NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

MENTOR LIVE

Welcome!

NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

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October 2022 Mentor*LIVE* Sponsor Avemco Insurance Company

NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

Gatekeepers – Lessons from Experience and Research

Presented by Gene Benson, CFII and CEO of Bright Spot, Inc.

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NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

- Earn WINGS Credit!
- Course Resources
- Speaker Biographies
- MentorLIVE! Archives
- Course Evaluation
- Educational Foundation

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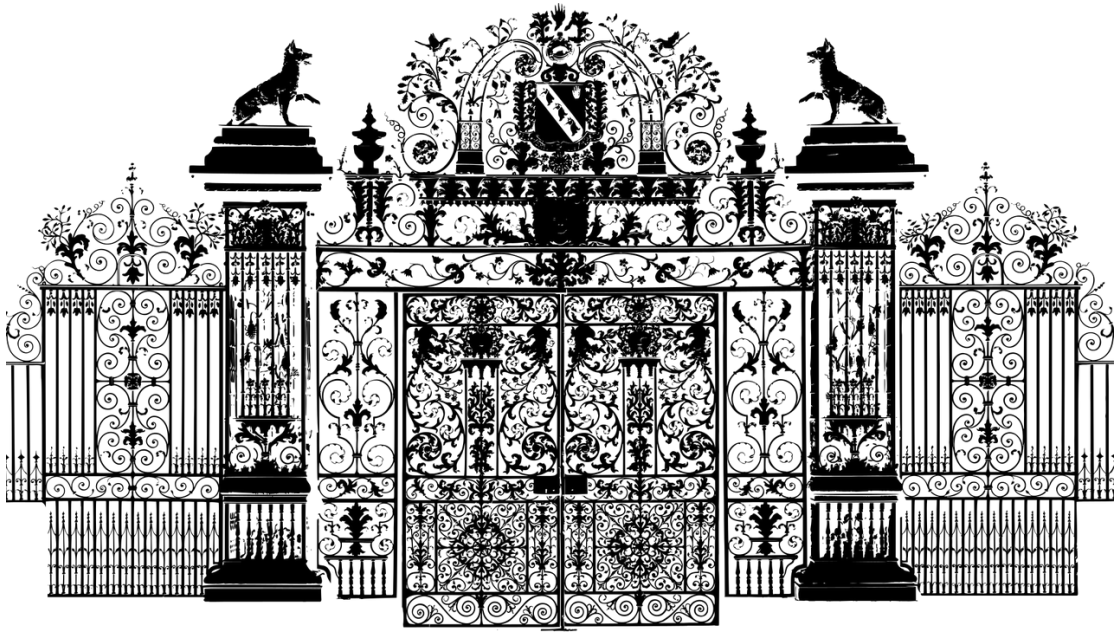
aeronautics

Gene's record includes endorsing 270 pilots for the Initial flight instructor certification with 269 of them passing on the first attempt

Certified Instructor

BA in Psychology, MS in Education, and MBA



Gatekeepers

Lessons from Experience and Research

by Gene Benson

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Background

CFI for 50 Years

More than 8,000 hours of dual given

I do not pretend to have all or even most of the answers!

Background

Gene Benson's Safety Initiative

VectorsForSafety.com

Vectors for Safety

Gene Benson's Safety Initiative

Accident Analysis

Our Lesson Plan

- Explore some things that we can do to help our students be safer throughout their flying careers and to encourage a safety culture within in each individual.
- Explore some things that we can do to help avoid having an accident during an instructional flight.

Not a Comprehensive Discussion

- We are presenting a few items that I believe to be important.
- We are omitting many more things that I know to be important.
- These include helping students to be better at aeronautical decision, and much more.

A Personal Safety Culture

Encourage a personal safety culture

- Demonstrate commitment to safety on each lesson – no short cuts!
- Provide a personal example in our own flying – people are watching!

