The National FAA Safety Team Presents

Topic of the Month July 2023

Fly the Aircraft, First

Presented to:Safety Minded Aviators, Everywhere...By:Stephen Bateman, CFI, AOPA Flying ClubsDate:Tuesday July 18th, 2023

Produced by: The National FAA Safety Team (FAASTeam)



Federal Aviation Administration





General Aviation Safety Enhancement Topics

Don't let distractions become deadly. Always fly the aircraft first.

Welcome

- Steve Bateman, CFI, AOPA Flying Clubs, FAASTeam Lead Rep Portland FSDO
- Your monthly 33-minute dose of aviation safety
- WINGS Credit: Yes...!



 Probably no time for questions, but please send me email: <u>steve.bateman@aopa.org</u>

Tel: 301 695 2356



The Bat





So...

No recording...but even
 better...



> Flying Clubs > Club Connector Newsletter

FLYING CLUB CONNECTOR NEWSLETTER

Your source for the latest news on flying clubs all over the country. AOPA's research has shown us that flying club leaders are hungry to learn more about the practical experiences of other clubs. So, we have created this monthly e-newsletter.

- You can get the slides of this presentation for your own use!
 - This and earlier ToM presentations are available...
 - Sign-up tonight!
 - July edition published 7/16/2023





NARROW RESULTS 🗸



Check NOTAMS!







VIP TFR OVER HAGERSTOWN/THURMONT, MD BEGINNING SATURDAY, FEBRUARY 4, 2023



Click the image above to interact with the TFR in iFlightPlanner for AOPA



Overview

- Fly the aircraft, first...implies something changed...
- Loss of control statistics
- Distractions and startles
- Loss of control working group recommendations
- WINGS



* General Aviation Joint Safety Committee



Non-Comm Fixed Wing Rates: 2011 – 2020 Normalized to 100,000 flight hours

Figure 1.3: General Aviation Accident Rates 2011-2020

2020 Non-commercial fixed-wing





Who and When...

Figure 1.4: Genera 2020 Non-commercial fit	l Aviatior	n Acciden	ts in 20	020	-
	Acci	dents	Fata	al Accidents	
Pilot-Related	614	69.1%	79	51.6%	
Mechanical	153	17.2%	14	9.2%	
Other / Unknown	122	13.7%	60	39.2%	

Figure 1.7: Flight Conditions

2020 Non-commercial fixed-wing



		Accidents	Fatal Accidents	Fatalities
<	Day VMC	760 85.5%	107 69.9%	178 68.5%
	Night VMC	71 8%	10 0.5%	15 5.8%
	Day IMC	24 2.7%	14 9.2%	32 12.3%
	Night IMC	12 1.3%	11 7.2%	18 6.9%
	Unknown	22 2.5%	11 7.2%	17 6.5%

'Night fields include dusk.

What still bites us...

- Loss of Control
- CFIT
- *FR into IMC
- Unstable approach...all the way to the ground...
- Jump in and go
- Hazardous attitude(s)
- Fuel mismanagement
- Out of currency proficiency
- Fly a new-to-me aircraft without any training
- Incorrect response to emergent situation
- Brain burb in flight—distraction and/or startle
- Ignore hazardous attitudes
- Throw ADM out of the window…

Good News Bad news



Fly the Aircraft, First

- Implies that something unexpected has happened
- Thrown out of our comfort zone
- Requires resolution
- Involves brain power, decision making and focus
- More than "just" flying...ADM as well
 - Controlled into IMC?

What sort of things could cause this...?



Possible "Fly the Aircraft First" Situations

- Engine failure on take-off (and go-around)
- Engine failure at any time!
- Landing gear extension/retraction problem
- Landing gear warning horn
- Bird strike
- Cabin/baggage door opening
- Seat belt trapped outside and flapping/banging
- Control issue/failure
- Electrical failure, fire, smoke
- Alarms (e.g., Altitude alert set too low)
- Getting behind the airplane
- Flashing warning lights
- Unexpected clearance change
- *FR into IMC...surprise and a killer

VFR INTO IMC

In most years, half of all weatherrelated accidents happen as a result of continued VFR flight into instrument meteorological conditions (IMC)...and most of these accidents are fatal.

178 Seconds to Live

Curious to know what a pilot's last 178 seconds might look like? Watch this gripping video.





Why we are talking about this...

