Stan/Eval Newsletter
CIVIL AIR PATROL
UNITED STATES AIR FORCE AUXILIARY
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How to Flunk your Annual F5 Check-ride
Here are some very handy ways to flunk your Annual F5 Check-ride. Read and heed!

You haven't updated eServices to reflect:

- Your current medical or Basic Med
- Your current pilot certificate and CFI certificate if appropriate
- Evidence of a current flight review
- Evidence of SFRA training if you operate within 60 NM of the DC area

No evidence of AXIS NXi training if you wish to fly NXi aircraft.

You haven't taken the Ground Handling Course in the past two years.

You haven't taken the Cadet Orientation course in the last four years if you are requesting O-ride privileges.

You haven't taken the online F5 exam within the last 60 days.

You can't do a W&B.

You are unfamiliar with the emergency memory items (bolded on the checklist).

You don't have a working knowledge of Part 91. You don't need to memorize it but you should be familiar with the basics.

You don't have a working knowledge of the latest CAPR 70-1. Again, you don't need to memorize it but you should know the basics.

You are unaware of any supplements to CAPR 70-1 for your Wing or Region.

You forgot to get a flight release or don't know how to. If this is an initial F5, it's ok to ask for help on this.

You haven't filled in the briefing part of the e104. Or worse yet, you don't know what an e104 is!

Failure to demonstrate safety awareness and a practical understanding of risk management.

No evidence that you looked at the weather before the flight.

Failure to clear the are before maneuvers.

Can't do maneuvers to standards.

Inconsistent or lack of use of checklists.

You demonstrate a cavalier or unprofessional attitude.

You scare the check pilot.

Helping to prepare a pilot for a Form 5 Check-ride
As an instructor pilot, you may be asked to help either a new or current pilot prepare for an annual F5 check ride. If the pilot is a current and active CAP pilot, they may not need much help if any at all. Others, however, may need a bit more help. The first objective is to determine where the pilot is in relation to passing the Form 5. Is this a rusty pilot that needs some help with basic flying skills or is this a relatively proficient pilot who just needs help getting through all the wickets for a Form 5? Based on an assessment, a plan can be put in place to get that pilot to a point where a Form 5 will be successful.

If this is a new prospective CAP pilot (or one who hasn't flown with CAP for a while), you should refer them to CAPP 70-12 (here) which provides a good explanation of how to become a CAP pilot.

It's important to review with the pilot the status of all of their qualifications in eServices. Make sure that the pilot has updated and submitted all the qualifications they will need for the Form 5 including their latest medical (or Basic Med), evidence of a current flight review, and so forth. Use the "What do I need" feature to identify any missing quals. eServices can be somewhat mysterious to even experienced CAP pilots so be prepared to help them sort out all their qualifications.

In addition to updating their qualifications in eServices, ensure they are current with the Ground Handling course (needs to be renewed every two years), Cadet Orientation (every four years), and if flying NXi aircraft they need to have taken the NXi course on AXIS. And of course, they need to take the online 70-1 exam within 60 days of the check ride. They will also need to have taken the professionalism course in AXIS (this is a onetime requirement).

Review with them all the tasks on the Form 5 form itself. Make sure they understand what is expected of them for each. It may be useful to review the relevant ACS, S72-5 which explains the evaluation, and S72-6 which specifies the standards to be met for CAP specific tasks. Reviewing these documents helps to set expectations on what to expect on the check ride.

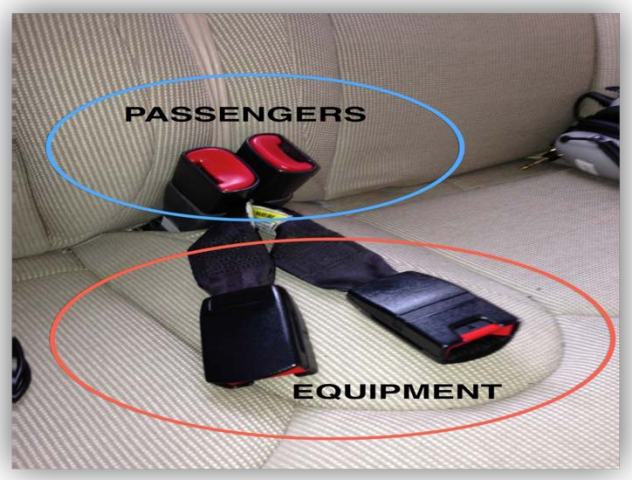
Seatbelts in Cessna Aircraft with Airbags
(LtCol M. Crognale)

Textron Aviation Instructors conducted online classes about the Cessna 172S and the 182T that we fly in Civil Air Patrol hosted by SCWG. One of the items that the instructors emphasized was the seat belt airbags and their safety and functionality.

