

Outreach Guidance Document
2022/03-03-242(I)PP

This outreach guidance is provided to all FAA and aviation industry groups that are participating in outreach efforts sponsored by the General Aviation Joint Safety Committee (GAJSC). It is important that all outreach on a given topic is coordinated and is free of conflicts. Therefore, all outreach products should be in alignment with the outline and concepts listed below for this topic.

Outreach Month: June 2026

Topic: Hindsight Bias and CFIT

The FAA and industry will conduct a public education campaign emphasizing the dangers posed by Hindsight Bias

Background:

GAJSC study of General Aviation CFIT Accidents suggested that human biases may compromise effective pilot decision making and lead to CFIT accidents.

Teaching Points:

- Human biases are patterns of reasoning that weigh the value of information according to pre-conceived beliefs. Biases present as a prejudice in favor or against one thing, person, or group compared with another; often in a way considered to be unfair.
- Hindsight bias is characterized by a feeling that event outcomes are more inevitable and predictable than they actually are. Hindsight bias can promote memory distortion leading people to think they had actually predicted the occurrence of an event and its outcome.
- Hindsight bias can compromise accident and incident investigations and lessons learned by not considering events from the perpetrators' view.

References:

- ***Hindsight Bias and CFIT Power Point***
 - Available on the National FAASTeam Share Point site under Approved Resources.

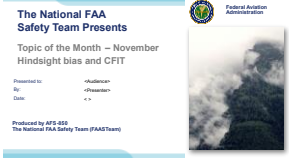
Abstract: Lasting 10 to 15 minutes, this presentation acquaints the audience with Hindsight bias and offers suggestions for bias compensation and successful CFIT event avoidance.

Format: Information Briefing - Power Point presentation

2024/09-10-322(I)PP Topic of the Month –Hindsight Bias Rev 0 12 February 2025
 Required Personnel – FAASTeam Program Manager or designated FAASTeam Rep (s)
 Optional Personnel – DPEs and CFIs who can speak to CFIT hazards associated with
 Plan Continuation Bias

National FAASTeam Support:

In addition to this guidance document, a Power Point presentation that supports the program and a folder containing background information are provided. FPMs and presenters are encouraged to customize this presentation to reflect each individual program.

Slides	Script
	Slide 1 2024/09-10-322(I)PP Original Author: John Steuernagle 12 Feb 2025; POC John Steuernagle National FAASTeam Operations Program Manager, Office 562-264-5484 Presentation Note: <i>This is the title slide for Hindsight Bias and CFIT.</i> • Script - We have included a script of suggested dialog with most slides. The script will always appear in a non-italic font. Presenters may read the script or modify it to suit their own presentation style. See template slides 5 and 6 for examples of a slides with script. • Presentation Instructions - <i>(stage direction and presentation suggestions) will be preceded by a Bold header: the instructions themselves will be in Italic fonts. See slides 2, 3, and 4 for examples of slides with Presentation Instructions only.</i> • Program control instructions - <i>will be in bold fonts and look like this: (Click) for building information within a slide; or this: (Next Slide) for slide advance.</i> • Background information - <i>Some slides may contain background information that supports the concepts presented in the program. Background information will always appear last and will be preceded by a bold Background: identification.</i> <i>The production team hope you and your audience will enjoy the show. Break a leg!</i> (Next Slide)

	(Next Slide)
Welcome • Exits • Restrooms • Emergency Evacuation • Breaks • Sponsor Acknowledgment • Set phones and pagers to silent or off • Other information 	Slide 2 Presentation Note: <i>Here's where you can discuss venue logistics, acknowledge sponsors, and deliver other information you want your audience to know in the beginning.</i> <i>You can add slides after this one to fit your situation.</i> (Next Slide)
Overview • Hindsight Bias • CFIT Avoidance • Pilot Proficiency 	Slide 3 The General Aviation Joint Steering Committee (GAJSC) Controlled Flight Into Terrain (CFIT) work group report suggests that human biases may be significant factors in CFIT accidents. In this presentation we'll talk a little bit about a human bias that makes it difficult for us to learn from the mistakes of others. We'll present a CFIT scenario and discuss how Hindsight Bias can compromise accident and incident investigations and lessons learned. Finally, we'll offer tips for CFIT Avoidance and maintaining pilot proficiency. Presentation Note: <i>If you'll be discussing additional items, add them to this list</i> (Next Slide)
Understanding life "Life can only be understood backwards, but it must be lived forwards." Soren Kierkegaard 	Slide 4 The Danish philosopher Soren Kierkegaard was right in his observation that life must be lived forwards but can only be understood backwards. The actions we take in the present, produce future results that, if planning, knowledge, skill, and circumstances allow, will yield intended results. Most of the time things work out well but occasionally we need to look back to event precursors to discover what went wrong and how to prevent future occurrences. And when we do that, our understanding may be compromised by a human bias that has to do with hindsight. (Next Slide)

