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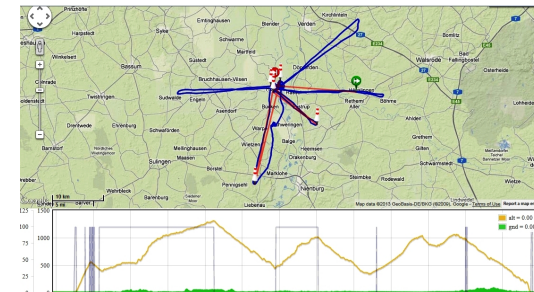
### Jet Propulsion System - First Turbine on an ASW 27

February, 10th 2013 in Northern Germany: The sky is grey, people have not seen any blue openings for months... Despite the weather, an ASW 27 prepares for a launch on Hoya's airfield in the valley next to the river Weser. Every glider pilot who spent the winter months under the grey Northern European skies is probably a little bit jealous. But what is so special about this flight?

Klaus Meitzner has worked on different turbine projects and does have quite a bit of experience in this subject. He now used the winter 2012/13 to make some changes to his ASW 27, which should better be called ASW 27 J. He fit a [Jet Propulsion System](#) (PSR Jet System T01 Turbine) - a sustainer - into the glider's fuselage. On the grey February morning he gets everything ready for a first check flight. He launches, flies for some 70 kilometers and returns all smiles. Once in the air the turbine overtakes any self-launcher...

Five weeks later at a temperature of minus 15 degrees Celsius (5 degrees Fahrenheit), the engine worked without any problems. Before having gone through the whole flight testing and certification process, Klaus is already confident that his kerosene fed machine will provide a great performance:

- The cruising speed will be at 160 km/h (~ 86 knots)



[Here](#) you can have a look at Klaus' second turbine-experience.

- The climbing rate at full throttle and 130 km/h (~ 70 knots) will be around 1 m/s (3.3 ft/s)
- Its range in saw tooth flight, using 23 kg kerosene should be about 160 km (~ 100 statute miles)

Klaus explains: „It was kind of challenging to fit a jet engine instead of a water ballast tank into the glider.” But as he had done it before in an ASW 20, he was able to manage the task once again. Without fuel the engine weighs 12.5 kg (26.5 lbs) which is not much compared to a conventional propulsion system. Therefore the flight characteristics do not change a lot. Another big advantage is the turbine’s aerodynamic shape. Extended, it does not really bother the glide ratio, whereas an erected conventional engine usually transforms a high performance ship into an old-timer...

The constant propulsion allows flying at all available speeds, slow or fast whatever is appropriate. This is also a great advantage of the turbine. The PSR Jet System’s shape should fit into the other Schleicher gliders’s fuselages, like ASW 24, ASW 28 and ASG 29. The German turbine-fans are now waiting for an EASA certification, and are confident to have found a system to develop the future of auxiliary powered gliding. “After seven years of hard work, we’re close to the finish line, the certification of the PSR 101 engine.”

*Text: SK / EFP*

*Pictures: Klaus Meitzner*



Klaus Meitzner after his first flight in the "ASW 27 J"



Have a look at the storage compartment.



Propulsion system including the withdrawable unit