Lambach Aircraft News

Agenda

Besides the biweekly visits to the Aviodrome to perform work on the Lambach HL II, SS-VOBB Lambach Aircraft can be seen on the following occasions in the coming period:

7-9 June:
NVAV Fly-In
marville

14-15 June:
Airforce 100 years at Volkel airbase

6-8 September:
Dutch light aircraft fly-in texel

Dear reader,

In the previous newsletter I promised to keep you informed on a more regular basis. As you can see I have kept this promise, for here it is the second Lambach Aircraft newsletter of 2013. As always, this newsletter holds further news on Lambach Aircraft's main projects: HL II and S-Vision. Also, there is an article on the CNC machine project, which was briefly introduced in the previous newsletter.

It took quite some time but it seems that spring has finally arrived in the Netherlands. So now the season of fly-ins and air shows has finally started. The society's first public appearance this year was on the 31st of March, at the Aviodome's Flying Circus event. More about this event can be found in the HL II article. The society also organised some interesting activities for its volunteers, which will be discussed in a final article.

Furthermore, the society already started to prepare for the next academic year. Among other things, a new Daily Board was formed. So now I can very proudly present to you the 2013-2014 Daily Board:

Chairman:	Steven Doesburg
Secretary:	Jan Dirix
Treasurer:	Lukas Klespe
Coordinator HL II:	Edvinas Geležinis
Coordinator S-Vision:	Rick Boerma

Together with this year's board, they will spend part of their summer holidays preparing for the next academic year.

Enjoy your reading.

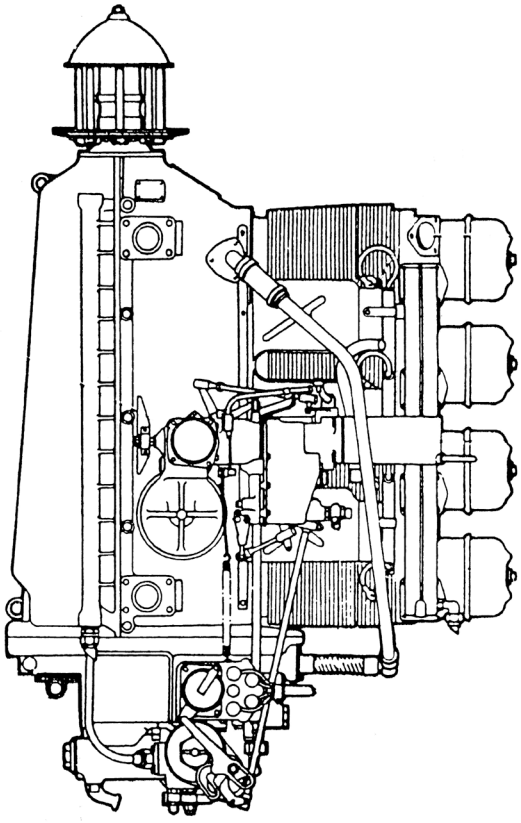
Dries Decloedt
Chairman SSVOBB Lambach Aircraft
May 2013

Lambach HL II

As stated in the previous newsletter, the float in the HL II's engine has been responsible for a reduced number of engine runs. We also stated that a new float was bought, and installed on the 6th of February. From that moment on multiple engine runs were scheduled and executed, during which the Gypsy Major ran smoothly.

The most recent engine run was during Aviodrome's Flying Circus where a delegation of volunteers represented Lambach Aircraft. It is interesting to note that this was Aviodrome's first public event since their bankruptcy and Lambach Aircraft actively contributed to it by presenting the HL II to a large number of aviation enthusiasts. However, during the engine run, the coordinator noticed that the Gypsy Major was running very rough. The sparkplugs were identified to be the source of this problem. These will be replaced and in a future visit the engine will be tested again.