- Fatal LOC GA accidents may result from... "inappropriate responses to unexpected events":
- Improper response due to:
 - Incorrect initial reaction
 - Delay in reasoning (befuddled or false reasoning path)
 - Over-focused on one particular (wrong) solution...trying to make it work
 - Don't know what to do
 - Never knew
 - Forgot

- The Opportunity
- Didn't practice





EA 401

- 29 December 1972
- JFK MIA (Miami)
- Three flight crew + one other airman
- Extended gear: Nose gear light not illuminated...umm...
- Approach aborted—buy time to debug—smart
- Used autopilot—smart
- But...Control-Wheel-Steering mode erroneously engaged—maintaining last commanded attitude
- Someone bumped the controls during the debug effort
- All four professional aviators were so focused, all failed to detect the shallow descent...until...
- 99 fatalities





First things, first...



- Don't put the cart before the horse...
- Solving the problem isn't worth much if you then CFIT



Turkish Airlines Flight-1951, Colgan Air Flight-3407, 2009 2009

- Fault with LH seat radio altimeter – indicated -8 feet
- **Distracted** and focused •
- Systems enter "retard flare" thrust condition
- Speed decays, stick shaker
- First Officer applies partial ۲ thrust, but auto throttles reduce thrust to zero
- Captain takes over thrust stays at zero for nine more seconds
- Unable to recover from stall at ~450' AGL

- Commencing approach from 2,300'
- Flaps and gear down ٠
- Power left at idle
- Stall waning and stick • shaker...
- **Startled.** Reaction was to pull.
- Deeper stall, FO retracts • flaps...

Air France Flight-447, 2010

- Atlantic Ocean
- Pitot becomes blocked • by ice
- Autopilots disconnects
- Stick shaker and stall warning
- Incorrect response: • First Officer **pulls** up at 2,000'
- Fully developed stall pulls full nose up

We must train for the initial reaction to PUSH, not pull.



A matter of priorities

- Technical debugging a problem?
- Managing passengers?
- Dealing with ATC?

• Fly the Aircraft, First!





A matter of priorities



- Aviate:
- Navigate:
- Communicate:

Maintain (retain) aircraft control at all times Restore situational awareness. Location, fuel... ...the plan with ATC, crew, passengers



What Does "Aviate" Mean?

- To aviate use the flight controls and flight instruments to direct and control the airplane's attitude, airspeed, and altitude
- Attitude: Refers to the aircraft's orientation— is the nose up or down, or tilted left or right? Visually and on instruments. Push rather than pull
- Airspeed: Sufficient! Push for airspeed
- Altitude: Sufficient! Push for power



How do we "Fly the Aircraft, First"?

- Distractions are distracting
- Startles are startling
- High stress management is stressful
- Short time frame to do something
- Limited (no good) options



- How can we prepare?
- Can we train to be spring loaded to respond to situations?



How do we prepare for problems?

- Consider the hazards associated with each phase of flight
 - Ponder what could go wrong
 - Think about, then rank your actions
 - Imagine a scenario and "do it" in your head
 - Review and improve
- Train for ever-growing proficiency
 - Practice with a CFI-this is what we do...
 - More scenarios to widen the knowledge base for quicker recall
 - Expand your comfort zone
 - Do familiar things, differently
 - Do new things.
 - In a simulator—practice the unpractisable
 - Brief every phase, even when on your own
 - Including approach and landing





What sort of things?

Prepare

- Performance numbers, weather, survival gear
- Plan
 - Route, flight plan, fuel stops, runway data, climb & descent profiles, escape routes, no-go/go points & alternates, DA and performance...

Practice—at mission weight

- Calibrate your aircraft and yourself
- Familiar maneuvers, differently
- Short & soft field take-off and landings
- Power-off approaches to landing



Pitch, Power, Performance Tables						
Aircraft type:	Tail #:					
Pilot:	Date:					

