it out
5 of the case?

6 A. No.

7 Q. Do you ever clean it?

8 A. It's not required to do so.

9 Q. Okay. Have you ever done that, just out of curiosity?

10 A. I don't think so.

11 Q. Have you ever cleaned them?

12 A. No.

13 Q. When you put it on, was there any --

14 A. Let me -- I'll back up a second because there is a time when
15 the masks are -- no, I'm not -- no.

16 Q. Okay. I'm going to have to ask, clarify that, please?

17 A. Okay. Above a certain altitude if one of the pilots leaves
18 the flight deck, the other pilot pulls out the oxygen mask and
19 uses it.

20 So I've not used the oxygen mask, pulled it out in an
21 emergency situation before and that's what I was thinking of
22 initially. Otherwise, yes, I have.

23 Q. Okay. And I know it was probably so low on your care meter
24 at that time but when you pulled out the oxygen mask and you put
25 it on, was the face shield itself, the visor, was it clean, could

1 you see through it okay, or was it kind of dirty?

2 A. I don't know.

3 Q. I didn't figure it was something, you know, you were laser
4 focused on all the chaos going on. I just wasn't sure if it was
5 something that you recalled.

6 A. Hm-hmm, sure.

7 Q. When the event first occurred, the airplane was shuddering,
8 did you get any bells or alarms going off in the cockpit, any
9 alerts?

10 A. I don't think so.

11 Q. Okay. So, I know you said you did the Engine Fire, Severe
12 Damage, that's what the captain commanded?

13 A. Hm-hmm.

14 Q. Have you ever had to do that in flight before?

15 A. No.

16 Q. How about in training?

17 A. Yes.

18 Q. How often?

19 A. How often?

20 Q. In training.

21 A. How many times have I done it training? Two, maybe three
22 times.

23 Q. Okay, all right, perfect. Have you ever had to do the
24 smoke/fumes checklist?

25 A. No.

1 Q. In training or in real life?

2 A. I don't believe I've done it in training. I know I've not
3 done it in real life in the airplane.

4 Q. All right. So I know you talked about donning your mask, and
5 you had to pull down your headphones, or your earphones, you know,
6 headset, put it around your neck to put it on, what kind of
7 headset do you use?

8 A. I actually use one that has in the ear. Ear plugs, I guess
9 would be the best way to describe it. And just a very light frame
10 over the top with a microphone on the side. Nothing that -- not
11 any of that.

12 Q. You don't have the big old David Clark head clamps, right?

13 A. I don't. Nobody wears those anymore.

14 Q. Yeah. I didn't like to wear them when I had to.

15 A. But to answer your question, no.

16 Q. Okay. Now I know you said you pulled off your headphones,
17 ear plugs, earwigs, whatever you want to call them, could you have
18 put your oxygen mask on without doing that?

19 A. I don't think -- I would say no. No.

20 Q. Why? Just out of curiosity.

21 A. Because the whole frame, the whole, I don't know what you'd
22 call it, the webbing around the top of the mask, I mean, it gets
23 really snug when you release it in the front. I mean, that's what
24 it's designed to do. It's designed to pull that up, and I think
25 it would have just been horribly uncomfortable to have the frame

1 of my headset underneath that webbing.

2 Q. All right. No, I just wanted to make sure I understood that
3 it wasn't, you know, it was a bigger problem or not. I wanted to
4 make sure I understood.

5 Let's think back to before the event, how was your health?
6 In general, your health?

7 A. Good.

8 Q. Good. After the event, any change?

9 A. No.

10 Q. No, okay. No effects of smoke or effects of --

11 A. No.

12 Q. -- anything that you can recall? All right. Have you ever
13 flown with the captain before that event?

14 A. Yes.

15 Q. Ballpark, how many times?

16 A. We were paired together that month. I think that was our, at
17 least second trip together, possibly third. I don't recall for
18 sure.

19 But, yes, I have flown with him, had flown with him before.

20 Q. What was he like as a captain, easy to get along with?

21 A. Yeah.

22 Q. Communicated well?

23 A. Yeah.

24 Q. Okay. The trip you were on, I know, it's been a while, was
25 it a two-day trip, three-day trip?

1 A. Three day.

2 Q. Three-day trip, and what day was the event of the trip?

3 A. It would have been day 2 'cause we were coming from an
4 overnight, and we were going to an overnight. I know Tampa was
5 supposed to be a layover city. So I would say it was day 2.

