X Dead in *Y* Accidents since 2011?

In January 2019, the headline pictured here appeared in the Flight Test Safety Fact, and the story reported on data shared by Tom Huff in his Chairman's report to the SETP Annual Symposium the previous year. Additionally, a repository with the data was created on github. In 2020, the Flight Test Safety Committee published the David Houle Flight Test Accident Archive. Fast forward to January 2024 when Hunter Bloch emailed the FTSF with several updates that need to be added to the repository and the Houle Archive. That email started a year long correspondence, a conversation at the FTSW in Seattle, and even a phone call to figure out what's next


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Flight Test Fa

Published for the Flight Test Safety Committee

24 Dead in 15 Accidents since 2011

The numbers vary slightly depending on who reports them and what accidents we categorize as "flight test," but the data send the same message. Tom Huff, Flight Test Safety Committee Chairman, reported these facts during the Flight Test Safety

Your

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How do we modernize the David Houle archive, a static collection of pdfs? How do we incorporate new data from flight test accidents? What steps can we take to ensure that the Flight Test Safety Database survives the next technology evolution, and can we crowd source THAs in a more efficient way? Finally, what does a repository on github have to do with all of this? I don't know if I can answer all of those questions, but before I even attempt to, I'd like to introduce Hunter's letter to the editor.

Letter to the Editor — Hunter Bloch

Building on last month's FTSF, let's talk about Aviation Accident Databases. These are some great resources that are public, and provide a wealth of information that we are free to use to improve the safety of ourselves, our organizations and our designs. The NTSB provides a good interactive database which many of you have probably accessed at one point or another (NTSB Aviation Investigations), but did you know that nearly every sovereign nation has its own, public, Aviation Accident Database? Here are a list of a few that I have used in the past few years:

- AAIB Publications (UK)
- TSB Investigations (Hungary)
- BFU Abschlussberichte (Germany)
- BEA-É (France)

These resources have so much to teach us... but they are not always easy to comb through. Many of these databases are not interactive, and those that are, do not necessarily provide the capability to filter only Flight Test related accidents. On top of that, these websites are not all in our mother language, which can make it difficult for each of us to find the reports which truly add flight test value. Here are a few examples of Flight Test Accidents that you may not know about, but I was able to find by talking to people and digging through some of these accident databases:

- Dornier 228-100 fatal accident
- Rapport d'enquête de sécurité C-2022-06-A | Ministère des Armées (defense.gouv.fr)
- AAIB investigation to Piper PA-46-350P (Modified), G-HYZA - GOV.UK (www.gov.uk)
- NTSB DCA22FA082
- AAIB-29460

There are a few services available that can improve the searchability. The Flight Safety Foundation has a fairly comprehensive database listing world wide aircraft accidents going back to 1919. There is metadata in the database which can trace to flight test accidents; however, it is a service maintained partially by the users, so the metadata is not always up to date and links to the applicable documents are not always available or well traced. And then there is our Dave Houle Accident database from the Flight Test Safety Committee. Dave was able to track and synthesize many Flight Test related accidents in his time, but the spreadsheet has fallen out of use since 2011 and it also contains primarily content from US accidents, missing out on a wealth of learning from across the globe. All of this brings me to my main point.

Quoting Chia from last month's FTSF, I think this topic is something "we should strive to improve going forward". We should work together to refresh and improve the service that Dave Houle started. I believe two main initiatives may be required to complete this.

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Flight Test Safety Podcast Channel: EP62 –Turbo reveals non-Navy CRM acronyms

Chia Chat – FTSC Subcommittees & new award

The first is simple but requires support from all of the Flight Test community. We need submissions about Flight Test Accidents. Many of you may know of one or two Flight Test accidents which have informative content but may not be widely known across the world. If these can be submitted, even as a general reference about the airplane, the date, the location, we can start to build out the content of our accident information collection. To me this is where we especially need help from all colleagues from all nations, who may have access to other information or be able to better search their local accident archives.

The second initiative is a revamp of the Dave Houle accident archive. This needs some consideration before it is undertaken, but I believe it is necessary if we wish to continue to build upon it. Some possible solutions I have considered my self are:

- Revamp to a modern spreadsheet stored on the cloud and easily accessible and updatable by Flight Testers.
- Develop a database system (this could be as easy as utilizing GitHub or as complex as building our own service) for us to use.
- Contact and partner with a current service provider which is tracking aviation accidents (I think first of the Flight Safety Foundation Here). We could work with them to improve the Metadata and content of their database which in turn could address our goal of a searchable collection of Flight Test accidents.

The right solution may take time to develop, and may not be one of the concepts I listed above, but I believe, as Dave Houle did, that it is a worthy project to take on and that it could add value to our community.