Level Flight No Flaps		50	500FPM Descent No Flaps		Altiu	Altiude Loss Per Turn Standard Rate Best Glide =			Pattern Numbers (3° approach, zero wind)				
RPM	Pitch Angle	IAS	RPM	Pitch Angle	IAS	Turn #	Altitude	Alt Lost		DW	Abeam	Base	Final
2500					80	0			RPM				
2400					70	1			IAS	80	80-70	70	65
2300					65	2			FPM	0	-420	-370	-340
2200					60	3			Flaps	0	1	2	3
2100						4			Pitch				
2000													
1900			50	0FPM Desce	nt	Altiude L	ost in "Im	oossible"					
1800				First Flap		Turn	At Best Gl	ide =					
1700			RPM	Pitch Ang	IAS	Turn to:	Altitude	Alt Lost					
1600					80	90 ⁰							
1500					70	180 ⁰							
					65	270 ⁰							
					60	180 ⁰							
Slov	w Flight. Le	vel	50	0FPM Desce	nt	Powe	er Idle]					

Slow Flight. Level Full Flaps				500FPM Descent Full Flaps				Best Glide =		
RPM	Pitch Angle	IAS		RPM	Pitch Angle	IAS		Flaps	Descent FPM	
		70	I			80		0		
		65	1			70		1		
		60	Ι			65		2		
		55				60		3		
		50	I			55				
		45	Ι			50				



Fly the aircraft first: power loss example

• Fly the airplane

• Establish, configure for and maintain best glide speed

Identify landing site

- Maneuver toward landing area
- Spiral descent

Investigate the problem

- Loss of power checklist
- Restore power and continue or....
- Land

l Best	Power Idle Glide =	e Kts	
Flaps	Pitch Angle	Descent FPM	
0			
1			
2			
3			
	Altiu	ide Loss Pe Standard Ra	r Turn ate

Turn #

Best Glide =

Altitude



Emergency Speeds	IAS (Kts)
Pwr-Off Ldg - no flap	70
Pwr-Off Ldg - 30 flap	65
Max. Glide	68
Glide Ratio:	9.1
AGL (feet)	Miles
2000	3.4
4000	6.9
5000	8.6
6000	10.3
8000	13.8
10000	17.2



Alt Lost

Tips

Fatal distractions

- Set passenger expectations
- Sterile cockpit
- Give passengers a job

Let George do it

- Use the autopilot
 - If you know how to use it!
 - Wing leveling mode in turbulence

Proficiency training

- WINGS flight activities
- Document in WINGS





Tips:

- Brief each takeoff, approach, and landing
 - FAR 91.103
 - Correct runway
 - Runway and available distance for takeoff or landing
 - Aircraft configuration and target airspeeds
 - Rejected takeoff or landing decision point
 - Departure/approach path
 - Return to airport altitude
 - Forced landing prospects







faasafety.gov

- Provided by the FAA...yeah...that FAA!
- General aviation pilot proficiency program
- faasafety.gov website is a bit challenging but hey, we're pilots, so no whining!
- Abundant improvements over the past few years
- Create an account today!
- FAA Safety Briefing, FAAST Blast...and more...
- Knowledge activities AND flight activities...
- Get cheaper insurance!
- Email/call me if you need help with anything WINGS: steve.bateman@aopa.org Tel: 301 695 2356



Progressive Flight Review

- Use WINGS to conduct a progressive flight review
- INSIST that your CFI gives WINGS credit after every instructional flight...earn WINGS credits
- Three knowledge activities and three *flight activities* in 12-months
- Do one flight and ground activity per quarter—earns the client a phase of WINGS with all the benefits and rewards (insurance discounts)
- Use Familiar Maneuvers, Differently, or the WINGS Topic of the Quarter

Federal Avia Administrati	tion on				
Activities, Courses	s, Seminars & Webinars	Maintenance Hangar	Pilots	Resources	
Activities Courses Seminars & Webinars Topic Suggestions					
Accredited Act	rint friendly)				
Activity Number:	A130628-01 Request Credit!				
<u>NOTE:</u> Satisfactory completion of the Knowledge portion (ground training) of this Advanced WINGS Flight Review Activity requires completion of online courses listed below available on www.FAASafety.gov.					

An instructor must confirm completion of these Knowledge courses by reviewing a pilot's "Completed Courses" record on FAASafety.gov. *before* giving WINGS credit for this Activity.

Completion of a Flight Review (or an authorized alternative) is required for every pilot every 24 calendar months. One of the areas of concern regarding a Flight Review is that the complete content is not specified, thus leaving most of the Flight Review content up to individual instructors. This creates the unique situation where no two pilots cover the same material in a Flight Review.

