



SABRINA WOODS

The “Doctor” is In

A Short Guide to Who Should Fix Your Plane

The doctor is in. But *which* doctor do you need? If you are new to owning an aircraft, the aviation maintenance system might seem a bit daunting. Don't let that hold you back. Treating your aircraft is really no different than treating yourself. For example, you wouldn't go to an ear, nose, and throat doc when you have a sprained ankle. Likewise, you wouldn't bother with an orthopedic surgeon when you are feeling a touch fluish. Your plane's "ailment" will likely dictate which of the three options you go to for relief: airframe and powerplant mechanic (A&P), an inspection authorization endorsed mechanic (IA), or an FAA certificated repair station. Once you have a good understanding of what each category can provide, the rest is just triage.

Owner/Operator – (think: Vitamins and Immunizations)

Before we get into discussing the three options, I would be remiss if I failed to mention that there are several preventative measures that don't require the services of a certificated mechanic to accomplish. 14 CFR section 43.3 (g) states that, "the holder of a pilot certificate issued under part 61 may perform preventive maintenance on any aircraft owned or operated by that pilot which is not used under part 121, 129, or 135" Holders of sport and light sport pilot certificates may perform preventive maintenance on a light-sport aircraft

owned or operated by that pilot, as well, as this category does not require a rating for maintenance.

For type aircraft, the full list of what you can do for yourself is here: <http://go.usa.gov/BmYG> (Appendix A paragraph (c) 1-31). It includes tasks such as changing tires, servicing landing gear shock struts and wheel bearings, replacing cotter keys, replenishing fluids, and replacing spark plugs, light bulbs, or seat belts. However, before you grab the nearest ratchet set, wire cutters, and oil can and run out to your hangar, be aware that some seemingly easy jobs can get tricky, fast. If you have any questions or are at all uncertain as to what the task entails, it is always in your best interest to consult with an FAA certificated maintenance technician beforehand.

A&P – (think: Physicals and the Common Cold)

Okay, so there is no cure for the common cold, really, but you can certainly treat the symptoms. A&Ps are the people to go to for treating routine (but no less troublesome) ailments afflicting your aircraft. To become a 14 CFR part 65 certificated aircraft mechanic, one must be at least 18 years of age, read, write, and speak English, and acquire 18 months of practical experience for either airframe or powerplant certification, or 30 months of practical experience concurrently for both airframe and powerplant. A person can also complete the training by attending an accredited part 147 maintenance school. Then

come three tests (written, oral and practical) and voilà! A brand new technician is born.

But of course it doesn't stop there. It takes years of experience to become a seasoned aviation mechanic, and ultimately these are the people you're going to want to take care of your business. The "business" itself can range anywhere from examining engines, conducting 100-hour inspections, replacing and repairing defective parts, repairing minor structural damage, and corrosion control.

IA – (think: Routine Surgery and Broken Bones)

An A&P with the authorization to perform specialized inspections (e.g., annuals and progressive), and sign for an aircraft's return back to service after major repairs (Form 337), has the additional endorsement of "inspection authority" issued on a FAA Form 8310-5 (IA card). After becoming an A&P, earning this designation requires an additional three years of experience (two years active), having available equipment and a fixed base of operations, passing an inspection-specific written test, and meeting the rest of the requirements laid out in 14 CFR part 65.91. In order to renew their IA certification, an A&P must show specific evidence of maintenance activity, or attend refresher training courses in every odd numbered year.

In addition to the annual inspection, some more common tasks IAs sign off are the repair or replacement of spars, work done on major control surfaces, wing or tail surface brace struts, axle replacements, and any major repairs to the powerplant. It can be very beneficial if your A&P already has inspection authorization as an endorsement. That way you can get your work and paperwork done all at the same place. This can prove to be a time and money saver in the long run.

Repair Stations (think: Hip Replacements and Cardiovascular Surgery)

Should it come time for a "big fix" or a major overhaul on your aircraft, you might want to consider seeking out a repair station to do the work for you. Another, more colloquial term you might have heard is "MRO" which stands for maintenance, repair, and overhaul station.

A station can provide the required specialized equipment, experience, and authorizations needed for complex processes such as avionics and electronics overhauls (i.e., NextGen), mechanical actuators, fuel systems, and carburetors. Services on large complex components such as retractable landing gear assem-

blies, reciprocating and turbine engines, and auxiliary power units might be too arduous and time consuming for the smaller, FBO-based maintenance facilities, so a repair station could very likely be your best bet.

