

# Remembering Captain Al Haynes<sup>i</sup>

By David E. Rapoport

Al Haynes never wanted fame, but fame found him anyway. On July 19, 1989, Al was the captain of United Airlines Flight 232, a scheduled flight from Denver to Chicago that crashed at Sioux Gateway Airport in Sioux City, Iowa. The National Transportation Safety Board summarized what happened during that fateful flight:



On July 19, 1989, at 1516, a DC-10-10, N1819U, operated by United Airlines as flight 232, experienced a catastrophic failure of the No. 2 tail-mounted engine during cruise flight. The separation, fragmentation and forceful discharge of stage 1 fan rotor assembly parts from the No. 2 engine led to the loss of the three hydraulic systems that powered the airplane's flight controls. The flight crew experienced severe difficulties controlling the airplane, which subsequently crashed during an attempted landing at Sioux Gateway Airport, Iowa. There were 285 passengers and 11 crewmembers onboard. One flight attendant and 110 passengers were fatally injured.<sup>i</sup>

There was no published procedure for handling a total loss of hydraulic fluid and the flight crew had no specific training for this failure mode. They had to make it up as it went along, keeping the rest of the crew and passengers calm.

Lead flight attendant from that day, Jan Brown, later reflected that Al “made the impossible possible.” After the engine failed and Jan first opened the door to the flight deck:

It was as palpable as the blast of heat from a furnace, how the enormity of the crisis hit me. Part of my brain froze. Al didn't even turn around, just told me what I needed to know. He saved my life and so many lives. Bless his heart forever.<sup>ii</sup>

Using an improvised asymmetrical thrust technique, the pilots figured out a way to gain ever so slight control of the situation. Against all odds, they not only avoided the plane going into a fatal right roll, but they also managed to fly the aircraft to Sioux Gateway Airport and, once there, to attempt an emergency landing.<sup>iii</sup>

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<sup>i</sup> A version of this article was originally published by the American Association for Justice in the AAJ Aviation Law Section's Winter 2020 Newsletter. To join AAJ and become a member of the Aviation Law Section, visit <https://www.justice.org/membershipjoin>.

The normal approach speed that day would have been approximately 140 knots and the normal rate of descent would have been 200 to 300 feet per minute.<sup>iv</sup> However, without the ability to reshape the wings for slower flight, the approach speed for Flight 232 was 215 knots and the rate of descent was approximately 1,850 feet per minute.<sup>v</sup> At such speeds and decent rates, a crash landing was unavoidable. In the immediate aftermath of the crash, some speculated that if the right-wing tip had not been the first part of the aircraft to contact the runway, disaster might have been avoided. Such conjecture ignored the physics of the excessive speed and descent rate. The fact the crew got the airplane to the airport (let alone any airport) and saved the lives of so many were extraordinary accomplishments aptly illustrated when, as part of the investigation, test pilots repeatedly attempted to safely fly the situation confronting the Flight 232 crew in DC-10 simulators. Even with advance knowledge of the failure mode and understanding there would be a total loss of hydraulic control, the test pilots repeatedly crashed the aircraft with results worse than what the real crew achieved. No test pilot safely landed the aircraft in the simulator.

On August 25, 2019, Al Haynes passed away one week before his eighty-eighth birthday.<sup>vi</sup> Captain Chesley Burnett “Sully” Sullenberger III tweeted of the loss of his late life friend:<sup>vii</sup>





One of Sully's readers described Al as a hero. Many others have said the same over the years. Knowing Al well, Sully did not explicitly state Al was a hero. Perhaps he already knew what many of Al's close friends already knew—that Al never thought of himself as a hero.

Not long after the crash of Flight 232, Al and I began a relationship as attorney and client that would grow into a friendship that lasted for the rest of his life. Around the same time we met, Al was honored at the White House by then-President George H.W. Bush. When I asked Al what it was like to receive a hero's welcome at the White House, he said:

David, I don't want you confused about this. I am not a hero and I will explain to you why I'm not one. After that I will tell you who the heroes were and explain what made them heroes.

