

SO YOU WANT TO BUY AN AIRPLANE ?

One thing that I tell all of my students from the first day that they start their flight training is that if they want to be an active pilot, they are going to have to buy an airplane. There are many ways to skin this cat that will make aircraft ownership, and more importantly being an aviator possible. From single ownership, to partners, to flying clubs, there is an option that will fit your personal and financial situation.

Almost immediately upon expressing interest in entering the world of aircraft ownership, you will hear the horror stories about the guy who bought a plane for fifty thousand dollars and then had to put a hundred thousand into it at the first annual to make it airworthy. Sadly, the reason you hear this is because it happens. A lot.

I am going to address a few things that will be huge money savers and headache reducers when it comes to buying an airplane.

Before you even do any of this, I would recommend doing some training in the Make & Model that you intend to purchase with an instructor who is familiar with the aircraft to verify you like it. You don't want to go through all the effort and expense to find out you don't actually like flying your new airplane after 3 months of owning it.

Next, hiring someone to help you through the process can seem like a lot of money, but more often than not, it is worth it. Having a professional who can help you through the process will prove invaluable and prevent you from having to do things like buy a new engine for twenty five thousand dollars for the airplane you just bought for twenty thousand. This person will help you sift through all the junk that is out there and help you find an airplane that is within the average market price, and more importantly one that suits 80% of the flying that you are going to do it in. They will also be able to facilitate training in the make and model that you buy so when you strap yourself in for the first flight, it won't be the first time you are ever in the actual airplane. They will also help you figure out what

type of insurance coverage, where to store your aircraft, and give some recommendations on maintenance facilities that will help take care of your new baby.

For the frugal pilot however, if you don't want to spend the 5% that it typically costs to hire an expert, I am going to give you a basic outline of things that you want do while researching an aircraft that you may want to acquire.

First and foremost, you should never buy an aircraft without having a pre-buy inspection completed by a reputable maintenance shop. However, what they cover on their in house inspections can vary, so I am going to give you a basic list that you will want to make sure that they verify. When you are looking at aircraft, I highly recommend getting a copy of the logbooks and also doing this yourself or with a local mechanic for a small fee (I highly recommend paying someone to help).

Pre-buy Checklist:

1. **ADs:** Verify that there is an up to date Ad list for the aircraft, and that all ADs have been complied with.
 - o Verify any upcoming major ADs or any pertinent service bulletins that could be very expensive
 - o <http://www.adlog.com/>
2. **Annual Inspection:** Verify that the aircraft is in annual
3. **Pitot Static Check:** Verify the date of the pitot static check (due every 24 months)
4. **Transponder Check:** Verify the date of the transponder check (due every 24 months)
5. **ELT Check & Life:** Verify the ELT check was completed and find out how old the ELT is (due every 12 months)
6. **Title search:** You want to verify that the aircrafts title is clear and that the free of liens, it can be completed here
https://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/clear_titles/
7. **Logbook evaluation:** Verify that all of the aircraft logbooks are present and complete.
 - o Verify Total Airframe time
 - o Verify Total Propeller time since overhaul
 - o Verify Total Engine time since overhaul

- Verify date engine oil lines were replaced
 - Verify date engine fuel lines were replaced
 - Verify date fuel lines & hoses from wing takes were replaced
 - Verify date engine was overhauled & shop it was completed at
 - Verify date of engine top overhaul & shop it was completed at
 - Verify date magnetos were replaced / overhauled
 - Verify vacuum pump maintenance / replacement
8. **Damage History:** Verify that any damage caused to the airplane is documented and that the repairs were appropriately completed and documented.
 - Aircraft that have had major damage that has been repaired within the preceding 6 years should reflect a 15-30% decrease in market value.
 - Aircraft that have had major damage and have been flying more than 6 years without any problems will no reflect a decreased market value.
 - http://www.nts.gov/about/employment/_layouts/nts.aviation/index.aspx
 9. **337s:** Verify that any major airframe modifications have the appropriate documentation.
 10. **Oil Change & Filter Check:** Perform an oil change, verify the oil quality & have an oil sample sent out for analysis
 11. **Compression Check:** Perform a compression check to verify the engine health
 12. **Corrosion Check:** Check the airframe for corrosion
 - Check inside wings for corrosion
 - Check inside fuselage for corrosion
 - Check for corrosion bubbles under the paint on the aircraft
 13. **Paint:** If the aircraft has been painted, verify in the logbooks that it was appropriately documented and that the aircrafts control surfaces were appropriately balanced, and that the aircraft was reweighed and this was reflected in the logbook and AFM/POH
 14. **Interior:**
 - Check the logbooks for verify that the correct interior is installed and that there is a fire certification.
 - Check the interior of the aircraft for signs of water damage, check the door and window seals in the aircraft for seal quality

Once you have gone through the logbooks yourself or sat down with your mechanic and done it, you will need to find a shop to do the pre-buy inspection. If you are not doing it at your shop you will want to include the list of things that you and the mechanic went over so that they can be verified by the person completing the actual pre-buy.

A good idea is to find a purchase agreement and send some form of deposit for a potential aircraft that you are looking at. When you do this, make the sale contingent on

passing a pre-buy inspection from a shop of your choice, and passing a successful flight test.

How to find a reputable shop, especially if you are looking in an area that is far away can be a little tricky. Here are a few things that I recommend you do.

- 1) Call the local FSDO for the region that you are looking at an aircraft and ask them, they may or may not be able to point you somewhere. At worst they will be able to give you a list of FAA certified repair stations, you might start there.
- 2) Call an avionics shop in the area, you will want to look for some that don't do everything so they won't be bias towards themselves. They might be able to point you in the direction of credible shops.
- 3) Call around to local flight schools, FBOs, and pilot organizations. They will be able to tell you where they do their maintenance, and if you call enough of them they will unknowingly crowd point somewhere.

One thing that I want to note is that the purpose of a pre-buy inspection is to verify that the aircraft is in-fact airworthy, clear of liens, and that it is in-fact what the seller is representing it is on the listing.

A big thing that I will advise you to look out for is the statement "Comes with fresh annual". This means the seller is a mechanic, or has a good friend who is a mechanic, or knows a mechanic who is willing to do a quick "shade tree" annual inspection, or worse, pencil whip an inspection without actually inspecting anything. This does happen and is the reason I would never advise that you trust the seller or the shop that has been working on the airplane for the seller. Remember, you're more than likely taking a part of that shops yearly income, they probably don't like you even though you sound like a really nice person over the phone.

A pre-buy doesn't mean that your first annual inspection is going to be problem free, or cheap. Normally when you purchase a new airplane, the new A&P needs to get to know it, and that means more labor time on the inspections as well as verifying the logbooks. This doesn't mean that your pre-buy wasn't worth the money, it's just the cost of doing business. Years of neglected maintenance can have residual effects that slowly need to be rectified over the years of ownership.

Remember, as an aviator you're granted the privilege to fly whenever you see fit, and that it is your responsibility as pilot in command to do your best to ensure the safety of the flight. That starts from the first day you decide to start looking for an airplane to purchase.

Written by,

Doug Auclair

Master Flight Instructor, FAASTeam rep. doug@airventuresri.com