When to Say “NO”

Unfamiliar with the airplane or its systems

Unfamiliar with the avionics

Uncomfortable with the student

Uncomfortable with the condition of the airplane

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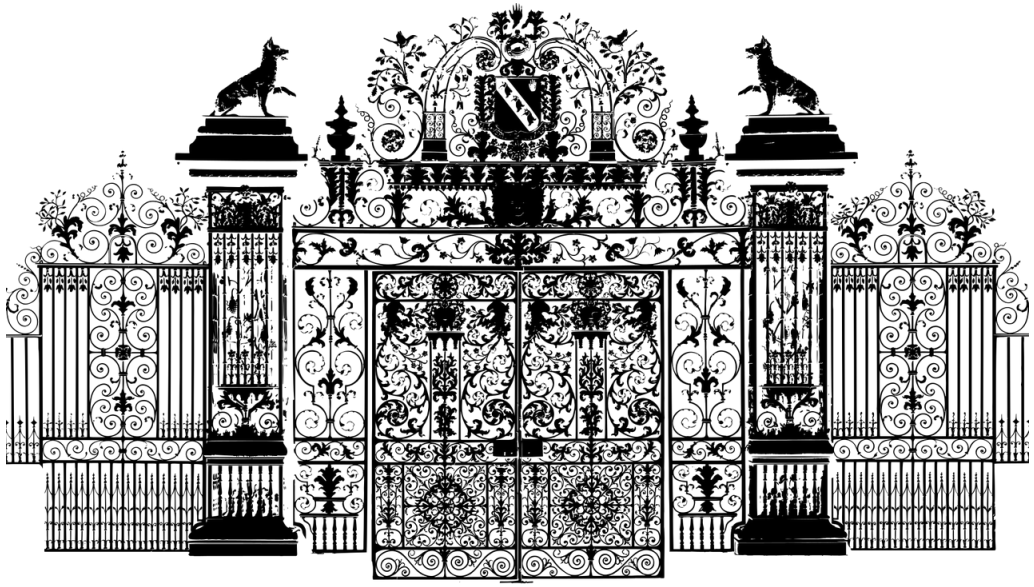
Not feeling well, using OTC meds, hungover, etc.

Be a true gatekeeper…



…not a follower!

Normative Social Influence - “Norms”

- Norms are the unwritten rules and procedures followed by the majority of a group.
- Norms are part of the culture and can be positive or negative.
- Most people want to fit in with the group and may be reluctant to speak up when they are uncomfortable with a procedure or practice.

- *“I don’t watch my students do a preflight. They know what to look for.”*
- *“I don’t practice positive exchange of flight controls. My students know who is in charge.”*
- *“It’s okay to be a little over the max gross weight. I told the student that there is a safety margin built in.”*

Assertiveness

- Being assertive is the ability to express opinions and needs in a positive and productive manner.
- Being assertive is not the same as being aggressive.

1. Get the person's attention and state the problem.
2. Simply and without exaggeration, state the likely consequences.
3. Provide solutions.
4. Solicit feedback.

Thoughts on Endorsements

Solo endorsement

Decline if

- Any recent lack of consistency
- Marginal achievement of standards
- Any evidence of emotional upset
- Appears distracted
- Any nagging little voice in your head

Ask yourself

- Would I sign this if it was my son, daughter, spouse, or parent?

Ask the student

- Do you believe that you are ready?
- Do you want to solo today?

Any endorsement for certificate or rating

Ask:

Would I feel comfortable with my family flying with this pilot?

Flight Review

Perspective: Perhaps the only training this pilot will receive for two y

Flags

- Rated in and owns Baron but shows up for flight review in rented C152. How long since the pilot has practiced any engine-out procedures?
- Pilot flies at another airport but comes to you for a flight review. Why not do it where he/she is known?

- Pilot "forgets" logbook and requests endorsement on a label.
- Pilot shows signs of cognitive impairment

Flight Review

Be sure the pilot understands that he/she is paying for your time and expertise, not necessarily an endorsement.

Ask yourself

Would I feel comfortable having my family fly with this pilot?

Instrument Competency Check

Flags

- Wants check to be in a C-172 with steam gauges but belongs to a club that owns a pressurized turbo C-210 and flies it IFR.
- Pilot shows signs of cognitive impairment

Instrument Competency Check

Be sure the pilot understands that he/she is paying for your time and expertise, not necessarily an endorsement.

Ask yourself

Would I feel comfortable having my family fly with this pilot in IMC?

Red Areas – Applicable to All Instruction

RED AREA!

Personality

RED AREA!

