Annotated Bibliography

Primary

Adams, Rick. “Animating the Data.” *Flight Safety Foundation*, 28 February 2017, https://flightsafety.org/asw-article/animating-the-data/. Accessed 2021.

Two photos as well as general information about plane animations were used. One photo was used in the interview video with Doug Brazy, as he speaks about different ways that black boxes can be used, like in plane animations and graphics to understand better what happened. The other was used on the Aviation Advancements page, along with a quote of Brazy explaining how 3-D configurations of planes can be created from the use of a black box.

Aerospace Web. “Airliner Black Boxes.” *Aerospace Web*, http://www.aerospaceweb.org/question/investigations/q0302.shtml. Accessed 2021.

Aerospace Web’s photo of various data that is captured with black boxes in the form of a graph. This photo was included on the “Aircraft and Cockpit Communication” page. This aids in understanding what data is collected, as well as how the data is converted and looked at.

Air Canada. “Aviation Investigation Report A12O0074.” *Transportation Safety Board of Canada*, 28 May 2012, https://www.bst-tsb.gc.ca/eng/rapports-reports/aviation/2012/a12o0074/a12o0074.html.

This accident investigation report was used for the photo of the graph of information about plane statistics. The data was directly taken from a flight data recorder and showed the plane performance.

Airbus. “Progress to Pinpoint an Aircraft's Position.” *Safety First Airbus*, 2017, https://safetyfirst.airbus.com/progress-to-pinpoint-an-aircrafts-position/. Accessed 2021.

Airbus included a photo of a few different flight recorders that are in use today. These different flight recorders were included on the “Aircraft and Cockpit Communications” page, in order to show the different appearances of black box variations.

AIRINC Applied Informatics and Research Inc. “CVR/FDR Playback Center.” *AIRINC*, https://www.airinc.ca/cockpit-recordings-flight-data-recorder/. Accessed 2021.

This aviation website was used for the photo of the black box being connected to a computer in order to receive the information and begin the decoding process. This photo was used in the interview with Doug Brazy as he discussed the decoding process.

Alexander, Chloe. “Second Black Box Recovered from Crashed Cargo Plane in Trinity Bay.” Khou.com, 3 Mar. 2019, www.khou.com/article/news/local/second-black-box-recovered-from-crashed-cargo-plane-in-trinity-bay/285-6fd77e99-c2a9-44c9-8f7a-ef023b65689a.

This image depicts the recovery of the second black box from a crash in Trinity Bay. Since the black box appears undamaged after being submerged in water, this image affirms our understanding of the durability of black boxes. It reaffirmed the idea that black boxes are made to withstand harsh conditions prior to discovery.

Bilodeau, Paul. “911 calls suggest plane was on fire before it crashed.” The Eagle Tribune, 2017, https://www.eagletribune.com/news/911-calls-suggest-plane-was-on-fire-before-it-crashed/article_49fbe314-fea4-11e6-82a4-bf5f6508aeb2.html. Accessed 2021.

The Eagle Tribune provided a more recent news story with a photo that shows how black boxes are used in day to day work life of NTSB investigators. This photo of an NTSB investigator was included on the “Aviation Advancements” page.

Britannica, The Editors of Encyclopaedia. "Flight recorder". Encyclopedia Britannica, 23 Oct. 2020, https://www.britannica.com/technology/flight-recorder. Accessed February 2021.

This website was used for the photo of the anatomy of the black box. The photo shows the inside and outside of a flight recorder, in a diagram with labels. This photo was used on the Digital Flight Recorder page under the Anatomy of a Black Box section.

Deutsche, Welle. “Indonesia: Data Recovered from Crashed Jet's Black Box: DW: 15.01.2021.” DW.COM, www.dw.com/en/indonesia-data-recovered-from-crashed-jets-black-box/a-56233184.

The Indonesian National Transportation Safety Committee (KNKT) recovered a black box from Sriwijaya Air flight SJ 182 following the crash. This photo helped us further our understanding of the care taken to recover black boxes in order to ensure that the data remains unharmed.

Gerbis, Nicholas. “Should black box data be stored in the cloud?” *HowStuffWorks*, 10 June 2014, https://science.howstuffworks.com/transport/flight/modern/black-box-data-stored-in-cloud.htm. Accessed 2021.

This photo was used for the image of the Cockpit Voice Recorder. This photo was used in the interview with Doug Brazy as he discussed some of the benefits of CVRs. This helps to differentiate the appearance of Cockpit Voice Recorder with Flight Data Recorders, as they look very similar and accomplish a similar task.

Hepher, Tim. “Explainer: How to read an aircraft's black box.” *Reuters*, 2019, https://www.reuters.com/article/us-ethiopia-airlines-blackbox-explainer-idUSKCN1QV2ST. Accessed 2021.