This Advanced WINGS Flight Review activity strives to standardize the Flight Review by including three knowledge activities and three flight activities, in addition to the other elements required by 14 CFR part 61.56. Please note that this Activity is an <u>optional alternative</u> to the Flight Review content an individual instructor may require.

This Advanced WINGS Flight Review Activity is designed to meet the regulatory requirements of 14 CFR part 61.56; i.e

(a) Except as provided in paragraphs (b) and (f) of this section, a flight review consists of a minimum of 1 hour of flight training and 1 hour of ground training. The review must include:

(1) A review of the current general operating and flight rules of part 91 of this chapter; and





WINGS Topic of the Quarter – Knowledge



- Easy to do the three knowledge activities
- Online proficiency courses
 - Self-paced
 - Do it at home
 - Build solid decisionmaking skills on the ground



WINGS Topic of the Quarter – Flights



- Easy to do these rewarding light activities
 - With your CFI
 - At least 3 times a year!
 - Go on...do the bonus 4th!





Summer Training (Flights)

		WINGS Flight Activity # A070405-08 Worksheet								
Federal Aviation Administration		ASEL – S	low Flight, Stalls, Ba	LOCATION:						
		AIRMAN: AIRMAN CERTIFICATE #:		AIRMA	AIRMAN EMAIL:		TYPE AIRCRAFT/SIMULATOR USED B	LOCK TI	ME	
Activities, Courses, Semina Activities Courses Seminars & Webinars	ars &	CFI: CFI CERTIFICATE #: CFI EMAIL:				WINGS Flight Activity Completed:				
Accredited Activity In Name: ASEL-Slow <u>friendly</u>) Credits:	nfori v Flight, S	NOTE: The Flight Instructor w specifically listed in the Areas completion standards. While t demonstrate all pertinent parts will satisfactorily demonstrate instruments, for the privileges	ill ensure the airman possesses the kn of Operation for Takeoffs, Landings ar this WINGS Flight Activity targets spec s of the ACS in their Preflight, Flight, ar the maneuvers and procedures listed i of the certificate or rating being exercis	owledge, and Go-Arou ifically the nd Post Fli in bold text sed in orde	ability to unds; Er Takeof ght acti t below, er to act	o manage risks, an mergency Operatic f, Landing, and Go vities consistent wi using both outside as Pilot-in-Comma	d skills consistent in the performance of flight r ons, and Night Operations (as applicable) to the Around Area of Operation, Airmen should sati th their certificate or rating. For WINGS credit, a visual references and cross checked with the and (PIC).	naneuve ACS sfactorily the aim flight	rs / han	
1 Credi	it for Bas	Principal ACS Areas of Ope	rations for this <i>WINGS</i> Flight A	ctivity (B	old It	ems Required):				
Activity Number A070405-08	8	AREA O	FOPERATION	GRA	DE		AREA OF OPERATION	GR	ADE	
Syllabus: <u>S-BF2-W1.0</u>	00-080124			FM	SRM			FM	SRM	
Slow Flight	t, Stalls, Sp	I. PREFLIGHT PREPARATION		_		VIII. BASIC INS	TRUMENT MANEUVERS	<u> </u>		
Request	Credit!	IL PREFLIGHT PROCEDURES				 STR/ 	AIGHT-AND-LEVEL FLIGHT	<u> </u>		
						• CON	STANT AIRSPEED CLIMBS			
Name: ASEL – Slow Flight, Stalls, F	Basic Ir	III. AIRPORT AND SEAPLANE	BASE OPERATIONS			• CON:	STANT AIRSPEED DESCENTS			
						 TURI 	NS TO HEADINGS			
– (Pvt, Comm'l, ATP)		IV. TAKEOFFS, LANDINGS, AN	ID GO-AROUNDS			• REC	OVERY FROM UNUSUAL FLIGHT ATTITUDES			
Activity Number: A070405-08						 RADI SYST 	IO COMMUNICATIONS, NAVIGATION TEMS/FACILITIES, AND RADAR SERVICES			
Credits: 1 Credit for Basic Flight Top	oic 2	V. PERFORMANCE AND GROU	IND REFERENCE							
Revision: June 2019						IX. EMERGENC	Y OPERATIONS			
Wilabus: S RE1 W1 00 090124 02 01		VI. NAVIGATION								
-Syllabus. S-BF1-W1.00-080124-02-0	'					X. MULTIENGIN	E OPERATIONS			
 BACKGROUND – Loss of control, p Aviation fatal accidenta. This and other 	particular	VII. SLOW FLIGHT AND STALL	S							
airmanship, proficiency, flight discipline	and risk					XI. NIGHT OPE	RATIONS (AS APPLICABLE)			
annunship, pronorony, night discipline and hor		1. MANEUVERING DURING	SLOW FLIGHT		<u> </u>	1. NIGHT PRE	PARATION	<u> </u>		
In this WINGS Flight Activity the air	man and safe oper	2. POWER-OFF STALLS		1				<u> </u>		
reconnection procedures for the s	ale oper	3. POWER-ON STALLS				XII. POSTFLIGH	T PROCEDURES	<u> </u>		
Slow Flight and Stalls. It is essentia its aerodynamic buffet or stall-warn	al that th ing, and	4. SPIN AWARENESS 5. MANEUVERING DURING	SLOW FLIGHT					<u> </u>		

