

Book Review: Engine Management 101

By Jim Cavanagh

The new book Engine Management: 101, is EXACTLY that.... It is an introduction to responsible engine ownership. It brings to a new owner, someone with little or no experience with aircraft engines or maybe even anything mechanical, and basically says, "Shake Hands with your new friend!"

Engine Management:101 was written by Bill Ross. Anyone in aviation at the engine, maintenance or overhaul level knows him, or of him. For decades Bill was the go to Guy at Continental for real speak, honest information and guidance on aircraft engines. His job was to work with shops, overhaul facilities and owners and helping them with any and all engine issues or questions they might come up with. He was and is a credible, no nonsense compendium of aircraft engine knowledge because from his early years he was an engine guy, then an airplane guy, a mechanic, a pilot, an instructor and then a representative of one of the world's largest aircraft engine manufacturer working and speaking globally. He was Continental's guy in the pits.

For the last couple of years, Bill has been with Superior Air Parts, an aftermarket parts company and now an OEM for their own line of engines.

His job is to talk to customers and shops about Superior engines and parts. With mechanics, he talks technical. It takes a real understanding of tools, parts, and an appreciation for recommended practices for diagnosing problems and then repairing or assembling an engine. It is knowledge that many Certified mechanics have not acquired for a number of reasons.

With owners and operators, he talks about managing the engine, running it correctly, understanding how it works and the vagaries of the many accessories and systems that enable a big hunk of metal to put out horsepower

for years and years. His discussions bring an understanding of why manufacturers and mechanics create the guidelines that operators use to ensure the longevity and integrity of their engines.

In his book Bill starts out with a bit of biography. IT sort of reads like Tom Sawyer at the airport. He learned to work on machinery with his dad. His dad then surprised the family by learning to fly and getting his license, and was soon followed down this track by Bill, who had his ticket by the time he was a Senior in High School. Bill then went on to Commercial, Multi engine, and ATP ratings working on and flying corporate and charter, all the while continuing his education with engines.

He constantly refers to his family's flying in the book, bringing personal experience into the equation. He and his dad have an Alon Ercoupe and a PT-17 Stearman Biplane, about as opposite extremes you can get if you are a grass strip kind of guy. In the grand scheme of the book, all of this makes it believable and more real than reading technical jargon from a pulpit on high. Here is knowledge that has been developed, not simply memorized.

And this is what makes the book so readable. Bill makes things only as complicated as they need to be. He does not throw complicated technical jargon at the reader. Remember the first time an instructor took you through a walk around pre-flight inspection? Well, that is how Bill is telling you about engines and systems. He explains what it is, what it does, how it does it, and what to look for to prevent problems.

Along with this safety aspect, he guides the reader through the economics of owning and operating an aircraft engine. He pulls no



punches, short of naming names, with it comes to Maintenance Management companies who promise economical maintenance for a fee, and he explains away many of the myths that crop up in hangars and shops about maintenance and operation.

You can tell that Bill is a company man. His years at Continental; and now Superior have taught him that the original designers and builders of the engines we use do not make flippant, casual recommendations. Their knowledge and guidance is comprehensive and based on thousands of hours of tests and forensics. Following their advice, while seeming to be expensive, is actually much more economical in the long run. And the "long run" to Bill includes a common sense look at things that are taken for granted thanks to airport scuttlebutt.

But even though he was years with an OEM, Bill brings the real world into the equation by discussing the use and quality of PMA parts as opposed to "Factory" parts for repair or rebuilds. And when you need these parts is something that you can determine on your own. Bill discusses TBO in real terms. He also uses a phrase that is new to me, "patching" an engine. I know what it is, just had never heard the term.

Oh, and I did learn a new word: "Bumfuzzled!" C'mon, Bill. Where did you get this?"

Engine Management: 101 shows you that you CAN take an engine past TBO... as long as you do it correctly; You CAN overhaul an engine safely and much, much less expensively using PMA parts; You CAN add an oil additive that will do what it says and bring you real time and overhaul benefits, and you CAN damage an engine and components if you opt to ignore manufacturer's recommendations.


Bill talks about oil and then talks about fuel. Bill talks about ignition systems, fuel systems and cooling. He recommends things, like GAMI's Advanced Pilot Seminars, and he warns against guys who tell you that "...if it ain't broke, don't work on it!" In the early pages of the book Bill explains how to find a good mechanic, suggests that the two of you learn how to work together, and that "Preventative Maintenance is the only way to prevent unscheduled maintenance."

When you read this book you will not learn about ignition events, the chemical makeup of fuel, the aerodynamics of cooling drag or how to do an aileron roll. The book does not get that complicated. This is not a technical manual, it is a forthright, honest discussion of what a guy or gal needs to know to operate and maintain an aircraft engine safely and economically.


It is about time someone wrote a book like this, and the right guy did it. The book is available either free or at cost with any proceeds going to the Young Eagles program. It was subsidized by Superior Air Parts as a way to get information out to the flying public. You can read the whole thing in a good evening and, as did I, will have a number of epiphanies that only come from Bill's clarity and insight.

If you can get this book, do it!

As a writer, I have flown over 180 different aircraft models in 38 years of flying. I have always kept my flying simple, sane and inexpensive, but have had marvelous and myriad opportunities to fly great planes with great people.



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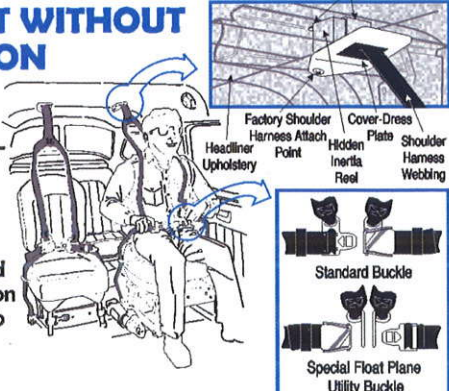


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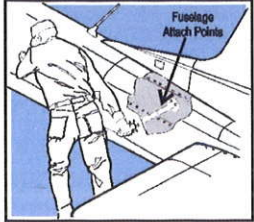
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