Reuters had a professional air crash investigation official explain what happens after a black box is recovered. The photo of this official was included on the “Aircraft and Cockpit Communication” page to show what the special computers that are used to download the data looks like.

“Investigators Find Flight Data Recorder From EgyptAir Flight MS804.” *Sputnik News*, 17 June 2016, https://sputniknews.com/world/201606171041502563-egyptair-ms804-flight-data-recorder/. Accessed 2020.

This was used for the header image of the home page. This image is of a Flight Data Recorder to show the bright orange color, and what they look like. This aids in the understanding of the visual appearance of black boxes, as their name is misleading.

Lütticke, Marcus. “How does a black box work?” *DW*, 01 August 2020, https://www.dw.com/en/how-does-a-black-box-work/a-17907283. Accessed 2020.

This was used for general information about black boxes on the Digital Flight Recorders page. A photo of the digital flight recorder was used from this website was also used on the header of the Digital Flight Recorder page. Another photo from this website was used in the interview video with Doug Brazy, and shows two pilots in the cockpit of an airplane.

Milosovski, Goranco & Bil, Cees & Simon, Paul. Improvement of Aircraft Accident Investigation Through Expert Systems. Journal of Aircraft, 2009.

This journal provided a photo that compares the visual differences of Digital Flight Recorders and Cockpit Voice Recorders, as they are very similar. This photo was included on the ‘Aircracft and Cockpit Communication” page, which helps to support the different things that each recorder captures.

Post, The Washington. “NTSB Tops at Decoding Black Boxes.” The Denver Post, The Denver Post, 27 Apr. 2016, www.denverpost.com/2014/09/15/ntsb-tops-at-decoding-black-boxes/.

This article, which offers insight about the role that black boxes play in retelling the stories of accidents, includes a photo of NTSB staff Bill Tucio and Joseph Kolly as they study memory flight data-recorders. This image provided us with a greater understanding of what happens once a black box is found, whether after an accident or following a successful landing. NTSB Accident Investigator spoke briefly about the analysis process of flight data, and this photo illuminates part of that process.

Pultarova, Tereza. “Analysis: Aviation industry needs time to upgrade black box tech.” *E&T Magazine*, 2016, https://eandt.theiet.org/content/articles/2016/06/analysis-aviation-industry-needs-time-to-upgrade-black-box-tech/. Accessed 2021.

This photo from the Engineering and Technology Magazine of a standard black box was included on the “Thesis” page. This photo of a black box allows viewers to see what a standard black box looks like while first being introduced to its benefits in aviation technology.

Purdue University. “Technology soars in advancing critical communication, safety for pilots, passengers.” *Purdue*, 2019, https://www.purdue.edu/newsroom/releases/2019/Q3/technology-soars-in-advancing-critical-communication,-safety-for-pilots,-passengers.html. Accessed 2021.

The photo of the two pilots working together was included on the “Aviation Advancements” page. This helps to support the idea that black boxes have improved communication between flight crew members and pilots, during and after a flight.

Reuters. *The Jerusalem Post*, 12 January 2015, https://www.jpost.com/international/indonesian-divers-retrieve-airasia-flight-data-recorder-from-sea-387441. Accessed 2021.

This Jerusalem Post news article included a Reuter's photo of different authorities that were monitoring plane statistics. This was used in the interview with Doug Brazy, as he explained teamwork and communication efforts that arise with the use of black boxes.

Skapinker, Michael. "What safe skies can teach us about workplace communication." *The Irish Times*, 2018, https://www.irishtimes.com/polopoly_fs/1.3355299.1515960650!/image/image.jpg_gen/derivatives/box_620_330/image.jpg. Accessed 2021.

The Irish Times' photo of the two pilots helps to communicate the idea of improved communication in and out of a plane. Through the use of black boxes, cockpit communication has improved, and this photo was used on the "Aircraft and Cockpit Communication" page.

Tilley, Cristen. "Eight things you might not know about black boxes." *ABC News*, 25 March 2014, https://www.abc.net.au/news/2014-03-26/black-box-flight-recorders/5343456.

This news article included a photo of the black boxes from the Asiana plane that crashed in 2013. This photo of the flight recorders were used in the interview with Doug Brazy in order to show what black boxes look like after going through a crash.

Wannaz, Pierre. "How can we massively improve pilots' performances with today's technology?" *CEFA Aviation*, 09 October 2018, https://www.cefa-aviation.com/how-can-we-massively-improve-pilots-performances-with-todays-technology/. Accessed 2021.

