



Federal Aviation
Administration

The National FAA Safety Team Presents

Topic of the Month—February 2024 Preflight-in-a-Box and Community Outreach

Presented to: Safety Minded Aviators, Everywhere...

By: Stephen Bateman, CFI, AOPA Flying Clubs

Date: Tuesday 20th February 2024

Produced by:
The National FAA Safety Team (FAASTeam)



Welcome

- Steve Bateman, CFI; AOPA Flying Clubs; FAASTeam Lead Rep
Portland FSDO; WINGSPRO

- Contact Info:

steve.bateman@aopa.org

Tel: 301 695 2356

The screenshot shows the FAA Safety Team website. At the top, there is the FAA logo and navigation links for Home, About the FAASTeam, and a search bar. Below this is a menu with categories like Activities, Courses, Seminars & Webinars, Maintenance Hangar, Pilots, Resources, and Administration. The main content area is titled 'FAA Safety Team | Safer Skies Through Education' and features several sections: 'Featured Courses' with links to various training modules; 'Hot Topics' including a 'WE ARE HIRING' notice for Aviation Safety Inspectors; 'Upcoming Seminars' for January 2024; 'AMT Awards' with a 'Quick WINGS' badge; 'Instructor Portal' for validating flight credit; 'WINGS Achievements' celebrating 57,860 pilots; 'FAASTeam Directory' with a search function; 'FAASTeam Industry Members' listing organizations like the Balloon Federation of America; 'FAA YouTube' with a video player; and 'FAASTeam Representatives' with contact information. A vertical sidebar on the left lists various FAA resources such as Offices, Forms, Handbooks & Manuals, FAA For..., Aircraft Certificates, Accidents & Incidents, Regulations & Guidelines, and other FAA sites.



Federal Aviation
Administration



[AOPA Credit Card](#) | [Donate](#) | [AOPA Foundation](#) | [Ambassadors](#) | [Scholarships](#)

[FLYING CLUBS](#) | [RUSTY PILOTS](#) | [FLIGHT TRAINING](#) | [HIGH PERFORMANCE](#)

Home > [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.

[SUBSCRIBE](#)

ARTICLES BY TOPIC

[NEWS FROM HQ](#)

[QUESTION OF THE MONTH](#)

[CLUB SPOTLIGHT](#)

[AIRCRAFT SPOTLIGHT](#)

[SAFETY](#)

[EVENT SPOTLIGHT](#)

CLUB CONNECTOR ARTICLES

[NARROW RESULTS](#) ▾

SAFETY

[NARROW RESULTS](#) ▾

DATE ▾

[LIST](#) [GRID](#)

CLUB CONNECTOR | JANUARY 21, 2024

Safety Topic of the Month: Human Performance and Safety Culture

In this month's safety section, we will take a slightly fresh look at the topic of Human Performance and how it plays a vital role in everything we do as aviators. Based on decades of data, we will speculate that the majority of general aviation accidents are not accidental at all. In fact, both the number and classification of these events are highly predictable. Does this worry you? We hope so, because then we can collectively do something about it!

[GO TO ARTICLE >](#)

CLUB CONNECTOR | DECEMBER 17, 2023

Safety: Topic of the Month: Making the Numbers

This month's safety section looks at the 4-H Club of Aviation. This doesn't involve livestock but rather hot, high, humid, and heavy conditions that conspire to radically change the performance of our aircraft. We'll also look at ways to predict performance (degradations) by using manufacturer's data, useful rules-of-thumb, and the practical calibration of your aircraft.

[GO TO ARTICLE >](#)

CLUB CONNECTOR | NOVEMBER 19, 2023

Safety: Eroding Standards and Shifting Norms

In this month's safety section, we'll take a look at Normalization of Deviance, which happens when established standards and limits gradually decay over time, becoming new norms—with predictable results. Could this be a reason why accidents during non-commercial GA operations (some 80%) have stayed pretty constant over a decade, with around 70% of those accidents being caused by some form of pilot (human) error? Well, let's dig and see..

[GO TO ARTICLE >](#)



Overview : FAA Community Outreach and Pre-Season Inspections

- **What**

- Two things to review this month:

- FAA large-scale community outreach events
- Pre-season aircraft preflight inspections, and pre-flight human inspections (a “human factor”)

- **Why**

- We flew more in 2023 than any other previous year

- Is your plane and your body/mind ready to break the record again, this year?

- **When**

- Upcoming large-scale community outreach events...but “someone” must do them...

- Preflight-in-a-Box
- First Responder Training

- Preflight: Now and before every flight—you and the plane



Community Outreach



Large event outreach...

An opportunity to get the aviation community working together to focus on some aspect of aviation safety.



Federal Aviation
Administration

Community Event Goals

- **Awareness**
- **Improve safety**
- **Improve airport/community relations**
- **Support local airports:**
 - Flight schools & flying clubs
 - Maintenance schools & facilities
 - Flight Instructors & mechanics
 - Community safety professionals
 - Emergency services
 - Airport operations/sponsors
 - ATC
 - Airport tenants
 - Community neighbors

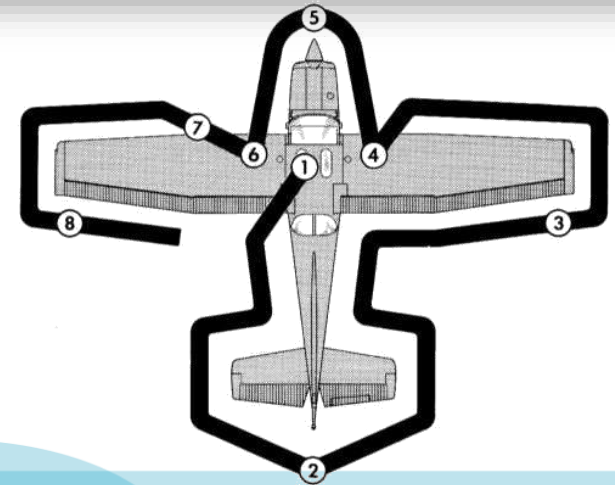


Option A: Preflight-in-a-Box



Preflight-in-a-Box

- **Hands-on Exercise**
 - Held at an airport
 - In-person and personal
- **Requires use of actual aircraft**
 - Different models for comparison
- **Involve – everyone**
- **Hosted by airport or a/p group**
- **By:**
 - Mechanics
 - CFIs
 - Pilots



Option B: First Responder Training

- Train first responders, not train to become a first responder!
- Tougher to organize and have props
- Availability of trainers and trainees
- Provide a burning aircraft?
- Suggest you contact your airport manager, airport fire & rescue and FAASTeam FPM for assistance



Training Saves Lives!



