

Flying Engine w/ 1024 35E 10

My 1969 Cherokee 140B has just shy of 3,700 hours on the tach, and presumably 1,700 SMOH (three owners and 900 hours ago, the logs were lost; an A&P started anew by assuming that an overhaul took place at 2,000 hours). The engine runs like a champ, giving book performance, one quart of oil burned every 15 hours, etc. I intend to run this engine as long as it is sound, at a rate of 100 to 200 hours a year. But eventually it will have to be overhauled, and I want to know: Do I rebuild this core, since it's doing so well? Do I trade it for another rebuild? Go for a factory reman?—J.S., VA

First find out if the oil-pump ADs (75-08-09 and 81-18-04) have been done. If a positive determination of the compliance status of these ADs cannot be made from existing logbooks, you'd be wise to overhaul the engine asap. The 1975 oil-pump directive (75-08-09, per Avco Lycoming S.B. 381 and 385C) pertains to Woodruff-key-drive-type pumps. The 1981 AD (81-18-04, ref. Avco Lycoming S.B. 456B) pertains to sintered-iron pump impellers, which were installed in a large number of Lycoming engines (of various models) between 1970 and 1981. Sintered impellers are a definite hazard and should be removed at the earliest opportunity (the A.D. is generous in allowing a 2,000-hour life).

In 1969, when your engine was originally made, sintered-iron impellers had not yet gone into production. You probably have them, however, if your engine was overhauled prior to 1982. (The only way to be sure you don't have them is to open the accessory case, take apart the oil pump, and see what you've got. This is most conveniently done at major overhaul.)

Unless you know for sure when your engine was last overhauled, you could well be in violation of A.D. 81-18-04 right now and not know it.

Frankly, we'd feel a little queasy flying behind an engine with no record of ever being overhauled in 19 years and 3,700 hours. How sure are you that your engine has, in fact, ever been overhauled? The presence of green, yellow, or orange paint on your cylinders—either at the base, or on the fins between the top spark plug and the barrel—would indicate that at least a top overhaul has been done. (Green

signifies a .010-oversize grind; yellow signifies .020-oversize jugs; and orange signifies chrome-plating.) Pull the rocker covers off and see if you can read the exhaust valve P/N off the stems. If you've got P/N 75068 valves, the engine is original; if P/N 74541, it's been worked on since leaving the factory. (The presence of flangeless valve guides would also mean the cylinder has been reworked since 1969.) Unbroken factory putty on cylinder hold-down nuts would, of course, be *prima facie* evidence that the engine's never been torn down.

A lot of service bulletins have come and gone since 1969. Bringing your engine up-to-date at overhaul time could entail considerable cost. In view of the engine's uncertain history, we'd recommend either a Lycoming factory overhauled exchange engine or a factory reman. With the former, you do not get new logbooks, but you do have the satisfaction of a factory entry in the logs showing that the engine has been thoroughly updated, incorporating all applicable service bulletins and ADs. (Also, you have a factory warranty equivalent to that of a new engine.)

With a factory reman, you get new logs (the engine is officially "zero time")—but you pay a rather steep price for that status (\$10,455, exchange). However, if you buy through Linda Lou, Inc. (formerly associated with Norm Bender), the factory-overhauled engine is only \$6,260, and the reman is only \$2,270 more (\$8,534 exchange). Considering the new-engine warranty, the no-extra-charge service bulletin compliance, and the added resale value in going from no logs to factory logs, we'd strongly advise taking a factory overhaul over a field overhaul, in your case.

For more information, call Linda Lou directly at 1-800-824-9912. She can quote prices on any and all Lycoming models, in addition to providing info on shipping, accessories, handling of core deposits, etc.

Recently, we bought two Continental IO-470-U engines (for my Cessna 310) from a supplier who obtained them from a geared-up aircraft. On taking possession of the engines we overhauled them both. Some 30 hours later, oil was noted coming from the area of the front crankshaft seal. On subsequent investigation, both engines were found to have cracked crankshafts. In view of pending legal action, we are wondering whether it is possible that damage incurred in a prop strike can take 30 hours to show up as cracks (the seller of the engines says it's impossible)? Also we'd like to know: During overhaul, when a crank checks okay for straightness (runout), and a Magnaflux inspection shows no faults, what else can one do to assure that the crank is safe?—E.P., WA

Teledyne Continental Service Bulletin M84-16 (superseding M71-5) pertains to prop strike damage. The bulletin is only a page long and, for the most part, isn't very helpful. It does say that while not every prop strike requires a teardown, *sudden stoppage* (as in a gear-up landing) does require complete engine disassembly and inspection to detect damage to the crankshaft, prop flange, counterweights, and crankcase bearing saddles. "The



At what point do you overhaul the engine on a "lost logs" 140B?