I woke up in a hotel room the day of the crash. If I knew then my number two engine would explode sending metal into the tail area where all hydraulic lines would be severed and all hydraulic fluid would drain out leaving us with little control, I guarantee you, I would have called the chief pilot immediately and reported in sick. I did not voluntarily put my life at risk to help others. We did the best we could under difficult circumstances that day. Many people died who we were supposed to fly safely to Chicago. With professional help I've been trying not to blame myself for that. I cannot accept credit for saving the others.

Who were the heroes then? The first responders, who dropped everything and selflessly, with their eyes wide open to the danger, voluntarily put their own lives at risk to help other people, including me. They were the heroes, not me.

This response came as a surprise to me then, but steadily made more sense over the years as I grew to know Al well. Beyond his modesty, Al was renowned for his courage and his sense of humor. Both were on display seconds before the crash, in what easily could have been Al's last words:

Sioux City Approach: United two thirty-two heavy, the wind's currently three six zero at one one three sixty at eleven. You're cleared to land on any runway. . .

Captain: [Laughter] Roger. [Laughter] You want to be particular and make it a runway, huh?<sup>viii</sup>

Still, Al experienced what he called "survivors' guilt" after the crash. To help with this, and because it felt like the right thing to do, Al made presentations to interested groups. It was his way of dealing with the trauma of the accident. Eventually, Al became a motivational speaker who traveled around the globe inspiring others with his lesson of cooperation, communication, and preparedness. He also asked that all proceeds from the speeches would go to several different scholarships and charities that he endorsed, including a scholarship honoring Rene LeBeu, a Flight 232 crewmember who did not survive the crash'.<sup>ix</sup> When he turned eighty-five, Al finally slowed down and reduced the amount of the speeches he gave, but he was still willing to talk with anyone who asked.

At least one transcript of Al's presentation has survived and can be found in the public domain.<sup>x</sup> It is a treasure. I hope someone has preserved the slides Al used in his presentation; they should be given to the Smithsonian.

I remember discussing Al's first presentation with him while it was still in the planning stages. At the time, I don't think either of us imagined that between Al's sixtieth and eighty-fifth birthdays he would end up giving over 2,000 presentations. Early on, one thing Al focused on was the role sheer luck played in the Flight 232 crash. While it might seem that what happened on Flight 232 was quite unlucky; Al taught me this is a matter of perspective as things could have been much worse. Amongst those "lucky" factors Al focused on were<sup>xi</sup>:

- The clear weather;
- The mild winds;
- The absence of turbulence;
- That it was light out;
- That they were flying over flat and sparsely populated land, where ditching with some survival would have been possible without harm to others had it come to that;
- The timing, which coincided with a shift change at the hospitals, doubling the usual hospital staff size right when they were needed most; and
- That the crash was on the one day of the month when the Air National Guard at Sioux City were on duty, resulting in 285 trained National Guardsmen being immediately available to assist.

Al believed that, without this luck, there would have been even greater loss of life. He was probably right. As Al once summarized. "So, you can see how the luck factor was way up here for us. Some of the other crews who have had accidents, the luck factor was down here. Our luck ran out about fifty feet in the air, but it lasted for a long time."<sup>xii</sup>

Al's concentration on luck as a contributing factor in the landing's success belies his readiness to credit others before himself. Indeed, Al was reluctant to accept any recognition for himself. Knowing this, his family shared credit for his achievements with others in Al's obituary, naming names:

Captain Haynes along with First Officer Bill Records, Flight Engineer Dudley Dvorak and Captain Denny Fitch<sup>xiii</sup> attempted to land the crippled DC 10. Captain Haynes has always attributed those who survived to the professionalism, communication and preparedness of the entire flight crew including Jan Brown, Tim Owens, Susan White, Donna McGrady, Jan Moore, Barbara Gillaspie, Kathy Tam, Georgeann Del Castillo as well as Rene LeBeau who did not survive the accident. He also made it a point

that without the help of those in the tower, first responders and all of Sioux City, many more would not have made it.<sup>xiv</sup>

Ultimately, Al and his crew' made important contributions to crew resource management ("CRM") aboard Flight 232 that afternoon. In fact, in the American Psychological Association's recent summary of CRM, the organization acknowledged the watershed place the Sioux City disaster occupies in its history:

A real-world example of how CRM may have saved lives can be found in the textbook *Social Psychology*, by psychologist David Myers, PhD, comparing two airline crashes in the 1980s:

[F]lawed group dynamics were evident when an Air Florida plane lifted off from Washington's National Airport (now Reagan National Airport) on a winter day in 1982. Ice in a sensor caused the speed indicators to read too high, leading the captain to apply too little power as the plane ascended:

First Officer: Ah, that's not right.