Once the HL II's engine is running smoothly, we can proceed to the next step in this project: conserving the engine. Lambach Aircraft is very glad to announce that Aviocom is sponsoring the Aeroshell Fluid 2F conservation oil. Three of our board members visited Aviocom at their headquarters in Lelystad on the 7th of May to collect the oil. The first item on the agenda was a meeting in which the board members introduced Mrs. Ruikers to Lambach Aircraft. After this small meeting, the oil was collected at Aviocom's storage followed by a visit to Lelystad airport to view the beauty that is the HL II.



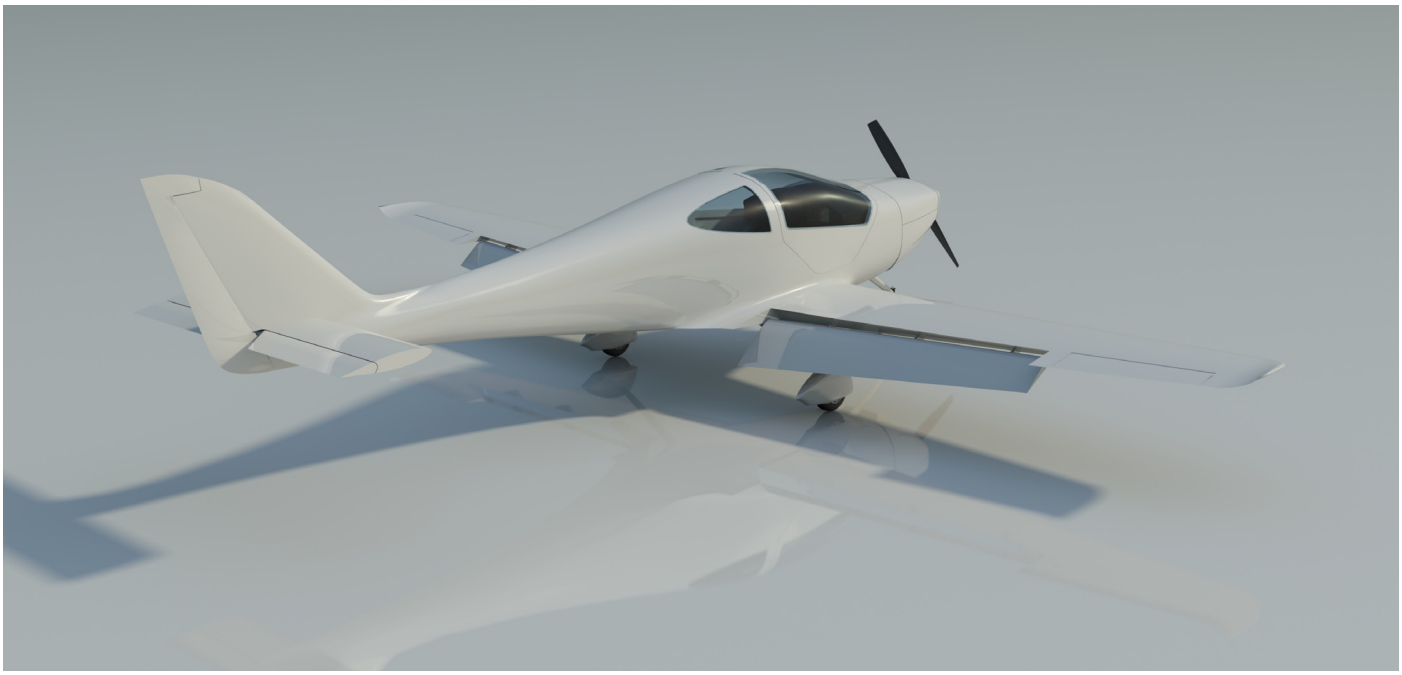
A schematic representation of the gipsy major mk I

S-Vision

In the previous newsletter we anounced, that the S-Vision's preliminary design was nearing completion. The final item on the list was verifying the performance of the S-Vision. While one volunteer was doing the final performance calculations, the coordinator already focused on creating work packages for the detailed design. Currently the general outline for all work packages has been made and some of them, such as the antenna selection and the control column, have been fully written.