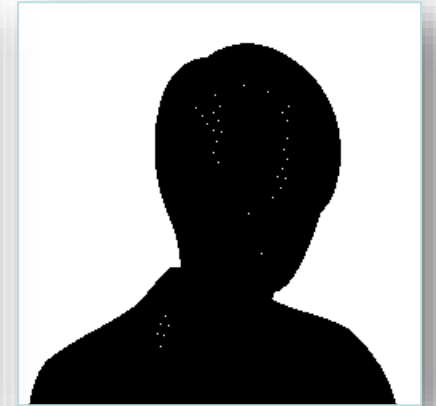
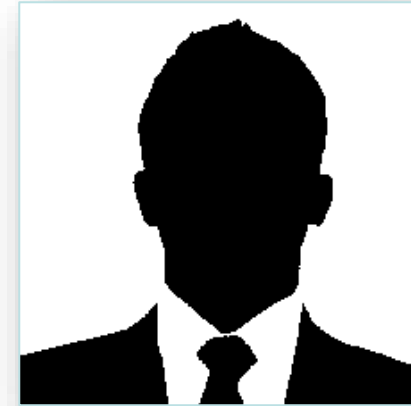
• [This Photo](#) by Unknown Author is licensed under [CC BY-NC](#)



Federal Aviation
Administration

Interested in Hosting? Contact your local FAASTeam

- **XXX FSDO**
 - **Alex Smith, FRM**
 - (000) 000-0000 Office
 - Email: alex.smith@faa.gov



Contact Your FPM

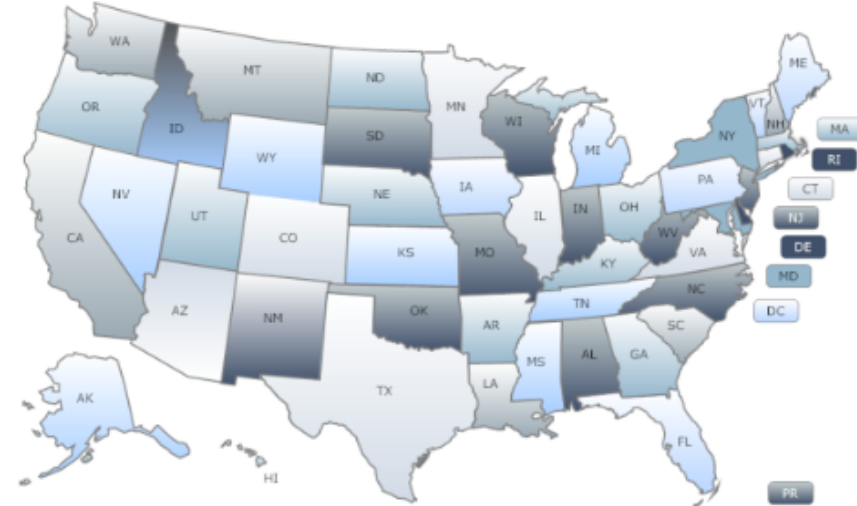
- Resources -> Directory

Enter a last name or keyword and click Search. You may also select a different Region before clicking Search. Sort the names by making a choice in the drop down menus from the Sort area and clicking Search. After your list appears, you may click on the name of any person or company in the directory to retrieve more information.

Last Name: Keywords:
 Region: [all] State: OR WINGSPRO
 DronePRO
 Sort By: Position Then By: Published Name
 Select at least one of the following positions in your report
 NFM Nat'l Admin RPOC FPM Lead Rep Rep Service Provider Industry Member Unassigned

[Click to Hide Map](#)

Click a State to view find FAASite leaders by state.



RESULTS 1 - 2 OF 2.

PER PAGE

Name	Position	Status	Updated	Last Login	ALC-270 Comp Date	ALC-297 Comp Date	Most Recent Other Rep Training Date
Curt Cowley Hillsboro, OR 97124	FAASite Program Manager (NM09 - Portland)	Accepted	11/29/2022				
Joe Mollahan Hillsboro, OR 97124	FAASite Program Manager (NM09 - Portland)	Accepted	11/29/2022		5/6/2021	10/31/2023	

Pre-Season, Pre-Flight Inspection

- **In many parts of the county, planes are hibernated for the winter**
- **Spring happens, and you, your flying club, your fellow renters, are eager to break the surly bonds**
- **Whoa there, Betsy...this is no time for impulsivity, but not for resignation, either!**



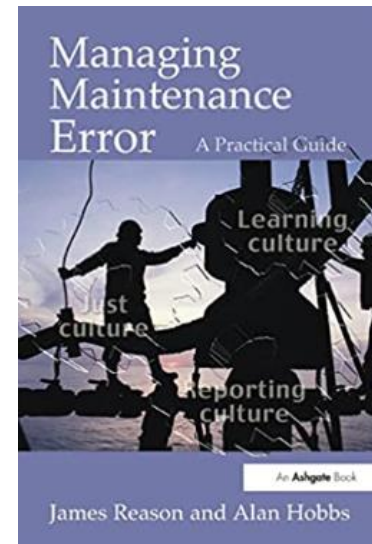
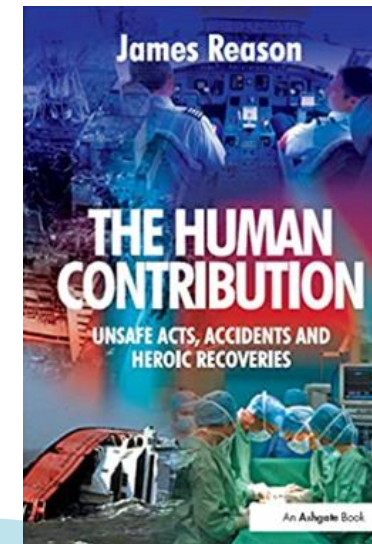
Pre-Season, Pre-Flight Inspection

- **Plane and you emerging from winter?**
- **When was the last time you discussed how to preflight an aircraft with a CFI and/or A&P?**
- **When was the last time you took more than 15 minutes to preflight your aircraft?**
- **What will do you do differently:**
 - **At the start of the new flying season?**
 - **After (any) maintenance?**