- FAA: 5 Hazardous Attitudes
  - Antiauthority
  - Impulsivity
  - Invulnerability
  - Macho
  - Resignation

Personality

- Success Transference

- A highly successful person in one field (medicine, law, business, etc.) may believe that their success will automatically transfer to flying.

RED AREA!

Personality

- Success Transference

- Just because you can buy it does not mean that you can fly it!
- But you can probably ***learn*** to fly it.

RED AREA!

Collision Avoidance

RED AREA!

- Needs to be constantly stressed and practiced.
- Your own safety and as setting an example
- Admittedly, easier said than done.

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Go-arounds

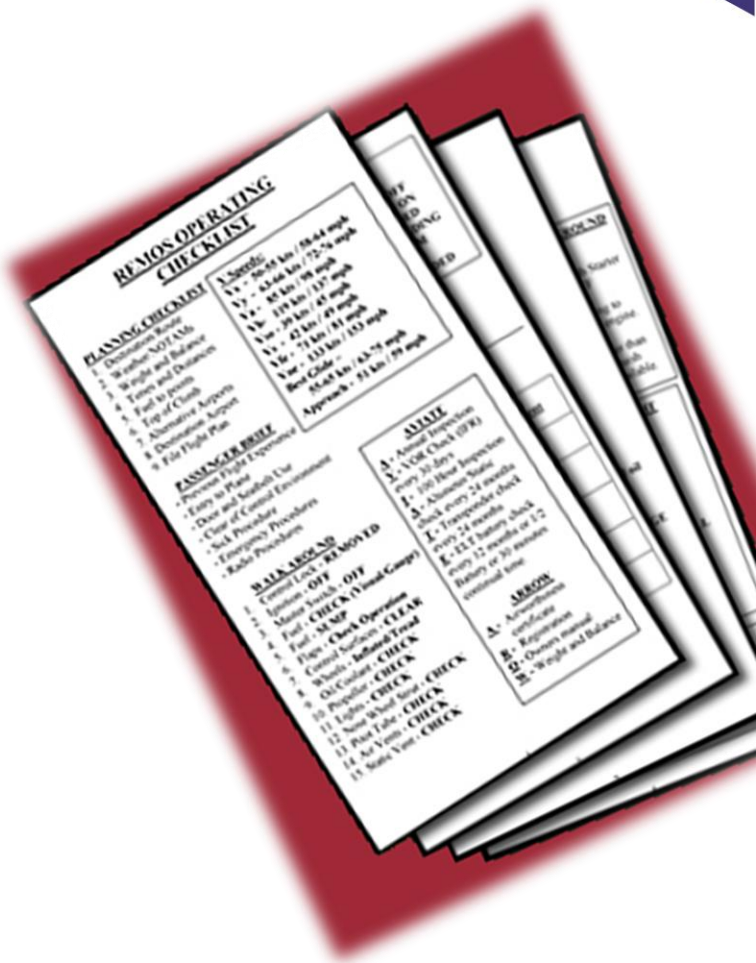
RED AREA!

- Insist on pilot following manufacturer's guidance
- Practice-Practice-Practice
- Make pilot frequently recite procedure when on the ground
- Form habit of reviewing procedure while on downwind or entering pattern

Checklists

RED AREA!

- Make sure pilot has a complete set of all checklists readily available
- Preflight, Before Start, Before Taxi, Before Takeoff, Climb, TOC, Cruise Descent, Before landing, After Landing, Parking and Securing, Post flight, Abnormal Operations, Emergency Procedures.
- Insist on pilot using each checklist at the appropriate time.



Flight planning

RED AREA!

Insist on

- Fuel and performance planning
- Terrain and obstacle elevations
- Thorough weather planning
- Departure and arrival airport familiarity
- Alternate plans
- Recent experience review
- Risk assessment and mitigation

Runway excursion avoidance

RED AREA!

Consider doing more full stop landings and fewer touch-and-goes.

Stop and go landings should usually be avoided because they teach the student that it is safe to use less than full runway length. (Exceptions for very long runways can be made.)

Sterile Cockpit

RED AREA!

- Explain and practice sterile cockpit procedures. Strongly encourage all pilots to explain the procedure to their passengers and to practice it.