As pilots we have always been taught to secure the seat belts in the buckle as a way of leaving the airplane "looking good" for the next crew. The bottom line from Textron? Don't do that!
When the seat belt is inserted in the buckle it completes an electric circuit that will activate the airbag even if the master switch is turned off!

When I've turned on the standby batt switch or the master, I've noticed that the main battery voltage is sometimes a bit less that 24 volts. After learning of this capability, it became obvious. The battery is actually powering the seatbelt airbag sensors. There is a constant trickle discharge while the seatbelts are plugged into the buckles. Thus, if someone is towing the aircraft and hits a bump strong enough to activate the sensors the airbags will inflate if the seatbelts are plugged in.

Did you ever notice that the rear seats have two sets of buckles? One has the red push button. The other set are just pain black buckles. Those are designed for things like child seats or, perhaps, strapping in cargo. The black buckles don't affect the airbag inflation system.



One other item: when assisting first time or infrequent passengers, make sure that they use the correct seatbelt. There are reported incidents of the right seat passenger accidentally using the left seat belt or other improper usage. It can result in severe injury or death. See the link below.

http://www.aero-news.net/index.cfm?do=main.textpost&id=680bd33c-42c7-43d0-89b2-e866ef5d5fa4

Notes on the C182T from a Textron online seminar hosted by SCWG
(LtCol C. Mayer)

The presentation and discussion were a "deep dive" into the POH. There are many things in the POH that many pilots don't know are there. There have also been changes to the POH over time. For example, at home I have C-182T NAVIII manuals from 2004 and 2005, when we first started getting NAVIII 182's. There are enough minor changes since then to make use of older POHs problematic. The introduction of the NXi also introduced changes so be careful. The overall takeaway is that if you haven't sat down and read the POH for the particular C182T you will be flying, you probably should. Here are some other items that may not be apparent from reading the POH.

Propeller systems: I have demonstrated and taught that in the event of an engine failure, if the prop is still spinning, pull the prop control full aft. I have always been just a touch concerned about teaching this, as it is not a recommended procedure in the 182 POH (that technique is in the emergency procedures for the GA-8). To my pleasant surprise, the Textron representatives advocated to do the same thing: in an engine failure, pull the prop control back. While admitting it is not in the POH, they said, it is a good idea. When asked about that, they said that they did not know why it wasn't in the POH, but it is what you should do. In response to another question, they said that glide performance in the POH is based on flat pitch. When using course pitch, performance is "better than that." But be careful. If you are doing a simulated engine out, be sure to push the prop back up before applying power!

Flat pitch glide is a worst-case scenario. If you plan for that, coarse pitch or stopped prop is going to be better but the POH doesn't tell us how much better. If you lose oil pressure, the prop is going to go flat pitch, so, for almost any engine failure other than fuel starvation, coarse pitch will not be available. 76 KIAS is only best glide speed for 3100 pounds. For two people and half tanks or less, best glide is about 70 KIAS.

Fuel: I now know why there are 13 fuel sumps on the C182T. The 182T does not have separate or integral fuel tanks. It has a "wet-wing" The "tank" is simply empty space in the wing. Fuel, therefore, shares space with the wing ribs and stringers. The lightening (or for fuel, pass through) holes in the ribs do not go all the way to the bottom of the wing. Some fuel, therefore, may not be able to get to the engine. This is important! For most planes, "unusable fuel" may be available in level flight but not while maneuvering, to include maneuvering for landing. For the 182T "unusable" includes unusable in level flight. This should not be an issue for us in CAP as we ALWAYS land with an hour's reserve of fuel, RIGHT? This "wet-wing" construction also means there are numerous spots where water can collect. The bottom of the nose has multiple drains for the selector valve, the sump, and the aux fuel pump, which is below the copilot's feet, just aft of the rudder pedals.

Use of aux fuel pump. If you notice fuel flow fluctuation more than 1 gph, turn the aux pump on. Unlike some other Cessna products, there is no adverse effect of flying with the fuel pump on, just a "slight enrichening" of the mixture.

Leaning. There was some discussion about how pilots lean. That is, whether they lean to published fuel flow values or using the "lean assist." The POH describes both techniques as normal. HOWEVER…LEAN OF PEAK OPERATIONS ARE PROHIBITED in the Cessna 172 and 182. This was repeated MANY times in the presentation. The reason given is that the fuel injectors are not tuned. Lean to peak, then ENRICHEN.