Hunter Bloch hunterbloch@gmail.com

A Tool for Test Teams – The Designated Non-Advocate

Letter to the Editor **Mike Rabens**

At the SETP conference in September, I was listening to the excellent presentation "Intellectual Virtue Grounds Sound Safety Culture" by John O'Connor, USNTPS Emeritus, and Rob Niewohner, Capt USN (ret) and US Naval Academy Professor. Their presentation was a discussion about the role of virtue in high performance teams, specifically high performance flight test teams. It was an excellent and thought-provoking presentation. While discussing Virtue and Virtuous behavior, one of their slides simply states that "intellectual Virtue provides the greatest leverage we have over intellectual performance." The comments end with "…and these dispositions [virtues] can be learned." That got me thinking about a simple and practical way to actually imbue some virtuous behavior into a team. We did this on a Navy Pax River team a few years back that I had the pleasure to lead. The following story illustrates the observed problem, and the solution. Admittedly, this one solution is not ground-breaking, but I believe it was innovative and may benefit members of the broader flight test community.

The Dedicated Non-Advocate

a simple concept to ensure all aspects of a problem are discussed and all solutions are examined

We had a fully Integrated Test Team operating at NAS Patuxent River during an intense program. We were working very hard to demonstrate that the Air System was mature enough and capable enough to enter into the next phase of testing. There was pressure to move as quickly as possible (program) and to operate conservatively and safely (squadron). Pretty normal tension for a DOD flight test program. The team dynamics were generally very good. We were operating under the leadership of a USN test squadron, and the team was composed of personnel with a widely varying set of experiences in flight test. Due to the personalities involved, which were strong, we recognized that there was a high risk of group-think, or perhaps worse, quiet acceptance, of any course of action that leadership (test team, squadron, or program) was proposing at any given time. This was especially true when people started to get fatigued of constantly defending their position. To guard against this, and to ensure that debate was open and robust, we came up with the concept of the "Designated Non-Advocate." This person's role was to poke holes in the proposed course of action, to be the critical voice in the room, to respectfully disagree with the proposed plan in reviews and discussion. Similar to debate teaching in high school, regardless of the person's personal opinion of the right way/wrong way, their assignment, their duty, was to present the opposing point of view. In execution, we found this to be useful several times, and I recommend that all flight test teams put this in their bag of tricks. It will ensure robust vetting of ideas and plans, a virtue that we should all desire in a healthy team.

Mike Rabens
SETP Fellow

2025 Flight Test Safety Workshop – Theme Unveiled!

2025 Flight Test Safety Workshop – 6-7 May 2025 – Greensboro, NC

The Flight Test Safety Committee, a joint committee of SFTE, AIAA, and SETP, is pleased to announce that the North American Flight Test Safety Workshop will be held 6-7 May 2025 in Greensboro, NC.

A Tutorial will be held on Tuesday 6 May, followed by a Technical Tour of HondaJet. Technical presentations will be held on Wednesday 7 May followed by an Award Dinner where the Dave Houle Best Paper Award, Tony LeVier Flight Test Safety Award and our new Flight Test Safety Lifetime Achievement Award will be presented.

Theme Unveiled

The Tutorial theme for the 2025 Flight Test Safety Workshop will be **Brilliance In the Basics** which will focus on the foundational basics of safe and effective flight testing by reinforcing the critical fundamentals including organizational structure, processes and procedures, safety leadership, risk management, and safety culture. This Tutorial is designed for participants of all experience levels. Participants from emerging test organizations should depart the workshop with a stronger understanding of how to build that brilliant flight-testing organization that effectively manages risk, safely and productively executes hazardous flight tests, and promotes a safety culture that ensures all team members feel empowered to raise concerns. Participants that come from established organizations will not only have the opportunity to help mentor and assist those new entrants to flight test, but also will undoubtedly find ideas and fresh perspectives that can be applied to further improve their core principles of flight testing.

Hotel Reservation Information: Sheraton Greensboro at Four Seasons (3121 W Gate City Blvd, Greensboro, NC 27407)
A limited block of rooms is reserved at the group rate of $152.00 per night. Please click **HERE** to book your room.

This year we have a limited block of rooms reserved at the government rate of $123.00 per night. Please use this link **HERE** to book your room at this rate if you are active duty military, DoD personnel or a U.S. Federal Gov't employee. The appropriate I.D. for government rate rooms will be required at the time of check-in. **PLEASE NOTE:** The government rooms are very limited and need to be available to those who qualify. You are not eligible for this room rate because you are retired military or because your company has a federal contract. Please reserve your room by **6pm EST Friday, 4 April 2025** in order to guarantee these rates.