Verbal Briefings

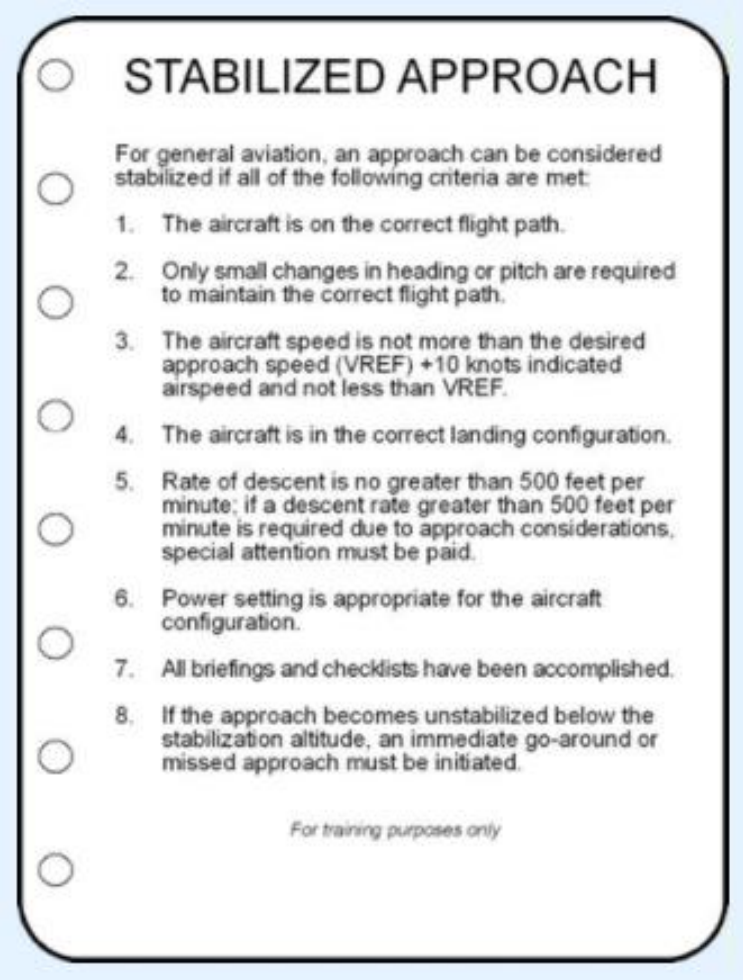
- Require a before takeoff briefing to include speeds, abort procedure, obstacles, direction to turn after takeoff, etc.
- Require an approach briefing to include landing runway, go-around procedure, etc.

RED AREA!

Stabilized Approach

- Criteria might vary for each airplane.
- Teach the concept and live by it.

RED AREA!



STABILIZED APPROACH

For general aviation, an approach can be considered stabilized if all of the following criteria are met:

1. The aircraft is on the correct flight path.
2. Only small changes in heading or pitch are required to maintain the correct flight path.
3. The aircraft speed is not more than the desired approach speed (VREF) +10 knots indicated airspeed and not less than VREF.
4. The aircraft is in the correct landing configuration.
5. Rate of descent is no greater than 500 feet per minute; if a descent rate greater than 500 feet per minute is required due to approach considerations, special attention must be paid.
6. Power setting is appropriate for the aircraft configuration.
7. All briefings and checklists have been accomplished.
8. If the approach becomes unstabilized below the stabilization altitude, an immediate go-around or missed approach must be initiated.

For training purposes only

Impairment – Us and Them

OTC Meds

- Beware of diphenhydramine.
- FAA and NTSB recommend not flying for at least 60 hours after final dose.

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Impairment – Us and Them

Alcohol

- 8 Hours “bottle to throttle”
- 0.04 BAC

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Impairment – Us and Them

Marijuana

- FAR 91.17
- …while using any drug that affects the person's faculties in any way contrary to safety.
- No threshold for the presence of marijuana in the body
- Does not specify a time period after use in which operations are prohibited.

RED AREA!

Accidents with CFI Onboard

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Avoiding the Instructional Accident

Positive exchange of flight controls

- More than one way to do it.
- Decide on your method
- Define a code phrase: “My airplane!”
- Define a response from the student: Both hands raised above the yoke, feet flat on the floor –statement “Your airplane.”
- Define your response: “My airplane.”
- Explain to each new student and practice it every time.