Almost home



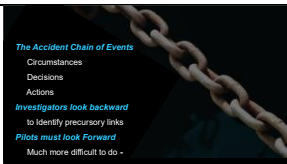
Slide 5

The remote village airport lay at the mouth of a mountain pass. The mountain tops were often obscured in clouds and there were no instrument approach options, so pilots frequently approached the field by flying through the pass beneath the cloud layer. A dogleg in the pass prevented seeing from one end to the other so ceiling and visibility had to be carefully assessed before committing to a transit. Upon entering the pass, the pilot broadcast a position report and villagers waiting at the airport expected the aircraft to land about 10 minutes later. With no further communication from the aircraft, search and rescue parties entered the pass. The wreckage was found about 6 miles from the airport.

(Next Slide)

The Accident Chain of Events

Circumstances
Decisions
Actions
Investigators look backward
to identify precursory links
Pilots must look Forward
Much more difficult to do -



Slide 6

We're all familiar with the accident chain of events **(Click)**

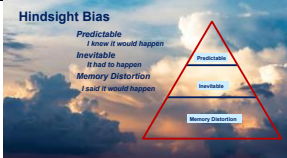
– a series of circumstances, decisions, and actions that lead to an accident. We are told that breaking any link in the chain can prevent the accident **(Click)** Investigators, looking backward from an accident event are often able to reconstruct the links in the chain. **(Click)**

But pilots must look forward and those precursors are much more difficult see from the pilot's point of view. We'll keep that in mind as we begin to discuss Hindsight Bias.

(Next Slide)

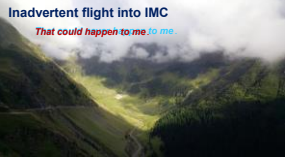
Hindsight Bias

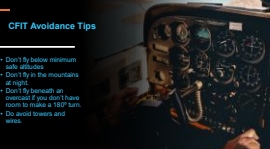
Predictable
I knew it would happen
Inevitable
It had to happen
Memory Distortion
It said it would happen



Slide 7

Hindsight bias refers to the human tendency to think that events are more predictable than they actually are. Although our General Aviation safety record is exemplary, there will be some accidents. It's inevitable. Thus, it's easy to say, "It had to happen." **(Click)**

	Predicting when and where accidents will occur is a little more difficult. To be sure, some aviation operations are riskier than others, so you'd expect to see higher accident rates. But pilot knowledge, skill, and aircraft capability are usually higher in high-risk operations, so accident rates are lower than what one might expect. Still, when an accident does occur, it's easy to say, "I knew it would happen," after the fact. (Click) It's impossible to remember everything we say and to whom we said it. Memories dim and distort over time and it's not unusual for us to think, "I knew it would happen, and I said so." (Click) That's how hindsight bias works, and all humans are subject to it so what's the problem? (Next Slide)
	<u>Slide 8</u> When we construct an accident chain backwards – especially when the accident pilot can't be interviewed, we know what happened, but it's much more difficult to know why. Reading accident reports can be frustrating in this regard. "The pilot failed to obtain/maintain flying speed," is a great description of what happened but why did the pilot stall the airplane? Was the pilot distracted? was there an unreasonable expectation of aircraft performance? And how about "Inadvertent Flight into Instrument Meteorological Conditions (IMC)? This is where CFIT comes into the conversation. (Next Slide)
	<u>Slide 9</u> Unplanned transition from visual flying to Instrument Meteorological Conditions is one of the deadliest accident precursors. Most pilots know of an Inadvertent IMC story or two and, using twenty-twenty hindsight it's easy to think, "Yep – I knew that was going to happen. In fact, I said something about it last week." (Click)