6 Q. Okay, perfect. So the day before, I know, you got to think
7 way back in the gray matter here, the first day of your trip, how
8 big of a day was that? What time did you -- can you ballpark?
9 Are you an a.m. person, a p.m. person?

10 A. I'm an a.m. guy so it would have been an early-ish morning
11 start. How early, I don't know. And so I would -- I don't recall
12 it being a particularly long day. I don't have any really
13 specific recollections about day 1 of that trip.

14 Q. But you had, you flew with the captain the whole trip?

15 A. Yes,

16 Q. Okay, perfect. All righty. I know we talked about bleeds
17 off, takeoff, coming out of Midway; you gave me that example.

18 Just so I make sure I have it clear in my mind, if you do a
19 bleeds-off takeoff, how much more work is that for the pilot
20 monitoring to put the bleeds back on the engine after takeoff?

21 A. It's just a few steps, but it's outside of the norm that we
22 do. So how much more, it's just a few additional steps.

23 Q. When you do that, a bleeds-off takeoff, do you have a
24 separate checklist to pull out to make sure you do the steps in
25 the right order, or is it just something that is taught, trained

1 and well known?

2 A. There's not a checklist for it. It typically is something
3 that's discussed ahead of time. Briefed would be the proper term.

4 Q. Okay. Why is it briefed ahead of time?

5 A. Because it's not part of the normal procedure.

6 Q. Okay. I just wanted to make sure I had that in my head
7 clear.

8 A. Sure.

9 Q. If I don't ask it now then I'll always question myself later.

10 My last little bit of questions, and there's not that many,
11 training here at Southwest. When you went through training, I
12 mean, I know you hear pilots talk about it all the time, the SIM
13 is the instructors torture chamber for pilots 'cause they throw
14 all sorts of stuff at you so you learn all sorts of things, are
15 exposed to all sorts of things.

16 Did your training have you, I'm going to use the phrase, well
17 prepared, you as a crew or you personally, to handle the situation
18 that was given to you with the bird strike?

19 A. Yes.

20 Q. Is there anything that could have been done different in
21 training to help you better, or anything that could be done
22 different now?

23 A. I don't believe so. I don't know that a scenario can be
24 recreated that I went through on that day that would have prepared
25 me for that situation. So for that reason, I'm going to say no.

1 From a working with, within a crew and a crew concept, yes, I
2 was prepared for that from the training that I've gotten here and
3 over my career.

4 MR. ETCHER: Okay, perfect. I told you round 2's always
5 quicker. You literally, I think, have answered every question
6 that I had. I'll probably think of others later, but I try and
7 get as much as I can.

8 Let me go around, make sure everybody else has questions that
9 they need. David, do you have any questions, sir?

10 MR. GERLACH: Just a couple follow ups.

11 BY MR. GERLACH:

12 Q. On your departure, you said that the captain said birds, was
13 it bird or birds, singular? I know this is splitting hairs but
14 based on what you hit --

15 A. I don't know which he said.

16 Q. Okay, yeah. We're just trying to understand whether or not
17 you had a flock of birds that you were flying through, or a bunch
18 of eagles --

19 A. Ask him.

20 Q. -- a bunch of geese.

21 A. Yeah, I don't know, ask him.

22 Q. Yeah, okay, we'll do that.

23 A. Okay.

24 Q. Then where in the traffic pattern did you take off your mask?

25 A. I don't recall specifically where it was. I don't believe I

1 was wearing it when we landed but when we were on the downwind
2 portion of the pattern is where I possibly would have been in
3 taking it off or thinking about doing that.

4 Q. Now did you stay configured with just the cockpit audio that
5 would have --

6 A. I believe so, yes. I know I didn't put my headset back in,
7 if that's -- so I would say yes.

8 Q. Yes, okay. Reflecting back then as you walked through the
9 terminal, as you went back home, do you recall your clothes having
10 any kind of smell to them from it?

