



If you don't do your homework, when the time comes to decide who will rebuild or remanufacture your airplane's powerplant, you may make a costly mistake by choosing a shop with a reputation for poor service. Assuming that you want your powerplant put together by a facility that uses the best practices, equipment and testing, all performed by qualified, well-trained employees, how do you make the best choice?

To educate yourself, it's a good idea to talk with satisfied owners and people who have been in the business for many years and have earned a reputation for putting together reliable, high-quality powerplants. When you talk to those people, you'll need to ask the right questions. Though "How much?" is usually the first thought to enter an owner's head, and the first words out of his or her mouth, quality and dependability should be the first concerns, and cost should be lower on the list.

Confident that their answers will get them their fair share of business, the operators of one well-known powerplant facility encourage their potential customers to come prepared with tough questions, and if they need help in becoming educated, the shop will gladly take the time to assist in the process. Of course, it wouldn't be a stretch to suspect that Western Skyways could be stacking the deck by providing a list of questions that make the shop look good. But that would ignore the fact that, for years, Western Skyways has thrived on the repeat business of a number of owners who operate their aircraft for revenue, not just personal travel. Money talks, and if a for-hire operation keeps coming back to Western, that means the owners are satisfied with the product and service, and their Western Skyways powerplant produces income.

Western Skyways is the reincarnated offspring of famed engine shop AAR Western Skyways of Troutdale, Ore.; it's populated by several key people who learned the trade there. The road leading from the original company to the current incarnation traveled through West Star Engine Corporation of Grand Junction, Colorado., before David Leis, Perry Nicholson and John Robinson joined with Al Head to resurrect the famous name in 1994 and settle in Montrose, Colorado. Ask satisfied owners and FBOs about Western's reputation for quality and service, and their answer will begin with the personal attention they receive, and end by mentioning the company's highly regarded Gold Seal powerplant and warranty.

When it comes to the questions customers typically ask, David Leis says, "Unfortunately, they start off asking the wrong ones. For everybody, price is a concern, but that should probably be the last question. They ask how much instead of asking about the engine itself, or asking if it's back to new limits or if it's an overhaul. My first question would be 'is everything back to new limits?'"

This is a good time to discuss the often confusing terminology, such as "overhaul," "rebuilt," "remanufactured," "service limits," "new limits," and "zero time." An overhaul is typically done to service limits, the broadest interpretation of what's allowed under the FARs. In an overhaul to service limits, even if a component just sneaks in under the outer parameters of being serviceable, it can be used. The term "rebuilt" can only be used by the factory (the tolerances are far more restrictive); though the powerplant is rebuilt to "new limits," it typically contains a number of used parts.

The term "remanufacture" doesn't really appear in the FARs (though it does appear in an FAA *Advisory Circular* from the mid 1970s), but it's the term Western Skyways uses to "draw attention to the fact that it's not an overhaul because an overhaul has very broad service limits. And remanufacture or factory rebuild is back to new limits, which are much narrower tolerances."

If you want to raise David Leis' ire, ask about the term "zero time." He'll tell you, "The factory can use that term, and here's the reason: they get someone's engine in and they disassemble it, and there's no tracking of time of the individual components such as the crankcase and camshaft. When the factory builds a remanufactured engine and they use one of these components, the FAA allows them to call it a 'zero-time' engine."

Western's list of pertinent questions includes: Is the shop an FAA-approved repair station, or do they use an A&P to sign for the work? Do they have a test cell, and are all engines run through a comprehensive test procedure? Do they run additional checks, such as pressurizing the crankcase as a last-chance search for leaks before shipping the engine?

According to Leis, most owners fail to ask if the shop has liability insurance, if the company has a drug-testing program, or even whether the facility employs A&P mechanics for engine assembly or use less experienced technicians. But one of the key issues owners often fail to address has to do more with the actual wording of the quote when it comes to the potentially expensive issue of the condition of a returned core.

Leis indicates that Western doesn't wish to be drawn into addressing the reputation of other shops, preferring instead to tell its own story. But that doesn't mean that he can't

help owners become informed about the critical core-return issue by advising them to look out for key words that may appear in another shop's quote when it comes to returning a core. The difference between the terms "serviceable" and "repairable" isn't just semantic; it can result in unexpected charges of \$2,000 or more.

According to Leis, "Our quote says that the returned core and major components have to be repairable. The key word is repairable. On other quotes I've seen from other shops, they'll say the case and the crankshaft have to be serviceable, meaning that if they tear down your crankcase and that case or crankshaft has to be sent out to be surfaced and line-bored, that's not serviceable as is, and will have to be repaired. They are going to charge the customer the cost of the repair to make it serviceable. On ours, we know that case has to go out. On our quote, that cost isn't in there as long as the items are repairable."

Then there's the choice of where to have the replacement powerplant installed. Does the facility offer an on-site installation service? Western Skyways remanufactures approximately 500 powerplants per year (70% Continental and 30% Lycoming) and ships almost 90% of them to FBOs and other shops for installation. That still leaves 10 or more a month that are installed on customer airplanes at its Montrose, Colorado, facility. A lot of those installs are on aircraft located relatively nearby in the western United States, but it's not uncommon for owners of revenue-producing airplanes from Alaska to make the trip. According to Leis, "We had a Cessna 402 fly up from Caracas, Venezuela, to install two engines. The advantage for the customer is that you have one place doing everything. So, if there was an adjustment problem or whatever, we're right here to take care of it."

But no matter where the engine is installed, a critical issue is the powerplant's warranty. Like many engine facilities, Western offers several warranty options, and the key considerations here are "prorated" versus 100% for a clearly defined period. Western Skyways' warranty options are either a six-month, no hour limit, 100% warranty on parts and labor, thereafter prorated to TBO at 40 hours per month including parts and labor; or, on their Custom Gold Seal engine, a five-year, no-hour limit, 100% warranty on parts and labor.

A company lives or dies on its reputation, and with the ability to point to a steady flow of repeat business from fleet operators as well as private owners, Western Skyways lays claim to having one of the strongest reputations in the engine facility business. Even so, its operators know that there are other good choices out there and that they still have to compete to win a new customer's confidence. To do that, they feel the first step is an open-door policy, so they encourage tours of their shop and promise to be patient in answering questions.