Captain: Yes, it is, there's 80 [referring to speed].

First Officer: Nah, I don't think it's right. Ah, maybe it is.

Captain: Hundred and twenty.

First Officer: I don't know.

It wasn't right, and the first officer's muting his concerns led to the plane's stalling and crashing into a Potomac River bridge, killing all but five people on board.

But in 1989, the three-person crew flying a United Airlines DC-10 flight from Denver to Chicago responded as a model team to imminent disaster. The crew, whose members had been trained in crew resource management, faced the disintegration of the center engine, severing lines to the rudder and ailerons needed to maneuver the plane.<sup>xv</sup> In the 34 minutes<sup>xvi</sup> before crash landing just short of the Sioux City airport runway, the crew had to devise a strategy for bringing the plane under control, assessing damage, choosing a landing site, and preparing the crew and passengers for the crash. Minute-by-minute analysis of the cockpit conversation revealed intense interaction—31 communications per minute (one per second

at its peak). In these minutes, the crew members recruited a fourth pilot who was flying as a passenger, prioritized their work, and kept one another aware of unfolding events and decisions. Junior crew members freely suggested alternatives and the captain responded with appropriate commands. Bursts of social conversation provided emotional support, enabling the crew to cope with the extreme stress, and to save the lives of 185 of the 296 people on board.<sup>xvii</sup>

Al covered CRM in all of his talks. For example, in a presentation he made to NASA in 1991, Al explained:

As for the crew, there was no training procedure for hydraulic failure. Complete hydraulic failure. We've all been through one failure or double failures, but never a complete hydraulic failure. But the preparation that paid off for the crew was something that United started in 1980 called Cockpit Resource Management, or Command Leadership Resource Training, or any number of things that you want to call it. I think we called it CLR to start with. All the other airlines are now using it.

Up until 1980, we kind of worked on the concept that the captain was THE authority on the aircraft. What he said, goes. And we lost a few airplanes because of that. Sometimes the captain isn't as smart as we thought he was. And we would listen to him, and do what he said, and he wouldn't know what he's talking about. And we had 103 years of flying experience there in the [flight 232] cockpit, trying to get that airplane on the ground, not one minute of which we had actually practiced, any one of us. So why would I know more about getting that airplane on the ground under those conditions than the other three?

So, if I hadn't used CLR, if we had not let everybody put their input in, it's a cinch we wouldn't have made it. It was, I don't know if any of you remember the old movie Marty, I kind of refer to that, it was Ernest Borgnine, and a group of his cronies, trying to find something to do on a Saturday night, and they said, what do you want to do Marty, and he said, I don't know, what do you want to do Joe, and that's kind of the way we flew the airplane now. What do you want to do, I don't know, and let's try this, and you think that'll work, beats me, and that's about the way it went, really. If you read the cockpit voice recorder transcript, there's a lot of that on there.

When are we going to put the gear down, I don't know, how are we going to put it down, well, we do two things, two ways to get it down, which one we're going to use, that type of thing.

So CLR really paid off. And CLR is being taken out into other areas. I think it was originally a management course anyway, but now it's being spread all over. I'm going next year to Harrisburg, PA to talk to the Nuclear Power Association. Because they are beginning the CLR concept in their control rooms. They have five stations in a control room. You have a nuclear disaster, you want those people working together, you don't want them working separately. So CLR that we had really prepared the crew for what happened.