	And, although we don't say it, we think, "that could never happen to me." Well, if we stop there, we lose the opportunity to ponder why it happened, how a seemingly capable pilot arrived at the decision to pursue what turned out to be the impossible dream. And thinking, "that could never happen to me," can easily result in overconfidence in our knowledge, and skill. (Click) It's much healthier to think, "I can see how that could happen to me and here's what I need to do to prevent it." (Next Slide)
People cannot easily avoid those actions they did not intend to commit. How did the pilot perceive the environment? How were perceptions processed to plan for action? What actions were taken? What would I do in the same circumstances? 	<u>Slide 10</u> And here's another really important point. People cannot easily avoid those actions they didn't intend to commit. It's very difficult to see that the choices you're making are directing you along a path to tragedy. Whatever the activity, people rarely set out to create a disaster and yet – sometimes – circumstances, operational environments, and human decisions combine with decidedly unfavorable results. (Click) So, when we're contemplating accidents that have already happened, it's very beneficial to consider what the pilot was dealing with, what information was available and how would a pilot of similar experience perceive it, process it's meaning and perform actions to address the issue. (Click) Finally, we ask ourselves what we would do in the same circumstances. This is a best practice for overcoming Hindsight Bias in our attempts to understand why accidents happen. To end our program, let's consider a few tips to reduce the chances of Controlled Flight into Terrain. (Next Slide)
CFIT Avoidance Tips • Don't fly below minimum safe altitudes • Don't fly in the mountains at night • Don't fly through an obstacle if you don't have room to make a 180 turn • Do avoid towers and wires 	<u>Slide 11</u> Here are a few things we can do to avoid CFIT. (Click)

	• Don't fly below minimum safe altitudes. Maintain at least 1,000 feet above the highest obstacles along your route. (Click) • Don't fly in the mountains at night. Over the mountains is okay but don't try to negotiate low-level passes and routes – especially in remote areas. (Click) • Don't fly beneath an overcast if you don't have enough room to make a 180° turn. (Click) • Do stay well clear of towers and wires. (Next Slide)
CFIT Avoidance Tips • Fly the aircraft! • Perfect practice makes perfect • Even basic autopilots are helpful 	<u>Slide 12</u> Of course, the number one priority on any flight is to Fly the Aircraft! That's easy to do in good weather; much harder to do if you're coping with deteriorating weather and navigating to an alternate airport. There are definitely times when any pilot approaches task saturation and that's not a comfortable place to be. Regular practice, guided by a Flight Instructor, and honed to perfection, is the best preparation for all flight challenges. An autopilot is well worth considering for VFR and IFR flying. Even a basic wing leveler can reduce pilot workload and make more time for in-flight decision making. (Next Slide)
CFIT Avoidance Tips  • Realistic preflight planning • Realistic weather (V) • Objective on-flight plan • Performance assessment • Deal with small problems before they become big ones • Choose to alternate to a small problem • Not enough fuel to get there is big one • Objective risk performance assessment • Maintain proficiency with WINGS	<u>Slide 13</u> It's important to note that there are multiple influences associated with any flight. Pilots need to effectively manage those influences to ensure a safe outcome. (Click) The process begins with realistic preflight planning that considers pilot and aircraft capabilities as well as mission requirements. The process should include consideration of factors that could compromise success and alternative plans for dealing with them. (Click)

	While in flight, pilots must continually and objectively assess how well the flight is conforming to plan. In addition to route progress and weather, fuel state and performance monitoring must be considered. There will always be variations from plan most of which won't compromise the safe completion of the flight; but they should be noted and dealt with. (Click) Deal with problems and variances as soon as they are noted. That way you can take care of small problems before they become big ones. In the grand scheme; diversion to an alternate is a small problem – especially if you've planned for it. But not having enough fuel to reach the alternate is a big problem. (Click) Pilots must be prepared to cope with any challenges that occur in flight and in order to do that we must know what we and our aircraft are capable of. That requires an objective assessment of our performance – preferably made by a flight instructor. Your instructor can help you to develop and document Personal Performances minimums. (Click) And finally; we must maintain our proficiency in order to meet our performance minimums. A regular program of proficiency training with a CFI is best and we urge you to consider the FAA WINGS Pilot Proficiency Program. (Next Slide)
Have you earned your WINGS? • Proficient Pilots are: – Confident – Capable – Safe • WINGS will keep you on top of your game 	<u>Slide 14</u> Have you earned your WINGS? Proficiency is key to success in almost everything worth doing – especially flying. Proficient pilots are confident, capable, and safe. WINGS is a proficiency training system specifically designed for general aviation pilots and, regular participation will keep you on top of your flying game. (Next Slide)