This aviation company's website continued on the ideas that Doug Brazy discussed, and how black boxes improve the debriefing process after a flight. The photo of two pilots discussing in the cockpit was included in the interview video. Quotes, supporting information, and a graph was used on the Aviation Advancements website.

Secondary

Australian Government Department of Defence. "Black Box Flight Recorder." *Australian Government Department of Defence*, https://www.dst.defence.gov.au/innovation/black-box-flight-recorder. Accessed 2020.

The Australian Government Department of Defence details the history of the making of a black box and how it came to be. Dr. David Warren of Australia invented both the Flight Data Recorder and the Cockpit Voice Recorder. History of the black box is included on the "What is a Digital Flight Recorder?" page. The photo of David Warren and Ken Fraser was included on that page under history as well.

Australian Transportation Safety Bureau. "Black Box Flight Recorders." *Australian Government Australian Transportation Safety Bureau*, https://www.skybrary.aero/bookshelf/books/3679.pdf. Accessed 2020.

The Australian Transportation Safety Bureau details the breakdown of Cockpit Voice Recorders and Flight Data Recorders in this pdf. It also explains the anatomy, some of the

benefits of using these, and the different types of CVRs and FDRs. This information was used on the "Aircraft to Flight Crew Communication" page and the "Aviation Advancements" page.

Aviation Accidents. "Airplane Black Box." *Aviation Accidents*, 2015, https://www.aviation-accidents.net/black-box/. Accessed December 2020.

This detailed basic information on black boxes, including some history, a few parameters they record, the technology that black boxes use to survive crashes, and what happens following a plane crash. Black boxes are built to withstand a lot of pressure, water, and heat. This general information outlines the basics for the What is a "Digital Flight Recorder?" page, the "Aircraft to Flight Crew Communication" page, and the "Aviation Advancements" page. A photo of a recovered black box was also included on the "Thesis" page, which shows the durability of black boxes.

Dalrymple, Laurel. "What Would It Take To Destroy A Black Box?" *NPR*, 2014, https://www.npr.org/sections/thetwo-way/2014/03/11/289189214/what-would-it-take-to-destroy-a-black-box. Accessed December 14 2020.

Using general questions, the National Public Radio outlines the basics of black boxes, and then goes into depth on how black boxes are found, including the radar pinging, what is done after they are found like plugging into a computer, and how they withstand damage with the technology they utilize. This information was vital to understand the anatomy of a black box and how their information is found and gathered, which was used on the "What is a Digital Flight Recorder?" page and the "Aircraft to Flight Crew Communication" page.

Engber, Daniel. "Who Made That Black Box." *New York Times*, 4 April 2014, https://www.nytimes.com/2014/04/06/magazine/who-made-that-black-box.html?auth=login-google. Accessed 2020.

The New York Times went into the history of the Black Box, which included one of the reasons why they may be called a "black box" when they are orange. François Hussenot was able to capture flight history onto film, which required dark, hence the name "black." This information was included on the "What is a Digital Flight Recorder?" under the "Development of a Black Box" section.

Gladwell, Malcolm. *Outliers*. Little, Brown and Company, 2008.

Gladwell discusses the cultural barrier within aviation and how that affects communication, and could lead to plane crashes. His insight on plane crashes and how different communication within a flight crew affects the efficiency of aviation. This idea was explained and elaborated on the Aviation Advancements page, and was also elaborated on by Doug Brazy.

Lütticke, Marcus. "How does a black box work?" *DW*, 01 August 2020, https://www.dw.com/en/how-does-a-black-box-work/a-17907283. Accessed 2020.

This was used for general information about black boxes on the Digital Flight Recorders page. A photo of the digital flight recorder was used from this website was also used on the header of the Digital Flight Recorder page. Another photo from this website was used in the interview video with Doug Brazy, and shows two pilots in the cockpit of an airplane.

National Museum Australia. “Black box flight recorder invented.” *National Museum Australia*, 2020, https://www.nma.gov.au/defining-moments/resources/black-box-invented. Accessed 2020.

The National Museum of Australia explains how the black box flight recorders were invented, which was by David Warren in 1954. The history behind the creation of flight data recorders and cockpit voice recorders help to show why they were first invented, and how their purpose has changed and improved. This was included on the “What is a Digital Flight Recorder?” page under history.

Paur, Jason. “March 17, 1953: The Black Box Is Born.” *Wired*, 17 March 2010, https://www.wired.com/2010/03/0317warren-invents-airplane-black-box/. Accessed December 2020.

Wired covers the history on the when the black box was created, and what caused it to be created. This early history of black boxes was used on the “What is a DIgital Flight Recorder?” page, and supports basic understanding in why black boxes were first needed, and how they now aid in flying in many different ways.