Flight Activity: A070405-08

Summer **Flight Activity**

Slow Flight, Stalls, **Basic Instruments**



https://bit.ly/2AZZNFM

Objective: To develop, review, or improve the airman's knowledge, airmanship and understanding the importance of performing intentional stalls to familiarize the airman with the conditions that produce stalls.

I certify that

holder of pilot certificate # has satisfactorily demonstrated proficiency in the required tasks as outlined in the WINGS - Pilot Proficiency Program, for activity #A070405-08 on

CFI Printed Name:

CFI # / Expiration:

CFI SIGNATURE:

airplane feels and looks. It is important to (COMMENTS: (Use back for additional notes)

Take back control of your flight review

• Flight review is gift #1 from the FAA

- "One hour of ground and one hour of flight", every 24-calendar months, won't hack it
- Go beyond boring:
 - Get value for money
 - Expand your horizons

• FAA WINGS program is gift #2 from the FAA

- A GA pilot proficiency program
- Knowledge, risk management and skills
- WINGS include flight activities

Benefits

- Practice until you don't get it wrong
- Three knowledge activities + three flight activities = phase of WINGS
- Equivalent to a flight review every 12-months
- You learn more and retain more = can handle more



Going to AirVenture?

NAFI Professional Development Tent:

Thursday July 27th at 10:00 am "Beyond the ACS—A Meaningful Flight Review"

Steve will introduce several unintended consequences of using the ACS as a training manual and will discuss how we can use gift #1 from the FAA, the Flight Review, to take pilots beyond the ACS and to help them learn better stick-and-rudder skills for real life flight situations.

Full disclosure—such a flight review will take more than "one hour of ground and one hour of flight"!



Homework-1



THE HAZARDS OF RISK STACKING

https://www.aopa.org/news-and-media/all-news/2023/july/flight-training-magazine/asi-tips-risk-stacking



Homework-2

After every flight, SLAP yourself:

- S: How were my skills today?
- L: What did I learn today?
- A: How was my ADM today?
- **P:** How was my *p*lanning today?



Homework-3 (Review ADM chain of events...)

https://www.aopa.org/training-and-safety/online-learning/accident-case-studies/lake-renegade





Homework-4 (Review ADM chain of events...)

Watch: Flying the Aircraft First During Go-arounds in 57 Seconds



https://www.youtube.com/watch?v=KhHKxzeKNr8&list=PL5vHkqHi51DQdF_PXKQT7uJUPd4UzIxNS



Homework-5:

FAA) Safety

The FAA Safety Policy Voice of Non-commercial General Aviation

Bring Your 'A' Game

Fly the Airplane, First and Always



FAA Safety Briefing · Follow Published in Cleared for Takeoff · 6 min read · Jul 6

https://medium.com/faa/bring-your-a-game-428a8da41b9b



Summary

- Train in order to "Fly the Aircraft First"
- Calibrate your airplane and yourself
- Flight reviews are boring—take back control
- WINGS flying activities are fun—and rewarding
- Proficiency, not just currency



Next Month...

FAASTeam Topic of the Month August 2023

Personal Minimums and Weather Cameras

Presented to:	Safety Minded Aviators, Everywhere
By:	Stephen Bateman, CFI. AOPA Flying Clubs
Date:	

Produced by:

The National FAA Safety Team (FAASTeam



Federal Aviation Administration





Thank you for attending

You are vital members of our GA safety community.