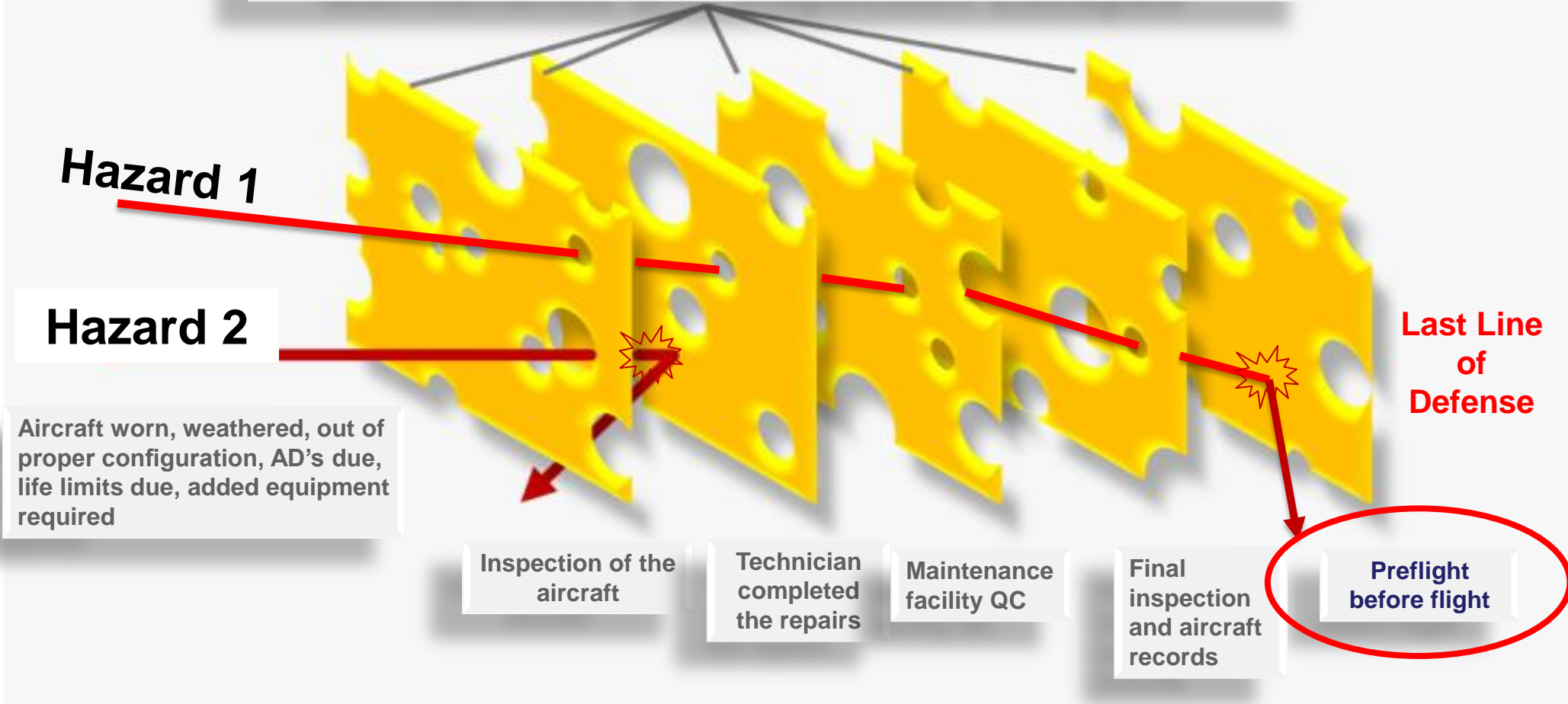
Responsibility

- You, the PIC, are the final authority to ensure airworthiness
- This remarkable responsibility requires serious thought and engagement...much more than a cursory glance whilst texting
- The pre-flight is the last line of defense



Responsibility: Swiss Cheese Model

Maintenance and Inspection Escapes



Pre-Season, Pre-Flight Inspection

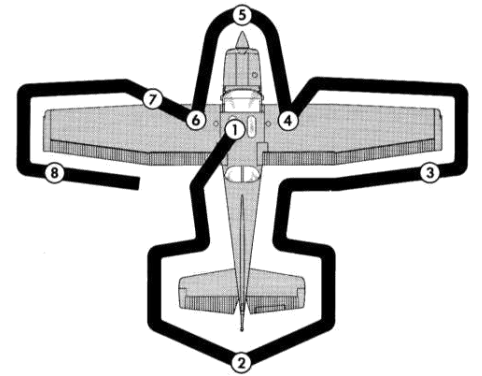
Where to start?

1. Remind yourself of PIC responsibilities for airworthiness

- a. This is not a request, it is regulatory (91.3)
- b. “The pilot-in-command of an aircraft is directly responsible for and is the final authority as to the operation of that aircraft”
- c. [FAA: “Understanding Owner/Mechanic Roles and Responsibilities”](#)
- d. FAR 91.403(a) says the owner/operator is primarily responsible for maintaining the aircraft in an airworthy condition including Airworthiness Directive (AD) compliance...later...

2. Read the PoH (Really...? I read it 10 years ago and it hasn't changed...)

- a. A good idea to review all the PoH sections...W&B, performance, emergency procedures, limitations, etc.
- b. Especially, the pre-flight checklist under “Normal Procedures”
 - i. When is anything with aviating ever “normal”?
- c. This is the starting point. You **MUST** follow the manufacturer’s checklist
 - i. Okay to add more, notes, etc., but must not do less
 - ii. If you found issues on previous inspections, add these to your list...



Pre-Season, Pre-Flight Inspection

3. **Take your time...especially if it has been a while**
4. **If you do not understand any of the following, work with someone who does**
 - a. Pay an A&P for an hour of education and practical advice
 - b. Perhaps buddy up...the pilot reading and the pilot doing?



Pre-Season, Pre-Flight Inspection

5. Review the aircraft logbooks

1. Date of last annual or/and 100-hour inspection
2. Inspections up to date (ELT, transponder, pitot static...)
3. ADs. Have any news ones popped up? How do you know...?
 - a. Yes, your mechanic will do this as part of the annual...but...TbV...
 - b. Learn to use the FAA DRS (Dynamic Regulatory System) and how to search for ADs
 - a. Your homework, later...
 - c. <https://www.youtube.com/watch?v=QuQdQUHzY-0>
 - d. Create an AD list for your plane, airframe, engine, accessories
 - e. Compare with logbook entries

“The pilot-in-command of an aircraft is directly responsible for and is the final authority as to the operation of that aircraft”

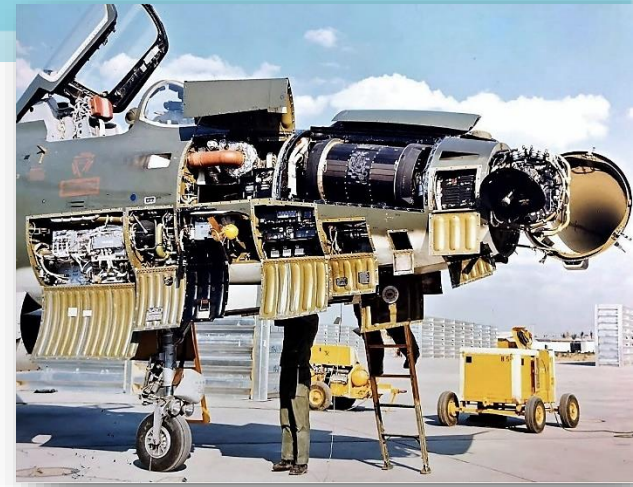
“The owner/operator is primarily responsible for maintaining the aircraft in an airworthy condition to include Airworthiness Directive (AD) compliance”



Pre-Season, Pre-Flight Inspection

6. Ideas:

1. Remove top cowling and a few inspections panels
2. Look: Oil leaks (black light), signs of “pets”, unreported/new damage...
3. Smell: Oil, fuel, battery acid, rubber...
4. Use an inspection mirror or camera (borescope) to look around corners
5. Check hoses, wires, etc. for connections and chafing
 - a. Stop chafing immediately! It never gets better with time.
 - b. Clamps, ties (use rubber sleeved ones), old fire sleeve material as a buffer...
6. Check fuel tanks for water, especially if tied-down...even if covered...
 - a. Drain, of course, but why is it there in the first place? Replace fuel cap seals?



Pre-Season, Pre-Flight Inspection

Ideas, continued:

7. Has the battery been on charge (with a charger/conditioner)? If not, get it on charge!
 - a. Worth spending \$250 on a battery-specific charger/conditioner to protect a \$900 aircraft battery
8. Baseline: Change the oil and filter
 - a. Oil has a shelf life and can absorb water over time due to additives
 - b. Collect and send oil sample to analysis lab. Understand trends!
9. Always cut open the filter and inspect. If metal...oh dear...consult manufacturer's literature
 - a. When was the last time the oil screen was inspected?
10. Other filters:
 - a. Air filter
 - b. Vacuum filters (yeah...I know...)