If you recall the zip-top 737 over at Hawaii, the Aloha, Bob and Mimi used CLR to its utmost, because they could not communicate with each other. They used hand signals to point the things they wanted to do. That's how they got that airplane on the ground. Flight 811, the 747 out of Honolulu, on its way to Sidney, blew the cargo door and lost two engines on the right side, and did damage to the flaps and hydraulics, they used CLR to get the airplane back to Honolulu. They had a grossly overweight airplane that couldn't maintain altitude with two engines out on one side, and by using CLR and the crew working together, and everybody putting their input in, they got the airplane back. The days of the captain being the ultimate authority are gone. He may be the authority on the airplane, he may sign for the papers and all this, but [now we] don't work that way.

I think Sister Margaret said it the best, . . . “when you've got a crisis like this, and got so many diverse things going on, let those in charge take charge. Don't let one individual try to run the whole show. Let those who know how to do their specialties handle those things, and you'll get things done”, and that's what happened.<sup>xviii</sup>

The important role Al and his team played in helping prove the validity of CRM and spread its message not only in aviation but other fields, has left a long-lasting positive impact on safety as a general matter.

Al graduated Woodrow Wilson High School prior to attending Texas A&M University for three years before joining the US Marine Corps in 1953. In the service, Al served as a pilot and flight instructor until 1956. That year, Al joined United Airlines, where he was as a flight engineer on DC-6 and DC-8s, for 9 years. He was promoted to first officer in 1965, flying DC-6s, 727s and



DC-10s. Al then advanced to Captain in 1985. He remained a first officer by choice for longer than usual, because he loved flying to Hawaii, and he did so regularly on the DC-10 as a first officer due to his seniority.

Al and his wife Darlene married in 1959 when Al was working as a flight engineer for United.<sup>xix</sup> They had 3 children: Tony, Daniel, and Laurie.<sup>xx</sup> Sadly, Tony died in a motorcycle accident in 1994 and Darlene passed in 1999. In a 1999 interview, Al was quoted explaining how his presentations played a role in helping to deal with his own personal tragedies, “I don’t know what I’d do if I didn’t have this . . . this helps tremendously.”<sup>xxi</sup>

In another difficult chapter in Al’s life, his daughter had serious health problems in 2001. Al took it in stride, commenting: “So we’re having our share of bad luck; but we learned a long time ago that it doesn’t do you any good to cry about it. You just do what you can and deal with what you have.”<sup>xxii</sup> Laurie, Al, and their family found ways and Laurie has done well under the circumstances.

Al always did what he could and dealt with what he had. Even when he could have walked away from flying, Al returned to it in late 1989 and continued flying until he retired in 1991. He enjoyed his career and did not retire until he reached the mandatory retirement age, which was sixty at the time.

In his obituary, the family explained some of Al’s other interests and accomplishments, many of which exemplified his beliefs in strong community, teamwork, engagement and respect; providing a strong example for generations of young people:

Al had a passion for being a Little League Umpire, which he started because he was attending a game to watch his son Dan play and they had no umpire. Al said he was handed a rule book, a uniform and safety gear and in 2 hours became an umpire. He enjoyed it so much he spent the next 5 decades devoted to the Little League.

Al was recruited to be a Chief Umpire Consultant for District 10 when the district first hosted the Washington State Little League Tournament. He remained the District 10 Consultant until 2016. In 1978 he was an umpire at the Little League World Series in Williamsport, PA. Al attended the Joe Brinkman Umpire School in 1990.

Al was a founder, director and member of the Evergreen Umpires Association (no longer in operation). He umpired Pony, Bronco, American Legion and high school baseball. From 1977 to 1981 Al was a co-founder and co-director of the Highline Area Superstars (a

high school level competition between selected athletes patterned after ABC TV “Superstars” program.)

In 1981, Al became an announcer for the King County Junior Football association and the Highline School district, where he also formed a chain crew for the high school to work during Highline District games. Al would run the crew when not announcing the game. His chain crew was selected to handle the chains for many Washington State High School Championships.<sup>xxiii</sup>

Al is survived by his son Dan and daughter Laurie, their significant others, and many other family members who miss him dearly. Al Haynes was one of the nicest people I’ve ever known. Along with many others, I will miss him.