Two first years students have already started working on the antenna work package. In this work package they are required to first select the type of antennas, based on the requirements stated in the preliminary design. Then the students are asked to determine the location of the antennas and to assure that no mutual interference or interference with the instruments will occur. Once the type and location are determined, a certification and test plan will be written. Finally, recommendations (e.g. the influence of the antenna mount on local structure) for other work packages will have to be made.

Next to the work on the antennas, soon work on the structural design of the tail boom will be started. The tail boom will be designed by two students as an assignment for the course ìAE4628 Structural Design of Composite Aircraftî of the aerospace faculty of the TU Delft. In this way, it can be guaranteed that the design will be finished both on time and with sufficient quality.

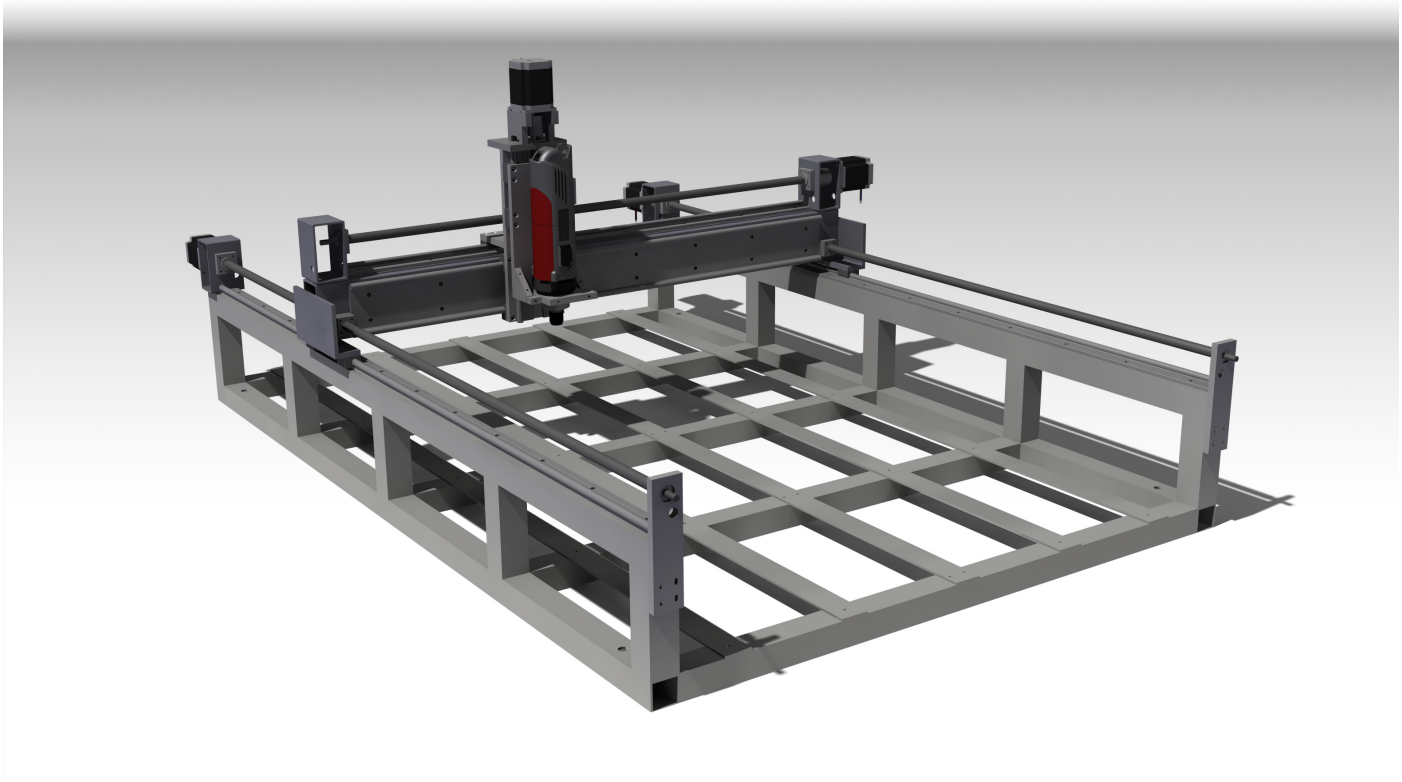


CNC

Making an aircraft is difficult enough. But it becomes even more cumbersome if you don't have the right equipment to do it. Building modern aircraft using only hand tools is nearly impossible. And what is more, it would be a nightmare to get such an aircraft certified. As we at Lambach Aircraft aim to be as professional an aircraft manufacturer as possible, the need arose to extend our workshop with professional machinery to be able to manufacture most parts for the S-Vision and other projects ourselves.

The first and most important addition to our workshop will be our own CNC milling machine. This machine will let us build large and complex parts in many materials, including aluminium and composites, with high precision. CNC mills are very expensive, especially the machines meeting our requirements: a work range of 1200x800x150mm. Although we can't afford to buy one, making one ourselves is an economically valid and technically interesting project.

Over the last year one volunteer designed what would be the ideal CNC mill for our purposes. We are currently busy collecting parts and materials for this machine. For the most important parts we are happy to have received sponsorship from some interesting companies: Elcee supplied high quality linear guidings, while Eriks supplied bearings. Hagro finally, supplied us with a wide range of mill bits and specialized tools for milling composites. At this moment we are still looking for sponsorship for steel and aluminium tubes and plates, stepper motors and drivers, and the spindle. Once these materials have been acquired, production and assembly of the CNC machine will start. Stay tuned for the next newsletter for an update on the state of the CNC project.



Excursions