Avoiding the Instructional Accident

- Fine line – let student continue or take over
- Know when to talk and when to be quiet.
- More ground brief means less need for chat in the air.
- If something is not right (WX, maintenance issue, etc.) safety is more important than Hobbs time.

Avoiding the Instructional Accident

Preflight Inspection – Trust but Verify

- Preferably, observe entire inspection done by student.
- Verify the fuel quantity, removal of cowl plugs, pitot cover, and tow bar.
- Check security of cowl and baggage compartment latches.

Avoiding the Instructional Accident

Before Takeoff

- Verify seats are latched.
- Verify fuel selectors are in in correct positions and in detents.
- Verify cabin doors are latched.
- Require takeoff briefing.

Avoiding the Instructional Accident

Inflight

- Maintain vigilance for traffic.
- Monitor fuel consumption.
- Beware carburetor ice.
- Monitor system instruments.
- Monitor student for anxiety, etc.

Avoiding the Instructional Accident

Approach

- Verify fuel quantity and selector positions.
- Extra vigilant for traffic.
- Beware carburetor ice.
- Ensure obstacle clearance
- Require approach briefing
- Ensure stabilized approach

Accident Analysis - Disclaimer

Accidents discussed in this section are presented in the hope that pilots can learn from the misfortune of others and perhaps avoid an accident. It is easy to read an accident report and dismiss the cause as carelessness or as a dumb mistake. But let's remember that the accident pilot did not get up in the morning and say, "Gee, I think I'll go have an accident today." Nearly all pilots believe that they are safe. Honest introspection frequently reveals that on some occasion, we might have traveled down that same accident path.

Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's failure to perform a go-around during final approach, which resulted in an aerodynamic stall and a hard landing. Contributing to the accident was the flight instructor's failure to brief the student pilot on the positive transfer of aircraft control during preflight.

GAA17CA337
No Injuries
Substantial Damage
Cessna 172

Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's decision to conduct a night training flight in mountainous terrain without conducting or allowing the student to conduct appropriate preflight planning and his lack of situational awareness of the surrounding terrain altitude, which resulted in controlled flight into terrain.

ERA15FA046 - 1 Fatal, 1 Serious Airplane Destroyed
Cessna 172

Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's decision to conduct a night training flight in mountainous terrain without conducting or allowing the student to conduct appropriate preflight planning and his lack of situational awareness of the surrounding terrain altitude, which resulted in controlled flight into terrain.

ERA15FA046
1 Fatal, 1 Serious
Airplane Destroyed Cessna 172

Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's failure to ensure that her seat was properly secured before initiating the takeoff, which resulted in a subsequent loss of control. Contributing was the lack of an installed secondary seat stop.

ERA16FA141
1 Fatal, 1 Serious
Substantial Damage
Cessna 172

Avoiding the Instructional Accident

NTSB Probable Cause:

The failure of the flight instructor and the pilot to abort the takeoff after the airplane experienced a partial loss of engine power with adequate runway remaining, and their subsequent failure to maintain adequate airspeed, which led to the airplane exceeding its critical angle-of-attack and experiencing an aerodynamic stall. Contributing to the accident was an intermittent loss of engine power for reasons that could not be determined during postaccident examination of the wreckage due to extensive postcrash fire damage.

ERA15FA171
2 Fatal
Airplane Destroyed
Piper PA28-140

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Avoiding the Instructional Accident

NTSB Probable Cause:

The failure of the flight instructor and the pilot to abort the takeoff after the airplane experienced a partial loss of engine power with adequate runway remaining, and their subsequent failure to maintain adequate airspeed, which led to the airplane exceeding its critical angle-of-attack and experiencing an aerodynamic stall. Contributing to the accident was an intermittent loss of engine power for reasons that could not be determined during postaccident examination of the wreckage due to extensive postcrash fire damage.

ERA15FA171
2 Fatal
Airplane Destroyed
Piper PA28-140

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Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's delayed remedial action and inadequate supervision during practice traffic pattern work. Contributing to the accident was the flight instructor's use of sedating medication on the day of the accident and airplane's high angle of attack at a low altitude during the traffic pattern turn, which prevented recovery during an aerodynamic stall.

