

Comet Limited project description

The *Comet Special Limited* is a variation on the well known FK12 Comet sport biplane design which is exclusively produced in a limited edition of 10 units for **G2B**.

Many significant improvements and special equipment are providing a much more agile and capable aircraft. Depending on the certification/registration it gives a good fun and basic acro aircraft with surprisingly performances!

- the single seat layout with new fully enclosed pilot cockpit is giving a very high power-to-weight ratio even with the standard 100hp Rotax engine
- the improved aerodynamics are resulting in the fastest biplane worldwide respecting power-to-performance ratio!
- Although the plane can be converted within and flown few minutes into a biplace aircraft
- The new aileron design is significantly improving both high speed roll rate and low speed flying qualities
- A widened main landing gear track is improving landing characteristic
- Enlarged rudder and tailplane surfaces are improving control performances in all flight conditions
- Despite of all performed improvements we were able to maintain the Comets folding wing feature!

Beside the main design improvements there are many details and features which are giving you a unique aircraft such as

- special high quality cockpit layout and interior
- optional smoke system
- special paintscheme featuring the project main and side sponsors
- and many more one of a kind details...!

Each plane will wear its limited serial number. Deliveries for first planes will take place end of 2009!



Project update Comet Special Limited

Oktober 2009

The basic layout and calculations for the design had been done within July and August 2009. In September the first set of the new carbon structure wingpanels had been build.

Special attention was used to design the rear wingspar in carbon fiber technology instead of former metal design to achieve significant higher strength without increase in structural weight.



Since then the wing-structure underwent a row of load tests to find out where the limits of this design will be.

Finally the wing-structure had been loaded up to 15g's at acrobatic design grossweight and nearly half of that in negative conditions!



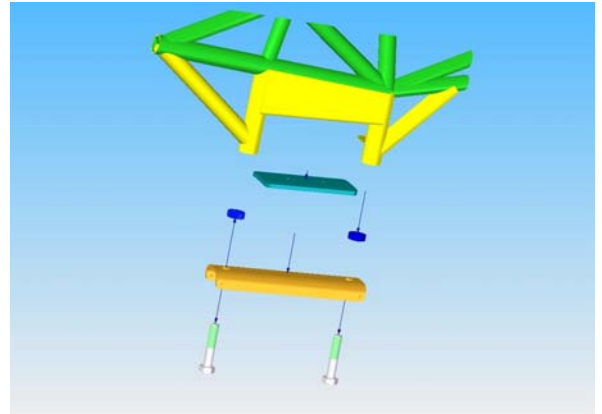
Since beginning of October the design of the fuselage and tailplane sections had been started.

Despite the basic design is based on the FK12 Comet there are many parts and bigger components modified or completely redesigned to meet the project targets!



All analysis and detail drawings are performed in 3 dimensional CAD system to achieve the maximum on quality und functionality within the short time frame of the project.

Since middle of October the final fuselage and tailplane shaping had been started. A new, more streamlined canopy is layed out to improve pilot ergonomics and aerodynamics when flown solo.



In parallel the production of the first of 10 *Special Limited* series had been started.

FK opened a new production plant in Southeast Poland in September to extend its production capabilities. A good part of the new production surface is focused on the Comet line in future.



The present design works are concentrated on tailpane and rudder redesign, flutter analysis and finally completing the first of new “Special Limited” in December!