11 A. No.

12 Q. Did you send them off to the dry cleaners?

13 A. I don't recall doing anything different than normal in terms
14 of laundering.

15 Q. Wash and wear.

16 A. No.

17 Q. Okay. Did you have any open food in the cockpit like coffee?

18 A. Not that I recall.

19 Q. No, okay. And tell me again, I think you touched on it a
20 little bit, about a bleeds-off takeoff.

21 When you configure the cockpit, is there any checklist that
22 you use to configure it that for takeoff?

23 A. I don't recall ever using one so I'm going to say no.

24 Q. Okay. And then if you takeoff and bleeds off, is there a
25 checklist that you're supposed to use for a bleeds-off takeoff?

1 A. I don't believe so.

2 Q. For the actors (ph.) or anything?

3 A. No.

4 MR. GERLACH: Those are all the questions I have. Thank you
5 very much.

6 MR. HARDER: You're welcome.

7 MR. ETCHER: Thanks, David. John.

8 MR. RUMMEL: Again, thank you, Steve, very helpful getting a
9 path forward on this so I really appreciate your recall in all
10 this.

11 I think I'm good. Maybe I just, one clarifying question to
12 David's there regarding the checklist for bleeds off.

13 Agreeably, we don't have anything specific, checklist for
14 bleeds off, but we also -- is there a checklist, there's our
15 normal checklist, I guess, every takeoff cover different scenarios
16 as far as the positioning of the bleeds for takeoff?

17 MR. HARDER: Yes.

18 MR. RUMMEL: Yes. Okay. All right. That's the only
19 question I have.

20 MR. ETCHER: Thanks, John. Chris.

21 MR. SHAVER: I'm good. All set.

22 MR. ETCHER: Thanks, Chris. John.

23 MR. STEINNES: Yeah, just a follow up. I was curious about
24 the use of the autopilot. Was it engaged early, used at all, or
25 would the captain hand fly the whole time?

1 MR. HARDER: Being the pilot monitoring, I don't recall
2 specially if the autopilot was used. I don't know.

3 MR. STEINNES: And I imagine this is a significant event. It
4 would be one of those events you'll remember your whole career
5 even though it's hard to remember all these little minutia that
6 happened 'cause, as you mentioned, the startle factor alone is
7 huge.

8 But are you comfortable talking about? Do you get questioned
9 about it a lot with crews you fly with, captains, or I know --

10 MR. HARDER: No. No, I'm not. In fact, the guy I was, the
11 captain I was flying with last week. I was coming to Dallas, and
12 I just mentioned that, you know, that I was involved in the
13 incident in New Orleans and described it a little bit. And he
14 says, uh, I don't know if I heard about that or not.

15 MR. STEINNES: Wow.

16 MR. HARDER: So for whatever reason, it's just that's, just
17 because of the question that you just asked me, it made me recall
18 what he said.

19 And other guys have, that I have, you know, the couple of
20 guys that I've talked to about it, just the incident in general,
21 it has been 13 months, and people have things going on in their
22 lives.

23 But I don't think -- it was a big event to me, but I think
24 that it is something that largely has faded into the past.

25 MR. STEINNES: Sure. Well we really appreciate you

1 sharing --

2 MR. HARDER: You're welcome.

3 MR. STEINNES: -- the information, what you recall from that
4 event. It's very helpful.

5 That's all I have, thanks.

6 MR. ETCHER: Okay, thanks, John. I told you round 2 was
7 quicker.

8 It was quicker, we'll go with round 2 and a quarter. Go
9 ahead, David.

10 MR. GERLACH: I do have a follow up 'cause you brought up
11 something that I think is important, the fading into the past of
12 the events.

13 MR. HARDER: Okay.

14 MR. GERLACH: After the event happened, what did Southwest
15 Airlines, as a company and pilot group, do to share your
16 experiences about the aircraft, its design, operation? Did any of
17 that change from your perspective?

18 MR. HARDER: Not for a long time. Ultimately there was a
19 bulletin that came out, a Read Before Fly as they're known, that
20 described the system, the LRD, described that system and what it
21 was designed to do and that it was a factor in this event.