### **About the Author**

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<sup>i</sup> See NTSB Accident Report Detail, No. DCA89MA063,

<https://www.nts.gov/investigations/accidentreports/pages/AAR9006.aspx> (last visited October 31, 2019). <sup>ii</sup> United Airlines, *Captain Al Haynes ‘made the impossible possible’*, August 27, 2019,

<https://hub.united.com/remembering-united-captain-al-haynes-2640046252.html> (last visited October 31, 2019).

<sup>iii</sup>

At a NASA gathering approximately two years after the crash, Captain Haynes shared what this was like:

Well, on July 19th, Murphy’s Law caught up with us, and we did lose all three systems. And as a result, we had no ailerons to bank the airplane, we had no rudder to turn it, no elevators to control the pitch, we had no leading-edge flaps or slats to slow the airplane down, no trailing-edge flaps for landing, we had no spoilers on the wing, to help us get down, or help us slow down, once we were on the ground. And on the ground, we had no steering, nose wheel or tail, and no brakes. So what we had ...was the throttles on #1 and #3 engine to control us. And by manipulating those throttles, we were able to somewhat control the heading, by skidding the airplane into a turn. And controlling the pitch was just about out of the

question. We kept saying we think we had the elevators under control. We never had the elevators under control. We thought we did, but we didn't. . . . So you see, with those two things to work with--one engine, and the other--just getting the airplane on the ground was a tremendous piece of luck. Amazing. Because it has been tried again, and it didn't work. Everything had to work in the right sequence, and it happened to work, so we got the airplane, at least, to an airport.

Capt Al Haynes, Address at the NASA Ames Research Center's Dryden Flight Research Facility: The Crash of United Flight 232 (May 24, 1991), <http://clear-prop.org/aviation/haynes.html>.<sup>iv</sup> *Id.* <sup>v</sup> *Id.*

<sup>vi</sup> *Obituary of Alfred Clair Haynes*, BONNEY WATSON, <https://bonneywatson.com/obituary/Alfred-ClairHaynes/> (last visited Dec. 13, 2019).

<sup>vii</sup>

Sully Sullenberger (@CaptSully), TWITTER (Aug. 27, 2019 5:26 PM) <https://twitter.com/CaptSully/status/1166507240024621056>.

<sup>viii</sup> *See United Airlines DC-10-10 – 19 JUL 1989*, AVIATION SAFETY NETWORK (Aug. 3, 2003), reproduced at <http://www.tailstrike.com/190789.pdf> (reproducing the N.T.S.B. Accident Report CVR Transcription, No. DCA89MA063).<sup>ix</sup> *See* endnote vi. <sup>x</sup> *See* endnote iii. <sup>xi</sup> *See* endnote iii. <sup>xii</sup> *Id.*

<sup>xiii</sup>

Captain Denny Fitch was a DC-10 training check pilot who was aboard Flight 232 as a passenger. He volunteered to come forward to help after the uncontained engine failure. Al welcomed him to the cockpit and placed Denny at the two thrust levers, since Al and Bill Records were fighting the control yokes with all their strength hoping it made some impact and Dudley Dvorak was handling communications, mostly with United, and monitoring systems. Denny quickly developed a good feel for the asymmetrical thrust inputs. He passed away due to brain cancer in 2012.<sup>xiv</sup> *See* endnote vi. <sup>xv</sup> This description is inaccurate, but that inaccuracy does not detract from the point being made in text.

<sup>xvi</sup>

It was actually 44, not 34 minutes. This inaccuracy does not detract from the point being made in text.

<sup>xvii</sup> American Psychology Association, *Psychology: Science in Action, Safer Air Travel Through Crew Resource Management*, <https://www.apa.org/action/resources/research-in-action/crew> (last visited October 31, 2019).<sup>xviii</sup> *See* endnote iii. <sup>xix</sup> *Id.* <sup>xx</sup> *Id.* <sup>xxi</sup> Aamer Madhani, *Pilot in Sioux City Crash Finds Strength in Sharing his Story*, Chicago Tribune (Nov.

7, 1999), <https://www.chicagotribune.com/news/ct-xpm-1999-11-07-9911070223-story.html>.

<sup>xxii</sup> *Id.* <sup>xxiii</sup> *See* endnote vi.