

Proving Airworthiness before flight.

Aircraft Airworthiness: Applicants are required to prove to the examiner that the aircraft is airworthy on paperwork in the ground part of the practical and airworthy via preflight inspection prior to take off. Many applicants have memorized AVIATE-A and AROW but are not familiar with logs to be able to demonstrate they can verify airworthiness nor produce originals or facsimile of airworthiness, registration, weight/balance and POH/AFM. Aircraft manufactured after March 1979 must have an aircraft FAA approved POH specific to the N number and serial number.

Pitot Static and Transponder tests. The transponder obtains altitude information from the pitot static system via an “Encoder”. These test are typically done together and required every 24 months. For VFR operations, only the transponder check is required.

ELT inspections are required annually, just like the annual inspection. The ELT inspection is generally reported during the Annual inspection. It is common to see the ELT battery due date recorded, but no reference the ELT was tested per 91.207. oops.

Flying with Transponder beyond inspection date. Occasionally, I am requested to do a practical test in an aircraft where the transponder check is beyond the 24 month requirement. The rational is the test airport location does not require a transponder per 91.215. This is a no go on several levels. If the equipment has not been verified as required, we do not know if the transponder is reporting altitudes accurately. You cannot just turn off the transponder as 14 CFR 99.13 requires the transponder to be turned on during operations in the US. This compromises operational safety in case the transponder is non-functional or reports the wrong altitude to ATC or other ADS-B in equipped aircraft. Lastly, this demonstrates poor ADM and willingness to cut corners at the expense of safety. Examiners are required to test applicants’ ADM and judgement.

Airworthiness Directives. Aircraft owner and operators are required to keep a log of all applicable ADs including the current status of the AD, method of compliance (visual inspection or similar), date and hours when complied with and for recurrent ADs when the date and time when next due (91.417, 43.9). This is called an **AD compliance report**. If you don’t know where it is or how to look at it, you cannot prove airworthiness. This report is usually updated at every annual inspection and must be signed by the AP with their certification number.

The AD compliance verification process.

The AD compliance verification process requires several hours to collect the ADs if you have the serial numbers of the airframe, engine, propellor, avionics and any installed STCs if looking them up manually on the FAA website. Most maintenance facilities pay an expensive subscription for a program that will look up ADs. Then it takes several more hours to sort through the

maintenance logs to see which apply and which ones have been complied with. Once this process is completed and ADs verified, the computer log (looks like an excel spread sheet) is printed out, signed by the AP and placed in maintenance manual. This should be updated at least annually for any new or revised ADs. The AD compliance record must be “Recent” per FAA requirements of 91.417. While there is no specific date, commonly accepted practice is at least annually. This AD compliance report helps the owner operator meet the FAA requirement and is a quick reference for pilots to verify the ADs and find the associated log entries in the maintenance records. Without reference to the AD compliance list, a pilot cannot verify airworthiness in a reasonable amount of time.

AD logbook entries Must contain the AD number, method of compliance (visual inspection or per a service bulletin), date and hours when complied with, and for recurrent ADs when the next compliance action is due. “Blanket” logbook entries stating “ All ADs complied with this date” do not meet the requirements and cannot be used to prove AD compliance (Easter-Precision Design 2016 Legal Interpretation).

Recommendations for Applicants qualifying aircraft

- ☐ Log entries for engine, airframe, propellor, ELT, Pitot Static required inspections- tab them out for easy reference before the practical test. Review these with your instructor ahead of time.
- ☐ **Airworthiness Directives.** Aircraft owner/operators are required to keep a log of all applicable ADs including how/when complied with and recurrent AD status and next due. This is called an **AD compliance report**. If you don’t know where it is or how to look at it, you cannot prove airworthiness. **This report is usually updated every annual inspection.**
- ☐ **Find all the recurring ADs and make a list.** Then verify in the maintenance logs these have been complied with. Tab them out for the examiner
- ☐ **Take one or two non-recurring ADs** from the compliance list and see if you can find them in the maintenance logs. This is a spot check for accuracy. Frequently I will find older ADs that have been documented in the compliance report as done but there is no entry in the maintenance log.
- ☐ **AROW documents.** Bring originals or at least pictures of the AROW documents to the ground portion of the check ride. The practical cannot begin until the aircraft is proven airworthy. This could be problematic if your school dispatches the aircraft during to ground portion of the practical and you do not have access to the AROW documents.
- ☐ **Pre-Flight the aircraft before the practical test.** It is disappointing if the aircraft has a discrepancy which is discovered during the check ride. Verify fuel load and weight and balance ahead of time.

Airworthiness requires a pre-flight inspection. During pre-flight make sure you know what you are looking for and use a check list. Common questions I ask applicants on a preflight:

- ☐ How big of a nick in the propellor can we accept?
- ☐ What are you looking for when you inspect the nose strut?
- ☐ What do the magnetos, starter and alternator look like?
- ☐ Any loose antennas? Flat spots on tires?
- ☐ Do we have a clean wind screen?
- ☐ How did you test the stall warning horn?
- ☐ When checking the controls, which way do expect the elevator and ailerons to move?
- ☐ If I move this trim tab this direction, which way will the aircraft move?
- ☐ How did you verify fuel quantity?

Common errors when trying to prove airworthiness.

- ☐ Applicants report they will look up the ADs on the FAA website. This wont happen if this is your first time and certainly not on a check ride.
- ☐ Pilots point to an entry in the maintenance logs where the mechanic states. "All ADs were reviewed and complied with this date". This is not acceptable evidence of AD compliance.
- ☐ Old or missing AD compliance report
- ☐ POH is missing front page that has aircraft identifier (required after March 1979 manufacture date.
- ☐ Airworthiness certificate or Registration is missing, torn, illegible
- ☐ Applicant finds the "Annual" in either the airframe or engine log and does not look for the other entries
- ☐ Applicant does not know how the control surfaces work.
- ☐ Applicant unable to identify components of airframe or engine or how to inspect