Pre-Season, Pre-Flight Inspection

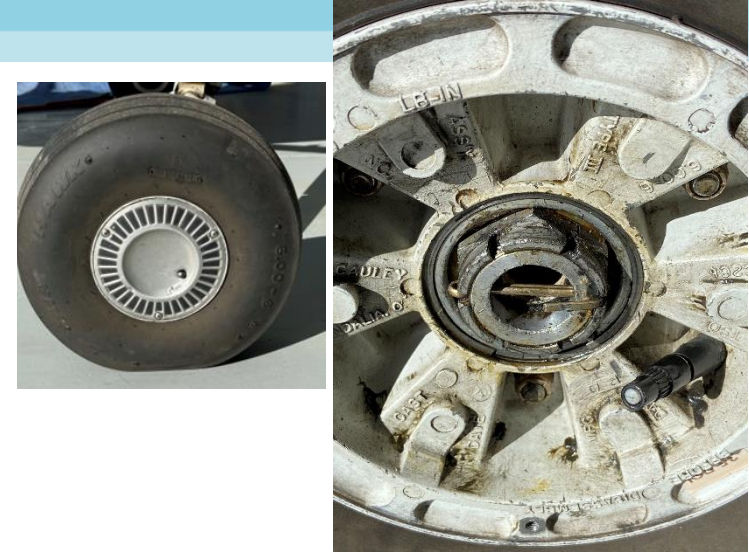
Ideas, continued:

11. On the topic of baselines...

- a. Pop out the top plugs and borescope valves as bores
- b. Take dated pictures...baseline from trend data
- c. If comfortable to do it (always with a helper), record compression measurements

12. Tyres: (Go on...I dare you...)

- a. Condition (walls and treads), inflation.
- b. Remove “hub cap” and check axle nut and spilt pin, especially after wheel has been removed for any reason (tyre replacement, grease bearings, etc.)



Pre-Season, Pre-Flight Inspection

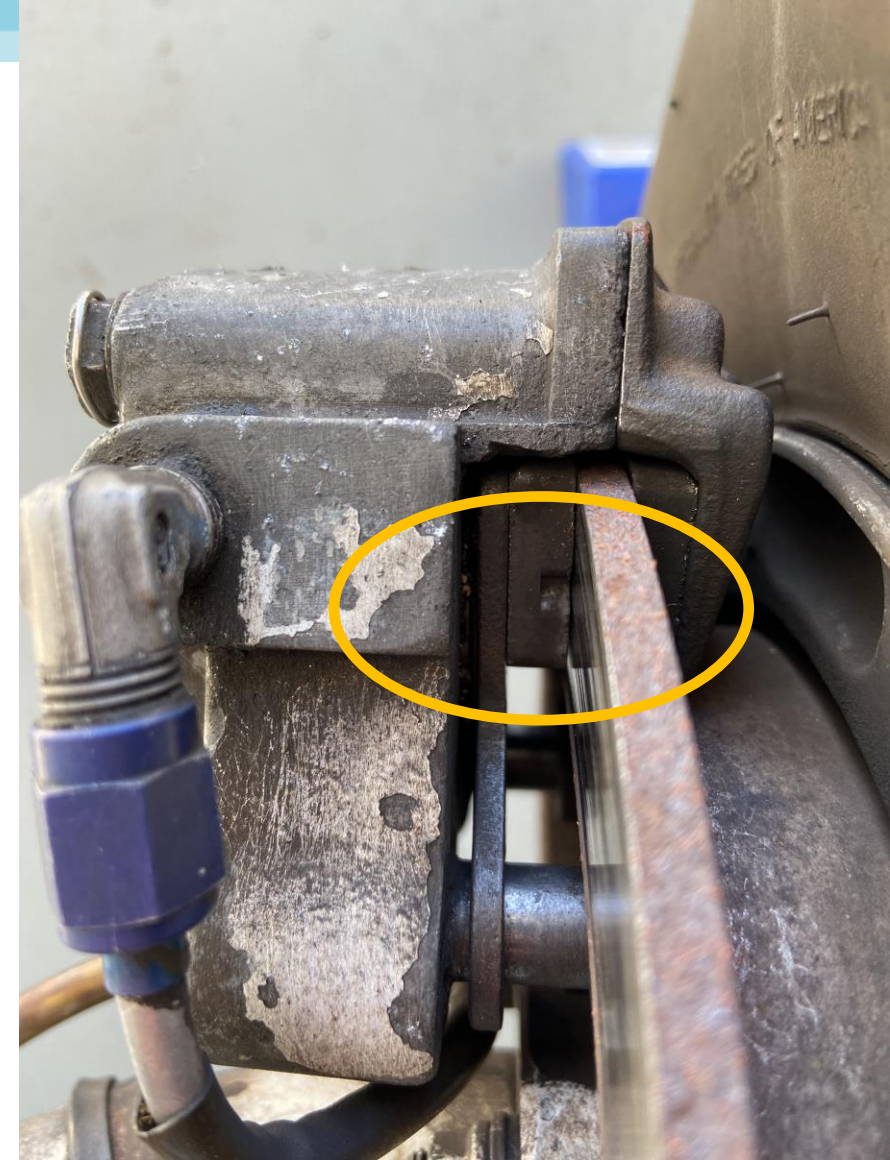
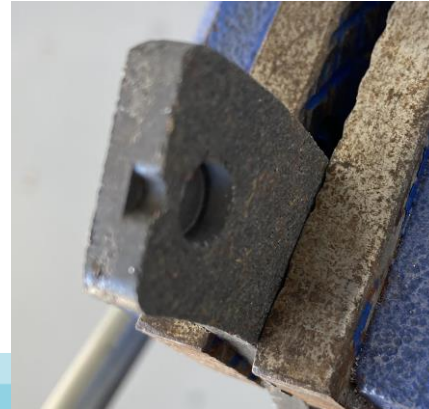
Ideas, continued:

13.Brakes:

- Check caliper safety wiring
- Pad wear – wear limit notches on pad
- No hydraulic leaks
- If agile (e.g., on a Cessna) crawl in and check master cylinder fluid levels
- Use “The Right Stuff”



HYDRAULIC FLUID: SPEC. NO. MIL-H-5606



Federal Aviation
Administration

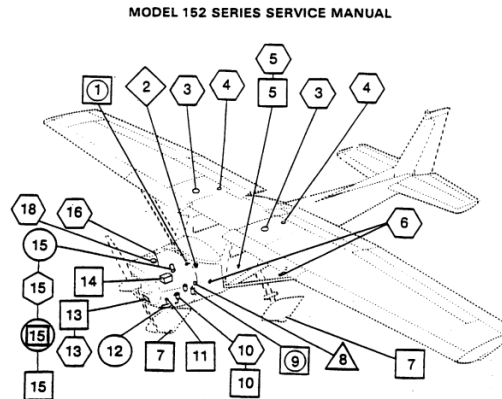
Pre-Season, Pre-Flight Inspection

Ideas, continued:

14. Check control movement for correct and smooth operation

15. Lube everything that needs lubing. How do you know...?

- Consult the Aircraft Service Manual (you do have one...right...?)
- Hinges, rose joints, pulleys, flap runners/tracks
- To see how things fit together, use the Aircraft Illustrated Parts Manual
- Follow the manufactures instructions for what, where and how:



Federal Aviation
Administration

Pre-Season, Pre-Flight Inspection

Ideas, continued:

16. Understand and verify service intervals:

MODEL 152 SERIES SERVICE MANUAL

	TYPE OF INSPECTION	
	(Refer to Para. 2-50)	3. PROGRESSIVE/INTERVAL HRS.
	(Refer to Para. 2-49)	2. SPECIAL
	(Refer to Para. 2-48)	1. 100 HR/ANNUAL
13. Compression check	•	200
14. Crankcase and vacuum system breather lines	•	200
15. Electrical wiring	•	100
16. Vacuum pump	•	100
17. Vacuum relief valve filter	•	20 100
18. Engine controls and linkage	•	5 100
19. Engine shock mounts, mount structure and ground straps	•	200
20. Cabin heat valves, doors and controls	•	200
21. Starter, solenoid and electrical connections	•	100
22. Starter brushes, brush leads and commutator	•	6 500
23. Alternator mounting bracket	•	100
24. Alternator, belt and electrical connections	•	15 100
25. Alternator brushes, brush leads, commutator or slip ring	•	6 100
26. Voltage regulator mounting and electrical leads	•	100
27. Magnetos (externally) and electrical connections	•	18 100
28. Magnetos (internally)	•	23 200
29. Magneto timing	•	7 100
30. Carburetor and drain plug	•	100
31. Firewall	•	200
32. Engine cowling	•	100
33. Tappet clearance	•	14 100
34. Vacuum system central air filter	•	21 200
FUEL SYSTEM		
1. Fuel strainer, drain valve and control	•	100
2. Fuel strainer screen and bowl	•	100
3. Fuel tank vents, caps and placards	•	100
4. Fuel tanks, sump drains and fuel line drains	•	100
5. Drain fuel and check tank interior, attachment and outlet screens	•	4



Federal Aviation Administration

Become Educated: Part 43

- **FAR 43.3 permits a pilot to perform preventive maintenance on an aircraft provided the aircraft is used strictly for noncommercial operations under Part 91**
- **Pilots > PPL may do this all by themselves without any A&P involvement...Umm...**
 - Just because you can, doesn't mean you should
 - Be careful what you wish for...
- **Wise to have someone else watch or double check—more eyes find more things**
- **Must follow all regulations for return to service, logbook entries, methods and techniques, tool calibration, etc.**



Tools

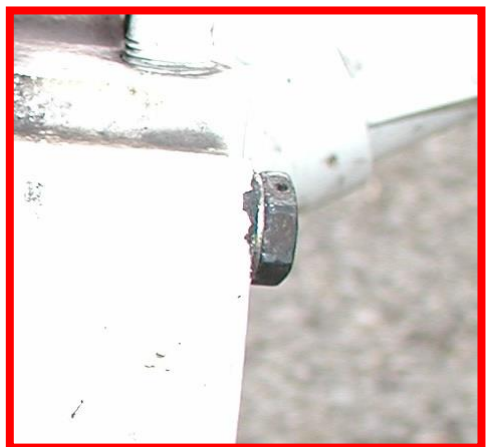
- **Count them out and count them back in**
- **Use a tote to keep all tools in one place when using them**
- **Use trays for fasteners, etc.**
- **Use a tool rack with a space for each tool**
- **Gaps on rack = lost tool...in the airframe?**



Some Recent Preflight Discoveries



Some Recent Preflight Discoveries



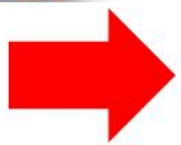
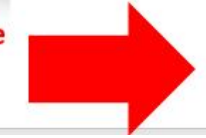
Right
Tight