CEN12FA570
2 Fatal
Airplane Destroyed
American AA-1

Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's delayed remedial action and inadequate supervision during practice traffic pattern work. Contributing to the accident was the flight instructor's use of sedating medication on the day of the accident and airplane's high angle of attack at a low altitude during the traffic pattern turn, which prevented recovery during an aerodynamic stall.

CEN12FA570
2 Fatal
Airplane Destroyed
American AA-1

LIVE

Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's failure to maintain airspeed above the air minimum control airspeed (Vmca), which resulted in a loss of control and impact with terrain. Contributing to the accident was the instructor's failure to follow published procedures to retract the landing gear and maintain 85 knots minimum airspeed during the one-engine-inoperative go-around maneuver.

CEN12FA043
3 Serious
Substantial Damage
Beech Duchess

LIVE

Avoiding the Instructional Accident

NTSB Probable Cause:

The flight instructor's failure to maintain airspeed above the air minimum control airspeed (Vmca), which resulted in a loss of control and impact with terrain. Contributing to the accident was the instructor's failure to follow published procedures to retract the landing gear and maintain 85 knots minimum airspeed during the one-engine-inoperative go-around maneuver.

CEN12FA043
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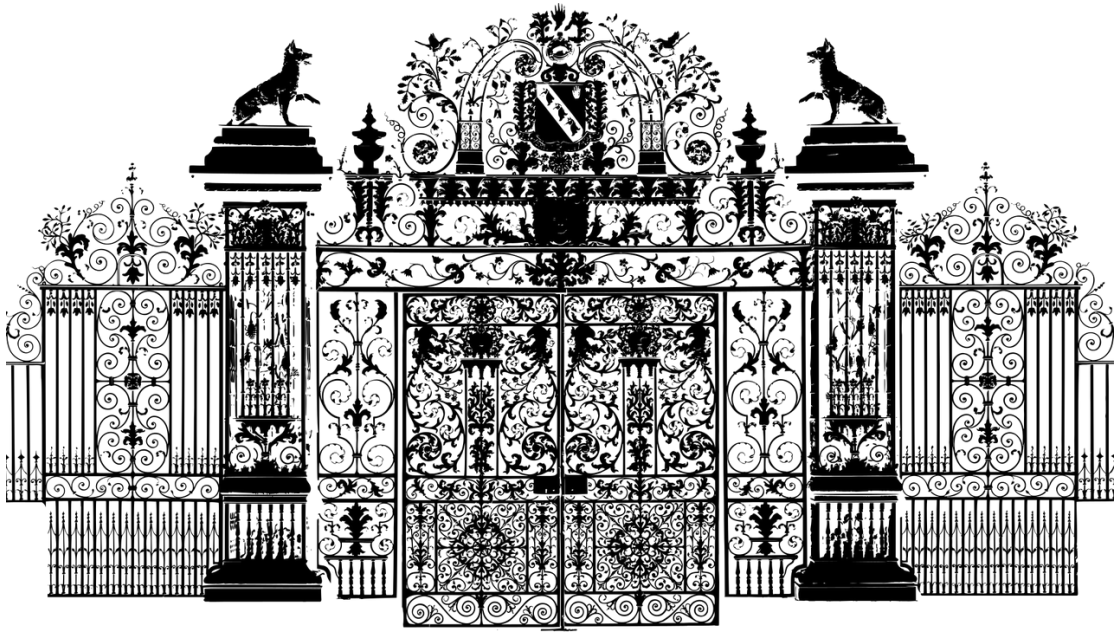
CEN12FA043
3 Serious
Substantial Damage
Beech Duchess

Summary

- We attempted to identify circumstances in which we should say “no” and decline an instructional flight.
- We discussed some important elements in issuing various kinds of endorsements.
- We looked at some considerations in conducting and endorsing a flight review or instrument proficiency check for a pilot.
- We identified some of the areas that might be considered to be “Red Areas” or areas of increased safety concerns.
- Finally, we looked at several instructional accidents in the hope of learning how to help avoid a similar outcome.



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Save the Date!

Join us for next month's MentorLIVE, June 16th at 8:00 p.m. ET

"Understanding Stalls and Spins"

Presented by Capt Brian Schiff, Airline Captain, CFI, NAFI Board Member and Mark King, Southern California Flight School Instructor

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Thanks for Watching!

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