



>> During assembly

THE SPECS

- **4 stroke 2 cylinder Horizontally Opposed OHV 2 valves/cyl. Twin ignition**
- **BORE 94.0mm**
- **STROKE 69.0mm**
- **CAPACITY 957cc (58.40 cu.in)**
- **COOLING Forced Air**
- **COMPRESSION RATIO 8.75:1 130-140 psi**
- **OUTPUT 50-60hp**
- **TBO expected 1000 hours.**
- **WEIGHT approx. 35kg (77 lbs), with the Aerotwin gearbox approx. 45kg (99lbs) total. Plus oil tank**
- **The engine will be naturally aspirated, but can be turbocharged for altitude compensation**



>> Being prepared in the wind tunnel



>> With starter and alternator attached

The Aviator HFA

by Bert Moonen
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FOR those of you who have had a Rotax 503 engine in your aircraft for years (some of you curse, some of you rave), the reality is that sometimes it is the only engine that will fit into your lightie.

Being a flyer of Quicksilvers for many years, I found the Rotax 503 to be a good engine, as long as I respected it from new and looked after it.

A couple of years ago Rotax (in its wisdom) ceased production of the 503. From what I understand, it was pressure from the Californian EPA laws. They also had plenty of stock at the time. Eventually, though, the stocks ran out.

I have been involved with the development of the new Aerotwin 65hp engine in New Zealand and I found out the company, while developing the Aerotwin, also had a 50hp 4 stroke

engine on the backburner.

With the demise of the 503, I suggested there was an opportunity to tap into the lightie market as the 503s now in service started getting towards their TBO time.

The Aviator HFA is a 4 stroke fuel injected naturally aspirated boxer engine with 1000hr TBO. The engine will use most of the electronic components and gearbox of the Aerotwin 65hp engine. The earlier version of this engine has already run for around 300hrs, with 150hrs on an aircraft without any major issues.

The development of the Aviator HFA had slowed a bit due to a delay in getting the engineering done for the wet sump engine mountings and the exhaust setup. Christch-



>> PTO end waiting for gearbox attachment

urch, where the designer is based, is still getting aftershocks daily (the count is up to 30,000), which slows getting anything made, because many in the engineering trade deserted the city.

The long term plan is that it would ideally bolt straight on where the 503 was previously installed.

This engine will be installed into my Quicksilver GT400 hopefully before NATFLY, after we have done extensive dyno and wind tunnel testing in New Zealand.