Wrong
Tight

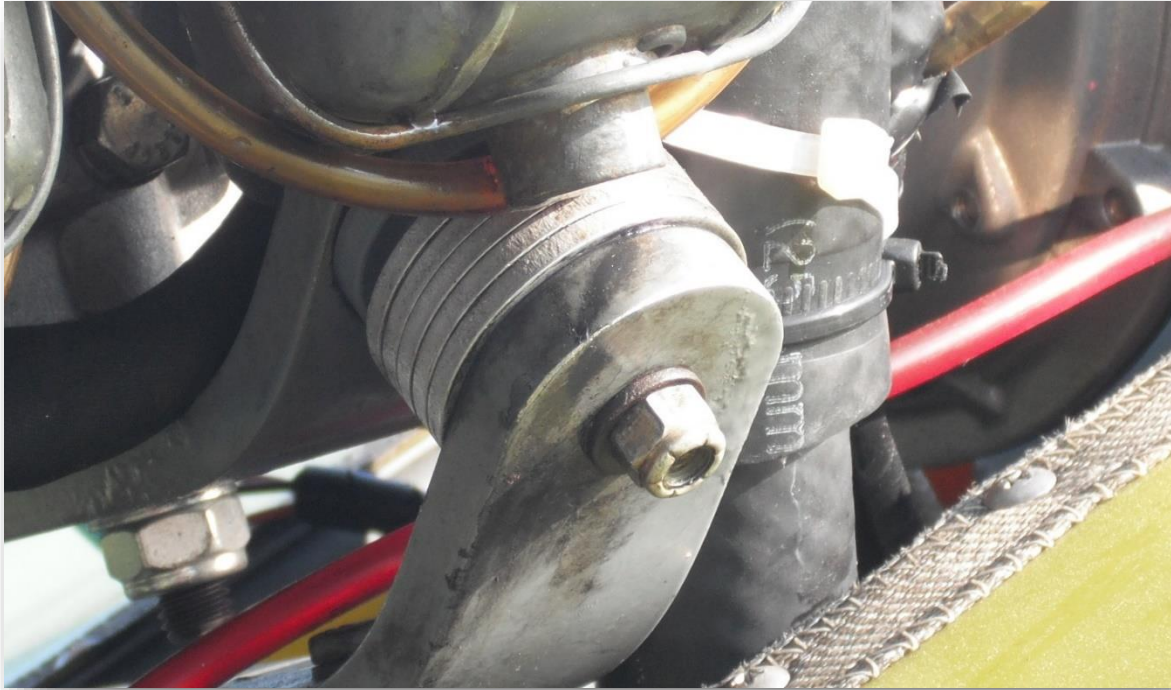


Loose

Loose

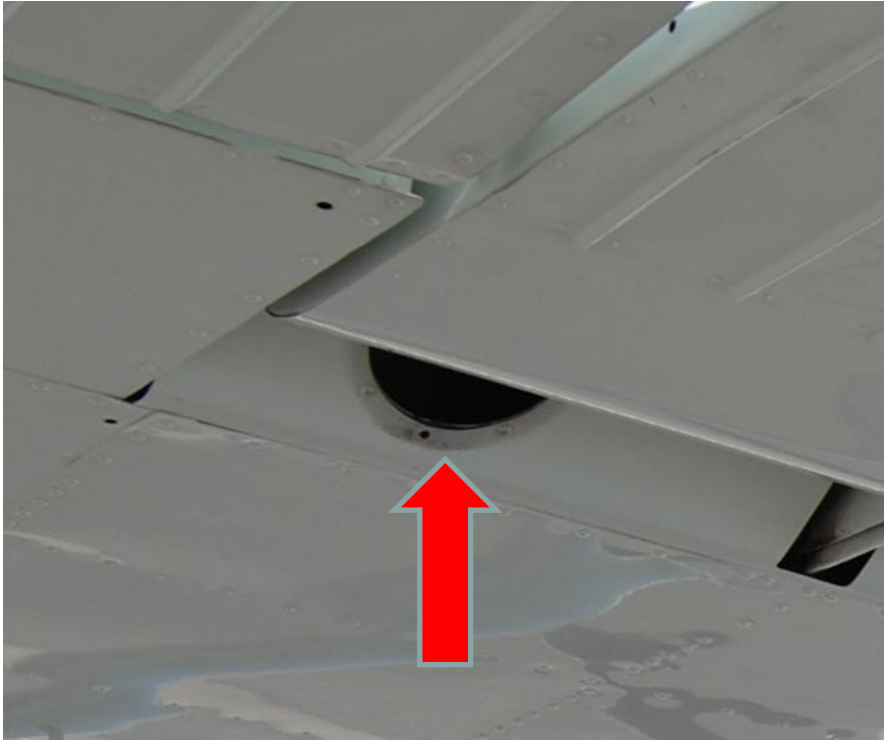


Some Recent Preflight Discoveries



Federal Aviation
Administration

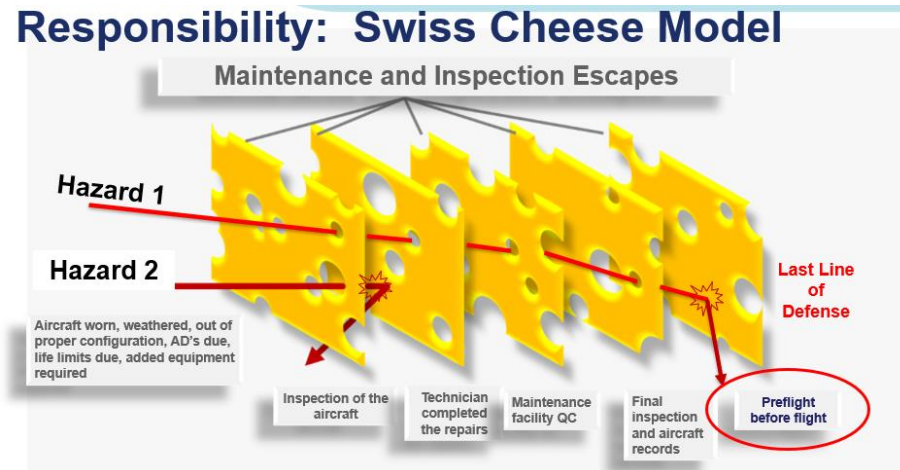
Some Recent Preflight Discoveries



Federal Aviation
Administration

Preflight After Maintenance

- Be right there when the cowling and inspection panels are fitted
- Extra pair of eyes...mechanics should not have a problem with this



Preflight After Maintenance

- Whole topic in itself:
- [Club Connector Newsletter, Safety Section](#), September 2023:
 - [Safety: Preflight After Maintenance](#)



Pilot Readiness

- **Flight Review**
- **Medical**
 - BMer's...careful with these two dates!
 - Quiz – every 2-years, to the calendar month
 - Medical check-up – every 4-years, *to the date*
- **Been doing lots of *WINGS* activities?**
- **Been doing *WINGS* flight activities = progressive flight review?**



Pilot Body Maintenance and Inspections

- **You are one year older...how fit are you (to fly)?**
- **New conditions or medications?**
 - Check with AOPA Medical Specialists
- **Up to date with:**
 - Annual physical
 - Dentist
 - Eye exam and corrective lenses
 - Age-specific preventative care and inspections:
 - Colon
 - Prostate
 - Smears
 - Mammograms
 - Funny looking new moles?
- **Do you PAVe and IMSAFE before every flight?**
- **What about mental state? IMAIRE?**



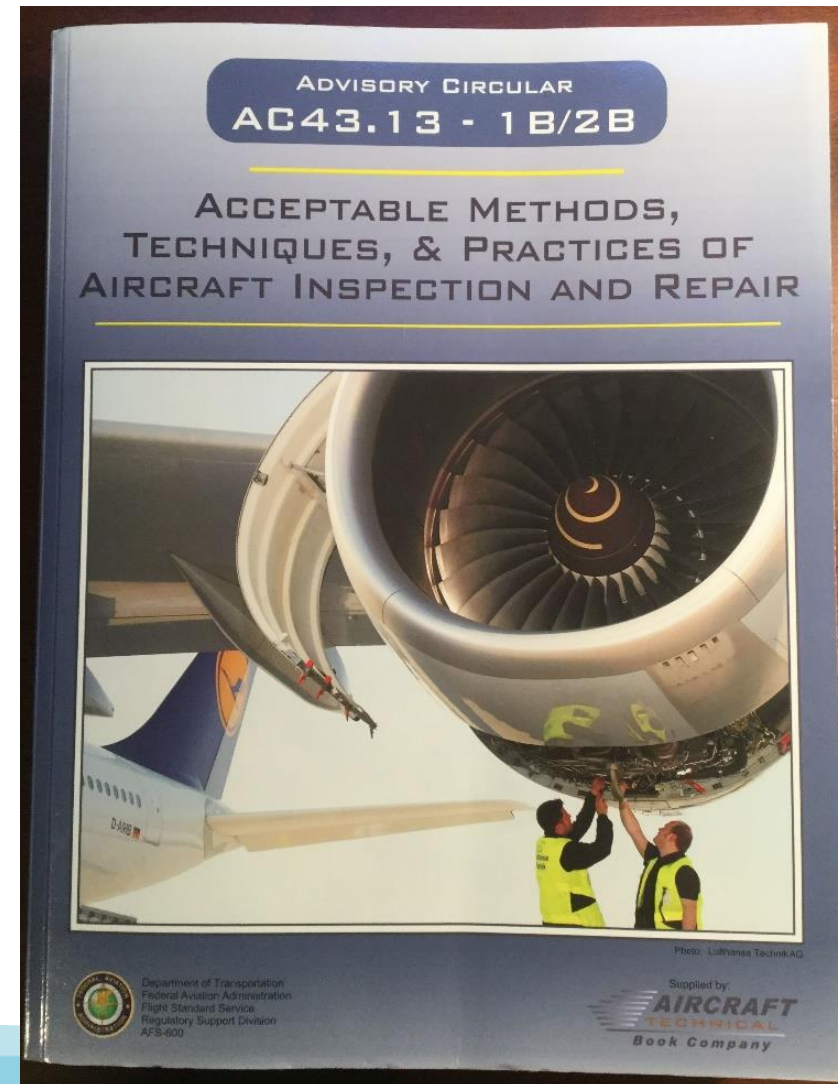
Summary and Learning Points:

- Is the plane ready for a busy flying season?
- What about you, the pilot?
- Have you had some recently maintenance done – you and the plane?
- Flying clubs – housekeeping and “good standing” up to date?
 - [Question of the Month: What Does “Good Housekeeping” Mean to Flying Clubs?](#)
 - [Question of the Month: What Does “Being in Good Standing” Mean for Flying Clubs?](#)
- Flying **WINGS**?
 - Why not?: Progressive flight review, cheaper insurance, increased proficiency, sweepst