22 MR. GERLACH: Did anything change operationally?

23 MR. HARDER: No, not that I'm aware of.

24 MR. GERLACH: Everything stayed the same, okay.

25 That's all I have.

1 MR. ETCHER: Okay.

2 MR. GERLACH: Thank you.

3 MR. ETCHER: So, I know we've asked a thousand questions or
4 more. You probably feel like we grilled you for a while, but you
5 really have given us a whole lot of great information.

6 MR. HARDER: Good.

7 MR. ETCHER: It's helped us fill in huge blanks that I had.
8 I still have a few gray areas here and there, but that's okay. It
9 takes time, I'm a slow learner.

10 But I'm always fearful. We can ask you all the questions in
11 the world. You knew you were coming here to talk to us and
12 educate us, and I'm assuming you probably thought, oh, they're
13 going to want to know about blah, blah and blah.

14 Is there anything we didn't ask you that you thought we
15 would?

16 MR. HARDER: No, not really. Chris and I have talked about a
17 number of things, likely topics or avenues of discussion or
18 questioning. And no, there really isn't anything that I felt that
19 I'm surprised that you didn't ask about so I'm going to say, to
20 answer your question, no.

21 MR. ETCHER: Okay. Now, as an end user and somebody who went
22 through, as you called it, a chaotic event, is there anything that
23 if you were king for a day in your world that could have been
24 done, that needs to be done different to help prevent this in the
25 future or minimize, that you can think of?

1 MR. HARDER: Aviation's dangerous. No, I mean, birds are out
2 there. We operate in an environment that's changing all the time.

3 There is inherent risk and, you know, that particular day, it
4 got really risky. So I'd say no. I mean, you can't prepare for
5 every situation or circumstance.

6 MR. ETCHER: All right. Well, with that being said, we will
7 call this interview concluded at 9:48 local, and I appreciate your
8 help.

9 MR. HARDER: You're welcome.

10 (Whereupon, the interview was concluded.)
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CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

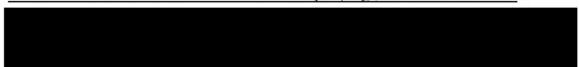
IN THE MATTER OF: BIRD STRIKES SOUTHWEST AIRLINES
ENGINE NEAR THE LOUIS ARMSTRONG
NEW ORLEANS INTERNATIONAL
AIRPORT ON DECEMBER 20, 2023
Interview of Steve Harder

ACCIDENT NO.: DCA24LA330

PLACE: Dallas, Texas

DATE: January 15, 2025

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.


Christina H. Neilson
Transcriber

First Officer Statement (December 6, 2024)

Event Flight: SWA Flight 554 – DEC 20, 2023

MSY Bird Strike Event

I was the pilot monitoring (PM) for the event flight. Taxi out was uneventful for RWY 11, the weather was day VFR and I recall two or three planes waiting to depart in front of us. We had a normal takeoff roll and normal rotation. I was head down, as we were climbing through approximately 1,000 feet AGL, when I remember the CA calling out “bird.” Almost immediately I remember hearing a thump on the aircraft left side and the cockpit/yoke/airplane started to shake violently and I could feel a distinct loss of thrust on the number one engine. Within a few seconds, the cockpit began to fill with an acrid white smoke. I could see my instrument panel, but could not see the CA with total clarity. I remember calling out “masks” as we were both reacting to the smoke and reaching for our oxygen masks.

I notified the Tower and stated that we needed to declare an emergency and needed to return immediately to MSY. The Tower asked if we needed to “roll the trucks” and I stated “yes.” The Tower began to assign vectors for left traffic and eventually cleared us for a visual approach to RWY 11. I recall the CA calling for the QRC ENGINE FIRE or ENGINE SEVERE DAMAGE or SEPARATION checklist and we began working through the steps. I believe the cockpit smoke began to clear at about the time I turned the left Pack Switch to the OFF position, which is Step 8 in the ENGINE SEVERE DAMAGE checklist in the QRH. I remember personally having some difficulty communicating with the CA using the mask microphone, but it was manageable.

I don’t recall specifically when we made configuration changes or what vref speeds we used for the landing, but I do remember the CA briefing that we were going to stop straight ahead on the runway and talk to ARFF to determine the status of the aircraft and what we should expect next. Ultimately, we taxied to an open gate and deplaned via the jetway. The CA then proceeded to contact Dispatch and Maintenance Control with maintenance logbook entries completed.