

## **Frequently Asked Questions**

### **Revised Auxiliary Aviation Maintenance Policy**

**NOTE:** These FAQs are intended to help members understand some of the key points of the revised policy. They are not intended to substitute for the policy statement or to provide a comprehensive explanation of the entire policy. Any conflict between this information and the Coast Guard document shall be resolved in favor of the Coast Guard document.

Q. I have an AuxAir facility... exactly what does this mean for me?

A. When you get to the recommended hours-in-service or calendar TBO, you will no longer have to choose between:

- a) Overhauling your engine, irrespective of it's actual condition, or;
- b) Withdrawing your aircraft from the program.

Instead, the new policy requires that you monitor your aircraft's condition on an ongoing basis, by complying with one of two FAA inspection programs: the annual/100-hour inspection program or an FAA approved progressive inspection program. In either case, the new policy also requires regular engine oil analyses, also at a maximum interval of 100 hours.

Q. I know what an Annual inspection is, but what's the difference between an annual inspection and a 100 hour inspection?

A. These inspection are all described in the Federal Aviation Regulations, 14 CFR 91.409 and in Appendix D to 14 CFR 43. Briefly, both are very thorough, detailed inspection of the entire aircraft. A 100-hour inspection covers the same things as an annual inspection, however a 100-hr inspection may be performed by an Airframe and Powerplant Mechanic (A&P), but an Annual Inspection must be performed by an A&P with Inspection Authority (IA).

Q. And what's a progressive inspection?

A. A progressive inspection (described in 14 CFR 91.409) allows for more frequent but shorter inspection phases, as long as all items required for the annual and 100-hour are inspected within the required time. Think of it as an annual or 100-hour inspection, broken up into smaller pieces. For example, a progressive inspection could use four inspection phases at 25-hour intervals, as long as all of the items required for the annual or 100-hour inspection are inspected within the required time. The FAA must approve each progressive inspection program.

Q. I just had an overhaul... am I exempt from this new policy?

A. No, you must comply with this revised policy. It applies to all aircraft facilities offered to the Coast Guard for use.

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Q. When do I have to comply with the new policy?

A. The policy is effective immediately. By the time of your next offer for use, you must show compliance with the new policy. At that time, you will need to have done at least one oil analysis within the last 100 hours and be within 100 hours of your last annual or 100-hour inspection (or be on an FAA approved progressive inspection program).

Q. I fly around 100 hours each year. How does this new policy affect me?

A. If you fly 100 hours or less per year, this new policy will have no effect on when or how many inspections you must do. All it would add is the requirement for oil analyses. Your annual inspection resets the 100-hour inspection clock.

If you don't fly much more than 100 hours per year, you may wish to move up your annual to when you reach 100 hours, so you can continue to fly missions for the Coast Guard. Or, you could simply "sit out" for a month or so, and not fly under orders until after your annual inspection.

The vast majority (80%) of our facilities fly 125 hours or less per year, so the additional burden to those between 100 and 125 hours/year would be an annual in the 11<sup>th</sup> month instead of the 12<sup>th</sup> month since the last previous inspection.

Q. I fly around 200 - 300 hours each year. Does this mean I'll have to do more inspections?

A. For those who fly more than 200 hours/year, we suggest looking into an FAA approved progressive inspection program for your aircraft, in order to minimize down time, spread out the work, and minimize costs.

Q. I fly between 150 and 200 hours/year. This policy means I will have to do twice as many inspections as I have been doing. Is the Coast Guard going to help me pay for this extra inspection?

A. Yes, at least to the extent that you fly those hours for the Coast Guard. Here are two examples, using hypothetical aircraft and the SAMA table:

Type 2 aircraft, 180HP

SAMA = \$41/hr

Engine life expectancy = 2000hrs

Overhaul = \$30,000

Engine reserve = \$15/hr

That leaves \$26/hr to cover other maintenance and inspections

At 100 hrs of CG operation, that generated \$2600 towards the inspection, not counting engine reserve

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Type 7 aircraft, 2 engines, 210HP each.