	<u>Slide 15</u> Every time you complete a WINGS Phase, you're eligible to win cash in the WINGS Sweepstakes. The sweepstakes is generously funded by Paul Burger, a long-time advocate for general aviation safety and a retired aviator who believes participation in this program saves lives. VISIT WWW.MYWINGSINITIATIVE.ORG to learn more and enter the sweepstakes. Just navigate to http://www.mywingsinitiative.org or scan the QR code for details. By the way, Instructors can also enter the sweepstakes. But there are even better reasons to participate in WINGS. (Next Slide)
Questions? 	<u>Slide 16</u> Presentation Note: <i>You may wish to provide your contact information and main FSDO phone number here. Modify with your information or leave blank.</i> (Next Slide)
Safety Management Systems (SMS) Coming to General Aviation 	<u>Slide 17</u> Safety Management Systems are a set of policies and processes that can increase the safety and efficiency of any flight operation. And FAA is bringing SMS to General Aviation. You may have heard of SMS but thought it was only for large organizations but actually SMS can be scaled to fit any operation large or small. There are 4 major components to a Safety Management System (Click) Safety Policy – a documented commitment to safety that runs from the head of an organization to its newest member. (Click) Safety Risk Management – a process that identifies hazards within an operation, determines to what extent an identified hazard may impact flight safety, and controls the risk of occurrence to an acceptable level. (Click)

	Safety Assurance – By collecting and analyzing information derived from safety performance data Safety Assurance ensures the performance and effectiveness of Safety Risk Controls. (Click) Safety Promotion communicates safety information and commitment throughout the organization. (Click) You can find more information about Safety Management Systems at the URL on the Screen. (Next Slide)
	<u>Slide 18</u> Your presence here shows that you are vital members of our General Aviation Safety Community. The high standards you keep and the examples you set are a great credit to you and to GA. Thank you for attending. (Next Slide)
	<u>Slide 19</u> (The End)

Appendix I – Equipment and Staging

Equipment:

- Projection Screen & Video Projector suitable for expected audience
 - Remote computer/projector control available at lectern or presenter location
 - In lieu of remote – detail a Rep to computer/projector control.
- Presentation Computer
 - **Note:** It is strongly suggested that the entire program reside on this computer.
- Back up Projector/Computer/Media as available.
- PA system suitable for expected audience
 - Microphones for Moderator and Panel

- Optional Microphone (s) for audience

- Lectern (optional)

Staging:

- Arrange the projection screen for maximum visibility from the audience.
- Equip with PA microphones
- Place Lectern to one side of screen. This will be used by presenters and moderator

IMPORTANT – Once you have completed outreach on this topic, please help us track the outreach you have done by entering a SAS record.

NPP14: GAJSC Safety Outreach Topic of the Month

SAS Activity Code	National Use	Primary Area	Keyword	Description	Performance Target	Date Due	LDR 12XXFAFAAST
1983	NPP14	K	032	Promote "Topic of the Month" within the FSDO area.	Assigned by Office Manager	Assigned by Office Manager	OR0010
RESOURCES: • Topics of the Month materials are available at the National FAASite KSN site under Approved Resources. • Each resource supports 10 to 20 minutes of program time.					COMMENTS: • GAJSC Topic of the Month: ○ Industry and the FAASite will nationally promote each monthly topic. ○ Use the "teaching points" on the Presenter Notes & Outreach Guidance Document to promote the topic locally in any way possible.		
NOTES: • 1 SAS activity entry at the conclusion of each GAJSC Topic of the Month outreach. • Record the type of outreach conducted in the comment section of the SAS. • Points of contact for this NPP item: ○ John Steuernagle - National FAASite Products Manager, (301) 471-3954, John.W.Steuernagle@faa.gov ○ Kevin Clover - National FAASite Ops Program Manager, (562) 888-2020, Kevin.L.Clover@faa.gov							