Save the Date - 4 & 5 November 2025 European Workshop.

Bonus Content

In the most recent edition of the SETP Cockpit magazine, Matt Berggren published an article titled "Avengers or Pre-vengers." Because it's flight test safety related, and because he uses a two by two matrix to organize his thoughts, I asked if we could publish it here. It is attached as a pdf to this newsletter.

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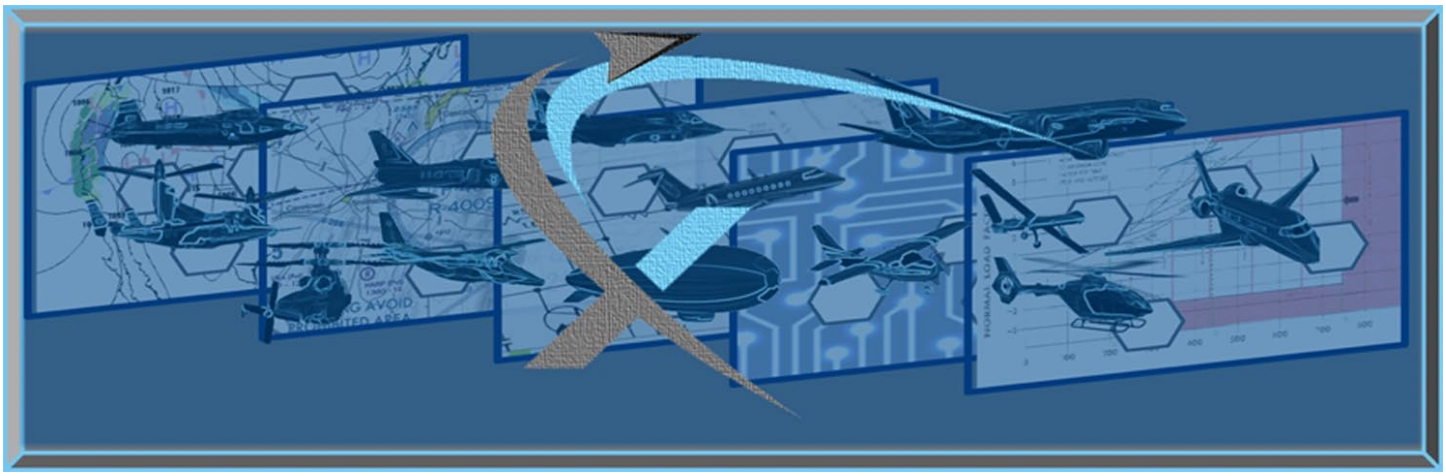

Chia Chat

I hope you enjoyed this month's Flight Test Safety Fact. I was thrilled to see that this edition was driven by letters to the Editor. Having readers engaged in this organization is exciting and shows the FTSF is impacting the readers. I really appreciate Sandy, Hunter, and Mike taking the time to write to the FTSF and start a conversation, because conversations are one of the best ways for us to learn and grow in this profession. I think both topics raised are important to flight test risk management. First, I have always enjoyed Rob Niewohner's presentations, and the paper Rob and John O'Conner gave last fall at SETP was spot on. We spend a lot of time coming up with elaborate risk mitigations, beautifully crafted THAs and flight test best practices. Those are all great tools, but they have one major flaw; they focus on the known risks. An intellectually, virtuous flight test crew is a team that will react far better or recognize early the unknown risks and that is a magnitude increase in flight test risk management for an organization. I love the idea of having the "Designated Non-Advocate." A simple addition that can lead to transformative change.

Hunter's letter hit a topic that is certainly near and dear to my heart. We have a wealth of flight test safety information available, but a lot of it is not easily accessible or organized in a coherent manner. Plus, there is a lot more data out there we are missing. That is one of the reasons I started the AI Sub-Committee to see if the FTSC can leverage Large Language Models to help build a better Flight Test Safety Database. Right now, we are just beginning our work, but we have already made a few changes. If you take a look at the 2024 FTSW Recordings, you will also find a raw, unedited transcript of the video. The transcript isn't perfect, but using our existing resources, it was a quick and easy way to create a searchable text for the presentation. That transcript has also been added to the FTSC web page search engine. Next time you do a key word search, the results may well include a link to the videocast not based solely on the title or key words. We are planning to eventually transcribe all the videocasts on our website so keyword searches will point to more resources to answer your question. This is part of our process of creating curated data that will be eventually fed into the FTSC's LLM. And that leads me to Hunter's other point. Flight Test Accidents are rare, but we need to capture the lessons learned from all for them because there is no better source. Right now, the database is very North American centric, and we need all the international accidents captured too. I echo Hunter's request to please submit any information you have so we can continue to build that accident database. And if you are interested in participating in the AI Sub-Committee, please reach out to myself or Susan@setp.org.