Excursions are an important part of our society's activities. Not only do they help our volunteers to stay up to date with what happens in the aviation sector, but they also offer opportunities to make useful contacts for their future careers. The previous period was relatively busy, with three very interesting excursions, which we would like to share with you now.

On the 26th and the 27th of April, a small delegation of volunteers visited the annual aviation expo in Friedrichshafen. During this visit, the S-Vision coordinator made contact with representatives of EASA and the Oskar Ursinus Vereinigung. During the discussion of the certification of the S-Vision, both informed us of the relative ease with which an aircraft can be certified in Germany. Therefore, the coordinator is currently investigating the option of the S-Vision being certified in Germany. Apart from these interesting conversations, the volunteers were able to look at some aircraft largely similar to the S-Vision, like the Pipistrel Panthera. After two days of intensive information gathering, the volunteers returned to Delft, very pleased with the experience.

The second excursion was to SABCA, who kindly invited us to their plant in Lummen, Belgium. On the 30th of April, while most of the Dutch were celebrating Queen's day, 11 of our volunteers were guided around by Steven Wahiong, chief engineer at SABCA Limburg. The tour started with a short presentation explaining SABCA's core business and structure. This was followed by the R&D manager's presentation on how SABCA keeps looking for innovations in their production processes. The visit was concluded with an interesting tour around SABCA's production halls. Highlights of this tour were the lay-up halls, where the horizontal tail of the G650 is constructed. The 3 massive curing ovens and the section where the cones of Ariane V's boosters are produced were also quite impressive. There are no images of SABCA in this newsletter since making photographs was not allowed. We would like to thank SABCA once again for their hospitality.

On the same day as the visit to SABCA, we were also invited by Toon and Thea Jacobs to the Airfield of Zwartberg near Genk. With a fleet of more than 10 homebuilt aircraft, Toon Jacobs is a legend within the homebuilders' society. His fleet ranges from a 75 percent model of the P-51 Mustang to a gyrocopter. Toon took the time to demonstrate the unique capabilities of his gyrocopter, which were rather impressive. The gyrocopter is for instance capable of hovering (with some headwind), but can also fly with a relatively high speed for a helicopter type aircraft. To conclude the visit, Toon and Thea invited us to their home to show us their workshop and to have some drinks. We would like to thank Toon and Thea again for the interesting visit.

SSVOBB Lambach Aircraft is sponsored by:

Lambach Aircraft
Kluyverweg 1
2629 HS Delft
www.LambachAircraft.nl