05/02/2024 - Visit PMM Wings for engine - 4h

Category: 6.2 Engine Hanging
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The day has come to take some final decisions on buying an engine. I had an offer in 2019 from PMM Wings for an engine and this was more of a ballpark figure request for a Superior IO360.

Later on I was tempted to go with the reduced price offer for a Lycoming IO360-M1B engine through Vans. Lycoming gives discounts for kit builders if purchased through Vans.
After 2021 covid and the current inflation 2023 figures, prices have gone ballistic and they aren't really coming down. On the contrary, further increases are expected as especially cylinder availability is dramatic.Prices compared to my offer from 2019 have gone up 40% ! So waiting longer will only increase the total cost.

At some point I got tempted to go for a used second hand engine and buy second hand or overhauled. I went on planecheck, trade-a-plane and barnstormers and such sites but soon got demotivated. Most of the engines for sale there have had accidents or major issues. You have to be an expert able to assess what you see on photos or during a visit and I'm afraid I don't have those skills. The nice ones which were also not priced excessivly turned out to be scammers trying to rip you of. So I gave up on the idea and turned back to the idea of buying through Vans. A fellow builder did the same and was quite happy with how that went.

My main problem with the engine purchase is "time".Or stated differently, not having enough of it to complete the plane fast enough not to get corrosion risk on the engine.

I can only work half time on the project and I learned from Lycoming support that the waranty on factory engines for corrosion is 6 months. The are pickled and oiled for long preservation but even then they only give you 6 months.
I called a lycoming support technician on the phone and he said 12 months is probably fine if you don't live near the coast and humid wet salty environments.
The absolute max he recommended is no more than 18 months. 2 years would be too much. Fact is that the engines coming from Lycoming through Vans have been running on the test bench and have had their cylinders run in. So no way around this ticking clock.

Some time later, Vans went through a rough period with a restructuring and chapter 11 scenario and this made me hold of from making the M1B order with Vans.
Fortunatly for me, this brought me back to Patrick Van Dooren at PMM Wing Service to discuss options and asking them for a price quote. I was convinced at first that this would turn out much more expensive.

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I called Patrick at PMM Wings and explained him my time issues. He mentioned to me that the best way to proceed is to have the engine build without test running. In that case, the parts don't corrode and behave the same as if they would be in his stock. After assembly, I would be able to pickup the engine, do all the fitting, hanging, baffling, cowling etc until the plane is close to completion. Then disconnect it and take it off the mount, bring it to PMM where there will test run it. From then on the time starts ticking again but there won't be the pressure during the FFW building process. I kind of liked this idea.

Additionally I wanted my engine at a certain price. He asked for a quote for a new XP Superior engine IO360 with cold air sump and horizontal induction (which was my initial choice of engine before moving to the Vans Lycoming OEM story).
To my surprise, the offer was almost priced the same as the Lycoming IO360 M1B as if I would buy it from Vans and import it myself to Belgium.

Buying at PMM would have the additional advantage of having a service center and warranty close by.

Superior has had some issues in the last year with their crankshaft parts (not being able to produce and deliver) and have stalled delivering engines for quite a while. Availability is also an issue off course as I want to start working on my FFW next year.

PMM will deliver the Superior engine with a certified Continental crankshaft inside to replace the superior crankshaft. It's promised to be arriving in the PMM hangar by November, to be assembled in December. End of 2024, it would be ready for pickup.

So the final choice has become a new experimental Superior XP IO-360-B1AD2 engine

- New Superior Cylinder Kits
- New Roller Camshaft and roller tappets
- New magneto’s Champion with 2 impulse couplings, new Fine Wire Spark Plugs & Ignition Harness
- New fuel injection system horizontal front mounted with cold induction oil sump
- 180 HP @ 2700 RPM, fixed pitch prop configuration
- Engine will be assembled and tested at PMM

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