Electrical: 10 seconds test of the standby battery will assure 30 minutes of life of that battery.

If standby battery test fails (less than 24V), do not start the engine and expect to recharge via the alternator. This can damage the standby battery. I asked specifically about voltage just a little less that 24V, as we commonly see something between 23.6 and 23.9 V in the winter months. The Textron representatives admitted that this is not uncommon in cold weather or when the airplane has sat for a while. Their response was, "A lower voltage CAN result in a large amount of power from the alternator going into the battery after start, which can heat up the battery and start a fire."

(That said, according to the KOEL, the stand-by battery is not required equipment! But strobe lights are! This was a point of discussion.)

Advice from Textron. Keep current ATC and current NAV frequency in COM 1/NAV1 whenever possible. If there is an electrical power problem, essential bus only powers COM1/NAV1. You can always re-set the frequencies you are using into COM1 and NAV1, if you remember them while trying to deal with the emergency (or after you do all bold face stuff.) The XPDR is NOT powered by the essential bus, but by BUS2. In this area, that is something to keep in mind in the event of any loss of electrical power (e.g., load shedding.)

Engine break-in: Textron pointed out the requirement to use 75% power for first 50 hours of a new/overhauled engine. This is also clearly stated in the POH. It should not be a matter of debate for us. We need to have new-engine SOP for the wing to assure compliance.

AP CG limits: If the CG is forward of 34.2" the use of autopilot prohibited. This restriction is not in older POH's and it is not in the weight and balance pages for CAP aircraft in the nice USAF funded Foreflight Military Electronic Flight Bag. The Foreflight W&B Envelope has 34.2 as the forward limit, period, whereas the POH shows 33". In any case, Textron says that it is really hard to load the airplane with a CG that far forward. I played with the W&B in Foreflight and came to the same conclusion.

Leaning for ground ops. Our checklist says to ground lean, but you have to dive into the POH to see that there is a proper procedure for this. Textron described it for us. Increase idle speed to 1200 rpm. Then lean to max rpm. After that reduce throttle to 800-1000 rpm.

Read the POH for your particular make and model! Once again, sit down and read the POH for the particular airplane you are going to fly. What was applicable to our older C-182s may not be applicable to the newer 182s! And just wait until March 13th when we get briefed on the G1000 suite…and the Nxi!

Unsuccessful F5?

CAP does a pretty good job of preparing pilots for the Form 5 check rides. As a result, the vast majority of Form 5 check rides are successful. Most pilots and Check Pilots are familiar with the procedures to document a successful Form 5 in Ops Quals. However, we occasionally see unsuccessful Form 5's for a variety of reasons. The process that needs to be followed is not so well known so a brief review is in order.

If a Check Pilot determines the candidate did not meet standards, the Form 5 must be annotated in the comments section with the specific reasons why the candidate did not meet standards. The Check Pilot is required to explain to the candidate those reasons. It is recommended that the Check Pilot also work with the pilot on remedial training so that the next attempt will be successful.

The Check Pilot must NOT sign the Form 5 in the signature block as that would indicate that the pilot passed the Form 5. Instead, the signature block should be annotated as "UNSATISFACTORY". The Check Pilot may sign the comments section along with the comments for the failure, but this is not required (just good practice).

CAPR 70-1 Section 7.7 outlines requirements that must be met. A copy of the F5 must be sent to the Wing (or Region if pilot is assigned to Region Staff) DOV along with comments by the Check Pilot as to whether the reasons for the unsatisfactory performance would affect other qualifications or privileges. Subsequently, in support of trend analysis (see CAPR 70-1 section 10.1), the Wing (or Region) DOV must forward the F5 to NHQ.

If for example this was an abbreviated check ride to add instrument privileges, the pilots CC may decide to allow the pilot to continue to fly as a VFR pilot. If, however, the pilot failed an annual or demonstrated deficiencies in basic airmanship, the CC must ground the pilot until a reevaluation can be done. Thus, the Check Pilot's comments on why the pilot did not meet standards is critical.

The Check Pilot should ensure that in the debrief part of the sortie in WMIRS, the sortie is marked as “UNSUCCESSFUL”. WMIRS will want a reason so select “OTHER” in the drop down and put Unsuccessful F5 or similar in the reason box.

Articles for the National Stan Eval Newsletter:
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