March 2025
Flight Test Safety Fact 25-03

Hopefully you have seen some of the announcements about the North American FTSW in Greensboro in early May. I am excited to see the Tutorial details are starting to come together. Between the large numbers of quality papers submitted and the tutorial theme, you don't want to miss this event. And don't forget our European FTSW in Trieste in November. A call for papers for that event will be out soon, so please consider submitting. A workshop is only as good as the presentations.

Last month I talked a little about the new award that the FTSC has created. The name for that award has been finalized and we will be naming it the "Hugh Dryden Flight Test Safety Lifetime Achievement Award". There were so many great options put forth and I loved reading the amazing careers of the many flight test professionals we could have named this award after. However, the small sub-committee we put together to pick the name was somehow able to narrow this impressive list down to Hugh Dryden. There are many great resources that will tell you about Hugh Dryden's career and why it fits perfectly with flight test safety and lifetime achievements, but here is a quick summary using ChatGPT:
One of the most influential flight test engineers in history who significantly contributed to aviation safety and flight testing is Hugh Dryden (1898–1965). Dryden was a pioneering aerospace engineer and administrator who played a crucial role in shaping modern flight test methodologies and safety protocols.
1. Fundamental Research in Aerodynamics
 a. Dryden's early work at the National Bureau of Standards and later at NACA (the predecessor of NASA) provided critical insight into turbulence and boundary-layer effects, directly influencing safer and more stable aircraft designs.
2. Leadership at NACA & NASA
 a. As director of NACA, Dryden was a key figure in transitioning it into NASA, ensuring that rigorous flight-testing standards and safety measures were at the core of the organization's operations.
 b. His work laid the groundwork for controlled supersonic and space flight testing.
3. Influence on High-Speed and Spaceflight Testing
 a. Dryden helped establish the High-Speed Flight Research Station at Edwards Air Force Base.
 b. His leadership guided the X-plane programs, which set critical precedents in flight test safety.
Why Hugh Dryden Stands Out
1. Unlike test pilots such as Chuck Yeager or engineers like Kelly Johnson, Dryden's contributions were foundational in shaping the entire flight test field's safety and methodology. His focus on rigorous data collection, structured testing methodologies, and risk mitigation helped make flight testing a disciplined, science-driven practice.
2. Though he never flew the test flights himself, the procedural and safety frameworks Dryden established saved countless lives and continue to influence modern aviation and spaceflight testing. Without his influence, the rigorous approach to test engineering that ensures aircraft are safe before mass production might not have evolved as effectively.

I am very much looking forward to presenting this award for the first time at the FTSW Dinner in Greensboro as well as the Tony LeVier Flight Test Safety Award and I hope you will be able to attend and see it in person too.

Finally, I am sure you have already listened to Turbo's podcast which has a new title, "On Condition." Turbo continues his CRM series, a critical skill set for all flight test aircrew. I do love the new podcast title, since it doesn't focus on safety. Yep, you heard me correctly. Safety is not our number one priority, but instead getting the mission done is. We need to get "On Condition" and get the data, or why did we even get out of bed this morning? We just need to get "On Condition" with an acceptable level of risk. Maybe we can take a deep dive on that topic next month!

For now, think critically then fly safe (I mean at an acceptable level of risk)! Be the most intellectually virtuous flight test crew you can be!
Stuart "Chia" Rogerson

***Subscribe* to "On Condition: The Flight Test Safety Podcast"** Available on iTunes, Spotify, Podbean, Google Play, and Amazon Music: FTSCChannel https://flighttestsafety.org/ftsc-news/flight-test-safety-podcast-channel https://ftscchannel.podbean.com/ **Connect with us by joining the LinkedIn Group: "Flight Test Safety Committee."**	Episode 62 – Turbo talks about CRM and uses non-Navy CRM acronyms ("nonnavcrmac"). By that I mean he uses actual acronyms where the first letter of each word is used to make up a new word, instead of the first two or three letters, which is the norm for Department of the Navy acronyms. What the actual heck, anyway, US Navy? Episode 63 – More CRM with Rod Huete

Remembering Human Error Specialist James Reason

Jim "Sandy" Sandberg sends this note: Mark, an interesting tidbit of flight test safety history is attached and at the link below. The article, occasioned by the February 5 passing of Reason, is a chance to reflect on the work of the human factors expert and his contribution to safety. https://aviationweek.com/air-transport/safety-ops-regulation/remembering-human-error-specialist-james-reason

Photo credit: International Federation of Airworthiness, as reproduced by Aviation Week

Sandy sent the full article text, and it is attached to this pdf for your personal use, as pictured here.