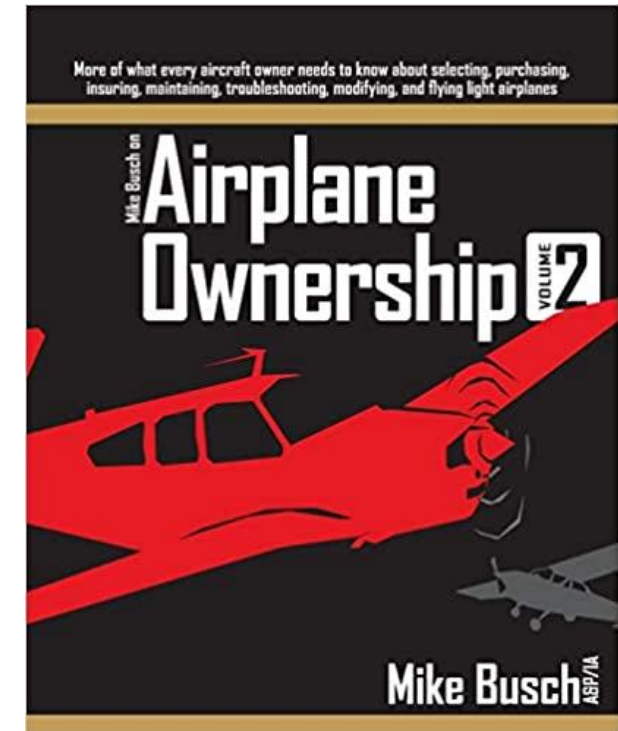
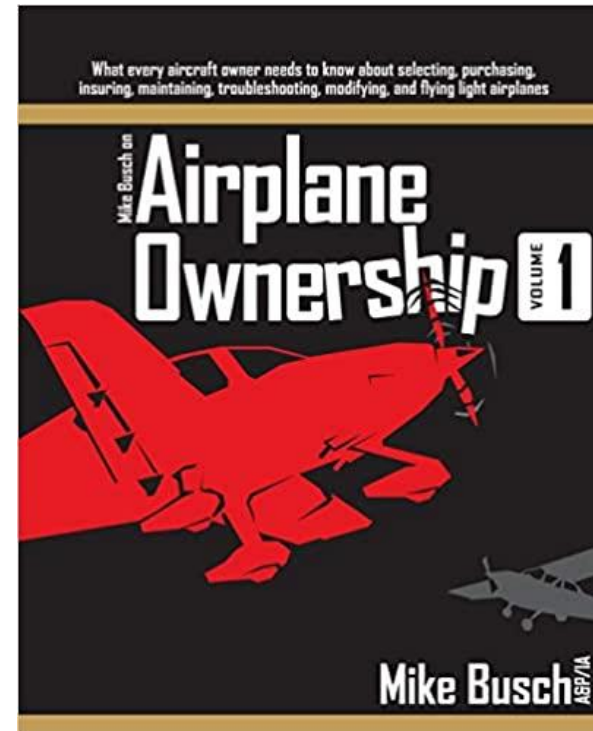
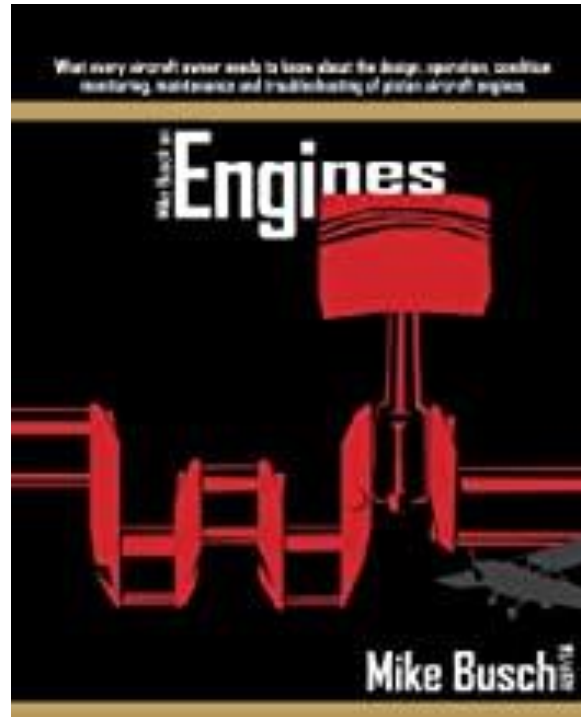
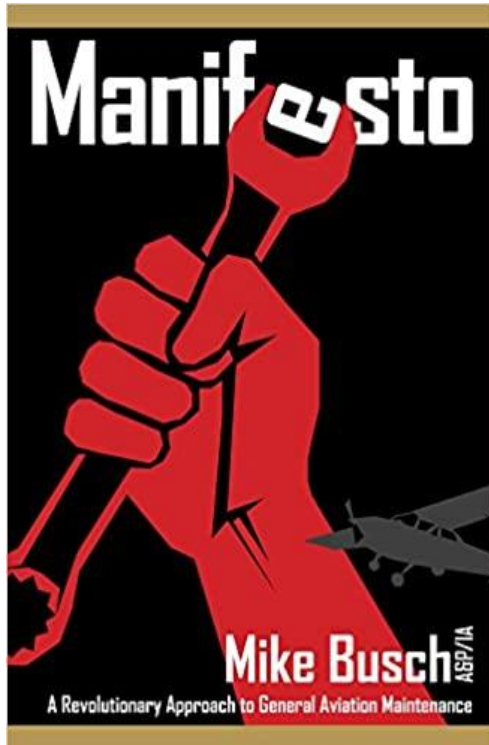


Other Titles for Your Maintenance Library

- **AC 43.13 1B/2B**
- A “must” for your aviation library
- Curl up on the sofa and give it a solid read
- You WILL learn a lot!



