

Aircraft Maintenance

For an owner who relies heavily on aircraft availability, there is yet another option—an exchange program. The overhauling shop determines a value for your existing, run-out engine and deducts it from the price of an overhauled one, then you swap engines. Downtime can be as little as a couple of days. While the cost is less than a new or rebuilt engine, it is typically going to cost more than waiting for your own engine to be overhauled. It's worth noting that exchange programs go on the assumption that your cylinders, case, and accessories are in normal run-out condition. If, after they have had an opportunity to disassemble your engine they find unusual wear, the customer must pay the difference. Let's face it; a beater isn't worth much regardless of whether it's a car or an airplane. The same thing would happen if you were having your engine overhauled yourself. If you prefer the use of OEM parts but don't quite want to pay the price of an OEM overhaul, some operators offer two levels of service. The lowest-priced overhaul uses PMA parts, while an overhaul with OEM parts is available for a higher price.

The other major question is FAA certification. A shop does not have to be certified to do engine overhauls, although the work must be done under the supervision of an FAA-certified powerplant mechanic. Many overhaul facility owners say an FAA approval isn't necessary, that it is more of an advertising tool than anything else. One manager confided that certification was a paperwork nightmare. He said, with respect to the engine overhaul, "We don't do anything different now than we would do with certification. No matter what, the work is done under the authority of a qualified A&P mechanic." A number of FBO managers who send their own engines to various overhaul facilities echoed the sentiment. They were all more concerned about the integrity of the shop's personnel and the shop's track record than whether or not the shop was FAA certified.

As you are researching the possibilities, you will discover prices vary significantly. A good rule of thumb regarding costs would be that the least expensive option is to have an engine overhauled by an independent shop using PMA parts; using OEM parts instead will add somewhat to the same base price. Next in line would be to have it overhauled by the original manufacturer. The next most expensive would be to have it replaced with an OEM rebuilt engine, and finally to replace it with a new engine. All else being equal, you could expect the actual TBO to increase in the same order.

When preparing to make a final decision among several shops, beware of the lowest bidders; check them out very carefully. The 10-minute TBO, though not common, has happened. One unfortunate owner went to a cut-rate shop only to have them use chrome-faced piston rings with chrome cylinders—a definite no-no. The aircraft was magically transformed into the world's largest paperweight before it even got to the end of the runway as it was leaving the shop. Fortunately, 10-minute TBOs are rare, but 200–300 hour ones are not. Search for the most cost-effective shop—not necessarily the lowest bidder, but the one that does the job right for a reasonable price.

DETERMINING AIRCRAFT OR PRODUCT AIRWORTHINESS

After a newly manufactured aircraft has been certified as airworthy, many things can happen along the way to affect its airworthiness. There are two categories of guidelines