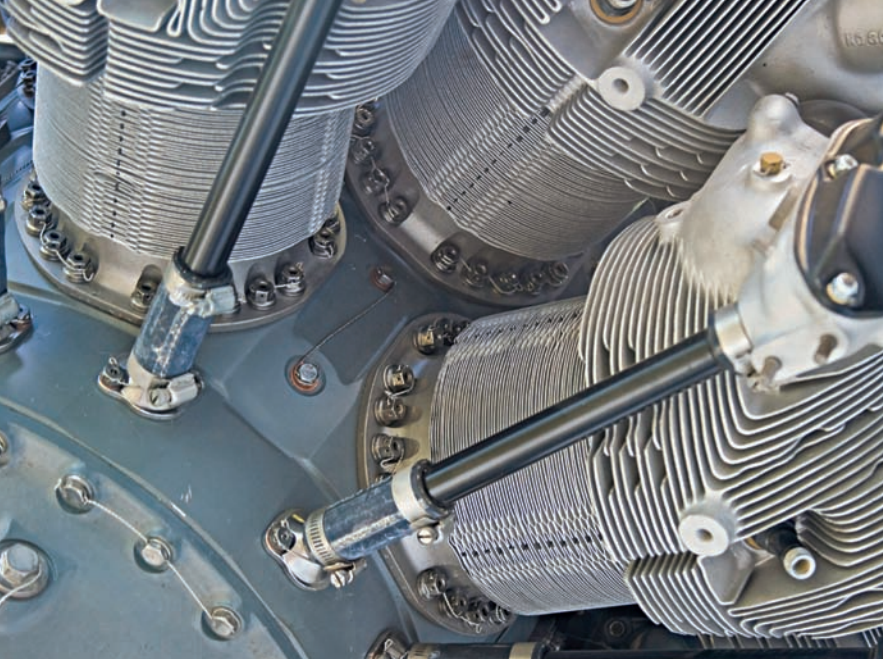
Different stations might specialize in different segments of aircraft maintenance, and some are even type specific. All must adhere to the regulations and policies laid out in 14 CFR part 145. To obtain a repair station certification, an applicant must successfully complete a five-stage process. The stages consist of preapplication (a statement of intent the local FSDO or FAA designee uses to evaluate the complexity of the proposed operation), the formal application (applicants hand over all pertinent documents and interviews are conducted), document compliance (documents are reviewed to ensure conformity to applicable safety regulations), demonstration and inspection (proof that procedures are effective and meet regulations), and finally, certification.

HMO vs. PPO?

Admittedly, picking a mechanic can sometimes be a bit of a "chicken or the egg" scenario. Often you aren't going to know who you need to see until your problem is fully diagnosed ... and in order to get a diagnosis, you need to determine who you are going to go see. But similar to a structured health plan for people, you can use one or any combination of options to sort out this dilemma.

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Much like a health maintenance organization, you can pick the “primary care provider” for your aircraft and route all concerns through that individual, recognizing that you might have to get a “referral”

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to go somewhere else if the task is beyond his or her capability. You can also go the “preferred provider” route and see a different person each time to fulfill your maintenance needs. This latter option comes more into play when you already know something very specific you want done to your aircraft and you are going to take it to that “<insert specialty here> guy” people have been raving about.

Whichever approach you choose, when it comes to picking a good A&P, IA, or repair station, it is all about the research. A great starting point is to ask around your FBO to see who your fellow aviators use. Ask your CFI or local FSDO representative if they know of someone they could recommend. Getting a mechanic who has experience in your type is also important so calling up the company or dealership to find out who they prefer can pay huge dividends.

Once you have a name, go check the place out. Make sure the work area looks well stocked, well organized, and that they have enough staffing for their work load. You will want to ensure that the location/person can handle most of your needs. It isn’t convenient or cost-effective to take your aircraft to one facility to have an inspection done, another

facility to have corrosion control or paint work done, and yet another to have avionics work done.

After you get the lay of the land, make sure you chat with the mechanic(s) as well. Personality and work ethic also come into play when picking the best person for the job. While some technicians work through aircraft issues analytically and are always up on the latest techniques, others seem to rely almost entirely on sage, savvy, and instinct. Choosing between these two could be as simple as the difference between owning a brand new Cirrus SR20, versus a vintage Cessna 140, respectively. You want to make sure they are compatible.

For a repair station, once you have selected one (<http://av-info.faa.gov/repairstation.asp>) you will want to check out the facility and make sure the shop has a valid FAA repair station certificate. Among the documents you should check out are the facility’s operations specifications. These specifications should be displayed in the maintenance facility, most typically right next to the certificate. It should have capabilities suitable to your make, model, or type of aircraft and it is also a good idea to confirm the station has established an anti-drug and alcohol misuse prevention program.

Lastly, whether you choose an individual person, a team of people, or an entire shop, you will want to make sure they are communicative and attentive to you and your plane’s needs. As the owner, you should be able to dictate the level in which you want to be kept in the loop, but keep in mind that once you have chosen your guy(s), giving them the latitude and space they need to address your problem will probably go a long way in keeping everyone happy.

So now that you know a little bit more about the maintenance process and all it entails, is it perhaps time to make an appointment? The doctor is in. ✈️

Sabrina Woods is an assistant editor for FAA Safety Briefing. She spent 12 years as an aircraft maintenance officer and an aviation mishap investigator in the Air Force.



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