SAMA = \$82/hr

Engine life expectancy = 2000 hrs

Overhaul = \$40,000/engine, \$80,000 total

Engine reserve = \$40/hr

Remaining = \$41/hr

At 100 hrs of CG operation, that generated \$4100 towards the inspection

Q. Will this really improve safety?

A. Yes. More frequent monitoring of the condition of aircraft, especially engines, propellers, and accessories, has proven over time to increase safety and reliability, as well as reducing overall operating costs. From World War II to the present, numerous maintenance and reliability studies have shown this to be the case.

Q. Are there any other factors that improve safety?

A. The single most important tool in this kitbag is routine spectrographic oil analysis. This, combined with the other factors in an annual or 100-hour inspection (compression checks, etc.), provides maintenance professionals with improved oversight and insight into the health of aircraft and their major components. This program of keeping a closer eye on the actual health of our aircraft has well-proven benefits. For more information on this, you are invited to read our white paper, "Auxiliary Aircraft Maintenance Standards – The Case for A Fresh Approach".

Q. Are progressive inspections allowed now?

A. Yes. The revised policy makes it clear that the Coast Guard recognizes FAA approved progressive inspection programs as acceptable, along with annual/100-hour programs.

Q. What's SOAP?

A. SOAP is an acronym for Spectrographic Oil Analysis Program. It consists of samples of engine oil that are sent to a laboratory for spectrographic analysis for traces of various metals and other relevant compounds. The lab then generates a report with the results of that analysis. There are several labs around the country that specialize in this kind of analysis for general aviation engines. The cost is nominal, ranging from about \$15 to \$30 per sample, depending on the lab. (Ask if your lab offers discounts for members of aviation organizations, such as AOPA or others.)

Q. How does SOAP work?

A. You (or your mechanic) buy a sampling kit from one of the labs that provides this service. You take a sample of oil from each engine, put it in the vial they provide in the kit, and send it to the lab. You include basic information such as make/model of engine, hours

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on the engine, hours since last oil change, etc. The lab considers these factors along with the results of tests on many other engines like yours. After analyzing your oil sample, the lab compares your test results with what is considered to be “normal” for your engine. The lab provides you with a report with that information, along with their interpretation of how that applies to your engine. They may make recommendations, such as more frequent sampling or other suggested actions that may be called for depending on your results. You and your mechanic then review the report and decide how to address whatever concerns may have been raised therein. The vast majority of reports will come back with no action recommended.

Q. Do I still have to overhaul my engine when I get to TBO?

A. As far as the Coast Guard is concerned, no. The decision on when to overhaul is now up to you and your mechanic and should be based on the condition of your engine.

Q. I stopped flying for the Coast Guard because it was over 12 years since my last overhaul. Even though I don't have a lot of hours on my engine, it was over “calendar” TBO. Does this mean that I can offer my plane for use again?

A. Yes. All you have to do now is be in compliance with the new policy: be within 100 operating hours of your last annual or 100-hour inspection (or be on an FAA approved progressive inspection program) and have done (and document) at least one oil analysis on each engine.

Q. What do I have to report and how do I report it?

A. You must report to the designated ADSO-AVM when you have an inspection done (annual, 100-hour, progressive) and when you have an oil analysis done. The Coast Guard requires the Auxiliary to track these items so that we can demonstrate that, at any time, our facilities are in compliance with the new policy. The ADSO-AVM will make periodic aircraft maintenance status reports to the Air Stations to keep them informed.

In addition, before launching on an Auxiliary mission, you must make a call to your Air Station to report the current aircraft time remaining until the next required inspection is due.

Q. How do I complete the 7005 (offer-for-use) form when it asks about TBO but has no place for the required new data?

A. Until the revised form is published, omit checking the “TBO checked” box. Then use the “other special equipment – remarks” box to insert what inspection program the aircraft is on (100-hr or progressive), the current aircraft time, when the next inspection is due, and that the oil analysis has been submitted.