Maintenance Education - 1

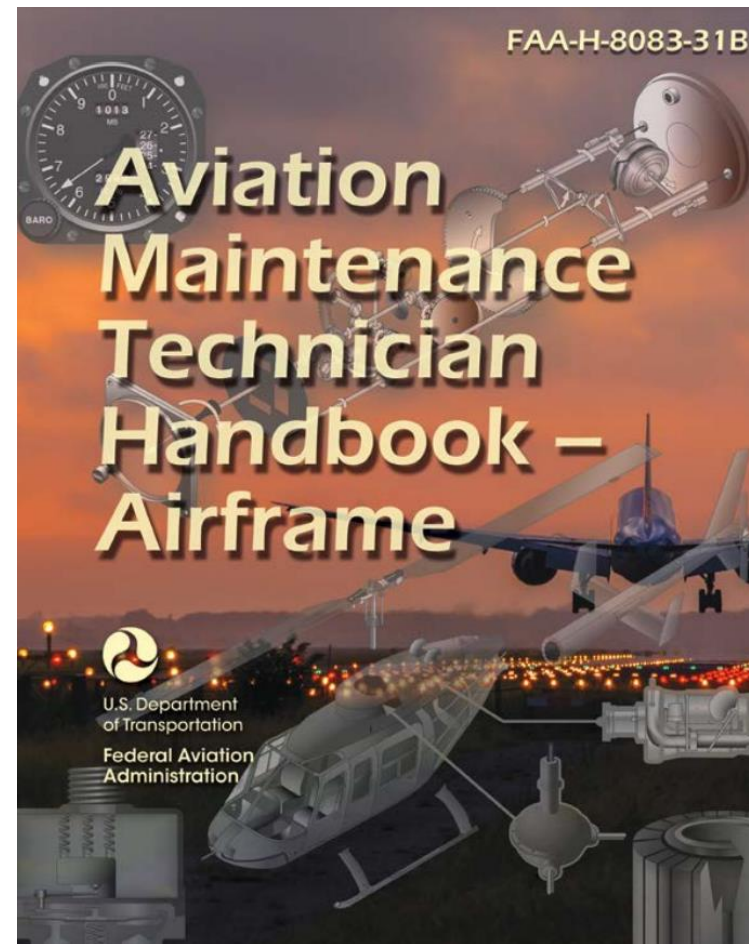
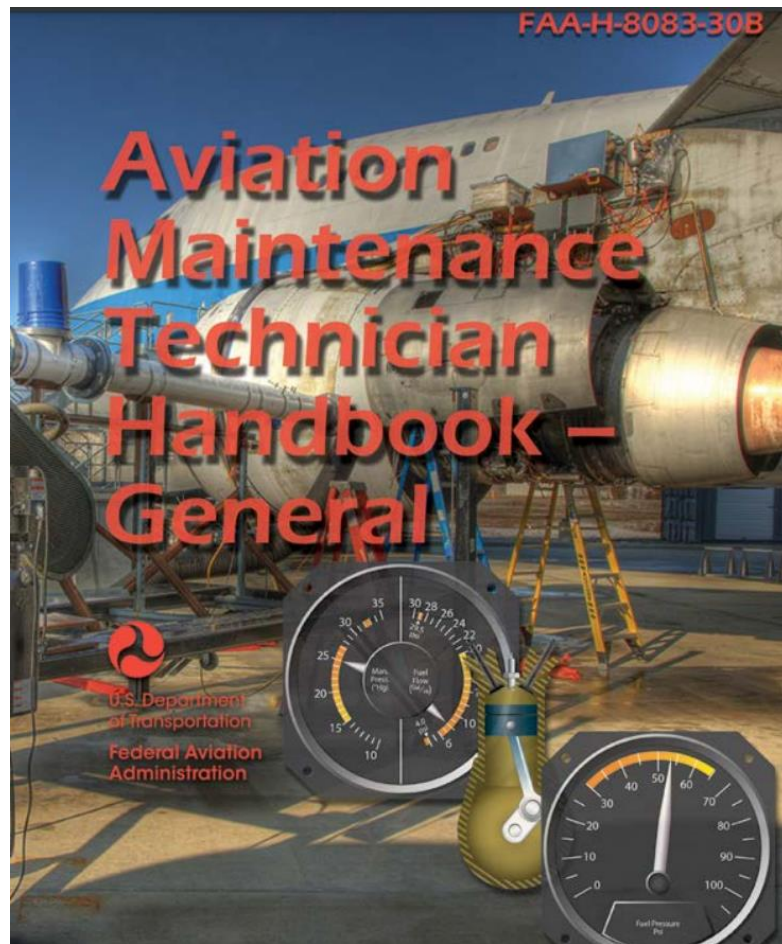


Maintenance Education - 2

- **If you intend to do preventative maintenance, you should absolutely:**
 - Know what you legally can/cannot do (Part 43)
 - Be realistic about what you are able/capable of doing and your skills to do it
 - Have the right tools (*opportunity for more tools...!*)
 - Understand approved techniques and methods of maintenance and repair
 - Have copies of all manuals—Service Manuals, Illustrated Parts Lists



Become Educated: Want More...?



Federal Aviation
Administration

Homework-1: Pilot Body Maintenance

- **Check/make appointments for:**
 - Annual physical
 - Next dentist visit
 - Regular eye exam
 - Age-specific preventative care



Homework-2: SLAP

After every flight, *SLAP* yourself and create actions for the next flight. Self evaluation:

S: How were my **Skills** today?

L: What did I **Learn** today?

A: How was my **ADM** today?

P: How was my **Planning** today?



Homework-3: DRS and ADs

- Researching ADs Using the FAA DRS Website (*WINGS credit*)
 - Log in to Social Flight
 - Click on FAASTeam FAA Credits
 - Search for “Researching ADs Using the FAA DRS Website”
- Or...
 - <https://www.youtube.com/watch?v=QuQdQUHzY-0>
- Create an AD list for your plane
 - Airframe
 - Engine
 - Accessories

The screenshot displays the SocialFlight website interface. At the top, a navigation bar includes icons for SOCIALFLIGHT, MAP, VIDEOS, HANGAR, REWARDS, CHALLENGE, and FAA CREDITS (circled in yellow). Below the navigation bar is a banner for "Miss a SocialFlight Live Show? Watch them HERE" with an "ADD EVENT" button. A search bar is present with fields for "Enter Airport ID or City, State", "Next 60 days", "All Events", and "200 mi", along with a "SEARCH" button. The main content area features a header with "Home", "FAA WINGS/AMT Courses", "FAA A&P/ IA Renewal Courses", "Progress & Credits", and "Return to Socialflight". Below this is a large image of a yellow biplane. The "FAA WINGS/AMT Courses" section is highlighted with a yellow circle and contains three course cards: "Four (4) AD Lists" (with a "Missing" red stamp), "uAvionix AV-30 User Training", and "uAvionix AV-30 Installer Training".



Homework- 4: Resources - General

- **Spend some quality time with these resources:**
- [A Closer Look at Personal SMS](#)
- <https://www.aopa.org/training-and-safety/air-safety-institute>
- [Safety to Go](#)
- faasafety.gov
- [Pilot Minute](#)
- [57 Seconds To Safer Flying](#)
- [FAA Safety Briefing Magazine](#)
- [From the Flight Deck](#)
 - <https://www.youtube.com/playlist?list=PL5vHkqHi51DSNpsBC8nb8Q8gFcGVmWhGA>
 - https://www.youtube.com/watch?v=303Pd_2UAmU

Subscribe to [Aviation Safety](#)

<https://www.aviationsafetymagazine.com>



Federal Aviation
Administration

Thank you for attending!

You are vital members of our GA safety community!



Next Month...

The National FAA Safety Team Presents

Topic of the Month – March 2024 Pilot Proficiency, *WINGS* for Clubs and E-Z *WINGS*

Presented to: Safety Minded Aviators, Everywhere...

By: Stephen Bateman, CFI, AOPA Flying Clubs

Date: Tuesday 19th March 2024

Produced by:
The National FAA Safety Team (FAASTeam)



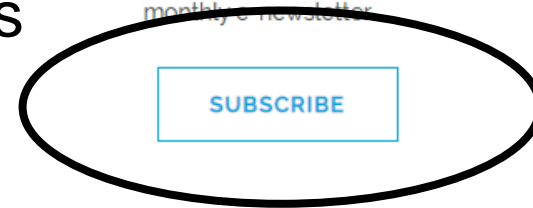
Federal Aviation
Administration



Federal Aviation
Administration

So...

- You can download this presentation!
 - This and earlier ToM presentations are available...
 - Search for AOPA Flying Clubs
 - Select Club Connector Newsletter
 - Sign-up now!
 - February edition 2/20/2024
 - <https://youcanfly.aopa.org/flying-clubs/flying-club-newsletter>



A screenshot of the AOPA Flying Clubs website. The page is titled "FLYING CLUB CONNECTOR NEWSLETTER". Below the title, there is a paragraph of text. A blue button with the word "SUBSCRIBE" in white capital letters is circled in black. Below the button, there is a section titled "ARTICLES BY TOPIC" with several buttons: "NEWS FROM HQ", "QUESTION OF THE MONTH", "CLUB SPOTLIGHT", "AIRCRAFT SPOTLIGHT", "SAFETY", and "EVENT SPOTLIGHT". The "SAFETY" button is also circled in black. At the bottom of the page, there is a button that says "NARROW RESULTS" with a downward arrow.

